



ECONOMIC SCIENCES

on The
CROSSROAD



INTERNATIONAL SCIENTIFIC CONFERENCE ON THE OCCASION OF
THE 55TH ANNIVERSARY OF THE IES



ECONOMIC SCIENCES

on The

CROSSROAD

PROCEEDINGS FROM THE INTERNATIONAL CONFERENCE

EDITORS:

Ivan Stošić
Srdjan Redžepagić
Hasan Hanić
João Sousa Andrade
Claude Berthomieu



UNIVERSITÀ
DEGLI STUDI
DI TORINO
ALMA UNIVERSITAS
TAURINENSIS



Université
Nice SOPHIA ANTIPOLIS

• U



C •

BELGRADE, 2013.

Publisher: Institute of Economic Sciences
Belgrade, Zmaj Jovina 12
Tel. (011) 2622-357, 2623-055
Fax: (011) 2181-471
www.ien.bg.ac.rs
office@ien.bg.ac.rs

For publisher: Prof Dejan Erić, PhD, Director

Editors: Ivan Stošić, PhD, Institute of Economic Sciences, Serbia
Srdjan Redžepagić, PhD, Institute of Economic Sciences, Serbia
Hasan Hanić, PhD, Belgrade Banking Academy, Faculty for Banking, Insurance and Finance
João Sousa Andrade, PhD, University of Coimbra, Portugal
Claude Berthomieu, PhD, University of Nice Sophia Antipolis, France

Reviewers: Carlos Carreira, PhD, University of Coimbra, Portugal
Jean-Paul Guichard, PhD, University of Nice Sophia Antipolis, France
Xavier Richet, PhD, University of Paris 3 Sorbonne Nouvelle, France
Dejan Erić, PhD, Institute of Economic Sciences, Serbia
Marianna Siničáková, PhD, Technical University of Košice, Slovakia
Božo Drašković, PhD, Institute of Economic Sciences, Belgrade
Marta Simões, PhD, University of Coimbra, Portugal
Zoran Grubišić, PhD, Belgrade Banking Academy, Serbia
Jovan Zafiroski, PhD, Ss. Cyril and Methodius University in Skopje, Macedonia
Salem Kanoun, PhD, University Manouba, Tunis
Saša Popović, PhD, University of Podgorica, Montenegro
Jelena Minović, PhD, Institute of Economic Sciences, Belgrade
Mališa Đukić, PhD, Belgrade Banking Academy, Belgrade

Printed by: Čigoja štampa, Belgrade

Copy: 300

ISBN: 978-86-89465-10-5

Copyright 2013. All right reserved. The author is responsible of all the content that has been published. Printed in Republic of Serbia. No part of this book may be used or reproduced in any manner whatsoever without written permission except in case of brief quotations embodied in critical articles or reviews.

PROGRAM COMMITTEE

SCIENTIFIC BOARD

- Dejan Erić, Institute of Economic Sciences, Belgrade, Serbia (President)
- João Sousa Andrade, University of Coimbra, Coimbra, Portugal
- Biljana Angelova, Institute of Economics, Skopje, Macedonia
- Claude Berthomieu, CEMAFI International, Nice, France
- Horst Brezinski, TU Bergakademie Freiberg, Deutschland
- Valter Cantino, University of Turin – Department of Management, Turin, Italy
- Giuseppe Dutto, University of Turin – University of Turin, Italy
- Hasan Hanić, Belgrade Banking Academy, Belgrade, Serbia
- Vladimir Matyushok, Peoples' Friendship University of Russia, Moscow, Russia
- Stéphane Ngomai, University Nice Sophia Antipolis, Nice, France
- Srdjan Redžepagić, Institute of Economic Sciences, Belgrade, Serbia
- Marta Simões, University of Coimbra, Coimbra, Portugal
- Ivan Stošić, Institute of Economic Sciences, Belgrade, Serbia
- Vincent Šoltes, Faculty of Economics – Technical University of Košice, Košice, Slovakia
- Dubravka Jurlina Alibegović, Institute of Economics, Zagreb, Croatia

ORGANIZATIONAL BOARD

- Duško Bodroža
- Isidora Beraha
- Mihajlo Djukić
- Sonja Djuričin
- Aleksandar Zdravković



*Ministry of Education, Sciences and Technological Development of Republic of
Serbia supported publishing of the conference proceedings.*

FROM THE EDITOR

International scientific conference “Economic sciences on the crossroad” held in Belgrade on 4th December 2013 gathered more than 100 prominent researches, university professors and young researchers from many countries all around the world (France, Hungary, Italy, Russian Federation, Slovakia, Tunisia, Bosnia and Herzegovina, Croatia, FRY Macedonia, Montenegro and Slovenia).

The conference was organized by the Institute of Economic Sciences Belgrade; Belgrade Banking Academy, Belgrade, Serbia; Faculty of Economics – Technical University of Košice, Košice, Slovakia; University Nice Sophia Antipolis, Nice, France; Association CEMAFI International, Nice, France; Faculty of Economics – University of Coimbra, Coimbra, Portugal and School of Management - University of Turin, Turin, Italy. The organization of the Conference has been supported by the Ministry of Education, Sciences and Technological Development of Republic of Serbia.

The following thematic sections have been discussed at the conference:

1. Economic aspects of the process of enlargement of the European Union (EU)
2. Analysis of the financial sectors in the EU and South Eastern European Countries
3. Global crisis in EU and South Eastern European Countries – Facts and figures
4. Agriculture, Ecology, Environment protection policy and sustainable development
5. Employment and Social aspects of the EU and South Eastern European Countries
6. Role of entrepreneurship in the time of crisis
7. Regulatory and police environment of the EU and Western Balkan Countries for the European integration process
8. Business and Financial Restructuring – EU and Structural Changes
9. Macroeconomic Framework for Structural Adjustments in the Time of Global Crisis
10. Competitiveness of South eastern Europe Countries and Global Economy
11. Management in 21st century
12. Development of IT in Knowledge based Economies
13. Economic development and competitiveness
14. Labour Market Transformation and Human Resource Development

More than hundred abstracts were submitted for participation on this international conference, but through strict selection 71 were approved for presentation and after the blind review process only 57 papers from 9 countries have been accepted for publishing. The Conference organizers owe special thanks to Ministry of Education, Sciences and Technological Development of Republic of Serbia that has supported publishing of the conference proceedings.

We do hope that the analysis discussed during the Conference and presented in this edition provide an analytical and empirical foundations for policy actions needed to foster Serbia's and Western Balkan countries' integration into the EU. They also propose possible ways to maintain the stable economies in some EU and Balkan countries till the end of the global crisis. In short, we find that our economic policies and sciences are on the crossroads at the moment.

Editors

TABLE OF CONTENT

1. KEYNOTE LECTURES

OPTIMUM CURRENCY AREAS, REAL AND NOMINAL CONVERGENCE IN THE EUROPEAN UNION	3
João Sousa ANDRADE, António Portugal DUARTE	
ECONOMIC INTEGRATION OF SERBIA IN THE EU	16
Srdjan REDŽEPAGIĆ, Mališa ĐUKIĆ	
RECENT MODIFICATIONS IN HUNGARY'S REGULATORY FRAMEWORK FOR WATER SERVICE PROVISION – IS EFFICIENCY BEHIND THE CHANGES?	25
Pal BELENYESI	
THE SUSTAINABILITY OF EXTERNAL ADJUSTMENT PROCESS IN TUNISIA: LESSONS FOR POST “ARAB SPRING” REVOLUTION POLICIES	35
Salem KANOUN	

2. FINANCIAL AND ECONOMIC CRISIS

THE GLOBAL CREDIT CRUNCH AND FINANCIAL CRISIS IN EASTERN EUROPE	49
Ognjen RADONJIĆ, Srdjan KOKOTOVIĆ	
THE EFFECTS OF THE GLOBAL FINANCIAL CRISIS ON SECURITIES PORTFOLIO PERFORMANCE: A CASE OF CAPITAL MARKETS IN SOUTH EASTERN EUROPEAN REGION.....	66
Jasmina OKIČIĆ	
ANALYSIS OF INNOVATION PERFORMANCE BY METHODS OF MULTIVARIATE STATISTICS: CASE OF EUROPEAN COUNTRIES.....	81
Svetlana BALASHOVA	
IMPACT OF THE ECONOMIC CRISIS ON THE SERBIAN ECONOMY WITH THE SPECIAL REFERENCE TO BANKING SECTOR PERFORMANCES AND EXTERNAL STABILITY	96
Duško BODROŽA, Mihajlo DJUKIĆ, Saša MILIVOJEVIĆ	
RELATIONSHIP BETWEEN INFLATION TARGETING AND GLOBAL FINANCIAL CRISIS: ONE NIGHT STAND, BREAK UP OR GOING EXCLUSIVE?	110
Marko MALOVIĆ	
CHALLENGES OF BUSINESS AND FINANCIAL RESTRUCTURING OF ENTERPRISES IN TERMS OF THE GLOBAL CRISIS	116
Branko MIHAILOVIĆ, Drago CVIJANOVIĆ	
THE BANKRUPTCY LAW OF THE REPUBLIC OF SERBIA IN TIMES OF CRISIS.....	127
Djuro M. DJURIĆ	
THE EFFECT OF THE ECONOMIC CRISIS ON ENTREPRENEURSHIP IN THE TRANSITION SOUTH-EAST EUROPEAN ECONOMIES.....	137
Tatjana B. PETKOVSKA, Aneta PETKOVSKA-NONKULOVSKA	
THE IMPACT OF GLOBAL ECONOMIC CRISIS AND INTERNAL CRISIS ON DEVELOPMENT OF THE SME SECTOR IN SERBIA	148
Jelena JEŠIĆ, Andrea ANDREJEVIĆ PANIĆ	

3. STRUCTURAL CHANGES AND DEVELOPING COUNTRIES

THE ECONOMIC EFFECTS OF SERBIA'S ACCESSION TO THE EUROPEAN UNION..	161

Ivan MARKOVIĆ, Snežana RADUKIĆ, Marijana MATIĆ	
ECONOMIES OF YUGOSLAV FEDERAL UNITS BEFORE AND AFTER INDEPENDENCE	169
Franjo ŠTIBLAR	
STRUCTURAL ADJUSTMENT OF SERBIAN ECONOMY IN FUNCTION OF THE EUROPEAN INTEGRATION.....	188
Petar VESELINOVIĆ	
THE OPENING OF ACCESSION NEGOTIATIONS BETWEEN SERBIA AND THE EU - HARMONIZATION OF THE FOREIGN POLICY AND COMPANY LAW	197
Sonja BUNČIĆ, Miroslava FILIPOVIĆ_Toc375667060	
POSITIONING OF SERBIAN ECONOMY IN THE GLOBAL ECONOMY – THE DEVELOPMENT OF HIGHER FORMS OF COOPERATION WITH FOREIGN COUNTRIES	206
Đorđe ĆUZOVIĆ	
INDUSTRIAL POLICY FOR ECONOMIC DEVELOPMENT: THE PERSPECTIVES FOR SERBIA.....	216
Bojana RADOVANOVIĆ, Milica KOČOVIĆ	
HARMONISING THE LEGISLATION OF THE REPUBLIC OF SERBIA IN THE FIELD OF ENERGY EFFICIENCY WITH THE LAW OF THE EUROPEAN UNION.....	227
Siniša DOMAZET	
INSTITUTIONAL DETERMINANTS OF BUSINESS ENVIRONMENT IMPROVEMENT IN THE REPUBLIC OF SERBIA	240
Vlastimir LEKOVIĆ, Vladan IVANOVIĆ	
STABILITY ASSESSMENT OF FINANCIAL SYSTEM IN THE EU AND SEE COUNTRIES, PERSPECTIVE OF CREDIT-TO-GDP GAP	252
Rahela PUPOVIC	

4. FINANCIAL SECTOR AND PUBLIC DEBT

ADJUSTMENT OF PUBLIC DEBT AS A PREREQUISITE FOR INTEGRATION PROCESS TO EU	265
Vladimir MIRKOVIĆ	
ANALYSIS OF THE BEHAVIOR OF FOREIGN-OWNED BANKS IN SERBIA DURING GREAT DEPRESSION AND GREAT RECESSION	275
Dragana GNJATOVIĆ, Vesna ALEKSIĆ, Ana JOVANCAI	
EFFECTIVENESS OF OFFICIAL INTERVENTION ON THE RSD/EUR MARKET: AN EVENT STUDY APPROACH	284
Srdan MARINKOVIĆ	
STRUCTURAL CHANGES AND PERFORMANCES IN BANKING AND INSURANCE - SERBIA VS. THE WESTERN BALKANS	298
Grozdana BELOPAVLOVIĆ	
MERGERS AND ACQUISITIONS BETWEEN BANK AND INSURANCE AS A CONSEQUENCE OF THE FINANCIAL CRISES	311
Mladenka BALABAN, Miljka MARKOVIĆ	
DEMAND AND SUPPLY OF INVESTMENT BANKING SERVICES IN SERBIA	321
Vlastimir VUKOVIĆ	

5. COMPETITIVENESS

COMPETITIVENESS OF REPUBLIC OF SRPSKA ECONOMY	335
Jovan ĐUKIĆ, Radovan RODIĆ, Darko MILUNOVIĆ	
IMPROVING SERBIA'S BUSINESS ENVIRONMENT FOR MORE FOREIGN AND DOMESTIC INVESTMENT	347
Slavica PENEV, Matija ROJEC	
FOREIGN DIRECT INVESTMENT IMPACT ON THE HOST COUNTRY COMPETITIVENESS	360
Marija PETROVIĆ-RANĐELOVIĆ, Snežana RADUKIĆ	
POSITIONING OF SERBIAN NATIONAL BRAND	370
Ivana DOMAZET	
ALTERNATIVE FORMS OF FINANCING OF SMALL AND MEDIUM SIZED ENTERPRISES FOR THE PURPOSE OF STRENGTHENING COMPETITIVENESS AT THE INTERNATIONAL LEVEL	382
Sonja ĐURIČIN, Isidora BERAHA	

6. TRADE AND GROWTH

THE IMPACT OF THE UNDERVALUATION OF THE CHINESE CURRENCY ON FOREIGN TRADE WITH THE EUROPEAN UNION	395
Ana CARDOSO, António Portugal DUARTE	
THE EFFECTS OF INTERNATIONALIZATION OF TRADE ON EMPLOYMENT IN SERBIA 410	
Sreten ĆUZOVIĆ, Svetlana SOKOLOV MLADENOVIĆ	
HEALTH CARE SPENDING AND ECONOMIC GROWTH: SOME INSIGHTS FOR PORTUGAL	420
Tiago AGOSTINHO, Marta C.N. SIMÕES	
THE TRANSATLANTIC TRADE AND INVESTMENT PARTNERSHIP – A NEW MILESTONE IN THE EU – US RELATIONS.....	433
Jovan ZAFIROSKI	
COMPARATIVE ANALYSIS OF BUSINESS PERFORMANCE OF SMEs IN THE FOOD SECTOR IN BOSNIA-HERZEGOVINA, CROATIA AND SERBIA.....	440
Fikret HADŽIĆ, Aida HANIĆ	
A PROJECT APPROACH TO DEVELOPING LOCAL COMPETITIVE ADVANTAGE AND ENTREPRENEURSHIP BASED ON GROWTH OF INNOVATIVE FIRMS, EXPORTS & BRANDS	454
Milan VEMIĆ	
CHALLENGES FOR WESTERN BALKANS SMES – EXPORT BARRIERS IN THE GLOBAL ECONOMIC CRISIS.....	465
Jelena VAPA-TANKOSIĆ, Biljana LAZIĆ, Miroslav STOJSAVLJEVIĆ	
THE GROWTH OF SERVICES AND AGGREGATE PRODUCTIVITY DYNAMICS: PORTUGAL 1970-2006.....	475
Tiago SANTOS, Marta C.N. SIMÕES	
THE COMPARATIVE ADVANTAGES OF BOSNIA AND HERZEGOVINA IN TRADE WITH ITS MOST IMPORTANT TRADING PARTNERS	488
Snježana BRKIĆ	

7. ENVIRONMENT, DEVELOPMENT AND SUSTAINABILITY

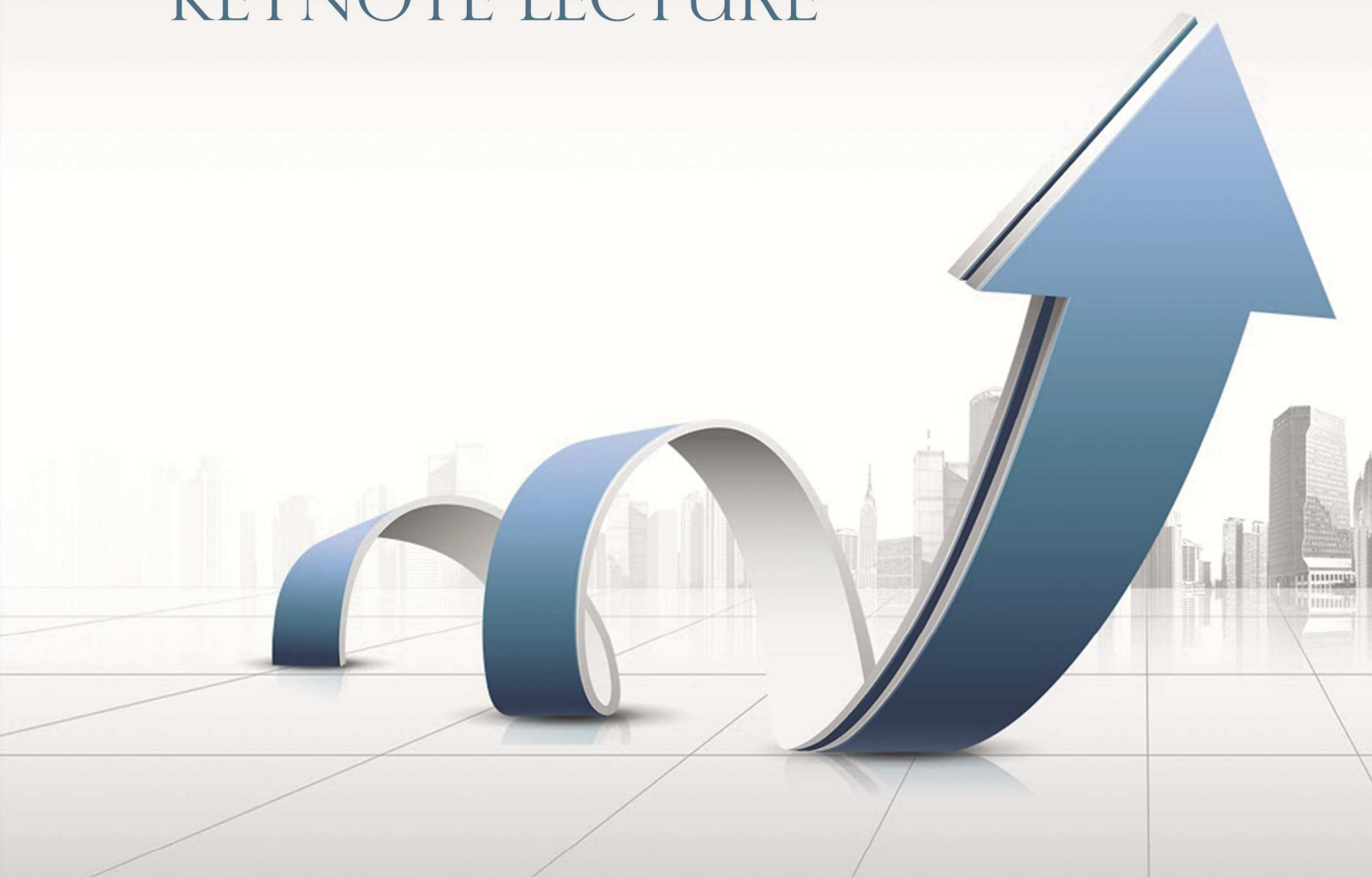
NATURAL RESOURCES AND THEIR IMPACT ON THE DEVELOPMENT OF SERBIA	503
Božo DRAŠKOVIĆ, Jelena MINOVIĆ	
NEW TECHNOLOGIES: ONE OF THE KEY STRATEGIC FACTORS OF THE SERBIAN CORPORATE GOVERNANCE PRACTICE HARMONISATION WITH EU REQUIREMENTS	514
Predrag DEDEIĆ, Zvonko BRNJAS	
COMPLIANCE OF BIODIVERSITY CONSERVATION POLICY IN REPUBLIC OF SERBIA WITH EU COUNTRIES	530
Brankica TODOROVIĆ	
SUSTAINABILITY IN MARKETING, PRODUCTION AND CONSUMER BEHAVIOUR IN SERBIA	537
Zoran ČAJKA, Larisa JOVANOVIĆ	
ENVIRONMENTAL AND ENERGY TAX REFORM IN THE EU	548
Olja MUNITLAK IVANOVIĆ, Mirjana GOLUŠIN	
THE COST OF ADAPTATION FOR CLIMATE CHANGE: FUTURE SEA LEVEL ESTIMATION	557
Leonid V. SOROKIN, Gérard MONDELLO	
PRIVATE SECTOR DEVELOPMENT IN SERBIA AND COMPARISON WITH THE EU MEMBER STATES	566
Aleksandra BRANKOVIĆ	
ANALYSIS OF THE DEVELOPMENT OF SMALL AND MEDIUM ENTERPRISES IN THE AGRO-FOOD SYSTEM OF SERBIA	576
Olivera PANTIĆ, Dragan FILIMONOVIĆ	

8. LABOUR MARKET AND INNOVATION

EMPLOYMENT AND THE FUNCTIONING OF THE LABOUR MARKET IN SERBIA	589
Kosovka OGNJENOVIĆ	
SELF-EMPLOYMENT OF YOUNG PEOPLE: STUDY ON POTENTIAL ENTREPRENEURS IN SERBIA	601
Azra HANIĆ, Ljubiša STAMATOVIĆ, Milan STAMATOVIĆ	
RETHINKING MANAGEMENT EDUCATION IN SERBIA FOR THE NEW LABOUR MARKET	614
Olja ARSENIJEVIĆ, Ljiljana LJ. BULATOVIĆ, Goran BULATOVIĆ	
DEVELOPMENT IN KNOWLEDGE BASED ECONOMIES	630
Adnan ROVČANIN, Adna MATARADŽIJA, Amra MATARADŽIJA	
THE POTENTIAL OF THE E-BUSINESS AND SPECIALIZED INTERNET SERVICES IN TERMS OF REDUCING THE LEVEL OF UNEMPLOYMENT IN SERBIA	641
Vladimir SIMOVIĆ	
YOUTH (UN) EMPLOYMENT IN THE WESTERN BALKANS	652
Simonida VUKADINOVIĆ, Miroslava FILIPOVIĆ	
THE ROLE OF INFORMATION TECHNOLOGY IN KNOWLEDGE MANAGEMENT PROCESS	664
Slavoljub MILOVANOVIC	
MEDIA CORPORATISM AND PR REVOLUTION	673
Zoran JEVTIĆ, Zoran ARACKI	

1.

KEYNOTE LECTURE



OPTIMUM CURRENCY AREAS, REAL AND NOMINAL CONVERGENCE IN THE EUROPEAN UNION

João Sousa ANDRADE¹
António Portugal DUARTE²

Abstract

It is well known and widely accepted by economists that the characteristics of European countries that become the Eurozone did not respect the conditions of an Optimum Currency Area (OCA) in 1999. A strict level of convergence in inflation and interest rates was imposed. In addition to the nominal convergence (monetary and financial) a process of convergence of nominal incomes in the new monetary unit would be generated with the monetary integration. After summarizing the criteria for a successful currency area in the context of the OCA theory we propose to study the real and nominal convergence process for an older group (11) of countries to accept or reject if this countries form an OCA. We apply original conditions imposed to ADF tests, we apply also Schmidt-Phillips tests and we estimate not usual fractional differential process to overcome traditional tests of unit root. We conclude by the existence of a process of real divergence and nominal convergence. We think this is a source of real imbalances in the European integration process that can destroy the harmonious development of a European Monetary Union.

Key Words: *Monetary integration, Optimum Currency Areas, real and nominal convergence, spectral analysis and total factor productivity.*

INTRODUCTION

In 1961 Robert Mundell published in the *American Economic Review* his famous paper “A Theory of Optimum Currency Areas” (Mundell, 1961) presenting his idea of an optimal monetary area.

Nearly four decades later, in 1999 the European Union (EU) created its monetary area with the common currency the Euro. At the beginning the European single currency was used as bank money, but in 2002 the Euro was introduced as banknote and from then on it has been used as the means of payment in the EU.

However, for a long time the rule in Europe (world) seemed to be that for each country its own currency (Baldwin and Wyplosz, 2009). At the extreme, each city or region should have its own currency, i.e. its national symbols displayed on coins and banknotes, as few centuries ago feudal lords had their faces stamped on gold and silver coins.

Apart from this, a currency is also useful because it enable and stimulate commercial and financial transactions and because it is immediately recognized. So, the more people accept it, the more useful is a currency. In that sense, the Europe would benefit for having the same currency (Rose, 2000; Frankel and Rose, 2002; Baldwin and Wyplosz, 2009; Eicher and Henn, 2009), acceptable anywhere in the region and allowing for global trade without too much costly transactions.

¹ Doctorat d'Etat, Full Professor, Faculty of Economics, University of Coimbra, Portugal and Research Fellow, GEMF – Grupo de Estudos Monetários e Financeiros, Faculty of Economics, University of Coimbra, Portugal.

² PhD in Economics, Assistant Professor, Faculty of Economics, University of Coimbra, Portugal and Research Fellow, GEMF – Grupo de Estudos Monetários e Financeiros, Faculty of Economics, University of Coimbra, Portugal.

This is exactly one of the main criteria's underlying the Optimum Currency Area (OCA) theory's proposal that we try to summarize in this paper, not only to analyze if the European Union (Eurozone) is an optimum currency area, but also to investigate the existence of real and nominal convergence in that geographical zone which for a restricted group of countries since January 1, 1999 share the same currency.

In fact, from the beginning of the introduction of the Euro, there were many discussions if the Eurozone could actually be classified as an OCA and if the decision of unifying various EU member countries under one common currency has been right. More recently, facing the current monetary crisis this skepticism has even intensified (Furrrutter, 2012) and for this it seems to be the right moment to throw a light on the EU-OCA discussion once more and to examine the criteria/factors for founding the common currency area.

Our contribution to the debate and literature stems from the fact that we attempt to assess the depth of the European integration under the both perspective of real and nominal convergence. For this purpose we study the processes of real convergence and nominal convergence based on spectral analysis, Hurts indicator; Augmented Dickey-Fuller (ADF) and Schmidt-Phillips unit root tests and fractionally integrated processes.

The paper is structured in five sections. In section 2 we summarize the Robert Mundell's theory of an OCA by briefly reviewing the often cited economic and political criteria for a successful currency area. In section 3 from Mundell's OCA-theory we will address the question if European Union (Eurozone) really is an OCA. In section 4 we answer this question by assessing the integration process of the European older EU 12 (-1) members countries. Finally, in section 5 we present some concluding remarks based on empirical evidence followed.

OPTIMUM CURRENCY AREA THEORY

The theory of Optimum Currency Area was pioneered by Robert Mundell (Mundell, 1961). Credit often goes to this author as the architect of the idea, but others (for example, Scitovsky, 1984) point to earlier studies done in the same subject, namely by Abba Lerner (Lerner, 1944, 1947).

An Optimum Currency Area (OCA) is a geographical region which, if sharing a single currency, would maximize economic efficiency in that area. It describes the optimal characteristics for the merger of currencies or the creation of a new currency. In that sense, the theory is a systematic way of trying to decide whether or not a group of countries would benefit from abandoning their national currencies by adopting a single currency. For this reason, this theory is often mentioned when discussing the European integration process and the creation and functioning of the Eurozone.

The basic question that the theory of OCA tries to answer is 'what conditions must be fulfilled for two or more countries to use the same currency instead of separate?' or in the case of the Eurozone, 'if is it advantageous for the current 17 member countries to abandon their own currencies and adopt the Euro as their common currency?'

To answer this question, the theory of OCA develops a set of economic and political criteria which recognize that the real economic cost of giving up the exchange rate instrument and accept a single currency arises in the presence of asymmetric shocks, shocks that do not affect all monetary union member countries.

The main arguments of the OCA theory is that for a currency area to operate properly, member countries of the OCA must have similar economic and political conditions. There are four classic often cited economic criteria for a successful currency area. These are: i) labor mobility across the region; ii) openness with capital mobility and price and wage flexibility across the region; iii) production

diversification and iv) similar business cycles for participant countries. In addition we can also identify two more political ones: v) fiscal transfer mechanism to redistribute income to areas/sector which have been adversely affected by labor mobility and openness; vi) similar (homogeneous) preferences/ideologies³.

The first criterion was suggested by Robert Mundell in 1961 when he developed the concept of an OCA (Mundell, 1961). The main idea underlying this criteria is that the cost of sharing a common currency would be eliminated if the factors of production, labor and capital, were fully mobile across borders. As it is usually supposed that capital is perfectly mobile, the real barriers then come from the absence of labor mobility.

This criteria implies that countries with good opportunities should attract labor from those with few employment opportunities. So, according to the Mundell criterion, an OCA are those within which people move easily. This does not only require absence of visas and workers' rights, but also lack of cultural and institutional barriers to free movement, such as different languages and different pensions schemes throughout the region. Thus, the labor mobility criteria advocates that if member countries in a currency area are hit by asymmetric shocks they should have a high degree of labor mobility so as not to create gross disparities between the member countries.

The basic idea behind the second criteria was formulated by Ronald Mckinnon. According to this criteria, countries which are very open to trade and trade intensely with each other form an optimum currency area (Mckinnon, 1963). So, if trade is flowing freely, the market forces of demand and supply automatically distribute money and goods to where they are necessary. Consequently, their prices will be the same at home and abroad. Changing the exchange rate will thus not affect the relative prices of such domestic and foreign goods.

However, in practice this does not work perfectly as there is no true wage flexibility. For example, in the case of the Eurozone, member countries trade significantly with each other. Intra-European trade is greater than international trade. As suggested by the most recent empirical analysis of the Euro effect, the use of the European single currency has increased trade by 5 to 15 percent in the Eurozone when compared to the trade between non-Euro countries (Micco, Stein and Ordóñez, 2003; Rose, 2004; Baldwin, 2006; Berger and Nitsch, 2008; Bergin and Ching-Yi, 2012).

According to the third criteria, initially identified by Peter Kenen, countries whose production and exports are widely diversified and of similar structure form an OCA (Kenen, 1969). Therefore a country that has a wide range of products will have a slower decrease in its production if external demand falls. On the contrary, a country with a low degree of diversification would then need to use its monetary policy to reduce shocks, whereas a highly diversified economy may find it valuable to form a currency union. In that case, good-specific shocks are likely to be of little aggregate consequence and to affect all member countries in a similar way, thus lessening the need for any exchange rate adjustment (Baldwin and Wyplosz, 2009).

Under these circumstances, member countries in a currency area should be well diversified and producing similar goods. In this way, there will be less macroeconomic shocks and they will be more symmetric. Countries that are well diversified will not often face changes in demand for their exports products as well that product diversification decreases the likelihood of asymmetric shocks.

The next relevant criteria of an OCA also implies that member countries of the currency area should not be subject to asymmetric shocks. Participant countries must have similar business cycles, which means that they should experience economic ups and downs at the same time, so that counter-cyclical measures adopted by the area central bank will have positive effects on all countries (Long and

³In the explanation of the OCA criteria we follow very closely the presentation by Frankel and Rose (1998) and Baldwin and Wyplosz (2009).

Plosses, 1983; Artis and Zhang, 1995; Caporale, Pittis and Prodromidis, 1999). This allows the area central bank to stimulate economic growth in downturns and to restrain inflation in booms. So, this criteria requires that member countries of the currency area should not be significantly different in terms of economic development and growth.

The fifth criteria, already of political order, states that for a currency area to operate optimally, there should be a risk sharing system in the context of a harmonized fiscal policy, such as an automatic fiscal transfer mechanism to redistribute income to regions which have been harmfully affected by labor mobility and openness (Sala-i-Martin and Sachs, 1992; Baldwin and Wyplosz, 2009; Crespo-Cuaresma et al., 2011). Usually this instrument takes the form of taxation redistribution to less developed countries. Thus if a country in the area suffers an asymmetric shock, a central fiscal authority would transfer tax revenue collected from the countries that are not adversely affected to that which is negatively reached.

EUROPEAN UNION: AN OPTIMUM CURRENCY AREA?

Based on Krugman and Obstfeld (2009) case study on Europe as an OCA, this section summarize the rich and unending debate around the question if the Europe (Eurozone) really fulfils the criteria of an OCA.

Theoretically, the OCA criteria should tell us whether it makes sense to create a currency union in Europe. However, the answer is not easy but rather subject of several controversies (see, e.g., Bofinger, 1994; Karras, 1996; Bayoumi and Eichengreen, 1997; Kim and Chow, 2003; Mongelli, 2008 and Furrutter, 2012).

The benefits of the establishment of a currency union in Europe are hard to quantify, as are the six OCA criteria which may be only partly fulfilled. However, it should be noted that the criteria established for members countries of the EU that can join the Eurozone are not the same as the criteria established by Mundell (1961) for an OCA.

The so called Maastrich criteria⁴ require that a country intending to join the Eurozone must converge with the rest of the countries on the basis of: i) inflation, that for a given member country must not exceed by more than 1.5 percentage points that of the three best-performing member countries in terms of price stability; ii) long-term interest rates, that must not exceed by more than 2 percentage points that of, at most, the three best-performing member countries in terms of price stability; iii) deficits, where the ratio of the annual public deficit to Gross Domestic Product (GDP) must not exceed 3% at the end of the preceding financial year; and iv) debt, where the ratio of gross public debt to GDP must not exceed 60% at the end of the preceding financial year; and must also have v) exchange rate stability without devaluing against the currency of any other member country.

As already noted, these criteria are not the same as those required by the OCA theory, and there is nowadays considerable debate as to whether the Eurozone is optimal in terms of a common currency. This section aims to contribute to enrich this debate. So, we try to answer the question as to whether the Eurozone is an OCA analyzing the criteria one by one.

In what concerns labor mobility, as we have seen before, the OCA theory suggests that labor mobility can go a long way toward alleviating the costs of an asymmetric shock when the exchange rate cannot be adjusted (Mundell, 1961; Baldwin and Wyplosz, 2009). But Europeans do not seem to take much advantage of the Single Market which allows them to work and 'become calm' anywhere in the EU. In fact, Europeans do not even move much across regions within their own countries. People in Europe

⁴ Usually known as nominal convergence criteria that were presented in Article 121(1) of the Treaty establishing the European Community.

move twice less than US citizens. In Europe, while 21% moved to another region in the same member country, only 4.4% moved to another member country (Baldwin and Wyplosz, 2009).

The labor mobility in Europe (Eurozone) is low due to various barriers. Indeed, although travel within European countries is relatively easy, requiring no visas, especially within the Schengen area, there are various barriers relating to work permits, different languages, different customs and traditions, various welfare and pensions schemes, different cultures, national attachment, and others. Worse even for the achieving of this OCA criteria, Europeans citizens move mainly for personal reasons. Professional reasons account for only 5%. So, it is not surprising that when asymmetric shocks occur, migration plays a smaller role in Europe⁵. This implies that there is a risk of high unemployment rates in the case of product market disturbances, since there is no way of balancing economic shocks via labor migration within the currency union.

Under these circumstances, we can say that Europe (Eurozone) is far from fulfilling the labor mobility criterion. In what concerns openness, this criteria matters in the OCA theory because, in a small open economy, most of the goods produced and consumed are traded on international markets⁶. Therefore, their prices on the domestic market are largely independent of local conditions and any change in the value of the currency tends to be promptly passed into domestic prices. As far as the McKinnon criterion is concerned, this explains why the smaller countries have traditionally the most enthusiastic supporters of the currency union. On the other hand, the Kenen criterion is built on the idea that asymmetric shocks are less likely among countries that share similar production patterns and whose trade is diversified.

Based on the study of Baldwin and Wyplosz (2009) who made the decomposition of trade into three types of goods (agriculture, minerals, and manufacturing) and took Germany as benchmark to analyze how different is each country's trade structure, we can conclude that diversification and similarity in Europe (Eurozone) is quite high. Dissimilarity with Germany is highest for Greece where agriculture plays a major role, and Netherlands, quite dependent on natural gas and yet an enthusiastic, and so far happy European Monetary Union (EMU) member country. According to OCA criterion a key element to minimize the disturbances caused by the presence of idiosyncratic business cycles is also the existence of similarities in economic structure, and here especially similarities in the types of produced goods. Regarding this criterion, and based on the study of Caporale, Pittis and Prodromidis (1999) and also on the work of Furrutter (2012), we can say that member countries of the EU (Eurozone) are not entirely distinct in their industrial and manufacturing structure. In fact, they have a high volume of intra-industry trade.

However, although the countries are all European, and share common cultural traits, they are also very diverse in their business cycle and trade partners. Also the level of GDP per capita and the growth patterns of the member countries of the EMU vary considerably as well as their economic structure. Looking at labor force qualification and capital stock there are considerable differences between northern and southern Europe. While the north is in general highly equipped with skilled labor, capital and a high-quality production structure, the south disposes from a less innovative and specialized manufacturing structure, from less capitalization, as well as from a smaller number of qualified labor. In this context, we can conclude that there is little justification for the formation of the Eurozone in the geographical extend we are experiencing nowadays. The high intra-industry trade is a pro-argument of course, but it seems to be outweighed by the number of contra-arguments providing dissimilarities in economic structure/business cycle.

⁵ The current migration process underway in Portugal as a consequence of the recent economic crisis is an exception to this reality. However, the scale of the phenomenon is not enough relevant so that we can extract another type of conclusions in the context of the Eurozone.

⁶ Recall that in the context of the OCA criteria, openness is defined as the share of economic activity devoted to international trade. Again, we follow very closely the presentation by Frankel and Rose (1998) and Baldwin and Wyplosz (2009).

According to the OCA theory, countries or regions hit by a temporary negative shock could also receive transfers from better-off countries as a compensation for having lost the exchange rate instrument after join the currency union. Within most countries, seen as currency areas, these redistributive mechanism is automatic. The transfers typically are the outcome of the combined effect of the tax system and welfare payments (unemployment benefits, subsidies to poor people, etc.). However, in the case of Europe (Eurozone) there is no such system at work. Fiscal harmonization is only now being put in the Agenda as a requisite for the success of the Euro. Unlike the US, the EU is made up of national governments, all carefully guarding their sovereignty.

The EU budget is small, less than 2% of GDP, and almost entirely spent on Common Agricultural Policies and Structural Funds which support the poorer regions independently of whether they are hit by adverse shocks (Baldwin and Wyplosz, 2009). Any transfer system would need a significant increase in the EU budget, which is not likely any time soon. Under these circumstances, on this criterion, again Europe (Eurozone) is definitely not an OCA.

In what respect to the homogeneous preference criterion, as already noted, the OCA theory assumes that all countries must share similar views about the use of monetary policy. However, based, for example, on inflation rates, this does not seem to be the case. In fact, low-inflation Germany and formerly high-inflation Italy or Greece have very little in common. Similarly, looking at public debts, there seems that a gulf separates European countries (Baldwin and Wyplosz, 2009). In this context, in what concerns the homogeneity of ideologies, we can conclude that there is a mixed behavior. So, it may be too early to tell that Europe (Eurozone) is definitely characterized by homogeneous preferences. So, in summary, we can say that Europe (Eurozone) is far from fulfilling the sixth OCA criteria.

For some authors (e.g. Ricci, 2008) this situation is in part responsible for the actual Eurozone economic difficulties. In fact, while the Eurozone performs well on some of the criteria characterizing an OCA, for example, most European countries do well on openness and production diversification, for their part, currency union member countries has lower labor mobility and cannot rely on fiscal federalism (fiscal transfers) to smooth out regional and sectorial economic disturbances.

REAL AND NOMINAL CONVERGENCE IN THE EUROPEAN UNION

In this section we introduce the methodological principles of our empirical analysis and the data we have used to access the problem of convergence. The above criteria for an OCA will be confirmed in terms of empirical results concerning real technological and output convergence and also nominal convergence.

Empirical Methodology

We propose an analysis that is known in growth literature as absolute convergence. We think that to recognize a group of economies as having the conditions for a monetary union the hypothesis of conditional convergence is useless. We are not interest to wait twenty or one hundred years for converge, but to know if we can see in the present the result of a process of convergence.

Our first analysis of the presence of convergence, real and nominal, is based on the evolution of the Gini coefficient. We want to see a picture of the convergence-divergence process by the evolution of this inequality indicator. Following (Milanovic, 2005, 2012) we calculate a non-weighted Gini coefficient and a weighted Gini coefficient. The first considers that a country is taken as an individual while the other explicitly considers that all individuals (countries) are different and so we must weighted each one with its population. In this last situation Europe in not an addition of countries but an addition of European citizens.

We apply also the usual tests of unit root to confirm the existence of a process of convergence. But we propose some changes to the usual interpretation derived from the growth literature. We investigate if the differences of an economy with respect to the group average are stationary without constant and stationary around a trend. In the first situation if a country difference variable is stationary with a drift this means a permanent difference between the two economies, and so the country is not converging. This is the reason why we restrict the constant to be zero. But if the difference is stationary around a trend the evolution of its values is fundamental. Suppose that the trend coefficient is positive and the variable has negative values this means that the country is approaching the group values and so we conclude that it converge. The inverse is also true, negative trend coefficient and positive values. To test these behaviors we apply the ADF test without drift and with a trend. We know that ADF tests have a low power if the true data-generation process has an auto-regressive coefficient close to 1. The other important problem associated with ADF tests is related with deterministic regressors because they have a different interpretation under the null and alternative hypothesis. So we apply also the Schmidt-Phillips Lagrange multiplier test (Schmidt and Phillips, 1992), S-P, under which the deterministic parameters have the same interpretation under the null or the alternative. This test allows the choice of the order of the polynomial trend which can be decided by the plotting of the variable under study. We have used a second order polynomial for all testes.

In some way these tests continues the Hume tradition of a knife-edge decision: a series has or has not a unit root. Granger (Granger, 1980) has justified and introduced the so-called fractionally integrated processes. We represent an autoregressive fractionally integrated moving average process as

$$(1-L)^d \phi(L)x_t = \theta(L)\varepsilon_t$$

The fractional difference parameter is 'd' and $\phi(L)$ and $\theta(L)$ are the autoregressive and the moving average polynomials. The usual hypothesis are taken: the roots of $\phi(L)$ and $\theta(L)$ are outside the unit circle and ε is a white noise process.

We supplement our analysis of unit root with the calculus of the order of a fractional process for each variable under study. A variable may be non-stationary and at the same time mean-reverting. So, a value of $d < 1$ means that a variable may be a behavior like a random walk out of equilibrium for long periods but finally returns to its equilibrium value. We will identify this situation as one of a convergence process.

The estimation of 'd' is made through two methods (Fraley et al, 2013). The first one is the usual Geweke and Porter-Hudak (GPH) method (Geweke and Porter-Hudak, 1983). This estimator is based on a regression that uses the periodogram function as an estimate of the spectral density. The bandwidth used is $bw = \text{trunc}(n^k)$, where 'n' is the number of observations and 'k' ($0 < k < 1$) is a parameter whose default value is 0.5 (Diebold and Rudebusch, 1989). The second method uses the Reisen estimator (Reisen, 1994). This method is based on a regression equation that uses the smoothed periodogram function as an estimate of the spectral density. It uses the same bandwidth of the first method and we take the value 'h', used in the lag Parzen window, equal to .9, $bw2 = \text{trunc}(n^h)$.

The oldest test for testing long memory processes is the rescaled range statistic of (Hurst, 1951). A short-memory process has a value of $H = .5$ and values $H > .5$, far from .5, are taken as reflecting long memory. This test has a major problem, it is sensitive to short-term dependence and heteroscedasticity. And it is natural to have both problems in the variables we are using in the paper.

(McLeod and Hipel, 1978) define a process of long memory when the limit of the sum of the absolute value of the auto-correlation is not finite. This definition means that the spectral density of a long-memory variable is unbounded at low frequencies. We also use in our analysis of convergence the

representation of the spectral density of the variables under study⁷. The auto-correlations of a long memory process decline much more slowly than a stationary process and at the same time the spectral density is much higher when the frequency tends to zero, $\omega \rightarrow 0$.

Data Sources

As we said above we take 12 (minus Luxembourg) economies as a representative group in terms of economic integration in Europe: Germany, France, Belgium, Italy, Netherlands, United Kingdom, Denmark, Ireland, Greece, Portugal and Spain. We want to answer to the question: have these rather older European countries evolved in a way that they could form a monetary union? Supposing that the answer is positive we can then put the problem of the entry in a subsample of these countries of other countries to form the union. But if the answer is negative the enlargement of these group to other countries can be a really disaster because this core economies are not themselves in conditions to form the union. We consider that the United Kingdom and the Denmark have themselves excluded from EMU by political reasons and not by inappropriate economic conditions.

Almost all data is from AMECO (download in October) from 1960 to 2012. The growth rate of TFP is also from this source. With data from Unido Productivity Website (WPD, www.unido.org/data1/wpd/index.cfm) we have homogenized European TFP values in relation to USA values (2005=100 for this country). With these series of TFP we can compare relative differences between European countries and its average over the years. We have also used PWT, version 8, (Feenstra, 2013) variable PL_C to have a structure of prices for 2005 that was complemented with GDP deflators from AMECO.

For real convergence we have studied TFP and real GDP per capita and for nominal convergence, Consumer Prices, Nominal Wages, Consumers Price Inflation and Wage Prices Inflation.

Empirical Estimations and Results

The spectral analysis gives a picture of not long memory process for all variables. Similarly the Hurst indicator gives the same picture. In this case the values for a more recent sub-period are lower than for the whole period meaning a more intensive integration for this sub-period. However we can't forget that the dimension of our base is very short for the application of these tests⁸.

In what follows we begin with real convergence and after with nominal convergence.

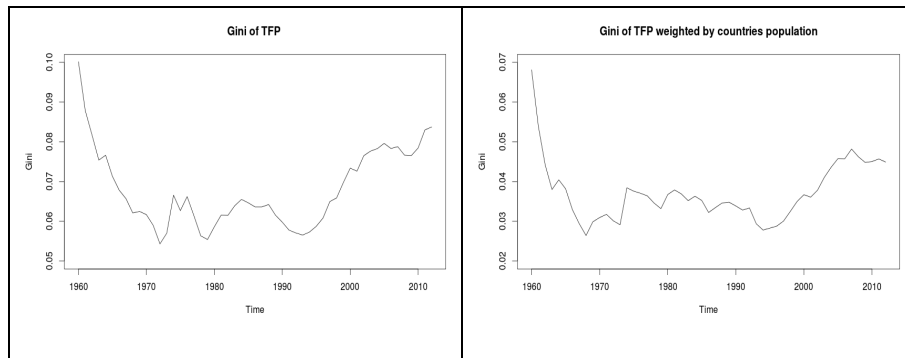
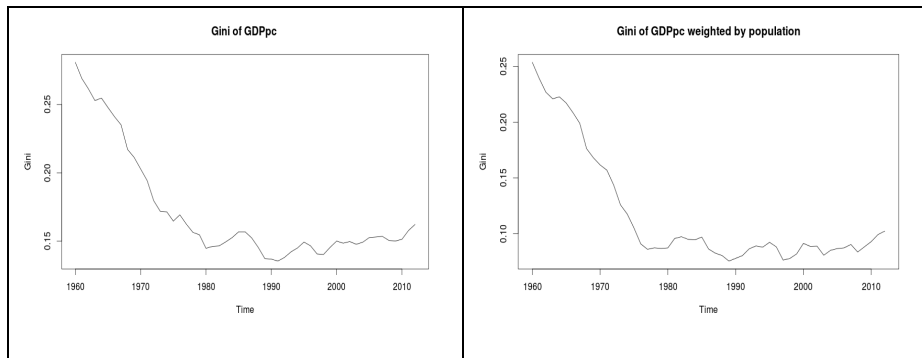
Real convergence

The concept of convergence applied to an optimum monetary area is the concept of sigma-convergence. We apply this concept to the most promising variable, TFP, for the study of real convergence and also to GDP per capita (Dowrick and Nguyen, 1989) and (Bernard and Jones, 1996).

We see in Figure 1 that during the sixties we had a real convergence process, between the beginning of the seventies and the beginning of the eighties the differences have stagnated and after this sub-period we have a substantial increase in real divergence.

⁷ We take $m=1$, and so $L=3$ for the Daniell kernel.

⁸ We send all these results when requested to the authors.

Figure 1. Gini coefficient for TFP*Figure 2. Gini coefficient for real GDPpc*

We obtain a similar result for GDP convergence (Figure 2). In the last years since the beginning of the eighties we have a process of real divergence and contrasting with the evolution before the eighties when we had a process of real convergence.

The results in terms of ‘before 1980’ and ‘after 1980’ allow us to study real, and also nominal convergence, for the period since 1980 until the beginning of the present contraction (2007). For Ireland, Portugal and Spain we have also studied the period of European integration, 1973 and 1986 to 2007, respectively.

We present only the results of the ADF tests, S-P tests and the estimation of the fractional integration we send all the results if they were requested to the authors.

In what concerns TFP convergence and in terms of ADF and S-P tests, for the total period, 1960-2012, Germany, U. K., Denmark and Portugal are converging to the average. For the sub-period 1980-2007, Germany, France, Belgium and Denmark are converging. For the period of European integration for Ireland, Portugal and Spain: only Portugal is converging. So, during the period of more intense integration only 5 countries have converged: Germany, France, Belgium, Denmark and Portugal. In terms of ‘d’, for the whole period Germany, Belgium, Netherlands, Denmark and Portugal experienced a technological catching-up all over the period 1960-2012. For the sub-sample period of 1980-2007 (and integration period) the equivalent group is formed only by Netherlands, United Kingdom and Denmark. So, in conclusion, in terms of fractional integration, the deepening of the European integration has not cause a real convergence process in terms of TFP.

The results obtained with GDPpc still reduce the number of countries converging to the average, for the whole period: Belgium, United Kingdom, Netherlands and Denmark, and for the period of more intensive integration: France, Denmark and Ireland. Concerning fractional differentiation an almost analogous situation to TFP was obtained. For the whole period, Netherlands, United Kingdom and

Denmark also converge in terms of GDPpc, and this group is now accompanied by Portugal and Spain. The results for the sub-period are quite impressive. Only Netherlands has experienced a convergence process between 1980 and 2007. If we consider the 1986-2007 period we have to add Spain to Netherlands.

About real convergence we must conclude that not only, as a group, but also individually, the evidence is against convergence, the number of countries that converge is very small. A deeper analysis might draw a darker picture because the countries are diverging in opposite directions.

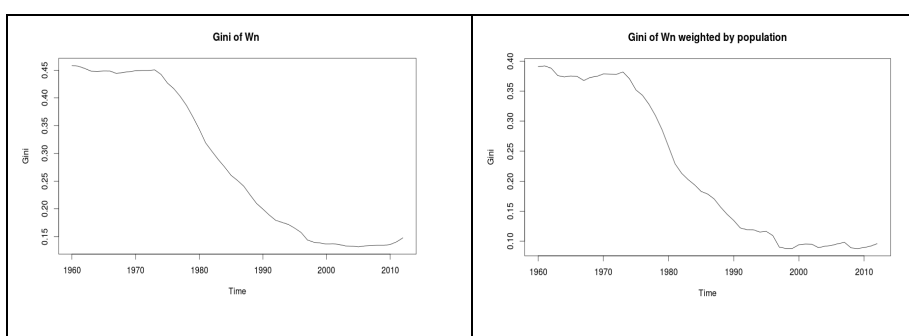
Nominal convergence

We apply the concept of nominal convergence to levels of prices and wages and after to inflation of prices and wages. In Figures 3 and 4 we see a continuous process of convergence since 1960 until now. The process was slow during the sixties but accelerating after until 2000.

Figure 3. Gini coefficient for GDP Prices



Figure 4: Gini coefficient for Nominal Wages



We begin our individual analysis with ADF and S-P test applied to nominal wages. For the whole period, 1960-2012, we can't reject a convergence process for Germany, United Kingdom, Ireland, Greece, Portugal and Spain. For the sub-period 1980-2007 the group consists now of France, Belgium, Italy and Denmark and for their integration period (1973/86-2007) Ireland, Portugal and Spain. In terms of fractional differentiation for the whole period only United Kingdom and Denmark can be taken as converging. For the sub-period 1980-2007, Germany, Italy, Netherlands, Denmark and Ireland can be taken as converging.

Concerning GDP prices, and for ADF and S-P tests, for the period 1960 to 2012 only France and Greece don't converge. For the sub-period 1980-2007, Germany, Netherlands, Greece and Spain (even during the integration period) don't converge. But the evolution of inflation is different, for Germany

inflation is lower than average while for Greece and Spain is greater than the average. So, the reasons for non-convergence are different. Concerning differential differentiation, for the whole period three countries always present a value of 'd' greater than one: France, Netherlands and Greece. While Greece shows an opposite evolution. For the period 1980-2007 every country has at least one estimation value of 'd' less than one, which means convergence. In conclusion for GDP prices, for 1980-2007 we have a global picture of inflation convergence. The big surprise comes from Portugal, with its values for the integration period, 1986-2007, reflecting a non-convergence process.

Let us now see the results for wages inflation. For the whole period, in terms of ADF and S-P tests, we can accept convergence for all the countries except for Greece. For the sub-period, 1980-2007, Germany, Ireland, Spain, Denmark and Portugal (and also for the integration period) are diverging. These results for the whole period, for differential differentiation, confirm the above unit root analysis: we can accept the convergence for all these countries because the value of 'd' is always less than 1. For the period 1980-2007 only one country has always a value of 'd' greater than 1: Ireland. But for the integration period the values for Ireland are also less than 1. Summing up, we conclude that there is evidence of a convergence process in the evolution of wage increases for all these countries, with some doubts for Germany, Ireland, Spain, Denmark and Portugal.

CONCLUSION

We have presented the conditions that a group of economies must obey to form an OCA. In almost all situations an OCA was the result of a political process that has conducted the integrated regional economies to converge. This process was a real and nominal one. So, the European process cannot be considered an unusual one, based on a political decision. What was different is the nature of this Area without a political unification. We continue to have countries. We decided to respect nominal criteria in order to guarantee a monetary and financial stability and the creation of the single market to accomplish the remainder of an OCA. We had an active public intervention to achieve some of the nominal criteria but almost none to achieve real convergence. We continue without free mobility of labor and with mitigated mobility of physical capital.

We have analyzed the integration process for an older group of European countries and we conclude by the existence of price inflation convergence, what is the consequence of the integration of goods markets. We also conclude by the existence of wage inflation convergence, but we think this is more the result of contagion and Union behavior than of European labor market integration. We conclude also by the existence of wage convergence but perhaps the most important result is the absence of real convergence. Summing up our results, wage convergence, without intensive capital mobility, (+) real divergence it is the worst of all possible results and we must say that this will be a source of real imbalances between countries in the process of European integration.

ACKNOWLEDGMENTS

The author thanks Adelaide Duarte for their helpful comments and suggestions. The GEMF is financially supported by the Foundation for Science and Technology. The usual disclaimer applies.

LITERATURE

- 1) Artis, M. and W. Zhang (1995), "International Business Cycles and the ERM: Is there a European Business Cycle?", *CEPR D.P.* No 1191.
- 2) Baldwin, R. (2006), "In or Out: Does it Matter? An Evidence Based Analysis of the Euro's Trade Effects", Centre for Economic Policy Research, London.
- 3) Baldwin, R. and C. Wyplosz (2009), "The Economics of European Integration", McGraw Hill, 3rd Edition, New York.

- 4) Bayoumi, T. and B. Eichengreen (1997), "Ever Closer to Heaven? An Optimum-Currency-Area Index for European Countries", *European Economic Review*, Vol. 41, No. 3-5, pp. 761-70.
- 5) Berger, H. and V. Nitsch (2008), "Zooming out: The Trade Effect of the Euro in Historical Perspective", *Journal of International Money and Finance*, Vol. 27, No. 8, pp. 1244-60.
- 6) Bergin, P. and L. Ching-Yi (2012), "The Dynamic Effects of a Currency Union on Trade", *Journal of International Economics*, Vol. 87, No. 2, pp. 191-204.
- 7) Bernard, A. and I. Jones (1996), "Productivity across Industries and Countries: Time Series Theory and Evidence", *Review of Economics and Statistics*, Vol. 78, No. 1, pp. 135-46
- 8) Bofinger, P. (1994), "Is Europe an Optimum Currency Area?", *CEPR*, No. 915.
- 9) Bordo, M., Markiewicz, A. and L. Jonung (2011), "The Euro Needs a Fiscal Union: Some Lessons from History", *NBER Working Paper*, No. 17380, September.
- 10) Breuss, F. (2011), "Downsizing the Eurozone into an OCA or Entry into a Fiscal Transfer Union", *CESifo Forum*, No. 4, pp. 5-12.
- 11) Buti, M. (2011), "Balancing Imbalances: Improving Economic Governance in the EU after the Crisis", *CESifo Forum*, No. 12, pp. 3-11.
- 12) Caporale, G., Pittis, N. and K. Prodromidis (1999), "Is Europe an Optimum Currency Area? Business Cycles in the EU", *Journal of Economic Integration*, Vol. 14, No. 2, pp. 169-202.
- 13) Crespo-Cuaresma, J., Plaffermayr, M., Amador, O. and C. Keppelet (2011), "Macroeconomic Aspects of European Integration: Fiscal Policy, Trade Integration and the European Business Cycle", *FIW Research Report*, No. 4, March.
- 14) Diebold, X. and D. Rudebusch (1989), "Long Memory and Persistence in Aggregate Output", *Journal of Monetary Economics*, Vol. 24, No.2, pp. 189-209.
- 15) Dowrick, S. and D. Nguyen (1989), "OECD Comparative Economic Growth 1950-1985: Catch Up and Convergence", *AER*, December, pp. 1010-30.
- 16) Eicher, T. and C. Henn (2009), "One Money, One Market – A Revised Benchmark", *IMF Working Paper* No. 189, September.
- 17) Feenstra, R., Inklaar, R. and M. Timmer (2013), The Next Generation of the Penn World Table, available for download at www.ggdc.net/pwt.
- 18) Fraley, C., Leisch, F., Maechler, M., Reisen, V. and Artur Lemonte (2013), Package 'fracdiff' for R, Version 1.4-2, August 29.
- 19) Frankel, J. and A. Rose (1998), "The Endogeneity of the Optimum Currency Area Criteria", *Economic Journal*, Royal Economic Society, Vol. 108, No. 449, pp. 1009-25.
- 20) Frankel, J. and A. Rose (2002), "An Estimate of the Effect of Common Currencies on Trade and Income", *Quarterly Journal of Economics*, Vol. 117, No. 2, pp. 437-66.
- 21) Furruter, M. (2012), "The Eurozone: An Optimal Currency Area?", *IFIER Papers*, February.
- 22) Geweke, J. and S. Porter-Hudak (1983), "The Estimation and Application of Long Memory Time Series Models", *Journal of Time Series Analysis*, Vol. 4, No. 4, pp. 221-38.
- 23) Granger, C. (1980), "Long Memory Relationships and the Aggregation of Dynamic Models", *Journal of Econometrics*, Vol. 14, No. 2, pp. 227-38
- 24) Hurst, H. (1951), "Long Term Storage Capacity of Reservoirs", *Transactions of the American Society of Civil Engineers*, Vol. 116, pp. 770-99.
- 25) Karras, G. (1996), "Is Europe an Optimum Currency Area? Evidence on the Magnitude and Asymmetry of Common and Country-Specific Shock in 20 European Countries", *Journal of Economic Integration*, Vol. 11, No. 3, pp. 366-84.
- 26) Kenen, P. (1969), "The Theory of Optimum Currency Areas: An Eclectic View", in R. A. Mundell and A. K. Swoboda (eds.), *Monetary Problems of the International Economy*, University of Chicago Press, Chicago, pp. 41-60.
- 27) Kim, Y. and H. Chow (2003), "Optimum Currency Area in Europe: An Alternative Assessment", *Economic Letters*, Vol. 81, No. 3, pp. 297-304.
- 28) Krugman, P. and M. Obstfeld (2009), "Case Study: Is European Optimum Currency Area?", in *International Economics: Theory and Policy*, Pearson, Addison-Wesley, Boston, Mass., pp. 582-7.
- 29) Lerner, A. (1944), "The Economics of Control: Principles of Welfare Economics", Macmillan, New York.

-
- 30) Lerner, A. (1947), "Discussion of 'International Monetary Policy and the Search for Economic Stability' by Ragnar Nurkse", *American Economic Review*, Papers and Proceedings, Vol. 37, No. 2, pp. 592-4.
 - 31) Long, J. and C. Plosses (1983), "Real Business Cycles", *Journal of Political Economy*, Vol. 91, No. 1, pp. 39-69.
 - 32) McKinnon, R. (1963), "Optimum Currency Area", *American Economic Review*, Vol. 53, No. 4, pp. 717-24.
 - 33) McLeod, A. and K. Hipel (1978), "Preservation of the Rescaled Adjustment Range, 1: A Reassessment of the Hurts Phenomenon", *Water Resources Research*, Vol. 14, No. 3, pp. 491-508.
 - 34) Micco, A., Stein, E. and G. Ordóñez (2003), "The Currency Union Effect on Trade: Early Evidence from EMU", *Economic Policy*, Vol. 18, No. 37, pp. 315-56.
 - 35) Milanovic, B. (2005), "Worlds Apart: Measuring International and Global Inequality", Princeton University, Princeton.
 - 36) Milanovic, B. (2012), "Global Inequality Recalculated and Updated: the effect of new PPP Estimates on Global Inequality and 2005 Estimates", *Journal of Economic Inequality*, Vol. 10, No. 1, pp. 1-18.
 - 37) Mongelli, F. (2008), "European Economic and Monetary Integration and the Optimum Currency Area Theory", *European Commission Economic Papers*, No. 302, February.
 - 38) Mundell, R. (1961), "A Theory of Optimum Currency Areas", *The American Economic Review*, Vol. 51, No. 4, pp. 657-65.
 - 39) Reisen, V. (1994), "Estimation of the Fractional Difference Parameter in the ARFIMA(p,d,q) Model using the Smoothed Period gram", *Journal Time Series Analysis*, Vol. 15, No. 1, pp. 335-350.
 - 40) Ricci, L. (2008), "A Model of an Optimum Currency Area", *Economies: the open-access, open – assessment E-Journal*, Vol. 2, No.8, pp. 1-31.
 - 41) Rose, A. (1961), "One Money, One Market: The Effect of Common Currencies on Trade", *Economic Policy*, Vol. 15, No. 30, pp. 7-46.
 - 42) Rose, A. (2004), "The Effect of Common Currencies on International Trade: A Meta-Analysis", in V. Alexander, J. Méliitz and G. von Furstenberg (eds.), *Monetary Unions and Hard Pegs*, Oxford University Press, Oxford, pp. 101-11.
 - 43) Sala-i-Martin, X. and J. Sachs (1992), "Fiscal Federalism and Optimum Currency Areas: Evidence for Europe from the United States", in M. Canzoneri, V. Grilli and P. Masson (eds.), *Establishing a Central Bank: Issues in Europe and Lessons from the US*, Cambridge University Press, Cambridge, pp. 195-227.
 - 44) Schmidt, P. and P. Phillips (1992), "Lm Tests of a Unit Root in the Presence of Deterministic Trends", *Oxford Bulletin of Economics and Statistics*, Vo. 54, No. 3, pp. 257-87.
 - 45) Scitovsky, T. (1984), "Lerner's Contribution to Economics", *Journal of Economic Literature*, Vol. XXII, pp. 1547-71.
 - 46) van Marrewijk, C., Ottens, D. and S. Schuller (2006), "International Economics: Theory, Application, and Policy", Oxford University Press, Oxford, UK.

ECONOMIC INTEGRATION OF SERBIA IN THE EU¹

Srdjan REDŽEPAGIĆ²,
Mališa ĐUKIĆ³

Abstract

After the dissolution of the Yugoslav federation and the formation of new independent states, the Western Balkan countries have undergone radical changes over the past two decades. After years of war and instability that followed the fall of the Berlin Wall came a period of uncertainty. At the same time, each state has sought to give greater stability. Currently, these countries are working to get their integration into Euro-Atlantic structures to gain stability and permanent prosperity. Over the past decade, the EU has a decisive influence in the Western Balkans. This region may have before it a stable future provided that we take appropriate measures and we make the right choices. Indeed, the region is no longer at war, political stability is increasing, while ethnic tensions, primarily through the efforts of the international community, become less pronounced. Economic stabilization was also on track until the global financial crisis hit the region come in turn. All countries in the region have signed Stabilisation and Association Agreement (SAA) with the EU, and almost all have applied for accession to the Union. Balkan citizens are finally open the borders of the EU in favour of a program of visa liberalization. Western Balkan countries are already members of the EU and the other three are members of NATO, and several others are waiting to join the EU, or are quietly taking their first steps towards Euro- Atlantic integration. Despite this undeniable progress, there are still difficulties to be overcome before the Western Balkans can claim total stability. What matters most is whether the lessons of the failures of the recent past. Today, despite many efforts, bilateral disputes persist and political and ethnic tensions have not entirely disappeared, while organized crime and corruption still have unacceptable levels throughout the region. On the other hand, we know that without a strong European roots, it could jeopardize all the efforts of the international community to stabilize the region. And European integration is the only option that can bring the Western Balkans stability, peace and security.

Key words: Balkan, Economy, European union, Enlargement.

INTRODUCTION

After a historic fifth enlargement of the European Union, the geographical spread of the Union and is nearly exhausted. It is unlikely that Norway and Switzerland to join in the near future. Iceland applied for membership. In addition, we are left with Ukraine over whose membership in the official circles of Brussels does not speak, then, Moldova and Belarus, which are further than that. That leaves only the Western Balkans and Turkey, which mainly belong to Asia. Analyzing the current situation, we see that the Union has three candidate countries: Croatia, which is in the final stages of negotiations and if they failed to conclude negotiations by the end of this year, it would be logical to expect that it could become a member by the beginning of 2014, which would be a very comfortable period for ratification of the membership. Macedonia currently has a higher chance of Turkey to the Union which admittedly

¹This paper is a part of research projects numbers 47009 (*European integrations and social and economic changes in Serbian economy on the way to the EU*) and 179015 (*Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements*), financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

² PhD, Institute of Economic Sciences, Belgrade, Serbia

³ PhD, Belgrade Banking Academy – Faculty for banking, insurance and finance, Belgrade, Serbia

runs a vague policy. On the one hand one of the member countries encourages Turkey to meet the requirements and progress towards the EU, but at the same time on the other side of the other member countries held various moves back a distance which leads to the conclusion that the Union does not agree on the entry of Turkey into the European Union. Other countries of the Western Balkans, namely Albania, Bosnia and Herzegovina, Montenegro and Serbia enjoy the status of potential candidate decision of the European Council from 2000 by which all the countries involved in the Stabilisation and Association received mention status.

The most important instrument of the Stabilisation and Association Process is the Stabilisation and Association Agreement. The Stabilisation and Association Agreement is a legal basis, the first contractual relationship that lays the foundation for the establishment of the highest forms of cooperation between the EU and the Western Balkans. By its content, the Stabilisation and Association Agreement is a streamlined European Agreement. However, the difference is that the Stabilisation and Association Agreement contains additional chapters relating to regional cooperation in the Western Balkans. Then, there are new provisions in the field of justice and home affairs as well as parts that are incurred as a result of the experiences of earlier conducted the Association Agreement. The first two Western Balkan countries, which signed the Stabilization and Association Agreement, were Macedonia (in 2000) and Croatia (in 2001), then the rest of the Western Balkans agreements concluded in the following order: Albania 2006, Montenegro 2007, Serbia and Bosnia 2008. No matter what all the Stabilisation and Association Agreement in principle consists of a preamble and ten chapters, however, say that because of the difference in time of conclusion with some countries of the Western Balkans and the agreements themselves are different. The difference is in the structure or in the scope of issues covered by the Stabilisation and Association Agreement, but in some parts of the contents of the structure, because in the meantime the development of EU law and new rules. We should not ignore the fact that the European Union 2000 and in 2001 when the Stabilisation and Association Agreement signed by Macedonia and Croatia numbered 15, and when she did Serbia EU had 27 member states . Also, if we tried to establish another parallel between the Western Balkans and other countries, then we could say that the countries of this region, unlike those state characterized by an identical degree of integration in relation to the Union. Some countries such as Croatia are in the final stages of accession, some are middle of the process , and the third near the beginning . Regardless of the lack of clearly defined steps or stages in the process of stabilization and association process, it is precisely by the degree to which the individual countries of the Western Balkans are operated with several stages in the framework of the Stabilisation and Association:

1. Monitoring and evaluation of reforms
2. Feasibility Study
3. Negotiations for the conclusion of the Stabilisation and Association Agreement
4. Application for membership
5. Request of candidacy to the European Commission
6. Negotiations on accession to the
7. Entrance to the EU.

Monitoring and evaluation of the reform is the stage where by mixed working group , composed of representatives of both countries in the Western Balkans, as well as experts from the European Commission, aims to gain insight into the state of law, economics , business, and political systems, certain state and provide joint recommendations for monitoring the standards of the European Union . Start the work of these committees for the Western Balkans means the beginning of the process of European integration. The feasibility study is actually based on a report by the European Commission concludes that there is a certain Western Balkan countries willing to start negotiations on the signing of the Stabilization and Association Agreement.

The negotiations, for the conclusion of the Stabilisation and Association Agreement, are the stage on which the EU Council of Ministers, at the proposal of the European Commission adopts a mandate on the basis of which the Commission becomes authorized to conduct negotiations. Also, this term

represents also an important basis on which to build a blueprint for the future legal framework of the Stabilisation and Association Agreement with the countries of the Western Balkans. The main subject of negotiations at this stage is a transitional period and the pace of liberalization of trade in industrial and agricultural products, as well as the process of harmonization of the domestic law of the country of the Western Balkans with the EU acquis in the area of the free market. Application for membership as one of the stages in the process of stabilization and association exists when the state shows the ability to meet obligations under the Stabilisation and Association Agreement. So there is no formal limit to apply for candidacy, but he, legally and technically speaking, may be submitted from the moment of signing of the Stabilization and Association Agreement. To the European Commission at the request of the application for membership is a phase in which the European Commission estimates that member states shall bid on the issues that are listed in the questionnaire of the European Commission. Based on the answers provided, as well as field-testing European Commission makes an assessment of whether the state should be given the status of a candidate or not. This phase is a result of unfulfilled promises regarding the implementation of the commitments for which the European Union does not believe the promises given to the candidate, but requires specific measures of implementation. Finally, after the closure of all chapters it is possible to enter into membership in the EU. At the end, we are left to infer the importance of the Lisbon Treaty for the continuation of the enlargement process of the European Union, which primarily refers to the countries of the Western Balkans, and above all, on Croatia for which the entry into force of the reform package contained in the Lisbon Treaty means the fulfilment of all necessary conditions of EU membership for our western neighbour later than the beginning of 2014. As far as our country remains the hope that clear continuation of the reform process set out in the European Partnership priorities and the Stabilisation and Association process which could lead us to a situation that soon become a full member of the European Union.

PRINCIPLES AND PROCEDURES RELATING TO ENLARGEMENT

In principle, every country that wants to join the EU must meet the Copenhagen criteria in 1993. However, developments in the EU since then have led some Member States to advocate for stricter rules at the time of enlargement in 2004 and 2007. Officially, the Copenhagen criteria are still valid in their original formulation: “Membership requires that the candidate country that” it has achieved stability of institutions guaranteeing democracy, the rule of law, human rights, respect for and protection of minorities, the existence of economies viable as well as the capacity to cope with competitive pressure and market forces within the Union market. Membership presupposes the candidate's ability to assume the obligations of membership including adherence to the aims of political, economic union, and money.”

These conditions were again discussed by the Council when it adopted in June 2003 the “Thessaloniki Agenda for the Western Balkans”, which clearly stated that “the future of the Western Balkans is within the EU”. However, waves of enlargement in 2004 and 2007 and weariness related to enlargement that has gripped some Member States as well as the debate on institutional reform which led to the Treaty of Lisbon have raised serious criticism how the criteria were used. Based on experience with the eastward enlargement, the European Council, confirming the Copenhagen criteria, adopted a new approach which led him to declare explicitly that future negotiations should be considered “as an open process whose outcome can not be guaranteed in advance.” In addition to the new candidate countries, a negotiating framework would be created, which would have an overview of the negotiation chapters with clearly defined guidelines as a step. Shortly before the accession of the Romania and Bulgaria, the Council adopted some improvements concerning the accession negotiations, in particular stating the intention to “refrain from setting any target dates for accession until negotiations will not be on the verge of success.”

Recognizing the importance of taking the past acceptable for other countries so, the Serbian Parliament adopted on 31 March 2010, a resolution condemning “the crimes committed against the

Bosniak population of Srebrenica in July 1995". In addition, the resolution had "condolences and apologies to the families of the victims because not everything had been done to prevent the tragedy". This long-awaited declaration followed a lively debate in the National Assembly and was adopted by a very small majority. Many people have pointed out, Serbia and Republika Srpska, it was unnecessary to focus only on war crimes committed by Serbia Srebrenica ignoring the crimes committed against the Serbs by other communities. In fact, immediately after the adoption of the resolution, the President of the Serbian Parliament announced that he was working on a statement condemning crimes against Serbs in the former Yugoslavia.

BALKAN ECONOMIES: SOME EXAMPLES

Besides the effects on the economy of Serbia, the impact of the financial crisis is seen previously in other neighbouring countries, such as Slovenia and Croatia. The consequences of the financial crisis were analysed for each of the countries on a number of different criteria. The aim of this approach is reflected in the fact to look vulnerable sectors of the economy in different countries and to consider the experience of economic policy in Serbia and the region. The research results can be used for economic policy guidelines in the years to come. This approach is necessary because the economic crisis is over. It has been said that no country has been immune to the global economic and financial crisis. This is the case with the countries whose depth analysis and carry, and with Serbia, Croatia, and Slovenia. Perhaps the most obvious and simplest way to at the outset look at the effects of the crisis, the analysis of trends in GDP and its growth rate. As in most countries in the world, 2009 is a truly "bottom of the crisis" with the lowest growth rates. It is actually a negative rate, and of these countries, Slovenia has the lowest of -8%. These are followed by Croatia and Serbia -6.9 % -3.5%. Looking these countries and the time period after 2009, it seems that Serbia had the best performance, when growth comes, and also the fastest recovery. Since all three countries, only one (Slovenia), a full member of the EU, and the remaining two are candidates, and is expected to quickly connect to this integration, it is true, Croatia joins the unlikely this year. It is understood that Slovenia was the most developed countries in the region to 21000 EUR per capita gross domestic product, while Serbia from 8700 EUR per capita gross domestic product, the least developed. It is interesting that in all three countries, gross domestic product per capita since 2008 and to date has declined, as sufficient illustration shows the intensity of the crisis.

Looking at the gross industrial production in these countries shows once again that the most developed countries suffering the greatest impact of the crisis, in order to finance, and the real sector. Such is the case here. Slovenia recorded the sharpest decline in industrial production, and Africa the lowest. The recovery in industrial production in Slovenia, starting in 2010 was the fastest, but it is a descending line of production unfortunately again began 2011. Having in mind that the decline in industrial analysis almost always causes unemployment in some ordered iterations, it is expected that the unemployment rate will be the largest in Slovenia. The situation, however, is not so. The highest unemployment rate recorded yet Serbia, followed by Croatia and Slovenia, respectively. The crisis seems to have a long and variable time delays, and the rates in all three countries, starting from 2008 onwards growth. It is supposed to be according to the environment of development and adjust wages in a national economy. In this regard, we note that the highest average gross salary just in Slovenia, and the lowest in Serbia. We can see their slight growth in Slovenia in the reporting period, and their dynamics in Serbia and Croatia was about an unchanging average. Looking at the public debt of the three countries, measured as a percentage of GDP, we see that it is fairly uniform in 2011, but the largest increase from 2008 to 2011 recorded Slovenia, then Croatia and Serbia.

SERBIA AND THE EU: PERSPECTIVES

The EU is the most important foreign trade partners of Serbia and accounts for more than half of the total imports and exports of Serbia in the world. The Stabilization and Association Agreement is a long-term, the institutional framework for the development of trade and business links between the

economies of Serbia and the EU. The Stabilization and Association Agreement exceptional trade measures by the EU will be transformed into a contractual obligation. The appearance of the current situation (EU unilateral trade measures against Serbia) is more favorable than the Agreement. However, exceptional trade measures are given autonomy by the EU and may also unilaterally canceled without any consequences, while the Agreement is an international obligation and any changes can be made only after consultation between the Parties.

One of the main objectives of the Stabilization and Association Agreement is to establish a free trade area between Serbia and the European Union. The free trade area will be established gradually phasing out all tariffs and quantitative restrictions and other measures having equivalent effect in trade between them. At the end of the transitory period will be achieved full liberalization in industrial products, while in the area of agricultural products can maintain a certain level of import protection after the expiry of the transitory period. The Stabilization and Association Agreement on trade entails costs and benefits, both in the short and in the long term, and one can expect that in the short-term costs will be higher than the benefits. The expected cost of foreign trade liberalization are: an increase in imports, the growth of the trade deficit, declining revenues from customs duties, as well as various cost adjustments Serbian economy to increased competition from EU (restructuring, acquisition of new technology, closures, growth rate, etc.). In the long term positive effects exceed the costs. The gradual establishment of a free trade zone with the EU will contribute to export growth, rising foreign investment, greater integration of the Serbian economy in regional and European markets, strengthening the competitiveness of those industries Serbian economy that have sufficient potential to develop competitiveness, facilitating the restructuring and privatization.

In addition to the reduction in budget revenues from tariffs, increased imports will lead to an increase in revenue from VAT. Consumers should already feel the positive results of the abolition of tariffs and price of imported and domestic products, which will be price and quality have to adapt to new market conditions. While the achievement of positive outcomes and mitigate the negative effects of trade liberalization largely depend on the knowledge and ability of entrepreneurs to adapt to new market conditions, it is important to emphasize the role of government in creating an enabling business environment through institutional arrangements and incentives. The experience of countries that have already passed through Serbia joining the European Union show that the process under appropriate macroeconomic and development policies, has a positive effect on the restructuring, economic growth and employment. To support internal reforms in Serbia, as well as to improve economic relations, it is very important financial support from the EU this country, particularly in the framework of the CARDS (Community Assistance for Reconstruction, Development and Stabilization), the financial instrument of EU assistance to the Western Balkans, which in addition to bilateral aspect to each of the countries individually, has a regional component.

Enlargement of the European Union has had an enormous positive significance, both for the Union and for the Member States. The European Union has for each expansion recorded economic growth and strengthening influence in Europe and around the world. Member States have made progress in the accession process with the assistance of EU countries. Upon receipt of it, they have blossomed. There was a great economic crisis that we have seen, of Union was not immune.

We tried to determine how much of the Serbian citizen are appreciating and supporting integration to the European Union. Dissatisfaction with the current state of the economy, the unstable political situation in spite of all the mighty changes have caused the number of citizens for integration into European society over time is declining. The reason for this can be found in the fact that they, the ordinary "citizens sceptical because of the bad example of Slovenia and Hungary, countries that are in our environment. European Road last decade was presented as a path that does not have an alternative, and now, after a bad economic situation that we have in recent times, the question is seeking the alternative, whether in Russia as an important strategic partner or in any other country in the east. However, when talking about the opinion of the public, we should not forget that their reasoning is

often clouded by distinct national charge. We tried to solely using some economic indicators and opinions of prominent personalities come to a general conclusion about pre-set hypotheses.

Serbia, as a country of the European continent, it is natural to strive for EU membership. The EU membership can bring many benefits, ranging from economic, to political. Economic benefits we have experienced partly through donations and investments that by joining the EU were intensified. The political benefits are manifold and are primarily related to foreign policy, which is much easier to run under the auspices of such organizations. We have to mention that as far as the EU integration and adaptation of European laws seem trivial sometimes more important is that the overall awareness to a higher level. By this we mean that the European attempt to, copy the “achievements of modern business, the rule of law becomes a law, not a myth”. It has already been pointed out that even though the economic situation is not so favourable Serbia is likely to get a lot of integration. Simply put, we enhance the reality in which we live.

At the end of 2013, we note a slight recovery and, at least statistically speaking, out of the recession in which Serbia has entered during the 2012. In the first three quarters of 2013, growth was around 1.5-2 %, on what is most influenced by the export boom (mainly due to export cars from Fiat’s factory), but this effect was largely offset by weakness in demand of households, state, and very poor investment. Observed by the largest contribution to growth has made agriculture, but this should be taken into account statistical effect , i.e. the effect of last year's drastically bad agricultural season (the result of a catastrophic drought in the summer of 2012) , making this year's relatively solid season even more given the (statistical) importance. In addition, the favourable contribution is made and the industry, with growth of around 5 % in the previous part of the year was primarily “pushed” by strong growth in the automotive sector. It should be noted that the industry is, however, heavily exposed to recession trends, since, in addition to car and even a small number of sectors, most sectors continue to decline. On the other hand, note pad private and government demand and investment has caused a drastic decline in the construction industry so far this year. All things considered , this year will be achieved relatively solid growth, but we see that the sources of this growth is largely a consequence of the statistical effect of a very low base in 2012, which also means that in the 2014 statistical database (for some growth 1.5% -2%) is actually somewhat lower growth potential next year . As we have pointed out, the main driver of growth in 2013 was net exports, and reducing the trade deficit. This dynamic is primarily the result of an export boom, given that exports in the first three quarters grew by more than a quarter compared with the same period last year. This is certainly a consequence of the export cars from the Kragujevac factory, which is in the second half of 2012 began to work. On the other hand, imports for most of the year grew very modestly, much more slowly than exports, probably due to weak demand in the country. Thus, the trade deficit in the first three quarters fell by almost 30%. This effect would be even stronger if not recorded relatively weak demand in the euro zone, which is the most important trading partner of the country.

Although in recent years the European Union is much disputed, the authors' conclusion is that Europe represents a value in itself, it is a legacy that has for too long been built to the value lost in the short term. Therefore, the integration is already considerably entered and the same have been made in Europe in the not too distant past many concessions, because it seems to be a continuation of the road some, but with a dose of caution.

CONCLUSION

EU must provide a clear European perspective of the Western Balkan countries, because without such a perspective would not be possible to implement painful reforms. Countries aspiring to EU membership should not be considered the sole purpose of admission to the Union, but that the same should be observed and the process as he is of crucial importance for the transformation of the country. The Union does not need to change the conditions for membership, or making new demands on the candidate, but to try to existing criteria are fully met. The problem is that the most different

situations. The Western Balkans, the last to be victims of this series of violent and pests that conflict erupted in 1991, are now on the road to stabilization and reconciliation. But it is a winding road, which requires the efforts of countries and a strong commitment of the EU and the international community. At its meeting held in Feira, Portugal, on 19 and 20 June 2000, the European Council officially designated the Western Balkans as “potential candidates for accession to the EU”. The Thessaloniki European Council (2003) then defined the accession strategy. During these seven years, all councils have confirmed the willingness of the EU to integrate the Western Balkans. This objective was again confirmed in December 2009 when the Spanish, Belgian and Hungarian governments have presented the objectives of their respective presidencies for the period of 18 months commencing in January 2010. They stated that the EU would continue to enhance the prospects of European integration for the Western Balkans in the Stabilisation and Association Process and the Thessaloniki agenda as decided in 2003 and actively contribute to the stability and prosperity of the region using all the instruments at its disposal. The new High Representative of the Union for Foreign Affairs and Security Policy, Baroness Ashton, has also reiterated this objective and the EU conference on the Western Balkans held in Sarajevo on 2 June 2010 formally confirmed that European integration of the region is a priority for the EU.

The Thessaloniki Agenda offers a range of initiatives to support and enhance the process of European integration, including the intensification of inter-parliamentary cooperation, partnerships, twinning, exchange and secondment of officials, technical assistance, cooperation in foreign and security policy, participation in EU programs and collaboration in the field of the fight against organized crime. Agreements Stabilisation and Association signed with Croatia, the Former Yugoslav Republic of Macedonia and Albania are now in force, others were signed with Montenegro, Bosnia - Herzegovina and Serbia and are process of ratification. The abolition of visas for citizens of Serbia, Montenegro and the Former Yugoslav Republic of Macedonia - soon extended to Albania and Bosnia and Herzegovina - is an important step a little closer to the Western Balkans the European Union. Organized crime and corruption are probably the most serious that the countries concerned have to fight problems. The EU makes every effort to help them navigate the difficult path that will lead to the building of institutions, but most of these efforts must be provided by the countries themselves. Regarding Serbia, it is a stable state with a well-developed and relying on a strong administrative experience political culture. The government and the majority of the population have come to the idea that the future of Serbia through the accession to the EU. His candidacy will advance if it takes steps to solve two problems inherited from the war in the 1990s. In conclusion, it seems fair to say that all Western Balkan countries have made progress towards integration into European institutions, although there are differences between them. It is in any case encouraging them to implement all policies and convergence measures. And each country will be judged by its own achievements. The EU is committed to help, but if they want to succeed, they need to make additional efforts to meet EU criteria. At the same time, it is essential that the EU delivers positive and clear messages about its real commitment to integrate the Western Balkans. And the Sarajevo conference issued a clear and encouraging message. The goal of peace, stability and sustainable prosperity can only be achieved through democracy, the rule of law and respect for human rights.

LITERATURE

- 1) BAFOIL François. Europe centrale et orientale-Mondialisation, européanisation et changement social, Presse de Sciences Po, Paris, 2006
- 2) BALKAN INVESTIGATIVE REPORTING NETWORK (BIRN), Annual Report 2007, disponible sur http://birn.eu.com/apps/BIRN_Annual_Report_2007.zip,
- 3) BANQUE CENTRALE DU MONTENEGRO, Les rapports annuels d'économiste en chef, disponible sur http://www.cbmn.org/index.php?mn1=publikacije&mn2=godisnji_izvjestaj&mn3=godisnji_izvjestaj_glavnog_ekonomiste

- 4) CHAVANCE Bernard. Les incertitudes du grand élargissement - L'Europe centrale et balte dans l'intégration européenne, L'Harmattan, Collection « Pays de l'Est », 2004.
- 5) COMMISSION EUROPEENNE. Une vie plus facile. Les grands et petits avantages du marché unique, Communautés européennes, Bruxelles, disponible sur <http://ec.europa.eu/publications/booklets/move/35/fr.pdf>
- 6) COMMISSION EUROPEENNE. Stratégie d'élargissement et principaux défis 2010-2011, Communication de la commission au parlement européen et au conseil, Bruxelles, disponible sur http://ec.europa.eu/enlargement/pdf/key_documents/2010/package/strategy_paper_2010
- 7) COMMISSION EUROPEENNE. Les Balkans occidentaux et l'intégration européenne, Communication de la Commission, COM (2003) 285 final, 2003.
- 8) DIPLOWEB, Site d'information géopolitique, Section pays candidats à l'UE: Turquie, Balkans, <http://www.diploweb.com/p801d.htm>
- 9) DOCUMENTATION FRANCAISE, Dossiers, L'Union européenne dans les Balkans: construire la paix, disponible sur <http://www.ladocumentationfrancaise.fr/dossiers/europe-balkans/index.shtml>
- 10) EUROPEAN BANK FOR RECONSTRUCTION AND DEVELOPPEMENT. Transition report 2007, People in transition, Disponible sur <http://www.ebrd.com/downloads/research/transition/TR07.pdf>,
- 11) GORI Luka. L'Union européenne et les Balkans occidentaux, la perspective européenne de la région (1996-2007), Hesperiaedu, Belgrade, 2007.
- 12) GRUPE Claudia, KUSIC Sinisa. Intra-regional cooperation in the Western Balkans: under which conditions does it foster economic progress? LSEPS, London, Center for the Study of Global Governance, Discussion Paper 37, 2005.
- 13) HELPMAN Elhanan, KRUGMAN Paul R. Market Structure and Foreign Trade: Increasing Returns, Imperfect Competition and the International Economy, MIT, USA, 1985.
- 14) KRUGMAN Paul, OBSTFELD Maurice. International Economics, Addison Wesley, Boston, 2003.
- 15) LOPANDIC Dusko. KRONJA Jasminka. Les initiatives régionales et la coopération multilatérale dans les Balkans, Mouvement européen en Serbie, Belgrade 2010.
- 16) LOPANDIC, Dusko. La Serbie et Monténégro sur la voie de l'intégration européenne, dir. M. Drouet, X. Richer, Vers l'élargissement de l'Union européenne à l'Europe du Sud-est, PUR, Rennes, 2007.
- 17) Mc DONALD Frank. The European Union and Employment Relationship, European Business Review, vol.12, 2002.
- 18) Mc DONALD Frank. DEARDEN Stephen. European Economic Integration, 4th edition, FT Prentice Hall, 2005.
- 19) MINIC Jelica, KRONJA Jasna. Coopération régionale pour le développement et l'intégration européenne, le Mouvement européen en Serbie, Belgrade, 2007.
- 20) MISCEVIC Tanja. Adhésion à l'Union européenne, Institut ESPI, Belgrade, 2005.
- 21) MRAK Mojmir, STANOVNIK Peter, STIBLAR Franjo. Slovenia-Understanding Reforms, GDN, Ljubljana, 2004.
- 22) OFFICE STATISTIQUE DU MONTENEGRO, Rapports annuels, le commerce extérieur, disponible sur <http://www.monstat.org/cg/page.php?id=32&pageid=32>
- 23) PETRUSIC Antonija, Regional Cooperation in the Western Balkans - a key to integration into the EU, Croatian Yearbook of European Law and Policy, Vol. 1, No.1, 2005.
- 24) PRATTEN C.Frederick. A Survey of the Economic of Scale, Research of Costs of Non-Europe, Basic Findings, vol. 9, Office for Official Publications of the EC, Luxembourg, 1988.
- 25) PREVELAKIS Georges. Les Balkans, cultures et géopolitique, Nathan, Paris. 1994.
- 26) RAJCEVIC-GARCIA Ana. L'Union européenne et les Balkans occidentaux (1999-2009): perspectives et limites d'un rapprochement, Thèse de doctorat, Sciences économiques, Nice Sophia Antipolis, 2009.
- 27) REDZEPAGIC Srdan. Les politiques économiques comparées et les coûts d'intégration pour les pays de l'Est candidats à l'adhésion à l'Union européenne, Faculté de Droit, des Sciences Politiques, Economiques et de Gestion, CEMAFI, Nice Sophia Antipolis, 2007.

-
- 28) SAMARDZIJA Visnja. STANICIC Mladen. NIKIC Gorazd. La Croatie et l'UE, les coûts et les avantages d'intégration, OMI, Zagreb, 2000.
 - 29) SPASOVA Plamena. Regional Cooperation in the Balkans as an essential step towards EU Membership. Lessons of Visegrad, Budapest, Institute for World Economics, Hungarian Academy of Sciences, Working Papers, No. 148, December 2004.
 - 30) Special Co-ordinator of the Stability Pact for SEE: Agenda for Stability, II Regional Table, 8th June 2000, Thessaloniki.
 - 31) STOJKOVIC Momir. Développement de la coopération multilatérale dans les Balkans, Initiatives balkaniques, La politique internationale, Belgrade, 1988.
 - 32) SVETLICIC Marjan. Small countries in the Globalizes World: Their honey moon of twilight? Small States in the Transforming European System, Bern, 1997.
 - 33) SURANOVIC M.Steven. International Trade Theory and Policy, Flat World Knowledge, 2010.
 - 34) TERRENOIRE Alain. Les Balkans occidentaux et l'Union européenne, Journaux officiels, Paris, 2007,
disponible sur
<http://www.ladocumentationfrancaise.fr/rapportspublics/074000750/index.shtml>
 - 35) THE WORLD BANK, The Road to Stability and Prosperity in South East Europe - A regional strategy paper, March, Washington, 2000.
 - 36) TUDOR Vadim. European projects of regional cooperation in the Balkans, Eurobalkans, No. 145, 1994.
 - 37) ZAMAN Gheorghe. GEORGESCU George. Structural fund absorption: a new challenge for Romania?, Romanian Journal of Economic Forecasting – 1/2009, Institute of Economic Forecast.

RECENT MODIFICATIONS IN HUNGARY'S REGULATORY FRAMEWORK FOR WATER SERVICE PROVISION – IS EFFICIENCY BEHIND THE CHANGES?¹

Pal BELENYESI²

INTRODUCTION

The regulation of water services in the EU remains within the responsibility of the Member States. In most countries, water service provision is regulated at local level, closest possible to the consumers. Local authorities are responsible for the provision and the execution water services, in addition to the maintenance of the networks.³ The elements of the water networks are also owned by the local authorities. They appear on all sides of the service; provision, usage and ordering of the services, and they are also involved in establishing the price of the service.

The presence of the public sector in the water industry, at least compared to other network industries, is heavy. In spite of the fact that healthy competition creates benefits for the consumers, markets and market players, when private participation is allowed, the water service market tends to become fragmented. Thousands of small firms compete ineffectively for the provision of water and related services leading to economic and social inefficiency in the market.⁴ One of the main reasons behind this is that privatisation is randomly accompanied by well planned liberalization, market regulation, and vigorous market monitoring.

Water rights and stewardship of water, abstraction licensing and water service provision, now central issues of sustainable economics, have taken a novel impetus as part of the negotiations centred on climate change, biological diversity and international development around the world.⁵ The result of the shared but diverse responsibility approach in the EU is that, in Europe, water prices remained unstable, unjustifiably high or unduly low, rarely representing environmental and resource costs.⁶

The picture is even more disturbing across member states. Industrial, agricultural and personal water use is not yet totally separated from a pricing point of view and water markets continue to be

¹ Most prominent European examples of water service provision, where the public-private cooperation is present in the service provision, are: France, England and Wales, Scotland, Germany, Spain and Hungary.

² Pal Belenyési, Phd., Director of the International Environmental and Competitiveness Research Institute, Debrecen (Hungary).

³ Most prominent European examples of water service provision, where the public-private cooperation is present in the service provision, are: France, England and Wales, Scotland, Germany, Spain and Hungary.

⁴ See, e.g.: EEB European Environmental Bureau, *A Review of Water Services in the EU under liberalisation and privatisation pressures*. EEB Publication Number 2002/012, Brussels. In spite of the fragmented water services markets, some international firms' market share is evident in most European countries. For further information, see: Hall, D. and Lobina, E., *Water companies and trends in Europe 2012*. PSIRU 2012-08-W-EWCS.

⁵ For recent work see, for example: Pal Belenyési, *Water regulation in Europe – only for idealists?* Verlag Dashofer, 2009; Vollaro, M. et al., *Potential for water use right market development in Italy: social acceptability in the context of climate change*. AIEAA paper, Parma, 6-7 June, 2013; Shephard, M. and Lange, B., *Is there still an Economic Right to Water?* FLJS Policy brief, 26 June 2013;

⁶ See in this regard Art. 2(38) and 9 of the Water Framework Directive. **Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy**. OJ L 327, 22/12/2000, pp. 0001 – 0073.

inefficient.⁷ This may cause social problems for consumers, public policy issues for governments and finally, negative investment considerations for private entities active in the water markets.

Following the adoption of the Water Framework Directive⁸ in the EU, Member States began to reconsider water management and water pricing, based on the full recovery of the cost principle, a principle which now has become a buzzword in recent times.⁹ Consequently, in some countries, the water sector has been restructured. France, the Netherlands, the UK, Spain and Germany have all reorganized their national water markets.¹⁰ In Hungary, with the entry into force of Law CCIX of 2011, the water services market has significantly been restructured. The rearrangement brought along structural, institutional and dynamic changes. In spite of the much needed reform, the changes may be described as too eager optimization of the market structure (monopolization), solidification of public ownership of network assets, greater power of the government in deciding daily issues (loss of local democratic control) and no provision of efficiency incentives as to pricing and cost structuring. In addition, the act established a new regulatory agency, while at the same time giving the final say to a government department to set the water prices – both final and access. As result of the new principal-agent regulatory model, consumers will have less say concerning the management and the pricing of water services and direct democratic control is weakened. Overall, the courageous piece of legislation had already received some commentaries from the academic world, though the full-fledged commentary of the act is yet to be heard.¹¹ This article summarizes the changes brought by the new legislation from a market efficiency perspective.

BACKGROUND

Efficient use of water services

Before the detailed introduction of past and present, a word must be shared concerning the efficient functioning of the water services sector, in particular, of water supply markets. Defining concepts such as *water supply* and *water usage* has never been an easy task. Water services may mean the following: extraction, cleaning, transportation of water, water storage, water supply, collection, transportation and re-use of waste water.¹² In this article, I focus on the supply of water to customers, more specifically on the supply of drinking water. I use the definition of the Water Framework Directive (WFD), a broader and more inclusive definition of water usage and water services. This definition is vital also to validate the water service provision from an economic efficiency point of view.

⁷ It is worth to read Sir Byatt's relatively recent contribution to water market liberalization and its failures. Byatt, I., *Water: Supply, Prices, Scarcity and Regulation*. IEA Current Controversies Paper No. 37, August 2012.

⁸ Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy. OJ L 327/1 of 22.12.2000.

⁹ Cost based pricing or the application of the cost recovery principle means that prices of water services are based on the price of production, and the final prices consist of the production and the transportation costs plus a reasonable profit of the firm who provides the service.

¹⁰ See, in particular: Pál Belényesi, *More efficient regulation of water services and the polluter pays principle*. PhD dissertation, pp. 179-209. Available at: http://jog.unideb.hu/documents/doktori_nyilvanosvita/belenyesi-ertekezes.pdf

¹¹ See, for example: János Ede Szilágyi, *A víziközmű szolgáltatások és a víz árának szabályai*. Agrár- és Környezetjog, 13. szám, 2012. pp. 92-104.; Tamás Horváth M. –Gábor Péteri, *Nem folyik az többé vissza. Az állam szerepének átalakulása a víziközmű-szolgáltatásban*. In: Valentiny – Kiss – Nagy, *Verseny és szabályozás*, 2012.

¹² This is also reflected in the new legal framework for water service provision in Hungary. Law of CCIX of 2011, § 2, point 20.

What do efficient water services mean then?¹³ Efficient or more efficient use of water services mean the cost-based pricing of water services, when costs mean environmental, resource and production costs.¹⁴ The same concept means also water-efficient use of the water reserves. As has been pointed out on several occasions, Europe's water management suffers from the lack of an adequate financial structure to run efficient and sustainable water policies.¹⁵ I am convinced that in order to best reorganize water service provision in Europe, and Hungary in particular, when establishing the conditions of water service provision the introduction of economic, efficiency-based regulation of drinking water supply is necessary. In other words, the unconditional application of the cost based – i.e. full cost recovery based pricing – principle to the water services.

The representation of environmental, resource and production costs in pricing of water services has already been defined in the WFD. However, the Directive does not mention the application of this principle as part of a possible market liberalization process nor as a method of calculation when setting network access prices. I argue that the application of this principle to open and competitive markets at wholesale access level is desirable. I also maintain that this would provide significant efficiency gains, especially when the market is dominated by a few incumbent companies and sectorial regulation is untested.

Water markets can be described as irregularly contestable markets, where irregularity refers to a period of 10-45 years, depending on service contracts and contractual forms.¹⁶ In Hungary, the service contracts were distributed unevenly, private-public participation was neither well assessed nor efficiency based. As a study notes, conflicts on the market were managed from a short-term political point of view, leaving market based mechanisms out of the discussion.¹⁷ Overall, the irregularly and limitedly contestable markets do not provide strong enough incentives for new market entry. The public sector is present on all sides of the contracts, which gives ground for preferable treatment and anticompetitive advantage to these enterprises, especially if the service provider - network owner - costumer is the same entity. The low prices were seeking the renewal of democratic authorization of the office (elections) as opposed to the market based mechanisms, which would aim at effective service provision and minimizing losses. The necessary institutional background for management was also lacking and the original haze of privatization, which resulted in higher but more efficient pricing of water services, was over-turned by dissatisfaction and ineffective reorganization of tasks within the public authorities. This later, in return, had an inevitable effect on the development of the market, networks were not upgraded, costs remained inefficient and uncollectable and service provision contracts were not rigorously monitored, while the role of the public authorities was inflexible both for price setting and for the conditions of service provision.

Similar to international practices, one of the main problems in Hungary is that the pricing of water supply is not sustainable and prices are not set according to the standards of long term service

¹³ About efficiency in the water sector, in particular, see: Cai, X. et al., *Physical and economic efficiency of water use in the river basin: Implications for efficient water management*. Water Resource Research, Vol 39, Issue 1, 2003.

¹⁴ See also the definition of the WATECO working groups. *Assessment of the Recovery of Costs for Water Services for the 2004 River Basin Characterisation Report (Art.9)*, Drafting Group ECO1, Common Implementation Strategy, WG 2B, May 2004; *Assessment of Environmental and Resource Costs in the Water Framework Directive*, Drafting Group ECO2, Common Implementation Strategy, WG 2B, June 2004.

¹⁵ CEPS Task Force Report, *Which economic model for a water-efficient Europe?* Brussels, November 2012. p. 15.

¹⁶ These are concessions, lease, long term lease.

¹⁷ See also: Szilágyi (2012), p. 93.. and Állami Számvevőszék (Court of Auditors, Hungary), *Jelentés a vizek védelmének és a vízgazdálkodási feladatok ellátásának ellenőrzéséről*. 1049. sz. jelentés, 2011. február. Elérhető: <http://www.asz.hu/jelentes/1049/jelentes-a-vizek-vedelmenek-es-a-vizgazdalkodasi-feladatok-ellatanak-ellenorzeserol/1049j000.pdf> (Ellenőrizve: 2013. július 1.)

provision. Ownership is often debated and the government provides neither technical help nor exercises effective monitoring.¹⁸

The water sector in Hungary before 2012

The water service provision networks in Hungary can be described as a system of old pipes, outdated assets with many years of service. About 60 per cent of the market was served by small companies and respectively 20-20 per cent stayed with the larger, multinational companies, serving the capital and other urban areas with a higher number of consumers.¹⁹ The drinking water supply market²⁰ in Hungary has traditionally been a two-level, multi-faceted and highly fragmented market with public, private and public-private characteristics for service provision. After the political changes in 1989, five larger companies²¹ at regional, and approximately 400 companies at local level assumed responsible for the provision of services.²² This was the result of the general reorganization of the water market in 1990, when local authorities were given certain assets and elements of municipal and regional service providers and networks, along with the obligation and responsibility of drinking water supply provision. Elements of the regional networks however, remained state property, instead of being given to the sharing local governments, thereby acquiring a special status.²³ These elements became limitedly merchantable, tying the hands of the local governments, only the temporary handing over of the delivery of services was endorsed by the law. The provision of drinking water supply was only possible via undertakings of four kinds;

1. fully owned and directly controlled by the local government,
2. undertakings fully owned and indirectly controlled by the local government,
3. undertakings jointly owned by the local government and the private sector participant,
4. via concession agreements.²⁴

Service provision is regulated by the laws on local governments, on water service provision and on national property.²⁵ From the local governments' perspective, the provision of drinking water supply is not only a potentially lucrative business but an obligation. The law on setting prices of certain

¹⁸ See: Koskovics Éva – Ungvári Gábor, *Áttekintés a magyar víziközmű-ágazatról*, Műhelytanulmány – REK. Verseny és szabályozás 2010 (szerk.: Valentiny et al., 2011. pp. 306-328. NB: According to the new law this should change, however it is too early to judge at this stage.

¹⁹ For the detailed description of the market in Hungary, see: Judit Pump, *A jog hatása a fenntartható közszolgáltatásra a hulladékgazdálkodás és a vízgazdálkodás területén*. PhD-thesis, ÁJDI-ELTE, 2012.

²⁰ For sake of clarity: "water services" is a broader concept than the sector of drinking water supply. In this paper I will use the example of drinking water supply as some parts of water services – e.g. wastewater collection, treatment, reuse and deployment; hydropower; water ways, etc. – are not considered by the definition or are not demonstrative enough for the purposes of this paper. Act CCIX 2011 also regulates wastewater collection.

²¹ Dunántúli Regionális Vízmű Zrt., a Duna Menti Regionális Vízmű Zrt., a Tiszamenti Regionális Vízművek Zrt., az Észak-dunántúli Vízművek Zrt. és az Észak-magyarországi Regionális Vízművek Zrt.

²² Before the 1989 changes, five regional and 28 "local-regional council companies" were responsible for service provision. See also: Gazdasági Versenyhivatal – VKI study, *A hazai víz- és csatornamű üzemeltetési piac feltárása, a víz- és csatornaközművek árazási, árszabályozási gyakorlatának vizsgálata. A magyarországi piac szerkezetének elemzése, a hatósági árak kialakulási folyamatának, módszertanának vizsgálata*, Expert Consulting, 2008. pp. 37-38. (Elérhető:

http://www.gvh.hu/domain2/files/modules/module25/tamogatott_programok/2008/12_Expert_viz_Tanulmany.pdf (Ellenőrizve: 2013. július 1.); Nóra Teller and Eszter Somogyi, *Public services in Hungary*. In: Reforms of Public Services. Experiences of Municipalities and Regions in South-East Europe, Zagreb: Friedrich Ebert Stiftung, 2003. pp. 745-52.; Tamás M. Horváth et al., *Navigation to the Market, Regulation and Competition in Local Utilities in Central and Eastern Europe*, Tamás M. Horváth (ed.), OSI/LGI 2001, Chapter 4, p. 6.

²³ Law XXXIII of 1991 on the handing over of special national property to the local governments.

²⁴ See also: Pump (2012), p. 66.

²⁵ Act CLXXXIX of 2011 of local governments, Act CCIX of 2011 on water service provision, Act CXCVI of 2011 on the national properties.

services in Hungary²⁶ brought along the authority to set prices at local level, taking into account (local) political and social aspects, having the possibility to implement direct consumer feedback.²⁷ Although on the one hand, prices were to be set in order to cover not only the necessary costs but also the acceptable profit, and on the other hand the Ministry of Environment had a cost-adjusting role in as much for the companies whose operating/production costs were higher than their income ensured by the authorized water prices they could charge.²⁸ There was no generally applicable pricing structure or regime in Hungary leaving many consumers in doubt about the prices they paid. Neither environmental nor resource costs were not taken into account.

Before the recent changes, service provision was regulated by a mix of laws, decrees and local acts creating a complex scheme for the relevant regulatory framework. The institutional framework was designed by the Law on local governments and by the Law on water service provision, but a separate regulatory framework existed for technical and quality control of the drinking water supply. In spite of the country's accession to the EU, and the accompanying obligation to harmonize EU and Hungarian legislation, no comprehensive regulation was introduced. The lack of a clear framework for the pricing of water supply and related services certainly had an effect in this.²⁹ As a consequence, network elements became outdated, communication towards consumers was lacking and participatory and conscious water consumption and efficient water use was non-existent. The market was not open to efficient competition and accompanying measures were not used.

The framework for drinking water supply before the changes introduced by Law CCIX of 2011, entrenched a system of inefficient and unjustifiable pricing practices. Local governments had the authority to set the prices on their territories without effective control by either the central government or regional authorities. Their decisions were only governable from a legal-procedural point of view, which had little or no effect on the actual prices. In addition, given the local monopolistic nature of the market, it was practically impossible to judge the merits of the service providers, although access to each other's networks was not prohibited.³⁰ Further liberalization and the introduction of competition at different levels of the network was neither promoted nor acknowledged. Finally, and mainly for the above reasons of lack of competition between service providers, consumer buying power was non-existent, customers of the service providers were not able to efficiently express their dissatisfaction.

THE NEW LAW

The market was substantially reorganized by Law CCIX of 2011, which was adopted by the Hungarian Parliament as part of a hasty legislative battle at the end of 2011.³¹ The adoption of this piece of legislation mirrors a European trend of remunicipalization of public services, including water service provision. The main reasons behind the law, which was adopted without public consultation, are not known.³² Nevertheless, it aimed at a profound structural reorganization of the market elements, ownership and service provision rights, further oligopolization of activities by setting a minimum number own consumers as a prerequisite for service provision, and increase the central control over

²⁶ Law of LXXXVII of 1990 on setting prices.

²⁷ See Law LXV of 1990 on the local governments.

²⁸ In Hungary, water supply prices (consumers – retail) have grown between 2000 and 2012 by 138%. (from 0.45 eurocent to 1.41 eurocent per m3 (current prices, June 2013)). In: KSH source, at <http://piackutatas.blogspot.be/2013/02/vizdij-magyarorszagon.html> (Downloaded on 10 July 2013)

²⁹ For a similar opinion, see: Somlódy László (ed.), *Magyarország vízgazdálkodása: helyzetkép és stratégiai feladatok*. Köztisztviselői Stratégiai Programok, Budapest, 2011, Magyar Tudományos Akadémia.

³⁰ Most of the companies know each other. They are one another's subcontractors in most cases when economies of scale are at stake.

³¹ This law must be read together with Law CXCVI of 2011 on the national properties.

³² The goals of the law are, however, enlisted: creation of the conditions for sustainable development and clarification of ownership rights. Law CCIX of 2011, § 89 (1), § 93.

service provision and market monitoring.³³ Nonetheless, the law also targeted rearrangement of pricing of water services by introducing several important concepts; the principle of resource efficiency, the polluter pays and cost recovery principle, and solidarity and the prohibition of cross subsidizing.

The new regulatory framework left the responsibility of maintenance and innovation of the network elements with the owners of the networks (local governments), whilst shifting pricing authority from these entities to the central government,³⁴ which may exercise this power through the regulatory agency responsible for the water and other public utility sectors (MEKH³⁵). The law also declared that the delivery of water supply is only possible via enterprises under public control, be it central or local, except when this right is attributed via a concession contract. The nature of the contract, public procurement and accountability of service providers, has also been changed to the benefit of the public authorities. The new legislation is aimed at optimizing the market structure and to create more efficient market operators by requiring all service providers to serve a minimum number of consumers, thus creating the notion of “consumer equivalent and optimal operational size”. It appears that at the end of 2012 ca. 50 companies were, and by 2016 ca. 30 companies will be capable of serving the market.³⁶ In addition, the law states that certain elements of the service provision network, not of the main network which is classified as a particular type of state property, must be transferred to the public authorities. This type of “reasoned expropriation” may be compensated under certain conditions and within a time limit. The much needed but rather rushed through legislation was neither well consulted nor tested before its entry into force.³⁷ In less than a few of months from its creation, the new law was already complemented.³⁸

SUBSTANTIAL CHANGES IN THE FRAMEWORK FOR WATER SERVICE PROVISION

The regulation of water services in Hungary has been significantly rehabilitated by the new regime. The regulation of water utilities and the provision of water services changed from a light touch regulation of the market to a more comprehensive, centrally controlled regime.³⁹ Local authorities are no longer pricing authorities, pieces of the network and ownership rights were further centralized in the hands of local and regional authorities, plus a new water regulatory authority was set up.

Service provision

Water service provision is a special service, which is subject to prior authorization by the Authority.⁴⁰ It does not cover the industrial or agricultural water use,⁴¹ but consumers could be both natural and legal persons. Systems, which do not qualify as distribution networks, are considered not part of the

³³ For a similar opinion, see: Horváth M. – Péteri (2012), p. 143.

³⁴ Before 1989, also the central pricing authority set the prices of water supply.

³⁵ Magyar Energetikai és Közmű-szabályozási Hivatal. (Office of Regulation for Energy and Public Utilities, Hungary)

³⁶ Horváth M. – Péteri (2012), pp. 148-149.

³⁷ Much of the Act entered into force on 30 December 2011 at 23.00hrs.

³⁸ Law CVI of 2012 concerning changes in Law CCIX of 2011.

³⁹ It must be stated that similar to the Hungarian situation, the EU monitoring of the implementation of the WFD continues to stir the Stillwater: Member States do not use a coherent approach to define the cost recovery principle-based pricing of water services. Consequently, concerning the implementation of articles 2(38) and 9 of the WFD the Commission initiated several infringement procedures, among which the German case has already been referred to the Court.

⁴⁰ Law CCIX of 2011, § 35 (1).

⁴¹ Law CCIX of 2011, § 2 (6).

public networks. The permission to supply provides the recipient with an exclusive right, however, during the service contract the Authority has the right to monitor not only the service provision but also the functioning of the enterprise. For example, a third party may only acquire more than 25% in the authorized firm if the Authority approves it.⁴² Reading this derogation together with the effective control over the number of service providers on the market,⁴³ it could be stated that one of the main goals of the reform is the strengthening of public presence and authority and suffocating competition on the market. It is at least dubious whether such derogations are in line with the main achievements of the single European market, such as the freedom to provide services.⁴⁴

Furthermore a general service provision has also contractual limitations. It is only possible by three contractual methods; utility service provision by asset management contract, lease-based service provision contract and concession contract.⁴⁵ While concession contracts may be established with any kind of company, irrespective of their ownership, lease and asset management contracts can only be signed with companies in partial or full public ownership. The recent law on national properties paves the way for more uncontrolled service provision and cherry-picking of service providers.⁴⁶ According to the act, it is also possible to provide services without concession contracts and the obligation to carry out a full public procurement procedure. The so-called *in house* service provision makes it possible for the local public authority to render the service provision by a firm in which it has exclusive property rights and 80% of the income of the entity derives from contracts with the public entity itself,⁴⁷ irrespective of the form of contract.⁴⁸ In other words this derogation, which is similar to publically owned entities' right to provide water services, will no doubt in the longer term patronize the local (public) market players. On one hand, this is an attempt to systematically rearrange and simplify the market structure, which, under certain conditions, is welcome; however, on the other hand, this could lead to the unreasonable foreclosure of the market from potential private competitors. It must be stated that this derogation can have no efficiency reasoning behind it. In addition, the act establishes that after 31 December 2014 certain operational tasks may only be carried out by entities exclusively owned by the public authorities or by joint ventures between the public authority and a private entity.⁴⁹

Although the law provides for competition friendly functioning, transparency and the prohibition of cross financing,⁵⁰ in real terms the above instructions may easily encourage companies acting on various levels of the market to exit. The foreclosure of ancillary and submarkets may lead to further inefficient monopolization and concentration of service provision, ownership and management.

Overall, special concession contracts and their competitive bidding are the only possibility for contestable markets and ultimately, the entry for private company competitors to the dominant

⁴² Law CCIX of 2011, § 42.

⁴³ Law CCIX of 2011, § 84 (1).

⁴⁴ See also: Horváth M. – Péteri (2012), p. 149-150.

⁴⁵ Law CCIX of 2011, § 15.

⁴⁶ Law CXCVI of 2011 on the national properties, § 12 (9).

⁴⁷ Law CVIII on public procurements, § 9 (1) k).

⁴⁸ This was recently confirmed by the Court of the European Union in Joined Cases 182/11 and 183/11, § 25. "[...] a contracting authority, such as a local authority, is exempted from initiating a procedure for the award of a public contract where it exercises over the successful tenderer control similar to that which it exercises over its own departments and the tenderer carries out the essential part of its activities with the contracting authorities to which it belongs (*Teckal*, paragraph 50). It is common ground that that case-law, [...] is also applicable to procedures for the award of public works contracts and public service contracts." In: *Econord SpA v Comune di Cagno and Comune di Varese (C-182/11) and Comune di Solbiate and Comune di Varese (C-183/11)*. ECR 2012 Page 00000.

⁴⁹ Such tasks are daily management of the network, correction of network failure, back office tasks, billing, monitoring activities, etc. See: Law CCIX of 2011, § 45 (4) and (5).

⁵⁰ Law CCIX of 2011, § 49.

incumbents. In the case of leasing and management contracts, contestability is only nominal. Nevertheless, as explained above, in house contracting also provides for exemption under concession contracts. At the end of the day, this leaves relatively little chance for market entries.⁵¹

The Authority

The law adjusted the scope of the existing Hungarian Energy Office, now named the Hungarian Energy and Public Utilities Office – the Authority.⁵² All aspects of water service provision except the consumer related issues are now scrutinized by the new Authority. However, the true responsibility of water service provision, price setting and price control go to the governmental department, the Ministry of National Development. The Authority may suggest the methodologies, provides and collects opinions and gathers fees for the execution of its supervisory and administrative tasks and market monitoring. The independent executive power, which should be attributed to the independent regulatory authority, has been transferred to the ministry.

The judicial review of the Authority's decisions is also weak. While it is possible to have recourse against its decisions, the judiciary can only refer the case back to the Authority for a new procedure but it cannot change it.⁵³

Changes in water pricing

According to the new law, the pricing of water services should be based on the cost recovery principle,⁵⁴ including a reasonable profit, but should not cover other costs not directly attached to the basic service provision.⁵⁵ The concept of reasonable profit is not defined and the details of the cost recovery principle are also left vague, while resource and environmental costs are not referred to. One commentator notes that one of the central elements of pricing rules in the new legislation is that both environmental and social aspects are represented.⁵⁶ As an important element, the legislation aimed at minimizing cross-subsidization, applying the principle of the polluter pays, and creating a harmonized pricing system at a national level.⁵⁷ All these were much needed but in spite of the above, much remained at the level of principles⁵⁸ and practice is to be witnessed during the coming years.⁵⁹ Some academics voice the “vanishing presence of decentralized organisation of public service provision”.⁶⁰ A promising novelty of the act, however, the introduction of the two-element formula for water pricing, which concerns both water supply and waste water services. Prices in the future should be

⁵¹ A recent study summarizes the situation as follows: “The current framework in Hungary interestingly provides for the sorting out of the ownership rights of the network elements of public utilities and their service based operation with the view of state sequestration.” Horváth M. – Péteri (2012), p. 152.

⁵² Law CCIX of 2011, § 3.

⁵³ See Law CXL of 2004, § 109.

⁵⁴ The cost recovery of water service provision is one element of water pricing. The other should be the inducing of water-efficient use of water resources. See, also: CEPS Task Force Report (2012), p. 3.

⁵⁵ Law CCIX of 2011, § 1 (1).

⁵⁶ Szilágyi (2012), p. 92.

⁵⁷ See also: Szilágyi (2012), p. 93.

⁵⁸ Law CCIX of 2011, § 1 (1) e), g), h), i), k).

⁵⁹ In related to water services, environmental and resource costs, in principle, are covered by other types of fees in Hungary. Law LXXXIX of 2003 introduced the concept of the “fee for using the environment”. One element of the fee is the “fee for using the water resources” (Law LXXXIX of 2003, § 7-10.). However, the solution only defines the arrangement of the fee at an unpractical level, given that the law details neither the use nor the treatment of such fees. The other type of fee is the “contribution to the water resources” (Law LVII of 1995, § 15.), which consumers are to pay in relation to their actual consumption or the reserved/planned consumption of water. See also, Ministerial decree 43/1999 (XII.26.) KHVM.

⁶⁰ Horváth M. – Péteri (2012), p. 153.

defined in order to urge water users to better and thoughtfully use water resources. This means that the final price is established on the basis of a basic fee plus the additional fee based on individual consumption. Given that it is lawful to make a distinction between industrial and private users, the feared cross-subsidization remained in place.

It must also be underlined that because of the setting up of the new authority and adding novel elements to the price formula, water prices are likely to rise.⁶¹ The law still lacks the clear definition of pricing models and potential access pricing formula requirements are also only vaguely covered.⁶² One thing is clear, however, by the pricing power embodied by the law,⁶³ the Authority became a direct supervisor of the local property rights.⁶⁴

The Parliament of Hungary, in order to alleviate financial hardship on citizens, passed a law in April 2013. In this the legislative branch concluded that all charges concerning water services applicable on 31 January 2013 must be decreased by 10% as of 1 July 2013.⁶⁵ The Parliament explains in the brief introduction of the act that one of the main reasons behind the legislation is that there is no healthy competition on the markets for energy related services. It is hard to relate the derogations, however, to water services and competition on the market. It is even more difficult to picture how this law will change competitive pressures and will create more efficiency in the market for drinking water supply.⁶⁶

CONCLUSIONS

The new legislation of the water sector was no doubt needed and should be applauded with all credits due. However, on a more critical note, water services markets in Hungary are not likely to produce social and economic efficiency if they are not open to competition. It is however, arguable that given the utility aspects of water service provision, a certain degree of public involvement might be necessary. The capital-intensiveness of water markets also suggests that the degree of public involvement must also be reconsidered during a time of economic and financial crisis. The lack of a sufficient level of economic information on the side of consumers about the degree of public involvement in providing these services is equally crucial. Misinformation is often the main cause behind remunicipalization of water services. The recent market reform in Hungary aimed at modernizing the sector, based on market consolidation, stronger public presence and concentration of ownership in (central) public hands, when at the same time taking away the possibility of local control in locally provided services. In this article I have argued that this is a misapprehension of needed reforms both from competition and environmental point of views.

I started out from arguing that on water services markets, given their particularities and historic legacies, the key for more efficient water service provision is the introduction of competition (NB: the Hungarian Competition Authority (Gazdasági Versenyhivatal, GVH) has recently concluded an abuse of dominant position case, in which it argued that competition on a geographic market, a regional

⁶¹ The final prices are to be defined by ministerial decree. In the transitory period a price cap was defined. For example, in 2012 a maximum of 4.2% increase was authorized, compared to the prices in effect on 31 December 2011. (See, in particular, Law CCIX of 2011, § 76-77.)

⁶² In particular, Law CCIX of 2011, § 67-68 only cover certain elements (quantity) of the important factors to be taken into account when calculating the price of access.

⁶³ Law CCIX of 2011, § 62-73.

⁶⁴ The application of pricing powers by the central government in the water sector is not a novelty. This approach is similar to the pricing and directing of waste collection service provision. Law CLXXXV of 2012, § 46-47.

⁶⁵ Law LIV of 2013, § 4 (1).

⁶⁶ Recently, the Government of Hungary would like to further decrease charges on consumers, not only in the water but energy and gas as well. See, e.g.

http://www.portfolio.hu/vallalatok/megint_megszolaltak_magyarorszagrol_a_londoni_elemezok.190757.html

market in drinking water supply, already existed because of the threats of potential market entry by the building of a parallel network. The GVH maintained that this had a strong enough incentive for the incumbent to moderate its actions and not to abuse their market power⁶⁷). The purpose of introducing competition in public utilities networks is similar to other network openings: i) to open up the service network for additional service providers; ii) to provide the newcomers with equal or preferential treatment; iii) to minimize the burdens of exiting the market; iv) to incentivize market players to operate more efficiently, to innovate and to take economically reasonable risks. All this will, however, remain theory if new entrants are not able to access networks under fair and reasonable conditions. By the current change in the regulatory framework, not much can be expected in this regard.

In Hungary, on the one hand, the recently endeavoured systematization of market conditions is welcome. On the other hand, I am of the view that the new set of rules will result in minimal promotion of efficiency on the market and consumer well-being. I consider that the restructuring of the market, in such way that the public authorities become responsible for larger networks and that the central government's responsible arm may always have decisive words in pricing issues on water markets, are neither intelligent nor sensible. It is true that the new sets of rules do not prohibit market liberalization *expressis verbis*; however, they certainly do not promote it. There are no rules which would urge new market entry, or which would endorse more efficient use of water. This way, the country's water sector is far from being characterized by efficient retail market competition, which is much advocated for as one of the goals of liberalization in the sector.⁶⁸ Nowadays, if anything for the market, embraced introduction of market mechanisms is desirable.

The new framework does not sort out the legacy problem, public ownership of network infrastructure and public regulatory involvement remain not sufficiently separated. On the contrary, Law CCIX of 2011 provides the government with the possibility to be directly involved in price setting, whereas, when it is politically inconvenient, it can hand over the decision-making power, applying a classic principal-agent model, to the regulatory authority. Finally, consumer control and buying power has traditionally been low in Hungary. With the new act this is further deteriorated. Consumers may only express their views at times of elections.⁶⁹ I believe that this is likely to be more detrimental than beneficial to the market and ultimately, to consumers. In conclusion, I suggest that the framework for water service provision in Hungary be revisited not only for the above, but also because the country is one of the Member States subjects to infringement procedures by the European Commission.

⁶⁷ Vj-31/2012. Although the case could become a benchmark piece of executive law-making, it must also be stated that a standalone case cannot be referred to in other geographical parts of the country where conditions are (even slightly) different.

⁶⁸ Byatt (2012).

⁶⁹ See also: Horváth M. – Péteri (2012), pp. 153 and 164.

THE SUSTAINABILITY OF EXTERNAL ADJUSTMENT PROCESS IN TUNISIA: LESSONS FOR POST “*ARAB SPRING*” REVOLUTION POLICIES

Salem KANOUN¹

Abstract

This paper highlights one of the first attempts in the empirical studies. It shall examine the sustainability of external adjustment policy using a quantitative approach. Using intertemporel and consistency approaches of deficits sustainability, our specific framework for Tunisia shows a positive required external adjustment over the entire period (1976-2010). A dynamic Error Correction Model is used to check short and long run relationships between primary current account deficits and the related sustainable thresholds. The evidence resulting from econometric model robustness checks indicates that adjustment forces are in operation to restore long-run equilibrium following a short run disturbance which involves authorities' ability and willingness to adjust. As a guide to possible policy actions after the “Arab spring” revolution, the sustainability of past adjustment policy which had generated, amongst others, foreign buffers helps the government, to some extent, support the post revolution sizeable official external financing flows and provides scope for the economy to operate at a higher level than would otherwise be the case, in order to sustain political transition. However uncertainty over the “rules-of-the-game” and the period of the political transition cannot be dismissed so easily which could put at risk the future of an already successful adjustment when the reversal in deficit trends becomes practically very difficult.

Key words: Current account deficits, External adjustment, sustainability, error-correction models

INTRODUCTION

The current account is the broadest measure of a country's trade with the rest of the world. It might serve as one of the main leading indicators for future behavior of an economy and is part of everyday decision process for policy makers. Large and persistent current account deficits provide a signal of macroeconomic imbalance, calling for devaluation and/or tighter macroeconomic policies (Baharumshah et al, 2003). In the short run, the increase in current account deficits provides a shift in market sentiment, poses a risk to economy. Thus, the interest rates would need to rise moreover and the exchange rate would need to fall. In the long run, indebtedness to the rest of the world increases, causing debt service to consume an ever larger share of income and servicing the debt will burden future generations and lower the standard of living (Hakkio,1995). In a series of research, Edwards (2006) had found that countries that experience large and abrupt current account “reversals” have experienced drastic reductions in investment and in GDP growth. He also found that if the current account adjustment was orderly and gradual, it would not disrupt economic activities in a significant way.

The existence of large and chronic current account deficits in some developing countries has received considerable attention over the last 20 years. Sustainability is widely regarded as one of the core elements of the analysis of external unbalances. The precise concern is sometimes unclear because the term “external sustainability” does not have an exact meaning. The literature on external sustainability

¹ PhD, Applied Microeconomics Research Laboratory (LARMA, FSEGT),
Department of economics, Tunisia, Business Higher School, Manouba University, Tunisia, E-mail:
salem.kanoun@esct.rnu.tn

has evolved, with practical indicators of sustainability being derived independently rather than emerging from the theoretical framework that is generally used to analyse sustainability. Thus, one common practical approach to assess sustainability uses non-increasing external debt as a benchmark to tell sustainable external policies from unsustainable ones.

While the intuition is clear, the analytical and operational definition of sustainability is not straightforward. The theory has proposed different conditions for sustainability. Furthermore, the problem has always been dealt with in a partial equilibrium framework where the interactions between the current account and the economy are not fully taken into account. In this context, two conceptual approaches have been used to analyse sustainability of the current account deficits: the Present Value Budget Constraint (PVBC) and the consistency approach.

The intertemporal budget constraint approach applied for external disequilibrium (Bohn, 2007; Ahmed and Rogers, 1995) implies that external policy is sustainable when the current debt can be offset by the sum of expected future discounted primary current account surpluses. In other words, the freedom of external policies will be influenced by outstanding stock of past debt while the ability to serve debt will depend on the future primary current account surplus. Within this framework, the current account balance behaves as a buffer against transitory shocks in productivity or demand (Sachs, 1981; Obstfeld and Rogoff, 1995). However intertemporel approach is not very useful and less than ideal for application in the developing countries because of the inability and the failure of this category of countries to generate primary surplus which depends on forward-looking dynamic saving and investment decisions driven by expectations of productivity growth, government spending, interest rates, and several other factors (Cuddington, 1996). Using error-correction reaction function approach and dynamic panel framework to test a negative long-run relationship between net exports (NX) and net foreign assets (NFA) as a sufficiency condition for the intertemporal budget constraint to hold, Durdu et al (2013) have shown that countries with relatively weaker fundamentals need to respond more strongly to the changes in NFA to keep their NFAs on a sustainable path, which is informative about external adjustment process.

The consistency approach of fiscal deficit sustainability developed by Wijnbergen et al. (1988, 1989, 1990) and Buiters (1993), attempts to determine what constitutes an appropriate fiscal deficit by making assumptions that liabilities can continue to grow at the growth rate of the economy's GDP, so that debt/GDP ratios remain constant. It is a more modest approach with less forbidding requirements for information and, presumably, very useful in the developing countries context. This approach provides a simple quantitative method for assessing whether fiscal deficits are consistent with macroeconomic targets in other areas, such as inflation, output growth and real exchange rate. This approach allows the calculation of the "financeable deficit", given targets for inflation and other macroeconomic variables. If the actual deficit exceeds the level that can be financed or authorized by the economic fundamentals, policymakers must adjust their fiscal stance or revise their other objectives. Nevertheless, Chalk and Hemming (2000) argue that despite the simplicity and ease of interpretation associated with this approach, these indicators do not distinguish between countries with varying degrees of indebtedness and are therefore more useful in the case of countries characterised by high debt and persistent primary deficits.

The persistent of current account deficits and the inability to achieve balance of payment equilibrium in some developing countries translate the idea about the "unsustainability of the adjustment process" itself. The sustainability of the process involves that the evolving gap between the observed current account deficit and the authorized one – Required External Adjustment – cannot jeopardise a country's creditworthiness. Using a panel set for 44 developing countries and annual information for the period 1966-95, Calderon et al (2000) have found that Current account deficits in developing countries are moderately persistent and a rise in domestic output growth generates a larger current account deficit. Despite the relatively extensive body of empirical literature on the sustainability of current account deficits, this issue has not received much attention in the literature. To deal with the major shortcomings of previous studies, we intend to complement and extend previous empirical research by

providing a specific quantitative framework for Tunisia to estimate the sustainable thresholds (or the financeable levels) of current account deficits and to quantify the related fiscal adjustment. After that, we attempt to respond to the two key issues in this study: How do the governments manage their external disequilibrium and how do the adjustment forces work?

In order to accomplish this task, a number of techniques of econometric time series analysis such as stationarity, cointegration and Error Correction model should be applied. These techniques are aimed to check the history of the gap between primary deficits and sustainable levels and to provide an accurate assessment of the adjustment efforts.

Tunisia represents an interesting case study for several reasons: since its 2011 Arab Spring Revolution, the current account deficit has reached record level (7% of GDP in 2012) financed mostly by sizeable official external financing flows, the post revolution political uncertainty accompanied by a substantial widening of current account imbalances have involved a gradual downgrading of Tunisia's creditworthiness. Before the revolution, the current account has been consistently in deficit and such deficits have been moderately persistent between 2% and 3%. Hence, it is interesting to check the ongoing external adjustment process before the revolution and to draw lessons from this experience for the post crisis policies. This study is a contribution to highlight if the past policies have generated foreign buffers to sustain post revolution sizeable official external financing flows and allow more room for manoeuvre to ensure political transition.

The rest of the paper is organized as follows: both the present value constraint approach and the consistency approach of external deficits sustainability are considered to develop a specific quantitative accounting framework for assessing the sustainable thresholds of current account deficit and the related required external adjustment in Tunisia. This framework is presented in Section 2. Data and Time series econometric methodology are outlined in section 3 where a dynamic Error Correction Model is used to check short and long run relationships between primary deficits and sustainable thresholds. Conclusions and policy recommendations are presented in section 4.

CONCEPTUAL AND OPERATIONAL FRAMEWORK

The most straightforward way to assess the sustainability of current account deficits for the LDCs is to start from the balance of payment flow constraint. This is written in nominal terms as :

$$\begin{aligned} D_t^{ca} + i_t^* E_t \left((B_{t-1}^* - NFA_{t-1}^*) + (B_{t-1}^{*p} - NFA_{t-1}^{*p}) \right) &= E_t (\Delta B_t^* + \Delta B_t^{*p}) + ONFA_t - E_t \Delta R_t^* \\ &= E_t (\Delta B_t^* + \Delta B_t^{*p} - \Delta R_t^*) + ONFA_t \end{aligned} \quad (1)$$

D_t^{ca} denotes the primary current account deficit; $(B_{t-1}^* - NFA_{t-1}^*)$ the *net* public external debt at the end of period t ; $(B_{t-1}^{*p} - NFA_{t-1}^{*p})$ the *net* private sector external debt; NFA_{t-1}^{*p} the net foreign assets of the private sector which are assumed to earn the rate i^* , $ONFA_t$ other net foreign assets²; and R_t^* denotes the reserve assets.

Note that the change in reserve assets can be written as follow:

$$\Delta R_t^* = (NFA_t^* - NFA_{t-1}^*) + (NFA_t^{*p} - NFA_{t-1}^{*p}) \quad (2)$$

According to equations 1 and 2, and using lower-case letters again to stand for upper-case variables as a proportion of GDP,

² Net foreign direct investment+ nets portfolio investment assets + loans – amortization of the external debt.

$$d_t^{ca} + \frac{(1+r_t^*)(1+\hat{e}_t)}{(1+n_t)} [(b_{t-1}^* - nfa_{t-1}^*) + (b_{t-1}^{*p} - nfa_{t-1}^{*p})] = (b_t^* - nfa_t^*) + (b_t^{*p} - nfa_t^{*p}) + onfa_t \quad (3)$$

and

$$d_t^{ca} + \frac{(1+r_t^*)(1+\hat{e}_t) - (1+n_t)}{(1+n_t)} [(b_{t-1}^* - nfa_{t-1}^*) + (b_{t-1}^{*p} - nfa_{t-1}^{*p})] = \Delta(b_t^* - nfa_t^*) + \Delta(b_t^{*p} - nfa_t^{*p}) + onfa_t \quad (4)$$

Adding to the stability of the public external debt-GDP ratio benchmark, the stability of private external debt-GDP ratio, we can define the *net³ sustainable primary current account deficit threshold* $\tilde{d}_t^{ca}$ at period t:

$$\tilde{d}_t^{ca} = \frac{(1+n_t) - (1+r_t^*)(1+\hat{e}_t)}{(1+n_t)} [(b_{t-1}^* - nfa_{t-1}^*) + (b_{t-1}^{*p} - nfa_{t-1}^{*p})] + onfa_t \quad (5)$$

Equation 5 shows that the current primary deficit of the balance of payments, as a share of GDP, is constrained to not exceed the sum of financing sources authorized by the current economic conditions: revenue from net direct foreign investments, net portfolio investment assets and loans; and the excess of domestic growth over the relevant real interest cost of adjusted foreign debt.

The Required External Adjustment (REA) can be expressed as the difference between the observed primary current account deficit as a percentage of GDP and the primary current account sustainable threshold:

$$REA = d_t^{ca} - \tilde{d}_t^{ca} \quad (6)$$

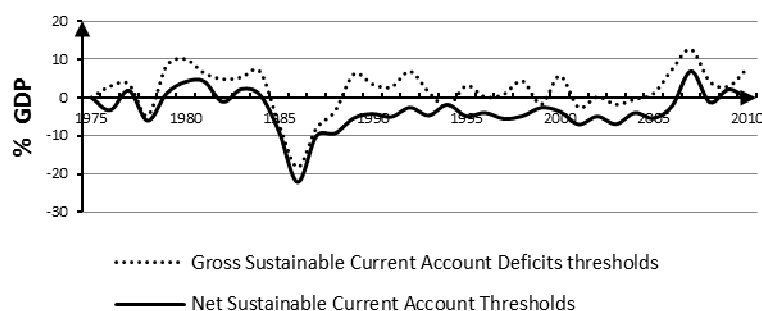
DATA AND METHODOLOGY

Data

The data here consists of annual observations from Tunisia [1976-2010]. This is the full data availability, obtained and calculated from the International Financial Statistics, the World Bank Development Indicators, Tunisian Central Bank Reports, Ministry of Finance, and Institute of National Statistics; as well as from the Institute of Quantitative Economics. The period 1976-2002 is judged sufficient to review the main economic events recognized by the Tunisian economy.

On the basis of the framework developed above, external sustainability analysis consists in measuring (ex-post) sustainable budget deficit thresholds (equation 5) and the corresponding size of the required external adjustment (equation 6). When analysing the evolution of the sustainable thresholds of the primary current account deficits on the basis of figure 1, one can divide the period (1976-2010) into four sub-periods:

³ Because the $ONFA_t$ = Net foreign direct investment + net portfolio investment assets + loans – *amortization of the external debt*

Figure 1. Sustainable Current Account Deficits thresholds

Source: author's calculations

Before 1986, the situation was characterized by positive sustainable primary current deficit thresholds, which revealed the viability of the balance of payments. Indeed this favorable situation is assigned to growth rates superior to 5% in real terms, to the negative real interest rates, to the appreciation of the real exchange rate and the net foreign direct investments passing from 20.2 MD in 1978 to 201.1MD in 1983.

The negative pick in 1986 corresponding to the economic crisis, as shown by figure 6, has provided the implementation of the Structural Adjustment Program (SAP, august 1986) supported by the World Bank and IMF under their policy-based lending regimes. It has as its principal component the external adjustment. Within this program, the main external measures were the devaluation of the exchange rate, the encouragement of exports and the slowing of imports.

The successful adjustment efforts during the period (1987-1995) have contributed to strengthening the external equilibrium and to conferring to the sustainable current account thresholds an ascending trend. In 1992, the gross primary current account deficit threshold represented 5.9 % of GDP and the net threshold -2.6 % of the GDP. The balance of payment improvement was mainly attributable to the impulse given to the tourist activity with the reopening of Tunisian-Libyan frontiers, to growth rates raised in real terms, and particularly, to the massive entry of the foreign direct investments passing from 67.5 MD in 1990 to 577 MD in 1993.

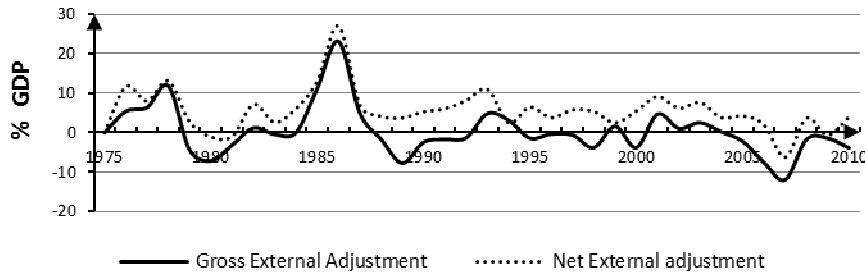
Over the period (1995-2005), a certain external stability has been detected. Indeed, in spite of the fact that the sustainable threshold displayed a decrease between 1992 and 1994 explained by the rise of interest rates real served on the external debt and particularly by the decrease of the net flows of the foreign direct investments, the period 95-2005 is characterized by positive gross sustainable thresholds and changes are described by a “sawtooth” movement.

During the period (2005-2010), the improvement in the sustainable levels is explained principally by remittances receipts, real growth and depreciation rate of the real effective exchange rate. At the end of 2010, net assets in foreign currencies have reached 13,522 MTD, corresponding to 147 days of projected imports. The pick observed in 2006 is due to Government sale of 35% of “Tunisie Telecom” capital to foreign investors. The foreign direct investments have more than quadrupled to rise in 2006 to 4403 MTD.

The gap between the evolution of the gross and net sustainable thresholds of the primary current deficit shows the size of the debt repayment (as % of GDP). It is interesting to notice that this gap is characterized by a certain stability, which offers the idea of a rigorous management of the external debt marked by the absence of an exploding trend of this gap. However, it is useful to continue and to strengthen the external adjustment effort in order to provide primary surpluses required to be able to pay the debt services.

The external adjustment is quantified as the difference between the primary current account deficit as % of the GDP and the sustainable threshold. Figure 2 shows the evolution of the external adjustment, which permits to visualize two curves whose interpretation is subject to divergences when one tries to evaluate the external adjustment effort led by authorities: the evolution of gross external adjustment leads us to believe that over the last few years the authorities have reached the target of a sustainable balance of payments. However, taking into account the external debt redemption unveils a positive external adjustment on all the period with a tendency to decrease.

Figure 2. External Adjustment



Source: author's calculations

Econometric Methodology and Results

In order to examine the “successful” and “unsuccessful” external adjustment policy, where a successful adjustment is defined as the maintenance of control measures over a large period of time avoiding the “snow-ball” effect on the size of adjustment and debt: the self-reinforcing effect of adjustment accumulation arising from the difference between primary current account deficit and the sustainable threshold deficit, we suggest specifying the possible relationships between this two variables using a dynamic Error Correction Model (ECM) (Engle and Granger, 1987). This empirical specification enables to incorporate the presence of inertia, which represents a typical feature of policy reaction functions in the short run to an increase in the size of external adjustment. At the same time, the ECM constitutes an adequate estimation procedure in the presence of cointegrated variables according to Granger's Representation Theorem.

This econometric methodology will allow a better understanding of whether the Tunisian external disequilibrium history displays a robust negative reaction of the primary current account deficit-GDP ratio to an increase in the external adjustment, such a negative response is sufficient for adjustment sustainability.

In line with Trehan and Walsh (1991), Haug (1991), Smith and Zin (1991), Yang (2011) and Burger (2011), the estimated equations are a p-order ECM, given by:

$$\Delta pcad_t = \gamma_1 z_{t-1} + \sum_i \gamma_{2i} \Delta pcad_{t-i} + \sum_i \gamma_{3i} \Delta pcadst_{t-i} + \xi_{1t} \quad (7.1)$$

$$\Delta pcadst_t = \mu_1 z_{t-1} + \sum_i \mu_{2i} \Delta pcadst_{t-i} + \sum_i \mu_{3i} \Delta pcad_{t-i} + \xi_{2t} \quad (7.2)$$

Where $pcad_t$ is ratio of the primary external deficit-GDP at period t, $pcadst_t$ is the ratio of the net sustainable threshold-GDP at period t, ξ_{1t} and ξ_{2t} are white noise processes and $z_t = pcad_t - \beta_1 pcadst - c$ is the I(0) residual of the cointegration equation.

The sustainability conditions for the external adjustment process are determined by the sign of γ_1 and μ_1 . Notice that the magnitude of the adjustment coefficient γ_1 (μ_1) controls the speed at which $pcad$ (sustainable threshold) responds to the disequilibrium error.

γ_1 must be negative: if the primary budget (external) deficit has increased (and/or the sustainable threshold has decreased) above (below) its long-run ratio which means positive disequilibrium error ($z_{t-1} > 0$), the ECM predicts that pd_t will decrease significantly to restore the long run equilibrium. On the contrary if $z_{t-1} < 0$, here the primary budget deficit has decreased (and /or the sustainable threshold has increased) below(above) its long-run ratios (negative disequilibrium error), the ECM predicts that pd will grow more than its long-run ratio to restore the *long run equilibrium* which implies that the external adjustment is not justified and it is a signal to government for using an expansionary public expenditure policy.

μ_1 must be positive : if the primary external deficit has increased above its long-run ratio which means positive disequilibrium error ($z_{t-1} > 0$), the ECM predicts that sustainable level will increase to restore the long run equilibrium. Contrary if $z_{t-1} < 0$, here the primary budget deficit has decreased below its long-run ratio (negative disequilibrium error) and the ECM predicts that sustainable level will decrease more than its long-run ratio to restore the long run equilibrium which in turn alleviate the size fexternal tightening and allow external policy a greater leeway to respond to shocks.

The lagged terms of primary deficit, $\Delta pcad_{t-i}$, and primary sustainable threshold, $\Delta pdst_{t-i}$, appeared as explanatory variables, indicate short-run cause and effect relationship between the two variables. Thus, if the lagged coefficients of $\Delta pcadst_{t-i}$ appear to be significant in the regression of $\Delta pcad_{t-i}$, this will mean that $pdst$ causes pd_t . Similarly, if the lagged coefficients of $\Delta pcad_{t-i}$ appear to be significant in the regression of $\Delta pdst_t$, this will mean that $pcad_t$ causes $\Delta pcadst_t$. Coefficients γ_{3i} and μ_{3i} can be interpreted as an indicators of the primary deficit-GDP and sustainable threshold-GDP growth paths which give more information on the sustainability of the adjustment efforts. When the primary deficit increases in (t-1), the following period sustainable level must increase more quickly to ensure the stability or the reduction of the external adjustment. When the sustainable level increases the primary deficit can increase more slowly (or decreases) to avoid the “snow-ball” effect on the size of adjustment.

Table1. Non stationarity test of the series

Sample period	1976-2010							
Test	ADF				Phillips-Perron			
hypothesis	H0: X has unit root (non stationarity)				H0: X has unit root(non stationarity)			
variable	T statistic	p-value	Test specification	Lag Length (Automatic based on AIC and SIC)	T statistic	p-value	Test specification	Bandwidth (Newey-West using Bartlett kernel)
$pcad_t$	-2.8	0.0685	Intercept	0	-2.7	0.0818	Intercept	4
$d(pcad_t)$	-5.56***	0.0001	Intercept	0	-5.57***	0.0001	Intercept	4
$pcadst_t$	-3.13	0.1154	trend and intercept	0	-3.13	0.1154	Trend and intercept	0
$d(pcadst_t)$	-7.4***	0.0000	trend and intercept	0	-11.97***	0.0000	Trend and intercept	11

To avoid spurious statistical inferences, Augmented Dickey Fuller (ADF) test and Philip Perron unit root test confirm that the non stationary in all variables ($pcad_t$, $pcadst$) at level. However, the result indicates that all the variables are stationary at first difference as highlighted in table 1. Hence, primary current account deficit and the corresponding sustainable level are integrated at order one. All the variables are checked at the lag length selected by on AIC, SIC and HQ criterion as shown in table 2.

Table 2. Lag Order Selection Criteria

Exogenous variables: C						
Sample: 1976 2010						
Lag	LogL	LR	FPE	AIC	SC	HQ
Endogenous variables: $pcad$ $pcadst$						
0	-176.9850	NA	247.3608	11.18656	11.27817	11.21693
1	-155.3405	39.23060*	82.19811*	10.08378*	10.35861*	10.17488*
Endogenous variables: $\Delta pcad$ $\Delta pcadst_{t-1}$						
0	-157.7922	NA	117.0744	10.43820	10.62324*	10.49852
1	-151.7219	10.57405*	102.6964	10.30464	10.67470	10.42527
2	-146.3468	8.669483	94.63804*	10.21592*	10.77101	10.39687*

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level); FPE: Final prediction error; AIC: Akaike information criterion

SC: Schwarz information criterion ; HQ: Hannan-Quinn information criterion

Using Johansen's (1988) cointegration testing framework and including an exogenous variable $d86$ that involves the specific events that took place in 1986, as explained above, table 4 shows that the null hypothesis that there are no cointegrating equations that can be ruled out. The related trace and maximum eigenvalue statistics indicate two cointegrating equations at the 01% level. This implies that, long run relationships among all these variables can be explained by 2 cointegration equations.

Table 3. Johansen cointegration test for Primary current account deficit($pcad_t$) and primary budget deficit sustainable threshold ($pcadst_t$)

Sample period	1976-2010					
Exogenous series: D86						
Trend assumption: Linear deterministic trend: intercept (no trend) in CE and test VAR						
Test	Unrestricted Cointegration Rank Test (Trace)			Unrestricted Cointegration Rank Test (Maximum Eigenvalue)		
hypothesis	H0: number of cointegration vector is less than or equal to k (k=0 ;k=1)			H0: number of cointegration vector is equal to k (k=0 ;k=1)		
Hypothesized No. of CE(s)	Trace Statistic	0.05 Critical Value	Prob.**	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	36.57864	15.49471	0.0000	27.83017	14.26460	0.0002
At most 1 *	8.748472	3.841466	0.0031	8.748472	3.841466	0.0031
Trace test indicates 2 cointegrating eqn(s) at the 0.05 level Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level						
* denotes rejection of the hypothesis at the 0.05 level. **MacKinnon-Haug-Michelis (1999) p-values						
1 Cointegrating Equation(s): Log likelihood -146.8560						
Normalized cointegrating coefficients (standard error in parentheses)						
PCAD	NCAST					
1.000000	--0.654061 (0.11749)					

Having established the cointegration of the series, we can proceed to discuss the ECM results. All the variables are checked at the lag length of one selected by VEC Lag Exclusion Wald Tests (table5). For

the purpose of figuring out how adequate our specification is (equation 7), VEC Residual Serial Correlation LM Test indicates that null hypothesis of no autocorrelation in the residuals at the first lag order is accepted as well as R-Square value related to the equation 7-1(7-2) is 0.59 (0.49). It means that the independent variable in the model can predict 59%(49%) of the variance in dependent variable. Furthermore F statistic rejects the null hypothesis of all the coefficients at the 1%.

Table 4. VEC Lag Exclusion Wald Tests

Sample: 1976 2010			
Chi-squared test statistics for lag exclusion:			
Numbers in [] are p-values			
	$\Delta pcad$	$\Delta pcadst$	Joint
D Lag 1*	1.154103	6.997267	8.679168
	[0.561552]	[0.030239]	[0.069639]
df	2	2	4

**denotes rejection of the null hypothesis at the 0.05 level

*denotes rejection of the null hypothesis at the 10% level

Table 5 highlighted the finding of the ECM regression of the equation 7. The results from the estimated equation 7-1 show a negative, as it should be, and significant coefficient of the error correction term ($\gamma_1 = -0.49; t = -5.46$) which means that if the primary current account deficit has increased above its long-run ratio which means positive disequilibrium error, the ECM predicts that primary current account will decrease in the following period to restore the long run equilibrium. This negative significant reaction involves the sustainability of the primary current account deficit and implies the efficiency of external adjustment.

Precisely, the speed of adjustment towards a long-run equilibrium is that about 49 % of the external disequilibrium is corrected each year which involves the willingness of the authorities to restore the balance of payment equilibrium. Thus, the gap between primary current account deficit and the related sustainable threshold would be closed roughly about two years. The adjustment coefficient in the ECM with primary current account deficit sustainable level as the dependent variable (equation 7-2) is positive, as it should be, but it is showing statistically insignificant ($\mu_1 = 0.31, t = 1.51$).

Table 5. Vector Error Correction Estimates

Sample : 1976 2010		
Standard errors in () & t-statistics in []		
Cointegrating Eq:	CointEq1	
$pcad_{t-1}$	1.000000	
$pcadst_{t-1}$	-0.654061	
	(0.11749)	
	[-5.56688]	
C	-4.325576	
Error Correction:	$\Delta pcad_t$	$\Delta pcadst_t$
CointEq1	-0.499047	0.310885
	(0.09128)	(0.20421)
	[-5.46700]	[1.52240]
$\Delta pcad_{t-1}$	0.037620	-0.768512
	(0.13079)	(0.29258)
	[0.28764]	[-2.62668]

$\Delta pcadst_{t-1}$	-0.077328	-0.231500
	(0.08801)	(0.19689)
	[-0.87859]	[-1.17577]
C	-0.268662	0.535807
	(0.26993)	(0.69122)
	[-0.99529]	[0.77516]
d86	3.550174	-20.29821
	(1.93993)	(4.33974)
	[1.83005]	[-4.67728]
R-squared	0.595939	0.493292
Adj.R-squared	0.538216	0.420905
Sum sq. resids	81.57819	408.2536
S.E. equation	1.706900	3.818440
F-statistic	10.32412	6.814660
VEC Residual Serial Correlation LM Tests		
: H_0 : no serial correlation at lag order h		
lags	LM stat	prob
1	1.725565	0.7861

The VEC Granger Causality Test results reported in table 7 indicate that the null hypothesis of causality from primary current account deficit to primary budget deficit sustainable level is rejected at the 1% level of significance. However, the null hypothesis is accepted when we check the causality from $\Delta pcad$ to $\Delta pcadst$.

Table 6. VEC Granger Causality

Sample: 1976 2010			
H_0 : X does not cause Y			
	Chi-sq	df	Prob.
Dependent variable: $\Delta pcad_t$			
$\Delta pcadst_{t-i}$	0.771918	1	0.3796
Dependent variable: $\Delta pcadst_t$			
$\Delta pcad_{t-i}^{**}$	6.899473	1	0.0086

*denotes rejection of the hypothesis at the 0.05 level

**denotes rejection of the hypothesis at the 1% level

There exists a negative unidirectional causality from primary current account deficit to sustainable primary current account threshold which means that a reduction in the growth path the growth path of primary current account at (t-1) will lead to an increase in the primary current account deficit sustainable levels at t : a contraction of the current account deficits will leads to an improvement of the standard economic fundamentals (equation 5) that determining the level of the sustainable threshold.

CONCLUSIONS AND POLICY RECOMMENDATIONS

This paper is one of the first attempts in the empirical studies to examine the “successful” and “unsuccessful” external adjustment policy using a quantitative approach. A successful adjustment is defined as effectiveness of measures that keep under control the gap between primary current account deficits and the related sustainable threshold deficits over a large period of time, thus avoiding the “snow-ball” effect on the size of adjustment and debt, i.e. the self-reinforcing effect. Large and persistent of current account deficits and the inability to achieve the balance of payment equilibrium in some developing countries, have been considered as the main issues for this study. Running the specific model for Tunisia over the period (1976-2010) shows an external adjustment persistence. The applied time series methodology shows significant cointegration relationships between primary current

account deficit and the related sustainable level authorized by the economic fundamentals. The estimated Error correction Model predicts that if the primary current account deficit has increased above its long-run ratio which means positive disequilibrium error, the primary current account will decrease in the following period to restore the long run equilibrium. This negative significant response involves the sustainability of the primary current account deficit and implies the efficiency of external adjustment process. The faster adjustment speed (49%) means quicker resolution of external imbalances and therefore results in greater authorities' willingness to adjust.

VEC Granger Causality Test shows short-run unidirectional negative causality from primary current account deficit to the sustainable thresholds. In the short run, excessive deficits policies have an adverse effect on the economy. However, the authorities' ability and willingness to adjust policy contribute to keeping under control the disequilibrium. Consequently, a contraction of the current account deficits will lead to an improvement of the standard economic fundamentals that determine the level of the sustainable threshold.

By looking back at Tunisian external disequilibrium story, we have found that external adjustment policies were conducted as a non-linear process and the currents account deficits were kept at historically low levels throughout the period 1975-2010. The realized foreign buffers until 2010, as consequence of successful adjustment policies, have created a room for external debt maneuvering and allow the government a greater leeway, in the short run, to ensure the required external financing for the economy. However, the continued downgrading of Tunisian rating has worried the international financial market and the foreign buffers are unlikely to be sufficient to sustain sizeable official external financing flows to finance economic activities during the political transition period (2011-2014). Such fears cannot be dismissed so easily which makes us think about some questions: in what extent are foreign buffers enough to sustain sizeable official external financing flows and could the authorities' willingness and ability to adjust in the past continue in the future when the deficits reach record levels?

LITERATURE

- 1) Ahmed, S, Rogers J H, 1999, Government Budget Deficits and Trade Deficits. Are Present Value Constraints Satisfied in Long term Data, *Journal of Monetary Economics*, 36(2), pp. 351-374.
- 2) Baharumshaha A Z, E Laua and S Fountas, 2003, On the sustainability of current account deficits: evidence from four ASEAN countries, *Journal of Asian Economics* 14, 465-487.
- 3) Bohn, H., 2007, Are stationary and cointegration restrictions really necessary for the intertemporal budget constraint? *Journal of Monetary Economics*, 54, 1837-1847.
- 4) Buiter W H. 1990, Some Thoughts on the Role of the Fiscal Policy in Stabilization and Structural adjustment in Developing Countries, in *Principles of Budgetary and Financial Policy*, (ed) Buiter W, 407- 448. Harvester Wheatsheaf.
- 5) Buiter Willem H, 1993, "Consistency Checks for Fiscal, Financial and Monetary Policy Evaluation and Design", <http://www.willembuiter.com/consist.pdf>
- 6) Burger P, I C Stuart, C Jooste and A Cuevas. 2011. "Fiscal sustainability and the fiscal reaction function for South Africa: Assessment of the past and future policy applications." IMF Working Paper, 11-69
- 7) Calderon C, A Chong, N Loayza, 2002, Determinants of Current Account Deficits in developing countries, *The B.E. Journal of Macroeconomics*, vol. 2, issue 1, pages 1-33
- 8) Chalk N and Hemming R, 2000, Assessing Fiscal Sustainability in Theory and Practice, IMF Working Paper, 00-81.
- 9) Cuddington John T. 1996, Analysing the Sustainability of Fiscal Deficits in Developing Countries, *World Bank Working Papers* No.1784.
- 10) Durdua C. B, E G. Mendoza, M E. Terrones, 2013, On the solvency of nations: Cross-country evidence on the dynamics of external adjustment, *Journal of International Money and Finance* 32, 762-780

- 11) Edwards S, 2006, The US current account deficit: gradual correction or abrupt adjustment? *Journal of Policy Modeling*, 2006, vol. 28, issue 6, pages 629-643.
- 12) Hakkio C S., 1995, The U.S. current account: the other deficit, *Economic Review*, 1995, issue Q III, pages 11-24
- 13) Haug A A, 1995, Has the federal deficit policy changed in recent years? *Economic Inquiry*, 33 (1): 104–118
- 14) Obstfeld, M and K Rogoff, 1995, The Intertemporal Approach to the Current Account. In G. Grossman and K. Rogoff (eds.), *Handbook of International Economics*, Vol. 3. Amsterdam: North Holland.
- 15) Sachs, J (1981), The Current Account and Macroeconomic Adjustment in the 1970s, *Brookings Papers on Economic Activity*, 1: 201-282.
- 16) Smith G W and S E Zin, 1991, Persistent deficits and the market value of government debt.” *Journal of Applied Econometrics*, 6 (1) : 31–44
- 17) Trehan B and Walsh C E, 1991, Testing Intertemporal Budget Constraint: Theory and Application to US Federal Budget Deficit and Current Account Deficits.” *Journal of Money, Credit and Banking*, 23(2) 206 – 223.
- 18) Van Wijnbergen S and Anand Ritu, 1988, Inflation, External Debt and Financial Sector Reform: A Quantitative Approach to consistent Fiscal Policy with an Application to Turkey, *NBER Working Paper Series*, 2731
- 19) Van Wijnbergen S and Anand Ritu. 1989, Inflation and the Financing of Government Expenditure: An Introductory Analysis with an Application to Turkey.” *The World Bank Economic Review*, 3(1) : 17–38.
- 20) Van Wijnbergen S, 1990, “External Debt, Inflation, and the Public Sector: Toward Fiscal Policy for Sustainable Growth, *World Bank Economic Review*, 3(3): 297– 320
- 21) Yang L, 2011, An Empirical Analysis of Current Account Determinants in Emerging Asian Economies, *Cardiff Economics Working Papers No. E2011/10*

2.

FINANCIAL AND ECONOMIC CRISIS



THE GLOBAL CREDIT CRUNCH AND FINANCIAL CRISIS IN EASTERN EUROPE¹

Ognjen RADONJIĆ²
Srdjan KOKOTOVIĆ³

Abstract

In this paper we analyze the process of accumulation of financial difficulties in Eastern Europe in the period before and their unwinding in the aftermath of the collapse of Lehman Brothers, the prominent American financial giant in September 2008. The goal of our study is to answer to the question of why Eastern European crisis occurred, how accumulated financial vulnerabilities unwound and why there was a large variability of output decline between the countries in the region. In our point of view, crash of the U.S. subprime market did not cause the crisis in Eastern Europe, but was only a trigger that shed light on accumulated financial vulnerabilities. Therefore, if distressed Eastern European economies do not give up consumption-led growth model and develop competitive industrial sector in a medium run, another crisis is to be expected in the near future.

Key words: capital inflows, financial crisis, consumption, investments, debt, foreign exchange rate.

INTRODUCTION

Nearly twenty years ago, communist countries of emerging Europe decided to abandon essentially dysfunctional model of accumulation based on the state and collective ownership. In these systems, state was a key actor and the final outcome has been a continual accumulation of systematic deficit and usage of different palliative mechanisms in order to temporary cover deficit or to transfer this deficit into the future at the expense of forthcoming, yet to be born, generations. In order to establish sound and self-sustaining economic systems emerging European countries entered the process of transition, implementing standard procedures: macroeconomic stabilization, liberalization and deregulation, institutional reforms, restructure of real and financial sector and social adjustment. Following ten years of tectonic changes, the process of transition has more or less come to an end in 2000, and some of the countries have even joined the European Union (EU).

However, the eruption of global financial crisis in September 2008 has revealed numerous weaknesses of most former communist economies. On average, it is clear that most of them failed to create a stabile macroeconomic environment, i.e. they could not continue to function without a permanent foreign credit doping. We argue that the global financial crisis per se has not caused, but only shed light on financial difficulties in emerging European economies, accumulated in the period of several years prior to the world financial crisis outburst. Furthermore, there were notable cross-country differences in severity of crisis impact on local output. Countries that based their growth model on a balanced development of both tradable and non-tradable sectors and were less dependent on foreign capital inflows to finance their investments and consumption experienced only mild and short term output decline and vice versa. Countries that based their growth model on a faster growth of the non-

¹This paper is a part of research project 179015 (*Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements*), financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

² Ognjen Radonjić, Associate Professor, Faculty of Philosophy, Department of Sociology, University of Belgrade.

³ Srdjan Kokotović, General Deputy Manager, National Bank of Serbia, Department for Financial Stability.

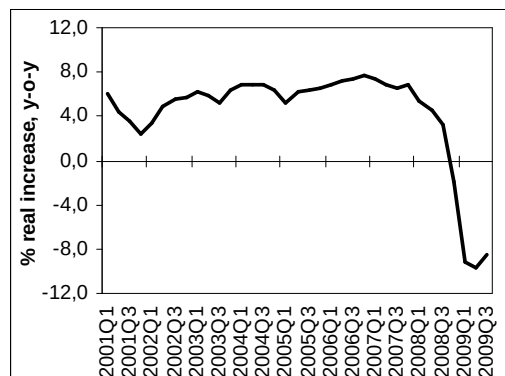
tradable than the tradable sectors, whereas such growth was primarily financed by the foreign borrowings faced sharp output decline and would have experienced outburst of debt-deflation episode for certain if foreign and local governments and international financial institutions had not timely and massively intervened.⁴ Therefore, unless distressed emerging European economies develop competitive industrial sector and give up a growth model based on excessive indebtedness, consumption and development of non-tradable sectors in a short run, another crisis is sure to reoccur soon.

In search for answer regarding why Eastern European crisis occurred, how accumulated financial vulnerabilities unwound and why there was a large variability of output decline between the countries in the region, we have identified key macroeconomic imbalances in 13 Eastern European economies (EEE) plus Turkey that had been accumulated in the period of several years prior to the Lehman shock. Our sample of EEE is limited by the availability of monetary, balance of payments and financial statistical data. It covers following countries: Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Russia, Slovakia, Slovenia, Ukraine and Turkey. The analysis is performed on the quarterly data that provide sufficient details needed to explore changes in trends and relate them to actual events.⁵

BOOMING ECONOMIES OF EASTERN EUROPE AND EMERGENCE OF FINANCIAL FRAGILITY

In the course of seven years before the Lehman Brothers shock in September 2008, emerging European countries experienced a rapid growth of gross domestic product (GDP)⁶ and income convergence to developed European countries (Figure 1).

Figure 1. Quarterly GDP Growth in Eastern Europe, 2001-2009



Note: Growth rates refer to average rate for all 14 countries: Czech Republic, Slovakia, Poland, Hungary, Latvia, Lithuania, Estonia, Ukraine, Russian Federation, Romania, Bulgaria, Croatia, Slovenia and Turkey.

Source: Authors' calculations based on International Financial Statistics.

Credit boom that financed excessive consumption was a main growth driver in most of EEE. The dark side of this process was the rapid accumulation of vulnerabilities to external and internal shocks,

⁴As Fisher (1933) argued in his debt-deflation theory of the Great Depression, a fall in asset prices raises the value of money and at the same time the real value of debts. In this way, the more debtors try to decrease their debt, the more the value of their debt rises. A decrease of asset prices, contrary to Say's Law, causes further decreases in asset prices, aggregate demand, output and employment. Falling prices are followed by declining aggregate demand due to general decline, not only in investments, but also in consumption, which arises as a consequence of the fall in household incomes and the rise in unemployment.

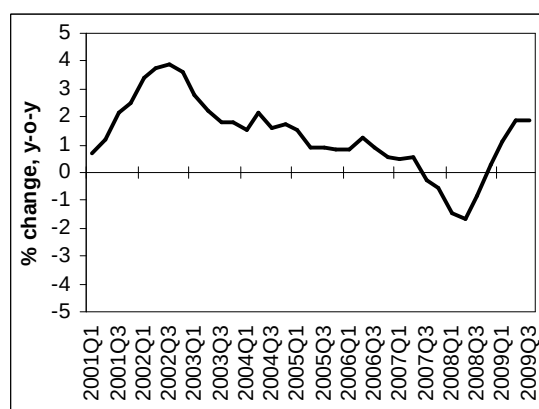
⁵ Serbia is not included since quarterly data is unavailable.

⁶ Around 6% annually.

which eventually materialized in the late 2008. The vulnerabilities have been reflected in high leverage, i.e. excessive growth of domestic credit to private sector relative to GDP and domestic credit over domestic deposits, large current account deficits, overvaluation of local currencies as well as share and real estate prices, fiscal bubbles and high credit euroization.

Before the financial integration process between developing and developed European economies started, there was a deep-entrenched lack of credit supply in former communist countries. This phenomenon was, to a large extent, driven by the excess investments over domestic savings. Due to this imbalance, interest rates were very high across emerging Europe (Figure 2).

Figure 2. Real Interest Rate Differential in Eastern Europe Relative to the Euro Area Interest Rates, 2001-2009



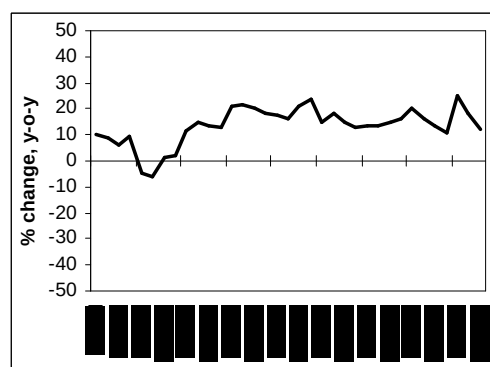
Notes: Real lending interest rate differential is calculated as the difference between the real lending interest rates on loans denominated in local currencies and the average real lending interest rates in the Euro Area (in percentage points); growth rates refer to average rate for all 14 countries.

Source: Authors' calculations based on International Financial Statistics.

However, once these countries opened up to foreign banks this reversed rapidly. At the beginning of this process in the early 2000s, the ratio of domestic credit to private sector relative to GDP was still very small. Following the deepening of the financial integration with Western Europe, countries from emerging Europe saw a very fast credit growth, enabled by an easy access to foreign savings that was intermediated by foreign owned banks. High real interest rate differential attracted foreign creditors to provide ample credit lines to the recipient emerging European countries and local banks. Given that during the era of communism financial constraint was one of the most important constraints for further growth, the easier access to credits provided necessary conditions for a rapid output growth. In the period of only 10 years, the ratio of domestic credit to private sector to GDP reached a level close to that in the Euro Area (Figure 3).⁷

⁷The ratio of domestic credit to private sector to GDP grew strongly from 20% in 2000 and 29% in 2003 to 65% in 2009 and came close to 140% in 2010. In the period between 2003 and 2009, the ratio of domestic credit to households to GDP increased from 8.5% to 28%. One of the most important drivers of the dynamic growth of domestic credit to private sector was a rapid growth of mortgage lending to households. Share of mortgage lending to households in GDP increased from 4.5% in 2003 to 17% in 2009. Accordingly, share of mortgage lending to households in total domestic credit to private sector increased from 15.5% in 2003 to 26.1% in 2009. Dynamic growth of mortgage lending to households fueled real estate bubble in almost all emerging European countries. The most notorious form of this mortgage lending, which turned out to be extremely risky and most prone to default, were floating rate loans linked to the Swiss franc (Average for 13 countries. Czech Republic data missing. Estonia data missing for domestic credit to private sector in 2009. Russia and Ukraine data missing for mortgage lending to households in 2003). European Bank for Reconstruction and Development (EBRD) and authors' calculations.

Figure 3. Growth of Domestic Credit to Private Sector Relative to GDP in Eastern Europe, 2001-2009

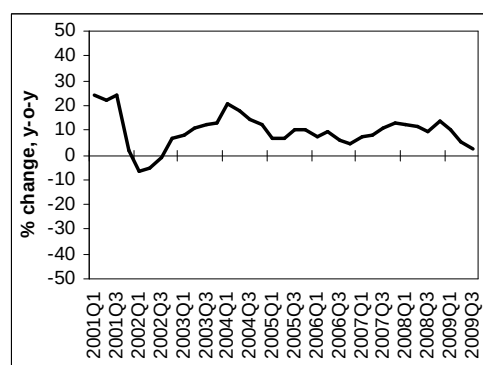


Note: Growth rates refer to average rate for all 14 countries.

Source: Authors' calculations based on International Financial Statistics.

Due to the large capital inflows, local credit demand could be fulfilled without a proportional increase in the supply of deposits, i.e. decoupling of loans growth from deposit growth (Figure 4). Given the relatively shallow financial markets and insufficient public confidence, the level of accumulated domestic deposits and their maturities were constraints to long-term lending. The foreign banks, which spread out their branch networks helped the countries to improve the overall image of the banking business. Long-term borrowings from their parent banks enabled them to provide ample long-term lending facilities to local corporate clients and households. This allowed EEE to decouple their huge investment expenditure from domestic savings, where the former grew rapidly while the later were stagnant. This is well reflected in the ratio of domestic credit to deposit. It is interesting to note that in the most leveraged countries, like Ukraine, Estonia and Lithuania, the ratio of domestic credit to deposit was above 2, while in Latvia it even surpassed 3.⁸

Figure 4. Growth of Domestic Credit to Deposit Ratio in Eastern Europe, 2001-2009



Note: Growth rates refer to average rate for all 14 countries.

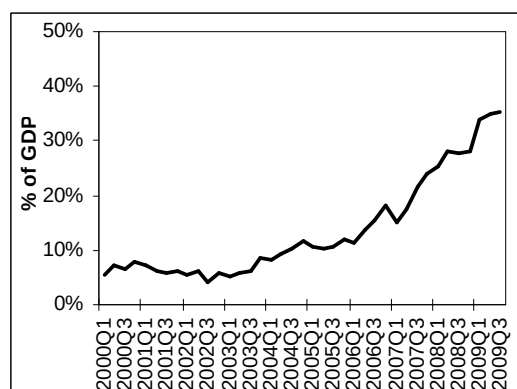
Source: Authors' calculations based on International Financial Statistics.

Such high leverage ratios of the banking sectors across the region were, aside from the subdued export demand due to the global credit crunch, among the most important determinants of the crisis impact on the output. Reduced foreign capital inflows forced local banks to limit their lending activities because domestic deposits could not meet the domestic credit demand. Curtailed credit supply affected all those activities that depend on credits, notably production of durable goods and equipment.

⁸ Nonetheless, neither of these two leverage ratios provides the full picture of the overall leverage of EEE. Many of these countries have large stocks of direct cross-border debts of corporate sector, which in some cases, are larger than the stocks of domestic loans.

The mirror image of sharp rise in domestic credit to private sector relative to GDP and domestic credit to deposit ratio was a rapid accumulation of foreign debt. Net foreign debt relative to GDP increased from about 5% in the early 2000 to almost 40% at the beginning of 2009, reaching even 60% in Latvia, the most indebted country in the region (Figure 5). In the end, the Lehman shock broke this trend and the level of net foreign debt has remained stagnant ever since.⁹

Figure 5. Net Foreign Debt in Eastern Europe, 2000-2009

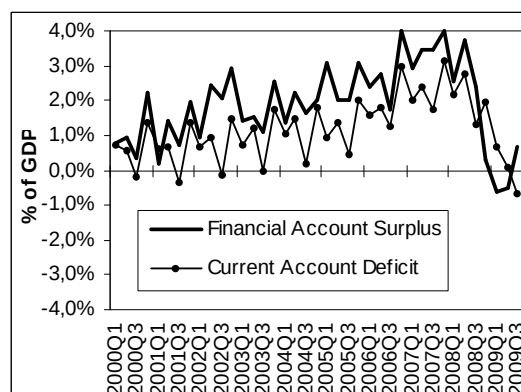


Notes: Net foreign debt is defined as a sum of the stock of foreign debt and the issued debt securities subtracted by the sum of the claims against foreign debtors and the foreign exchange reserves; average for all 14 countries.

Source: Authors' calculations based on International Financial Statistics.

Consequently, unrestrained debt accumulation throughout most of the 2000s enabled continuous current account deficits that were, on average, very high by global standards (Figure 6).

Figure 6. Current Account Deficits and Financial Account Surpluses in Eastern Europe, 2000-2009



Notes: Data refers to quarterly current account and financial account balances relative to annual GDP; average for all 14 countries.

Source: Authors' calculations based on International Financial Statistics.

Such large current account deficits were the result of large trade deficits that characterized almost all economies across the region, which reflected excessive investments and consumption (of households and state) facilitated by the credit boom, coupled with comparatively weaker tradable sectors and export competitiveness.

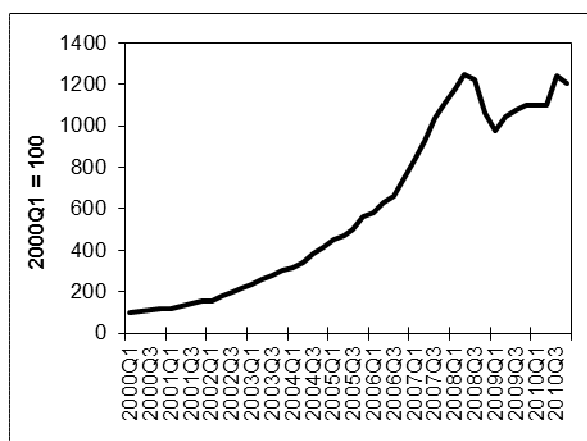
⁹ Substantial increase in foreign debt from 400 billion US\$ in 2001 to 1,600 billion US\$ in 2009, was primarily driven by banks and real sector, whereas governments contributed far less (Authors' calculation based on International Investment Position – IMF's Balance of Payment Database).

After September 2008s' credit crunch, the financial account reversed first, whereas the current account had to be adjusted subsequently. However, as we see from the figure 6, adjustment of the financial account was sharp, but it did not go deeply into negative territory, despite pessimistic expectations given the depth of the financial crisis in developed countries and fears related to the accumulated financial vulnerabilities in the EEE. The financial accounts bottomed out quickly and even returned to surplus as soon as the end of the third quarter of 2009. The current account deficits, which could no longer be financed as before, adjusted strongly in response to the financial account development and turned into a small surplus.¹⁰

But again, the financial account correction did not require stronger current account adjustment as was suggested by past experiences (e.g. Mexico in 1994 and East Asia in 1997). Even though both of these adjustments have had a severe impact on the affected countries, they were still relatively mild and differ substantially from theoretical findings and historical experiences. The underlying reason is the depth of the financial integration with Western Europe and the potential terrifying consequences of an Eastern European breakdown for the EU stability and, in general, the prospects of its survival.¹¹

The fact that capital inflows were considerably larger than the current account deficits of EEE explains the stability of the nominal foreign exchange rates (and even nominal appreciation) and the rapid accumulation of the foreign exchange reserves (Figure 7). Increase in foreign exchange reserves, however, was more a consequence of the reluctance to accept sustained nominal exchange rate appreciation than of "precautionary" motive to build their reserves and liquidity for "rainy days".

Figure 7. Foreign Exchange Reserves in Eastern Europe, 2000-2010



Notes: Data refers to the average foreign exchange reserve index at the end of quarter; for all 14 countries.

Source: Authors' calculations based on International Financial Statistics.

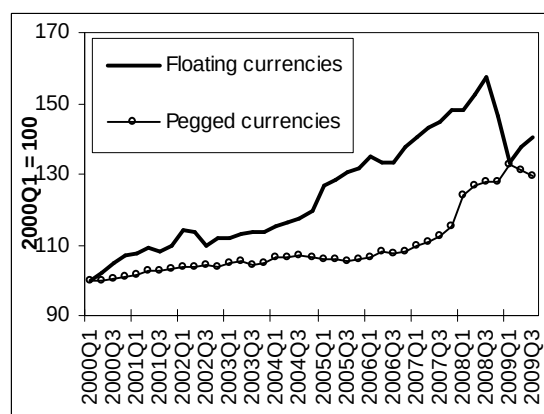
Additional problem with dynamic capital inflows was that their massive share ended up in non-tradable sectors which significantly contributed to upward price pressures. Furthermore, relatively high inflation was additionally driven by supply side shocks in the food and energy market but also by an incomplete sterilization of the money supply that kept expanding due to high capital inflows.

¹⁰ In other words, due to evaporation of import financing, current account deficits turned into surplus thanks to stronger fall in imports than exports. In the period between 2008Q₄ and 2009Q₃ total export revenues decreased by 26% and imports decreased by 32%, on average (Authors' calculations based on the International Financial Statistics).

¹¹ In order to avoid a large-scale debt-deflation episode in Europe and the possible global contagion effect, the international policy response by the EU, the International Monetary Fund (IMF), the EBRD, the European Investment Bank (EIB) and the World Bank (WB), has been coordinated and timely, and involved large-scale balance of payments support aiming at securing financial sector stability.

Resultant combination of the stable or even appreciated value of local currencies and high inflation in comparison to the EU threshold, led to continual appreciation of the real foreign exchange rates (Figure 8).¹² In this way, during the period of capital inflow bonanza, vicious circle has been created: The ebb and flow of stabile and even appreciated nominal exchange rates, relatively high inflation and continual appreciation of the real exchange rate and deterioration of trade balance.

Figure 8. Real Effective Exchange Rate in Eastern Europe, 2000-2009



Notes: Data refers to average quarterly real effective exchange rate indexes, separated for 7 floating (the Czech Republic, Hungary, Poland, Romania, Russia, Turkey and Ukraine) and 7 pegged currencies (Bulgaria, Estonia, Latvia, Lithuania, Croatia, Slovakia and Slovenia, whereby Slovakia and Slovenia were moved to this group two years before their respective Euro adoption); increase denotes appreciation.

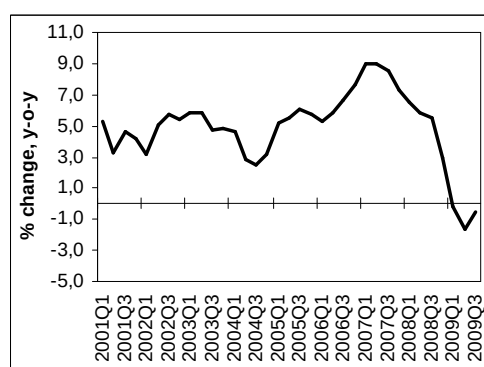
Sources: Authors' calculations based on the International Financial Statistics and Eurostat.

A real wage growth was an additional factor that significantly contributed to increasing trade deficits and appreciated real foreign exchange rates (Figure 9). Namely, even though the privatization and foreign investments propelled the productivity increase during the pre-crisis years, it was not rapid enough to justify the excessive wage growth. A large part of the wage growth was driven by rapidly increasing wages in public sectors that caused the surge of household consumption and hampered the competitiveness of tradable sectors. In parallel, the wage growth in key European Union economies was flat-lined. However, after the Lehman collapse, many countries had to resort to fiscal contraction in order to reduce their current account deficits. This explains the steep fall in wages observed after the third quarter of 2008 because they were the first target of fiscal contraction. Since then, real wages appear to be in line with output movements i.e. hovering around zero.

Not less important, one of the consequences of protracted credit booms frequently cited by many seminal scholars (Kindleberger and Aliber, 2005; Kregel, 1998; Minsky, 2008; Pettis, 2001; Wolfson, 2002) is the overvaluation of asset prices (apart from the value of domestic currency), most often of real estate and share prices. Our data supports this finding, even though there is an observable divergence of the share prices from other prices starting from mid-2007 (Figure 10). This divergence can be attributed to an early withdrawal of portfolio investments, which reacted immediately after the emergence of the U.S. subprime mortgages problem. On the other hand, other capital inflows that did not slow down until the eve of the crisis, caused the real estate prices to rise further until the onset of the crisis. These price bubbles gave rise to an illusory wealth increase that reinforced the domestic credit and consumption growth, creating one more vicious circle: Increased liquidity means that overvalued financial and real estate assets can now perform the function of collateral and a rise in the value of the collateral justifies increased value of loans demanded.

¹² This trend was more pronounced in the case of floating currencies, given that quite a few of them experienced considerable nominal appreciation in the year leading up to the crisis.

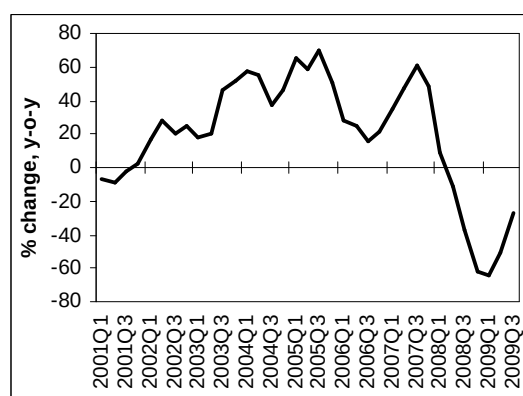
Figure 9. Real Wage Growth in Eastern Europe, 2001-2009



Notes: Real wage growth change refers to the average percent change of wage indexes deflated by the percent change of CPI indexes; average for all 14 countries.

Source: Authors' calculations based on the International Financial Statistics.

Figure 10. Share Prices in Eastern Europe, 2001-2009



Note: Share prices change refers to average share prices index changes for all 14 countries.

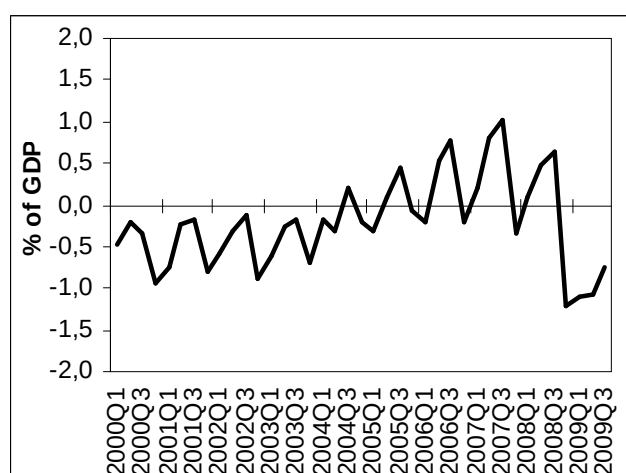
Source: Authors' calculations based on International Financial Statistics.

In the end, when it comes to the fiscal deficits of EEE, they were, on average, moderate throughout the region in the years leading up to the crisis. However, it can be argued that the fiscal policies were still partially responsible for the accumulation of vulnerabilities, despite the moderate deficits. This stems from the fact that, in many countries in the region, the nominally balanced fiscal positions consisted of buoyant fiscal revenues driven by the spending-boom, matched by equally buoyant fiscal expenditure. However, the fiscal expenditure increases were of a structural nature and it turned out that their rigidity caused a large increase of fiscal deficits once the crisis hit.¹³ The crisis revealed that even those countries which ran surpluses before the crisis, were not able to do so any more. The cyclically driven high fiscal revenues from import taxes, excises and consumption slumped once consumption contracted (Figure 11). When the crisis hit, many countries had to introduce moderate fiscal austerity measures simply because they could not finance expansive spending any more.¹⁴ On the other hand, those countries that had managed their public budgets well, were able to run strong counter-cyclical policies, notably Slovakia, Bulgaria or even Ukraine.

¹³ These expenditures include increases of headcount and wages in public institutions and state owned enterprises as well as hefty pension increases, all of which are regulated by laws and therefore very rigid.

¹⁴ In other words, many countries ran fiscal bubbles.

Figure 11. Quarterly Fiscal Balance in Emerging Europe, 2000-2009



Notes: Data refers to quarterly fiscal balances relative to annual GDP; average for all 14 countries.

Source: Authors' calculations based on International Financial Statistics.

UNWINDING OF FINANCIAL DIFFICULTIES: THE LEHMAN SHOCK, SUDDEN STOP AND CAPITAL FLOW REVERSAL

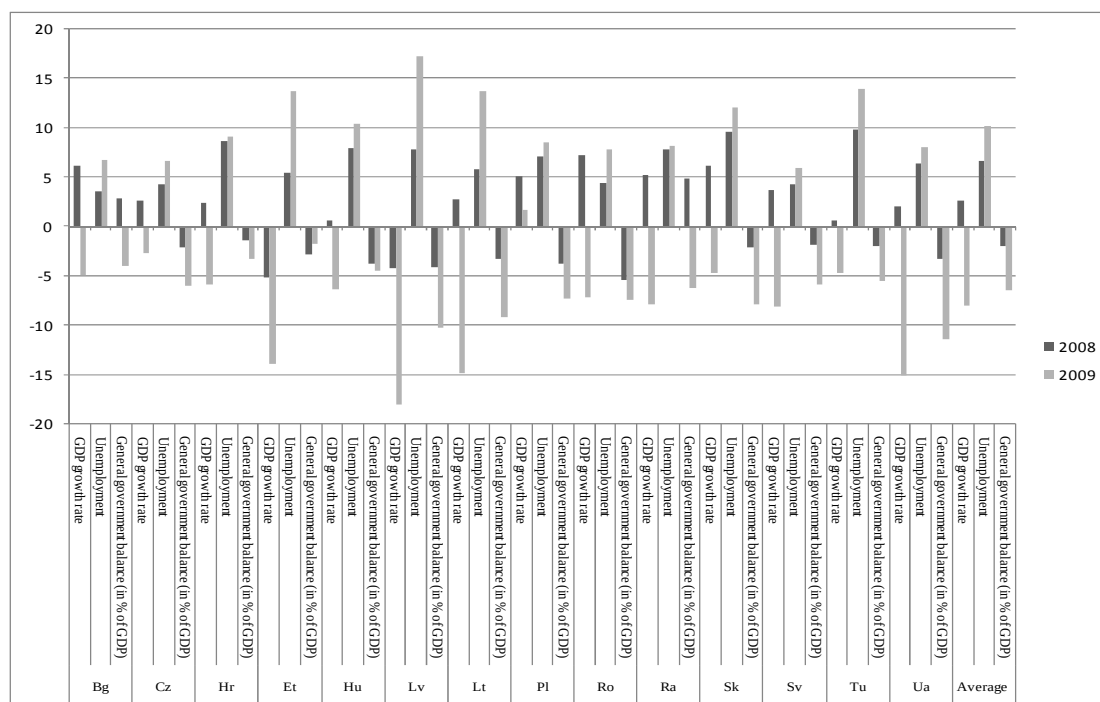
The onset of the global credit crunch and capital flow reversal following the Lehman Brothers collapse caused sharp contraction of Eastern European output (Figures 1 and 12), exports and imports (Figure 6), significant increase in interest rate differential (Figure 2) and public debt and unemployment (Figure 12),¹⁵ decrease in foreign exchange reserves (Figure 7, 13)¹⁶ as well as a swift depreciation of the regional currencies across the board (Figure 13).

Immediately after the shock, cross-border lending from West European parent banks sharply reversed causing drain of liquidity in local markets. Also, news about the collapse of several large banks in some developing countries caused panic among small depositors and resultantly withdrawal of a significant portion of households' deposits denominated in euro (Ukraine, Hungary, Latvia). What is more, foreign owned banks were under pressure to accumulate the foreign exchange liquidity and transfer it to their parent banks, at least during the first few months following the Lehman shock. This rush to convert local into foreign currency created strong depreciation pressures (Figure 13): The more banks tried to switch to euro, the more value of local currencies decreased and the value of real sector debts rose. These events called for policy makers' reaction that included liquidity injections, deposit insurance coverage increases and even deposit freezes in some specific cases (Ukraine, Latvia). In some countries (Romania) bad debt resolution framework was put in place along with supervision forbearance.

¹⁵ In the period between end of 2008 and end of 2009, GDP growth in EEE contracted from 2.6% to -8%. Output growth in 2009 in more indebted countries such as Estonia, Latvia, Lithuania, Hungary and Slovenia was -13.9%, -18%, -14.8%, -6.3% and -8.1% respectively. In the same period, output growth in less indebted advanced transition countries such as the Czech Republic, Poland and Slovakia was -1%, -1.7% and -4.7% respectively. Also, unemployment increased from 6.7% in 2008 to 10.2% in 2009 and public deficit from -2% in 2008 to -6.4% of GDP in 2009, on average (EBRD; IMF, WEO Database; authors' calculations).

¹⁶ Over the period of six months following the Lehman shock, the foreign exchange reserves dropped by approximately 21%, on average. Some countries like Russia, Ukraine and Latvia lost almost one third of their pre-crisis reserves (Authors' calculations based on International Financial Statistics).

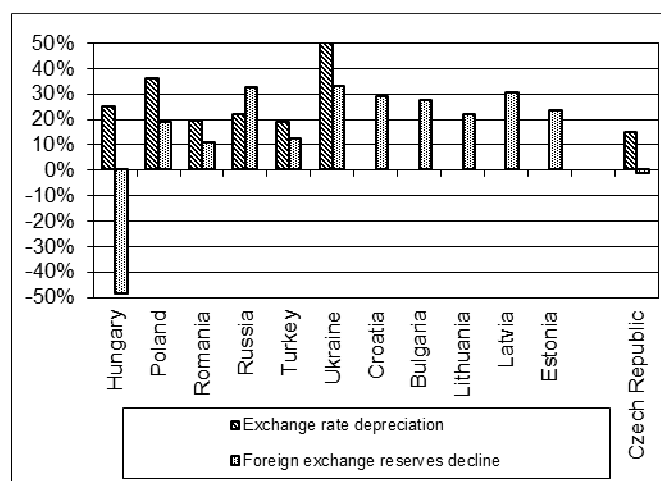
Figure 12. GDP Growth, Unemployment and Fiscal Balance (general government, in % of GDP) in Eastern Europe, end 2008 and end 2009



Notes: Bg = Bulgaria, Cz = the Czech Republic, Hr = Croatia, Et = Estonia, Hu = Hungary, Lv = Latvia, Lt = Lithuania, Pl = Poland, Ra = Russia, Sk = Slovakia, Sv = Slovenia, Tu = Turkey, Ua = Ukraine.

Sources: EBRD, WEO Database (IMF) and authors' calculations.

Figure 13. Nominal Exchange Rate Depreciation and Foreign Exchange Reserve Changes in Eastern Europe between 2008Q₃ and 2009Q₁



Notes: Data refers to the percentage change of average nominal quarterly exchange rates and quarterly stock of foreign exchange reserves; even though in the case of Estonia, Lithuania and Croatia, such averages imply that there was no currency crisis (i.e. foreign exchange reserves declined by less than 20%), the difference between the minimum daily level of foreign exchange reserves in 2009Q₁ (recorded in February 2009) and the highest level (recorded in July 2008), exceeds significantly the 20% threshold, therefore we also treat them as crisis episodes; positive percentage changes denote currency depreciation and decrease in foreign exchange reserves; the negative datapoint for Hungary denotes a significant reserve increase that was a result of the IMF and EU "bailout" loan.

Source: Authors' calculations based on International Financial Statistics.

Since in most countries we have analyzed, credit euroization was above 50%, and would be much higher if we included direct cross-border loans to the real sector, any larger depreciation or devaluation would lead to heavy balance sheet effects and large financial losses in the real sector. This would certainly wreck havoc in the affected economies, cause widespread bankruptcies and decimate output.¹⁷

This is why, in our opinion, authorities of EEE were strongly motivated to defend the pre-crisis levels of the exchange rates as evidenced from large foreign exchange market interventions. Finally, the policymakers in the most vulnerable countries (high net foreign debt and high rate of credit euroization) such as Romania, Hungary or Ukraine realized that the speculative attack might occur and rushed to conclude stand-by arrangements with the International Monetary Fund (IMF) and financial assistance from other international institutions along with swift monetary policy responses in terms of interest rate hikes.

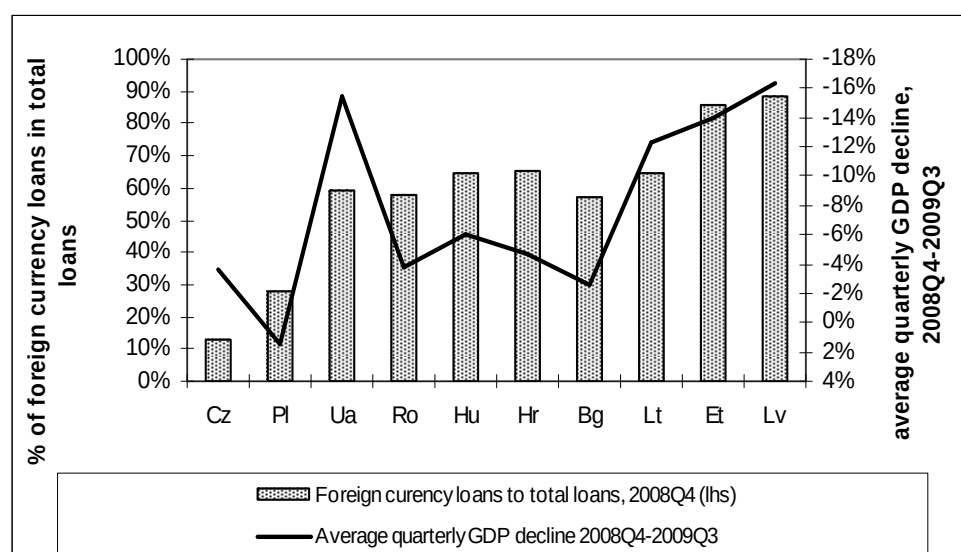
Meanwhile, these movements in the foreign exchange markets stabilized by mid-2009, indicating the bottoming-out of the private capital outflows and the increased official capital inflows. In the end, the depreciation was far milder than many feared, which is, aside from orderly current account adjustments, one of the key differences in comparison to past crises that helped EEE to avoid disorderly consumption adjustments and massive bankruptcies related to the unhedged foreign exchange liabilities of the real sector.

Therefore, even though the data presented in the Figure 14 suggests that there is a link between high rate of credit euroization and the level of output decline in the aftermath of the Lehman collapse, we believe that this could be a misleading relation. This is because only three countries in this dataset, which had a large rate of credit euroization, suffered currency depreciation – Romania, Hungary and Ukraine. Other countries with large output contraction did not suffer any changes in the exchange rate.¹⁸ We can infer that this seeming relation should actually be attributed to the domestic credit to deposit ratios, which were higher for those countries that relied more on foreign borrowings.

¹⁷ Therefore, massive depreciation of local currencies would not exert a positive influence on exports, since indebted units would have not enough breathing space to save production or jobs. In addition, even if we make the unrealistic assumption that the majority of producers would survive a drastic increase in the real value of debt, weak export demand would certainly strongly constrain the positive effects of the declining value of local currency.

¹⁸ In emerging European economies with floating exchange rate regimes nominal depreciation of local currencies against euro was 24%, on average over the period of six months following the Lehman shock (Authors' calculations based on International Financial Statistics). At the same time, emerging European countries with fixed exchange rate regimes, but high rate of credit euroization, fearing harsh consequences of a potential devaluation on their unhedged real sector, opted for "internal devaluation" through deflation. They have all reached the broad mainstream-fashioned internal consensus that the painful output contraction necessary to induce deflation was more bearable than abolition of their long-standing pegs. Consequently, in the case of Latvia, this decision resulted in such a heavy cumulative output contraction over the period of two years (-25%) that the country set the infamous world record surpassing the one previously held by the USA in the period of the Great Depression. After several quarters of disinflation, these countries finally entered devastating deflation in the second or third quarter of 2009.

Figure 14. Loan Euroization and GDP Decline in Eastern Europe



Notes: Data for Slovakia and Slovenia is excluded since they are members of the Euro Area, while data for Turkey and Russia is not available. Cz = the Czech Republic, Pl = Poland, Ua = Ukraine, Ro = Romania, Hu = Hungary, Hr = Croatia, Bg = Bulgaria, Lt = Lithuania, Et = Estonia, Lv = Latvia.

Source: Authors' calculations based on International Financial Statistics.

AFTER THE LEHMAN SHOCK: CROSS-COUNTRY DIFFERENCES IN OUTPUT DECLINE

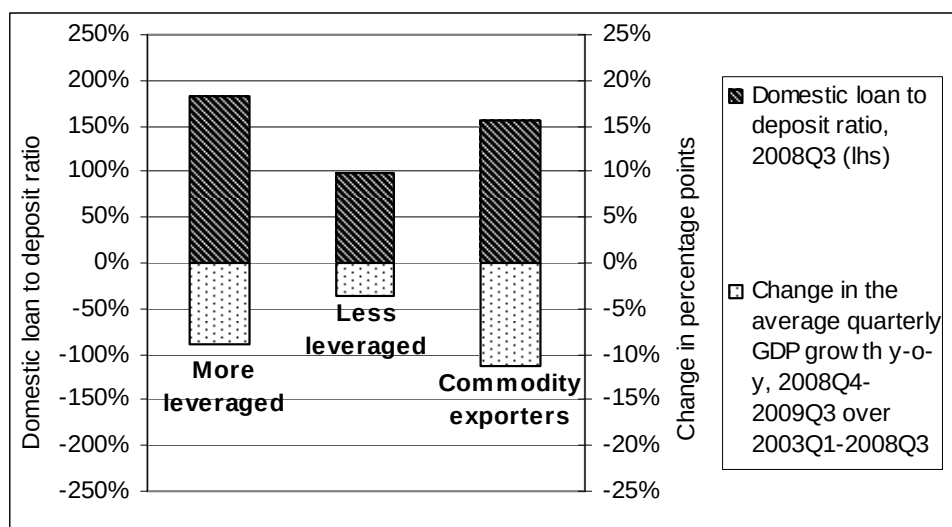
Whether the impact of a credit crunch on individual emerging European country was more or less damaging, primarily depended on chosen and applied growth model. What was crucially important in the years that preceded crisis was not the dynamics of output growth per se but its composition and drivers behind it.

On one side, export-led economies, most notably the Czech Republic, Slovakia and Poland, based their growth model on a balanced development of both tradable and non-tradable sectors. This enabled them to be less dependent on foreign capital inflows to finance their investments and consumption. This implied that their domestic savings and investments were relatively balanced, as were the current accounts, while the stocks of foreign debt were moderate. Most important was the fact that their growth was only constrained by changes in domestic and export demand and not by the availability of foreign capital. (Figures 15 and 16).

It is worth mentioning here that Slovenia and Hungary suffered considerably larger output fall than the Czech Republic, Poland or Slovakia although we also classify them as export-led countries since they both had moderate balance of goods and services deficits and strong exports.¹⁹ Even though these five countries are commonly treated as a homogenous group of the most successful developing countries in the emerging Europe because they share many similarities, there are two distinct differences, which explain the different rates of output contraction between the two subgroups. Slovenia and Hungary had much more leveraged banking systems, with ratios of domestic loans to deposits of around 1.6 whereas for the other three countries this ratio was close to 1. Also, these two countries had much larger stocks of foreign debt (over 100% of GDP) than the other three (around 50% of GDP).

¹⁹ Average balance of goods and services deficit in the period between 2001 and 2008 was 1.8% of GDP in Hungary and 0.6% of GDP in Slovenia. Also, average share of exports of goods and services in GDP in the same period was 71% in Hungary and 62.3% in Slovenia (IMF, International Financial Statistics and authors' calculations).

Figure 15. Domestic Credit to Deposit Ratio and Output Decline in EEE in the Aftermath of the Lehman shock



Notes: More leveraged group includes Romania, Estonia, Latvia, Lithuania, Hungary, Bulgaria and Slovenia; less leveraged group includes Poland, the Czech Republic, Slovakia, Turkey and Croatia; commodity exporters group includes Russia and Ukraine.

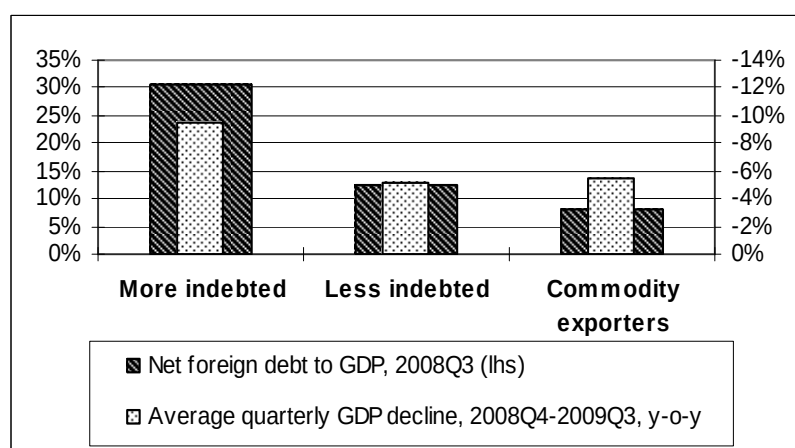
Sources: Authors' calculations based on International Financial Statistics and Eurostat.

On the other side were countries which pursued income convergence model by higher growth rates, based on the faster growth of non-tradable than tradable sectors. Such growth was financed by foreign borrowings, because domestic savings fell short of investment needs, which led to a steady accumulation of foreign debt. This hampered export competitiveness due to the real foreign exchange rate appreciation and caused wide current account deficits. Such current account deficits could only be financed by constant foreign capital inflows. In the latter group of countries, all expenditure items including investments, changes in inventories, domestic consumption and imports depended strongly on the availability of foreign capital as well as the cyclicalities of domestic and export demand. Following the Lehman shock and a sudden stop of capital inflows, these countries experienced a much deeper output contraction than those which had more balanced growth (Figures 15 and 16).

Another group of countries which were heavily affected by the crisis, are the commodity exporters, notably Russia and the Ukraine. Favorable terms of trade and global demand before the crisis caused the "Dutch disease"²⁰ in Russia and led to underdevelopment of manufacturing tradable sectors, while the Ukraine depended heavily on the cycle in global industries that consume steel. Once the terms of trade reversed due to the global output slump, Russia and the Ukraine experienced a sharp reversal of export revenues, which had a more detrimental effect on their output compared to the other countries (Figures 15 and 16).

²⁰ Dutch disease signifies the deindustrialization of a nation's economy that occurs when the discovery of a natural resource raises the value of that nation's currency, making manufactured goods less competitive with other nations, increasing imports and decreasing exports. The term originates from Holland after the discovery of North Sea gas in 1959.

Figure 16. Net Foreign Debt and Output Decline in EEE in the Aftermath of the Lehman shock

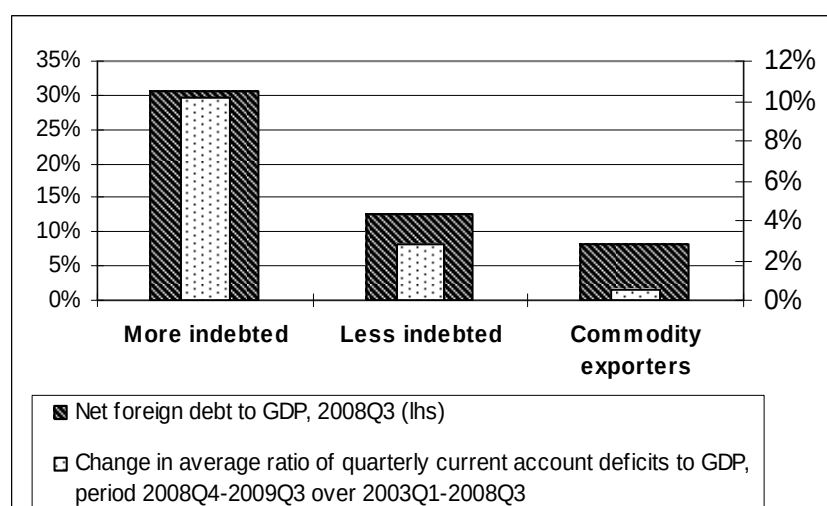


Notes: More indebted group includes Romania, Estonia, Latvia, Lithuania, Hungary, Bulgaria and Slovenia; less indebted group includes Poland, the Czech Republic, Slovakia, Turkey and Croatia; commodity exporters group includes Russia and Ukraine; average quarterly GDP decline y-o-y, for the period 2008Q₄-2009Q₃, given in reverse order.

Sources: Authors' calculations based on International Financial Statistics and websites of central banks.

As a corollary to the output decline caused by a credit crunch, more leveraged countries experienced a larger current account improvement (Figure 17). The drastic fall in export demand from advanced countries caused an indiscriminate and roughly equal fall in exports, of approximately 26%, in all countries in the region, except Russia and Ukraine, which suffered a more pronounced fall. On the other hand, decline of imports exhibited larger variability across the countries. Those economies that financed their consumption and investment growth predominantly by foreign borrowings suffered a much deeper contraction of all expenditure items, which was reflected in a stronger current account improvement compared to export-led countries.

Figure 17. Net Foreign Debt and Current Account Adjustment in EEE in the Aftermath of the Lehman shock



Notes: More indebted group includes Romania, Estonia, Latvia, Lithuania, Hungary, Bulgaria and Slovenia; less indebted group includes Poland, the Czech Republic, Slovakia, Turkey and Croatia; commodity exporters group includes Russia and Ukraine.

Sources: Authors' calculations based on International Financial Statistics and websites of central banks.

CONCLUSION

When the global financial crisis erupted in September 2008, most countries in Eastern Europe faced severe consequences of sudden reversal of foreign capital inflows. What made these countries very vulnerable to sudden stop of capital inflows were very large current account deficits financed by massive capital inflows as well as widespread and high credit euroization of the real sector's balance sheets. However, there were considerable differences between countries in terms of the output decline that followed world-wide credit crunch. Emerging European economies that pursued model of economic growth that relies on export oriented industries and domestic savings experienced moderate output decline and passed through the first impact of the global financial crisis without major disturbances. In contrast, emerging European countries that pursued consumption-led economic growth heavily financed by the foreign borrowings faced sharp output decline and the severe disruption of financing flows. This, certainly, leads to the conclusion that it is of utmost importance for policymakers to control increase in external debt as well as to minimize share of short-term debt, floating-rate debt and debt denominated in hard currency in total debt as much as possible.

Once the crisis hit, the West European policymakers and banking groups helped their developing counterparts in emerging Europe to manage the crisis, which is in a stark contrast to the previous experiences. Several countries in emerging Europe received a very important financial assistance from developed countries in the form of the "Vienna Initiative"²¹ as well as official financial assistance, mostly from the European Union and its institutions. Those that did not receive such aid, still benefited from the expansive lending policies of some international financial institutions like the EBRD and the IMF. Resultantly, impact of the current financial crisis has been reflected in moderate exchange rate depreciations, the absence of pegged currencies devaluations, limited capital outflows and foreign exchange reserve losses and, finally, orderly current account adjustments.

The reason behind timely and coordinated action of the European Union officials, the IMF and Western banks is the deep financial integration of EEE that enabled rapid income convergence, but also caused financial vulnerabilities to climb to a very high level. However, due to the global crisis and ensuing credit crunch launched from core economies and following growing fears that the Great Depression could happen again, developed countries were, in order to prevent contagion effect, practically forced to bailout EEE and their own bank subsidiaries. One can conclude that in a different situation, in which developed countries would not have such a strong incentive to provide large scale and unprecedented financial assistance to developing countries, it would lead to a less orderly adjustment and probably a full-blown debt deflation episode as was the case in the past.

In the end, it seems fair to say that the moral hazard of Western financiers was not the only one to be blamed for the Eastern European "concussion". What seems to be the case is that they only find a way to live in symbiosis with, in most cases, corrupted and incapable populist local governments. On the other hand, politicians did what they were expected to do: they listened to voices of their voters who were in their own way genuine Keynesians since they have taken as granted his saying that in long run we are all dead: "...life is not long enough;—human nature desires quick results..." (Keynes, 1956, p. 196). High consumption and lack of domestic savings today meant less consumption in the future. However, since costs of present consumption would be paid by forthcoming generations there was no point to constrain it today, which, as we see it, implied conspicuous lack of intergenerational

²¹ This arrangement was designed and put in place by the IMF, the EBRD, the EIB, the WB, the European Commission and home and host country authorities of the major European Union-based bank groups and the bank groups themselves. The essence of arrangement was to provide rolling-over maturing debts and abstaining from liquidity draining. Vienna Initiative was put in place in Serbia, Romania, Hungary, Bosnia and Herzegovina and Latvia.

solidarity.²² Eventually, it seems clear that unless consumption-led emerging European countries limit and reduce indebtedness and consumption in a short run and manage to develop tradable sectors strong enough to survive international competition in a medium run, yet another financial crisis might erupt soon.

LITERATURE

- 1) Bank of Estonia. [Online] Available from: <http://www.eestipank.ee/frontpage/en>. [Accessed 15th July 2013].
- 2) Bank of Latvia. [Online] Available from: <http://www.bank.lv/en>. [Accessed 15th July 2013].
- 3) Bank of Lithuania. [Online] Available from: http://www.lb.lt/en_index.htm. [Accessed 10th July 2013].
- 4) Bank of Russia. [Online] Available from: <http://www.cbr.ru/eng/>. [Accessed 15th July 2013].
- 5) Bank of Slovenia. [Online] Available from: <http://www.bsi.si/en/>. [Accessed 10th July 2013].
- 6) Bulgarian National Bank. [Online] Available from:
- 7) http://www.bnb.bg/?toLang=_EN. [Accessed 11th July 2013].
- 8) Central Bank of the Republic of Turkey. [Online] Available from:
- 9) <http://www.tcmb.gov.tr/yeni/eng>. [Accessed 11th July 2013].
- 10) Croatian National Bank. [Online] Available from: <http://www.hnb.hr/eindex.htm>. [Accessed 11th July 2013].
- 11) Czech National Bank. [Online] Available from: <http://www.cnb.cz/en/index.html>. [Accessed 10th July 2013].
- 12) European Bank for Reconstruction and Development. [Online] Available from:
- 13) <http://www.ebrd.com/>. [Accessed 26th July 2013].
- 14) Eurostat. [Online] Available from:
- 15) <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home>. [Accessed 25th July 2013].
- 16) FISHER, I. (1933) The Debt-Deflation Theory of Great Depression. *Econometrica*. 1 (4). p. 337-357.
- 17) Hungarian National Bank. [Online] Available from: <http://english.mnb.hu>. [Accessed 15th July 2013].
- 18) International Monetary Fund. International Financial Statistics. [Online] Available from: <http://www.imfstatistics.org/imf/>. [Accessed 24th July 2013].
- 19) International Monetary Fund. International Investment Position –Balance of Payment Database. [Online] Available from:
- 20) <http://www.imf.org/external/np/sta/bop/bop.htm>. [Accessed 24th July 2013].
- 21) International Monetary Fund. World Economic Outlook Database. [Online] Available from: <http://www.imf.org/>. [Accessed 23rd July 2013].
- 22) KREGEL, J. (1998) Yes, 'It' Did Happen Again – A Minsky Crisis Happened in Asia. *The Jerome Levy Economics Institute of Bard College*. Working Paper no. 234.
- 23) KEYNES, J.M. (1956 [1936]) *Opšta teorija zaposlenosti, kamate i novca*. Beograd: Kultura.
- 24) KINDLEBERGER, C.P. & ALIBER, R.Z. (2005) *Manias, Panics and Crashes: A History of Financial Crises*. 5th Ed. New York: John Wiley & Sons.
- 25) MINSKY, H.P. (2008 [1986]) *Stabilizing an Unstable Economy*. New York: The McGraw-Hill.
- 26) National Bank of Poland. [Online] Available from:
- 27) <http://www.nbp.pl/homen.aspx?f=/srodeken.htm>. [Accessed 16th July 2013].
- 28) National Bank of Romania. [Online] Available from:
- 29) <http://www.bnro.ro/Home.aspx>. [Accessed 15th July 2013].
- 30) National Bank of the Slovak Republic. [Online] Available from:
- 31) <http://www.nbs.sk/en/home>. [Accessed 11th July 2013]

²² Nevertheless, lack of intergenerational solidarity is not only burning problem in the most of the EEE. As late events in Italy, Ireland, Spain, Portugal and Greece show, this problem jeopardizes survival of the European Monetary Union itself as well.

-
- 32) National Bank of Ukraine. [Online] Available from: <http://www.bank.gov.ua/Engl/default.htm>. [Accessed 15th July 2013].
 - 33) PETTIS, M. (2001). *The Volatility Machine. Emerging Economies and Threat of Financial Collapse*. New York: Oxford University Press.
 - 34) WOLFSON, M. H. (2002) Minsky's Theory of Financial Crises in a Global Context. *Journal of Economic Issues*. 36 (2). p. 369-78.

THE EFFECTS OF THE GLOBAL FINANCIAL CRISIS ON SECURITIES PORTFOLIO PERFORMANCE: A CASE OF CAPITAL MARKETS IN SOUTH EASTERN EUROPEAN REGION

Jasmina OKIČIĆ¹

Abstract

The paper discusses the impact of the global financial crisis on the securities portfolio performance in the context of underdeveloped capital markets. Such markets are, as well known, characterized by low market capitalization, poor liquidity and turnover, weak legal protection for minority shareholders, low correlation with developed and emerging capital markets, etc. These features directly determine investment decision making process, thus affecting portfolio performance. Therefore, this paper seeks to ascertain the impact of the recent global financial crisis on securities portfolio performance determined on the selected capital markets in the South Eastern European (SEE) region. During the research, we used publicly available data and information from stock exchanges in the SEE region to create the sample which we split into the pre-Lehman and post-Lehman subsets, in order to compare the pre-crisis to the during crisis scenarios. Based on theoretical inferences and empirical evidence, presented in this paper, we found that recent global financial crisis, ceteris paribus, has caused the creation of inferior securities portfolios.

Keywords: securities portfolio performance, diversification, global financial crisis, capital markets in SEE region

INTRODUCTION

The recent global financial crisis began with the 2007 housing bubble in the United States, punctured by the failure of the mortgage market which, according to Chorafas (2009), was serious enough by itself, but it has been exacerbated by the highly geared way mortgage banks, commercial banks, investment banks, and other institutions have securitized and sold shaky home loans. According to Kolb (2011), by any measure, recent financial crisis is one of the most important economic events of the last century, and compared to all other economic and financial upsets since the Great Depression, it is surely the most significant.

This paper discusses the impact of the recent global financial crisis on the securities portfolio performance in the context of underdeveloped capital markets.

Such markets are, as well known, characterized by low market capitalization, poor liquidity and turnover, weak legal protection for minority shareholders, low correlation with developed and emerging capital markets, etc. These features directly determine investment decision making process, thus affecting portfolio performance. Therefore, this paper seeks to ascertain the impact of the recent global financial crisis on securities portfolio performance determined on the selected underdeveloped capital markets, i.e. capital markets in the South Eastern European (SEE) region.

The research should result in responses to the following questions: What are the specificities of the selected capital markets in the SEE region? Has the recent global financial crisis, *ceteris paribus*, had

¹ PhD, University of Tuzla, Faculty of Economics, Tuzla, Bosnia and Herzegovina, E-mail: jasmina.okicic@untz.ba

impact on the correlation between selected blue chips from the SEE region? What happened in general with portfolio performance before and during the crisis?

Having in mind the above said, the central research hypothesis shall be as follows: *Recent global financial crisis, ceteris paribus, has caused the creation of securities portfolios with inferior performance.* The main limitations of this study are to be found in the shorter available financial time series in newly formed capitalistic economy, missing data due to the lack of collective records on levels of securities offerings issues. The real implications of this research can be seen in the shaping of investment strategies of potential investors looking to diversify their portfolios.

The paper is organized as follows. After introduction, in part one we bring a short overview of some recent literature that is relevant to the main objective of the paper. In part two we present fundamental theoretical background relevant to the research. Part three brings description of our research methodology. Part four is the centre of the paper and contains analysis of the original empirical results. The last part contains some final remarks and conclusions.

LITERATURE REVIEW

Numerous studies proved that the recent global financial crisis has become a subject of interest to a number of theoreticians and researchers over the last few years.

Feldman (2010), for example, discusses portfolio manager behavior during the recent global financial crisis. He came to the conclusion that if global managers exist in larger numbers, systematic over leverage may result such that a deleveraging process can lead to the spreading of financial crises. Kočović et al. (2008) examined the impact of the global financial crisis on the scale and structure of investment portfolios of insurance companies, with respect to their difference compared to other types of financial institution.

Voinea & Anton (2009) analyzed the main lessons that could be learnt from the recent global financial crisis in order to improve the financial risk management. Thao & Daly (2012) examined the impacts of the global financial crisis on Southeast Asian equity markets integration. The objective of this research was to uncover the latest empirical evidence from a study of the long run relationships amongst the equity markets of South East Asia with a view to understanding the probable impact of the recent global financial crisis on those markets. The results reveal evidence that a number of bi-directional long-run relationships exists among several of these markets. These results have implications for investors in these markets in terms of diversification of risks and returns where shocks to any one market may or may not have a contagious effect on other markets in the region.

Salman et al. (2012) evaluated the short term relationship between Asian stock exchanges (Karachi stock exchange, Bombay stock exchange, Hong Kong stock exchange, Tokyo stock exchange) after the financial crisis of 2007. García-Álvarez & Luger (2011) evaluated alternative multivariate models of dynamic correlations in terms of realized out-of-sample Sharpe ratios for an active portfolio manager who rebalances a portfolio of international equities on a daily basis. The evaluation period covered the recent financial crisis which was marked by increased volatility and correlations across international stock markets. Results revealed that international correlations fluctuate considerably from day to day, but with no evidence of decoupling between emerging and developed stock markets.

Teresiene & Paskevicius (2009) examined portfolio construction and management during the period of financial crisis. The results of the study show that constructions of different portfolios and calculations of maximum returns and risk have showed that the best investment for a one year period was investing in gold and commodities. Apostolos et al. (2011) measured the impact of financial international markets by using the financial stress index. Research results showed that the recent financial crisis has had a negative impact on all examined markets (England, France, Japan, the United States and Greece)

with the Tokyo stock exchange being the one mostly affected. Hoon Kang & Yoon (2011) investigated the relationship between the global financial crisis and the integration of emerging stock markets in Asia. The results indicated strong volatility linkages between the Chinese stock market and the four emerging stock markets since the global financial crisis, suggesting the intensification of stock market integration in Asia since the crisis increases the integration of Chinese stock market in Asia. This strong integration of the markets is important in that the intensified linkages can reduce potential gains from the diversification of international equity portfolios.

Ali & Afzal (2012) examined impact of global financial crisis on stock markets of Pakistan and India. Results of the study show that recent global financial crisis made mild negative impact on stock returns and enhanced volatility in Pakistani and Indian stock exchanges but this impact is stronger on Indian stock market. Augustine et al. (2011) examined the impact of the global financial crisis on the Nigerian financial system. The authors argued that capital market regulators must undertake swift reforms, which will would restore public confidence and protect investor. Mili (2012) examined fixed-income portfolio management in crisis period. The results show that the Expected Tail Loss (ETL) is a better measure of the downside risk than the Value-at-Risk (VaR).

Furthermore, the report prepared by the J.P. Morgan Asset Management (2009) collects the views of professionals at J.P. Morgan Asset Management on the impact of the global financial crisis on the practice of investment. This report was an effort to inform individual and institutional investors on the lessons of the credit crisis with thoughts on the likely consequences for investment management. Bunescu (2010) also discussed the effects of the recent global financial crisis on the financial market, i.e. on financial institutions, the stock volume and quotes, effects on the investors' behavior on the market and effects on capital market regulation.

In the report prepared by the Society of Actuaries Committee on Finance Research (2009) authors examined effects of the financial crisis on the U.S. insurance industry and they concluded that closer to this crisis, diversification had been one of the rationales allowing insurers and banks to grow larger through acquisitions and expanding to new lines of business. For practitioners, the current crisis has vindicated this logic in some respects, but brought it into question in others.

THEORETICAL BACKGROUND

In this paper we will use the analytical model of financial market², which is based on multidimensional geometric Brownian motion³.

Assume that investment universe consists of n risky assets $S_1, \dots, S_n$ and some risk – free asset S_0 which yields the risk-free rate r_f .

In the analytical model of financial market, drift or Mu vector $\vec{\mu} = (\mu_1, \dots, \mu_n)^*$, the vector of continuously compounded dividend yields $\vec{d} = (d_1, \dots, d_n)^*$ and volatility matrix

² Further explanation of the analytical model of financial market is based on: (Modern Investment Technologies 2006-2008).

³ Multidimensional geometric Brownian motion is basically the most common class of stochastic processes used in mathematical finance to model the dynamics of prices in general.

$\Sigma = \begin{pmatrix} \sigma_{11} & \cdots & \sigma_{1n} \\ \vdots & \ddots & \vdots \\ \sigma_{n1} & \cdots & \sigma_{nn} \end{pmatrix}$ consists of constant values, while elements of $\vec{W} = (W_1, \dots, W_n)^*$ represent independent Wiener processes.

Furthermore, and for the sake of convenience, the vector $\vec{\mu}^e = \vec{\mu} - r_f + \vec{d}$ will be referred to as the excess Mu while the components of the volatility vector $\vec{\sigma} = (\sigma_1, \dots, \sigma_n)$ are calculated by means of the formula $\sigma_i = \sqrt{\sigma_{i1}^2 + \dots + \sigma_{in}^2}$.

Matrix $\Omega = \sum^* \sum$ is called covariance matrix and vector $\vec{\pi}(t) = (\pi_1(t), \dots, \pi_n(t))^*$ of dimension $n \times 1$ refers to a vector of proportions or weights of a portfolio at time t . Therefore, stochastic process $(\vec{\pi}(t))_{t \geq 0}$ is a portfolio strategy. The portfolio $\hat{\pi}$, which maximizes the expected value of CRRA utility function⁴ for some value of relative risk aversion coefficient, is called CRRA – optimal or CRRA – efficient portfolio.

Arrow (1971) defines a measure of relative risk aversion which is invariant to positive linear transformations and involves only the first two derivatives of the utility function:

$$\lambda_R(x) = -x \frac{U''(x)}{U'(x)}, \quad (1)$$

where $U'(x)$ and $U''(x)$ denotes the first and second derivative of utility function, respectively. In (1) it is assumed that $U'(x)$ is positive, which means that more wealth is always more desirable. With $U''(x)$ negative, the size of $\lambda_R(x)$ will measure the degree of risk aversion of the investor under consideration, larger $\lambda_R(x)$ implying more risk aversion. $\lambda_R(x)$ could of course, be a constant or any more general function of wealth, x .

Arrow (1971) hypothesizes that $\lambda_R(x)$ is an increasing function of wealth and demonstrates that, if a safe (zero variance) asset exists, then a larger $\lambda_R(x)$ implies a greater proportion of the portfolio will be put in the safe form as wealth is increased (Graves 1979, p. 205).

Furthermore, the efficient frontier is the entire set of all CRRA – optimum portfolios. Assume that utility function of the investor belongs to the CRRA class and that the relative risk aversion coefficient value is known and equal to λ , then the portfolio, that is optimal relative to a CRRA utility function, is obtained by the maximization (over the set of all admissible portfolios) of one of the utility functions.

Under the assumptions of the analytical model it is equivalent to the maximization of the following quantity (Modern Investment Technologies 2006-2008, p. 21):

$$Q_{\frac{\lambda}{2}}(\vec{\pi}) = \vec{\mu}^* \vec{\pi}^* - \frac{\lambda}{2} \vec{\pi}^* \Omega \vec{\pi}. \quad (2)$$

⁴ Utility functions with constant absolute risk aversion coefficient are called CARA utility functions.

When it comes to portfolio risk, there are three common measures, i.e. volatility, value at risk (VaR) and conditional value at risk (CVaR). Volatility, as a common risk measure, appears inappropriate when the distribution of portfolio returns substantially deviates from normal.

Portfolio VaR is defined as a maximum portfolio loss over a given time interval at a given level of statistical confidence. In the following part we give brief description of VaR and CVaR measurers (Modern Investment Technologies 2006-2008, p. 44). Basically, VaR_α^T is implicitly defined by the following expression:

$$P(p_{[0,T]}^e < -VaR_\alpha^T) = 1 - \alpha, \quad (3)$$

where $p_{[0,T]}^e$ is portfolio excess simple return over $[0,T]$ period. On the other hand, portfolio CVaR is conditional expectation of losses beyond VaR. Therefore, $CVaR_\alpha^T$ is an expected value of portfolio excess simple return $p_{[0,T]}^e$ under the condition $p_{[0,T]}^e \leq -VaR_\alpha^T$:

$$CVaR_\alpha^T = -E(p_{[0,T]}^e | p_{[0,T]}^e \leq -VaR_\alpha^T). \quad (4)$$

So, $CVaR_\alpha^T$ is basically an average value of $(1-\alpha) \cdot 100\%$ of highest losses. When it comes to portfolio reward measures, the two most important are excess Mu (μ_p^e) defined as:

$$\mu_p^e = \mu_p - r_f + d_p, \quad (5)$$

and expected excess growth rate (ρ_p^e) defined as:

$$\rho_p^e = \mu_p^e - \frac{\sigma_p^2}{2}. \quad (6)$$

Most of the existing measures, designed to evaluate performance of a portfolio, have the form of Risk-to-Reward ratio, which differ in terms of risk and reward definitions. In this research, as a measure of portfolio performance, we used widely recognized Sharpe ratio. In the next section, we will present the methodology of our research.

METHODOLOGY

As a representative of the SEE region, we used countries included in the South-Eastern Europe Traded Index (SETX) that is a tradable benchmark for the SEE region. The SETX is one of the CEE & CIS indices of the Vienna Stock Exchange that covers the countries Slovenia, Croatia, Serbia, Bulgaria and Romania.

According to the MSCI Global Market Accessibility Review (2013), these capital markets are included in the so called *frontier markets*.

The MSCI market classification framework consists of following three criteria: economic development, size and liquidity as well as market accessibility.

Furthermore, the MSCI Global Market Accessibility Review (2013) provides an evaluation of the four market accessibility criteria, which are: **(1)** openness to foreign ownership; **(2)** ease of capital

inflows/outflows; **(3)** efficiency of the operational framework and **(4)** stability of the institutional framework. Assessment results for capital markets selected in this paper are given in Table 1.

Table 1. Assessment Results for the selected capital markets

Criteria	Countries				
	Bulgaria	Croatia	Romania	Serbia	Slovenia
<i>Openness to foreign ownership</i>					
<i>Investor qualification requirement</i>	++	++	++	++	++
<i>Foreign ownership limit (FOL) level</i>	++	++	++	++	++
<i>Foreign room level</i>	++	++	++	++	++
<i>Equal rights to foreign investors</i>	++	++	+	+	++
<i>Ease of capital inflows / outflows</i>					
<i>Capital flow restriction level</i>	++	++	++	+	++
<i>Foreign exchange market liberalization level</i>	+	++	++	+	++
<i>Efficiency of the operational framework</i>					
<i>Market entry</i>					
<i>Investor registration & account set up</i>	+	-/?	++	-/?	++
<i>Market organization</i>					
<i>Market regulations</i>	++	++	+	+	++
<i>Competitive landscape</i>	++		++		++
<i>Information flow</i>	+	++	+	-/?	++
<i>Market infrastructure</i>					
<i>Clearing and Settlement</i>	++	-/?	+	+	+
<i>Custody</i>	-/?	++	-/?	++	++
<i>Registry / Depository</i>	+	+	+	++	++
<i>Trading</i>	++	+	-/?	+	+
<i>Transferability</i>	++	++	-/?	+	++
<i>Stock lending</i>	-/?	-/+	-/?	-/?	-/?
<i>Short selling</i>	-/?	-/?	-/?	-/?	-/?
<i>Stability of institutional framework</i>	+	+	+	+	+

++: no issues; +: no major issues, improvements possible; -/? : improvements needed / extent to be assessed

Competitive landscape for some Frontier Market countries is still being assessed.

Source: (MSCI Index Research 2013, p. 47)

In the next section we will give some further explanations of the variables, indicators and sample.

Sample, variables and indicators

As a sample we will use actively traded blue chips from the selected capital markets in SEE region, i.e. the constituents of the SETX. The index universe is screened according to market capitalization and turnover, and the best ranked companies are selected as constituents for the index.

The maximum weight of a single constituent is limited to 20%, and the maximum weight of a market is limited to 40% in order to prevent a single country index from gaining too much influence on the development of the SETX (CEE Stock Exchange Group 2013, p. 30).

Current composition of the SETX is presented in Table 2.

Table 2. Current composition of the SETX

Title	Country	Ticker	Indexportion
ADRS GRUPA P	Croatia	ADRS-P-A	3.46%
AIK BANKA	Republic of Serbia	AIKB	1.08%
ATLANTIC GRUPA	Croatia	ATGR-R-A	2.03%
BANCA TRANSILVANIA	Romania	TLV	7.21%
BRD-GROUPE SG	Romania	BRD	6.37%
ERICSSON NIKOLA TESLA	Croatia	ERNT-R-A	2.25%
FONDUL PROPRIETATEA	Romania	FP	20.51%
GORENJE	Slovenia	GRVG	0.55%
HRVATSKI TELEKOM	Croatia	HT-R-A	13.62%
KRKA	Slovenia	KRKG	18.49%
MERCATOR	Slovenia	MELR	2.45%
NIS AD NOVI SAD	Republic of Serbia	NIIS	3.43%
OMV PETROM	Romania	SNP	6.32%
PETROKEMIJA	Croatia	PTKM-R-A	0.63%
PETROL	Slovenia	PETG	4.38%
SOPHARMA	Bulgaria	3JR	1.26%
TELEKOM SLOVENIJE	Slovenia	TLSG	4.24%
TRANSGAZ	Romania	TGN	1.71%
Total			100%

Source: (Wiener Börse AG 2013)

In order to keep the data consistency we used February 2006 as a starting point while the base date for SETX was 15 February 2006. That is why we had to exclude following variables from the further analysis: ATGR-R-A (starting trading date: 19 November 2007), FP (starting trade date: 25 January 2011), HT-R-A (starting trading date: 05 November 2007) and TGN (starting trade date: 24 January 2008).

Dependent variable in this research is portfolio performance, measured by the average return measures, risk measures and some general portfolio performance measures i.e. Sharpe ratio. As an *indicator* of an average return measures, we used excess Mu and expected excess growth rate, while as an indicator of risk we used volatility, VaR and CVaR. As an *independent* variable, we used global financial crises, i.e. its impact on the portfolio performance, and that is why we split the sample to pre-Lehman (February 2006 – October 2008) and post-Lehman (October 2008 – August 2013) subsets⁵ in order to compare the pre-crisis to the during crisis scenarios.

Models for portfolio optimization

Mathematical models that we have created for the purpose of this research are:

⁵ Lehman Brothers Treasury Co. B.V. ("LBT") was declared bankrupt (*in staat van faillissement*) by the Amsterdam District Court on 8 October 2008 with the appointment of Rutger Schimmelpenninck and Frédéric Verhoeven as bankruptcy trustees (*curatoren*) (the "Bankruptcy Trustees") (Lehman Brothers Treasury Co. B.V. 2013). For more details on this see: Boamah (2011), Király et al (2008) and Sterling (2009).

$$\begin{aligned} \max_{\vec{\pi}} \quad & \bar{\mu}^e \bar{\pi}^* - \frac{\lambda}{2} \bar{\pi}^* \Omega \bar{\pi} \\ \sum_{i=1}^n \pi_i &= 1 \\ \pi_i &\geq 0 \quad \forall i = \overline{1, n} \\ \pi_0 &= 0 \end{aligned} \quad (7)$$

$$\begin{aligned} \max_{\vec{\pi}} \quad & \bar{\mu}^e \bar{\pi}^* - \frac{\lambda}{2} \bar{\pi}^* \Omega \bar{\pi} \\ \sum_{i=1}^n \pi_i &= 1 \\ \pi_i &\geq 0 \quad \forall i = \overline{1, n} \\ \pi_0 &\geq 0 \end{aligned} \quad (9)$$

$$\begin{aligned} \max_{\vec{\pi}} \quad & \bar{\mu}^e \bar{\pi}^* - \frac{\lambda}{2} \bar{\pi}^* \Omega \bar{\pi} \\ \sum_{i=1}^n \pi_i &= 1 \\ \pi_i &\leq 0 \quad \forall i = \overline{1, n} \\ \pi_0 &= 0 \end{aligned} \quad (8)$$

$$\begin{aligned} \max_{\vec{\pi}} \quad & \bar{\mu}^e \bar{\pi}^* - \frac{\lambda}{2} \bar{\pi}^* \Omega \bar{\pi} \\ \sum_{i=1}^n \pi_i &= 1 \\ \pi_i &\leq 0 \quad \forall i = \overline{1, n} \\ \pi_0 &\leq 0 \end{aligned} \quad (10)$$

Furthermore, and for the sake of convenience, models (7), (8), (9) and (10) will be referred to as the model M₁, M₂, M₃ and M₄, respectively. It is widely known that market portfolio basically represents a theoretical bundle of investments that includes every type of asset available in the analysed capital market, with each asset weighted in proportion to its total presence in the market. In estimating the betas of stocks, we generally use a stock index as a proxy for the market portfolio. In this research we will estimate beta coefficient simply as a measure of portfolio return sensitivity to the movement in SETX. Also, and although in the original model given by Markowitz (1952) short sales were excluded, in this paper we will analyse models with and without short sales.

Research design

In order to conduct this research, first we have to discuss one very important issue, i.e. risk-free rate of return. According to the Society of Actuaries Committee on Finance Research (2009) regardless of the degree of diversification, the only safe harbour for assets in periods of crisis may be cash, short-term government bonds, and gold. Therefore, in this research as a proxy of risk-free rate of return we will use the UBS Switzerland Time Deposit that is a modern form of the outdated medium-term note. This is attractive investment instrument with a fixed term and interesting returns with a flexible investment amount (from only 5.000 CHF/EUR). It has high level of security and flexible choice of investment amount, term, and interest payment⁶ dates (UBS 2012, p. 1). Since we have annual percentage yield (APY) for UBS Switzerland 1 Year Time Deposit (i_y), we have to recalculate this rate at the monthly level (i_m) as:

$$i_m = 100 \left[\sqrt[12]{1 + \frac{i_y}{100}} - 1 \right]. \quad (11)$$

Next, for the purpose of modelling, instead of original stock price data, certain transformations, i.e. daily returns are being used. So, if we denote successive stock price observations made at time t and $t+1$ as P_t and P_{t+1} , respectively, then continuous compounding transforms a stock price series $\{P_t\}$ into a return series $\{r_t\}$ as:

$$r_t = \ln \frac{P_t}{P_{t-1}}. \quad (12)$$

⁶ The interest earned is paid out either every 12 months starting from the date the account is opened, or at the end of each year.

After this, we analyze some basic parameters of descriptive statistics and coefficients of correlation. These results are important from the point of understanding specificities of the observed financial time series. Then, based on the previously defined mathematical models, we will present a comparative analysis of the portfolio performance and structure for each model at a certain value of relative risk aversion coefficient. In the following section we present empirical results of the research.

RESULTS AND DISCUSSION

According to the previously explained research design, in this section we will present relevant results.

Descriptive statistics and correlation analysis

By using scientific method, and in order to create a better insight into a specificity of observed financial time series we first analysed some basic parameters of descriptive statistics. These parameters for the pre-Lehman and post-Lehman period of time are presented in Table 3 and 4, respectively.

Table 3. Descriptive statistics for daily returns: pre-Lehman period

Variables:	3JR	ADRS-P-A	AIKB	BRD	ERNT-R-A	GRVG	KRKG	TLV	SNP	SETX	PTKM-R-A	PETG	MELR
Parameters:													
Mean	-0,0019	-0,0006	-0,0003	-0,0013	-0,0005	-0,0004	0,0004	-0,0022	-0,0021	-0,0005	0,0006	0,0003	0,0003
Median	0,0000	0,0000	0,0000	0,0000	0,0000	-0,0005	0,0004	0,0000	0,0000	0,0003	0,0000	0,0001	0,0008
Maximum	0,1158	0,1577	0,1767	0,1386	0,1402	0,0587	0,0961	0,1398	0,1431	0,0875	0,1268	0,1328	0,0880
Minimum	-0,6585	-0,0944	-0,2096	-0,1585	-0,0904	-0,0956	-0,0923	-0,8679	-0,1823	-0,0799	-0,1395	-0,0877	-0,0973
Std. Dev.	0,0350	0,0193	0,0302	0,0278	0,0199	0,0161	0,0180	0,0458	0,0296	0,0144	0,0291	0,0203	0,0193
Skewness	-10,0835	0,3324	-0,4798	-0,2558	0,2633	-0,5060	-0,0809	-10,3018	-0,5315	-0,3838	0,2151	0,3921	-0,0919
Kurtosis	188,0191	12,1196	12,2331	9,0739	9,1813	7,5610	9,3333	181,7575	8,5879	11,1316	5,8079	10,6164	7,5314
Jarque-Bera	974,216	2368,925	2484,603	1049,596	1140,157	618,4333	1133,864	1,056,357	910	1884,634	229,641	1656,161	582,752
Probability	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Observations	675	680	692	678	711	680	678	783	675	678	683	678	680

Table 4. Descriptive statistics for daily returns: post-Lehman period

Variables:	3JR	ADRS-P-A	AIKB	BRD	ERNT-R-A	GRVG	KRKG	TLV	SNP	SETX	PTKM-R-A	PETG	MELR
Parameters:													
Mean	0,0004	0,0001	-0,0005	0,0001	0,0001	-0,0011	-0,0002	0,0005	0,0007	-0,0002	0,0000	-0,0004	-0,0005
Median	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Maximum	0,131	0,103	0,134	0,140	0,103	0,095	0,058	0,132	0,109	0,048	0,192	0,120	0,112
Minimum	-0,095	-0,063	-0,120	-0,142	-0,156	-0,089	-0,101	-0,128	-0,143	-0,059	-0,162	-0,095	-0,094
Std. Dev.	0,017	0,017	0,025	0,023	0,019	0,022	0,014	0,022	0,026	0,010	0,030	0,018	0,021
Skewness	0,569	0,420	0,296	-0,283	-0,856	0,194	-0,528	0,004	-0,103	-0,453	0,167	0,223	0,250
Kurtosis	9,329	6,319	7,553	9,102	13,211	5,110	7,787	9,018	5,619	7,834	7,905	9,080	7,298
Jarque-Bera	2045,418	586,1457	1069,087	1891,723	5382,466	231,0986	1206,509	1433,666	344,613	1247,72	1203,384	1866,199	940,1665
Probability	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Observations	1187	1200	1217	1209	1205	1205	1205	950	1198	1238	1195	1205	1205

In case of pre- and post-Lehman period of time and based on the Jarque-Bera test we rejected the null hypothesis (H_0 : the data are from a normal distribution) at the 5% significance level for all selected variables. Due to Augmented Dickey-Fuller test of unit roots and having in mind that statistics of the test in its absolute form is lower than theoretically critical values for all three significance levels (1%, 5% and 10%), we also rejected null hypothesis (H_0 : the series contains a *unit root*). From a financial perspective, skewness is crucial since it may itself be considered as a measure of risk. The skewness of a symmetric distribution, such as the normal distribution, is zero. Positive skewness means that the distribution has a long right tail and negative skewness implies that the distribution has a long left tail.

In other words, negative skewness means there is a substantial probability of a big negative return. Positive skewness means that there is a greater-than-normal probability of a big positive return. Negative skewness was particularly evident in the pre-Lehman period of time. This, in majority of analysed variables (3JR, AIKB, BRD, GRVG, KRKG, TLV, SNP and MELR), indicates that there was a substantial probability of a big negative return. SETX, as a benchmark, had negative skewness in both, pre- and post-Lehman period of time. On the other hand, kurtosis measures the degree to which extreme outcomes in the “tails” of a distribution are likely. The normal distribution has a kurtosis of 3 (mesokurtic). Kurtosis points out leptokurtosis for all selected variables. Leptokurtosis indicates that small changes are less frequent than in a normal distribution, but extreme events such as large price moves are more likely to happen and are potentially much larger than in a normal distribution.

Table 5. Correlation matrix: pre-Lehman period

		SETX	AIKB	ADRS-P-A	ERNT-R-A	PTKM-R-A	GRVG	PETG	KRKG	MELR	3JR	SNP	TLV	BRD
SETX	Pearson Correlation	1	,614**	,792**	,631**	,200	,694**	,830**	,252	,661**	,530**	,138	,418*	,892**
	Sig. (2-tailed)		,000	,000	,000	,263	,000	,000	,158	,000	,002	,442	,016	,000
AIKB	Pearson Correlation		1	,534**	,697**	,203	,684**	,456**	,087	,543**	,443**	,066	,347*	,518**
	Sig. (2-tailed)			,001	,000	,257	,000	,008	,631	,001	,010	,714	,048	,002
ADRS-P-A	Pearson Correlation			1	,777**	,182	,434*	,596**	,055	,393*	,324	,025	,385*	,781**
	Sig. (2-tailed)				,000	,310	,012	,000	,763	,024	,066	,889	,027	,000
ERNT-R-A	Pearson Correlation				1	,186	,536**	,423*	-,071	,383*	,236	-,024	,234	,626**
	Sig. (2-tailed)					,300	,001	,014	,694	,028	,187	,895	,191	,000
PTKM-R-A	Pearson Correlation					1	-,005	,056	,176	,129	,025	-,111	-,053	,106
	Sig. (2-tailed)						,976	,755	,328	,474	,891	,539	,771	,556
GRVG	Pearson Correlation						1	,675**	,127	,563**	,512**	,132	,136	,593**
	Sig. (2-tailed)							,000	,481	,001	,002	,463	,451	,000
PETG	Pearson Correlation							1	,164	,614**	,431*	,163	,269	,614**
	Sig. (2-tailed)								,363	,000	,012	,366	,130	,000
KRKG	Pearson Correlation								1	,403*	-,008	-,084	,063	,230
	Sig. (2-tailed)									,020	,964	,641	,729	,198
MELR	Pearson Correlation									1	,301	-,046	,302	,510**
	Sig. (2-tailed)										,089	,799	,088	,002
3JR	Pearson Correlation										1	,206	,214	,489**
	Sig. (2-tailed)											,249	,232	,004
SNP	Pearson Correlation											1	,040	,189
	Sig. (2-tailed)												,824	,291
TLV	Pearson Correlation												1	,405*
	Sig. (2-tailed)													,020
BRD	Pearson Correlation													1
	Sig. (2-tailed)													

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Furthermore, excess kurtosis (K)⁷ is a measure of the fatness of the tails of kurtosis where there is higher likelihood of large gains or large losses on an investment. Excess kurtosis is particularly noticed in case of all selected variables, meaning that investors may face higher likelihood of large gains or large losses when in investing in these stocks. Knowing the correlations between the returns of securities is important for the process of allocating investments among them. That is why the next step will be to examine correlation between selected securities. Correlation between two variables indicates the level to which those variables move together. The sample correlation coefficient r is an estimate of the population correlation coefficient ρ . In case of statistical significance of correlation

⁷ Excess kurtosis is simply kurtosis less 3.

coefficient, the following hypotheses are tested (Doane, Seward 2009, p. 501): $H_0: \rho = 0$, $H_1: \rho \neq 0$. Due to different trading dates when calculating correlations we used monthly average returns as the simple mathematical average of a series of returns generated over a period of time. Correlation matrices for the pre-Lehman and post-Lehman period of time are presented in Table 5 and Table 6, respectively.

In the pre-Lehman period of time all variables, except PTKM-R-A, KRKG and SNP, had significant positive correlation. In the post-Lehman period, we had similar situation, where all selected variables, except PTKM-R-A and SNP, had significant correlation.

Table 6. Correlation matrix: post-Lehman period

		SETX	AIKB	ADRS-P-A	ERNT-R-A	PTKM-R-A	GRVG	PETG	KRKG	MELR	3JR	SNP	TLV	BRD
SETX	Pearson Correlation	1	,613**	,786**	,582**	,120	,553**	,489**	,698**	,137	,442**	,186	,425**	,551**
	Sig. (2-tailed)		,000	,000	,000	,370	,000	,000	,000	,305	,001	,163	,001	,000
AIKB	Pearson Correlation		1	,676**	,601**	-,041	,470**	,202	,376**	,000	,462**	-,061	,093	,406**
	Sig. (2-tailed)			,000	,000	,761	,000	,129	,004	1,000	,000	,651	,486	,002
ADRS-P-A	Pearson Correlation			1	,573**	-,061	,475**	,217	,525**	,165	,459**	,004	,281*	,451**
	Sig. (2-tailed)				,000	,651	,000	,102	,000	,216	,000	,976	,033	,000
ERNT-R-A	Pearson Correlation				1	-,242	,226	,272*	,186	,209	,444**	,154	,372**	,520**
	Sig. (2-tailed)					,067	,088	,039	,163	,116	,000	,248	,004	,000
PTKM-R-A	Pearson Correlation					1	,223	,421**	,131	,134	,012	-,127	-,007	-,078
	Sig. (2-tailed)						,093	,001	,327	,315	,932	,343	,958	,561
GRVG	Pearson Correlation						1	,401**	,537**	,223	,337**	-,140	-,016	,123
	Sig. (2-tailed)							,002	,000	,092	,010	,293	,904	,357
PETG	Pearson Correlation							1	,485**	,268*	,077	-,006	,112	-,051
	Sig. (2-tailed)								,000	,042	,564	,963	,402	,702
KRKG	Pearson Correlation								1	,087	,242	-,109	-,096	,043
	Sig. (2-tailed)									,516	,068	,416	,471	,746
MELR	Pearson Correlation									1	,138	-,109	,002	-,049
	Sig. (2-tailed)										,301	,415	,989	,715
3JR	Pearson Correlation										1	,168	,302*	,390**
	Sig. (2-tailed)											,208	,021	,002
SNP	Pearson Correlation											1	,504**	,360**
	Sig. (2-tailed)												,000	,005
TLV	Pearson Correlation												1	,670**
	Sig. (2-tailed)													,000
BRD	Pearson Correlation													1
	Sig. (2-tailed)													

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Model performance analysis

If we assume that utility function of the investor belongs to the CRRA class and that the relative risk aversion coefficient value is known and equal to $\lambda_R(x)$, then the optimal portfolio is obtained by the maximization (over the set of all admissible portfolios) of one of the utility functions. Since larger $\lambda_R(x)$ implies more risk aversion, we arbitrarily chose following values: 2, 4 and 6, and incorporated it into the CRRA utility function that was our optimality criteria. The portfolio, which maximizes the expected value of CRRA utility function for some value of relative risk aversion coefficient, is called CRRA – optimal portfolio.

Next, APY for UBS Switzerland 1 Year Time Deposit (i_y) for August 2013, was 0,125% (Deposits.org: Interest Rate Exchange 2013).

Therefore, equivalent monthly interest rate will be:

$$i_m = 100 \left[\sqrt[12]{1 + \frac{0,125}{100}} - 1 \right] = 0,010410703 \% .$$

Based on the previously defined mathematical models, as a result of optimization process, we got 40 portfolios. General model performance analysis for all 40 portfolios is presented in Table 7.

Table 7. General model performance analysis

PERIOD		PRE-LEHMAN			POST-LEHMAN		
MODEL PERFORMANCE CHARACTERISTICS		$\lambda_A(x)$			$\lambda_A(x)$		
M_1		2	4	6	2	4	6
Average Return Measures	Excess Mu	1,33%	1,33%	1,33%	0,92%	0,92%	0,92%
	Expected Excess Growth Rate	1,31%	1,31%	1,31%	0,91%	0,91%	0,91%
Risk Measures	Volatility	1,78%	1,78%	1,78%	1,67%	1,67%	1,67%
	Value-at-Risk	0,73%	0,73%	0,73%	0,72%	0,72%	0,72%
	Conditional Value-at-Risk	0,94%	0,94%	0,94%	0,92%	0,92%	0,92%
Performance Measures	Sharpe Ratio	0,74	0,74	0,74	0,54	0,54	0,54
Portfolio Sensitivity to Market	Portfolio Beta	0,27	0,27	0,27	0,33	0,33	0,33
M_2							
Average Return Measures	Excess Mu	275,05%	137,26%	91,33%	112,63%	56,33%	37,56%
	Expected Excess Growth Rate	206,16%	120,04%	83,68%	84,48%	49,29%	34,43%
Risk Measures	Volatility	117,39%	58,70%	39,13%	75,03%	37,52%	25,02%
	Value-at-Risk	31,97%	16,35%	10,95%	24,86%	12,81%	8,62%
	Conditional Value-at-Risk	40,94%	22,06%	15,05%	31,37%	16,67%	11,33%
Performance Measures	Sharpe Ratio	1,76	2,05	2,14	1,13	1,31	1,38
Portfolio Sensitivity to Market	Portfolio Beta	4,91	2,57	1,79	-8,66	-4,10	-2,57
M_3							
Average Return Measures	Excess Mu	31,00%	15,50%	10,33%	17,12%	8,56%	5,71%
	Expected Excess Growth Rate	23,25%	13,56%	9,47%	12,84%	7,49%	5,23%
Risk Measures	Volatility	39,37%	19,69%	13,12%	29,26%	14,63%	9,75%
	Value-at-Risk	15,41%	7,88%	5,29%	12,03%	6,13%	4,11%
	Conditional Value-at-Risk	19,33%	10,04%	6,78%	15,08%	7,77%	5,23%
Performance Measures	Sharpe Ratio	0,59	0,69	0,72	0,44	0,51	0,54
Portfolio Sensitivity to Market	Portfolio Beta	12,16	6,08	4,05	9,79	4,89	3,26
M_4							
Average Return Measures	Excess Mu	306,17%	153,09%	102,06%	112,72%	56,36%	37,57%
	Expected Excess Growth Rate	229,63%	133,95%	93,55%	84,54%	49,31%	34,44%
Risk Measures	Volatility	123,73%	61,86%	41,24%	75,07%	37,54%	25,02%
	Value-at-Risk	32,69%	16,64%	11,11%	24,87%	12,81%	8,62%
	Conditional Value-at-Risk	42,01%	22,63%	15,42%	31,38%	16,67%	11,33%
Performance Measures	Sharpe Ratio	1,86	2,17	2,27	1,13	1,31	1,38
Portfolio Sensitivity to Market	Portfolio Beta	-8,45	-4,22	-2,82	-7,36	-3,68	-2,45

The results clearly lent some support to our hypothesis, i.e. that recent global financial crisis, ceteris paribus, has caused the creation of securities portfolios with inferior performance.

In case of all analysed models, average return, measured by excess Mu and expected excess growth rate, decreases when comparing post- to the pre-Lehman period of time. In the pre-Lehman period of time, range for Sharpe ratio, for selected relative risk aversion coefficient, goes from 1,76 to 2,14 for model M_2 , from 0,59 to 0,72 for model M_3 and finally from 1,86 to 2,27 for model M_4 . Similar conclusion is valid for the post-Lehman period of time (Table 7). This clearly indicates that portfolios created in the post-Lehman period of time are more inferior to those portfolios created in the pre-Lehman period of time. It is also interesting to notice that in case of the first two models there is increase in portfolio sensitivity to SETX in post-Lehman period. This is not the case for the third and fourth model probably due to the high weight of risk-free asset in the portfolio structure. Portfolio structure, for the pre- and post-Lehman period of time is presented in following tables.

Table. 8 Portfolio structure: pre-Lehman period of time

Model:	M_1			M_2			M_3			M_4		
$\lambda_A(x) \rightarrow$	2	4	6	2	4	6	2	4	6	2	4	6
Portfolio structure ↓	Portfolio weights ↓											
Cash	0,00	0,00	0,00	0,00	0,00	0,00	-28,25	-13,63	-8,75	59,31	30,15	20,44
3JR	0,00	0,00	0,00	-33,12	-16,51	-10,98	0,00	0,00	0,00	-38,89	-19,44	-12,96
ADRS-P-A	0,00	0,00	0,00	14,20	7,24	4,93	0,00	0,00	0,00	-2,80	-1,40	-0,93
AIKB	0,00	0,00	0,00	18,20	8,96	5,88	0,00	0,00	0,00	34,56	17,28	11,52
BRD	0,00	0,00	0,00	8,88	4,28	2,74	0,00	0,00	0,00	28,07	14,03	9,36
ERNT-R-A	0,00	0,00	0,00	-57,13	-28,46	-18,90	0,00	0,00	0,00	-69,51	-34,76	-23,17
GRVG	0,00	0,00	0,00	-6,48	-3,05	-1,91	0,00	0,00	0,00	-28,78	-14,39	-9,59
KRKG	0,00	0,00	0,00	-10,40	-5,20	-3,46	0,00	0,00	0,00	-10,84	-5,42	-3,61
MELR	0,00	0,00	0,00	45,69	22,98	15,42	7,59	3,79	2,53	28,91	14,45	9,64
PETG	0,00	0,00	0,00	27,99	13,91	9,22	1,49	0,74	0,50	37,46	18,73	12,49
PTKM-R-A	1,00	1,00	1,00	29,58	14,88	9,99	20,17	10,09	6,72	18,08	9,04	6,03
SNP	0,00	0,00	0,00	-12,21	-6,03	-3,97	0,00	0,00	0,00	-20,92	-10,46	-6,97
TLV	0,00	0,00	0,00	-24,18	-12,01	-7,95	0,00	0,00	0,00	-33,66	-16,83	-11,22
Σ	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00

Table 9. Portfolio structure: post-Lehman period of time

Model:	M_1			M_2			M_3			M_4		
$\lambda_A(x) \rightarrow$	2	4	6	2	4	6	2	4	6	2	4	6
Portfolio structure ↓	Portfolio weights ↓											
Cash	0,00	0,00	0,00	0,00	0,00	0,00	-22,10	-10,55	-6,70	-2,77	-0,88	-0,26
3JR	0,00	0,00	0,00	20,71	10,40	6,97	6,68	3,34	2,23	20,97	10,49	6,99
ADRS-P-A	0,00	0,00	0,00	33,54	16,77	11,17	0,00	0,00	0,00	33,52	16,76	11,17
AIKB	0,00	0,00	0,00	-17,80	-8,92	-5,96	0,00	0,00	0,00	-17,90	-8,95	-5,97
BRD	0,00	0,00	0,00	-4,16	-2,03	-1,31	0,00	0,00	0,00	-3,85	-1,93	-1,28
ERNT-R-A	0,00	0,00	0,00	21,42	10,74	7,18	0,00	0,00	0,00	21,59	10,79	7,20
GRVG	0,00	0,00	0,00	-28,36	-14,20	-9,48	0,00	0,00	0,00	-28,46	-14,23	-9,49
KRKG	0,00	0,00	0,00	-4,92	-2,30	-1,43	0,00	0,00	0,00	-4,07	-2,03	-1,36
MELR	0,00	0,00	0,00	-30,69	-15,22	-10,06	0,00	0,00	0,00	-30,00	-15,00	-10,00
PETG	0,00	0,00	0,00	-7,32	-3,63	-2,40	0,00	0,00	0,00	-7,15	-3,57	-2,38
PTKM-R-A	0,00	0,00	0,00	11,87	5,96	3,99	0,71	0,36	0,24	12,01	6,01	4,00
SNP	1,00	1,00	1,00	19,04	9,63	6,49	15,71	7,86	5,24	19,62	9,81	6,54
TLV	0,00	0,00	0,00	-12,34	-6,20	-4,16	0,00	0,00	0,00	-12,52	-6,26	-4,17
Σ	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00

As we were able to see from the correlation analysis, in the pre-Lehman period of time only PTKM-R-A, KRKG and SNP didn't have significant positive correlation (Table 5). As we can see from portfolio structure in the pre-Lehman period of time (Table 8) portfolio weights for these stocks were significant. Furthermore, in case of model M_1 portfolio consisted only of PTKM-R-A. When analysing portfolio structure for the post-Lehman period of time (Table 9), we come to the similar conclusion where, again, in case of model M_1 portfolio consisted only of one stock, i.e. SNP. This comes as no surprise because in the post-Lehman period only PTKM-R-A and SNP didn't have significant correlation (Table 6). *Summa summarum*, in this research, it has been confirmed that *the recent global financial crisis, ceteris paribus, has caused the creation of securities portfolios with inferior performance*. Although further work is required to gain a more complete understanding of the effects of the recent global financial crisis on securities portfolio performance, results presented in this paper may be solid platform when creating portfolios especially on underdeveloped capital markets.

CONCLUSION

By examining the effects of the recent global financial crisis on securities portfolio performance and structure we tried to extract some useful information for investors that they should consider before investing on underdeveloped capital markets, i.e. capital markets from the SEE region. First of all, these markets are common referred to as frontier markets and therefore have many specificities when comparing to developed and emerging capital markets, i.e. low market capitalization, poor liquidity and turnover, weak legal protection for minority shareholders, low correlation with developed and emerging capital markets, etc. Secondly, and given the large number of available, but not actively traded securities, when investing on these markets, investor should try to minimize liquidity risk and therefore pick those securities that are easily converted into cash and vice versa. Finally, although these markets are underdeveloped, that does not mean that they are immune to various exogenous shocks such as recent global financial crisis. Furthermore, based on theoretical inferences and empirical evidence, presented in this paper, we found that recent global financial crisis, *ceteris paribus*, has caused the creation of inferior securities portfolios. Main practical consequence of these results is that investors, in times of global financial crisis, should not look at the underdeveloped capital market as “safe harbour” when trying to diversify their portfolios.

LITERATURE

- 1) Ali, R. & Afzal, M. (2012) Impact of Global Financial Crisis on Stock Markets: Evidence from Pakistan and India. *Journal of Business Management and Economics*. 3(7), 275-282.
- 2) Apostolos, G. Christopoulos, A. G, Mylonakis, J. & Koromilas, C. (2011) Measuring the Impact of Financial Crisis on International Markets: An Application of the Financial Stress Index. *Review of European Studies*. 3(1), 22-34.
- 3) Arrow, K. J. (1971) *Essays in the Theory of Risk – Bearing*, Chicago: Markham Publishing Company.
- 4) Augustine, U, Otaru Pius, S. & Ahmed, U. (2011) The Global Financial Crisis: Realities and Implications For the Nigerian Capital Market. *American Journal of Social and Management Sciences*. 2(3), 341-347.
- 5) Boamah, K. (2011) *The Collapse of Lehman Brothers – How it Happened* [Online]. Swiss Management Center (SMC) University Working Paper Series. Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1912206 [Accessed: 17 January 2012].
- 6) Bunescu, L. (2010) Global Financial Crisis and Reverberations on Capital Market. *Romanian Economic and Business Review*. 5(3), 226-235.
- 7) CEE Stock Exchange Group. (2013) *The Rules for the CEE & CIS Indices of the Vienna Stock Exchange*. Vienna: CEESEG AG.
- 8) Chorafas, D. N. (2009) *Financial Boom and Gloom: The Credit and Banking Crisis of 2007–2009 and Beyond*. New York: Palgrave Macmillan
- 9) Deposits.org: Interest Rate Exchange. (2013) *UBS Switzerland Time Deposit*. Available at: <http://switzerland.deposits.org/accounts/ubs-switzerland-1-year-time-deposit.html> [Accessed: 10 September 2013].
- 10) Doane, D. P. & Seward, L. E. (2009). *Applied Statistics for Business & Economics* (2nd ed.). New York: The McGraw – Hill Companies, Inc.
- 11) Dorn, D. & Huberman, G. (2010) Preferred Risk Habitat of Individual Investors, *Journal of Financial Economics*. 97(1), 155-173.
- 12) Feldman, T. (2010) Portfolio Manager Behavior and Global Financial Crises. *Journal of Economic Behavior & Organization*. 75(2), 192-202.
- 13) Friedman, M. & Savage, L. J. (1948) The Utility Analysis of Choices Involving Risk, *The Journal of Political Economy*, 56(4), 279-304.
- 14) García-Álvarez, L. & Luger, R. (2011) *Dynamic Correlations, Estimation Risk, and Portfolio Management during the Financial Crisis*. CEMFI Working Paper, no. 1103, Madrid: CEMFI.

- 15) Graves, P. E. (1979) Relative Risk Aversion: Increasing or Decreasing, *Journal of Financial and Quantitative Analysis*, XIV(2), 205-214.
- 16) Grigoletto, M. & Lisi, F. (2009) Looking for Skewness in Financial Time Series. *Econometrics Journal*, 12(2), 310-323.
- 17) Hoon Kang, S. & Yoon, S. (2011) The Global Financial Crisis and the Integration of Emerging Stock Markets in Asia. *Journal of East Asian Economic Integration*. 15(4), 49-73.
- 18) J. P. Morgan Asset Management (2009) *Post-Modern Asset Management: The Credit Crisis and Beyond*, New York: J. P. Morgan Chase & Co.
- 19) Kim, T. H. & White, A. (2004) On More Robust Estimation of Skewness and Kurtosis: Simulation and Application to the S&P500 Index. *Finance Research Letters* 1, 56-70.
- 20) Király, J., Nagy, M. & Szabó, V.E. (2008) *Contagion and the beginning of the crisis – pre-Lehman period*, Budapest: Magyar Nemzeti Bank Occasional Papers 76.
- 21) Kočović, J., Rakonjac Antić, T. & Jovović, M. (2008) The Impact of the Global Financial Crisis on the Structure of Investment Portfolios of Insurance Companies. *Economic Annals*, LVI(191), 143-161.
- 22) Lehman Brothers Treasury Co. B.V. (2013) Lehman Brothers Treasury Co. B.V. in liquidation. Available at: <http://www.lehmanbrotherstreasury.com/index.html> [Accessed: 10 August 2013].
- 23) Markowitz, H. (1959) *Portfolio Selection: Efficient Diversification of Investments*, New York: John Wiley & Sons, Inc.
- 24) Mili, M. (2012) *Fixed-income Portfolio Management in Crisis Period: Expected Tail Loss (ETL) Approach*. Economics Discussion Papers, No 2012-33, Kiel Institute for the World Economy.
- 25) Modern Investment Technologies. (2006-2008) *Multi-period Asset Allocation: SmartFolio Theoretical Background*. Moscow: Modern Investment Technologies Ltd.
- 26) MSCI Index Research (2013) *The 2013 MSCI Global Market Accessibility Review*. MSCI Inc.
- 27) Salman, N., Abbas, M., Ahmad, M., Abdul Majid, M., Khan, N. & Raheel, A. (2012) Impact of Financial Crisis on Asian Stock Markets. *Interdisciplinary Journal of Contemporary Research in Business*. 3(11), 736-741.
- 28) Smartfolio (Version 3.0.88) [Computer software]. Moscow: Modern Investment Technologies Ltd.
- 29) Society of Actuaries Committee on Finance Research (2009) *The Financial Crisis and Lessons for Insurers*, Schaumburg: The Society of Actuaries.
- 30) SPSS Statistics (Version 17.0) [Computer software]. Chicago: SPSS Inc.
- 31) Sterling, W. (2009) *Looking Back at Lehman: An Empirical Analysis of the Financial Shock and the Effectiveness of Countermeasures* [Online]. Trilogy World Report. Available at: <http://www.trilogyadvisors.com/worldreport/200910.Lehman.pdf> [Accessed: 10 September 2013].
- 32) Teresiene, D. & Paskevicius, P. (2009) Portfolio Construction and Management during the Period of Financial Crisis. *Economics & Management*. 14, 195-201.
- 33) Thao, T. P. & Daly, K. (2012) The Impacts of the Global Financial Crisis on Southeast Asian Equity Markets Integration. *International Journal of Trade, Economics and Finance*. 3(4), 229-304.
- 34) UBS. (2012). *Let your money grow safely with a UBS Time deposit account*. Zürich: UBS AG.
- 35) Voinea, G. & Anton, S. G. (2009) Lessons from the Current Financial Crisis. A Risk Management Approach. *Review of Economic and Business Studies*. 3, 139-147.
- 36) Wiener Börse AG (2013). *Index values*. Available at: <http://en.indices.cc/indices/details/sxe/composition/> [Accessed: 10 September 2013]

ANALYSIS OF INNOVATION PERFORMANCE BY METHODS OF MULTIVARIATE STATISTICS: CASE OF EUROPEAN COUNTRIES

Svetlana BALASHOVA¹

Abstract

In this article, interrelations between the indicators of innovation performance of European countries are evaluated by methods of multivariate statistical analysis. The modified method of principal components is used to create the summary innovation index, which gives the ability to emphasize the most significant factors, which can be regarded as growing-points of innovation development.

Key words: *innovative capacity, innovation indexes, method of principal components*

INTRODUCTION

Academic community, international institutions and authority of different countries pay special attention to the issues of intensifying innovation and economic growth (Europe 2020; The OECD Innovation Strategy; Russia 2020 etc).

There are different approaches to the measurement of innovation performance. Most of them are based on building composite indicators but varies in criteria and methodological questions (Bagrinovsky 2011; Balashova 2013; Furman, Porter & Stern 2002; Global Innovation Index 2012; Lopez-Carlos & Yasmina, 2009; Matushok 2013;; Porter, Stern 2002). Composite indicators accumulate the underlying information and can assess progress of countries over time and provide the instrument for international comparison. Composite indicators are also useful as benchmarking tools for policy decisions but on the other hand may send “misleading policy messages” if poorly constructed or misinterpreted (OECD 2008).

In most European countries an assessment of the innovation performance is held by a common method, which is developed and improved under the guidance of the Commission on the innovative development of the EU (OECD and European Communities 2005; Innovation Union Scoreboard 2010,2011,2013). Assessment methodology has been updated several times. Since 2010 25 basic indicators are used; each belongs to one of the eight innovation dimensions. Innovation dimensions are aggregated into three main pillars: Enablers, Firm activities and Outputs. Summary Innovation Index, SII gives the assessment of the overall innovation performance, and each innovation dimensions has its own composite indicator.

Innovation Union Scoreboard (IUS 2013) provides not only the results of the innovation performance assessment but also based indicators, which enables to make multivariate statistical analysis of the underlying information. The aim of this work is to identify the relationships between groups of indicators, which characterize conditions for innovations in a country, and results of innovation activities fixed in the statistics. The other goal is to segregate the most significant indicators, which play the important role in innovation performance for the considered countries in the recent years. Analysis of the interrelation between innovation indicators

¹ PhD, associate professor, department of economic and mathematical modeling, Peoples' Friendship University of Russia

We rely on a simple model that considers the results of innovation activity as a function of input indicators that reflects the conditions for innovations.

Data source is the Innovation Union Scoreboard database 2013 (IUS 2013). Panel covers EU27, European countries non included in EU and EU average for the 2008-2012 period and consists of the following variables:

SII - Summary Innovation Index,

$Z^{11} \equiv HR$ - Composite indicators of the *Human resources* dimension (*Enablers* pillar),

$Z^{12} \equiv RS$ - Composite indicators of the *Research system* dimension (*Enablers* pillar),

$Z^{13} \equiv FS$ - Composite indicators of the *Finance and support* dimension (*Enablers* pillar),

$Z^{21} \equiv FI$ - Composite indicators of the *Firm investments* dimension (*Firm activities* pillar),

$Z^{22} \equiv LE$ - Composite indicators of the *Linkages & entrepreneurship* dimension (*Firm activities* pillar),

$Z^{23} \equiv IA$ - Composite indicators of the *Intellectual assets* dimension (*Firm activities* pillar),

$Y^1 \equiv I$ - Composite indicators of the *Innovators* dimension (*Outputs* pillar),

$Y^2 \equiv EE$ - Composite indicators of the *Economic effects* dimension (*Outputs* pillar).

First six composite indicators aggregate the input factors necessary for innovations, the last two are the output indicators. Each of the composite indicators consists of basic (Annex 1) and summarizes the innovation performance of each country based on the most reliable sources of statistics. Description of the basic indicators and methodology for calculating composite scores can be found in (Innovation Union Scoreboard 2010a).

We use three panel data models:

Pooled regression

$$Y_{it}^r = \sum_{l=1}^2 \sum_{j=1}^3 Z_{it}^{lj} \beta^{ljr} + \alpha^r + \varepsilon_{it}^r \quad (1)$$

The fixed effect model with dummy variables

$$Y_{it}^r = \sum_{l=1}^2 \sum_{j=1}^3 Z_{it}^{lj} \beta^{ljr} + \sum_{i'=1}^{35} \alpha_{i'}^r d_{ii'} + \varepsilon_{it}^r \quad (2a)$$

The first difference regression

$$\Delta Y_{it}^r = \sum_{l=1}^2 \sum_{j=1}^3 \Delta Z_{it}^{lj} \beta^{ljr} + \nu_{it}^r \quad (2b)$$

Here Y^r are composite indicators of output pillar ($r = 1, 2$); Z^{lj} are composite indicators of input pillars, j is the index of the dimension within the pillar ($l = 1$ for the pillar “Enablers”, $l = 2$ – for the pillar “Firm activities”); β^{ljr} are slope coefficients. In pooled regression (1) α^r is constant ($r = 1, 2$) for all the observations. In fixed effect model (2a) $\alpha_{i'}^r$ represents the joint impacts of unobservable effects on Y^r for each country, and can be estimated as coefficient of the individual-specific dummy variable $d_{ii'}$, where $d_{ii'}$ is equal to 1 in case of an observation relating to i ($i' = i$).

In first difference approach (2b) unobserved heterogeneity has disappeared (Δ is the first difference operator). ε_{it}^r and ν_{it}^r are disturbance terms assumed to satisfy the usual regression model conditions (Verbeek, 2008). The 34 European contrives are indexed by i ; the years 2008 to 2012 by t .

Table 1 reports panel data estimates of equations (1) and (2).

Pooled regression (1) is a special case of the fixed effects model (2a) if it is assumed homogeneity of the sample. In this case ordinary least squares (OLS) provides consistent and efficient estimates of α and β . However, if fixed effects are unobserved but correlated with Z^{ij} , OLS estimator of β is biased and inconsistent.

As one can see from Table 1, the results of the OLS estimate of equation (1) are not satisfactory. We obtain negative but significant coefficients of HR and FS for both regressions with I and EE as a dependent variable. It seems to have no sense and can be explained by multicollinearity of regressors, but more likely the assumption of the homogeneity is not valid in this case.

For both dependent variables, the fixed effect estimates (LSDV – Least squared dummy variable) are significant and have expected signs. The F statistic for testing the significance of the individual effects based on R^2 of the equations (1) and (2a) is strongly in favor of the fixed-effect model.

Table1. The impact of input indicators on the results of innovation activity

Regressors	Dependent variable is I - Innovators ²			Dependent variable is EE - Economic effects		
	OLS	LSDV	First difference approach	OLS	LSDV	First difference approach
<i>HR</i> - Human resources	-0.35*** (0.01)	0.29 (0.18)	-0.2 (0.29)	0.01 (0.03)	0.22 (0.15)	-0.16 (0.18)
<i>RS</i> - Research system	0.14*** (0.01)	-0.14 (0.14)	-0.36 (0.41)	0.34*** (0.02)	-0.05 (0.06)	-0.06 (0.2)
<i>FS</i> - Finance and support	-0.26*** (0.03)	0.09 (0.23)	-0.25 (0.19)	-0.23*** (0.006)	-0.08 (0.06)	-0.02 (0.07)
<i>FI</i> - Firm investments	0.16*** (0.04)	-0.23 (0.17)	-0.13 (0.1)	0.3*** (0.02)	0.1*** (0.04)	0.11*** (0.03)
<i>LE</i> - Linkages & entrepreneurship	0.67*** (0.12)	0.38*** (0.18)	0.45*** (0.19)	-0.05*** (0.02)	-0.03 (0.05)	0.015 (0.03)
<i>IA</i> - Intellectual assets	0.20*** (0.03)	0.06 (0.12)	-0.04 (0.16)	0.2*** (0.02)	0.27*** (0.04)	0.25*** (0.08)
R^2	0.55	0.94	0.10	0.65	0.96	0.07

Note. The estimates cover 34 EU countries for the 2008-2012 period (170 observations), the parameters and White cross-section standard errors (between parentheses) are reported. *** indicates the parameters that are significantly different from zero at a 1% probability threshold, ** at 5%, and * at 10%.

The fixed effect model is more appropriate from not only statistical point of view but also regarding economic content. Having the same input indicators the results of innovative activity should largely depend on the missing or latent variables that characterize the individual features of countries, such as scale of economy, the quality of public institutions, the development of market mechanisms, and the

² All regressors excluding *LE*, are lagged for 1 year due to reference year of the composite indicator “Innovators”

degree of integration into the world economy. Assuming these latent variables to be constant during considering period we can rely upon fixed effect model.

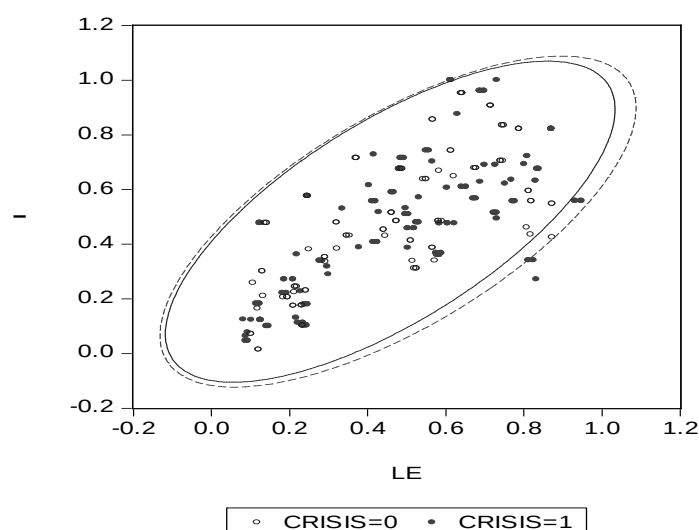
First difference fixed effect approach can reduce the number of estimated parameters and avoid “false regressions”. As one can see from Table 1, fixed effect estimates of equation (2b) has much less “good of fitness” then least squares dummy variable model (2a) but still significant. Such difference in the quality of fitting says that mainly latent variables are responsible for the dependent variables changes.

As there is evidence for heteroskedasticity, we use White covariance matrix estimator, which provides consistent estimates on the presence of conditional heteroskedasticity of unknown form (Verbeek 2008).

After stepwise elimination of insignificant factors of equations (2a) and (2b) for the output *Innovators* index the single significant factor is the *Linkages & entrepreneurship* index. It is not a surprise as both composite indexes characterize the innovation activity of SME. According to Innovation Union Scoreboard methodology input *Linkages & entrepreneurship* dimension includes 3 indicators and measures entrepreneurial efforts and collaboration efforts among small and medium-sized innovating firms and also with public sector. These indicators reflect the rate of diffusion of knowledge and technologies. They closely link to the indicators that are included in the output *Innovators* dimension, which measures the number of SME firms that have introduced innovations³.

Figure of the *Innovators* dimension against the *Linkages & entrepreneurship* dimension shows that there is rather strong direct connection between series, the crisis does not seem to affect it (Fig.1). The effect of the positive correlation between the series is apparent in the oval shape of the confidence region around the means. The figure 1 displays the 95% confidence ellipse around the means, computed using the F-distribution with 2 and N-2 degrees-of-freedom.

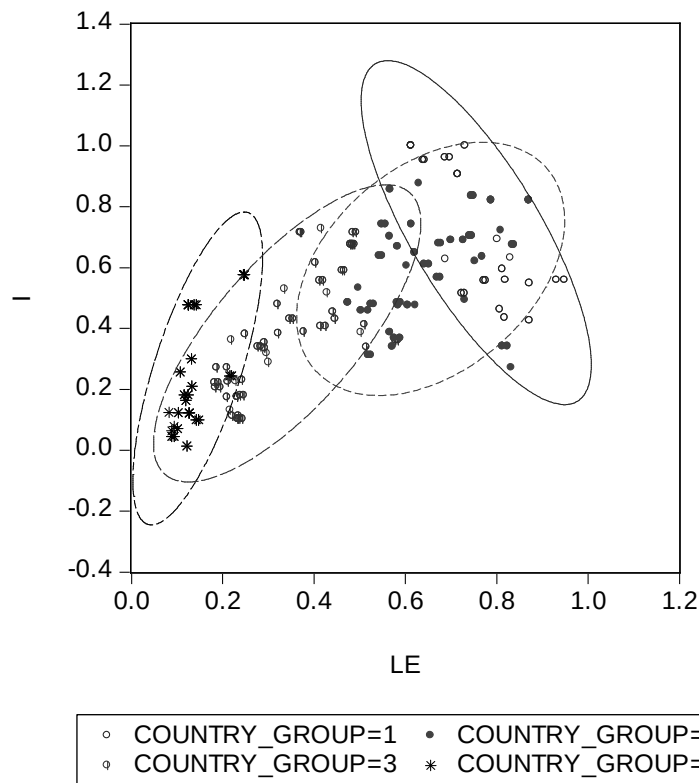
Figure 1. Relationship between *Linkages & entrepreneurship* and *Innovators* for the period 2008-2009 (crisis=0) and 2010-2012 (crisis=1)



³ Data on the High-growth innovative enterprises indicator which has to be included in *Innovators* dimension are not available

However, if we consider this relationship for different performance group, we obtain that the Innovation leaders seem to have negative relationship between considered dimensions (Fig.2). For example, Switzerland, which is the overall innovation leader, has best performance in *Innovators*, but relatively weak performance in *Linkages & entrepreneurship*. On the contrary, moderate innovators have the highest positive correlation between these dimensions and as this performance group has highest number of observations, it dominates in the regression analysis.

Figure 2. Relationship between *Linkages & entrepreneurship* and *Innovators* for performance groups (COUNTRY_GROUP=1 for 'Innovation leaders', COUNTRY_GROUP=2 for 'Innovation followers', COUNTRY_GROUP=3 for 'Moderate innovators', COUNTRY_GROUP=4 for 'Modest innovators')



Fixed effect estimate of the *Economic Effects* equation shows that two factors are significant at a 1% probability threshold, composite index FI, the *Firm investment* dimension, and IA (*Intellectual assets*). FI includes 2 indicators of both R&D and non-R&D investment that firms make in order to generate innovations. IA captures different forms of intellectual property rights. The coefficients are significantly positive and slightly differ in (2a) and (2b).

The strong relationship between R&D and non-R&D firm investment and economic effects does not change during recent years (Fig.3). The same can be said about the relationship between EE and IA.

However, the performance of Innovation leaders and Innovation followers are quite different in this case (Fig.4). The innovation leaders perform highly both in firm investment and in economic effects, but for the innovation followers firm investment has non-significant regression coefficient controlling other variables. As for Intellectual assets, the coefficient is positively significant for all performance groups except the modest innovators.

Figure 3. Relationship between Firm investment and Economic effects for the period 2008-2009 (crisis=0) and 2010-2012 (crisis=1)

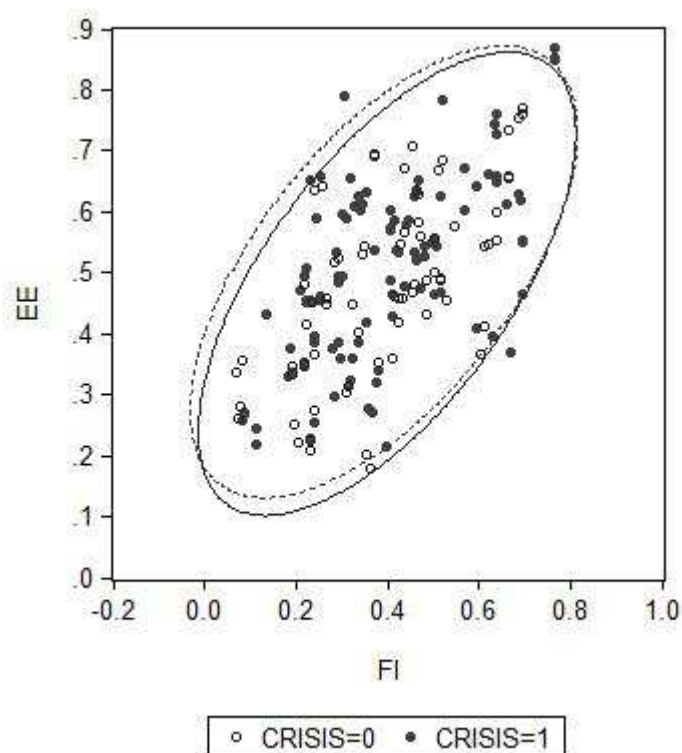
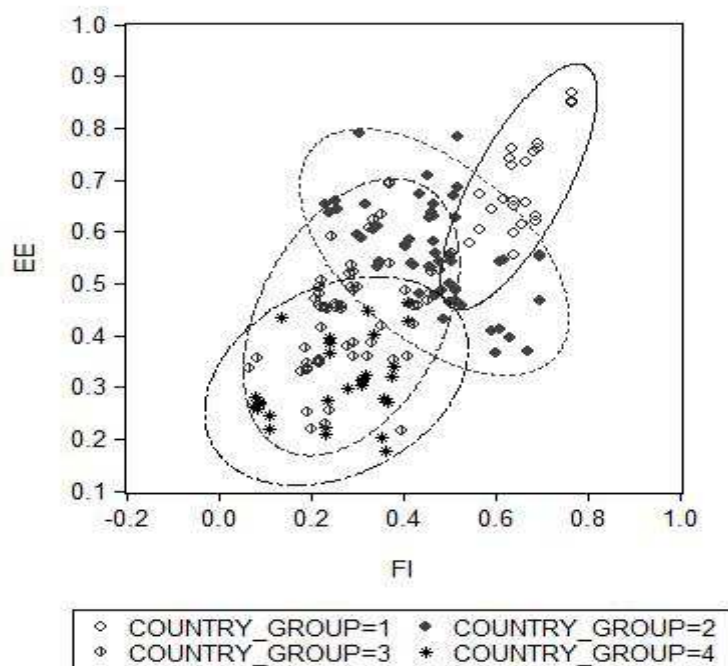


Figure 4. Relationship between Firm investment and Economic effects for performance groups (COUNTRY_GROUP=1 for 'Innovation leaders', COUNTRY_GROUP=2 for 'Innovation followers', COUNTRY_GROUP=3 for 'Moderate innovators', COUNTRY_GROUP=4 for 'Modest innovators')



Short panel does not allow to analyze the influence of the lagged input indices but the results of one year lag estimate does not differ too much from the reported in Table 1.

Thus, although all basic indicators are involved in the calculation of the Summary Innovation Index, a direct impact on innovation performance has firm activities. Formal increase of indicators related to human resources or research system, raises SII of a country, but has no direct economic effect. The innovative activities of firms within a country are strongly influenced by national policy and the presence and vitality of public institutions (Porter & Stern 2002). High-skilled and educated workforce is necessary but not sufficient condition for innovation process as can be seen on the example of Russia. Strong and competitive national research system provides knowledge that may result in new technologies. However, business can use these advantages if the linkage among public and private sectors are strong. In addition, such instruments of government policy as fiscal incentives and direct funding stimulate firms to increase their R&D investment (Domenique Guellec & Pottelsberghe 2000; Balashova & Matyushok 2012) and increase their innovation activity.

MODIFIED SUMMARY INNOVATION INDEX

As all innovation indices relate to each other, one can use the principal component approach to convert the correlated variables into the set of uncorrelated principal components (Annex 2). As the first principal component accounts for as much of the variability in the data as possible, it is preferable to use this approach instead of simple average to construct the integrated index of innovation performance. However, the modified principal component analysis (Aivazian, 2000) having all principal component approach advantages allows to define the weight of each variable in order to underline the importance of each basic indicator to the summary index.

For each innovation dimensions, the modified composite index is constructed under the following procedure.

All based indicators listed in Annex 1 are normalized.

$$\tilde{X}_{l,j,k} = \frac{X_{l,j,k} - \min(X_{l,j,k})}{\max(X_{l,j,k}) - \min(X_{l,j,k})}$$

Here l is the index of pillar, j is the index of the dimension within the pillar, k is the index of the basic indicator within dimension. Maximum/minimum score is the highest/lowest score for each indicator found for the whole time period within all countries excluding outliers.

Eigenvalues λ of covariance matrix $\mathbf{R} = \tilde{\mathbf{X}}^T \tilde{\mathbf{X}}$ can be found from the characteristic equation ($\mathbf{I}$ - identity matrix)

$$|\mathbf{R} - \lambda \mathbf{I}| = 0 \quad (3)$$

λ are ordered in descending $\lambda_1 \geq \lambda_2 \geq \dots \geq \lambda_p$, where p is the dimension of the normalized basic indicators for the group (in our case $p = 2 \div 5$ depending on the innovation dimension which is considered).

Number m_0 of integrated indexes of the group is defined from the condition

$$m_0 = \min \left\{ m \mid \frac{\lambda_1 + \lambda_2 + \dots + \lambda_m}{\lambda_1 + \lambda_2 + \dots + \lambda_p} > 0.55 \right\} \quad (4)$$

That is the integrated index accounts for the most part of the variability in the data.

If $m_0 = 1$ (this is true for five innovation dimensions), modified composite index is constructed as weighted average of the normalized scores for all indicators of this dimension. Vector of weights (loadings) $a = (a_1, a_2, \dots, a_p)^T$ can be found from the system

$$(\mathbf{R} - \lambda_1 \mathbf{I})a = 0. \quad (5)$$

Then the modified composite index $MInd_{l,j}$ can be written as

$$MInd_{l,j} = \sum_k a_k^2 \tilde{X}_{l,j,k} \quad (6)$$

with the sum for all k .

As $\sum_k a_k^2 = 1$, weights are normalized, the maximum score of the modified composite index is 1, minimum is equal to 0, and weights can be considered as degree of importance of the indicator while constructing the integrated index.

As a result of this algorithm have the following formula to determine the modified indices, Open, excellent and attractive research systems dimension

$$MInd_{1,2} \equiv MRS = 0.33 \cdot \tilde{X}_{1,2,1} + 0.36 \cdot \tilde{X}_{1,2,2} + 0.31 \cdot \tilde{X}_{1,2,3}$$

Finance and support dimension

$$MInd_{1,3} \equiv MFS = 0.5 \cdot \tilde{X}_{1,3,1} + 0.5 \cdot \tilde{X}_{1,3,2}$$

Linkages & entrepreneurship dimension

$$MInd_{2,2} \equiv MLE = 0.35 \cdot \tilde{X}_{2,2,1} + 0.35 \cdot \tilde{X}_{2,2,2} + 0.30 \cdot \tilde{X}_{2,2,3}$$

Intellectual assets dimension

$$MInd_{2,3} \equiv MIA = 0.29 \cdot \tilde{X}_{2,3,1} + 0.29 \cdot \tilde{X}_{2,3,2} + 0.16 \cdot \tilde{X}_{2,3,3} + 0.26 \cdot \tilde{X}_{2,3,4}$$

Innovators dimension

$$MInd_{3,1} \equiv MI = 0.5 \cdot \tilde{X}_{3,1,1} + 0.5 \cdot \tilde{X}_{3,1,2}$$

Due to different weights of basic indicators MRS , MLE and MIA accounts for the larger part of the variability in the data, then RS , LE and IA .

For the rest three dimensions the first principal component does not account for the most part of the variability in the data (consider the condition (4)). In this case, we use the following algorithm (Aivazian, 2006). The considered dimension (for example, *Human resources*) is divided into two subgroups. Basic indicators belong to the same subgroup if they characterize one aspect of the dimension and sufficiently correlate.

Subindex $SubInd_{l,j,s}$ (l, j is the dimension index, $s = 1, 2$ is the subgroup index) is constructed by the formula (6), where we summaries only indicators of the subgroup s . Subindexes of each subgroup are combined into one index by the formula

$$MInd_{l,j_n} = 1 - \rho_{l,j_n} \quad (7a)$$

where ρ_{l,j_n} - "weighted" Euclidean distance from the n -th observation ($SubInd_{l,j,1}, SubInd_{l,j,2}$) ($n = 1 \div N, N = 175$) to the standard (1, 1) in the corresponding two-dimensional space:

$$\rho_{l,j_n} = \sqrt{v_1(\text{SubInd}_{l,j,1_n} - 1)^2 + v_2(\text{SubInd}_{l,j,2_n} - 1)^2} \quad (7b)$$

Nonnegative normalized weights v_1, v_2 ($\sum_{p=1,2} v_p = 1$) are determined in proportion to the variances of the sub-indices:

$$v_s = \frac{\text{Var}(\text{SubInd}_{l,j,s})}{\text{Var}(\text{SubInd}_{l,j,1}) + \text{Var}(\text{SubInd}_{l,j,2})}, \quad s = 1, 2 \quad (7c)$$

$$\text{Var}(\text{SubInd}_{l,j,s}) = 1/N \sqrt{\sum (\text{SubInd}_{l,j,s_n} - \overline{\text{SubInd}_{l,j,s}})^2}$$

Analysis of correlations and loading vectors of the *Human resources* dimension shows, that we can combine two first indicators into one subgroup. Subindex $\text{SubInd}_{1.1.1}$ is simple average. Combination of $\text{SubInd}_{1.1.1}$ and the third basic indicator of the *Human resources* dimension by the formula (7) gives the modified index $MInd_{1.1} \equiv MHR$. Using simple regression analysis, we can write it as follows,

$$MInd_{1.1} \equiv MHR \approx 0.22 \cdot \tilde{X}_{1.1.1} + 0.27 \cdot \tilde{X}_{1.1.2} + 0.46 \cdot \tilde{X}_{1.1.3}$$

Thus, the third indicator has relatively high weight in constructing the dimension index.

Despite the fact that the *Firm investment* dimension has only two indicators, it cannot be characterized by the first principal component as the indicators are poorly correlated.

So modified index $MInd_{2.1} \equiv MFI$ are constructed by the formula (7) directly from basic indicators. Using simple regression analysis, we can represent it as a linear combination of basic indicators:

$$MInd_{2.1} \equiv MFI \approx 0.54 \cdot \tilde{X}_{2.1.1} + 0.34 \cdot \tilde{X}_{2.1.2}$$

Thus, public R&D expenditure $\tilde{X}_{2.1.1}$ is considered to be relatively more important than venture capital $\tilde{X}_{2.1.2}$ for innovation performance. As it was already mentioned, public R&D expenditure stimulate business R&D to certain extend but this instrument of government policy seems to be more effective if applied during long period (Balashova, 2012). In other case, it is just substitute the business funding.

The Economic effects dimension is divided into two subgroups. First consists of X3.2.1 –employment in knowledge-intensive activities, X3.2.3 – knowledge-intensive services exports, and X3.2.5 – licence and patent revenues from abroad, because they are highly correlated and have high loadings. The second subgroup consists of X3.2.2 – medium and high-tech product exports and X3.2.4 – sales of new to market and new to firm innovations. Applying formulas (3)-(7) and using regression analysis, we can write:

$$MInd_{3.2} \equiv MEE \approx 0.13 \cdot \tilde{X}_{3.2.1} + 0.25 \cdot \tilde{X}_{3.2.2} + 0.18 \cdot \tilde{X}_{3.2.3} + 0.2 \cdot \tilde{X}_{3.2.4} + 0.18 \cdot \tilde{X}_{3.2.5}$$

Thus, the most important for the economic effects assessment is medium and high-tech product exports.

Modified Summary Innovation Index $MSII$ is constructed from the subindexes by the formulas

$$MSII = 1 - \sqrt{\sum_l \sum_j v_{lj} (MInd\_l.j - 1)^2}$$

$$v_{ij} = \frac{Var(MInd\_l.j)}{\sum_l \sum_j Var(MInd\_l.j)} \quad (8)$$

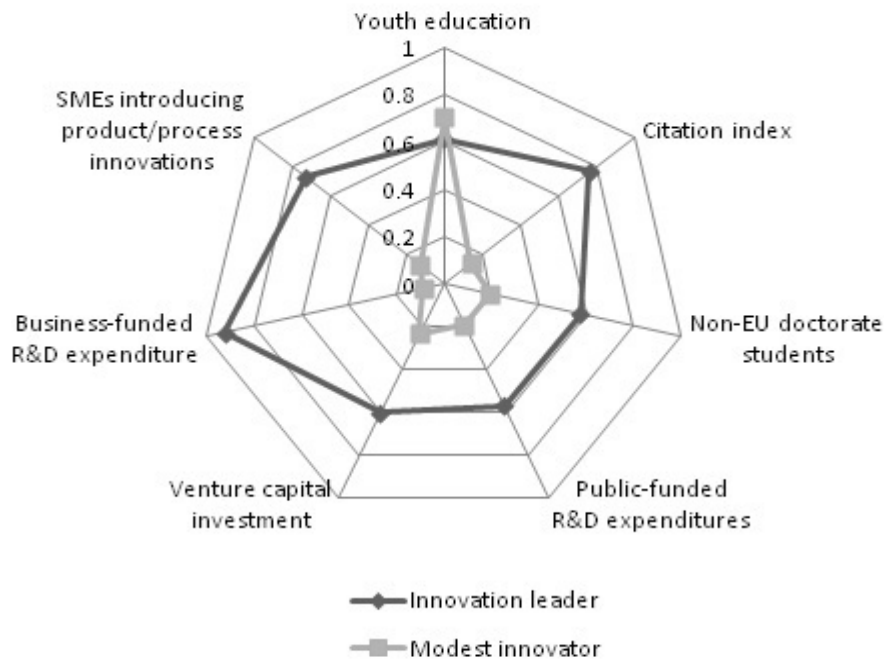
A composite innovation score, which is calculated by (8), is slightly differs from the score which is calculated as simple average. Moreover, country ranking obtained by *MSII* and *SII* are very similar (Annex3) with a few exceptions.

However, the expansion in the basic indicators by means of regression analysis allows to determine, which basic indicators of a priori set are the most important characteristics, and which practically do not contribute to and may be excluded from the posterior core set of indicators. To solve this problem a linear model is identified

$$MSII_{it} = \sum_{l,j,k} \theta_{l,j,k} \tilde{X}_{l,j,k} + \varepsilon_{it} \quad (9)$$

$\theta_{l,j,k}$ are slope coefficients, which can be regarded as weights of certain indicators in overall innovation performance. After pooled regression estimation, insignificant factor are eliminated and the best specifications regarding Akaike and Schwartz information criteria is obtained. Weights $\theta_{l,j,k}$ has score from 0.14 to 0.015, with average 0.06 (Annex 4). We consider factors with weights over 0.06 as predominant factors on innovation development.

Figure.5. Innovation leader –modest innovation comparison by the key innovation indicators

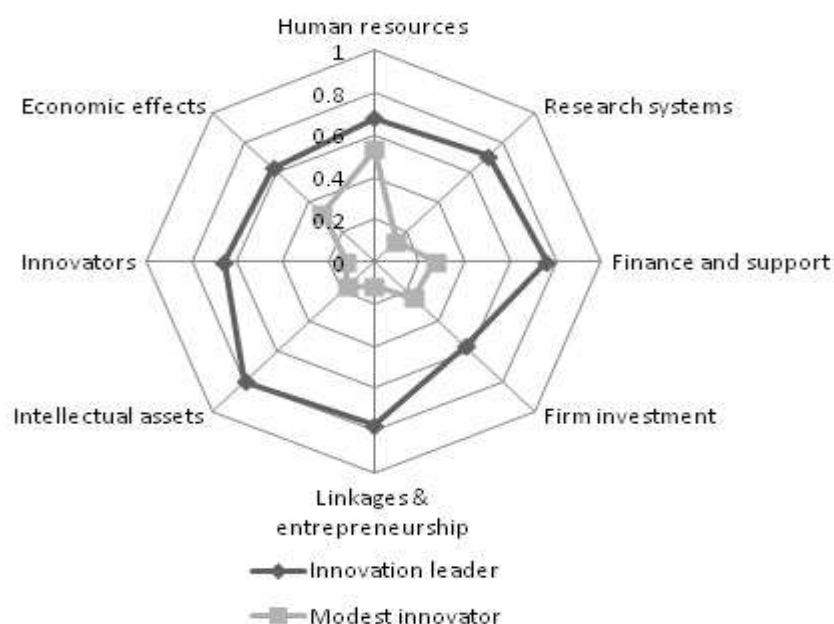


Thus, from a prior set of 24 indicators we can regard the following 7 indicators as major level of education of young people (X1.1.3, weight 0,06) from *Human resources* dimension; citation index of scientific publications (X1.2.2, weight 0,14), proportion of graduate students from non-European countries (X1.2.3, weight 0,06) from *Research systems* dimension;

the both indicators of *Finance* and *support* dimension (X1.3.1, weight 0.06, X1.3.2 weight 0.09); business-funded R&D (X2.1.1, weight 0,10) from *Firm investment* dimension; SME introducing product or process innovations (X3.1.1, weight 0,11) which is the only indicator from resulting dimensions.

Note that each of the selected factors by itself is not indicative. For example, in the former social countries (Croatia, Slovenia, Slovakia, Poland, Czech Republic) more than 90% of youth having attained at least upper secondary level education, which can be regarded as a positive legacy of the social system. However, these countries are rather moderate innovators according to IUS (see Annex 3), meanwhile in Denmark, which is the innovation leader, only 70% of young people have secondary education. However, it is indicative that for innovation leaders all the key factors and innovation dimension indices have high score (at least above average), meanwhile for modest innovators different aspects of innovation activity are developed unevenly (Fig. 5 and 6)¹

Figure 6. Innovation leader –modest innovation comparison by the modified composite indices



Dedicated indicators (except X1.1.3) are closely correlated with the majority of the a priori set of basic indicators, and can be considered as a key group in the sense that they can not be modified without a package of measures aimed at improving the conditions for innovation in all areas.

Thus, we can conclude, that controlling for other variables, the emergence of innovative companies in the small and medium business is most closely associated with the presence of a developed business environment and its integration with the research system of the country. At the same time, the economic effects of innovation achieve primarily through business expenditure on innovations (including R & D).

From an a priori set of basic indicators seven key indicators can be distinguished in order to adequately characterize the level of innovative development of a country. At the same time not only financial indicators (R & D expenditures, adequacy of venture capital) play a key role, but the level of education of young people, as well as the quality of national scientific achievements.

⁴ We use simple average to calculate the within-group index

Countries leading in terms of innovative performance provide a sufficiently balanced development of all aspects of the national innovation system. However,

Firm investment index, which is calculated using modified method of principal component, shows insufficient amount of firm expenditure even among leading countries, especially regarding non-R&D investment. It reflects in rather moderate economic effects.

LITERATURE

- 1) Aivazian, SA 2000 Aggregative (integrated) indicators of quality of life: constructing and utilization for social-economic management and comparative analysis, CEMI Russian Academy of Science, Moscow.
- 2) Aivazian, SA 2012 Quality of life and living standards analysis, Moscow.
- 3) Aivazian, S & Stepanov, V & Kozlova, M 2006, 'Measuring the Synthetic Categories of Quality of Life in a Region and Identification of Main Trends to Improve the Social and Economic Policy (Samara Region and its Constituent Territories)', Applied Econometrics, vol.2, pp. 18-84. Available from: <http://ideas.repec.org/s/ris/apltrx.html>
- 4) Bagrinovsky, CA 2011, 'Estimating the future of innovation activities', Economics and mathematical methods, vol. 47, no 1.
- 5) Balashova, S & Matyshok, V 2012, The impact of public R&D expenditure on business R&D: Russia and OECD countries / European Integration Process in Western Balkan Countries. Coimbra.
- 6) Balashova, S 2013, 'Global Indexes as Tools of Comprehensive Evaluation of Innovation Capacity', National Interests: Priorities and Safety, no 6.
- 7) Furman, J L, Porter, M E, and Stern S 2002, The Determinants of National Innovative Capacity, Research Policy 31.
- 8) Global Innovation Index 2012. Stronger Innovation Linkages for Global Growth, The Global Innovation Index INSEAD. URL: http://www.globalinnovationindex.org/gii/GII%20COMPLETE_PRINTWEB.pdf
- 9) Innovation Union Scoreboard 2010, 2011, 2013. ProInnoEurope. URL: <http://www.proinno-europe.eu/metrics>
- 10) Innovation Union Scoreboard 2010 – Methodology report (2011).
- 11) Lopez-Claros, A & Yasmina Mata 2009, The Innovation Capacity Index: Factors, Policies, and Institutions Driving Country Innovation, The Innovation for Development Report 2009-2010, Palgrave Macmillan.
- 12) Matushok, VM 2013, 'Priority directions of economic development in Russia: formation and estimation of innovation capacity', National Interests: Priorities and Safety, no 7.
- 13) OECD and European Communities 2005, Oslo Manual: Guinness for Collecting and Interpreting Innovation Data, Joint publication of the OECD and the Statistical Office of the European Communities.
- 14) OECD and European Community Joint Research Centre 2008, Handbook on Constructing Composite Indicators: Methodology and User Guide, Geneva.
- 15) Porter, M. E., Stern, S. 2002, National Innovative Capacity, The Global Competitiveness Report 2001-2002, New York: Oxford University Press.
- 16) Verbeek, Marno 2008, A Guide to Modern Econometrics, John Wiley and Sons, Ltd.

ANNEX 1

Innovation Union Scoreboard indicators

Enables				
Human resources				
X1.1.1 – New doctorate graduates per 1000 population aged 25-34		X1.1.2 – Percentage population aged 30-34 having completed tertiary education		X1.1.3 – Percentage of youth aged 20-24 having attained at least upper secondary level education
Open, excellent and attractive research systems				
X1.2.1 – International scientific co-publications per million population		X1.2.2 – Scientific publications among the top 10% most cited publications worldwide as % of total scientific publications of the country		X1.2.3 – Non-EU doctorate students as a % of all doctorate students
Finance and support				
X1.3.1 – R&D expenditure in the public sector as % of GDP			X1.3.2 – Venture capital investment as % of GDP	
Firm Activities				
Firm investment				
X2.1.1 – R&D expenditure in the business sector as % of GDP			X2.1.2 – Non-R&D innovation expenditure as % of turnover	
Linkages & entrepreneurship				
X2.2.1 – SMEs innovating in-house as % of SME		X2.2.2 – Innovative SMEs collaborating with others as % of SMEs		X2.2.3 – Public-private co-publications per million population
Intellectual assets				
X2.3.1 – PCT patents applications per billion GDP (in PPS€)		X2.3.2 - PCT patents applications in societal challenges per billion GDP (in PPS€)		X2.3.3 – Community trademarks per billion GDP (in PPS€)
				X2.3.4 – Community designs per billion GDP (in PPS€)
Outputs				
Innovators				
X3.1.1 – SMEs introducing product or process innovations as % of SMEs		X3.1.2 – SMEs introducing marketing or organisational innovations as % of SMEs		X3.1.3 – High-growth innovative firms ²
Economic effects				
X3.2.1 – Employment in knowledge-	X3.2.2 – Contribution of medium	X3.2.3 – Knowledge-intensive	X3.2.4 – Sales of new to	X3.2.5 – License and patent

² New indicator

intensive activities as % of total employment	and high-tech product exports to the trade balance	services exports as % of total service exports	market and new to firm innovations as % of turnover	revenues from abroad as % of GDP

Source: Innovation Union Scoreboard 2013

Principal Components Analysis								
Included observations: 175 after adjustments								
Computed using: Ordinary correlations								
Extracting 8 of 8 possible components								
Eigenvalues: (Sum = 8, Average = 1)								
Number	Value	Difference	Proportion	Cumulative Value	Cumulative Proportion			
1	5.09	4.24	0.64	5.09	0.64			
2	0.85	0.18	0.11	5.93	0.74			
3	0.66	0.09	0.08	6.59	0.82			
4	0.57	0.18	0.07	7.16	0.90			
5	0.39	0.20	0.05	7.55	0.94			
6	0.19	0.03	0.02	7.74	0.97			
7	0.16	0.06	0.02	7.90	0.99			
8	0.10	---	0.01	8.00	1.00			
Eigenvectors (loadings):								
Variable	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8
HR	0.32	-0.22	0.17	0.76	0.47	-0.02	0.12	0.09
RS	0.38	-0.33	0.02	-0.34	0.21	0.07	-0.65	0.40
FS	0.34	-0.56	-0.05	-0.16	-0.40	0.06	0.58	0.22
FI	0.34	0.38	0.16	0.37	-0.68	0.01	-0.26	0.22
LE	0.41	-0.08	-0.28	0.02	-0.06	0.45	-0.15	-0.72
IA	0.40	0.06	0.10	-0.18	0.03	-0.82	0.01	-0.34
I	0.30	0.45	-0.71	-0.05	0.22	-0.02	0.22	0.32
EE	0.31	0.42	0.59	-0.34	0.25	0.34	0.30	0.02
Ordinary correlations:								
	HR	RS	FS	FI	LE	IA	I	EE
HR	1.00							
RS	0.57	1.00						
FS	0.53	0.77	1.00					
FI	0.53	0.47	0.46	1.00				
LE	0.64	0.79	0.74	0.66	1.00			
IA	0.59	0.78	0.67	0.67	0.77	1.00		
I	0.35	0.47	0.33	0.51	0.69	0.59	1.00	
EE	0.40	0.56	0.35	0.59	0.52	0.69	0.40	1.00

ANNEX 3 SII and MSII for 2011₂. Of EU27

Group	Country	SII score	MSII score	Ranking SII/MSII
Innovation leaders	Sweden	0,755	0,728	1/1
	Denmark	0,724	0,685	2/2
	Germany	0,700	0,664	3/3
	Finland	0,691	0,662	4/4
Innovation followers	Belgium	0,621	0,631	5/5
	United Kingdom	0,620	0,565	6/9
	Netherlands	0,596	0,572	7/7
	Austria	0,595	0,604	8/6
	Luxembourg	0,595	0,569	9/8
	Ireland	0,582	0,515	10/11
	France	0,558	0,550	11/10
	Slovenia	0,521	0,515	12/12
	Cyprus ³	0,509	0,435	13/16
	Estonia	0,496	0,508	14/13
Moderate innovators	Italy	0,441	0,440	15/15
	Portugal	0,438	0,452	16/14
	Czech Republic	0,436	0,390	17/17
	Spain	0,406	0,377	18/18
	Hungary ⁴	0,352	0,257	19/20
	Greece	0,343	0,336	20/19
	Malta ⁷	0,340	0,231	21/22
	Slovakia ⁷	0,305	0,225	22/23
	Poland ⁷	0,296	0,224	23/24
Modest innovators	Romania	0,263	0,185	24/26
	Lithuania	0,255	0,235	25/21
	Bulgaria	0,239	0,186	26/25
	Latvia	0,230	0,172	27/27

³ Moderate innovator according to MSII⁴ Modest innovator according to MSII

IMPACT OF THE ECONOMIC CRISIS ON THE SERBIAN ECONOMY WITH THE SPECIAL REFERENCE TO BANKING SECTOR PERFORMANCES AND EXTERNAL STABILITY¹

Duško BODROŽA²
Mihajlo DJUKIĆ³
Saša MILIVOJEVIĆ⁴

Abstract

This paper studies the impact of the world economic crisis on the Serbian economy with a special reference to banking sector and external economic (in)stability. Primary goal of the paper was to test to how much extent was Serbian external economic stability jeopardized by the global economic meltdown and what might be consequences of the apparent external imbalance. Additionally, we tried to examine what are the effects of the crisis on banking sector in the context of potential future instability. Our analysis brought us to conclude that the external imbalances have just become more visible in the crisis period. The real reason for these imbalances was actually inadequate growth model led by the policy makers, based on consumption and unstable inflows of foreign capital. On the other hand, during the crisis period, banking sector have shown quite solid performances while its stagnation was just a consequence of the real sector slowdown. Our conclusion is that banking sector was professionally led, highly capitalized and shall not be a trigger for some future crisis. According to the performed analysis, Serbia needs dramatically different economic growth model in the future, mainly export oriented and with a more strict external borrowing policy.

Key words: Crisis, external position, FDI, Banking sector, Serbia

INTRODUCTION

The economic crisis that affected developed and undeveloped economies has imposed numerous issues for policy makers and macro-economists. In period 2008 -2012, almost all SEE countries were punished (by market) due to high debt and licentious expenditure, while they had stagnation and decline of the real sector. This common feature is particularly the case for Serbian economy too.

In Serbia, a country in transition, macroeconomic trends were primarily affected by delayed and accumulated transition problems. We summarized the main negative effects of the global economic crisis on the Serbian economy: the decline in foreign demand and a fall in exports, decline in total and especially industrial production, decrease of the growth rate of GDP, and its movement towards negative values, unemployment increasing, capital withdrawal from commercial banks in foreign ownership, and reduced credit placements in productive activities; decline of FDI inflows and low short-term perspective for their growth, the growth of trade deficit and balance of payments, and total debt to foreign countries, further decline in aggregate demand and increase of the entire economy illiquidity.

¹ This paper is a part of research projects numbers 47009 (European integrations and social and economic changes in Serbian economy on the way to the EU) and 179015 (Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements), financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

² Research Associate, Institute of Economic Sciences, dusko.bodroza@ien.bg.ac.rs

³ Research Associate, Institute of Economic Sciences, mihajlo.djukic@ien.bg.ac.rs

⁴ Research Associate, Institute of Economic Sciences, sasa.milivojevic@ien.bg.ac.rs

In addition to the global recession negative impacts, Serbia has accumulated economic problems which represent particular challenge for policy makers. Aiming to detect main weaknesses of the Serbian economy and trying to find an adequate response to the current economic crisis in Serbia, we have analysed mechanisms by which crisis transmitted to the real sector of the economy. Our special focus was on external position and banking sector. As it will be shown in the rest of the paper we are of the opinion that structure of the economy affected Balance of Payments deficit in the period of growth while dynamic rise of external borrowing seems unsustainable source of capital in a long term. On the other hand, banking sector have shown quite solid performances proving to be relatively stable in turbulent period.

EXTERNAL POSITION

In this chapter we will analyse the effects of global financial crisis on the Serbian external position, more precisely balance of payments, external debt, foreign direct investments as well as structure of export and import. Republic of Serbia achieved economic growth in the period 2002-2008 which is quite respectable amounting to 4.9% in average. However, despite of the recorded results, we argue that the growth model of the Serbian economy is at least questionable in the sense of sustainability since it is primarily consumption based and dependent on the limited capital inflows. Privatization revenues, foreign financial support and extensive foreign direct investments influenced strengthening of domestic demand in the first years of transition. Unfortunately, strengthening of domestic demand, in the situation of vulnerable and undeveloped domestic industry in line with the processes of liberalization, resulted in serious balance of payment deterioration. External position indicators are probably the best illustration to prove the Serbian growth model unsustainability and argument for the necessity of economic policy redesign in the future period. In that context, crisis could be analysed just as an external shock which have only shown main weaknesses of the Serbian economy. The growth model that had been implemented over the past few years in Southeast Europe, combined with the institutional weaknesses, had left the region vulnerable to external shocks in several respects⁵.

Balance of Payments

First of all, it could be noticed that growth rates in the pre-crisis period has moderate negative correlation⁶ with the balance of payment (BoP) measured by share of BoP deficit in GDP. Theoretical arguments for running such a high deficit as a tool for „catching up“ processes are not theoretically confirmed. Moreover, some economists even proved the opposite. Scheide (1990.) argued that prediction by which poor countries catch up in the course of time and that this process is made possible by capital from abroad is at variance with the data: *Low-income countries tend to borrow more but they do not grow faster*⁷.

We are aware of the fact that more strict policy would result in lower living standard in the short term but there is also lack of consistent and systematic approach to reduce this misbalance in almost 12 years of transition. Such an imbalance is becoming potential threat for the macroeconomic stability in the long term since potential capital inflows are quite limited. Privatization process is almost over, while external debt exceeded 80% of GDP so far, which is relatively high having in mind level of development and the country's reputation. Foreign direct investments were also modest in the previous years, partly as a consequence of global crisis and their future inflow will mainly depend on economic recovery in the EU and the region but also on the Government ability to create better business

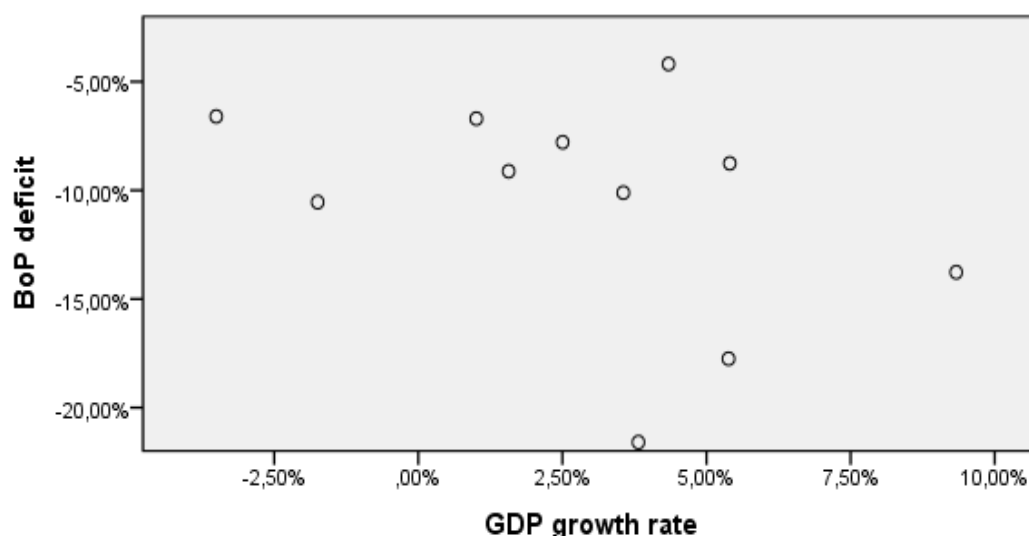
⁵ Panagiotu, R., (2012.), EUI Working papers, RSCAS 2012/64, The Impact of the Economic Crisis on the Western Balkans and their EU Accession Prospects,

⁶ Pearson coefficient of correlation is -0,384

⁷ Scheide, J. (1990), The net external asset position and economic growth : some simple correlations for 116 countries, Kiel Working Papers, No. 427

environment. We may say that the global crisis impact helped Serbian economy weaknesses just to become more visible.

Figure 1. Correlation BoP deficit and between GDP growth



Source: Author's calculation according to the National Bank of Serbia data

Table 1. Balance of Payment structure of the Republic of Serbia in the period 2008-2012 (in mln EUR)

Position/Year	2008	2009	2010	2011	2012
I. Current Account	-7.054	-1.910	-1.887	-2.870	-3.155
Balance of goods and services	-8.686	-4.926	-4.573	-5.155	-5.297
Income	-922	-502	-670	-758	-798
Current transfers	2.554	3.518	3.356	3.043	2.941
II. Capital Account	13	2	1	-3	-11
III. Financial Account	7.133	2.033	1.819	2.694	2.883
a. Direct Investments	1.824,4	1.372,5	860,1	1.826,9	231,9
b. Portfolio Investments	-90,9	-51,0	38,8	1.619,1	1.665,9
c. Other Investments	3.713,2	3.074,6	-9,1	1.049,2	-151,7
d. Reserves	1.686,6	-2.363,5	928,7	-1.801,5	1.137,2
IV. Net errors and omissions	-92	-124	68	179	283

Source: National Bank of Serbia

When it comes to the structure of the external imbalance, the largest portion of deficit is consequence of current account deficit showing a huge gap between ability to sell in the foreign markets and imported goods and services. Due to slowdown of economic activity and international demand decrease, this gap was reduced in the first years of crisis. Current account deficit in 2008 amounted to 21,6%, significantly higher comparing to 2009 and 2010 when it was about 6,6% and 6,7% respectively.

Export and import trends

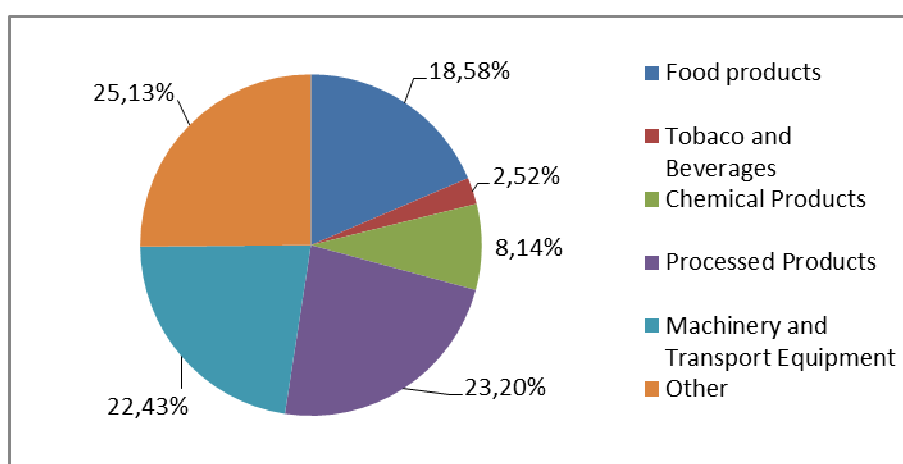
According to the relevant data, it could be seen that Serbian export experienced strong decline only in 2009, when total export lowered for about 20% in nominal terms comparing to 2008. It is a direct consequence of global economic slowdown, especially in the EU area. After that period, export had rising trend, amounting to almost 9 bln EUR in 2012. Export share of particular markets did not change a lot. It could be seen that lower export in 2009 is related to the lower share of EU 28 in total export. Serbia is dominantly dependant to the EU 28 countries when it comes to the export orientation. Every economic slowdown in the EU area is potential threat to the Serbian export potentials. However, CIS market export share has upward trend both in nominal and real terms. Total value of exports to the CIS almost doubled in the period 2007-2012 amounting to 880 mln EUR in 2012 which is almost 10% of total export. Apart from necessity to regain the export in the EU, it would be of special importance for Serbian economy to strengthen regional cooperation. In that context, very indicative are analyses which stress that the crisis negatively affected the region's trade with the EU more than intraregional trade in the Western Balkans (Bjelić et al)⁸.

Table 2. Export Value and Export Share of Particular markets

Year	Total Export Value in ths EUR	EU 28 share	CEFTA	CIS	Other
2007	6.433	60%	28%	7%	5%
2008	7.429	58%	29%	7%	5%
2009	5.961	57%	28%	7%	8%
2010	7.393	60%	26%	8%	6%
2011	8.441	62%	23%	9%	6%
2012	8.837	62%	22%	10%	7%

Source: National Bank of Serbia

Figure 2. Structure of the Serbian Export in 2012 (in % of total export)



Source: Author's calculation based on NBS data

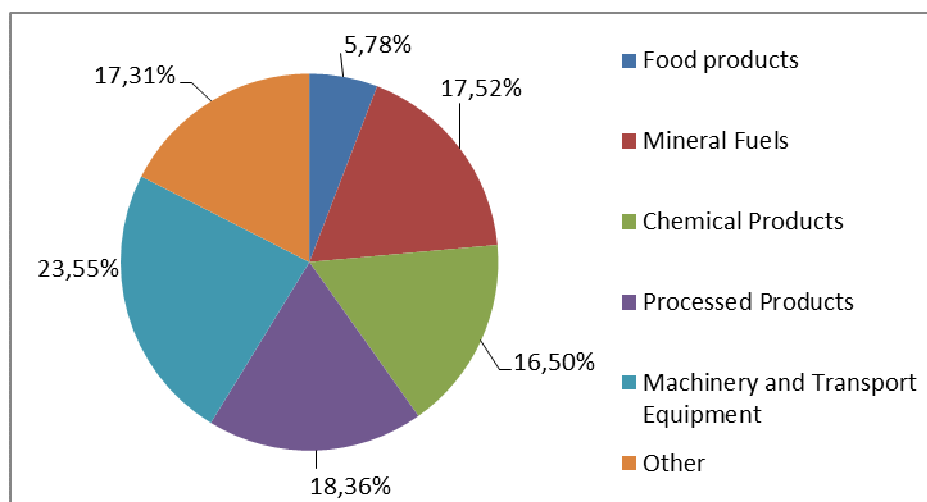
Export structure is showing particular strengths of the Serbian economy and the recent years have shown that some sectors are less vulnerable to the global economic shocks than others. For example, food industry, tobacco and drinks as well as machines and transport equipment are sectors which

⁸ Bjelić, P. et. al., (2013.), Effects of The World Economic Crisis on Exports in the CEEC: Focus On The Western Balkans, ECONOMIC ANNALS, Volume LVIII, No. 196

recorded continuous rise in the recent years despite relatively unfavourable conditions at the international market. Aforementioned three sectors recorded export share in 2012 of almost 44% of the total export.

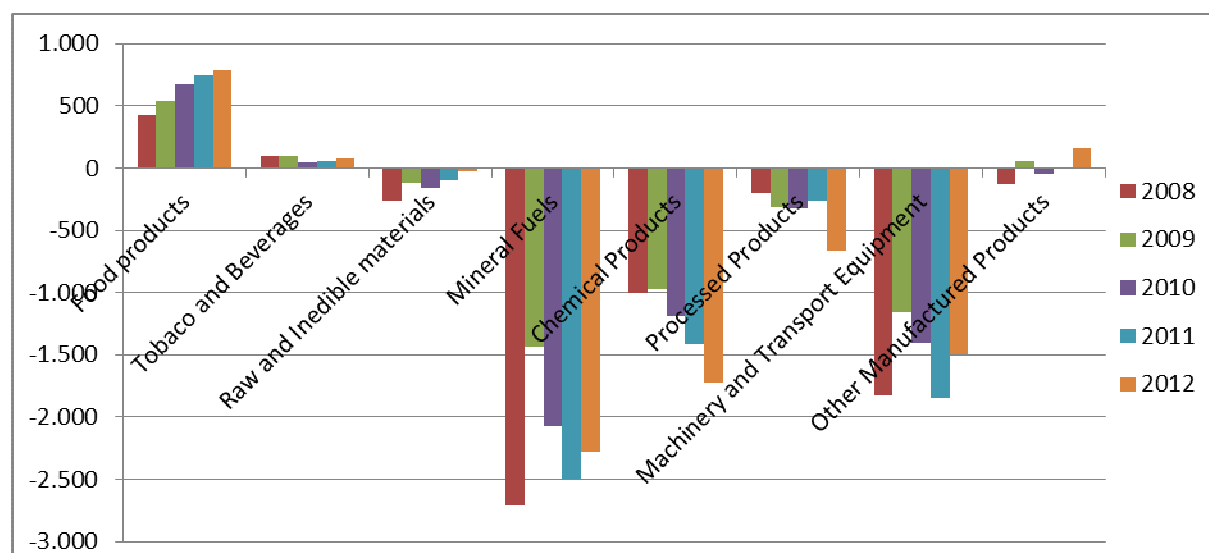
Import is still high in the industry of mineral fuels, chemical industry as well as machinery and transport equipment. Mineral fuels import is quite understandable since Serbia is, as most of the countries, energy dependant, as well as the import of machinery and infrastructure which should be considered as an investment. On the other hand, increasing import of processed products is showing that Serbian economy needs to invest more in order to strengthen its own industry.

Figure 3. Structure of the Serbian import in 2012 (in % of total import)



Source: Author's calculation based on NBS data

Figure 4. Serbian trade balance by sectors (in mln EUR)



Source: Author's calculation based on NBS data

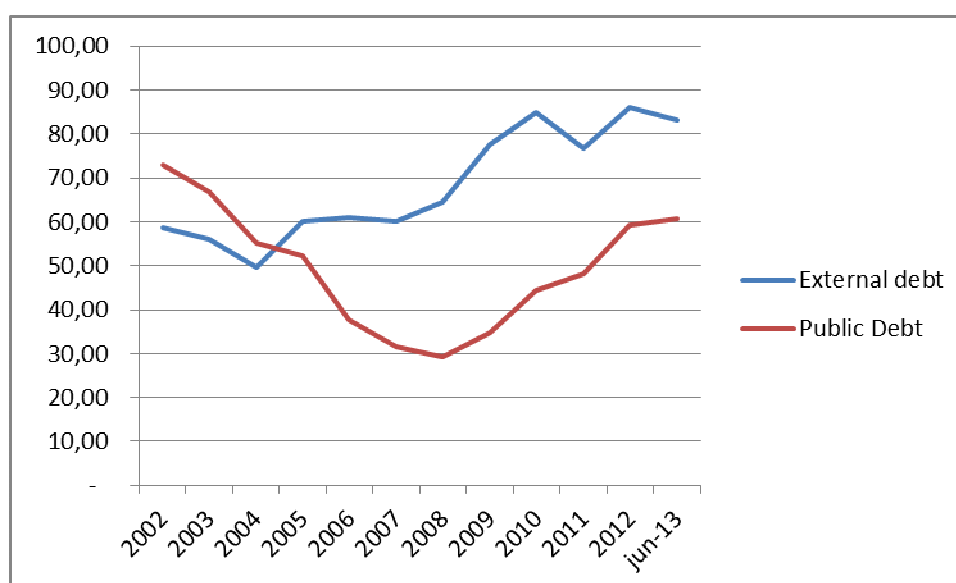
Only in two sectors Serbia has recorded trade surplus. Food industry had 787 mln EUR surplus while drink and tobacco sector recorded surplus in the amount of 79 mln EUR. Trade surplus of the food industry doubled in the period 2008-2012, while the industry of tobacco and beverages has recovered after serious decline in 2009. However, sectors which are considered to have high value added such as

machines, chemicals and processed products recorded serious trade deficits. Chemical products trade gap was growing in the period 2008-2012 amounting to 1,7 bln EUR in 2012. Also, Serbia is net importer of mineral fuels and machinery and transport equipment in the amount of 2,3 and 1,5 bln EUR respectively.

External debt

Global financial crisis has had dramatic effects on stability of public finances. In the period 2002-2008, when country was achieving quite solid growth rates, public and external debt rose in absolute figures but recorded decrease relative to GDP. Therefore, in 2008, Serbia had public debt on the level of 29,2% and the gross external debt on the level of 64,6% of GDP. In the following years both figures recorded dynamic rise imposing question of their sustainability in the future period. Public debt reached the level of 60% of GDP, which is value significantly higher than 45% required by the Law on Fiscal Responsibility and also 60% which is one of the condition defined by Maastricht Criteria. Government and IMF projections were significantly lower, while some author's calculations were much closer but also failed to predict relatively inert behaviour of the Serbian Government in the context of necessity of public savings⁹. When considering external solvency we could say that current results should be recognized as a final warning for policy makers. External debt level reached 80% of GDP in 2012. Also, external debt repayment dynamics is having continuously growing trend. In 2013, Serbia should repay more than 4 bln EUR of external debt which is more than 15% of total GDP¹⁰.

Figure 5. External and public debt trends in the period 2002-2013. (in % GDP)



Source: National Bank of Serbia

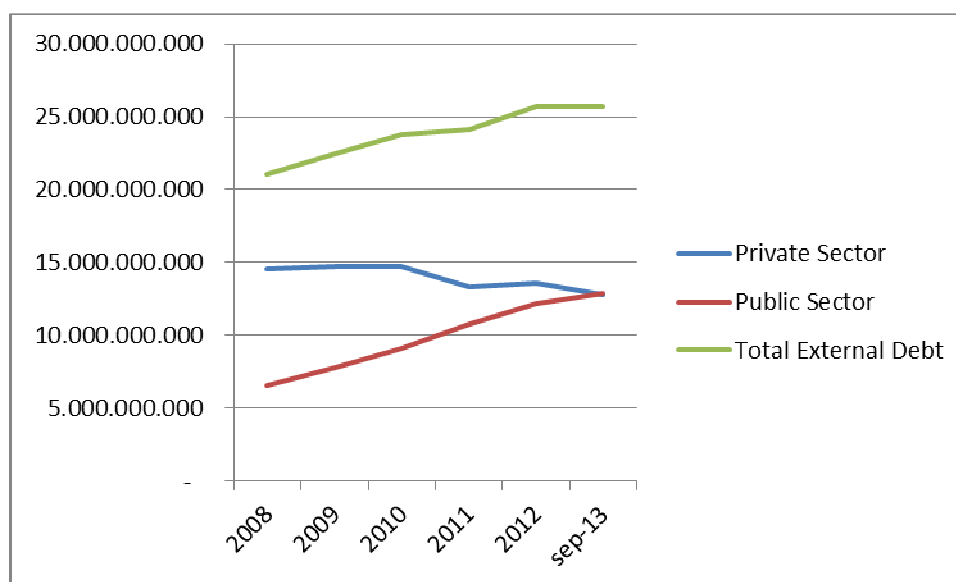
Presented figure made us to draw two very important conclusions. First, we could see that in the first years of transition public and external debt had the opposite directions. Public debt had decreasing trend since country's growth rates were higher than Central Government needs to finance fiscal deficits. On the other hand, due to private sector borrowing, external debt was stagnating or even had a slight rise. Second, when the first wave of the crisis hit Serbian economy public debt started to rise enormously, pushing external debt to rise too. It is evident that the external debt rise in the period before and after the crisis has completely different nature. First rise was modest, coming as a result of

⁹ See Zdravkovic, A., Bradic, A., (2012.), Public Debt Sustainability in Western Balkan Countries, European Integration Process in Western Balkan Countries, 2012, vol. 1, pp 472-492. Institute of Economic Sciences

¹⁰ <http://www.nbs.rs/internet/cirilica/90/dug/index.html>

private sector borrowing in the period of economic prosperity, while second one was rather sharp and may seriously undermine confidence in our economy in the international financial markets. The following figure could be a good illustration of the aforementioned. In the period 2008-2013, public share of external debt almost doubled amounting to 12,9 bln EUR as of September 2013. External debt increase in that period was only the consequence of the public sector rise since private sector reacted on crisis in a quite rational way, by decreasing costs and repayment of debts. Rise of private external debt would be the only reliable signal of potential economic recovery.

Figure 6. Public and private external debt movements in the period 2008-2013



Source: Author's calculation according to the NBS data

Foreign direct investment

The global economic crisis drastically jeopardized the capacity of the economy concerning new investments, both investments in developed countries and countries in transition. In these circumstances, investors are becoming more conservative, avoiding to invest in developing markets. A decrease in the inflow of foreign direct investment (FDI) is one of the negative economic effects of the global financial crisis that struck the Serbian economy. Given that Serbia has chosen the concept of transitional development based on attracting FDI and their potentially developmental impact, reducing the inflow of FDI is set to be a serious threat to the unimpeded growth and development within the process of transitional change.

Table 3. Net foreign direct investments 2008-2012

Years	In mil EUR	% of GDP	FDI per capita in EUR
2008	1824,4	5,6	248
2009	1372,5	4,7	187
2010	860,1	3,1	118
2011	1826,9	5,8	252
2012	231,9	0,8	32

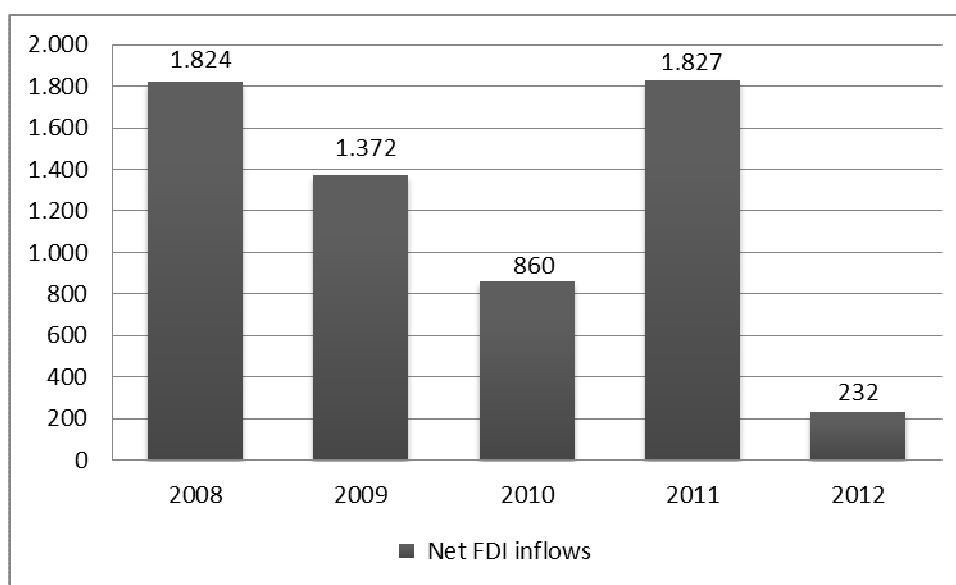
Source: Calculated on the basis of the statistics of the NBS

The level and dynamics of foreign direct investment from 2008 to 2012 were quite uneven. These trends were influenced by internal and external factors. When it comes to internal factors, the first

place goes to the economic and political instability and inefficiency of state institutions. A key external factor is certainly the impact of the global financial crisis that has hit the entire world, especially the European countries that have been the key investors in Serbia in recent years.

In the period from 2008 to 2012, the total inflow of FDI in Serbia amounted to 6115.8 million. When we take a look at the each year separately, the lowest net inflow of FDI, only 231.9 million, was recorded in 2012, while the largest net inflow of FDI in Serbia was in 2011 and it amounted to 1827.0 million EUR. If the gross inflow of FDI in 2012 was close to 2 billion EUR, the main reason for this poor result is a large outflow of FDI, especially in the financial sector. Since the outbreak of the global financial crisis, with the exception of 2011, there is a downward trend in the net inflow of FDI. The total decline in net FDI inflows in 2012, when compared to 2008 when the crisis had began, was 1592.5 million EUR or 87.3%. The decline would have happened in 2011 if there weren't for a large investment by the Belgian supermarket chain Delhaize who bought the Serbian retail chain Delta Maxi.

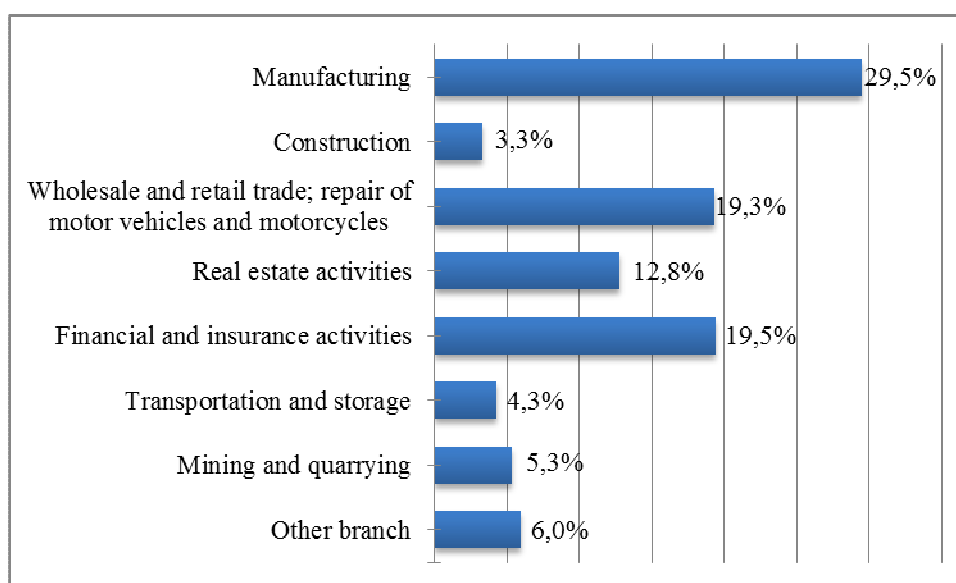
Figure 7. Net foreign direct investments 2008-2012, in mil EUR



Source: NBS

When we take a look at the specific sectors, in the period from 2008 to 2012 the largest FDI inflow was recorded in the manufacturing sector of 2,803.7 million EUR which makes 29.5% of all FDI inflows. The second and third place for FDI inflows during this period are taken by the Financial and insurance activities and Wholesale and retail trade, repair of motor vehicles and motorcycles with 1,849.8 million EUR, i.e. 1,837.7 million EUR inflow. They are followed by Real estate activities with 1,218.9 million EUR, Mining and quarrying with 504.8 million euros, Transportation and Storage 410.9 million and Construction 312.6 million. The 7 activities together accounted for 94.0% of the total inflow of FDI during this period.

Figure 8. FDI in Serbia by branch of activity, 2008-2012, share in %



Source: NBS

The fact that during the great economic crisis some of the largest names from various economic activities came to Serbia, surely gives hope and encouragement for all of us. Concerning FDI, Serbia went through the critical period much better than other countries in the region, having succeeded to attract the most FDI. That tells us that there is a space for further investments, but there are still important obstacles that investors pointed out. In the first place, it is necessary to continue to work on reduction of administrative barriers and thereby reduction of the investment and business costs. In times of crisis, it is necessary to ensure the economic stability of the country using a severe control of public spending and ending the economic reforms, and those more painful should be the priority of the government. Free trade agreements, such as the agreement with Russia, certainly present an important asset that Serbia has in attracting foreign investment in comparison to other countries.

Further inflow of FDI will depend on reducing domestic fiscal imbalances and getting the support of international partners. The current system of incentives has given good results in attracting investment, but in the future more emphasis should be placed on improving the business environment. Completion of the infrastructure, as a prerequisite for the development, in line with the more efficient public administration and simplification of the procedures for obtaining various permits, could be a good substitute for incentives. Also the status of a candidate for EU membership is very important, as it represents the best recommendation to investors that Serbia is a stable country and safe for the investment.

THE BANKING SECTOR

When a country's economy goes through a serious crisis, it is impossible for its banking system to remain intact. The banking sector, as the largest and the most developed sector within the Serbian economy, in autumn 2008 felt the first effects of the crisis when more than a billion euros of savings have been withdrawn from the banks. We should not forget that in a crisis, especially in the fragile economy such as Serbian, any withdrawal of savings and deposits on a large scale under the influence of psychological uncertainty and undesirable events, can lead to a dramatic impact and a collapse of the banking system. In order to prevent undesirable consequences, the government immediately undertook several measures to mitigate the effects of the crisis. First of all, a stand-by arrangement was concluded with the IMF and the first set of measures was adopted, which was aimed at the revival of credit activity of banks, by subsidizing loans that maintain liquidity, and financing permanent

working capital and subsidizing the interest rates for consumer loans. In addition, a meeting of a *Vienna Initiative* was called, which resulted in an agreement that the banking groups in this region will not decrease their exposure to Serbia. Also, during this period, the banks had a conservative policy when they held the capital adequacy ratio to over 20 percent, even though the legal minimum is 12 percent. All this has enabled the banking sector to withstand the shock more easily, but it was not quite spared of the crisis.

On the impoverished Serbian banking market at the end of 2012 there are 33 banks. Compared to other sectors, in the banking sector there is a satisfactory level of competition, and you could say the real battle for survival, because there is not enough space in the market for all participants. Serbian banking system still has the lowest concentration compared to other countries in the region, taking into consideration the large number of banks that participate even less in all major categories of business. The five largest banks took up about 48% market share in the end of 2012, neither one of them has an individual stake greater than 15%, and only two banks have a market share that exceeds 10%.

In order to understand the true state of the impact of the crisis on the banking sector, it is necessary to start a deeper analysis. Domestic banks were not directly exposed to losses related to the financial markets in the Eurozone, and domestic banks did not possess toxic types of assets. But they were indirectly affected by the recessionary trends in the real sector, which resulted in a rapid deterioration of loan portfolios. Another effect of the crisis is that the domestic banks can no longer count on generous funding from their parent banks abroad, and that in the recent period they have gone through the process of repayment.

A key problem that has manifested itself in the banking system is the growth and relatively high share of non-performing loans (NPL), which amounted to 19.9 at end of 2012. During the crisis, the level of NPL was 11.3. It is necessary to point out that within the current level of NPL there is also a part of the heritage from the past that is not written off due to unfavourable tax treatment and slow and complex legal process, so the real participation of NPL is probably lower and is at the level of the surrounding countries. Another problem is the decreased lending activity due to a greater general business risk. Several banks did not withstand the impact of the crisis so NBS quite justifiably revoked their license. Although the banking system is hit by the crisis that has affected Serbia, however, we can conclude that financial stability is not compromised.

The results of bank operations in 2012 showed that in the banking sector there has also been a deterioration of financial results, because the reported profit is lower and the losses are higher than in previous years. Growing bad debt and bad management of "domestic" banks can be seen through the incurred loss cumulatively achieved by 10 banks in the amount of 13.3 billion. We should be sure to add the sum that has been paid from the budget for Agrobanka and Razvojna banka Vojvodine. The two banks, which had relatively low total market share of about 4.5% of the banking market, and in which the state had a decisive influence on the management, have achieved record losses and made the balance sheet of the whole banking sector negative.

Banks' return on average assets and average equity of the banking sector in Serbia after 2008 have been declining. They are not adequate to assumed risks, especially if one takes into account inflation and all kinds of risk exposure. The biggest problem are extremely high and growing bad debt loans, which threaten to melt the capital. The real estate market does not work, which makes the risks even greater, because the collaterals cannot be converted into liquid assets without extremely high discounts. Bank revenue growth that comes from government deficit financing has decreased since the issuing of Eurobonds, and creditworthy corporate clients are almost gone.

"Loan-to-deposit" ratio in 2012 amounted to 125%, and there were no major changes were made when it comes to decreasing the same. This relatively high LTD ratio may indicate a limitation in terms of the future sector growth due to the fact that borrowing from abroad is no longer readily available or

cheap, so banks usually finance the growth of deposits. In addition, high LTD can point to any liquidity problem in the future.

Almost all qualitative indicators of Serbian banking at the end of 2012 were much worse than five years before, as evidenced by the following data:

In next table we can see that the banking is stagnating. This especially applies to the bank lending activity. Regarding the banking sector, credit support is the key to the development of any industry. The banking sector needs to support only those projects that are considered to be profitable and that are expected to bring returns on investment. A composite measure of lending activity, which, apart from domestic loans, includes cross-border loans from economy, in the period from 2008 to 2012 grew in real terms at an average annual rate of 8.8%.¹¹

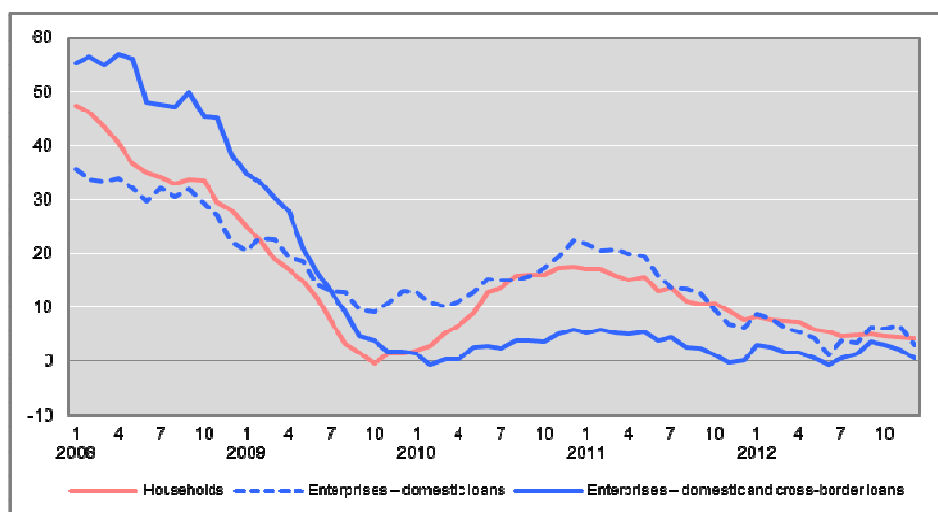
Table 4. Overview of banking sector in Serbia, 2008-2012.

Balance sheet data	2008	2009	2010	2011	2012
Total assets (EUR mn)	21.632	24.362	25.984	27.732	27.826
growth in % yoy	2,3	12,6	6,7	6,7	0,9
in % of GDP	64,7	84,4	91,6	87,9	94,0
Total loans (EUR mn)	12.262	13.138	15.166	16.452	16.630
growth in % yoy	21,4	7,1	15,4	8,5	1,1
in % of GDP	36,7	45,5	53,4	52,1	56,2
Total deposits (EUR mn)	10.019	11.408	11.894	41.287	13.311
growth in % yoy	-2,7	13,9	4,3	10,1	1,6
in % of GDP	30,0	39,5	41,9	41,5	45,0
Total loans (% of total deposits)	122,0	115,0	128,0	126,0	125,0
Structural information					
Number of banks	34	34	33	33	33
Market share of state-owned banks (% of total assets)	17,5	18,2	20,3	19,7	19,0
Market share of foreign-owned banks (% of total assets)	75,0	74,0	73,0	73,0	69,0
Profitability and efficiency					
Return on Assets (RoA)	2,4	1,0	1,1	1,3	1,0
Return on Equity (RoE)	10,5	4,5	5,3	6,3	4,7
Capital adequacy (% of risk weighted assets)	21,9	21,4	19,9	19,1	19,9
Gross non-performing loans to total gross loans	11,3	15,7	16,9	19,0	18,6

Source: NBS, Raiffeisen RESEARCH

¹¹ Real growth implies growth excluding the exchange rate effect (fixed exchange rate from August 2008), assuming a fixed currency structure prior to July 2008.

Figure 9. Real growth of loans to households and enterprises*(y-o-y growth rates, %)



* Calculated using the exchange rate of dinar to euro as of August 31, 2008 and assuming that all FX and FX-linked loans have the euro as the currency of indexation

Source: NBS

In the banking sector, there is a space for reducing costs and strengthening the competition through its further consolidation, which will be possible given that the current negative trends are reversed and the overall investment climate is improved. Without the creation of conditions for the capital inflow and economic growth, the performance of the banking sector will continue to weaken, and it is possible that it will generate some problems. Also, it is high time that the state begins to take responsible policies and to reduce the minus in the cash register so that the banks can redirect more money to the economy. Every time the state sells bonds, that are bought by the banks, it effectively reduces the availability of funds to the economy, i.e. the real sector. Banks, attracted by high interest rates, are buying government bonds instead of having proactive approach supporting good projects in the real sector. Finally, we can conclude that during the crisis the Serbian banking sector was guided professionally and that it is highly capitalized. The downside is that the sector is overcrowded with banks and its room for real growth is limited, since very few good private companies control a large part of the economy.

CONCLUSION

During the first decade of economic and political transition, Serbian economy has undergone various structural reforms. One of the processes typical for the initial phase of transition was economic liberalization which was accompanied with rising imports and significant inflows of foreign capital. Sources of capital inflow were mainly privatization, foreign aid and foreign direct investments. Unfortunately, the capital inflow did not significantly change economic structure in the sense of strengthening export activities. In addition, it was quite predictable that those inflows had to be reduced in some point of time, since privatization and foreign aid were not infinite sources of financing. We could also see that the economic growth in the last decade was characterized by increasing balance of payments deficit and large external borrowing. Increasing balance of payments deficit was a consequence of rising import which was satisfying growing economic demand, fuelled by aforementioned capital inflows. That created some kind of *circulus vitiosus*, trap into which policy makers were easily caught.

Crisis influenced capital inflows to fall as well as the export. However, positive impact of the crisis was import decrease which also influenced lower government revenues leading to the second important point of our analysis – unsustainable external borrowing. While in the pre-crisis period,

external borrowing of the private sector was growing comparing to the Government, during the crisis we could notice completely opposite trend. Lower revenues made Government to borrow more both in internal and external market. In order to avoid stronger recession, policy makers borrowed more which was short term oriented economic policy for Serbia. Nowadays, external position parameters are strongly unfavourable becoming serious limitation for the future economic growth. Also, Serbia face very slow and unstable growth in the recent years. Our new growth model should include measure for stimulating industrial production and export oriented sectors. Only by reducing current external imbalances Serbia could achieve stronger and sustainable economic growth. This new model should include more focused approach when attracting FDIs. Serbian economy needs greenfield investments in the sectors with the higher value. We could see that investment dominated so far were investments in services, rarely in a *greenfield* way.

We could see that in several developed economies, crisis strongly hit banking sector. Moreover, recovery of the banking sector was limiting factor of recovery of the whole economy. Serbia definitely did not have similar problems. Slight problems in the banking sector were just a reflection of problems in the real sector of the economy. Banks were overcapitalized conducting quite restrictive borrowing policy. Slightly higher NPLs, were sign of portfolio deterioration but did not jeopardize financial stability in general. We could even say that banking sector is healthier part of the Serbian economy contributing country's financial stability in a long term.

Our conclusion is that economic crisis did not severely hit Serbian economy. Weaknesses which present in the previous period coming from turbulence period in 90s and inadequate growth model have just became more visible. Adverse effects of the short term oriented and populist economic policy were about to jeopardize Serbian economy even without external turbulences. Aiming to achieve more sustainable and higher growth rates in the future period Serbia need to reconsider model of economic growth. Some of the recommendations would definitely be attraction of export oriented FDIs, Government support to export oriented sectors, lower external borrowing and creation of business friendly economic environment.

LITERATURE

- 1) Arbatli A., (2011), Economic Policies and FDI Inflows to Emerging Market Economies, IMF Working Paper WP/11/192, International Monetary Fund
- 2) Bartlett, W., Prica, I., (2011), The Variable Impact of the Global Economic Crisis in South East Europe, ECONOMIC ANNALS, Volume LVI, No. 191 / October – December 2011
- 3) Belopavlović, G., Đukić, M., (2011.), Development of Serbian banking Sector: a Comparision With the Western Balkan Countries, "Contemporary Issues in the Integration Processes of Western Balkan Countries in the European Union," ICPE, Ljubljana
- 4) Bjelić, et al. (2013), Effects of the World Economic Crisis on Exports in the Ceec: Focus on the Western Balkans, ECONOMIC ANNALS, Volume LVIII, No. 196 / January – March 2013
- 5) Dediu, M., (2009.), Financial Crisis Effects on Romanian Economy, The Annals of "Dunarea de Jos" University of Galati Fascicle I – 2009. Economics and Applied Informatics. Years XV – no 2
- 6) Đukić M., Bodroža D., (2011), „Foreign direct investments attraction in Western Balkan countries- a case study from Serbia“, YOUNG SCIENTISTS 2011, Technical University of Košice - Faculty of Economics, Slovakia, 29-43
- 7) Government of the Republic of Serbia, (2008.), The Economic Crisis and its Impact on the Serbian Economy, framework for measures
- 8) Grubišić Z., Bodroža D., (2010), „Economic policy measures in the case of illiquid economy“, Economic growth and development of Serbia“ Belgrade banking academy, Institute of economic sciences, 2010, 339-347
- 9) Jeleva, R., (2012), The Impact of the Crisis on the EU Perspective of the Western Balkans

-
- 10) Lane, P., Milesi-Feretti, G.,(2005.), A Global Perspective on External Positions, National Bureau of Economic Research
 - 11) Malovic, M., (2012), Halfway Between the Midterm and the Finals: a Crash-course in Development Policy for Serbian Leaders, SCIENTIFIC REVIEW, Institute of Economic Sciences
 - 12) Panagiotou, R., (2012.), The Impact of the Economic Crisis on the Western Balkans and their EU Accession Prospects, EUI Working Paper RSCAS 2012/64
 - 13) Scheide, J., (2011.)The net external asset position and economic growth : some simple correlations for 116 countries, Kiel Working Papers, No. 427, Leibniz Information Centre for Economics
 - 14) Snower, D., "The impact of the global financial crisis on Europe and Europe's Responses"
 - 15) Stamatović et al., (2010.), The World Economic Crisis Impact on Serbia in The Context of its Association with the European Union, Economics and Organization Vol. 7, No 1, 2010, pp. 1 - 15
 - 16) Terazi, E., Senel, S., (2009),The Effects of the Global Financial Crisis on the Central and Eastern European Union Countries International Journal of Business and Social Science Vol. 2 No. 17

RELATIONSHIP BETWEEN INFLATION TARGETING AND GLOBAL FINANCIAL CRISIS: ONE NIGHT STAND, BREAK UP OR GOING EXCLUSIVE?¹

Marko MALOVIĆ²

Abstract

After reviewing the basic traits of inflation targeting monetary strategy, this short paper analysis the nature of the relationship between inflation targeting and international financial crisis. Once the global financial crisis broke out, many a voice started questioning the usefulness and viability of inflation targeting strategy in this new reality. While some of the criticism has been found justifiable, required alterations are neither so huge to discard the crucial effectiveness of flexible inflation targeting methodology and turn it into something completely different, nor any of the other known monetary strategies have had built in specs that would have enabled them to fare substantially better than inflation targeting in what it partially failed us through the global financial meltdown and subsequent recession.

Key words: *Inflation Targeting, Financial Crisis, Asset-Price Bubbles, Supply shocks*

INTRODUCTION

Inflation targeting is relatively novel and increasingly popular strategy of monetary policy making at the turn of the millennium. However, once the global financial crisis broke out, many a voice started questioning the usefulness and viability of inflation targeting strategy in this new reality. Critique has been predominantly twofold: a) that international financial meltdown usurped some of the assumptions inflation targeting strategy rests upon and b) that inflation targeting itself proved inadequate in monitoring and providing for financial stability in the first place.

After careful examination of allegations made, this paper argues that inflation targeting strategy has a future upon introduction of several important improvements which rendered its previous versions vulnerable and less effective, but without obvious better alternatives at any recent point in time. The rest of the paper is organised as follows: section 2 deals with some standard basic theory of inflation targeting, section 3 introduces consequences of global financial crisis and weak links of- or logical gaps in inflation targeting strategy, while section 4 goes on to conclude and earmark some fruitful allies for further research.

THEORY OF INFLATION TARGETING

Until recently, supremacy of inflation targeting over thus far practiced alternatives seemed obvious enough and unchallenged. Its more fundamental intellectual legacy rested on two scholarly pillars: Friedman's finding about Phillips curve trade off being short lasting as well as Kydland-Prescott and Barro-Gordon legendary contributions on time-inconsistency of discretionary monetary policy [Whelan, 2013].

¹This paper is a part of research projects numbers 47009 (*European integrations and social and economic changes in Serbian economy on the way to the EU*) and 179015 (*Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements*), financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

² PhD, Institute of Economic Sciences, Belgrade, Serbia

After spectacular demise of its predecessor, exchange rate targeting, through a series of speculative attacks in the early to mid 1990s, policymakers needed a new nominal anchor while inflation targeting concept conveniently appeared in the right place at the right time [Frankel, 2012]. Instead of often pointless, imprecise and ineffective targeting of different monetary aggregates, and statistically demanding targeting of nominal output, inflation targeting has concentrated directly on price stability, which, if not too rigidly aimed at, under certain preconditions also enables output gap stabilization in the vicinity of its natural level. In comparison to price level targeting, inflation targeting exhibits additional flexibility in that it allows for the so-called base drift and consequent anticyclical wiggling space as it concentrates on price differences rather than on prices themselves and hence requires much less frequent interventions [Malovic, 2007].

The key idea rests on publicly committing to a predefined numerical target for inflation in the medium run. Adopting such a target is obviously consistent with many alternative trajectories of both real and nominal variables in as much as it allows for short run output and employment stabilization concerns to be addressed. On a top of insisting on credible, clear-cut medium-term numerical inflation target to be met over the predefined policy horizon, full-fledged inflation targeting regime of monetary-policy making assumes unambiguous institutional support for price stability, making use of maximal informational intensity of the strategy as well as indisputable transparency in explaining the operative measures of the central bank along the way. Moreover, there are four generally acceptable prerequisites in the literature for successful implementation of inflation targeting regime in small open economies:

- 1) well-understood exchange rate pass-through mechanism, Clarida-Waldman effect as well as feed-back impact of instrument rule on inflation.
- 2) relatively balanced budget and absence of the so-called fiscal dominance.
- 3) reasonably well-developed financial system.
- 4) institutional cum actual independence as well as transparency of central bank deliberations.

In the case of strict inflation forecast targeting, central bank is minimising the loss function stripped down to [Svensson, 1997]:

$$A = (\pi_t - \pi^\circ)^2 / 2 \quad (1)$$

However, in the more realistic flexible inflation targeting case, one is minimising the combination of inflation recoil from the targeted inflation forecast and deviation of expected output from its potential [Malovic, 2007]:

$$A = [(\pi_{t+1} - \pi^\circ)^2 + o^\circ (y_{t+1} - y^\circ)^2] / 2 \quad (2)$$

Here, o° represents exact relative weight that society (or rather monetary authority) is attaching to the importance of controlling for output gap, i.e. output stabilisation to the extent at the expense of inflation annihilation. The expected sum of discounted policy losses, following Agenor and Montiel (2008) is therefore more generally given by:

$$U_t = E_t \left\{ \sum_{j=0}^{\infty} \beta^j [(\pi_{t+j} - \pi^\circ)^2 + o^\circ (y_{t+j} - y^\circ)^2] / 2 \right\} \quad (3)$$

In equation (3), E is expectations operator, while β is a discount factor.

The instrumental rule central banks are further relying on while conducting/correcting their operative policy is typically some variation of the well-known Taylor rule:

$$i_t = \pi_t + i_t^\circ + a_\pi (\pi_t - \pi^\circ) + a_y (\log y - \log y^\circ) \quad (4)$$

Here current inflation is as measured by the GDP deflator, i_t° is real interest rate, $a_{\pi,y}$ are appropriate weights, $\log y^\circ$ is logarithm of potential output as measured by the linear trend of its natural level.

Thus, interest rate guiding trajectory should be able to gradually strike a reasonable balance between the inflation path and the capacity utilisation path thereby allowing for verification of the desired inverse relationship vis-à-vis the two gaps, which are supposed to shrink towards zero together [Woodford, 2013]. So, back in the good old days of growth and financial tranquility, inflation targeting amounted to no more than a monetary committee meeting every few weeks to feel the state of the economy and dynamics of CPI (consumer price index) before changing interest rates up or down by a quarter point or so [Baldwin-Gross, 2013]. But then the financial crisis hit with nothing ever being the same any more.

INFLATION TARGETING AND FINANCIAL CRISIS

To date, we all know how the mortgage-backed tsunami first splashed in August 2007 and the fearful word “subprime” crept into the public discourse. When growth is afoot as well as seemingly sustainable and money is cheap and abundant, bankers tend to expand. That is so because low inflation, lots of liquidity and stable business environment almost invariably produce real estate and other asset-price bubbles which have “windfall (capital) gain” written all over them. While expanding aggressively or simply to keep up with their greedy competitors, bankers soon run out of credit-worthy borrowers and recklessly went for subprime ones via array of financial engineering products loaded with hazardous leverage [Malovic, 2009].

With the onset on international financial meltdown, influential voices were raised claiming that crisis unveiled the fallacy of monetary policy gospel we’ve all had by then got used to, and that moreover, inflation targeting is to blame if not for the incidence of financial crisis *per se* than surely for its likelihood and severity [Woodford, 2011]. Critique has been predominantly twofold: a) that international financial meltdown usurped some of the assumptions inflation targeting strategy rests upon and b) that inflation targeting itself proved inadequate in monitoring and providing for financial stability in the first place.

Most notably, violation of assumptions 2) and 4) comes to mind as an indirect consequence of two crisis-related problems for monetary policy: a) crisis driven bankruptcies could eventually threaten price stability and b) conventional instruments of monetary policy lose traction once the economy falls in the liquidity trap [Baldwin-Gros, 2013]. Indeed, heavy interventions, that central banks around the world have been provoked into by swelling budget deficits in the last 5 years or so, further blurred the misty distinction between fiscal and monetary policy and forced the monetary authorities to basically cross that line. The whole quantitative easing business and especially OMT operations by the ECB, although seemingly inevitable at the zero lower bound, represent crucial exhibits to that end. Clearly, there is a kind of fiscal dominance under way across the board, which if continues a bit longer threatens the credibility of central bank independence and hence, the credibility of its chosen nominal anchor. In other words, survival of inflation targeting regime does in part depend on the quality of the exit strategy execution from the new brave world of stimulus policies, to be played out in the following years. However, it is difficult to see how any of the alternative monetary regimes could have avoided more expansionary monetary policies faced with recession and crisis-driven fiscal imbalances, or could have fared better in fighting the ensuing unemployment. For instance, dual target formally established by the FED does pose certain technical problems but in flexible inflation targeting framework does not really have to be incompatible with the regime as such and in any case isn’t unheard of since monetary conditions index version of flexible inflation targeting has already been deployed in some countries to deal with an exchange rate target on a top of the output gap and target zone for reflation.

Another major setback of inflation targeting appears to be its susceptibility to and sometimes inappropriate response to supply-side shocks and terms of trade shocks [Frankel, 2012]. Frankel (2013), for example, draws reader’s attention to ECB’s CPI inflation fire-fighting response to a spike in the crude oil prices which brought about interest rate rise amidst the worst recession ever since the

Great Depression of 1930s. Similarly as with simultaneous targeting, even though nominal GDP targeting might be advisable in liquidity trapped economies, it could be easily looked upon as just another adjusted version of flexible inflation targeting really [Woodford, 2013]. For instance, in the Eurozone economy hovering between recovery and contraction, a 4-5% short run target for nominal GDP growth would have in differential terms be equivalent to a 4% inflation target [Frankel, 2013]. Although, truth be told, in its elementary guise, nominal GDP targeting seems more akin to simultaneous price level and output anchoring:

$$E_t(\ln P_{t+1} + \ln y_{t+1}) = \ln Y^{\odot} \quad (5)$$

In very advanced economies with well anchored inflation expectations, even reverting to core (instead of headline) inflation targeting might remove much of these deficiencies. After all, surely the best yet probably only theoretical option would be the ability to break down output gap into its tradable and non-tradable component, with more than obvious if not explicit presence of real exchange rate targeting once again:

$$A_t = (\pi_{t+1} - \pi^{\odot})^2 + o^T (y_{t+1}^T - y^{T\odot})^2 + o^N (y_{t+1}^N - y^{N\odot})^2 \quad (6)$$

Inadequacy of inflation targeting in monitoring and providing for financial stability is perhaps even more justifiable shortcoming of inflation targeting regime. In the 1.0 variant of inflation targeting strategy, central banks didn't pay much if any³ attention at asset-price bubbles or credit-fueled booms, and were instead concentrated and felt responsible for price stability only, while financial stability was left out of the picture. Prior to global financial crisis, central banks didn't care about it, among other benign neglect reasons, because bubbles are notoriously difficult to detect *ex ante*, so the order of the time was 'mopping up' *ex post* rather than 'leaning against the wind' before hand [Woodford, 2011]. It is by now patently obvious that serious asset-price bubbles may occur without any heads-up in terms of rising inflation spiraling out of central bank's control. Therefore, controlling for price stability although conducive to financial stability does not represent a sufficient condition for avoiding financial instability. In other words, monetary authorities should definitely pay more attention to credit booms and departures of certain asset classes from their realistic intrinsic values. Unfortunately, all the macroprudential policies and laws rightfully launched in parallel with ongoing monetary policy regimes ever since Lehman's demise are concerned with setting the firewalls for the future, rather than dealing with the legacy of international financial meltdown the world went through and still suffers from [Baldwin-Gros, 2013].

If we were to summarize the earmarked shortcomings of inflation targeting, it would be in order to realise that inflation targeting framework, in its most commonly practiced pre-crisis version, proved unable to handle cost push and high-powered terms of trade shocks, insufficient in underpinning broader financial stability, and incapable of stimulating growth potently enough in the teeth of recession. Apart from nominal GDP targeting, which could be modeled as the special or the very least compatible case to flexible inflation forecast targeting, and which is advisable only for advanced economies facing the zero lower bound, it is completely unclear how any of the known monetary strategy alternatives would have done systematically better than flexible inflation targeting in any of the identified underperforming aspects [Broadbent, 2013]. Be that as it may, policy of multiple targets is not unheard of and could be effectively deployed if no target is set unrealistically ambitious or too loose so to create drastic inconsistencies and face bitter trade-offs [Malovic, 2007]. In that regard, our general observation would be that inflation targets across the postindustrial world are probably set too low, in spite of which upper inflation margin has never been substantially breeched. However, even when inflation expectations remained anchored to the announced target, in some countries (like Sweden) actual CPI fell short of the target thereby inflicting some unemployment costs [Svensson, 2013]. Hence, something ought to be done about the fact that inflation targeting provides no explicit

³ In fact, central banks paid attention to real-estate and alike bubbles in as much as they caused non-negligible tilts in either CPI inflation or in level or real activity.

guidance as to the exact definition of price index to be aimed at, as well as about its emphasis on a long run of uncertain timing [Whelan, 2013]. Nevertheless, fine-tuned differences between flexible core inflation targeting and nominal GDP targeting (inclusive headline price level and expected output) shouldn't be exaggerated: expect when there is spot-on forecastable supply volatility, performance of monetary policy of stabilizing nominal GDP versus stabilizing inflation comes very close to one another [Broadbent, 2013].

All in all, relationship between financial crisis and inflation targeting cannot be depicted by strangers in the night. Five years into the crisis, it is evident this is not a one night stand, but it isn't cause a break up of central banking and inflation targeting framework either. Inflation targeting did stabilise medium-term inflation expectations throughout and despite global financial meltdown, so none of the major economies in the world fell in deflation spirals of 1970s vintage. Oil price hikes notwithstanding, wages and prices did not spiral out of control, while monetary authorities retained their credibility in the face of adversity. However, in order to fight toxic assets contagion and ensuing recessionary trends, central banks had to come out of their comfort zones and experiment with many new tools other than interest rates and reserve requirements in order to solve the assignment problem and provide for both price and financial system stability. As eloquently noticed by Baldwin and Gros (2013), those tools and tactics have been far more diverse from conventional monetary policy regimes available in textbooks, as well as far more controversial, ranging from *a*) QE and market making (balance sheet tools), over *b*) expectations management and verbal intervention tools ("Make them believe by making them understand" in M. Woodford's words also known as Jedi mind tricks), and lastly to *c*) switching or multiple targets (like simultaneous unemployment and inflation targets in the US or monetary conditions index elsewhere). That said, probably the main worry remains the timing and execution of deleveraging of central banks (this time around), following still active accumulation of different assets on their balance sheets. In EMU, at least, problem is still too low an inflation and not enough expansionary boost of monetary policy, as a reflection of deeper political clashes. Therefore, blaming it all on (in) flexible inflation targeting, would boil down to irrational slaying of the messenger.

CONCLUSION

Once the global financial crisis broke out, many a voice started questioning the usefulness and viability of inflation targeting strategy in this new reality. Critique has been predominantly twofold: *a*) that international financial meltdown usurped some of the assumptions inflation targeting strategy rests upon and *b*) that inflation targeting itself proved inadequate in monitoring and providing for financial stability in the first place. After careful examination of allegations made, this paper argues that inflation targeting strategy has a future after introduction of several important improvements which rendered its previous versions vulnerable and less effective, but without obvious better alternatives among other known monetary regimes at any recent point in time.

Elements of fiscal dominance already at play as a corollary of governments' unwillingness to resolutely deal with debt overhang problem and bank solvency issues extends pressure on inflation targeting regime to give up its credibility. Specificity of global financial crisis and recession it brought on in addition hugely increased the set of goals assigned to central bankers as well as set of weapons they can resort to – alas, consequence has been massive credit risk accumulated on central banks' balance sheets. Not enough inflation on both sides of the Atlantic and many times seen danger of little inflation becoming too much inflation remains the biggest challenge of heavily overexposed monetary authorities in the immediate future.

More guidance in realistically setting the bars for multiple targets probably represents the hottest ally of future research in this domain. Nominal GDP targeting appears to be a better solution from (un) employment targets for advanced postindustrial economies, for its better aligned with inflation target as an intermediate overarching goal. In emerging markets with less developed statistical base and still

far away from liquidity trap, some sort of monetary conditions index or flexible inflation targeting split into tradable and nontradable portion of output gap seem to be more promising alternatives.

In a nutshell, both inflation targeting and global financial crisis proved resilient and destined to stick around for a while longer. Without credibly anchored inflation expectations, crisis would have been far worse, no doubt. Hopefully, before too long, macro prudential reforms and fiscal prudence will hand in their part of the homework too.

LITERATURE

- 1) Agenor, P.-Montiel, P. (2008), "Development Macroeconomics", Third Edition, Princeton University Press, New Jersey.
- 2) Baldwin, R.-Gros, D. (2013), "Augmented Inflation Targeting: Le roi est mort, vive le roi", VoxEU.org, *mimeo*.
- 3) Broadbent, B. (2013), "Is Inflation Targeting Dead?", in R. Baldwin and L. Reichlin (eds), *Is Inflation Targeting Dead: Central Banking after the Crisis*, Centre for Economic Policy Research, London, pp.51-57.
- 4) Frankel, J. (2012), "Death of Inflation Targeting", Project Syndicate, May 16th, *mimeo*.
- 5) Frankel, J. (2013), "Nominal-GDP Targets, without losing the Inflation Anchor", in R. Baldwin and L. Reichlin (eds), *Is Inflation Targeting Dead: Central Banking after the Crisis*, Centre for Economic Policy Research, London, pp. 90-93.
- 6) Malovic, M. (2007), "Exchange Rate Regimes and Monetary Policies in Emerging Markets: A Showdown for Few Theoretical Misconceptions", CSGG Discussion Paper (monograph), London School of Economics and Political Science.
- 7) Malovic, M. (2009), "Global Financial Meltdown: What went wrong, What is still going wrong and What the consequences will be?", in J.P.Guichard *et alia* (eds.), "Challenges of Economic Sciences in 21st Century", Institute of Economic Sciences, Belgrade, pp. 617-624.
- 8) Svensson, L. (1997), "Inflation Forecast Targeting: Implementing and Monitoring Inflation Targets", *European Economic Review* 41, June, pp.1111-1146.
- 9) Svensson, L. (2013), "The Possible Unemployment Costs of Average Inflation Below a Credible Target", NBER Working Paper 19442, Cambridge, MA, September.
- 10) Whelan, K. (2013), "A Broader Mandate: Why Inflation Targeting is Inadequate", in R. Baldwin and L. Reichlin (eds), *Is Inflation Targeting Dead: Central Banking after the Crisis*, Centre for Economic Policy Research, London, pp.104-111.
- 11) Woodford, M. (2011), "Inflation Targeting and Financial Stability", Columbia University, *mimeo*.
- 12) Woodford, M. (2013), "Inflation Targeting: Fix it don't scrap it", in R. Baldwin and L. Reichlin (eds), *Is Inflation Targeting Dead: Central Banking after the Crisis*, Centre for Economic Policy Research, London, pp.74-89.

CHALLENGES OF BUSINESS AND FINANCIAL RESTRUCTURING OF ENTERPRISES IN TERMS OF THE GLOBAL CRISIS¹

Branko MIHAILOVIĆ²
Drago CVIJANOVIĆ³

Abstract

The companies in Serbia have functioned on non-market principles for years. It had led to a domestic economy lagging in regard to the market ones. It had turned out that partial changes, without encroaching in ownership structure and prevailing ownership relation, do not lead to business efficiency increase. But, increasing competition and aspiration for business success have motivated the companies in Serbia to apply the market business principles. Adjusting to a new business environment realizes through the restructuring process, which aims to improve business performances of the company. Necessity of overall transformation requires knowing the specific activities and interventions, as a catalyst of the market economy efficient companies' creation. That is to say, the domestic companies must make significant changes in order to come out from the economic crisis. There are many individual changes and interventions which can practice in every company, aiming to improve the business results. When the companies' performances cannot assess as satisfying, there are inevitable the changes in organization, composition of jobs, the company's assets and its financial structure etc. Restructuring can define as an activity which carries out in the company which performances are declining, in order for the company to survive, and then make a turning point toward a profitable business. Our companies' restructuring is a consequence of overdue reacting and adjustment to the changes. However, in high developed market, the companies restructure. The difference is in a fact that their experience in market conditions makes them capable to adjust simultaneously and make changes in business, organization, funding method etc. There can expect that the domestic companies, after restructuring as a result of economic crisis, will enter the efficient business period, when will be qualified for adjustment to the modern trends.

Key words: restructuring, management, business performances, global crisis.

INTRODUCTION

Economic activity in our country has a downward path for years. Inadequate economic development was determined by numerous factors, among which are the following: deterioration of a country's geopolitical position, unfavourable economy structure, loss of traditional markets, financial indiscipline at all levels, as well as insufficient managerial abilities and skills. The enterprises have done their activities in business environment, which had characterized as inefficiency of business and lack of motivation among employees. Thereby, the official statistics of the socialist countries have shown a growth of economic activities, which sometimes had exceeded growth rates of progressive market economies. However, it is about the growth which does not create, but destroy enterprises'

¹ This paper represents a part of the research on the project III - 46006 – *Sustainable agriculture and rural development in terms of the Republic of Serbia strategic goals' realization within the Danube region*, funded by the Ministry of Science and Technological Development of the Republic of Serbia.

² PhD, Scientific Associate, Institute of Agricultural Economics Belgrade, 11060 Belgrade, Volgina 15 Street, phone: +381 (0)11 6972858; e-mail: brankomih@neobee.net;

³ PhD, Scientific Adviser, Institute of Agricultural Economics Belgrade, 11060 Belgrade, Volgina 15 Street, phone: +381 (0)11 6972858; e-mail: drago_c@iep.bg.ac.rs,

value. Such economic and social model was unsustainable in long-term, so at the end of 20th Century, had stopped to be an alternative to the market economic model.

Many countries, due to previously mentioned reasons, have entered the transition process, which means transformation of ex-socialistic economies into market economies. In front of us is also an imperative of transformation of economic model and prevailing ownership relation. The transition represents the transformation of governmental, economic and psychological structure of society. In the transition focus is a private ownership, as a symbol for individualism and efficiency. It implies that employees in our privatized enterprises will have a motive to work more efficient and more effective, because it is a system which motivates those men who know how to work and who accept a risk.⁴

Serbian economy development and transition to the market business require not only a new conception, but a new functioning system, and especially a new system of enterprises' development management. Nowadays, when most of countries in surroundings, tend to solve a problem of institutional infrastructure development, necessary for the market economy strengthening, strengthening the ability of a state to ensure incomes for financing public services, as well as a recovery of business conditions – Serbia is being late with it: the market economy basically is brought down to narrow goods and services market, without capital, enterprises and labour market. In such conditions is necessary restructuring which represent the activity which conducts in an enterprise, which performances are decreasing, in order for enterprise to survive, and then make a turning point toward a profitable business. Business restructuring resulted in significant changes in work which the enterprise performs. The management of enterprises has been focused to the following fields:

- Finishing some businesses and starting some other,
- Acquisition and merging of enterprises,
- Making business plans,
- Interventions in the fields of production and technology.

Every intervention goal is to increase a firm's economic value and improvement of its negotiating power on the market. For successful business restructuring is necessary to analyze different ways of combining markets and products, as basic potential resources of enterprise's growth. In this regard, the market restructuring is a starting assumption for business restructuring of enterprises. On the other hand, financial restructuring implies the change in capital structure of an enterprise, whereby changes the relation between the ownership and a debt. Domestic enterprises have disordered financial balance, inappropriate structure of resources, as well as a high indebtedness. In non-privatized enterprises mostly do the settlement or re-program of debts. In privatized enterprises, the financial restructuring refers to shares operations. In the previous practice, the main subjects in these activities are an issue candidate, Commission for Securities, a guarantor (or investment bank), an authorized auditor and various types of consultants. An extreme variant of the financial restructuring represents the privatization, i.e. the ownership restructuring, which result by transformation of registered and national capital into an equity capitals. In this restructuring dimension distinguish by pre- and post-privatization activities. In the privatization activities, the focus was on preparation of an enterprise to enter the privatization procedure and to sell successfully. In the post-privatization activities emphasize defend measures of overtaking the privatized enterprises, as well as the application of adequate management concepts by an enterprise of joint-stock form of organization.

COMPARATIVE ANALYSIS OF TRANSITIONAL REFORMS IN THE GLOBAL CRISIS TERMS

The European Bank for Reconstruction and Development (EBRD), with support of the transitional indicators sums up a progress in structural and institutional reforms for 29 transitional world countries.

⁴ Mihailović, B. (2007): *Uloga konsaltinga u restrukturiranju preduzeća u tranziciji*, Institut za ekonomiku poljoprivrede, Beograd, p. 8.

Country/G DP per capita (in USD) ^{/2}	Transitional indicators ^{/1}								
	LSP	SSP	ER	PL	TFS	CP	BR	SM	IR
Serbia , 10,679	2,67	3,67	2,33	4,00	4,00	2,00	3,00	2,00	2,33
Macedonia , 9,031	3,33	4,00	2,67	4,33	4,33	2,33	3,00	2,67	2,67
BH , 7,434	3,00	3,00	2,00	4,00	4,00	2,00	3,00	1,67	2,33
Albania , 6,915	3,67	4,00	2,33	4,33	4,33	2,00	3,00	1,67	2,33

Legend: LSP (Large scale privatisation); SSP (Small scale privatisation); ER (Enterprise restructuring); PL (Price liberalisation); TFS (Trade and Forex system); CP (Competition Policy); BR (Banking reform and interest rate liberalisation); SM (Securities markets and non bank financial institutions); IR (Infrastructure reform).

The transition indicators range from 1 to 4.33. The grade 1 means that there are no changes in regard to the socialist system, while the grade 4.33 means performances similar to those in developed economies.

Source: Transition Report 2009: Transition in crisis?, EBRD, 2009. Transition indicators (table: Transition indicator by country and by sector);

<http://www.ebrd.com/pubs/econo/tr09.htm>; <http://www.ebrd.com/country/sector/econo/stats/index.htm>

Data on Gross Domestic Product per capita (in USD) were got from the IMF database (World Economic and Financial Surveys, Data base, April 2009),
<https://www.imf.org/external/pubs/ft/weo/2009/01/weodata/index.aspx>.

In regard to the progress speed and level, the best results have been realized in the EU countries, in which the transitional reforms have been followed also by population life standard improvement (by the GDP increase per capita). On the contrary, the worst results in transformation to a free and developed market economy have the countries which are still not the EU members and which record low rates of economic growth. Generally, the most important restraints in the transitional reforms are present in the following fields: competition policy, securities markets and restructuring of enterprises.

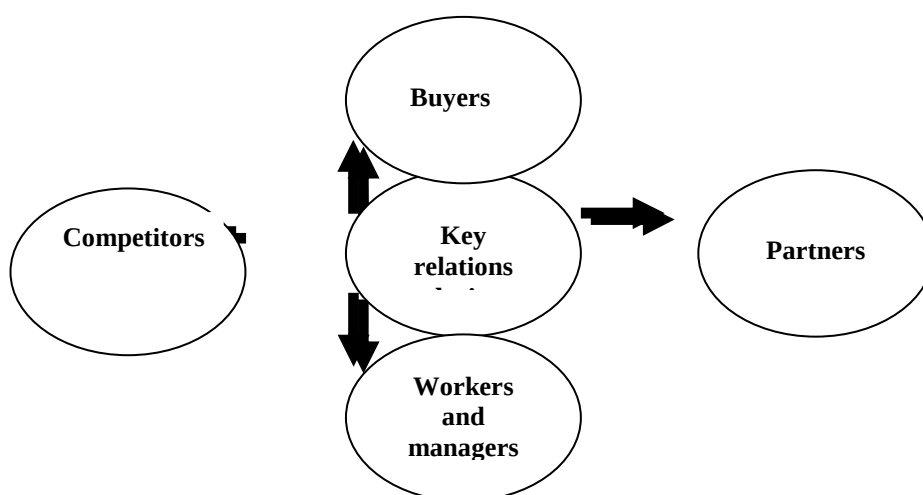
The transition in Serbia has begun long time ago, and „the success“ of this process has been determined by the basic macro-economic indicators, especially low GDP per capita, high inflation rate and high unemployment, as a direct confirmation of low life standard of population, and thereby also a low productivity level and the national economy's competitiveness. Although in every country, the macro-economic sector is a resource of economic growth, it cannot efficiently function in a country which has no defined and developed basic elements and postulates of a legal state and the market economy. Exactly the reforms of political and state institutions, then the legal reforms (especially in the field of a labour legislation, intellectual property, competition rights), inefficient judiciary, underdeveloped markets (especially financial), unfinished restructuring and big/public companies' privatization processes, inadequate physical infrastructure and unsuccessfully set institutional-legal frames for corruption repression – represent a „stumbling stone“ of Serbia regarding the competitiveness and the sustainable economic development.

CONCEPTS AND TECHNIQUES OF BUSINESS RESTRUCTURING OF ENTERPRISES

The business restructuring results in significant changes in business which the enterprise performs. All interventions goal is to increase the economic value of the firm and to improve its negotiating powers on the market. For successful business restructuring is necessary to analyze different ways of combining markets and products, as basic potentials of enterprises growth resource. In regard to it, the market restructuring is a premise for the business restructuring of the enterprise. The consulting company *Deloitte & Touche* has developed a turning point methodology in the enterprises business,

which consists of three integrated steps⁵: 1. State diagnosis of financial and production possibilities of an enterprise, 2. Crisis management and 3. Turn management. The first step comprises the analysis of financial possibilities of a client and provides access into the current financial position and projection of earning power, if such trends continue. The production opportunities diagnosis encircles: analysis of purchase and sale market, analysis of production process and a production program, price strategies, competitive advantage source, etc. Suggestion of the strategic alternatives for the client-enterprise, bases on the state diagnosis and the production possibilities. The second step is crisis management, which, by *Deloitte & Touche* approach, comprises five groups of activities: financial restructuring, sale of unnecessary assets, products rationalization, regular determination of employees' number and the market review. The third step in crisis surpassing, is the turn management, which comprises the financial and production restructuring. This step's goal is to introduce an enterprise into the profitability zone. The strategic turn provides to the enterprise to position adequately on the market. It requires investigating the key relations (Picture 1) between: buyers, competition, partners in business and internal relations among workers and managers, as creators and executors of business processes.

Picture 1. Key relations in market strategy



Source: Piercy, M. (1997): *Market-Led Strategic Change*, Butterworth Heineman, p. 235.

For getting to know a competitive position of a client, the consultants use its strategic position analysis. That is to say, knowing the existing and the potential competition represents one of the basic assumptions of successful business restructuring. The Space Analysis - Strategic Position and Action Evaluation Analysis expand a reflection on the environment to: a branch power and its connection with the competitive advantage and financial power of the enterprise⁶.

With the Space Analysis support determines the strategic position of the enterprise relatively in regard to the branch. A relative size of opposite dimensions provides determination of the strategic position of the enterprises on the market.

- *Concrete position* is typical for the enterprises which have the competitive advantage in an attractive branch. Such enterprises need necessary additional financial resources to maintain the competitive position on the market. In long-term, it can achieve with significant efficiency and productivity, but the enterprise is necessary to increase the capital or to associate with the enterprise with a large capital.

⁵ Deloitte & Touche, *Corporate Recovery Services in Central Europe*, 1994, p. 2.

⁶ Hooley, G., and Saunders, J. (1993): *Competitive Positioning - The key to market success*, Prentice Hall Inc. Engle wood Cliffs, NJ., pp. 75-77.

- *Aggressive position* of an enterprise on the market implies facing with significant advantages, but also threats from new competitors. It is necessary to analyze the performance on the market and the relation towards the competition.
- *Defensive position* have the enterprise which dispose with poor power in overcoming the competition, so there should improve the sources by more efficient production or to be ready to withdraw from the competitive market in order to concentrate where they have protection possibilities. Here research the possibilities of new techniques and technologies application. This research goal is to improve an enterprise's technological system, in order its products to fulfil the market requirements.

It is necessary to identify different resources and possibilities of growth, from the total portfolio of an enterprise's business point of view. From this has derived a need for concepts which help evaluating different businesses, as within the specific business portfolio, as well as in regard to the competitors businesses. One of the first attempts in operationalization of these variables represents a study of the *Boston Consulting Group – BCG*. In meantime, this model was multiple modified and was developed a series of different models for some aspects of the strategic management⁷. That is to say, many world famous consulting houses have developed new models, which, in fact, were based on the BCG model. The portfolio concept the consultants use for determination of the best business combinations, aiming to realize long-term profitability of the client. Synergetic effects realize based on different developmental possibilities and profitability of different businesses' financial courses.

Applying the BCG approach, the consultants categorize businesses or products if they have low or high relatively market share on the market, which has high or low growth rate. The businesses with high market share are generators of financial resources. According to the BCG model, it is possible to identify four business types: market leaders („star” products), perspective products („questionable” products), mature products („milking cows”), stagnant products („dogs”). The businesses characterized by high market growth rate and high market share are called the market leaders. However, a contribution of these products to cash inflow is small, because there are expressed the requirements for significant investments, due to a need of keeping the high market share on the fast developing market. The perspective products or businesses have been characterized by a high market growth and a low market share. The key decision for these products is to invest in them or eliminate them from the business portfolio. The mature products have a dominant position on the market, but those products show relatively low growth. Consequentially, for these products are necessary small investments. At the same time, they insure the resources for new investments, of which depends a survival and development of an enterprise. The stagnant products or businesses have poor competitive position on the market, which shows slow growth. Only in the special cases, there is a need not to be eliminated, i.e. there should investigate a possibility to provide the favourable market position, along with adequate product modifications. The consultants do not compose only the existing, but project also the future stencil, anticipating where in the future will be the specific client's products, on the stencil. Thereby, the consultants for the specific groups of businesses, i.e. the products suggest different strategies. In determination of some business goal and support character, which can be assigned to it, there suggests four basic strategic options⁸:

- *Build*. This strategy has been directed to improvement of the market position with readiness not to realize yields in short term. The strategy is favourable for the perspective products, which can become „stars“ only with increase of the market share,
- *Keep*. In this case wants to preserve the market share of some business, which is favourable with the mature products of higher power, because they ensure significant financial resources,
- *Reap*. By the strategy wants to provide the financial resources in short term, independently from long-term possibilities. This strategy is favourable for „milking cows“, of insufficient

⁷ Todorović, J., Djuričin, D., i Janošević, S. (1998): *Strategijski menadžment*, II izdanje, IZIT, Beograd, p. 221.

⁸ Kotler, P. (1984): *Marketing Management*, (4th edition), Prentice Hall International, Inc., London, pp. 77-78.

power and of indistinct future, and which can ensure fast the financial resources, or regarding some stagnant and perspective products,

- *Divest*. Here tends to sale or liquidate the business, because the resources can be better used in other purposes. It is favourable for the “dogs” and the „questionnaires“, for which assess that they are not in function of an enterprise’s growth.

By the products policy clearly perceives that the business restructuring prefers the termination of some businesses and opening of the others, all in accordance with the market trends.

MERGER AND ACQUISITION OF ENTERPRISES

Merging and acquisition of enterprises represent a technique of business restructuring. The decision whether will go to merger or acquisition with some enterprise has a far-reaching business consequences. In these business transactions are involved the financial and other consultants – commercial and investment banks, broker and auditing, solicitor’s and other houses. There is especially significant a role of investment bankers in merger and acquisition process, which is multiple and directed to⁹

- Searching for firms – potential targets for winning (firms which, in comparison with other enterprises, have bad performances, firms which have a surplus of liquid assets or which assets can be sold more expensive than their present market value, cases in which has been neglected a synergy which could realize by overtaking,
- Participation in preparations of decisions and negotiations on buying and selling,
- Support to target companies to develop a defensive tactics and the participation in tactics creation, which will make those companies less attractive to overtake,
- Engagement in the target company evaluation,
- Financing the acquisition of the target company,
- Various operations with potential candidates’ actions for risk arbitrage.

It is obvious that the consultants are engaged, as by the enterprise-buyer, as well as by the target enterprise. A need for the consultants increases due to a fact that both parties, engaged in the prior processes, have been incompletely informed on the other enterprise’s business. In this situation, the need for complex and integrated information initiates a need for the consulting. The enterprise-buyer’s managers engage the consultants to evaluate the values of the target enterprise. Also, the consultants are engaged for doing more tasks, which the client state in the agreement. At the same time, the enterprise-candidate for the acquisition can also search for the consultants’ services. In that case, the final result considerably depends on an expertise and informing of the consultants on the opposite sides.

A size of services which requires from the consultant is under the influence of possibilities of the enterprise to do the financial analysis and to finance the merging (acquisition) strategy, by its personnel and financial resources. If it is a low-value transaction, in most of cases will be sufficient a professional support of financial, legal and accounting sector of the enterprises. In more complex higher-value transactions engage the consultants in a planning phase and a phase of the merger (acquisition) strategy realization.

Financial compensations, which require the consultants, depend on the transaction size, as well as on the consulting services’ character, which are asked of them. The most often are composed of a fix part, which the client pays in accordance to the consultant’s engagement and a variable part, which depends on the transaction’s success. The amount of the financial compensation is a subject of negotiations among the involved interest groups. Lately there find many ways in order to motivate the consultants

⁹ Denčić-Mihajlov, K, (2003): “Uloga finansijskih konsultanata u procesima spajanja i pripajanja preduzeća”, *Svet finansija*, april-maj-jun 2003, p. 21.

to work maximum in the client's interest. If the consultants are engaged by the enterprise-buyer, the consulting support includes advices regarding the value for the enterprise-candidate for the acquisition, structuring the offer to the target enterprise, all up to indications to eventual legal limitations which refer to increased concentration in the specific branch. A basic function of the consultants is help in finding the acquisition opportunities and locating the attractive enterprises for the acquisition. Investment and commercial banks have their special departments which collect information on the enterprises with bad business performances in regard to the others in branch, which have great unused indebtedness capacity, where is an unused synergy etc.

After the consulting support in finding the target enterprise, there is needed different form of consulting. That is to say, the consultants engage aiming to evaluate the target enterprise's business, as well as the services of value assessments. Auditing-consulting houses provide information to interested enterprises on a financial position and results in the previous period. Also, the consultants make the evaluation of obligations, business risks, as well as the strategic powers and the target weaknesses. If it is about a voluntary merging transaction of two enterprises, it is important that the enterprises agree on the target's fair price. A key field, in which are important expertness and an experience of the consultant, is evaluation of synergetic effects, which will realize by an extreme growth. The basic motive for creating merger is that the market value of a new enterprise be higher than the total market value of enterprises which business independently. Making the added value by mergers is a result of the synergy. A combined value after the mergers creation is higher than individual firms' value sum, when they were individual entities¹⁰.

In forming the mergers, the consultants role reflects in determination of the market enterprise value, which merges and determination of a barter coefficient, i.e. a ratio in which, one share of the merged enterprise, will exchange for the existing enterprise's shares. In methodological sense, the barter coefficient can be represented by a current market price of common shares of the enterprise which merges, as a bottom barter limit. Upper limit would represent the value which the consultant gets based on the expected growth rate of net income and a dividend per a share, as well as the adequate market capitalization rates. However, a real size determines in a negotiation process on the mergers forming, in which is very important the consultants' expertise, engaged whether by the enterprise-buyer or the enterprise-candidate for the acquisition.

Besides the previous support, the consultants collect also information on the potential competitive enterprises. That information provides to define the negotiation tactics with the target firm's managers. At the same time is necessary the engagement of legal consultants, which provide the legal advices, in order not to come to violation of anti-monopoly legislation, as well as to prepare an advocacy for the enterprise-buyer, if there comes to the law violation.

For the mergers and acquisitions success is necessary to ensure the reports accuracy. In regard to it, there engage brokers, auditing-consulting houses, public relations consultants and others. For the complex recognition of the consulting role in the prior processes, is useful to perceive also the consultants' services, which are required from the target enterprise. The role of the consultant in the merger (acquisition) process, from the target's needs point of view, has been multiple directed mostly to:¹¹

- Signalizing the target on the potential enterprises-buyers,
- Developing the defence tactics from undesired acquisitions,
- Evaluating the target and participation in negotiations with the buyer on the merger and acquisition conduction.

¹⁰ Aragon, G. A. (1989): *Financial Management*, Allyn and Bacon, Boston, p. 827.

¹¹ Denčić-Mihajlov, K. (2003): "Uloga finansijskih konsultanata u procesima spajanja i pripajanja preduzeća", *Svet finansija*, april-maj-jun 2003, p. 21.

The consultants, according to the shares prices trends tracking and the target enterprise's performances, give prognosis if the potential interested enterprise-buyer is likely in the next period. The commercial and investment banks, as well as the lawyers' houses, represent the consultants often specialized for help provision aiming to block the mergers and acquisitions. The consulting support in this situation implies convincing the target firm's shareholders that the offered price for their shares is low, consulting for a statute changes, purchasing own shares on the secondary market, aiming to increase the market prices of shares etc. The merger and acquisition processes of enterprises represent one of the transition phases. Thereby, they are a significant technique of enterprises' business restructuring in which the consultants have a significant role. Since the privatization in Serbia is ongoing, as well as the shareholding culture is just going to be practiced, there can expect that in the future period, the consulting services regarding the merger and acquisition of enterprises will be in high demand.

CHALLENGES OF ENTERPRISES' FINANCIAL RESTRUCTURING

For a long time, the enterprises in Serbia have been characterized by lack of working assets, a financial imbalance and a low profitability. The goal of the financial restructuring is to improve the enterprises financing structure, in order to make a turn toward the profitable business. Thereby, there must make a difference between the financial restructuring before and after the privatization. The financial restructuring before the privatization implies synchronized interventions on the assets side and on the liabilities side. After the privatization, the financial restructuring comprises certain operations with actions, by which achieve the wanted capital structure. The privatization, by its own, can be comprehended as the extreme variant of the financial restructuring. Partnerships with the foreign companies represent one of the most important strategies of the financial restructuring and the privatization, in general. There is needed to define the adequate financial restructuring strategies before and after the privatization. In pre-privatization period analyses the enterprise's financial health and suggest measures, which contribute to a financial consolidation. There also negotiates with creditors and potential strategic partners. The total enterprises business reflects in the final financial results, so a financial analysis is very important part of the total analyses. Data got by the analysis uses for directing the further investigation, as well as taking the corrective measures. The analysis starts by a consideration of accounting reports which contain a balance sheet and a profit and loss account.

According to the reports determines the following:¹²

- If the enterprise realizes a profit, i.e. is it profitable,
- How financially strong is,
- Whether it grows fast or aging fast,
- If the liquidity improves, etc.

After the financial situation is stable, it is necessary to direct the resources to improvement of innovative processes in an enterprise, by stimulating new ideas, creative personnel, high premiums and other ways of motivation. Also is necessary to introduce new working methods, to invest in computer equipment, etc. The significant strategy of financial restructuring is a partnership with foreign companies, interested for the privatization in our country. Entering the foreign companies has effects as on the economy, as on a host-country economy, as well as on parent-states' economy. With their entry on the market, the foreign companies stimulate economic growth and export possibilities of the host-country, if they involve in their production system the local firms and provide the production growth, meant for domestic and foreign market. For the host-countries, the partnerships with the foreign companies have been a source of capital, technology, know-how management and the market approach. Exactly these are the components which substantially miss, first of all, to the countries in transition. Since the domestic enterprises have no sufficient experience in selection of foreign partners,

¹² Živanović, N. (1994): "Strukturiranje poželjne konsalting pomoći preduzećima u krizi", *Poslovna politika*, jun, p. 36.

as well as designing the partnerships through various forms of contracts, they are necessarily directed to the consulting companies, which have the expertise, experience, but also numerous business contacts which can capitalize. Including the foreign companies into the privatization process would come to a fresh capital inflow, as necessary, due to lack of domestic accumulation. At the same time, their more favourable financial structure enables more favourable approach on the international financial market. A procedure of making contacts and partners connection realizes in 4 phases.¹³

In the first phase comes to pre-orientation to the market economy. In fact, the changes are primarily in attitudes and a theory on market principles that have been present in the West. The countries-foreign-capital-importers approach to the changes resolutely in legislation. This phase shows different duration from country to country. In regard to an internal situation of each of them, the next step refers to initial, small projects, while, on one hand, the foreign entities show interest, but, on the other hand, is present a fear from the political situation or, for example, a tax system. The third phase starts when the foreign participant draws a conclusion that the situation in the country, in which economy would invest, is „healthy”. And finally, there expects the foreign capital inflow, until than just potential. After the privatization of enterprises, attention was focused on help in capital issuance and operations with shares, aiming to achieve the optimal financial structure, which represents a final transition phase. The consulting companies offer advices and support on issues like credits or taxes, a mediation between the securities issuance and the clients which buy them, negotiations with creditors on crediting conditions, etc.

CONCLUSION

There are various gaps in enterprises' business in Serbia, which can be eliminated by a new approach, but it implies significant changes, directed to establishment of new relation toward the business environment. Aiming to be compatible with relevant market economies, as well as of a need of increasing the general business efficiency of domestic enterprises, the transition processes and restructuring have become a necessity. That is to say, constituting a propulsive market business is inevitable to realize without radical changes at the enterprise level. Set conceptual frames and defined methodology for conducting the business and financial restructuring of the enterprise in the global crisis terms represents an establishment rapidity factor of a modern market economy, which will have its support in vital, business attractive and perspective enterprises.

Foreign investors have proved to be successful owners, with great positive effects on productivity growth, production size, investments in enterprises, etc. Partly, there is astonishing fact that there have been noticed also the positive effects on employment increase in long-term. Overtaking the enterprises from the foreign investors, as a rule, has led to a significant reduction of employees' number. However, after the executed changes, investments and enabling the enterprise for the competitive business on the world market, there notices a tendency of employees increase in those enterprises, too. Restructuring the enterprises in transition has been an expression of overdue reacting in the business environment. In the past has dominated the production orientation, which had no respect for the market requirements. The Serbian enterprises lost a brand and the traditional markets. Coming out of the crisis requires a constitution of the market-oriented enterprises, which implies a series of structural changes, directed to business efficiency improvement and adjustment to the market requirements. The structural changes within the enterprise base on internal orientation, based on the improved efficiency, or an external orientation, focused on the effectiveness improvement.

¹³ Radenković-Jocić, D. (1997): *Strane investicije u zemljama u tranziciji*, Zadužbina Adrejević, Beograd, p. 111.

LITERATURE

- 1) Aragon, G. A. (1989): *Financial Management*, Allyn and Bacon, Boston.
- 2) Deloitte & Touche, Corporate Recovery Services in Central Europe, 1994.
- 3) Denčić-Mihajlov, K. (2003): "Uloga finansijskih konsultanata u procesima spajanja i pripajanja preduzeća", *Svet finansija*, april-maj-jun 2003.
- 4) Hooley, G., and Saunders, J. (1993): *Competitive Positioning - The key to market success*, Prentice Hall Inc. Engle wood Cliffs, NJ., pp. 75-77.
- 5) Kotler, P. (1984): *Marketing Management*, (4th edition), Prentice Hall International, Inc., London, pp. 77-78.
- 6) Mihailović, B. (2007): *Uloga konsaltinga u restrukturiranju preduzeća u tranziciji*, monografija, Institut za ekonomiku poljoprivrede, Beograd.
- 7) Piercy, M. (1997): *Market-Led Strategic Change*, Butterworth Heineman.
- 8) Radenković-Jocić, D. (1997): *Strane investicije u zemljama u tranziciji*, Zadužbina Adrejević, Beograd.
- 9) Todorović, J., Djurićin, D., i Janošević, S. (1998): *Strategijski menadžment*, II izdanje, IZIT, Beograd.
- 10) Transition Report 2009: Transition in crisis?, EBRD, 2009. Transition indicators, <http://www.ebrd.com/pubs/econo/tr09.htm>;
- 11) Živanović, N. (1994): "Strukturiranje poželjne konsalting pomoći preduzećima u krizi", *Poslovna politika*, jun, pp. 30-40..
- 12) *World Economic and Financial Surveys, Database, April 2009*, <https://www.imf.org/external/pubs/ft/weo/2009/01/weodata/index.aspx>

THE BANKRUPTCY LAW OF THE REPUBLIC OF SERBIA IN TIMES OF CRISIS¹

Djuro M. DJURIĆ²

Abstract

Bankruptcy proceedings have vital significance for the economy of a country. The number of initiated proceedings and their successful outcome represent a crucial indicator of the health of the economy. The economy in the Republic of Serbia has for a long time been stagnant, lagging behind many countries in Europe. For the last ten years, there have been two reforms performed in this area. The first reform radically changed regulations in order to change to modernize and improve process quality. The aim of the reform in 2009 was to eliminate shortcomings of the first one and to increase the efficiency of the bankruptcy proceeding. The progress was especially made in bankruptcy administrators' training and professionalization. However, all the goals could not have been accomplished due to the conflict of the law regulations with the Constitution. The Law on Bankruptcy of Serbia has in its major part been coordinated with the EU regulations and it is able to respond challenges of economy crisis. However, in order to move economy out of recession it is not enough to have solely modern and efficient bankruptcy law.

Key words: bankruptcy proceeding, law regulations, the Republic of Serbia, economy crisis.

INTRODUCTION

The economy of the Republic of Serbia has been in constant decline since 2008³. Unfavourable international economic circumstances have led to reduced foreign investments, reduced production volume and the increased amount of business entities in debt. Although significant legislative reforms were made in the past in order to attract foreign investments and to recover domestic economy, as well as national legislation was coordinated with the European Union Law, it all was not enough to mitigate the adverse effects of the economic crisis. Besides, the new regulations had certain shortcomings which emerged in the first year of their application. The Law on Bankruptcy of 2004 was one of the criticized regulations. On the one hand, investors criticized it, as well as practice, business entities and judicial system. Guided by these facts among others, Serbian legislator carried out another bankruptcy regulations reform in 2009. However, this reform only partially met the demands of the time. Entering the fifth year of economic crisis, the question is whether it is necessary a new, more comprehensive reform, which would include a wider range of economic and non-

¹ This paper is a part of research projects No. 47009 (*European integrations and social and economic changes in Serbian economy on the way to the EU*), and No. 179015 (*Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements*), financed by the Ministry of Science and Technological Development of the Republic of Serbia.

² Djuro Djuric, LL.M., Research Associate at the Institute of economic sciences in Belgrade, Serbia, and PhD Candidate at the School of Law and Economy, University of Saarland, Germany, Chair for Civil and Commercial Law, Business Organisation Law, Private International Law and Comparative Law of University of Saarland, Institute for European Law, Saarbruecken Germany. 1 This paper is a part of research projects numbered 47009 (*European integrations and social and economic changes in Serbian economy on the way to the EU*) and 179015 (*Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements*), financed by the Ministry of Science and Technological Development of the Republic of Serbia.

³ World Bank Group – Serbia (2012), *South East Europe Economy Shrinks in 2012, Faces Risks in 2013* (Online) Available from: <http://www.worldbank.org/en/news/press-release/2012/12/18/south-east-europe-economy-shrinks-2012-faces-risks-2013> (Accessed: 1st November 2013).

economic subjects. The need for a new reform was imposed by the Constitutional Court of the Republic of Serbia which declared the provisions on the preliminary bankruptcy, very significant for the economy, unconstitutional on 12 July 2012. There is a question for the legislator what to do next? Should we go in a direction of a completely new law or to perform a partial reform following the guidelines of the Constitutional Court in the terms of passing the law in accordance with the Constitution of 2006?

THE LEGAL FRAMEWORK AFTER THE ENACTMENT OF THE LAW ON BANKRUPTCY OF 2009

The aim of the enactment of the new the Law on Bankruptcy⁴ in 2009 was to improve key indicators of efficiency of the bankruptcy proceedings⁵, through the implementation of several objectives. According to the legislator's intention, the quality of bankruptcy proceeding should have been improved through a higher degree of settlements with creditors, reduction of the cost and duration of the proceeding⁶. In addition, the aim was to encourage participants in bankruptcy proceedings, especially creditors and debtors themselves to timely initiate bankruptcy proceedings in an attempt to overcome financial difficulties and continue their business as solvent business entities⁷. The promulgated legislation reflects a new philosophy of bankruptcy, which interrupted non-economic view of the bankruptcy, which was in force until 2004⁸. Bankruptcy has not been seen any longer as a necessary end of the economic entity, but as an opportunity to avoid distress, especially if it is started in a timely manner and for a new "fresh"⁹ start.

Thus, compared to the previous Law of 2004, the provisions on principles and aim of the bankruptcy proceedings were changed, the existing and new bankruptcy reasons were clarified and introduced, certain proceeding bodies were terminated, the provisions on the status and mode of appointment of bankruptcy administrators were changed, new provisions on the control of the bankruptcy administrators by the Bankruptcy Supervision Agency were introduced, preclusive deadlines for submission of claims of creditors were introduced, the possibility of compensation claims was introduced, the possibility of submitting the pre-arranged reorganization plan was introduced, and the bankruptcy of entrepreneurs and small-value bankruptcy were abolished while the preliminary bankruptcy was introduced.

Bankruptcy or liquidation of an insolvent economic entity through sale of their assets and settlement with the creditors is just one of the possibilities of the outcome of the bankruptcy proceeding. The other, equivalent, possibility is the reorganization, introduced in 2004 under the influence of the U.S. Bankruptcy Code¹⁰, through implementation of the reorganization plan of the insolvent subject with most beneficial collective settlements of the creditors. When there are real economic conditions for that, reorganization enables preservation of the debtor's business.

Besides, the legislator considered necessary to introduce new proceeding principles, with the objective to provide adherence to the principles of lawfulness and legal security, through ruling equal judicial decisions in the same or similar circumstances. The following principles were introduced: principles of protecting the creditors, the principle of equal treatment and equality of the creditors, the principle of cost-effectiveness, the principle of judicial involvement, the principle of imperative prescription and

⁴ Law on Bankruptcy ("Official Gazette of the Republic of Serbia", number 104/09).

⁵ Ibid.

⁶ Ibid.

⁷ Law on bankruptcy proceedings ("Official Gazette RS", N°84/04 and 85/05).

⁸ Law on companies ("Official Gazette RS", N° 36/11 and 99/11).

⁹ Law on Bankruptcy ("Official Gazette of the Republic of Serbia", number 104/09).

¹⁰ Djuric, Dj. (2012) Serbian insolvency law and its relation to EU insolvency standardization and the US bankruptcy code, in: *Substantive harmonization and convergence of laws in Europe*, ed. Rebecca Parry, Nottingham, p. 159-173.

preclusive deadlines, the principle of urgency, the principle of involvement of two instances, and the principle of transparency and access to information.

Among the existing bankruptcy reasons, permanent and threatening insolvency, not adhering to the reorganization plan and a plan obtained in deceiving and illegal manner, there was one new reason – indebtedness of the economic entity. It is seen in the case that the assets of the debtor are lower than the commitments.

Since it appeared that the bankruptcy panel was superfluous and inefficient body, it was omitted in the new law. Its authorities were transferred to a bankruptcy judge, and the Higher Commercial Court is in charge of the appeal to the decision of the judge. Thus, the provision of the small-value bankruptcy from the previous law lost its significance since the bankruptcy judge was in charge of it.

In order to secure lawfulness in naming the bankruptcy administrators, the method of random choice was introduced. Moreover, the control over their work became stricter, they were offered certain protection, but their responsibility increased as well. Serbian legislator continues to argue that lawyers cannot perform the function of a bankruptcy administrator¹¹. The new regulation introduced the obligation of compulsory insurance of creditors against professional responsibility for the amount of at least €30,000 expressed in RSD on the day the contract was concluded¹². The Bankruptcy Supervision Agency had the key role in this commitment. It has the right to impose disciplinary measures and to revoke licenses. In addition, the Agency got the significant role in training bankruptcy administrators in creating and raising awareness of bankruptcy proceedings as well as of an inevitable factor of successful business.

Since the application of the Bankruptcy Law of 2004, it was noted only one case of the bankruptcy of an entrepreneur, therefore the legislator decided to abolish this provision in the new law. Thus, since 2009 Serbian law has recognized exclusively corporate bankruptcy, i.e. bankruptcy of a legal entity. In spite of increasing debts of citizens i.e. individuals, the legislator did not take into account the possibility to introduce civil or individual bankruptcy.

A creditor is considered any individual who on the day of bankruptcy proceeding has an unsecured claim against the debtor. On the date of the filing of the claim, the creditor becomes a party in the proceedings. The creditor is entitled to initiate bankruptcy proceedings in case of permanent insolvency of the debtor or in the case of failure to meet the reorganization plan. The debtor itself can initiate bankruptcy proceeding for any reason provided by law. That was one of the ideas of the reformation of the law; to encourage the debtor itself to file a motion in the court of law for bankruptcy proceeding even before entity becomes permanently insolvent. In addition, the encouragement can be seen in the possibility of filing a pre-arranged reorganization plan. The aim of this provision is to present and to try to solve problems in doing business through arrangements with major creditors, through shorter and thus much cheaper proceeding. Thus, the awareness of the economic entities is growing about the necessity of timely indication of trouble and protection of creditors whose claims are in potential danger.

One of the most significant novelties in the Law on Bankruptcy of 2009 is the provision on preliminary bankruptcy of economic entities which are continuingly insolvent. Besides, the mediation possibility was introduced with limited duration, with the aim to disburden the courts and to decrease the proceeding costs. In these proceedings, the claims of the creditors can be determined and introduced into a table of verified claims.

¹¹ Law on bankruptcy ("Official Gazette RS", N°104/09).

¹² Ibid.

THE PROVISIONS ON AUTOMATIC BANKRUPTCY AND THE DECISION OF THE CONSTITUTIONAL COURT OF SERBIA

The significant novelty presents introduction of preliminary bankruptcy or special proceeding in case of continuing insolvency. It presents the consequence of the fact that there are a large number of business entities whose bank accounts are blocked, then those which stopped paying in period longer than two years¹³. Therefore, the provision was introduced where the organization carrying out the proceeding of enforced collection has the obligation to provide bank statements monthly in particular on the last day of the month, with the overall status as at that day, to all courts in charge of dealing with the bankruptcy proceeding, to deliver a report on legal entities from their jurisdiction that are continuingly insolvent having ceased all payments in the period of at least two years. In order to introduce creditors with those facts, the announcements are published in one high-circulation daily newspaper and on the internet page of the organization dealing with the enforced collection proceeding. After having received the notification on debtor's continuing insolvency, the bankruptcy judge *ex officio* render the decision to start previous bankruptcy proceeding where it shall be determined whether there is any legal interest of the creditors in conducting the bankruptcy proceeding¹⁴.

The thing that drew the attention is the provision of the Article 154, Paragraph 2, the Law on Bankruptcy, where the property of a debtor continuingly insolvent becomes the property of the Republic of Serbia, which does not interfere with previously acquired rights of security and priority settlement with creditors on the property in question, and according to which the Republic of Serbia is not liable for the obligations of the debtor. Underlying assets are managed and disposed in accordance with the regulations related to the assets owned by the Republic of Serbia¹⁵.

Actually, these provisions, at the request of a number of applicants, became the matter of constitutionality at the Constitutional Court of Serbia¹⁶. Besides, the Article 13, Paragraph 3 of the same the Law on any funds remaining after the payment of the expenses incurred would be paid in the Budget of the Republic of Serbia was disputed as well. The initiators of the constitutionality evaluation disputed the mentioned provisions of the Law on Bankruptcy in relation to the provisions of the Article 3, Paragraph 1 (inalienability of human rights), Article 18, Paragraphs 1 and 2 (prohibition to influence the basics of human and minority rights guaranteed by the Constitution), Article 32, Paragraph 1 (right to have fair trial within the reasonable time), Article 36, Paragraph 1 (equal protection of rights before courts and other state bodies), Article 51 (right to be informed accurately, fully and timely about issues of public importance), Article 60 (right to work), Article 84 (equal legal status on the market), and Article 86, Paragraph 1 (equal legal protection of private, cooperative and public assets shall be guaranteed) of the Constitution of the Republic of Serbia.

The Constitutional Court determined that with the disputed provision of the Article 13, Paragraph 3, the Law on Bankruptcy, related to the bankruptcy of insufficient value, there was a consequence of confiscation of property of the debtor without reimbursement, and in favour of the state, thus violating the Constitution guaranteeing the right to property stated in Article 58 of the Constitution. According to the estimate of the Court, there are no valid constitutional bases, such as the public interest, settlement of taxes etc. for the confiscation of property of the debtor in favour of the state. Furthermore, disputed provision of the specified Article does not prescribe the expropriation, nationalization or any other form of seizure of property that may possibly relate to the provision of Article 58, Paragraph 2 of the Constitution. Thus, property rights can be seized or restricted in the public interest as determined by the law, for a fee, which cannot be lower than one on the market¹⁷.

¹³ Ibid.

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ IUz-850/2010, "Official Gazette of the Republic of Serbia", N°71/2012.

¹⁷ Constitution of the Republic of Serbia ("Official Gazette RS", N°98/2006).

Besides, Article 1 of the First Protocol to the European Convention for the Protection of Human Rights and Fundamental Freedoms provides that the term "public interest" has extensively been interpreted in the sense that it is logical that the national legislator has at its disposal a broader freedom of this concept as an expression of certain economic and social policy that state runs¹⁸. The state, however, cannot promulgate laws on its own discretion that comprises of so called arbitrary confiscation or nationalization of property without any reimbursement to an owner. Therefore, in cases of turning the property of the debtor into the state property there must be fulfilled the element of the existence of a fair balance and proportionality between the demands of the general interests of the state and the element of the protection of fundamental rights of individuals. In order to meet the requirements of proportionality of certain measures taken by the state it is obligatory that such measures are necessary so that for a fulfilment of a goal there is no other alternative or more favourable ways¹⁹.

Besides, the Constitutional Court estimated that the disputed Article 13, paragraph 3, the Law on Bankruptcy puts the state into favourable position in relation to other participants on the market, due to the state confiscation of the surplus assets of the debtor insolvency makes the state in favourable position in relation to other forms of property recognized by the Constitution (for example, private, cooperative) and thus violates the constitutional principles of equality of status of all market participants and the equality of all forms of property referred to in Article 84 Paragraph 1 and Article 86 Paragraph 1 of the Constitution²⁰. Furthermore, the disputed statutory provision violates the principle of unity of the legal order under Article 4 Paragraph 1 of the Constitution, since the provision of Article 243 of the Law on Company stipulates that a joint stock company is liable for its obligations by its whole property²¹.

When it comes to preliminary bankruptcy, the Constitutional Court estimated that the provision in Article 150, Paragraph 1 affirms the right to fair trial and right to equal legal protection and legal means (Article 32, Paragraph 36 of the Constitution). Namely, the provision anticipates announcement of legal entities that stopped all payments continuously for at least two years by the organization that leads the proceeding of enforced collection delivers to the courts in charge of the bankruptcy proceeding and that is only published in high-circulation daily newspaper and on the internet website, although the announcements are not delivered to creditors of the bankruptcy subject. The consequence of this is that the bankruptcy judge upon receiving the announcement due to his duties renders a decision on initiating the preliminary proceeding where it is to be determined whether or not there are legal interests of creditors in conducting the bankruptcy proceeding. The Constitutional Court is against the standards referred to in Article 153 Paragraph 1 of this law where the decision should be published on the notice board of the court, actually that the document is not to be personally served to a party within which its rights, obligations or interest determined by law are decided, because the party is not able to objectively get acquainted with the content of this document, thus the right to a fair trial is in question as well as the right to equal legal protection and remedy guaranteed by the provisions of Article 32 Paragraph 1 and Article 36 of the Constitution. When it comes to bankruptcy proceeding, this constitutional guarantee means that it has to be ensured that an independent and impartial tribunal established by law in a fair and open debate discusses on the rights and obligations of the debtor that are the subject of the proceeding as well as to discuss on the merits of a doubt that was the reason for the initiation of the bankruptcy proceeding, and that the entire court proceedings are conducted in accordance with the provisions of applicable procedural and substantive regulations²².

¹⁸ European Charter on Human Rights and Fundamental Freedoms, Protocol 1 (Online) Available from conventions.coe.int/Treaty/en/Treaties/Html/005.htm (Accessed: 1st of November 2013).

¹⁹ IUz-850/2010, "Official Gazette of the Republic of Serbia", No 71/2012. Law on basic property relations "Official Gazette of the SFRY" N°6/80.

²⁰ IUz-850/2010, "Official Gazette of the Republic of Serbia", No 71/2012 and the Constitution of the Republic of Serbia "Official Gazette RS", N°98/2006.

²¹ The Law on Companies "Official Gazette of the Republic of Serbia", No 36/11 and 99/11.

²² IUz-850/2010, "Official Gazette of the Republic of Serbia", No 71/2012.

The Constitutional Court finds that the bankruptcy proceeding before the Court, according to the general rules of the bankruptcy proceedings, is initiated by submitting a single proposal which contains legally relevant data, not ex officio of a bankruptcy judge upon receiving the notice from the organization that conducts enforced collection, as stipulated in the disputed provisions of the Article 150 of the Law on Bankruptcy. Therefore, in order to have any dispute before the court publicly discussed, the constitutional requirement, within the Article 32 Paragraph 1 of the Constitution, is for the court to ensure the presence and the possibility of active participation of the debtor about whose rights and obligations of the proceedings before the court is discussed in terms of taking appropriate actions in the court procedure. Therefore, the Constitution rules out the possibility that the bankruptcy judge could render a decision which initiates or concludes the proceeding upon the debtor, without the presence or involvement of the parties whose rights and obligations are being discussed and decided by this decision²³. The purpose of the Constitutional guarantees from the Article 36, Paragraph 2 of the Constitution is to provide guarantees to any person to whom it applies a decision about their rights, commitments or lawful interests in order to objectively have possibilities to use against such a decision required, effective legal remedy²⁴. This option can only exist if the decision is in the prescribed manner, in writing, personally delivered to the debtor in the proceedings, so the debtor could within the stipulated period from the date of receipt of the decision be able to get acquainted with the contents of this document, and if it wants to render a prescribed legal remedy against such an act.

Moreover, the legislator has violated the provisions of Article 32, Paragraph 1 of the Constitution, which guarantees the right to a fair trial by having conditioned the payment of a sum of money in the form of an advance and prescribed that, if not paid within a period referred to in Article 151 paragraph 1 of the Law on Bankruptcy, and without summoning the debtor and its creditors and without enabling their presence and participation in the discussion in the court proceedings, it can be considered that there is no legal interest of creditors and the debtor for the implementation of bankruptcy proceeding²⁵. Namely, neither the debtor nor the creditors are not in any legally relevant way made aware of initiation of any kind of bankruptcy activity so that they could participate in the proceeding and register their claims. In this way, it means that the constitutional requirement is not fulfilled that refers to Article 32, Paragraph 1 of the Constitution that the court in this discussion provides the presence and participation of the parties whose rights and obligations are discussed in a trial before court. Therefore, the Constitutional Court ruled that the right to appeal against the decision referred to in Article 153, Paragraph 1 of the Law on Bankruptcy is necessary to bind to the date of delivery to the party in person and not to the date of publication on the court notice board, in order to enable the realization of the constitutional guarantee under Article 36, Paragraph 2 of the Constitution.

The Constitutional Court has also estimated that the principles referred to in Article 32 Paragraph 1 and Article 36 of the Constitution are violated, as well as the basic constitutional principles on the direct application of human and minority rights and freedoms referred to in Article 18 Paragraph 2 of the Constitution which provides that the law may prescribe the manner of exercising the rights guaranteed by the Constitution, whereby the law in any case should not affect the substance of the guaranteed rights. Specifically, the Law on Bankruptcy prescribed that the decision which concludes the bankruptcy proceedings is published on the court notice board and is delivered to the companies register, and without previous delivery to the party in person, as well as determining that the debtor and creditors may appeal to the decision within 30 days from the date of publication of the decision on the court notice board²⁶. The legal possibility and deadline to use the prescribed legal remedy depends upon the circumstances whether and when the party is going to be served the document. At the same time, these entities are in underprivileged position in relation to other bankruptcy debtors, given that

²³ IUz-850/2010, "Official Gazette of the Republic of Serbia", No 71/2012.

²⁴ IUz-850/2010, "Official Gazette of the Republic of Serbia", No 71/2012.

²⁵ Article 152 Paragraph 3, Law on bankruptcy "Official Gazette RS", N°104/09.

²⁶ Article 153 and 154 of the Law on bankruptcy "Official Gazette RS", N°104/09.

Article 71 of the Law on Bankruptcy provides that the decision on initiating the bankruptcy proceeding in the general bankruptcy proceeding is delivered to the debtor, thus violating the principle of Article 21 Paragraph 1 of the Constitution which guarantees equality before the law and the Constitution²⁷.

The disputed provisions of Article 154 of the Law on Bankruptcy, according to the Constitutional Court limit the property right of debtors and their creditors guaranteed by Article 58 of the Constitution. It creates an actual impossibility of realization of claims, including those that are based on the valid court decisions, since the disputed provisions of Paragraphs 2 and 3 of this article to "transfer" property of the debtor into property of the state, and under the law. In addition, the state does not take over the obligations of the debtor, but it can take the place of the debtor in litigation carried out under debtor's lawsuit for the collection of debt or things (bankruptcy due to long-term insolvency or insolvency of the debtor as a special type of bankruptcy). Thus, not a single constitutional requirement was fulfilled for confiscating property according to the provisions of Article 58 of the Constitution. The consequence is that the initiation and conclusion of bankruptcy of the so-called inactive entities ceases their legal status by being deleted from the public register, and the Republic of Serbia, under the law, becomes the owner of the property i.e. the assets of the debtor, since the state is not liable for the obligations of the debtor²⁸.

When it comes to the creditor who commenced a lawsuit against the debtor before the bankruptcy, it has no right to continue it after the deletion of the debtor in the process against the state, because the state is not the legal successor of its debts or claims of its creditors. Therefore, the Constitutional Court found a violation of the constitutional principle of equality of all forms of property under Article 86 Paragraph 1 of the Constitution because it favours state ownership. According to the provisions of the Law on Bankruptcy, debtor's assets by operation of the law transfer into state assets without any charge²⁹. Furthermore, the guaranteed right to equal protection of rights and the right to legal remedy have been violated according to Article 36, Paragraph 1 of the Constitution, then judicial protection of individual rights that everyone is guaranteed by the Constitution is denied, due to the fact that the confiscation of the property in favour of the state is justified by the legal ignorance of the creditors of the bankruptcy of continuing insolvent debtors, and legal protection of their property rights resulting from the claims of creditors is not provided.

INVESTORS RECOMMENDATIONS

Bankruptcy regulations are of the vital interest for both domestic and foreign investors. The reform of bankruptcy legislation of 2009 achieved progress, since the top critics of the practice were acknowledged, which were related to a number of key issues. Thus, the introduction of provisions on pre-arranged plan of reorganization allows the debtor to initiate insolvency proceedings together with filing of the reorganization plan. This gives the opportunity to a greater number of insolvent companies to "survive"³⁰ before the irreparable loss of the ability to pay and not be closed down forever. In addition, new provisions are intended to encourage creditors to take a more active role in the conduct of bankruptcy proceedings, through filing the petition for initiating bankruptcy proceedings, as well as through participation in the creditor institutions³¹.

Through position strengthening of the Bankruptcy Supervision Agency, it is possible to increase the professionalism of the bankruptcy administrators to the highest level, but also to revoke the license for those who cannot contribute to the development of practice in bankruptcy, either due to the lack of

²⁷ IUz-850/2010, "Official Gazette of the Republic of Serbia", No 71/2012.

²⁸ IUz-850/2010, "Official Gazette of the Republic of Serbia", No 71/2012.

²⁹ Article 154 of the Law on bankruptcy "Official Gazette RS", N°104/09.

³⁰ Foreign Investors Council (2012), *White Book*, Proposals for the improvement of the business environment in Serbia, ed. Mihailo Crnobrnja, Beograd, p. 54-57.

³¹ Ibid.

knowledge or ethics violations, and, in the worst case, abuse³² of power and committing various criminal offenses.

Finally, introducing mediation provision, it is enabled to decrease the cost of bankruptcy proceedings (which are always high), whereby the principle of effectiveness and efficiency of the bankruptcy proceedings is applied. Since the provision on preliminary bankruptcy estimated from the investors' point of view as a significant progress in reformation process, but the matter of the disputable right to dispose of the assets of the debtor, the Decision of the Constitutional Court of Serbia revoked the provision. However, one should not forget that the closure of companies that are indebted for a long period of time and their ultimate removal from the Serbian legal system, using the mechanism of *ex officio* bankruptcy, shows the true picture of the liquid and stable companies that actually operate in the Serbian market³³.

From the perspective of investors, the bankruptcy proceedings in the Republic of Serbia remain only denied to lawyers to be active bankruptcy administrators. It is however a result of implementing other regulations, or the Legal Profession Act adopted in May, 2011. Attorney register regulations do not allow lawyers to be registered as entrepreneurs. According to investors³⁴, bankruptcy has become less cost-effective and less efficient, contrary to the principles which should be based on.

Moreover, although the aim is to randomly select their bankruptcy administrator as transparent, impartial and equitable³⁵ as possible, in practice it was detected resistance to the implementation of this model. Contrary to the practice of the developed world and modern bankruptcy, the appointment of the same administrators continued by the same judges, while a significant number of active licensed bankruptcy administrators did not get a chance to be entrusted with leading at least one of the bankruptcy proceedings³⁶.

Unlike the previous Law on bankruptcy proceedings dating 2004, the process of the new Law on Bankruptcy has been greatly accelerated. Implementation and continuous education of highly qualified bankruptcy judges and administrators proved to be of particular importance, as well as the definition and higher accountability of the administrators. However, the new law did not mandate the responsibility of the bankruptcy judge³⁷.

Also, the introduction of preliminary bankruptcy proved to be necessary legislative measure in the troubled economy as it is in the Republic of Serbia. However, the legislator introduced other objectives into provisions of the new law introduced, that due to non-compliance with the provisions of the Constitution of the Republic of Serbia³⁸ led to the termination of these provisions. As a result of the Decision of the Constitutional Court of the Republic of Serbia, the provisions of Article 150-154 of the Law on Bankruptcy determining a special procedure in the event of prolonged inability to pay ceased to apply. Therefore, the automatic opening of bankruptcy proceedings against companies which have long been unable to pay is no longer possible in the Serbian legal system. Also realizing the

³² Ibid.

³³ Ibid; Constitutional Court of Serbia, IUz-850/2010, ("Official Gazette RS", N°71/2012).

³⁴ Foreign Investors Council (2012), *White Book*, Proposals for the improvement of the business environment in Serbia, ed. Mihailo Crnobjanin, Beograd, p. 54-57.

³⁵ The Book of Regulations on Conditions and Mode of Selection of Bankruptcy Administrators by the Method of Random Selection ("Official Gazette of the Republic of Serbia", No 3/2010).

³⁶ Djuric, Dj. (2012) Serbian insolvency law and its relation to EU insolvency standardization and the US bankruptcy code, in: *Substantive harmonization and convergence of laws in Europe*, ed. Rebecca Parry, Nottingham, p. 159-173.

³⁷ For example, exceeding the legal limits that applied during the previous Law on Bankruptcy appeared as a regular practice, or entrusting the performance of certain duties which by law belong to the jurisdiction of the court, the bankruptcy administrators, with reimbursement by the formal verification of the court, were included into cases of drafting court decisions

³⁸ Constitutional Court of Serbia, IUz-850/2010, ("Official Gazette RS", N°71/2012).

provisions on ex officio bankruptcy are unconstitutional raises many questions about the completed procedures and processes that are ongoing³⁹.

The relatively young branch of bankruptcy law in the Republic of Serbia is reorganization. It has not proved too successful, although there were several attempts with big companies. One of the major contradictions of the bankruptcy proceeding appeared to be different court treatment when the reorganization plan was not met⁴⁰. This is especially true in cases where the reorganization plan was implemented for some time and in which certain restructuring measures were implemented. In this regard, in a situation where failure to comply with the approved plan of reorganization leads to the occurrence of the bankruptcy, the initiation of the bankruptcy proceedings and the determination that the bankruptcy proceeding is finalized in liquidation, the creditors are damaged in this case, while being the minority when voting on the reorganization plan. To make the things even worse, in the past the courts rendered different decisions. A number of courts argued that in such situations restitution must be made whereby the creditors whose claims were settled during the reorganization process were lead to a situation to return the money back they received to the bankruptcy estate which in the case of a payment made to individuals or employees and former employees can be nearly impossible to carry out⁴¹. Others have argued that a return to previous situation should not be made, but the bankruptcy proceeding should continue as it was. Thereby, the creditors who voted for the reorganization plan were damaged as they converted their claims awaiting the successful outcome of the reorganization. Thus, the principle of equal treatment of creditors in bankruptcy proceedings is threatened to collapse, as well as the rights guaranteed by the Constitution⁴².

CONCLUSION

Serbian bankruptcy legislation has achieved significant progress for the last ten years. Thanks to the comprehensive reform in 2004, an end to the inefficient system was made, the process based on protection principles of creditors as well as leading an efficient process, new and modern bodies were introduced and prerequisites were made for successful regulations application in practice. Five years after the application of the Law, there was a new reform with the objective to improve previous and develop proceeding quality. However, having desired higher efficiency, and to protect state interests, the legislator committed certain errors, which resulted in abolishment of certain regulations, because of the Decision of the Constitutional Court on non-compliance with the Constitution. It is not clear whether behind the state's disposal of the debtor's property there was the hidden intent to confiscate the property or to just place it under control and protect it. In any case, Serbian legal system remains deprived of a body of preliminary bankruptcy in case of long term insolvency.

It is indisputable, however, that the conducted reforms and completion of the provision on reorganization enable debtors to smoother initiation of the bankruptcy proceeding with simultaneous filing of the reorganization plan. In this respect, debtors should be encouraged in this direction. In addition, it is necessary to encourage creditors to take more active role in managing bankruptcy proceeding, through filing motions for initiation of bankruptcy proceedings and through participation in creditor institutes. Introduction of institute of bankruptcy of physical entities is of great significance, as well as special procedure of preliminary bankruptcy reorganization, in order to prevent the commencement of incapacitating conditions for payment. However, for successful outcome of the economy in crisis, it is not only enough to have good and modern bankruptcy regulations, nor even their successful application. Since the bankruptcy is the part of legal-economic system of the country, it is necessary to act jointly in all key aspects of the economy. Regulations on bankruptcy in Serbia,

³⁹ Foreign Investors Council (2012), *White Book*, Proposals for the improvement of the business environment in Serbia, ed. Mihailo Crnobrnja, Beograd, p. 54-57.

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Ibid.

with the exception of the preliminary bankruptcy, are on a satisfactory quality level, it is only left to be successfully applied in practice.

LITERATURE

- 1) Bankruptcy Supervision Agency (2013) *Report on active bankruptcy proceedings in 2013*, Official web page of the Bankruptcy Supervision Agency, (Online) Available from <http://www.alsu.gov.rs> (Accessed: 1st of November 2013).
- 2) Colovic, V. (2013) *Nacela stečaja i stečajnog postupka : potreba za njihovim definisanjem u stečajnom zakonodavstvu*, in: *Aktuelna pitanja savremenog zakonodavstva*, Beograd.
- 3) Colovic, V. (2010) *Stečajno pravo*, Panevropski univerzitet Apeiron, Art print, Banja Luka.
- 4) Constitution of the Republic of Serbia ("Official Gazette RS", N°98/2006).
- 5) Constitutional Court of Serbia, IUz-850/2010, ("Official Gazette RS", N°71/2012).
- 6) Djuric, Dj. (2012) Serbian insolvency law and its relation to EU insolvency standardization and the US bankruptcy code, in: *Substantive harmonization and convergence of laws in Europe*, ed. Rebecca Parry, Nottingham, p. 159-173.
- 7) European Charter on Human Rights and Fundamental Freedoms, Protocol 1 (Online) Available from conventions.coe.int/Treaty/en/Treaties/Html/005.htm (Accessed: 1st of November 2013).
- 8) Foreign Investors Council (2012), *White Book*, Proposals for the improvement of the business environment in Serbia, ed. Mihailo Crnobrnja, Beograd.
- 9) Kozar, V. (2011) *Komentar Zakona o sporazumnom finansijskom restrukturiranju privrednih drustava*, Beograd.
- 10) Law on bankruptcy ("Official Gazette RS", N°104/09).
- 11) Law on bankruptcy proceedings ("Official Gazette RS", N°84/04 and 85/05).
- 12) Law on basic property relations "Official Gazette of the SFRY" N°6/80.
- 13) Law on companies ("Official Gazette RS", N° 36/11 and 99/11).
- 14) Malbasic, V. (2005) *Reorganizacija kao mera za sprecavanje stečaja*, SEF, Beograd.
- 15) Pocuca, M., Kozar, V., Stankovic, I. (2013) *Komentar Zakona o stečaju sa sudskom praksom i podzakonskim aktima*, Beograd.
- 16) Ilic-Popov, G., Jovanovic, N., Jovanovic, J. (2006) *Prirucnik za stečajne upravnike*, Intermex, Beograd.
- 17) Radovic V. (2009) *Licna uprava stečanog duznika de lege ferenda*, Savremene tendencije u međunarodnom stečajnom pravu, p. 244-257.
- 18) Regulation on conditions and bankruptcy administrator election method by random sample ("Official Gazette RS", N° 3/2010).
- 19) Regulation on performing reorganization according to the "pre-packed" plan and its content, ("Official Gazette RS", N°37/2010).
- 20) Serbian Broadcasting Corporation (2012), *U Srbiji najveći privredni pad u region* (Online) Available from: <http://www.rts.rs/page/stories/sr/story/13/Ekonomija/1231700/U+Srbiji+najve%C4%87i+privredni+pad+u+regionu.html> (Accessed: 19th December 2012).
- 21) Slijepcevic, D., Spasic S. (2006) *Komentar Zakon o stečajnom postupku*, Ces. Mecon, Beograd.
- 22) Slijepcevic, D. (2009) *Pravni aspekti reorganizacije stečajnog duznika*, Beograd.
- 23) Supreme Court of Serbia (2012), Bulletin of the Supreme Court of Serbia, N°3, Beograd.
- 24) World Bank Group – Serbia (2012), *South East Europe Economy Shrinks in 2012, Faces Risks in 2013* (Online) Available from: <http://www.worldbank.org/en/news/press-release/2012/12/18/south-east-europe-economy-shrinks-2012-faces-risks-2013> (Accessed: 1st November 2013).

THE EFFECT OF THE ECONOMIC CRISIS ON ENTREPRENEURSHIP IN THE TRANSITION SOUTH-EAST EUROPEAN ECONOMIES

Tatjana B. PETKOVSKA¹
Aneta PETKOVSKA-NONKULOVSKA²

Abstract

In the 21st century entrepreneurship is one of the key factors for economic growth. Entrepreneurial activity enhances country's welfare and improves competitiveness by stimulating innovation and supporting growth of small and medium enterprises (SMEs) – the leading source of job creation. On the other hand, the global financial and economic crisis has changed the rules of functioning of the economic systems. Among others, one of the most serious consequences of the crisis is the shortage in credit for the business sector. This is a serious obstacle for future economic growth as it constrains firms from gaining capital needed for financing investment and production. Also, crisis involved collapse of large companies, increase in unemployment, a reduction in the standard of living and a reduction in the aggregate demand. All of this had large negative effects on the entrepreneurial activity. This paper attempts to shed some light on the consequences of the global economic crisis on the entrepreneurial activity in the South-east European (SEE) countries by exploring the concept of entrepreneurship, the transmission of the economic crisis in the SEE countries and the characteristics of the entrepreneurial activity in SEE countries before and after the crisis.

Key words: entrepreneurship, entrepreneurial activity, economic crisis.

INTRODUCTION

Entrepreneurship is a creative activity - the process of creation involves constant search for new opportunities and undertaking calculated risk in order to make profit. From macroeconomic perspective entrepreneurship is of key importance for economic growth – it increases employment, stimulates innovation and improves the welfare of the society.

The 2007/2008 financial and economic crisis that originated in the U.S. in a short period of time spilled-over in many countries. The effects on a global level were detrimental - global investment was drastically reduced, credit markets were closed, activity of the private sector declined, global liquidity shrank dramatically. As domestic activity and investment shrank, profits became negative and entrepreneurial activity declined as well.

The economic crisis did not circumvent the transitional economies of Southeast Europe. The primary channel of transmission of the global crisis to the Southeast European countries was the export channel – reduced global demand resulted in decline in export, which in turn negatively affected production and investment. In the second stage employment reduced and economic growth became negative. In a world of high market risk and global uncertainty banks restricted the credit supply and liquidity shortages appeared which additionally reduced investment activity of the firms. Small and medium enterprises, which are the main source for entrepreneurial activities, though flexible enough, were not able to adjust to the changed business environment and to absorb the negative effects of the crisis.

¹ Tatjana B. Petkovska, PhD, Professor in the Institute of Economics – Skopje.

² Aneta Petkovska-Nonkulovska, MSc, Analyst in UniBank-Skopje.

The goal of this paper is to evaluate some of the effects of the global financial and economic crisis on the entrepreneurial activity in Southeast European countries. The paper is structured as follows. First, we discuss the concept of entrepreneurship and the main characteristics of the entrepreneur. In the second part, the reasons for the outbreak of the global crisis are presented. The third part is focused on the entrepreneurial activity in Southeast European countries during the crisis. In order to evaluate the effects of the crisis on the entrepreneurship we use data on newly registered businesses and indicators for starting new business in these countries for the period 2006-2011. The concluding remarks are given in section four.

CONCEPT OF ENTREPRENEURSHIP

The word "entrepreneur" first appears in the 12th century and originates from the French word "entreprendre" meaning "to take", "start". In the beginning, the word "entrepreneurship" referred to the activities of the state government, especially to activities involving major infrastructure projects, such as construction of military facilities, roads, bridges, etc., whereas from the beginning of the 17th century the word "entrepreneur" was used for every person involved in the supervision of the big construction projects.

The creator of the theory of entrepreneurship is Richard Cantillon, an Irish-French economist. An entrepreneur, as defined in his seminal work "Essay on the Nature of Trade in General" (*Essai sur la Nature du Commerce en General*) published in 1734, is a person who buys at known price but sells at unknown price i.e. price that will be formed in the future (Carsrud and Brännback, 2007). In his study he links the term entrepreneurship with capital, uncertainty and risk - the entrepreneur wants to undertake some degree of risk in order to make some profit as a reward.

According to Joseph Schumpeter the entrepreneur is an innovator who, in order to enhance the process of economic development, creates "new combinations" through promotion of new products, new markets, new sources of resources and new organization. These new combinations are created within the company, whereas the entrepreneur is the person that creates the combinations. Schumpeter places special emphasis on the profit – profit is an output of the innovation process and the primary driving force of economic growth. Another definition for the entrepreneur is stated by Peter Drucker. According to Peter Drucker, an entrepreneur is a person in a constant search for new concepts, a person that accepts and utilizes these new concepts as new opportunities. The innovation, as Drucker states, is the main instrument of the entrepreneurs for transforming new concepts into an opportunity for a new business or service.

The entrepreneur has the following characteristics:

- Entrepreneur is a person that recognizes certain opportunity and starts its own business.
- In order to achieve its goals the entrepreneur undertakes calculated risk and uncertainty.
- Entrepreneur is an innovator and is always focused on transforming the idea into a profitable reality.
- Entrepreneur is a person who designs and builds any value from practically nothing.
- Entrepreneur has a sense of leadership.
- Entrepreneur creates today with strong vision towards the future.

The term entrepreneurship, in the contemporary sense, started to be used in the 18th century. There are several different definitions and classifications of the term entrepreneurship. Joseph Schumpeter is the founder of the modern use of the term entrepreneurship, as well as "father" of theoretical and practical entrepreneurship. According to Schumpeter, the entrepreneur is the central "figure" in the capitalist society; the entrepreneur is the main initiator of economic change and development. He separates the entrepreneur from the other business people who avoid risk and clearly distinguishes the entrepreneur from the owner and the manager of the company. Innovation and entrepreneurship are closely related

– entrepreneurs undertake innovation, innovation lead to economic growth and prosperity. Therefore, according to Schumpeter, entrepreneurship is a term used for activities related to the creation of innovations, whereas the individuals that make innovation are entrepreneurs.

Important driving force for the entrepreneurial activities comes from the small and medium enterprises (SMEs). This close relationship between entrepreneurship and SMEs can be explained with the following reasons. Namely, most of the start-up activities come from the SMEs, the SMEs are an important source of innovation, new products and services and they are key element of regional development and social cohesion. SMEs are very flexible, mobile and easily adaptable to the fast changing business environment and therefore are an important source of entrepreneurial activities. Entrepreneurship, except in SMEs, can occur in large enterprises in the form of internal or corporate entrepreneurship (Фити et al., 2007). Corporate entrepreneurship, also known as entrepreneurship, is a special type of entrepreneurship as stated by Norman Macrae. Norman Macrae, publishes two articles in *The Economist* (one in 1975 and one in 1982) in which he emphasizes the importance of entrepreneurship for big corporations. According to Macrae entrepreneurship is one of the key determinants of fast economic growth. Therefore big corporation will have to find new ways to stimulate competition within the organization i.e. between the employees" in order to ensure dynamic growth in the future. Pinchot (1986) develops a new concept of corporate entrepreneurship. According to him the one who wants to undertake entrepreneurial activities within the firm will have to sacrifice some of its time and salary in order to sell the finished project to the corporation and to receive some reward, such as cash bonus in exchange. This reward will be later used for the realization of new entrepreneurial activities. Moreover, as stated by Peter Drucker (Drucker, 2006), to encourage entrepreneurial behavior in any enterprise, regardless of its size, the company has to be managed in "entrepreneurial" way.

Entrepreneurship is of crucial importance for the economy as a whole – it enhances economic growth, increases employment, stimulates innovation and improves society's welfare. Economic growth has always been an area of major interest among the economists. The link between the economic growth and entrepreneurship has been studied in many empirical studies. The empirical results have shown that four-fifths of the new jobs have been generated by the small businesses sector in the countries. Additionally, new companies that operate on the market up to ten years employ fifty times more as compared to those companies that operate for more than twenty years. These findings provide sufficient evidence to stimulate development of small and medium enterprises and changes in business orientation as one of the main driving forces of the economic growth. Economic growth can be directly attributed to the level of entrepreneurial activity in the country (Petkovska, 2011).

CAUSES AND CONSEQUENCES OF THE GLOBAL ECONOMIC CRISIS

After the Great Depression of 1929-1933, the world faced second global crisis - the 2007/2008 financial and economic crisis. The 2007/2008 crisis, same as the Great Depression, emerged in the most powerful country in the world - USA. The problem started from the U.S. primary mortgage market and then dramatically escalated and spilled-over on financial markets around the world. In 2007 there was a sharp decline of the U.S. home prices. This created additional burden for the borrowers to refinance their mortgages. The real problem was the large amount of securities that were backed with mortgages, especially the subprime mortgages which were widely held by international financial firms. Global investment was drastically reduced, credit markets were closed, activity of the private sector declined, global liquidity shrank dramatically. Global economic growth slowed down, with negative growth rates in many countries and the world economy entered into a deep and prolonged recession.

There are numerous reasons that can explain the outbreak of the 2007/2008 financial crisis, its transformation from financial to global economic crisis and its transfer from the financial to the real sector. Jickling (2009) classifies the main causes as followed:

- **Imprudent mortgage lending in U.S.** In a world of loose monetary policy, relaxed credit conditions and rising housing prices, the U.S. commercial banks started to give mortgage loans at low interest rates. These loans were generally available to everyone i.e. credit conditions were so liberal that mortgage loans were approved to everyone regardless of person's income and creditworthiness. At the same time the demand for houses has increased which was followed by an increase in housing prices and mortgages. However, housing prices didn't remain high for long period of time. In 2007 there was a sharp decline of real estate prices, which led to decrease in the value of mortgages. Large portion of the housing loans became nonperforming because of the loose credit policy of the banks. Commercial banks began to sell the mortgages which resulted in further increase of the housing supply in a situation in which there was no real demand. The financial crisis was followed by a confidence crisis which, in turn, led to a decline in the rating of the banks, insurance companies and hedge funds.
- **Lack of transparency and accountability in mortgage finance.** The large number of participants in mortgage lending created "bad" mortgages and stimulated trade with "bad" securities. In this situation market participants felt that they can sell these "bad" products without any responsibility for their actions. "A lender could sell exotic mortgages to homeowners, apparently without fear of repercussions if those mortgages failed. Similarly, a trader could sell toxic securities to investors, apparently without fear of personal responsibility if those contracts failed. And so it was for brokers, realtors, individuals in rating agencies, and other market participants, each maximizing his or her own gain and passing problems on down the line until the system itself collapsed" (Jickling, 2009).
- **Behavior of the rating agencies.** Credit rating agencies evaluated large number of the mortgage backed securities with the highest AAA rating. The failure of the rating agencies to recognize the bad quality of these securities is attributed to several reasons, such as poor ability of the economic models for foreseeing the "financial crash", conflicts of interest between different parties and lack of effective regulation of the financial sector. The market relied on the rating of these agencies and "bad" securities were traded internationally.
- **Global imbalances.** The world economy is characterized with global imbalances. Some countries, like China and Germany, have surpluses in their balance of payment, whereas other, like UK and U.S. have permanent deficit in their trade relations with other countries. Moreover, these global imbalances are widening in the recent years. The large current account surpluses in some countries led to an increase in the demand for financial assets. The financial assets issued by U.S. companies were especially demanded. The U.S. external deficit is a result of the internal deficit i.e. deficit of the households and the public sector. High U.S. debt became unsustainable and as a result financial disruptions occurred.
- **International bubbles.** The loose monetary policy in the U.S. contributed to the unsustainable increase in the prices of houses and apartments. This created housing prices bubble. The bursting of the bubble is one of the causes that explain the global crisis.
- **Legislation and regulation.** The excessive confidence in the market mechanism and self-regulation stimulated enforcement of new, liberal laws, such as Gramm-Leach-Bliley act (GLBA) and the Commodity Futures Modernization Act (CFMA). GLBA and CFMA created more space for risky and unregulated transactions among the financial institutions.
- **Shadow banking system and off-balance sheet financing.** At the beginning all risky financial activities were strictly regulated (increasing leverage, short-term debt to long-term loans granted). In recent history some of these risky activities migrated outside the government safety net consisting of deposit insurance and health and safety regulation. Mortgage lending is one of these risky activities. The problem started when mortgage lending was transferred from the banks to other financial institutions outside the government safety net. These unregulated institutions engaged in more hazardous activities such as taking short term deposits and borrowing long-term credits.
- **Excessive leverage.** Due to low interest rates and abundant capital, fixed income yields were low. Investors overlooked risks and began to invest borrowed funds in order to increase the

return on their capital. Excessive leverage enhanced the impact of the crisis. The consequent process of deleveraging of the financial institutions led to tightening of the interbank credit market, dramatic decline in the supply of loans and liquidity shortages in the market.

- **Financial innovations and their increased complexity.** Financial innovation is the driving force that leads to greater efficiency and modernization of the financial systems. On the other hand, the speed of development of the new financial instruments is so rapid that the market infrastructure was unprepared when these new instruments became under stress. Some suggested that sufficient time is needed for the market for new instruments to mature before they reach significant size i.e. the regulators, accountants, rating agencies should have enough time to learn more about the new financial innovation. The complexity of certain financial innovation had three effects during the financial crisis: 1) investors could not make independent judgments on the merits of the investment, 2) risks of market transactions were hidden, and 3) regulators were confused.

The current global crisis had many negative consequences, globally, but also in terms of individual national economies. Observed globally consequences of the crisis are: decline in production in many countries, especially decline of housing construction and related industries; decline of employment and increase in poverty of the population; difficulties in financing development projects due to tight credit conditions; reduction of exports; confidence crisis in the financial markets and subsequent decline in prices; reduced volume of foreign direct investment in all countries (except in the most stable and most prosperous countries); growth stagnation or negative growth rates in many countries; etc.

The consequences of the global crisis were different in different countries depending on the degree of development of the country (Kilibarda et al., 2011). Thus, in the case of developed countries, the crisis primarily affected the financial sector – banking sector suffered heavily and liquidity shortages occurred. In the second stage the investment and consumption were negatively affected which lead to a decline in the gross domestic product and an increase in unemployment. In the developing countries the financial sector was not directly hit. The effects of the crisis were primarily felt in the real sector through two channels. First, the decline in the global demand resulted in lower exports and second, the confidence crisis and high level of uncertainty in the global economy resulted in contraction of the foreign direct investment (FDI). In the second stage, lower exports lead to a decrease in the production and employment. The least developed countries suffered as well – besides the negative effects on real economic activity because of lowered exports and FDIs, these countries were additionally hurt because of the reduced international credit supply and donations from richer countries.

ECONOMIC CRISIS AND THE ENTREPRENEURIAL ACTIVITY IN SOUTHEAST EUROPEAN COUNTRIES

Entrepreneurial activity can be defined as creation of new or expansion of the existing economic activity, with primary goal - identifying and exploiting new products, processes or new markets. Entrepreneurial activity can be stimulated by more favorable business environment - lower costs for registering new business and shorter time required for the registration are some examples for favorable entrepreneurial environment. Additionally, computerization of the process of registering a new business results in reduced regulatory barriers for starting a business and stimulates growth in the formal private sector.

The global financial crisis caused dramatic reduction of the world income and employment, widening of the deficits, rise in the national debt and increased uncertainty. Entrepreneurial activity was negatively influenced by the global crisis as well. SMEs, as previously stated, are an important driving force for the entrepreneurial activities and a significant generator of economic growth in any market economy. SMEs are far more flexible as compared to larger companies when it comes to adjusting to changes in the business environment; however, they were not flexible enough to withstand the

negative effects of the global crisis. Some of the problems faced by the SMEs during the crisis were insolvency, difficult access to financial resources, new technologies, higher competitiveness etc.

Relationship between entrepreneurship and financial crisis is studied in Paulson et al. (2006). They analyzed the financial crisis in Thailand from 1997-2001 and its effect on the businesses. Entrepreneurs were divided into three groups: pre-crisis, during the crisis and post-crisis businesses. The results of this study showed that "not only the business performances were affected during that period but also during the crisis and post-crisis groups were less willing to start up a business with considerable capital" (Shazhad et al., 2012).

The economic crisis did not circumvent the transitional economies of Southeast Europe. Nobel laureate Joseph Stiglitz during a visit to Belgrade in 2008 said: "The region can not escape the global crisis. Some countries will be affected directly through the trade channel, whereas others will be affected indirectly because of a decline in the prices of raw materials. This crisis started in the center, in the U.S., but the periphery will suffer the most as exports and foreign direct investment will decline. The region depends on Europe and Europe will have more negative consequences from the global crisis than the United States."

As a result of the recession in Western Europe, all Southeast European countries faced a slow-down in exports, reduced total domestic demand, decline in credit flows and foreign direct investment, decline in growth, loss of jobs, worsening working conditions etc. All of this contributed to an increase in the poverty rate in Southeast European countries.

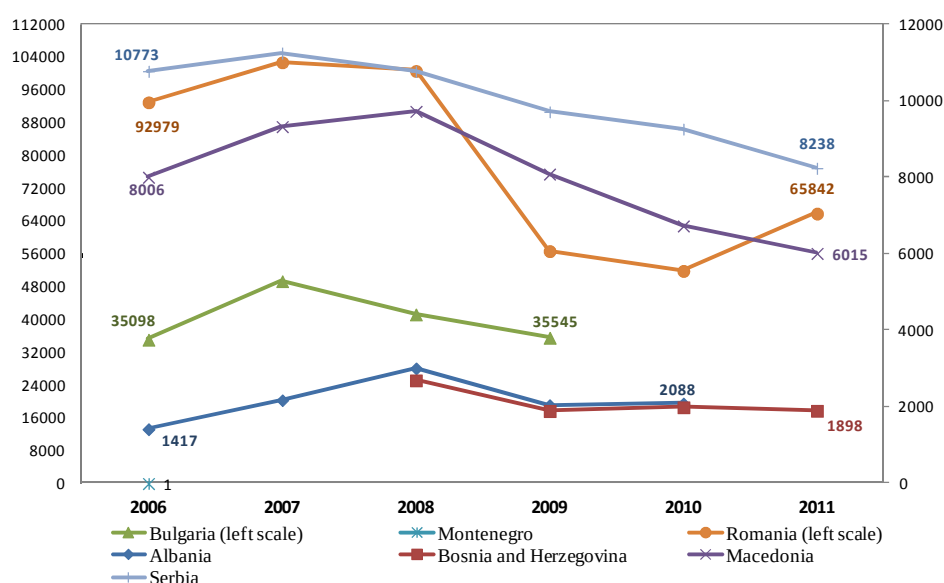
The group of transition economies of Southeast Europe consists of Albania, Bulgaria, Bosnia and Herzegovina, Macedonia, Montenegro, Romania and Serbia. To evaluate the impact of the 2007/2008 economic and financial crisis on the entrepreneurial activity in transitional economies we use the World Bank Doing Business indicators for the period 2006 to 2011. More precisely, the entrepreneurial activity is proxied by the number of newly registered businesses. In order to study the effects of the crisis we are looking at the trends in the number of new businesses in the Southeast European region i.e. whether the number of new businesses has increased or fell in the period 2006-2011 in different economies. Entrepreneurial activities can be stimulated in a favorable business environment. Klapper and Love (2010) studied the impact of the financial crisis on creation of new firms taking into account the business environment. They concluded that there is negative and significant relationship between the growth of new businesses, on one hand and the initial cost, the time required to register a business and the number of procedures, on the other hand. Namely, faster and simpler process for registering a business leads to an increase in the number of newly registered businesses. Also, lower initial costs and required minimal capital positively affect the number of newly registered businesses. Therefore, our analysis also refers to the indicators that describe the business climate in transition countries such as the number of procedures, time required to register a new business, initial costs (as % of income per capita) and required minimum capital (% of income per capita).

The number of newly registered businesses in the Southeast European countries is presented in Figure 1. The analysis does not include Montenegro because we have data only for 2011 and Bosnia and Herzegovina because we didn't have data for 2006 and 2007 so we couldn't evaluate the effects of the crisis. The data shows positive movement in the number of newly registered businesses in 2007 compared to 2006 in all analyzed countries. However, already in 2008, when the financial crisis spilled over in the region, one can clearly notice drop in the number of newly registered businesses in some of the countries (Romania, Serbia and Bulgaria). Macedonia and Albania are exception from this trend. In Albania the number of newly registered businesses in 2008 is 3.005 as opposed to 2.176 businesses in 2007, whereas in Macedonia there is a small increase of 397 businesses in 2008 as compared to 2007. This situation can be explained by the timing of the crisis in these two countries. Namely, in Albania and in Macedonia the financial crisis hit the economy in the last quarter of 2008.

Therefore, one cannot evaluate the effects of the crisis in 2008 as compared to 2007. However, if one looks at the data for 2009 there is a clear evidence of a decline in the number of newly registered businesses – in 2009 as compared to 2008 the number of newly registered businesses fell by 2.045 in Albania and by 1.638 in Macedonia.

Particularly sharp decline can be observed in Romania, from 100.646 in 2008 to 56.690 in 2009, or around 40%. On the other hand, the business sector in Romania recovered relatively quickly as compared to the rest of the region. The number of newly registered businesses started to rise in 2011 i.e. 65.842 in 2011 as compared to 51.859 in 2010. However, this growth is relatively mild and not sufficient to reach the 2007 pre-crisis level. In all other analyzed economies the number of newly registered businesses is still declining in 2011.

Figure 1. Number of newly registered businesses



Source: World Bank

The negative trend in the number of newly registered businesses can be explained by the lack of investment capital but also with the entrepreneurs' attitude during the crisis. Namely, entrepreneurs were avoiding new activities during the crisis even if they had funds to invest because of the high market risks and uncertainty (Djokic et al., 2012). In other words, most of the entrepreneurs had passive approach to the crisis. The passive approach during the crisis is a consequence of non-supporting governmental policies to create favorable business climate, on one hand and to entrepreneurs lacking ability for running business in crisis situation, on the other hand. In other words, both parties were passively waiting for the crisis to pass on its own. Entrepreneurs were concentrated primarily on maintaining their ongoing business and adjusting their entrepreneurial activities to the reduced market demand during the crisis. However, this approach has adverse effect on the future entrepreneurial activities because it contributes to the process of "pre-mature" aging of the existing products or services and it reduces the value of the invested capital. Given the positive relationship between economic growth and entrepreneurship, the stagnation of the entrepreneurial activities means further deepening of the recession.

The number of newly registered businesses depends on the business environment in the country. In the period of crisis every government should put a lot of effort to stimulate the entrepreneurial activity and to create more favorable business environment. Some of the indicators for the business environment are the number of procedures; time required to register a business; cost of starting a business, and required minimal capital. The indicators for the Southeast European countries are presented in Table 1.

Table 1. Indicators for starting a business

Economy	Year	Procedures (number)	Time (days)	Cost of starting a business (% of income per capita)	Paid-in Min. Capital (% of income per capita)
Albania	2006	11	41	31.1	39.9
	2007	11	39	22.4	36.7
	2008	10	36	46	34.3
	2009	6	8	45.1	32.3
	2010	5	5	31.8	/
	2011	5	5	31.4	/
Bosnia and Herzegovina	2006	12	63	40.1	57.4
	2007	12	63	36.3	52
	2008	12	63	30.1	43
	2009	12	69	30.8	36.3
	2010	12	69	15.8	29.8
	2011	12	64	17.7	30.5
Bulgaria	2006	11	32	9.6	73
	2007	9	32	7.9	63.9
	2008	9	32	8.4	56.3
	2009	4	49	2	47.8
	2010	4	18	1.7	20.7
	2011	4	18	1.6	/
Macedonia, FYR	2006	13	48	11.3	145.2
	2007	10	18	7.4	111.1
	2008	9	15	6.6	/
	2009	7	9	3.8	/
	2010	4	4	2.5	/
	2011	3	3	2.5	/
Montenegro	2006	/	/	/	/
	2007	13	24	6.7	/
	2008	13	24	6.2	/
	2009	13	21	4.4	/
	2010	11	12	2.6	/
	2011	7	10	1.9	/
Romania	2006	5	11	5.3	1.9
	2007	5	11	4.4	1.6
	2008	5	9	4.5	1.5
	2009	5	9	3.5	1.1
	2010	5	9	2.8	0.9
	2011	5	9	2.6	0.9
Serbia	2006	11	23	12	7.6
	2007	11	23	10.2	7.6
	2008	11	23	8.9	8
	2009	11	23	7.6	6.9
	2010	7	13	7.1	6.1
	2011	7	13	7.9	6

Source: World Bank

Generally, one can notice an improvement in the business environment in most of the countries during the post-crisis period. Namely, starting from 2008, in Bulgaria, Macedonia, Romania, Serbia and Montenegro there is a positive in all indicators – the number of procedures, time needed for business registration, initial cost and the minimum capital required are constantly declining. For Montenegro we do not have data on the required minimum capital, whereas for Macedonia the data for the same indicator is available only for 2006 and 2007 so one cannot distinguish between the pre-crisis and the post-crisis movements in this indicator.

The effects of the global economic and financial crisis in Albania, as previously stated, were felt later as compared to the region. The economic growth slowed down in the last quarter of 2008 and consequently, the effect of the crisis on the entrepreneurial activity can be seen starting from 2009 when the number of new businesses decreased by 960 as compared to 2008. Despite the decline in the number of newly registered businesses in 2009, data shows remarkable improvement in the conditions for starting a business in the same period. There was a significant reduction in the number of procedures and time needed for registration a business which has declined from 36 days in 2008 to 8

days in 2009 and then, to only 5 days in 2010. Improvement can be observed in the minimum capital requirement for starting a business. The only indicator that has worse performance compared to the pre-crisis period is the initial cost for starting a business. Establishing a business in Albania in 2007 was evaluated to cost around 22.4% (of the per capita income), whereas in 2008 and 2009 it went above 45% (of the per capita income). The data for 2011 indicates stabilization of the situation – initial cost for starting a business returned to 31.4% (of the per capita income).

Bosnia and Herzegovina was one of the Southeast European transition economies that suffered heavily during the global crisis. Additionally, the effects of the crisis were amplified because of inefficient macroeconomic policies. The recovery of the economy was possible only by implementation of economic and political reforms, stimulating entrepreneurial activities, strengthening of market institutions and mechanisms, the rule of law and active fight against corruption. In order to stimulate entrepreneurship, as can be observed from the data, there was a decrease in the initial cost and minimum capital required to start a business. However, the other indicators suggest no significant changes or even worse business conditions in 2009 as compared to 2008 – the number of procedures remains the same, whereas the time needed to register new business has increased from 63 days in 2008 to 69 days in 2009.

The comparative analysis between the countries in 2011 shows that the number of procedures and the time to register new business is highest in Bosnia and Herzegovina and lowest in Macedonia. Namely, to register new business in Bosnia and Herzegovina one needs 12 procedures and 64 days, whereas in Macedonia one needs only 3 procedures and 3 days. As the initial cost for starting a business is concerned the cost is lowest in Bulgaria (1.6% of the per capita income) and in Montenegro (1.9% of the per capita income). Highest initial cost for starting business is registered in Albania – around 31.4% of the per capita income. The required minimal capital for establishing new business is smallest in Romania, only 0.9% of the per capita income, and highest in Bosnia and Herzegovina, around 30.5% of the per capita income.

The presented analysis confirms an improvement in the business environment in almost all Southeast European countries. Namely, most of the indicators for starting a new business are better in 2011 as compared to the pre-crisis period. On the other hand, the number of newly registered businesses is still declining in 2011 with the exception of Romania. This situation could indicate that, governments, in order to stimulate the entrepreneurial activities, will have to implement more reforms towards creating more favorable environment – further reduction in the number of procedures and time for new business registration, smaller initial costs and required capital is needed. In addition, governments need to promote active measures aimed towards developing new entrepreneurial skills for running business during crisis. As stated by Djokic et al. (2012) active government role can be especially efficient in less developed countries where the government can organize different forms of training and courses for better understanding of the current economic crisis and its mechanisms and suggest approaches for overcoming its consequences. These reforms should facilitate doing business in Southeast European countries and stimulate the entrepreneurial activity.

CONCLUSION

Entrepreneurship is a dynamic process that generates new values, products and services. Entrepreneurs discover and utilize new opportunities in a world of scarce resources. Entrepreneurial activities stimulate employment, increase innovation and positively contribute to the society's welfare. Important driving force for the entrepreneurial activities are the SMEs which, by definition, are more flexible, more mobile and more adjustable to changing business environment than large corporations.

Many factors contributed to the outbreak of the 2007/2008 financial crisis and its transformation into global economic crisis. The consequences of the economic crisis were detrimental on a macro level, for the global economy, as well as for the national economies. The global crisis didn't circumvent the

entrepreneurship – with the contraction of the real economic activity entrepreneurial activities were reduced as well. Even though SMEs are far more flexible as compared to larger companies they were not flexible enough to withstand the negative effects of the global crisis. SMEs faced huge problems during the crisis such as insolvency, difficult access to financial resources, new technologies, higher competitiveness etc.

The effects of the global financial and economic crisis on the entrepreneurial activity in the Southeast European transitional countries are evaluated by analyzing several indicators for the 2006-2011 period. The entrepreneurial activity is proxied by the number of newly registered businesses in the analyzed countries, whereas the number of procedures; time needed for registration of new business; the initial cost, and the minimal required capital are used as indicators for the business environment.

Starting from 2007 the number of newly registered business has downward trend in all analyzed economies, with the exception of Romania. This negative movement can be explained by scarce funds for new investment, on one hand, and with the entrepreneurs' attitude in the world of high market risk and uncertainty. Namely, during the crisis most of the entrepreneurs had passive attitude which, in turn, resulted in "pre-mature" aging of the products, services and the invested capital. The passive attitude of the entrepreneurs and the stagnation of the entrepreneurial activities amplified the negative effects of the crisis in the analyzed economies, resulting in further deepening of the economic recession.

Despite the declining trend in the number of newly registered businesses, the indicators for starting new business suggest an improvement in the business climate in almost all of the analyzed economies. From here one can conclude that, in order to stimulate the entrepreneurial activity in Southeast European countries, further improvement of the business conditions is needed i.e. further reduction of the number of procedures, less time needed for registration and smaller costs and capital required will stimulate the creation of new businesses and will promote entrepreneurial activities. In addition, governments need to promote active measures aimed towards developing new entrepreneurial skills for running business during crisis. The active role of the government is especially efficient in less developed countries where the government should engage in educating the entrepreneurs for better understanding the current economic crisis and overcoming its consequences.

LITERATURE

- 1) Alan L. Carsrud, Malin E. Brännback, 2007, *Entrepreneurship*, Greenwood Publishing Group, United States of America
- 2) Djokic M., Jovanovic V., Panik B., 2012, "Preduzetnicki pristup prevazilazenju krize", II Medunarodni naucni skup o ekonomskom razvoju i zivotnim standardu, Panevropski Univerzitet, Banja Luka.
- 3) Drucker, P., 2006, *Moj Pogled na Menadzment*, Adizes, Novi Sad.
- 4) Jickling, M., 2009, *Causes of the financial crisis*, Washington, DC: Congressional Research Service.
- 5) Kilibarda M., Nikcevik A., Milik D., Mikunovic A., 2011, *Globalna finansiska kriza i odgovor Evropske unije*, Working Paper No. 21, Central Bank of Montenegro.
- 6) Klapper L., Love I., 2010, "The Impact of the Financial Crisis on New Firm Creation", unpublished manuscript, World Bank.
- 7) Paulson, A., Townsend, R., Karaivanov, A., 2006, "Distinguishing Limited Liability from Moral Hazard in a Model of Entrepreneurship", *Journal of Political Economy*, 114, 43.
- 8) Pinchot, G., 1986, *Intrapreneuring: why you don't have to leave the corporation to become an entrepreneur*, Harper & Row.
- 9) Shazhad I., Yusoff R., Azam K., Khan A., 2012, "Global Financial Crisis and its Effect on Entrepreneurship", *World Journal of Social Science*.

-
- 10) Фити, Т., Хади Василева Марковска, В., Бејтмен, М., 2007, Претприемништво, Економски Факултет – Скопје.
 - 11) Петковска, А., 2011, Иновацијата како фактор за поттикнување на растот на малите и средните претпријатија со посебен осврт на источниот и западниот регион на Република Македонија, магистерски труд, Економски Институт - Скопје

THE IMPACT OF GLOBAL ECONOMIC CRISIS AND INTERNAL CRISIS ON DEVELOPMENT OF THE SME SECTOR IN SERBIA¹

Jelena JEŠIĆ²
Andrea ANDREJEVIĆ PANIĆ³

Abstract

There is an obvious downward trend in the number of enterprises in the Republic of Serbia, as a result of the second wave of the economic crisis, as well as the furthering, already expressed, problem of insufficient liquidity of enterprises and companies struggling to secure more favorable terms and credit sources, in order to survive in the market. The positive impact of the entrepreneurial approach and easier apply of innovation in business processes should help to faster overcome the economic crisis. It should explain the relationship between entrepreneurship and unemployment at the same time, determining the position of SME's in the economic structure, as well as, their importance in the revitalization of economic trends and the process of leaving the crisis. Overcoming the second wave of the economic crisis in Serbia requires adequate measures and state assistance to all entities, especially small and medium enterprises. The aim of this paper is to analyze the influence of the second wave of the economic crisis on the sector of small and medium enterprises in Serbia and to show the possibility of minimizing the negative effects of the financial crisis, also the implementation of appropriate measures in order to achieve the necessary revitalization of the SME's sector of the country, as one of the main carriers of economic development.

Key words: entrepreneurship, small and medium enterprises, economic growth, economic crisis, unemployment, the market economy.

INTRODUCTION

Small and medium enterprises (SME's) sector is the backbone of development in market economies and in transition countries, contributing to the GDP increasing, exports, dynamic economy and its competitiveness, since they have the greatest ability to adapt quickly to changes in the market. The small and medium - sized enterprises have an especially important role as a stable source of new employment and contributes significantly in balancing regional economic development.

Small and medium enterprises and entrepreneurs have an important role in the overall activities of the Serbian economy, as indicated by the main economic indicators available from 2009. The rapid growth of small and medium enterprises and building systems to encourage their development, are among the significant achievements of the transition economy of Serbia in the period 2000-2009. The small and medium enterprises and entrepreneurs (SMEE) has become the most effective segment of the Serbian economy, the bearer of growth and employment, in 2009., it has provided 66.7% of employment, 67.8% of turnover and 57.4% of gross value added of non-financial sector of the Serbian economy.

¹ This paper is a part of research projects numbers 47009 (*European integrations and social and economic changes in Serbian economy on the way to the EU*) and 179015 (*Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements*), financed by the Ministry of Science and Technological Development of The Republic of Serbia.

² Jelena Ješić, M.Sc. Economics, PHD student, teaching assistant, Junior Research Fellow, Educons University, Sremska Kamenica.

³ Andrea Andrejević Panić, M.Sc. Economics, PHD student, teaching assistant, Junior Research Fellow, Educons University, Sremska Kamenica.

In foreign trade small and medium companies, realized a deficit of 483 billion RSD, which is 24.9% less than in 2008. The global financial crisis brought a reduction in domestic consumption, which resulted in a much larger decline in imports than exports in 2009, so the export-import ratio increased to 52.8% and in the SME's sector to 43.4%.

The global economic crisis has slowed down the process of structural reforms and more multiplied negative impact to the present constraints to economic development: the low level of overall economic activity and investment, high unemployment, problems of foreign debt, high foreign trade deficit, expressed social tensions, low competitiveness of the economy, etc. To achieve more efficient recovery from the recession, the Government of Serbia adopted in January 2010. The program of measures to reduce the negative effects of the global economic crisis in 2010. Programme's main objective was to preserve jobs with the possibility of creating new and mild rise in economic growth.

The economic crisis, with constructive and proactive approach may be an opportunity for entrepreneurship, value creation and establishing advantages over competitors. Also, bankruptcy and closure of some businesses during the recession, on the other hand, creates more space in the market for new business and business development of existing and efficient enterprises, encouraging employment and increase productivity. The aim of further research is to monitor and observe the actual situation, problems and needs of SMEs and the resulting change from the previous years, in order to create a reliable basis for the adoption of appropriate measures and encourage its growth and development.

THE IMPACT OF THE GLOBAL ECONOMIC CRISIS AND THE INTERNAL CRISIS ON THE DEVELOPMENT OF THE SME SECTOR IN SERBIA

Dynamic economic growth in the period 2001-2008 (average growth rate of 5.4%), was suspended in Q4 2008. and the 2009, when Serbia faced with the economic crisis, global financial crisis and the sharp economic downturn in the world. Primarily in the tradable goods sector, which depends on exports. After a sharp decline in the first half of the 2009, similar to the rest of Europe, economic activity in Serbia has stabilized, under the influence of a number of incentives and GDP decline eased. Gross domestic product in the 2009, suffered a real decrease of -3.1%, and the largest negative effects of the crisis were reflected in the industry (-12.1%), especially manufacturing (-15.8%), which was fully offset by growth in 2001-2008.r, followed by trade (-12.3%) and construction (-25.1%). Adverse effects of the crisis were reflected in the Serbian economy in conditions of high domestic demand (which was based on transitional growth) and high current account deficit. Due to the significant decrease in the inflow of foreign capital, the slowdown in lending activity, a significant slowdown in earnings, thus there was a decrease in domestic demand (about 7%).

The effects of the global recession in the 2009, were strongly expressed in the sectors of industry, the decline in gross value of (-12.2%) and in manufacturing (-15.3%), also in construction (-17.1%) and trade (-8.7%). Sectors that have maintained relatively high growth rate of added value are sectors of transport and telecommunications and financial intermediation. Services has generated a 2/3 GVA Serbia (68.6%), which is 11 percentage points higher than in 2001. While the industry share in GDP decreased from 25.8% to 18.9% in the 2009 (manufacturing from 20.2% to 14.1%). The structure of GVA in the 2009, continued growth, but it has created imbalances between tradable sector and non-tradable goods (about 30% share of tradable goods sector, as opposed to about 70% share of non-tradable goods sector).

The drastic decline in domestic demand as a result of reductions in personal consumption and production activities has reduced foreign trade, especially imports (imports fall by 28% and exports of goods by 20%), resulting in the improvement of the current account deficit. Deficit of 5.9 billion. EUR in 2008. dropped to 1.7 billion. EUR in 2009, (ie, from 17.1% to 5.7% of GDP). However, the low

competitiveness of the Serbian economy indicates a low level of exports (18.9% of GDP), especially when compared with imports - 35.4% share of GDP.

The reduction in economic activity was reflected in the reduction of budget revenues and deepening fiscal imbalance. Key measures to ease the budget deficit were reducing and freezing public sector pay freezes. Execution of expenditure was in line with the program supported by the IMF, and the deficit was 4.1% of GDP. Serbia's fiscal position was very similar to the positions of European countries in transition.

Serbia has entered a period of crisis with relatively high inflation (end of Q4 2008, the rate exceeded 10%), but successfully resist inflationary pressures. The inflation rate, measured by the average annual percentage change in the Consumer Price Index, since 2009., has shown that the official measure of inflation in Serbia, at the end of 2009. was 6.6% and was within the projected limits (defined corridor of 6% -10%, with a midpoint of 8%).

The economic crisis has exacerbated the problems in the labor market. Total number of employees in the period 2001-2008, it declined at an average annual rate of 0.6 % (2.7% in enterprises, while employment in private enterprises grew at a rate of 7.9 %). Total number of employees in the 2009. compared to 2008 was reduced by 5.5 %. Number of employees in enterprises, institutions and organizations decreased by 2.7 %, a decline of 13.8 % was recorded for private entrepreneurs and their employees (in part, due to update the records of the Health Insurance). The largest decrease in employment in the 2009., was in the manufacturing industry (30,926 persons), while the growth in employment was recorded in real estate (5,121 persons), financial intermediation (3,895), public utilities (2,148), education (1,814), health care (1,782), government (1,780). According to the labour force survey, the total number of unemployed increased by 445 383 people in the 2008, and 502 982 people in the 2009. The unemployment rate increased from 13.6% in the 2008 to 16.1 % in the 2009 (and the unemployment rate of the working age from 15 to 64 years increased from 14.7% to 17.4 %).

COMPARATIVE AND COMPETITIVE ADVANTAGES OF SME'S IN THE TIME OF ECONOMIC CRISIS

The average competitiveness score of the Central and Eastern Europe area increased from 3.9% in 2008, to 4.1% in 2011, but the average ranking remained the same. There has been a general upward trend of the competitiveness scores in these countries in 2011, as compared to 2008, with the exception of Greece and Croatia (Table 1.). In the most recent The Global Competitiveness Report 2013-2014, Serbia ranks 101st in the world and in previous The Global Competitiveness Report 2012-2013, Serbia ranks 95th, in the world. However, in order to compete with other fast growing economies and to reach the EU living standards, these countries need national competitiveness strategies on the long term.

As we can see in Table 2, according to the Report on Small and Medium-sized enterprises and Entrepreneurship in 2009, the SME's sector had a dominant share in the number of business entities (99.8% or 314,827 units). The SME's sector generated 66.7% of employment (872,540 employees) and turnover of 67% (RSD 4,380 billion). By 2011, number of enterprises rises to 319,304 units, but number of employees declined for 1.4% to 786,873 people (65,3%).

Table 1. Global competitiveness index (GCI), 2008-2014.

Country	GCI 2008-2009		GCI 2009-2010		GCI 2010-2011		GCI 2011-2012		GCI 2012-2013		GCI 2013-2014	
	rank	score	rank	score	rank	score	rank	score	rank	score	rank	score
Albania	108	3.6	96	3.7	88	3.9	78	4.1	89	3.91	95	3.85
Bosnia and Herzegovina	107	3.6	109	3.5	102	3.7	100	3.9	88	3.93	87	4.02
Bulgaria	76	4	76	4	71	4.1	74	4.2	62	4.27	57	4.31
Croatia	61	4.2	72	4	77	4	76	4.1	81	4.04	75	4.13
Macedonia	89	3.9	84	3.9	79	4	79	4.1	80	4.04	73	4.14
Montenegro	65	4.1	62	4.2	49	4.4	60	4.3	72	4.14	67	4.20
Romania	68	4.1	64	4.1	67	4.2	77	4.1	78	4.07	76	4.13
Greece	67	4.1	71	4	83	4	90	3.9	96	3.86	91	3.93
Serbia	85	3.9	93	3.8	96	3.8	95	3.9	95	3.87	101	3.77

Source: World Economic Forum, the Global Competitiveness Reports

Table 2. SME Sector Development Indicators in Serbia (2008-2011)

	SMEs				Share of SMEs			
	2008	2009	2010	2011	2008	2009	2010	2011
Number of enterprises	303,449	314,827	318,540	319,304	99.8	99.8	99.8	99.8
Number of employees	940,159	872,540	814,585	786,873	67.2	66.7	66.4	65.3
Turnover (mill. RSD)	4,662,624	4,380,545	4,677,933	5,200,832	66.6	67.8	65.3	65.5
GDP (mill. RSD)	837,990	819,206	817,417	878,245	59.1	67.4	55.9	55.2
Export (mill. RSD)	274,506	275,378	339,845	400,015	45.9	60.5	46.4	48.5
Import (mill. RSD)	751,817	627,147	680,549	765,047	60.5	60.9	54.3	55.8
Commodity balance (mill. RSD)	-477,311	-351,769	-340,704	-365,032	74.2	72.8	65.4	66.7

Source: Report on small and medium sized enterprises and entrepreneurship for the year 2009-2010, 2010-2011.

Furthermore, business activity measured by turnover per employee in the SME's sector raised in real terms 3.7%. (Table 3) In the SME's sector, the main business activities are realized by small businesses (23% above the average level in the non-financial sector).

Table 3. Business activity indicators of economic entities by size for 2011

	Turnover per enterprise		Turnover per employee	
	mill. RSD	growth rate 2010-2011 (%)	mill. RSD	growth rate 2010-2011 (%)
Micro	6,7	-2,0	5,7	5,5
Small	164,9	2,2	8,1	4,6
Medium	702,9	1,9	6,7	1,2
SME's	16,3	-0,1	6,6	3,7
Large	5.499,5	0,6	6,5	-1,9
In total	24,8	-0,3	6,6	1,7

Source: Report on small and medium sized enterprises and entrepreneurship for the year 2010-2011.

GEDI (Global Entrepreneurship Development Index) is an indicator of entrepreneurship quality, particularly related to the effects of entrepreneurship and innovation, which are conditioned by individual and institutional factors. In the Table 4, as we can see, it includes three different dimensions of entrepreneurship:

Entrepreneurial attitude (ATT), reflect the views of the population on entrepreneurship - understanding business opportunities in the immediate environment in the next 6 months, the skill required to run the company, possibilities for beginner connecting, lack of fear of failure and social support.

Worsening business conditions in Serbia, (2008-2011) had an impact on reducing the perceived opportunities for starting a new business, spreading fear of failure (related to the growth of investment risk) and the decline of social support to entrepreneurial activities. The promotion of entrepreneurship and the development of non-financial support, led to an increase in size of the required skills available to beginners, as well as their networking (strengthening of relationships and expanding usage of the Internet). In comparison with the neighbouring countries and the EU average, a lower value of the sub-indexes entrepreneurial attitude have only Bosnia and Herzegovina (0.21pt) and Romania (0,22pt).;

Entrepreneurial activity (ACT), measures entrepreneurial activity with the potential for rapid growth - opportunities for the business, technology and quality of the labor force and the level of competition.

In the period 2008-2011, we can detect increased share of entrepreneurs who have started a new job, because of the perceived business opportunities, not because of ensuring the existence, increased level of education and training of new entrepreneurs engaged workforce, with an increase of intensity of competition in the market. At the same time, significantly reduces the proportion of new companies in the sector of medium and high technologies and contracting abilities of companies to implement new technology. Serbia and Bosnia and Herzegovina have the lowest values of this sub-index (0.14pt each), while Slovenia has above average value (0.46pt, in comparison to EU average which is 0.44pt).;

Entrepreneurial aspiration (ASP), defines a complex, qualitative and strategic nature of entrepreneurship - the introduction of new products and technologies, and high ambitions for growth, internationalization of business and availability of venture capital.

There is a growing share of entrepreneurs, who are starting a new business product. However, reducing the level of use of the latest technology innovations and applications, the ability of entrepreneurs to implement a business strategy that provides rapid growth, the level of orientation towards the international market of new firms and the degree of involvement of venture capital. Serbia and Bosnia and Herzegovina, have the lowest values of this sub-index (0.12pt each), while Czech Republic (0.49pt) and Slovenia (0.46pt) has above average values. The EU average of this sub-index is 0.32pt.

According to the Survey on SME's and entrepreneurs, the challenges of the current economic downturn persists 49 % of respondents, including a number of smaller companies that do not feel its effects (10%). Slightly more than one-fifth of respondents, have been forced to make decisions about the dismissal of employees, and more than a quarter is faced with uncertain prospects in terms of future survival. Similar responses were observed in last year's survey, when the serious consequences of the crisis managed to avoid 50 % of respondents.

Table 4. Global Entrepreneurship and Development Index

	Serbia		Bosnia and Herzegovina		Macedonia		Croatia		Romania		Hungary	
	value	rank	value	rank	value	rank	value	rank	value	rank	value	rank
GEDI	0,18	63	0,16	70	0,23	49	0,29	37	0,23	48	0,29	34
subindex A: the entrepreneurial attitude	0,28	54	0,21	67	0,26	55	0,31	44	0,22	64	0,32	41
1. pillar: looking at opportunities	0,13		0,12		0,16		0,16		0,06		0,12	
2. pillar: beginners skills	0,71		0,42		0,46		0,53		0,41		0,53	
3.pillar: without fear of failure	0,13		0,09		0,09		0,32		0,22		0,31	
4.pillar:networking	0,45		0,37		0,5		0,44		0,28		0,54	
5.pillar:cultural support	0,20		0,19		0,31		0,24		0,23		0,32	
subindex B: Enterprise activities	0,14	70	0,14	72	0,20	57	0,30	38	0,25	45	0,35	28
6.pillar:opportunities for business start-up	0,09		0,16		0,00		0,19		0,31		0,52	
7.pillar:technology sector	0,05		0,07		0,16		0,34		0,05		0,33	
8.pillar:quality of the workforce	0,19		0,09		0,33		0,28		0,41		0,41	
9.pillar:competition	0,25		0,27		0,44		0,45		0,36		0,28	
subindex C: entrepreneurial intentions	0,12	60	0,12	62	0,23	38	0,27	31	0,21	39	0,21	41
10.pillar: new products	0,30		0,13		0,27		0,13		0,22		0,23	
11.pillar: new technologies	0,08		0,00		0,05		0,22		0,08		0,09	
12.pillar: high growth	0,12		0,14		0,30		0,29		0,22		0,24	
13.pillar: internationalization	0,10		0,34		0,50		0,65		0,60		0,46	
14.pillar: venture capital	0,04		0,05		0,20		0,15		0,09		0,10	

Source: Global Entrepreneurship and Development Index 2012

Most of the respondents felt the impact of the economic crisis, but was not put into a position to fire workers (36 % to 44 % depending on the size of the business entity). Major differences are observed in other types of impact of the crisis. The survival of medium-sized enterprises are less affected (20 %) compared to other observed businesses, but also the largest proportion of these companies plan to lay off workers (30%).

The economic crisis affects activities related to real estate, construction, education, hospitality and manufacturing activities, and at least health services, services for vehicle maintenance and other beauty care and recreation. Compared to last year, there has been realignment in response to greater representation of firms, affected business in comparison to those who give up work because of the crisis staff. On the other hand, reduced the proportion of SME's who are not affected by the crisis than those that reduce the amount of work, but they are not forced to lay off employees.

Consequences of the economic crisis reflected in a reduction in demand for goods and services, primarily to the domestic market, of which the majority of otherwise-oriented SME's sector. The chronic problem of debt collection even more exacerbated, while loan servicing obligations and currency fluctuations have relatively less importance in ranking problems. The order of the intensity of the two most influential factors do not show significant changes compared to the survey results from 2009., but it was noticeable strengthening of exchange rate changes on operating results.

Even before the global financial crisis, despite its steady economic growth, Serbia had six main areas of concern that largely contributed to the effects that could be seen at the peak of the crisis:

1. *lagging tradeable sector growth*
2. *growth was strongly tilted toward nontradeables* - in particular transport and communications, retail trade and financial services
3. *low domestic savings* - with domestic savings close to zero, the economy's investment level was effectively constrained by remittances from abroad which were trending downward and the availability of foreign savings
4. *extensive foreign-exchange lending*
5. *loans were highly euroised* - even if direct cross-border foreign exchange loans to Serbian corporations were excluded
6. *high inflation*

Given these six issues, some of the most significant effects of the crisis that were affecting SME's sector are: a sudden halt to capital inflows; withdrawal of a large number of deposits; a plunge in exports and imports; a large decline in domestic demand, especially in investment; unemployment rising to over 17%, with sharp contracting of employment in manufacturing and construction; rising NPLs; volatile depreciation of the dinar exchange rate, despite attempts made by the National Bank of Serbia to stabilise the currency; a stalled privatisation agenda and unresolved restitution aspirations; contracting retail sales; a recession in the non-tradeable sectors; and a high external trade deficit.

In response to the effects of the global financial crisis, Serbia has undertaken a number of initiatives and measures, to stabilize cash flow within market economy and settle down the base for rebound. Some of them are: support of bank lending through interest subsidies and loan guarantees; a package of parametric pension reforms to reduce medium-term pension costs, while raising the employment rate; nominal freezes of public wages and pensions; high reserve requirements that served as a liquidity buffer during the crisis; reduction in the number of weekly repossession auctions; a growing T-bills market; diagnostics and stress tests for all 31 banks completed by the National Bank of Serbia; the mechanism of blocking a delinquent debtor's account made transparent (this mechanism has gained popularity due to the costly and lengthy procedures for bankruptcy); introduction of a bankruptcy law to accelerate proceedings and reduce the burden on courts; lowering of the exposure limit for banks as a form of gradual exit from the exposure commitments; development of the Budget System Law, including fiscal responsibility provisions; raising of the policy rate of the National Bank of Serbia; submission of a Corporate Debt Restructuring Law.⁴

Despite the improvements achieved, the business environment in Serbia is still ranked as insufficiently stimulative for the development of SME's sector. In 2009, Serbia ranked 93th out of 133 countries in the World Economic Forum's Index of Business Competitiveness. This is lower than in any other country in the region. In this context, the importance of the state support to the development and stability of this sector is invaluable, especially because the entrepreneurship sector was most severely hit by the economic crisis in Serbia.

OPTIONS OF REVITALIZATION STRATEGIES OF SME'S

Strategy for Development of Competitive and Innovative SME's, for the period from 2008 to 2013, defined priorities and directions for the development of small and medium sized enterprises in the Republic of Serbia. The aim is to create a framework for sustainable, internationally competitive and export-oriented sector of small and medium-sized enterprises, according to the principles of entrepreneurial economics, based on knowledge and innovation. Preparation of this document, the Government officially adopted in October 2008., was preceded by a consultative process, in the form of dialogue between public sector and SME's, to ensure that the proposed measures are aimed at solving the most important needs of entrepreneurs in Serbia. At the same time, to the fullest extent,

⁴ Rumiana J. (2012), *The Impact of the Crisis on the EU Perspective of the Western Balkans*, Brussels, Centre for European Studies.

respected the guidelines of EU policy in this area, so the strategy is in line with the European Charter for Small Enterprises and the Small Business Act for Europe. The basic principles of the Strategy are contained in five pillars:

1. Promotion and support of entrepreneurship and enterprise
2. Human Resources for competitive SME sector
3. Financing and taxation of SME's
4. Competitive advantage of SME's in export markets
5. Legal, institutional and business environment for SME's

The results of the small and medium enterprises sector and entrepreneurs, is confirming the dependence of business from external influences or acting outside the business entity. It is estimated that the most important impact had those who come from the state (the higher the amount of support or reducing restrictions) and local governments. At this applies 67% of responses, which is five percentage points higher than the previous year. This suggests that in times of crisis, increased expectations from the state. For more support to the commercial banks, as well as improving business conditions, interest is 18% of the responses. Contribution to better business relationships with partners, occupies last position on a scale of conditions for business, and the last is the improvement of management functions in the company (6% of responses).

According to the post-crisis model of economic growth and development of Serbia 2011-2020., export growth will be possible only if, in addition to the strengthening of small and medium-sized enterprises, attract "sound" transnational companies or technological renovation of non-privatized large production capacity.

Microeconomic and macroeconomic risks will be more pronounced. At the micro level, companies will be burdened by the consequences of a long slow recovery and uncertain business prospects, and to acquire capital will be more and more expensive (due to its scarcity and high risk), whether to focus on the securities market (issue of shares and bonds) or bank loans. Investors and lenders will strictly evaluate the potential customers, which will slow down development projects. At the macroeconomic level, indicating the state of the economy will, first, be careful disputed and, second, there will be a deterioration in indicators of external and internal balance (due to the current deterioration of the public finances and the external debt of many countries of the world). In other words, the imbalance in the economy will be more apparent and more severe penalized by the international financial markets.

In addition to these findings, authors of this paperwork emphasize the following suggestions for The Republic of Serbia as institutional prerequisites of employment policy:⁵

- Stimulating the young people to stay and work in Serbia. The role of government is great, because it can stimulate the young people at the higher level (encouraging entrepreneurship, self-employment). The unemployment problem of the brain drain costs, also, would be much smaller, thereby the old problem of negative population growth rate present for decades, will significantly be decreased.
- Demanding attitude toward foreign and domestic investors. The government should demand the contract commitment for lower and higher skilled workers in the arrangements with the investors, in order to reduce the brain drain and to increase employment.

As a candidate country for reaching European Union membership, Serbia still has a many tasks, and one certainly is competitive market, based on production. This is also directly connected with now jobs, and growth of employment.

⁵ Vučenov S., Andrejević A., Duran J., National Employment Strategy of Serbia VS. European Employment Strategy 2020, New Challenges in Changing Labour Markets, Institute of Economic Science, Belgrade 2012, pg. 398-399

CONCLUSIONS

For SME's sector to grow and to be properly funded and developed, the essentials and the main strong points to be achieved are implying the knowledge economy and innovation support. Firstly, state support and better financial stimulation from the financial sector can encourage (a) smart growth, also it will allow (b) sustainable growth that promotes a more efficient use of natural resources and energy, and also (c) inclusive growth, should enable the territorial and social cohesion that would strengthen regional cooperation, which would empower SME's sector through export enforcement.

Furthermore, the SME's sector main differences between Serbia and the European Union are in the key indicators of the labor market, and especially in the employment rate of working age population, and it is, also one of the most fundamental obstacles to Serbia's EU accession. Convergence towards the goals set by the Strategy "Europe 2020" will be necessary to achieve faster average annual economic growth of the EU average, while simultaneously to achieve the same or higher labor intensity of growth. In the context of the global economic crisis and global challenges that need a response, the "Europe 2020" strategy can be an operating tool that also defines quantitative targets, such as: increasing the employment rate of the population aged 20 to 64 years at least 75%; increase the percentage of GDP allocated to research and development from 1.9% to 3% ; reduce the rate of early school leavers to under 10 % from the current 15%, while increasing the percentage of the population with a university degree from 31% to 40%, etc.

Serbia is gradually recovering from the recession, has increasing exports and rising GDP and productivity, and yet is unable to tackle effectively the problem of continuously growing unemployment and inflation shocks. Serbia has a difficult and ambitious task to accomplish in the next decade, the convergence with the European Union. So, Serbia will need to reduce by more than half, the present drastic gap in the employment rate, as the main synthetic indicator of labor market conditions. At the same time, monitoring and observing EU projections of employment and labor market trends are very important factors of faster growth of the SME's sector.

LITERATURE

1. Acs, Z., Szerb, L. (2012), *Global Entrepreneurship and Development Index 2012*, London, Edward Elgar Pub.
2. Aiginer, K. (2009), *The current Economic Crisis: Causes, Cures and Consequences*, WIFO Working Papers, no. 341.
3. Barrell, R., Davis, P. (2008), *The evolution of the Financial Crisis of 2007-08.*, National Institute Economic Review, Sage, Berlin, no. 206, p. 5-14.
4. Centre for Entrepreneurship, SME's and Local Development (2009), *The Impact of the Global Crisis on SME and Entrepreneurship Financing and Policy Responses*, OECD.
5. Fund for the Advancement of Economics (2010), *Post-crisis model of economic growth and development of Serbia 2011-2020*. Belgrade, Institute of Economics.
6. Shefrin, H. (2009), *How Psychological Pitfalls Generated the Global Financial Crisis*, Santa Clara University.
7. Stiglitz, J. (2008), *How to Get Out of the Financial Crisis*, New York, The Time.
8. Rumiana, J. (2012), *The Impact of the Crisis on the EU Perspective of the Western Balkans*, Brussels, Centre for European Studies.
9. Ministry of Economy and Regional Development (2010), *Report on SME's and entrepreneurship za 2009*, Belgrade, Republic Development Bureau, the National Agency for Regional Development, Serbia.
10. Ministry of Economy and Regional Development (2011), *Report on SMEs and entrepreneurship za 2010.*, Belgrade, Republic Development Bureau, the National Agency for Regional Development, Serbia.

-
11. Vučenov, S., Adrejević, A., Đuran, J. (2012.) National Employment Strategy of Serbia VS. European Employment Strategy 2020, New Challenges in Changing Labour Markets, Belgrade, Institute of Economic Science.
 12. World Economic Forum (2013), Global Competitiveness Report 2013-2014, Geneva, World Economic Forum.

3.

STRUCTURAL CHANGES AND DEVELOPING COUNTRIES



THE ECONOMIC EFFECTS OF SERBIA'S ACCESSION TO THE EUROPEAN UNION*

Ivan MARKOVIĆ¹
Snežana RADUKIĆ²
Marijana MATIĆ³

Abstract

The decision on Serbia's accession to the EU would be primarily driven by economic motives. However, this process has its price, as well as some negative effects. Positive and negative consequences of the accession process is very different depending on whether the measures short-term or long-term effects. Economic science is not called upon to answer the question whether it is necessary to join the European Union or not, but there must be an answer to the question what are the economic benefits and consequences of this process and how much it costs. This paper will attempt to identify the strengths and weaknesses of Serbia's membership in the European Union, the price of the accession process, as well as restrictions that arise along the way.

Key words: Accession process, European Union, Acquis communautaire, Convergence Criteria

INTRODUCTION

The euphoria that was created in Serbia about European Union membership is more a result of the media campaign than clear arguments in favor of pompous titles in print and electronic media. It is the duty of economics is not to say that the membership of this integration a necessity, that option is no alternative, desirable or unnecessary. Rather, the responsibility for making such decisions should take politicians. But the obligation of economics is to say how much this decision will costs and what are the benefits of the EU membership. In addition to direct, there are also indirect, invisible costs and benefits that would have serious economic analysis to predict and monetary terms. It is very important the timing of the analysis. Benefit cost ratio of EU accession changes the extension of the period within which the process under consideration.

This paper will register economic advantages and shortcomings of Serbia's accession to the EU. Political, social and other aspects of this process will be set aside in order to analyze only the economic aspect of the process.

It is known that the speed and the effects of accession to the EU depend on the level of competitiveness of the economy, but also they affect competitiveness. In order to examine this interdependence, it is necessary to take into account the competitive advantages and disadvantages in case of Serbian economy.

*The paper was prepared for the purpose of project no. 44007, supported by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

¹ Ivan Marković, PhD, Associate Professor, Faculty of Economics, Niš.

² Snežana Radukić, PhD, Assistant Professor, Faculty of Economics, Niš.

³ Marijana Matić, MSc, Institute of Occupational Health, Niš.

COMPETITIVENESS RANK OF THE SERBIAN ECONOMY

Competitiveness rank of the Serbian economy, based on the Global Competitiveness Index (GCI), is low (93-96th place) and according to the World Economic Forum Report 2013-2014, GCI has seen a noticeable drop in the 101st position. Also, the level of gross domestic product per capita (GDP pc) of Serbia was on 75th position according to the data from the 2011, or on 85th position according to the latest data from the 2012. Thus, the decline in GDP per capita is accompanied by a fall of GCI. The difference of 16 positions between these two indicators shows that in the past has driven the wrong economic growth strategy, which was based on the “expansion of domestic demand instead of saving and investment” (Petrović-Randelović i Radukić, 2012, p. 40).

Competitive advantages of Serbia are: infrastructure of primary health care (1-40th places), as well as the communication infrastructure, according to fixed telephone lines (37th place), mobile broadband subscriptions (41st place) and Internet bandwidth (29th place). In these segments, Serbia had previously recorded competitive advantages, but it is noticeable reduction in rank compared to the previous period. In addition, according to the tertiary education enrollment, Serbia is on a solid 50th position. Also, in area of goods market efficiency, Serbia has competitive advantages by number of procedures to start a business (47th), and imports as a percentage of GDP (42nd). In the labor market, there are a competitive advantage which applies only to the redundancy costs (23rd place) and the flexibility of wage determination (35th place), “because of that the whole of this segment of the market makes it uncompetitive, as evidenced by high unemployment and social tensions” (Petrović-Randelović, Radukić, 2012, p. 42). Competitive advantage in financial market is realized only in the legal rights index where Serbia takes 42nd place.

However, the competitive disadvantages in all the components are very severe and are the main weaknesses of the competitiveness of Serbia. The main disadvantages are: the „brain drain“ or the country capacity to retain and attract talent (146th and 147th place), administrative infrastructure and legal state (from 66th to 144th places), logistic infrastructure (from 95th to 139th places) and capital market (from 99th to 136th places). Within the administrative infrastructure, the most favorable position is realized in the field of business costs of terrorism (66th), but the least favorable position is recorded in the field of protection of minority shareholders' interests (144th) and the efficacy of corporate boards (138th).

In a sample of 148 countries, according to the level of competitiveness, Serbia has a very low rank. According to the degree of market orientation of the economy, in addition to a small number of competitive advantages Serbian economy (legal rights index, imports as a percentage of GDP and the number of procedures to start a business), there are a number of competitive disadvantages expressed primarily in the market for goods and services.

It should be noted that within this pillar of competitiveness (efficiency of the goods market - pillar 6th) there are indices that are related to foreign direct investments. According to the business impact of rules on FDI, Serbia is placed on 129th position, and to the prevalence of foreign ownership on 118th position. Thus, it can be concluded, among other things, that there are not enough foreign direct investments and the environment for their attraction is not attractive enough. This conclusion is confirmed by the value of the sub-indices of 10th pillar - market size. As mentioned previously, FDI contributes to GDP growth and increasing exports. According to the volume of GDP, Serbia is ranked on 73rd place, and to the volume of exports as a percentage of GDP to 71st place, therefore, we are somewhere in the middle of the list. The main recommendation is that in future pay more attention to these economic policy measures that encourage FDI just because of their multiple direct and indirect effects, since they are one of the key factors of economic growth and overcoming the recession. Accordingly, the economy, which is on the path to economic growth and increasing the level of competitiveness, has a greater chance to achieve positive effects of the accession process to the EU.

MISCONCEPTIONS OF THE ACCESSION PROCESS

Membership in the European Union is often identified with the entry into the club of the rich. The magic word „democracy” is tied to Western Europe suggests that a full-fledged member of the European Union have exactly the same rights as everyone else. Although the decision of the European Commission is formally adopted by consensus, raises the question of whether, in practice, not so? Also, lay the full membership linked to the Schengen entry under “umbrella”, and the assumption of a common currency (euro). In the above steps accession there are serious differences between the desired and possible.

First, we can distinguish three levels of integration that are the result of years of practice of the European Union: EU membership, joining the Schengen zone and membership in the European Monetary Union. Full membership this integration level involves deleting all customs and non-tariff barriers to trade with other states, and the acceptance of a common foreign trade and customs policy towards third countries, as common agricultural policy. In accordance with the proclaimed evolutionary approach, prospective EU member states in the pre-stage leaves a certain period in which to adjust the standards of foreign policy, and agricultural policy that this integration is applied. The move does not mean the freedom of movement of labor. These are countries that have experienced the 2004th acceded to this integration, but the freedom of movement of labor was prolonged for 7 years. Thus, EU membership brings freedom of movement of population, but not equal rights in employment with other members. In order to do this, that after gaining full membership and joined the Schengen Agreement, it is necessary to fulfill a number of conditions attached. One of the most important is the safety of the security of external borders of the EU (the boundary between members and non-members) in terms of effective prevention of illegal immigration. In this sense, external borders must provide police, not the army, must be included in measures of dealing with asylum seekers and the like. Recall that some EU countries are now members of the Schengen Agreement (UK, Ireland), and some members who are not in the EU, are under the Schengen „umbrella”(Switzerland, Norway, Iceland and Liechtenstein). Another requirement is the implementation of readmission, the acceptance of its citizens who had illegally entered the Schengen area or not provided asylum full membership insufficiently prepared the economy and society would create serious problems in the country which joined the EU, and the EU itself. High unemployment, low wages, economic insecurity would cause huge population migration to richer states of integration. It is estimated that in Romania since 2007 when it joined the EU, more than 3,000,000 of its residents left country. A known case is of „Polish plumber” who with billboards calling countrymen to come to Western Europe because of better earnings. In the „old” EU members there is a cheap labor pressure on wages, which causes dissatisfaction of the population.

The free movement of factors of production other than the free movement of labor includes the freedom of movement of capital. In any case this makes foreign direct investment, portfolio investment, borrowing abroad, but not the equalization of interest rates in the domestic financial market with the cost of capital that exists in developed EU countries. In times of financial crisis, this means greater exposure to external shocks which are particularly felt, Greece, Ireland, Spain and Portugal.

The third step, the membership in the European Monetary Union and the introduction of the euro as a common currency, the worst conceivable, assuming fulfillment of the convergence criteria. These criteria are very precise (quantitative) defined and related to the rate of inflation, budget deficit, public debt. With these rigorous measures the country needs at least two years to keep a fixed ratio of its currency and the euro, which means that the balance of payments can be to balance deflationary measures. The controversy regarding the convergence criteria is prioritized by the outbreak of the debt crisis in Greece and other EU member states, the question arises as reality set criteria, as well as their control, as well as sanctions for non-compliance. Since the formation of EMU is only five countries met the conditions of convergence and introduced the euro as a common currency (Greece, Slovenia,

Estonia, Cyprus and Malta). Experience has shown that introduction of the euro caused by strong inflationary shock. Convert the price in national currency prices are in Euros, after a two-year fixed parity of the national currency and the euro is an ideal opportunity to offset the appreciation of the real exchange rate of the national currency. The monetary shock is most evident in terms of decrease in the purchasing power of wages after joining the monetary union.

If the accession process observed from the theoretical side, the first step would be an entry of a new member of the customs union, the second step would be access to the common market and entry in a monetary union would be the third step. Each subsequent step is a higher degree of liberalization of economic flows to other Member States. Comparing the development of the theory of international trade and the actual processes leads to a serious collision in which the liberalization of attitudes adopted in the development of the economy. Liberalism is created and advocated by most developed economies of the world. First, it was the United Kingdom and the United States today. Protectionism was conceived in the 19 century in countries that are less developed (U.S. and Germany), and today the less developed countries suggests development through liberalization - development through trade). Experience says that the U.S. and Germany, thanks to protectionism have become the most developed countries of the world. That is why the question becomes whether the country promote the liberalization of only their own economic interests, or is it really the interest of the less developed countries of the world?

COSTS OF SERBIAN ACCESSION TO THE EUROPEAN UNION

When it comes to Serbia, EU membership only applies to the first step - harmonization with the agrarian and foreign policy of the EU, i.e. entry into the Customs Union. But fulfillment of the above conditions can be viewed from two perspectives: formal and factual. The formal side of the accession process means harmonizing national legislation with the European Union - *acquis communautaire*. First were discussed 120, then the 160 and 180 of thousands of pages of legal text that should be harmonized with the EU. These costs are not only related to the harmonization of regulations but also to staff training, public administration, infrastructure, institutional capacity building, information dissemination, etc. The whole process costs and it could be said that this cost largely borne by the country that approach to integration. Indeed, prospective members of the European Union in the pre-accession period provide grants that should be spent according to the set objective of accession to this integration. For Serbia in the coming budget period, the aid amount will be about EUR 200 million annually.

Another type of cost that would be Serbia on the road to full membership must be submitted relating to the Implementation Unlike the first two types of expenses (adopting the *acquis communautaire*) that is more technical in nature and lies on the efficiency of the Government and the Parliament of Serbia, will implement the standard is much more complex process. That mean not only last longer, but also entails a series of painful decisions. These costs are also known as micro economic sector and refer to the troubleshooting companies that cannot survive in the new business environment. Stronger competition will force many companies to cease operations, while others will have to adapt to the new standards, relationships and frequently to accept doing business with lower profit rates. In this sense, a particularly important effect of trade diversion that will result in reduction of foreign cooperation of Serbia with some traditional partners (eg. Russia). Such a practice raises the joint approval of foreign policy and common customs tariffs of the EU to non-member countries. These problems senses and tries to solve the Croatia that the EU membership is faced with a reduction in the competitiveness of their products in Serbia (eg. tobacco products).

The third type of cost would consist of the costs for the modernization of the economy, reallocation of resources, restructuring of productive capacity, increasing the competitiveness of exports, the share of EU funds and so on. These costs accession should not be seen solely in the context of the economy as it must continuously modernize and develop. Abstractly speaking, the EU does not want integration

within the country to be funded for a long time. Potential members must prove itself to be developed, or at least on the way to preserve stable growth over the long term. Because of that fact some countries have met this requirement and have opened the way for full membership (Norway and Switzerland).

According to the modified Solow model (Marković, 2009), the total cost of Serbia on its way to this integration should be between 110 and 120 billion euros in the period from 25 to 30 years old when he reached the level of development of the EU. This would effectively mean that 3.5 to 4 Serbian GDP should be spent to achieve this goal. However, 2/3 of that amount would represent a cost of modernization of the economy which would without membership in the EU should be realized. In addition to the traffic in Serbia should invest around 5,5 billion over the next 10 years (5% of GDP), to protect the environment should invest about 10 billion over 25 years (4% of GDP). Perhaps the most obvious fact is that the average investment rate should be between 29 and 31% (compared to the current 8 - 10%). To make this possible it is necessary savings rate of approximately 24 - 25% and the average growth rate of 5% minimum.

Net cost of accessing (the cost of accessing the narrow sense) would thus be reduced to 1/3 of the said amount (about 30 billion) or about one GDP over the next 25 to 30 years. On an annual basis, this would mean that the net cost of accessing amounted to 3 to 4% of GDP.

Indirect costs of accession are no less significant. They refer to the acceptance of the policy and to comply with the standards within agriculture. Mentioned problems that has Croatia (trade diversion) are expected Serbia. This is particularly important when it comes to foreign trade with CEFTA countries and Russia. In the exchange with CEFTA countries (Croatia, Bosnia and Herzegovina, Macedonia, Albania, Montenegro and Moldova) Serbia has surplus, which reduces serious deficit in the balance of payments. The introduction of tariffs to these countries would reduce the competitiveness of Serbian products in those markets.

A particular problem is the agricultural sector, given that Serbia has a relatively small population. Production subsidies which have been called the Euro optimists are allocated to member states according to population. In some products will be serious subsidies help producers. Such is the production of sugar. For subsidizing the production of sugar producers achieve a price of around 600 euros per ton, while the price without subsidy is around 200 euros. However, the production situation is similar to the production of beef because Serbia still has the ability to export to the EU market 9,000 tons of meat, duty free, but the problem is that the livestock during the period of sanctions and then decimated. The big problem will be the production of fruit. Not only will the subsidy amount will depend on the population, but after joining the EU, the quantity under fruit crops cannot grow. It felt Slovenia in olive production as the number of trees under this culture, after the EU could no longer grow. A similar situation exists with the vines. The reason for this approach in the agricultural production is to control the production and supply in the European market, which is kept stable prices of agricultural products. This means you are most interested in so-called „green” harvest. Specifically, in order to reduce supply (eg. wine) grape producers in Slovenia, offered to do the harvest until the fruit is still green, to destroy production and reduce supply, which will prevent the fall in prices of products on the market. In this regard, it will be very interesting subsidized quotas that Serbia could gain in production of plums, raspberries, strawberries, apples, tomatoes, peppers, etc. With all of the above should be noted record of all farms, building, machinery and other fixed assets in the sector.

An additional problem will be the opportunity to purchase land from the inhabitants of the European Union. This issue opens up the political, demographic, social and other issues. By using extremely liberal laws of the market in particular is intensifying regional development issue which has become a serious problem for the Serbian economy. The gap in the development of certain regions are more distinct. Expectations that this problem will be repaired with funds from the Regional Development Fund of the European Union is more than optimistic. The source of funding for development is not nearly as plentiful as was the seventies and eighties of the 20th century, and the problem is the

efficiency of the regionalization of Serbia announced. Funding mechanism for the less developed regions of the EU will surely region in which you reside Belgrade put less favorably.

As the customs in European Union directly flowing to the EU budget, membership would result in a reduction of budget revenue. However, mostly Serbian renounced the budget revenue as before the time wiped duties on most goods from the EU. However, it also means giving up independent of foreign trade policy. It must be clear that membership in the integration imposes acceptance of economic policy to the interests of the whole rather than individual parts, i.e. states. Each higher level of integration also means the transfer of national powers to supranational institutions. This is particularly evident when analyzing the monetary union.

All this indicates that cost of accessing pages is so small, it raises many questions and they should be paid if not more, then at least as much attention as the benefits that integration brings.

BENEFITS OF SERBIAN ACCESSION TO THE EUROPEAN UNION

Proponents of Serbia's accession to the EU mainly observe and analyze the revenue side. In this field should be analyze the direct and indirect benefits to membership in this integration brings.

Direct aid from the European Union relating to the grant, as in the pre- during and after the acquisition of a full member. Based on analogy with Bulgaria and Romania, Serbia could expect after joining the direct economic aid from 600 to 700 million euros in aid. However, there are two serious obstacles to achieving these benefits. The first is related to the global economic crisis, the reduction of the EU budget, and therefore the assistance provided to member states and candidate countries. A few years ago, the assessment was to aid in the pre-accession period will be about 300 million euros per year, and reduced following the adoption of the EU budget, the aid actually is about 200 million. Comparison with countries in the seventies and eighties joined the European Union is totally meaningless (Marković, 2009). First, funding for countries in pre-accession period was much larger and was given to a small number of countries. Assistance they received at this stage of Greece, Portugal and Spain are 40 to 60 times more per capita aid than you might expect Serbia. That helps Ireland which has acceded to this integration in 1973 was greater.

Another problem is that the EU does not finance projects accounts for more than 50%. This would mean that the use of assistance provided automatically providing at least the same of its own resources. With the budget deficit of over 6%, which Serbia has a public debt of more than 60% bigger problem would be to provide own funds but receive co-financing in the form of grants.

At the level of the abolition of tariffs and increase access to European markets for Serbian products has already done a lot. As a gesture of good faith and on the basis that production in Serbia is not on such a scale that it could disrupt the market of the EU were abolished customs duties on the import of goods from Serbia to the EU market. This was done by Serbia for EU imports, except when it comes to sensitive products (mainly agricultural). However, the question of competitiveness of domestic producers on the domestic market. Agricultural subsidies would be a significant help that would increase the competitiveness of domestic producers and the more so in agriculture has already done about 12% of the population (compared to 2 - 3% in some EU countries). But the shadow of this convenience throws the issue of quotas, which would be subsidized, given the small number of residents.

Great importance to the Serbian economy was relieved placement of foreign direct investment from the European Union. Austria, Italy and Germany are still the biggest investors in Serbia. In this regard would have to work rapidly and without membership in this integration. Capital as a chronic shortfall factor of production field would be at least partially secured foreign investment. Particularly significant in this respect green field investments.

Foreign investments are especially important in terms of increasing foreign exchange earnings as they carry their export market. If Serbia would balance the foreign trade of the good economic problems would be solved. First, the increase in export capacity to employ and increase productivity. Therefore to increase competitiveness of exports and employment. The direct effect of increased foreign currency income would be stabilization of monetary conditions which mean exchange rate and price stability. This would be solved and the main problem of the relatively high rate of inflation. We should not forget that for now the balance of payments largely balances the inflow of remittances in excess of 10% of GDP. All this resulted in the stabilization of the financial market and the reduction in interest rates that would further beneficial active in economic development.

NET ECONOMIC EFFECTS OF SERBIAN ACCESSION TO EUROPEAN UNION

The net economic effect should be the difference between benefits and costs that occur on the way to joining the European Union. Based on the facts set forth above, it is clear that the costs are significant (both in the short and long period), they represent a serious burden for a small Serbian economy, and that most of the costs, as a rule, accept the country that approach to this integration. If we start from the assumption that the EU as a full member does not want a country that is not able to support themselves, but count on a permanent and substantial assistance, to Serbia before joining should solve the pressing problems of its economy. We think about the low growth, high unemployment, high balance of payments, and particularly the trade balance, high inflation rate and a relatively low standard of living compared to the European average. These problems faced by Serbia and in case do not approach the European Union. Therefore, it seems logical to at least partially solve the above problems, or a few years have satisfactory results in terms of macroeconomic performance. On that basis, it could be said that Serbia is ready for the integration process. An important problem in this process is that the biggest costs should be submitted at the beginning of the integration process when the capacity of the economy at all.

Benefits to be gained from the integration of Serbia into the EU would have an upward trend. In the beginning, would be minimal and would be related to a direct grant. Later, the benefits built upon on the potential offered by a large common market, free transfer of capital, goods and services. If Serbia would become a full member to the 2020 it is estimated that the costs would outweigh the benefits at least until the 2023. Only after that would the case of a positive resolution of the most pressing problems of the Serbian economy, benefits exceed costs, the net effect of accession would be positive.

The worst option in the integration process for Serbia would be to join the European Union under prepared which would significantly extend the period in which the net effect of accession was negative.

CONCLUSION

Serbia's competitiveness ranking, based on the Global Competitiveness Index, for years at a very low level. The positive fact is that the Serbia according to the GDP pc ranked higher than level of competitiveness (GCI). This supports the notion that there is place for improvement in competitiveness. Therefore, it is necessary to change the strategy for future growth and turn to attract foreign direct investments, which direct and indirect positive effects, such as increased productivity, transfer of modern technology and so on, made domestic products more attractive to a wider market. Also, the level of competitiveness of the economy affects the speed and effects of accession process to the EU, but depends on them.

Serbia's membership in the European Union is not a matter of prestige. It is of strategic decisions that will determine the long-term future of the Serbian economy, state and society in general. The economic dimension of this process entails direct and indirect benefits and costs. What is certain is that the costs are significant to be largely borne by Serbia and the benefits increase over time. The

most unfavorable scenario is premature acquisition of full membership, which further devastated the already weakened economy. In this regard, very instructive experiences of Bulgaria and Romania, the poorest member states. Following the problems and benefits, drawing some lessons, many problems can be avoided or at least mitigated. Finally, it should be clear that accession to the EU has not only economic consequences for Serbia. In addition to the crucial decision to join on the side of Serbia and the EU foreign policy-making, and the critical word about it probably does not make in Europe.

LITERATURE

- 1) Baldwin, R., J. Francois and R. Portes (1997), „The costs and benefits of eastern enlargement: the impact on the EU and central Europe“, *Economic Policy*, Vol. 12, issue 24, pp. 125-176
- 2) Duško Lopandić (2003), *Osnivački ugovori EU*, Kancelarija za pridruživanje SCG EU, Beograd.
- 3) Group of Experts (2000), *Preparing for EU Enlargement: Devolution in the First Wave Candidate Countries*, European Communities, Brussels.
- 4) Ivan Marković (2009), *Evropska Unija – za i protiv*, Ekonomski fakultet, Niš.
- 5) Patrick M. Crowley (2002), *Before and Beyond EMU*, Routledge, London.
- 6) Petrović-Randjelović, M., Radukić, S. (2012) *Improvement of Macroeconomic Performances in order to Raise the Level of Competitiveness of Serbian Economy*. *Proceedings of the International Scientific Conference: Serbia and the European Union*, University of Niš, Faculty of Economics, Niš, p. 31-45.
- 7) Victoria Curzon, Alice Landau, Richard Whitman (1999), *The Enlargement of the European Union: Issues and Strategies*, Routledge, London.
- 8) WEF Report 2011-2012,
http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2011-12.pdf
- 9) WEF Report 2012-2013,
http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2012-13.pdf

ECONOMIES OF YUGOSLAV FEDERAL UNITS BEFORE AND AFTER INDEPENDENCE

Franjo ŠTIBLAR¹

Abstract

At the time of collapse in 1991, former SFR Yugoslavia was among less developed European countries with unsustainable economic and social differences among its federal units. In last twenty years, after proclamation of independence the economic and social differences among Post Yugoslav countries increased even further, partly due to different impact of military activities and partly due different degree of approximation to the EU. Growth of independent Post Yugoslav countries in past 20 years of independence was slightly above the world and the EU average, but insufficient to significantly narrow the gap to advanced economies. Extrapolation of average 2005-2010 growth would increase GDP of Post Yugoslav countries by one third by 2022. Improvements in utilization of existing factor endowments and creation of new factor endowments could accelerate growth of Post Yugoslav countries by 2022 (by two thirds compared to 2005), but not enough to enable their true real convergence, a precondition for the EU membership. Despite changes in status (independence), economic system (transition to private market economies) and in economic environment (global financial crisis) growth rates in Post Yugoslav countries in last 40 years remain at 3.3% on average. This differs from the world, where average yearly GDP growth declined from 3.7% in first twenty years (1971-1990) to 2.6% in next twenty years 1991-2010 with even lower 2.1% average growth within second sub-period during global financial crisis 2005-2010.

Key words: Post-Yugoslav countries, GDP

INTRODUCTION

This study does not pretend for institutional resurrection of former Yugoslavia or for the return to former socialist economic system. It investigates what has happened in economic and social terms with former federal units after the collapse of ex-SFR Yugoslavia in 1991, when they became independent. In addition, simulation exercise is made for prediction of economic growth in next decade until 2022. The goal is to find out how Post Yugoslav countries could accelerate the past insufficient economic growth to be able to speed-up growth in next decade and thus achieve a real conversion to advanced economies, which is required for their accession to the EU. GDP growth rate is used as the main indicator for economic growth, complemented by other indicators of economic and social development.

Three parts of study encompass 30 years:

1. The level of development of ex-Yugoslav federal units in 1990, before the country's collapse
2. Development of Post Yugoslav countries after their independence until today, with the special analysis of developments during the period of global financial crisis,
3. Prediction of economic growth of Post Yugoslav countries in next decade until 2022.

After dissolution of SFR Yugoslavia in 1991 its federal units (Slovenia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro, Macedonia and Kosovo) became gradually independent states. Not an easy way with a lot of military conflicts. At the time of collapse in 1991 ex-Yugoslavia was significantly lagging behind the advanced economies and the EU. With the economic growth rates

¹ Professor of Economics, School of Law, Department of Economics, University of Ljubljana

only slightly above the world and the EU average in last 20 years this lag of Post-Yugoslav seven countries increased further. The question is what kind of economic system and policy reforms could accelerate their growth and thus narrow the gap.

THE START – DEVELOPMENT LEVEL AND DISPARITIES OF FEDERAL UNITS ON THE EVE OF COLLAPSE OF EX-YUGOSLAVIA, 1990

In ex-SFR Yugoslavia², in addition to the cultural differences, there were enormous differences in economic performance and the social standard. The success of the country's development policy was already that these differences did not widen in post-World War II period.

Table 1.1 Differences among ex-SFR Yugoslavia's federal units in 1989-1990

Indicator	B&H	M0N	CRO	MAC	SLO	SERt	SEBp	KOS	VOI
% social product of YU	12.4	1.8	25.6	5.4	19.6	35.2	22.5	1.9	10.9
Export, in million \$	2157	640	6533	652	4904	5344	3864	220	1260
Export / social product	.33	.67	.48	.23	.47	.29	.32	.22	.22
Ext. debt, million \$	1677	597	2994	761	1788	4869	3302	726	841
Sales to other units, %	37.4	48.5	34.0	41.9	36.8	42.4	41.2	34.6	46.8
Population, in million	4.5	0.6	4.7	2.1	1.9	9.8	5.8	2.0	2.0
Natural growth rate, ‰	7.7	8.9	0.5	9.9	2.5	5.1	1.4	23.1	-1.6
Unemployment rate, %	21.1	22.2	9.0	23.0	5.2	19.5	16.7	38.8	17.1
Nom. wages, YU=100	80	74	114	76	136	93	96	53	97
GNP pc, YU =100	65	71	123	65	200	88	100	24	118
GNP growth, 1970-89	3.5	3.4	3.1	3.6	3.6	3.4	3.5	3.6	3.1
Employment growth, %	4.1	4.2	2.7	4.0	2.3	3.0	3.1	4.9	2.4
Capital/worker, YU=100	93	137	110	74	137	87	82	89	101
People per doctor	572	542	383	398	373	400	335	868	405

Legend: SERBIA total = SERB proper + Kosovo + Voivodina

Source: author (1997), page 76

According to Table 1.1 the economic differences within ex-SFRJ were huge despite the special attention paid to the financing of a faster development of the less developed federal units. Thus, the differences in the two extreme values were as follows: in the openness of the economy three fold, in share of trade with other parts of ex-SFR Yugoslavia 50%, in the natural rate of population growth between -1.6 promile (Vojvodina) and 23.1 promile (Kosovo), in unemployment rate between 5.2% (Slovenia) and 38.8% (Kosovo).

Several numbers indicate the strong presence of redistribution (correction) policies. Thus, for instance, in terms of nominal wages the difference between the extreme values was only 2.5-fold while in the production GNP per capita this difference was 8.5-fold (in both cases between Slovenia and Kosovo). A similar indication is the relatively small difference in the value of the social capital available to the worker (technical coefficient), between the extremes of Slovenia or Croatia and Kosovo only 50% or 0.5-times. While the average annual GDP growth rate did not differ significantly (extreme values were 3.1% and 3.6%), the average annual growth of employment was more differentiated (between 2.3% and 4.9%), in favor of the less developed Kosovo and other less developed units. Finally, the difference in the availability of doctors as indicator of social development was less than threefold (extremes again, in Slovenia and Kosovo). Differences in geography, surface and climate, culture,

² Seven of listed eight federal units became independent countries; Voivodina remains in Serbia, while independence of Kosovo is not fully recognized around the world so that it is not UN member.

religion among entities within Ex-SFR influenced different way of life and indirectly contributed to upcoming military conflicts.

POST YUGOSLAV ECONOMIES IN PAST TWENTY YEARS, 1991-2010

The question is what has happened to Post-Yugoslav countries after proclamation of independence regarding economic growth and welfare, stability and inequalities, in past 20 years and especially during global financial crisis 2005-2011. First, methodology of empirical analysis is described, followed by presentation of results.

Methodology

The dynamics of growth and its stability

a) Growth dynamics

For period 1991-2010 we calculated:

- geometric mean of GDP growth rates $G = G_a$, GDP measured in current USD;
- standard deviation of growth rates, based on geometric mean SD
- Coefficient of variation $KV = SD/G_a$.

At the same time, we present GDP per capita (in current USD), for each country for the starting year 1991, the final year in sample 2010 as well as the absolute difference between the two VG and the ratio of the two KG:

- GDP pc1991
- GDPpc 2010
- $VG = GDPpc\ 2010 - GDPpc\ 1991$
- $KG = GDPpc\ 2010 / GDPpc\ 1991$.

The idea is to test the hypothesis, that lower starting position (GDP per capita as indicator of standard of living) enables faster GDP growth in the process of catching-up with developed countries due to effect of introduction of already available technology and general knowledge.

b) Variability of growth

Variability of growth (or its stability) was measured with standard deviation SD as absolute, and the coefficient of variation KV as relative measure of variability of growth rates. Methodological dilemma is which variability indicators is better, the absolute (SD, difference in GDPpc) or relative (KV, ratio in GDPpc). In theory, relative indicators are preferred over absolute, but in this special case of GDP growth rates and GDPpc, absolute indicators can have more sense in interpretation. For instance, if average growth rate G_a is close to zero, the relative deviation $KV = SD/G_a$ could be large despite the very low absolute variation of growth rates SD.

Resistance to the global financial crisis

c) Resilience to crisis

The question to be tested is whether countries that differ more from average growth rates during creation of bubble sometimes during 2005-2008 period, did have larger bursting (negative difference to average growth) when the global financial crisis materialized after 2008. Smaller the deviation from the long term average growth in individual country indicates stronger resistance to the global crisis. Symmetry of positive and negative differences from the average growth is important. Large difference

between divergences above and below average indicates that additional country specific factors with positive or negative impact were present in country in times of global crisis.

The highest growth rate G_{max} and lowest growth rate G_{min} as well as the highest positive difference to the average growth rate $G_{max}-G_a$ and the highest negative difference $G_{min}-G_a$ in period 2005-2010 are calculated for each country.

Economic and social developments in times of global crisis

d) For each country synthetic indicators of misery (social situation), macro imbalances and aggregate macroeconomic performance are introduced. Aggregates of individual macroeconomic indicators are calculated to present better the overall situation in individual country and trends in period including onset, presence and way out (of consequences) of global financial crisis 2005-2010/2011. Advantage of such aggregation is to get better overall picture of situation, weakness is that summing up individual indicators is sometimes questionable. But, for better general overview sacrifice of some correctness in methodology was made. Indicators are:

- misery index: sum of unemployment rate and inflation rate (introduced by L.R. Klein and other authors before him),
- disequilibrium index: sum of current account deficit and budget deficit, both relative to GDP,
- aggregate economic performance indicator: $GDP\ growth - inflation\ rate - unemployment\ rate - current\ account/GDP - budget/GDP$.

Country's Vulnerability: fiscal and financial (banking) position

e) The most recent **fiscal vulnerability** indicators are presented, based on EBRD and country statistics and statistics from the EU, IMF, World Bank and OECD. They include indicators of country's indebtedness in 2010 (the most recent data available):

- public, external (total and private) debt,
- foreign exchange reserves (total, related to short term debt and to months of import),
- difference external debt- reserves, and
- net foreign direct investment inflow (as one of the sources to finance debt servicing).

f) Situation in **banking sector** of analyzed countries is illustrated by the following indicators based on data obtained from the EBRD Transition Report and some other sources:

- bank assets to GDP ("bankization" of the economy, narrower term than "financialization" or monetization of the economy),
- the structure of bank ownership: private domestic, state and foreign,
- deposits, loans and loan-to-deposit ratio as indicator measuring leverage in banking sector,
- structure of banking loans: the share of non-performing loans, and the share of foreign exchange loans in GDP and in total loans.

Integration to the world

g) Countries are evaluated by the degree of **approximation to the EU**, ranked from full membership plus Eurozone membership to no formal relation. This rank is positively correlated with the level of economic development, as measured by GDP per capita. In addition, degree of transformation to market capitalist economy of post-socialist countries among Post-Yugoslavs is calculated by aggregation of twelve indicators of transformation as presented by the EBRD Transformation Report 2011.

h) The amount of the **EU financial support** to the EU candidate and potential candidate Post Yugoslav countries for financial perspective 2006-2013 is presented and then calculated in relation to GDP and population of receiver countries.

i) The degree of **economic exposure** of Post-Yugoslav countries to the Eurozone and to PIIGS relative to their GDP is measured by three indicators: value of export, external debt and FDI. Intention is to evaluate the possibility of economic epidemic spreading from the most crisis affected countries to the Post Yugoslav countries.

Statistical Data Sources

Statistical data are obtained from the World bank data as basic source and from the EU, EBRD, IMF and country statistics. Problem are some missing data for Kosovo

Results

Economic Growth of Post-Yugoslav Countries, 1991-2010

In table 2.1 some average GDP growth rates are unusual, but this can be partly explained by the fact that these are geometric averages and that some data are missing due to statistical problems:

a) for **B&H** data are available only from 1995: B&H had a large decline of GDP in period before 1995 during war activities and before Dayton, decreasing GDP to 15% of pre-war level, but after Dayton agreement in 1995, GDP started to grow quickly, by double digit figures; decline by 85% is recovered only by much higher increases afterwards. The result is very large average GDP growth rate for the whole available observation period.

Table 2.1. GDP Growth and Its Variability, Post Yugoslav Countries, 1991-2010

COUNTRY	GDP 2009	Tran Sit 88	GDPpc 1991/2010	GDP pc 10-91	GDP pc 10/91	Ga 91-10	Ga 7089	SD	KV= SD/Ga
World	58260					2.70		1.43	0.53
BaH	17.0	55.0	2057/4409	2352	2.1	11.97*	3.5	16.65	1.39
Croatia	63.0	73.5	4026/13754	9728	3.4	0.54	3.1	7.83	14.52
Kosovo	5.4	...	760/3059	2299	4.0	6.15*	3.6	6.52	1.06
Macedonia	9.2	62.0	2442/4460	2018	1.8	0.61	3.6	4.15	6.84
Montenegro	4.1	58.5	2247/6510	4263	2.9	2.50	3.4	5.31	2.12
Serbia	43.0	59.0	3355/5269	1914	1.6	-0.90*	3.3	13.10	-14.5
Slovenia	48.5	74.0	6331/22851	16520	3.6	2.26	3.6	4.46	1.97
Benchmarks									
OECD	41214					2.04		1.60	0.78
LDC	5454					4.78		2.08	0.43
BRICS 5	9473		1817/6866	5049	3.8	4.75		3.29	0.69

Legend: Ga = geometric mean of GDP growth rate for 1991-2010

DS = standard deviation of GDP growth rate for 1991-2010

Sources: The World Bank Data, EBRD Transition Report 2011, own calculations

b) data for **Serbia** are specific, because of very slow growth, but large negative growth in some years (NATO bombardment) so that geometric average remains even negative for the whole period;

c) data for **Kosovo** are also starting later in observation period, when starting position was very low and, in addition, large positive GDP growth rates are result of direct financial support from international community and not produced at home.

Data in Table 2.1 indicate that all countries except Kosovo grew faster in twenty year period before independence 1970-1989 than in new twenty years after independence 1991-2010. Numbers for B&H, Serbia and Kosovo are statistically questionable. Post Yugoslav countries' economic growth was in past 20 years slower than for LDCs on general or for BRICS specifically. Economic divergence within the group increased significantly.

For most Post-Yugoslavs variability of economic growth was huge in observation period, larger than in benchmark OECD, LDCs or BRICS countries, to a large extent due to military conflict and intra-military activities (war) after separation. Among Post-Yugoslav countries the relative variability of growth was the largest in Macedonia, Croatia and Serbia.

Present level of development of Post Yugoslav countries and resilience to global crisis

Tables 2.2 – 2.9 illustrate the effect of global financial crisis on Post Yugoslav countries, first, by measuring creation and bursting the bubble in GDP growth between 2005 and 2010, and second, by aggregate indicators: misery index (unemployment rate plus inflation rate), imbalance index (current account plus budget deficit), macro-economic aggregate indicator (GDP growth – unemployment rate – inflation rate- budget deficit – current account deficit), as well as by the indicators of fiscal vulnerability and performance of banking sector.

Bubble in GDP growth

Table 2.2. Creation and bursting of bubble

COUNTRY	GDP 2009	GDPpc 2010	Ga avge	Gmax year	Gmin year	VG = Gmax-Gmin	Gmax-Ga	Gmin-Ga
World	58260	10000	2.70	4.05 6	-2.32 9	6.37	1.35	-5.02
BaH	17.0	4409	11.97	6.83 7	-2.91 9	9.74	-4.86	-14.88
Croatia	63.0	13754	0.54	5.06 7	-5.99 9	11.05	4.52	-6.53
Kosovo	5.4	3059	6.15	6.90 8	2.90 9	4.00	0.75	-3.25
Macedonia	9.2	4460	0.61	6.15 7	-0.92 9	7.07	5.56	-1.53
Montenegro	4.1	6510	2.50	10.2 7	-1.27 9	11.52	7.25	-3.77
Serbia	43.0	5269	-0.90	5.40 7	-3.50 9	8.90	6.30	-2.60
Slovenia	48.5	22851	2.26	6.87 7	-7.80 9	14.67	4.61	-10.06
Benchmarks								
OECD	41214		2.04	2.95 7	-4.04 9	6.99	0.91	-6.08
LDC	5454		4.78	7.96 7	4.48 9	3.48	3.18	-0.30
BRICS 5	9473	6866	4.75	8.04	0.97	7.07	3.29	-3.78

Sources: The World Bank, IMF, EBRD, EU, own calculations

According to Table 2.2, in period 2005-2010 the largest maximum yearly growth rate 10.2% was achieved by Montenegro in 2007. The lowest minimum was experienced Slovenia with -7.8% in 2009. Absolute deviation above average rate was smaller than below it only for some (Slovenia, Kosovo, Croatia, B&H). For them bursting of bubble was more intensive indicating presence of additional weaknesses in times of outbreak of global financial crisis. The variability of growth rates was much higher in Post Yugoslav countries than the world, OECD, LDC or BRIC average.

Additional three synthetic indicators illustrate situation in time dynamics 2005-2011 and cross country.

Social situation is worsening after 2009

According to Table 2.3 overall social situation was improving (misery index declining) in Post Yugoslav countries until 2009 inclusive (!), the year when developed countries already achieved the lowest point. Declining inflation was more significant for Post Yugoslav countries than increased unemployment during 2008-2009. But, situation began to deteriorate after 2009. Lag to developed world in entering the crisis is followed by Post Yugoslav countries with the lag to get out of it. Crucial finding is that social situation for most Post-Yugoslav countries today is much worse than in mid-2000s.

The level of misery differs significantly among individual analyzed countries. The worst situation is in Kosovo and B&H, which started with much worse situation than other, with Kosovo situation deteriorating even further during observation period 2005-2011. Second group is formed by Macedonia, Serbia and Montenegro, where starting position improved in Montenegro, while stagnated in other two. Croatia is in better situation regarding social sustainability, although with quickly deteriorating social situation in recent years. Slovenia is in best position regarding social situation but, again, the situation deteriorates recently.

Table 2.3. Misery Index: Unemployment rate + inflation rate

COUNTRY	GDP 2009	GDPpc 2010 %	2005	2006	2007	2008	2009	2010	2011
World	58260	100							
B&H	17.0	44	46.9	37.2	30.5	36.4	23.7m	29.3	47.1M
Croatia	63.0	137	15.6	14.3	12.5	14.4	11.5 m	12.9	19.9M
Kosovo	5.4	31	42.8	45.5	48.0	56.9	47.8 m	48.6	52.3
Macedonia	9.2	45	37.3	39.3	37.8	41.0	31.9m	33.6	35.9
Montenegro	4.1	65	33.7	32.6	23.6	25.8	22.9	20.3m	24.0
Serbia	43.0	53	37.2	32.8	24.4	26.0	24.2m	25.5	30.2
Slovenia	48.5	229	9.0	8.5	8.4	10.0	6.7m	9.2	10.5M

Legend: m = minimum, M = maximum

Sources: The World Bank, IMF, EBRD, EU, own calculations

Increasing macro imbalances until 2008 with only slight improvement afterwards

Optimal development and welfare is sum of growth and stability. Large **macro-economic imbalances** cause uncertainty leading to decline in welfare. At the same time, if measured as the autonomously produced domestic product should have external deficit subtracted from GDP growth. Imbalances are a sign of domestic weaknesses of the economy and its economic policy and, at the same time, they can indicate economic problems imported from abroad.

For Post-Yugoslav countries macro imbalances grew from 2005 to reach maximum sometimes between 2008 and 2011, after global crisis exploded. Kosovo and Slovenia are exceptions with maximum aggregate deficit in 2011. Other countries made some improvements in 2009 and in 2010, but then stalled, so that 2011 is worse than 2010. Without such budget and external support, the so called “self-sustained” growth of Post Yugoslav countries would be significantly lower during observation period 1991-2011. Among analyzed countries Montenegro and Kosovo experience unsustainable level of both deficits, internal and external, even in 2011 so that further “consolidation” is required. Other countries will need to decrease deficit too.

Table 2.4. Disequilibrium – Imbalances: balance of payments/GDP + balance of budget/GDP

COUNTRY	GDP 2009	GDPpc 2010 %		2005	2006	2007	2008	2009	2010	2011
World	58260	100								
BaH	17.0	44		-14.7	-5.1	-9.5	-16.5M	-10.7	-10.1	-9.7
Croatia	63.0	137		-9.3	-9.6	-9.7	-10.2M	-9.3	-6.1	-7.5
Kosovo	5.4	31		-9.3	-5.4	-1.7	-15.4	-17.8	-18.9	-27.9M
Macedonia	9.2	45		-2.3	-1.5	-6.4	-13.0M	-9.4	-5.3	-8.0
Montenegro	4.1	65		-10.5	-20.7	-32.9	-50.1M	-34.7	-30.6	-27.9
Serbia	43.0	53		-7.7	-11.8	-18.0	-24.2M	-11.6	-11.9	-12.3
Slovenia	48.5	229		-3.2	-3.7	-4.9	-7.0	-7.2	-6.3	-7.3M

Legend: M = maximum

Sources: The World Bank, IMF, EBRD, EU, own calculations

Worsening of macroeconomic situation until 2008, small improvement afterwards

Table 2.5. Macroeconomic performance index:

GDP growth – unemployment rate – inflation – BoP/GDP – BoG/GDP

COUNTRY	GDP 2009	GDPpc 2010 %		2005	2006	2007	2008	2009	2010	2011
World	58260	100								
BaH	17.0	44		-46.6	-36.1	-33.2	-47.5	-37.3	-38.6	-54.9m
Croatia	63.0	137		-20.7	-19.0	-17.1	-22.4	-26.8m	-20.2	-26.6
Kosovo	5.4	31		-47.3	-44.9	-43.4	-65.4	-62.7	-63.5	-75.2m
Macedonia	9.2	45		-35.3	-35.8	-38.1	-49.0	-42.2m	-37.1	-40.9
Montenegro	4.1	65		-40.0	-44.7	-45.8	-69.0m	-63.3	-48.4	-49.6
Serbia	43.0	53		-39.5	-41.0	-37.0	-46.4m	-39.3	-36.5	-39.0
Slovenia	48.5	229		-8.2	-6.4	-6.4	-13.5	-21.5m	-14.1	-18.0

Legend: m = minimum, most negative situation

Sources: The World Bank, IMF, EBRD, EU, own calculations

Total macroeconomic performance of Post Yugoslav countries deteriorated in period from 2005 to reach the low point in 2008 for Montenegro and Serbia, in 2009 for Croatia, Macedonia and Slovenia, and in 2011 for two weakest economies, B&H and Kosovo. Differences in macro economic performance among seven analyzed countries are huge, more than 5-times in extremes, where Slovenia leads and Kosovo lags the most. To put that in perspective with regard to declining quality of life, the development level of each country (GDPpc) should be taken into account. In that sense, Slovenia has at the same time the highest GDP per capita and the best macro-economic situation; Kosovo is the negative extreme.

For most Post Yugoslav countries their external debt is huge, but foreign exchange reserves suffice for now

Table 2.6 gives information on debt burden of Post Yugoslavs at the end of 2010 (last available data). Data on Kosovo are not available. At the end of 2010, public debt was not too large, but external total debt was unsustainable for most. Public debt was less than 50% of GDP for all, which satisfies the Maastricht criteria as benchmark. Gross external debt, which includes private plus public external debt, was much higher exceeding 100% for Croatia, Slovenia and Montenegro. For debt servicing, crucial is net debt obtained by subtracting claims from gross debt, for which, unfortunately, data are

not available. Calculation of the stock of debt minus foreign exchange reserves gives some additional information.

Foreign exchange reserves were sufficient for most countries, if measured in relation to short term debt and in months of imports. Reserves were smaller than short term debt only for Croatia, Macedonia and Slovenia with later having debt in “domestic currency €”. They satisfy desired minimum of 3 months of imports for all countries with data available, except Montenegro and Slovenia. In 2010 net inflows of FDI were significant only in Montenegro.

Table 2.6. Vulnerability: FISCUS, in % BDP, 2010 – INDEBTEDNESS

COUNTRY	GDP (IMF)	Debt public	Gross Debt Exter Total	Private	Reserves	Res/ Debt short term	Res/ Months of import	External Debt - Reserves	Net FDI
BaH	16.6	39.7	56.9	30.9	20.5	196.5	3.5	36.4	0.1
Croatia	60.7	40.6	102.1	73.5	24.7	71.5		77.4	0.7
Kosovo									
Macedonia	9.1	24.6	59.0	42.8	21.0	97.3	3.2	38.0	3.2
Montenegro	4.1	44.1	100.2		14.8		2.6	85.4	17.9
Serbia	38.1	44.9	83.1	59.1	35.7	184.1	6.8	47.4	3.0
Slovenia	43.0	38.0	115.2	65.7	2.3	8.5	0.3	112.9	

Source: EBRD Transition Report 2011

Banking sector in foreign hands - sensitive to outflows in global financial crisis

Table 2.7: Banking in Post Yugoslav countries

COUNTRY	GDP 2009	Assets/ GDP, %	Owners State %	Domestic Private %	Foreign %	Deposits/ GDP, %
B&H	17.0	86.7	0.8	4.7	94.5	35.8
Croatia	63.0	116.8	4.3	5.4	90.3	62.1
Kosovo	5.4	47.0*				
Macedonia	9.2	65.4	1.4	5.3	93.3	50.6
Montenegro	4.1	97.4	0	11.6	88.4	52.5
Serbia	43.0	65.3	16.0	8.7	75.3	
Slovenia	48.5	139.9	18.9	52.4	28.7	52.5

**in 2006, Source: EBRD Transition Report 2011*

The impact of global financial crisis on Post Yugoslav countries was mostly felt in their banking sector. Situation is described in Tables 2.7 and 2.8. For most indicators, data for Kosovo is not available. These countries have lower than 100% banking assets/GDP ratio, except Slovenia and Croatia. According to EBRD all countries except Slovenia had majority foreign ownership in 2010. That can pose a problem if foreign banks would like to pull out of Post Yugoslav countries in the process of self-rehabilitation at home (Spence, 2012).

Creation of financial bubble is indicated for most Post Yugoslav countries by banking loan/deposit ratio over 100, exceptions being probable Kosovo (table 2.8; no data available for Serbia). In 2010 the share of nonperforming loans in total loans extended by banks was more than 10%, which is close to critical, of all banking loan portfolio except for Slovenia (2.2%) and Macedonia (9.5%). After 2010, the quality of loan portfolio is definitely deteriorating further. In addition, problem with loans in foreign exchange, (carry trade) is evident for most Balkan countries, as they have more than half of all loans extended in foreign currency. Exception is, again, Slovenia with its EU and Eurozone membership.

Table 2.8. Banking, continued

COUNTRY	GDP 2009	Loans/ GDP %	Non Performing Loans, %	Loans/ Deposits %	Domestic Forex Loans/ GDP, %	Forex L/ Total Loans, %
World	58260					
BaH	17.0	56.7	11.4	158.3	2.7	73.2
Croatia	63.0	72.8	11.2	117.3	55.4	76.0
Kosovo	5.4	27.0		82.0*		
Macedonia	9.2	48.0	9.0	94.8	25.2	52.2
Montenegro	4.1	61.2	21.0	116.6		
Serbia	43.0		16.9		36.6	71.3
Slovenia	48.5	83.1	2.2	158.3	4.2	5.0

* 2006; Source: EBRD Transition Report 2011, author (2009)

*Integration to the world**Approximation to the EU is at various stages*

Table 2.9. The approximation of Post-Yugoslavs to the EU

COUNTRY	GDP 2009	GDPpc 2010 %	EU + EMU	EU Only	EU Access	EU candidate	EU potential candidate	0
World	58260	100						
BaH	17.0	44					X	
Croatia	63.0	137			X			
Kosovo	5.4	31						X
Macedonia	9.2	45				X		
Montenegro	4.1	65				X		
Serbia	43.0	53				X		
Slovenia	48.5	229	X					

Source: EU data

Table 2.9 gives evidence for the status of Post-Yugoslav seven countries in approximation to the EU. It differs to a great extent, from a full EU plus Eurozone membership (Slovenia) to lack of any formal institutional relationship (Kosovo). Rank correlation between Post Yugoslav approximation to the European integrations and GDP per capita is close to perfectly positive. Higher degree of economic approximation to the EU is thus a consequence, not the cause of higher level country's economic development.

Financial support for EU candidates and potential candidates among Post Yugoslav countries is very important. It contributes significantly to real (and also nominal) convergence, which is crucial for enabling further steps in approximation to the EU. Slovenia not included as EU member from 2004.

From the point of view of EU as donor, results in Table 2.10 show that in period 2007-2013 financial support did not substantially improve from the previous EU six-year financial perspective 2000-2006: Instead of one, now they sacrifice two coffees per EU inhabitant per year. More needs to be given in 2014-2020 financial perspective.

Financial support from the EU to the Post Yugoslav nonmembers remains insufficient

Table 2.10. IPA support for candidates and potential candidates from the EU, in Million €

COUNTRY	Per % GDP 2010	Popul 2010 Mio	Per Cap. €	All 7-13 Mio€	2007	2008	2009	2010	2011	2012	2013
BaH	3.88	3844	171	659	62	75	89	105	107	109	112
Croatia	1.55m	4426	225	998	141	146	151	153	156	156	95*
Kosovo	11.8M	2208	289	638	68	185	106	67	69	69	74
Macedonia	6.72	2053	301	618	58	70	82	92	98	101	117
Monteneg.	5.78	619	383	237	31	33	35	34	34	35	35
Serbia	3.24	7307	191	1393	190	191	195	198	202	202	215

Source: EU Enlargement, 2012, IPA Revised perspective, Brussels 2012

Regarding receivers among Post Yugoslav countries, distribution of IPA funds is uneven. With regard to their GDP Kosovo receives the most, while Croatia the least (almost eight times less than Kosovo). With respect to population, each citizen of Montenegro received from 2007-2013 IPA program the most (383 €), while citizen of B&H the least (171 €).

Higher degree of approximation leads to higher exposure to the EU and PIIGS

Following the EBRD Transition Report we define exposure as sum of shares of EU (PIIGS) in country's own export, external debt and FDI inflow. More exposed countries to the crisis contaminated EU and especially to PIIGS are more vulnerable in times for its spreading over. Exposure of Post-Yugoslav countries to the ailing Eurozone countries and even more ailing members of PIIGS could negatively impact their domestic economies.

Despite the fact that Slovenia is already member of the EU for eight years and Croatia becomes member only in July 2013, Croatia is more exposed to the EU than Slovenia. Table 2.11 clearly shows large differences in exposure of individual Post-Yugoslav economies to the Eurozone (moderately ailing economies) and to the PIIGS (heavily ailing economies). Macedonia is the most exposed to PIIGS (Greece). In aggregate exposure to both groups Croatia leads before Slovenia, while B&H is the least exposed.

Table 2.11. Exposure of Post Yugoslav countries to the Eurozone and to PIIGS, 2010-2011,
(in % of GDP)

			EU				PIIGS			
COUNTRY	GDP 2009	Exp	Ext Debt	FDI	Index	Exp	Ext Debt	FDI	Index	Index Double
BaH	17.0	8	3	...	11	3	3	...	6	17
Croatia	63.0	9	31	42	82	4	0	5	9	91
Kosovo	5.4	4								
Macedonia	9.2	18	25	...	43	8	19	6	33	76
Montenegro	4.1	1								
Serbia	43.0	8	18	...	25	3	5	...	8	33
Slovenia*	48.5	33	22	21	76	9	0	0	9	85

* Eurozone member

Source: EBRD Transition Report 2011

Comparing situation in Post Yugoslav countries in 1990 with situation in 2010

Table 2.12. Comparison of differences among Post Yugoslav countries between 1989/90 and 2009/10 - in GDP, GDP pc, unemployment

COUNTRY	GDP 2009	GDPpc 2010	Ga	GNP Pc,90 Slo=100	GDP Pc,10 Slo=100	GSP 90 %Yu	GDP 10, %sum	Δ % share	Un 90 %	Un 10 %
World	58260	10000	2.70							
BaH	17.0	4409	11.97	33	19	12.4	8.9	-3.5	21	28
Croatia	63.0	13754	0.54	62	60	25.6	33.1	7.5	9	13
Kosovo	5.4	3059	6.15	20	13	1.9	2.8	0.9	39	37
Macedonia	9.2	4460	0.61	33	20	5.4	4.8	-0.6	23	33
Montenegro	4.1	6510	2.50	36	28	1.8	2.1	0.3	22	18
Serbia	43.0	5269	-0.90	55	23	33.3	22.6	-10	17	18
Slovenia	48.5	22851	2.26	100	100	19.6	25.5	5.9	5	8
Benchmarks						100	100	0	19	22
OECD	41214		2.04							
LDC	5454		4.78							
BRICS 5	9473	6866	4.75							

Sources: The World Bank, IMF, EBRD, EU, own calculations

If measured in current USD, GDP in 2010 of Post Yugoslavs (190.2 billion USD) is approximately three times larger than in 1990 (around 60 billion USD). Devaluation of USD, “marketization” of these economies and changes in population probable decrease this growth by half. Among Post Yugoslav countries, regarding the size of GDP Slovenia improved its share from 1990 to 2010 together with Croatia, Kosovo and Montenegro, while the other three worsened their share. Regarding unemployment level, situation is in 2010 slightly better than in 1990 only for Kosovo and Montenegro, worse for other five. On aggregate level of unemployment is higher in 2010 than what it was in 1990, but the misery is presently much smaller, as inflation rate does not exceed 5% on average, while in 1990 it was 587%.

Table 2.13. Comparison of GDP growth rates of former Yugoslav Federal units

COUNTRY	Growth 70-89 Ga 3.45 Gaw 3.70	Growth 91-10 Ga 3.28 Gaw 2.59	Growth 05-10 Ga 3.34 Gaw 2.14	GDP2022	Pop 1990 mio	Pop 2010 Mio	Δ Pop
B&H	3.5	11.97	3.55	21.5	4.5	3.8	-0.7
Croatia	3.1	0.54	1.53	68	4.7	4.4	-0.3
Kosovo	3.6	6.15	4.98	11.7	2.0	2.2	0.2
Macedonia	3.6	0.61	3.53	10.0	2.1	2.1	0
Montenegro	3.4	2.50	4.53	5.7	0.6	0.6	0
Serbia	3.4	-0.90	2.61	47.8	7.8	7.3	-0.5
Slovenia	3.6	2.26	2.28	64.8	1.9	2.1	0.2
OECD		2.04	1.1	53578			
LDC		4.78	6.6	10297			
World		2.70	2.5				
EU			1.0				
EMU			1.0				

Legend: Ga = average GDP growth of PostYugoslav countries, in 1970-2010: 3.35%

Gaw = average world GDP growth, in 1970-2010: 3.15%

Surprisingly, the average GDP growth rates for the Post Yugoslav countries are similar for period of 20 years before the collapse of SFR Yugoslavia, 20 years after its collapse and within the later for the period around global financial crisis (2005-2010). The world growth rates, however, decreased continually for these three periods. In comparison to average world GDP growth rates, Post Yugoslavs were growing only slightly faster in last 40 years (3.45% to 3.70%) with some lagging in first twenty years still being in ex-Yugoslavia (3.45% to 3.70%) and some exceeding in period of their independence 1991-2010 (3.28% to 2.59%). During period 2005-2010 of global financial crisis Post Yugoslav countries were growing on average significantly faster than world on average (3.34% to 2.14%).

Intra-group, growth was much more stable in times of ex-Yugoslavia, followed in variability by period 2005-2010 and with huge differences in growth rates in period 1991-2010, due to the effect of war activities and international intervention.

In twenty years from 1990 to 2010 total population on territory of ex-Yugoslavia has declined by 4.7%, from 23.6 to 22.5 Million, with positive population growth experienced only by Kosovo and Slovenia, and with the largest contraction in B&H and Serbia.

THE FUTURE ECONOMIC GROWTH OF POST YUGOSLAV COUNTRIES – SIMULATION EXPERIMENT

Introduction

In contemplating about the future regional cooperation/integration for Post-Yugoslav countries the following order could be observed:

Vision → strategy (system reform) → policy (measures)

For Post-Yugoslav countries **vision** could include the following elements³:

- intensification of intra-regional cooperation in all fields of social life,
- overall improvement of economic, social and political development level in these countries,
- further integration to the EU and other alliances to the West and East of global community.

Economic development consists of economic growth (measured by GDP and GDP per capita growth) and growth of supra-structure (social, demographic, ecologic, political life, equality, education, etc.), which both constitute growth of welfare of people as the ultimate goal of country (society) system and policies. While elements of country's supra-structure are difficult to measure and analyze, and also matter of other sciences, the goal of this study is to predict the economic growth of Post Yugoslav countries up to 2022. The goal is to achieve as high growth and level of development as possible so that by catching up Post Yugoslav countries will narrow the gap in economic development to advanced countries.

Question is what kind of **strategy and policy** should be applied to achieve this catching-up goal. The existed economic system and experienced economic policy measures will only extrapolate the dynamics of past growth rates into the future. But, if they are not enough to catch-up, the system reforms and policy improvements will be needed to accelerate the economic growth.

Economic growth is measured by GDP as output, which is determined by production factors (of growth) as inputs. Many growth factors are listed in theory and literature, all centered around capital,

³ These elements of vision are proposed in author's 2007 book "The Balkan Conflict and Its Solutions", Manet, Pf, Ljubljana.

labor, natural resources and technology. Here, the most recent relevant common reference study⁴ is used for their identification. It lists 11 principal ingredients of sustained high growth for emerging economies. They are: macroeconomic stability, openness, inbound knowledge, export diversification, capital deepening, public investment, employment and education, policy setting, energy consumption, urban density and transportation modes.⁵

Some of these are given by nature, other are acquired by human efforts (created). Some are related to supply (production), other to demand and some deal with infrastructure improvements, which help both supply of GDP and demand for it. In accelerating growth, first, the capacity of already existing factor endowment should be fully utilized (full capacity utilization), and second, endowments should be increased and/or new factors should be created (new capacity creation).

Prediction of economic growth of Post Yugoslav countries until 2022

In empirical part, first, the economic growth of Post Yugoslav countries is predicted by simple extrapolation of growth rates from recent past 20 years using so called “naïve models or castle in the clouds”. Prediction, which could be labeled only as the best “questimate” in present uncertain world, shows significant growth of GDP and GDP per capita in the next decade, which may be good per se (in absolute terms), but in comparative sense predictions indicate that in the future the lag of Post Yugoslav countries behind advanced countries (EU) will in fact increase. Second, if such development is not acceptable, system reforms and new policy measures are needed to accelerate economic growth of Post Yugoslav countries. For that purpose 11 factors of economic development are identified from reference study (Spence, 2011) and the present level of their accomplishment (fulfillment, development) for each Post Yugoslav country and region as a whole is evaluated. Third, based on the size of identified lags for each country and each factor, specific system reforms and policy changes are proposed, which are needed for Post Yugoslav countries to narrow the gap to the world frontier of each factor/country and thus accelerate their GDP growth.

Prediction of economic growth of Post Yugoslav countries - by extrapolation

a) Making credible 10 year **GDP forecast** is almost impossible task. Structural models can not be used as predicted values of explanatory production factors are not known. The naïve models use extrapolation of long-term growth from the last 20 or 6 years for next 10 years.

Here such extrapolation of growth rates and growth coefficients is applied. Obtained forecasts are thus more “questimates” than credible predictions. Nevertheless, it is better than nothing and good quantitative foundation for further elaboration.

In Table 3.1 in version a) the GDP growth rate between 1991 and 2010 is extrapolated to obtain the predicted GDP in 2022. GDP growth among Post Yugoslav countries will differ in period until 2022, if average growth in period 1991-2010 is simply extrapolated, as indicated by growth coefficients Ka in Table 3.1. The fastest growth is predicted for Kosovo, the slowest for Macedonia (modifications of past GDP average growth rates are made for Bosnia and Herzegovina and Serbia).

⁴ UN Commission on Growth and Development under leadership of Nobel Price winner Michael Spence: “The Growth Report: Strategies for Sustained Growth and Inclusive Development”, Washington DC, December 2010

⁵ In addition, for advanced economies the ultimate limiting factors of potential economic growth are population growth and technological progress (Spence, 2012).

*Table 3.1. Forecast of GDP Growth in Post Yugoslav countries until 2022, in billion \$
- extrapolation of GDP growth rates-*

COUNTRY	GDP 2009	Growth 91-10 Ga	Ka 2022/2009	GDPa 2022	Gb 05-10	Kb 2022/2009	GDPb 2022
B&H	17.0	11.97	1.264	21.5	3.55	1.574	26.8
Croatia	63.0	0.54	1.073	68	1.53	1.218	76.7
Kosovo	5.4	6.15	2.173	11.7	4.98	1.881	10.2
Macedonia	9.2	0.61	1.082	10.0	3.53	1.570	14.4
Montenegro	4.1	2.50	1.379	5.7	4.53	1.779	7.3
Serbia	43.0	-0.90	1.111	47.8	2.61	1.398	60.1
Slovenia	48.5	2.26	1.337	64.8	2.28	1.341	65.0
-Benchmark							
OECD	41214	2.04	1.300	53578	1.1		
LDC	5454	4.78	1.888	10297			
EU	16000				1.1	1.152	18432
EMU					1.0	1.138	
World	58260				2.5	1.379	80341

Legend: Ga = average GDP growth rate for period 1991-2010; Gb = average GDP growth

$$Ka = (1 + Ga/100) \exp 13; Kb = (1 + Gb/100) \exp 13$$

$$GDPa\ 2022 = GDP2009 \times Ka; GDPb\ 2022 = GDP\ 2009 \times Kb$$

Sources: The World Bank Data, EBRD Transition Report 2011, own calculations

However, extrapolating past 20 years average growth rates seems inappropriate and unrealistic, because the war activities and unequal time span in data set cause deformation (for instance almost 12% yearly growth for B&H, or negative growth for Serbia), which could not be expected to remain in future growth. Therefore in b) version the average GDP growth rates of only last six years (2005-2010) are extrapolated until 2022. This period includes both pre-crisis boom and crisis drought. The aggregate GDP for all Post Yugoslav countries will under this scenario increase in next 13 years by 37%, from 190 Billion \$ in 2009 to 260 Billion USD in 2022. Taking into account predicted growth of population in the EU by 0.77% per year and extrapolation of past decline in population in Post Yugoslav countries by 0.24% per year the average GDP per capita will increase in EU from 32653 current \$ in 2009 to 36864 \$ in 2022, while the average for Post Yugoslav countries will increase from 8444 \$ to 11841 \$. Gap in GDP per capita between the two will absolutely increase by over 800 \$, although the share will increase from 26% to 32%. But, it is still not sufficient real convergence for to prepare Post Yugoslav countries for the EU accession. Conclusion is that an active system reforms and “industrial policy” measures are required to accelerate predicted growth and thus more significantly narrow the gap of Post Yugoslav countries to the EU in level of economic development as measured by the GDP per capita.

Identification of development factors and their quantification

Next, the present degree of fulfillment of 11 principal ingredients of sustained high GDP growth is evaluated for each of seven Post Yugoslav countries. According to our subjective evaluation in Table 3.2, based in official resources from the EBRD (Transition report), the World Bank (Doing Business), EU (country reports for candidate countries) and specific country statistics, none among Post Yugoslav countries is over half of the world’s achieved frontier in capacity utilization of their factor endowments. Slovenia leads with 12/22⁶ degree of capacity utilization, followed by Croatia with 10/22, Macedonia, Montenegro and Serbia with 6/22, while B&H (4/22) and Kosovo (2/22) lag further behind. There is a lot of space for improvement factor utilization to accelerate economic growth.

⁶ Maximum 22 is obtained as 11 factors times 2 (maximum achieved utilization of each at the world frontier).

Table 3.2. Fulfillment of principal ingredients for sustained high GDP growth among Post Yugoslav countries, 2012

COUNTRIES	BH	CRO	KOS	MAC	MON	SER	SLO	No	Capac Utiliz.
FACTORS									
1.Macro-econ. Stability	-	-	-	0	-	-	0	2	
2.Openness	-	0	-	-	-	-	+	3	
3.Inbound knowledge	-	0	-	-	-	-	0	2	
4.Export diversification	0	0	-	-	0	0	0	5	
5.Capital deepening	-	0	-	-	0	-	-	2	
6.Public investment	-	0	-	0	0	-	-	3	
7.Employment, education	-	0	-	0	0	0	+	6	
8.Policy setting	-	0	0	0	-	0	0	5	
9.Energy consumption	0	-	-	-	-	0	-	2	
10.Urban density	0	0	0	0	0	0	+	8	
11.Transportation modes	0	+	-	0	0	0	+	8	
Total out of maximum 22	4	10	2	6	6	6	12	46	46/154 30%
Present capacity + 50%	6	15	3	9	9	9	18	69	45%
Present capacity + 66%	6.6	16.6	3.3	9.9	9.9	9.9	19.9	76	50%
Present capacity + 100%	8	20	4	12	12	12	22*	90*	60%

Legend: + = high =2, 0=average =1, - = low=0 fulfillment of capacity utilization of factors

*only 82% for Slovenia possible

Source: Spence (in Blanchard O. et al, 2012), EBRD Transition Report, 2011; data from the World Bank, EBRD, EU, IMF, own estimates

Based on estimated lags between present value of each growth ingredient and its possible maximum value (2) system changes and policy measures are proposed for each Balkan country, such improvements which will enable acceleration of their economic growth. Linear homogeneous production function of first degree is assumed to enable direct transposition of the growth of production factors linearly to the growth of GDP.

a) **For Post Yugoslavs as a group** aggregate factor endowments utilization is 46 out of $7 \times 22 = 154$ which is less than 30%, so that there is a lot of room for improvement, table 3.2.

- The weakest factors are macroeconomic stability, inbound transfer of knowledge, capital deepening and energy consumption. Better decision making by macroeconomic authorities, increase in FDI inflow (not financial) or improved education, more savings transformed into investment of capital, studying abroad and energy saving programs could improve that.
- The best achievements by the group are currently related to relative low urban density and transportation modes, and to certain degree to education, export diversification (not volume) and policy setting.

b) **Country-by country overview** of Post Yugoslav countries indicates most important potentials for factor improvements. According to Table 3.2:

- Bosnia and Herzegovina is second least developed (4) with potential growth which exists for all factors; the average level of world factor utilization is achieved by country only in export diversification, energy consumption (low development), urban density and transportation.
- Croatia is above Post Yugoslav countries average (10) in utilization of development factors, with macroeconomic disequilibrium and energy consumption being the worse, while transportation modes the best developed.

- Kosovo is with the 2 out of 22 degree of utilization the worse among Post Yugoslav countries so that potential to grow is enormous. Policy setting and urban density are a little better utilized than other factors.
- Macedonia is slightly below Post Yugoslav average (which is 6.8) with regard to utilization of development factors, similar to Montenegro and Serbia, all with the grade 6. All three lag behind in particularly with regard to openness, inbound knowledge. Macedonia is weak also with capital deepening, export diversification, and energy consumption;
- Montenegro is weak with macroeconomic stability, policy setting and energy consumption, inbound knowledge and openness.
- Serbia lags behind mostly with macroeconomic stability and investments (both private and public), but also with openness, and inbound knowledge.
- Slovenia needs to invest more capital, privately and public, and decrease energy consumption. Better policy setting, inflow of knowledge, export diversification and macro-economic policy could contribute to acceleration of growth.

Scenarios for acceleration of economic growth in Post Yugoslav countries

At the moment Post Yugoslav economies as a whole achieve less than 30% utilization of the world frontier in production factor potentials. The predicted average 3.3% yearly GDP growth, based on them, is not sufficient to decrease their lag to advanced economies.

Proper economic reforms and changes in economic policies can increase capacity utilization of existed and new production factor closer to world frontiers and thus accelerate economic growth of Post Yugoslav countries in the future. Several alternative scenarios could be applied which differ in intensity of production factor improvements. Three scenarios are envisaged: active system reforms and policy changes could improve factor potential utilization by 50%, 66% or 100%, that is from 46/154 to 69/154, 77/154 or 92/154. Even with these improvements a lot of space would remain for further improvements, as the highest proposed 100% growth of factor utilization in Post Yugoslav countries as a group will bring facto utilization only to 60% of achieved world frontier.

With them the average predicted GDP growth rate for Post Yugoslav should also increase by half, 2/3, or 100%, that is from ceteris paribus factor utilization situation leading to 3.3% GDP growth, to 4.9%, 5.5% or 6.6% growth rates, if homogeneous production function of first degree is assumed.

Scenario for new forecast is that the average 2005-2010 growth rates will be adopted for 2010-2012 period and after that gradually increased in three years 2013-2015 to new higher rates which will be then adopted for the remaining period 2016-2022. This gives forecast of GDP growth in Table 3.3. for next decade until 2022.

In table 3.3 Gb are average GDP growth rates for 2005-2010 increased by 50%, 66% and 100% respectively, K are coefficients (based on multiplication of growth rates during 2010-2022 period) for multiplication of GDP in 2009 to obtain predicted GDP for 2022. Compared with predicted GDP 2022 under assumption of extrapolation of based growth from 2005-2010 for the whole period until 2022, the improved GDP growth coefficient for the whole period K are adequately higher.

Table 3.3. Accelerated GDP growth rates for Post Yugoslav countries under different scenarios of factor utilization improvements: 50%, 66%, 100%, in Million current \$

COUNTRY GDP2009	Gb 05- 10	a)Gb+5 0%	b)Gb+ 66%	c)Gb +100 %	a)GDP 2022 K* GDP	b)GDP 2022 K GDP	c)GDP 2022 K GDP	GDP 22 base K GDP
World 58260	2.70							1.3 80341
B&H 17.0	3.55	5.25	5.89	7.10	1.8 30.9	1.9 32.6	2.1 36.2	1.5 26.8
Croatia 63.0	1.53	2.30	2.54	3.06	1.3 82.2	1.3 83.9	1.4 87.2	1.2 76.7
Kosovo 5.4	4.98	7.47	8.27	9.96	2.3 12.5	2.5 13.4	2.8 15.6	1.8 10.2
Maced. 9.2	3.53	5.30	5.86	7.06	1.8 16.7	1.9 17.7	2.1 19.3	1.5 14.4
Monten. 4.1	4.53	6.80	7.52	9.06	1.9 7.9	2.2 9.4	2.6 10.7	1.7 7.3
Serbia 43.0	2.61	3.92	4.33	5.22	1.5 67.4	1.6 69.8	1.7 75.4	1.3 60.1
Sloven. 48.5	2.28	3.42	3.78	4.17	1.4 71.8	1.5 74.2	1.6 76.6	1.3 65.0
EU 16000								1.15 18432

Legend: Gb = average GDP growth rate for 2005-2010,

Kb = (1 + Gb/100) exp 13; GDPb 2022 = GDP 2009 x Kb

** K numbers in table only with one decimal number, in calculation with three.*

Sources: The World Bank Data, EBRD Transition Report 2011, own calculations

Post Yugoslav countries with higher starting GDP growth (from 2005-2010) will more increase their GDP until 2022 by basic scenario (pure extrapolation) or accelerated scenarios (50%, 66%, 100% increase of basic growth rates). The resulting improvement is, for instance, in extreme 100% growth acceleration scenario in comparison to 2009 GDP: more than doubled GDP for B&H Kosovo, Macedonia and Montenegro and still 40% to 70 % increase of GDP for Croatia, Slovenia and Serbia. The share of Post Yugoslav countries GDP in world GDP will increase from 3.1 promile in 2009 to 3.2 promile under basic scenario or 34 promile under fastest growth acceleration scenario. In comparison to the EU GDP the ration of Post Yugoslav countries will increase from 1.18% of EU GDP in 2009 to 1.41% under basic scenario and to 1.74% in scenario of most acceleration. There is acceleration of GDP growth in Post Yugoslav countries, but probable still no sufficient to enable real convergence of these countries to the EU. This shows how difficult and almost unachievable goal is real convergence for Post Yugoslav countries.

In table 3.3 for each country Post Yugoslav country simulations of future GDP grows give different results. For Slovenia, for instance, GDP would increase from 2009 to 2022 by 34% in basic scenario, and by 58% in scenario of largest GDP acceleration.

LITERATURE

- 1) Blanchard O. and all (2012), In the Wake of the Crisis, MIT Press and IMF, Cambridge
- 2) The EBRD Transition Report (2011), London
- 3) The EU Enlargement Progress Report (2011), Brussels, November
- 4) Gospodarska gibanja, EIPF, Ljubljana, different issues
- 5) The IMF World Economic Outlook 2011, 2012 and Supplement 2012; Washington DC, October 2011, October 2012 and January 2012
- 6) The LINK World Economic Assessment (2011), UN and University of Toronto, Fall
- 7) The OECD Statistical data set
- 8) Spence M. (2012) The Next Convergence: The Future of Economic Growth in a Multispeed World, 2011, Picador, US
- 9) Štiblar F. (2007) The Balkan Conflict and Its Solutions, Manet, School of Law, University of Ljubljana, Slovenia

-
- 10) Štiblar F. (2009) The Impact of Global Crisis on Montenegro and the Western Balkans, CBCG, Podgorica
 - 11) Štiblar F. (2012) Balkan Economies in Turmoil, TASAM Conference, Istanbul, April
 - 12) Štiblar F. (2011) Economic Vision 2022 for Balkans, mimeograph, August 2012, The World Bank data set

STRUCTURAL ADJUSTMENT OF SERBIAN ECONOMY IN FUNCTION OF THE EUROPEAN INTEGRATION¹

Petar VESELINOVIĆ²

Abstract

Structural changes are a necessity in transition, taking into account adaptation to the conditions prevailing in the regional and global economic level. At the beginning of the XXI century, with a significant delay compared to other Eastern European countries, Serbia has begun the process of transition, during which one of the main objectives that was set was the structural adjustment of the economy to the conditions of the international economic scene. However, after a ten-year period of implementation of the process, the applied model of economic growth has become the obstacle to the future development. There is a general agreement about this in the scientific and professional community, as well as among economic policy makers. The basis of the imposed compromise between the profession and politics are obvious developmental defects, which the most recent global economic crisis has brought to the surface in a very explicit form. Expectations of the protagonists of the current growth model that under partial macroeconomic stability, the effect of the market mechanism alone will bring about the desired structural changes have not received practical confirmation. By speeding up the Euro – integration process, these issues are gaining increasing relevance.

Key words: structural changes, transition, a new model of economic development, re-industrialization, the European Union, the market economy.

INTRODUCTION

By the end of the last century, the process of structural adjustment of the economy was the central question of economic theory and practice in our country. Due to the reasons for the abandonment of socialist system and the complexity of the process of construction of the market mechanism, it is obvious that we are talking about profound and complex changes in the structure of our economy, with far-reaching consequences for the society and its relations. The aim of these structural changes is determined by the need to address the fundamental changes in the functioning of our economy over several years, primarily, its systemic inefficiency, which was most obvious in the continual absence of positive effects of investment on economic growth, and in its total standstill. Therefore, the interest of the scientific and professional community in Serbia is long-term related to redefining inherited and establishing a new economic structure, with the market as a mechanism supporting the optimal allocation of available production factors.

Although the theoretical postulates of the process of transition to a market economy have been widely accepted in all countries that have moved towards these fundamental structural changes, implemented models of growth and development were very different in different national economies. In the year 2000, with a significant delay compared to the others, Serbia initiated the implementation of the process of structural adjustment of the economy, after years of debate and several declarative attempts of change. During the great political instability, the choice was going in the direction of the growth model, which was based on the inflow of foreign capital and the dynamic development of the service

¹ This paper is a part of research projects number 179015 (Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements), financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

² Prof. dr Petar Veselinovic, Associate Professor of Economics, Kragujevac

sector. However, the wave of the global economic crisis brought out our key development issue - the unsustainability of the current model of growth and development. The delay in the inflow of foreign capital and a reduction of revenues from privatization have threatened with the long-term macroeconomic stability disorder, and brought to the surface deep structural imbalances in our economy, so that the unsustainability of the further application of the development model from the past ten years has become apparent. Despite the significant results achieved during this period, a relatively high rate of GDP growth has been accompanied by the continued increase in unemployment, large foreign - trade deficit, rising foreign debt, high public spending and the deficit of the state budget. Negative growth rate of GDP in 2009 and 2012 was just the culmination of an unbalanced development in the last decade.

The scientific and professional community is unanimous in their opinion that the current growth model is outdated and that the structural adjustment of the economy is fundamentally necessary for getting out of a deep developmental crisis. However, there are different opinions on the key directions of structural change, order and pace of their implementation, as well as systemic and substantive assumptions of the new growth model. Most papers in this scientific field put the focus of structural adjustment of the economy of Serbia on changing the structure of the use of GDP and public sector reform, while maintaining the existing material conditions of development. Without denying the importance of these opinions, particularly in the area of creating the necessary preconditions for a new growth model, this scientific research associates the priority of structural changes with the need for change in the structure of GDP formation, and strengthening the importance of the relative share of industry in this process.

STRUCTURAL IMBALANCES IN THE ECONOMIC DEVELOPMENT OF SERBIA

During the transitional period of development, in the economic structure of Serbia, numerous imbalances were cumulated, and deep deformations created, which raised many questions about main factors of these negative flows. The most obvious fact is, certainly, the external imbalance, expressed in a growing trade deficit and thereby caused the current account deficit. However, a deeper analysis suggests that it cannot be considered as the only cause of developmental defects. In our case, it is, for the most part, a reflection of internal structural problems, as well as an "elegant" way to solve the problems of development in the short term.

The key initial factor in structural imbalances in the economy of Serbia, is linked to the more dynamic growth of aggregate demand, as well as final consumption in its framework, comparing to the growth of gross domestic product.³ While during the year 2000, demand has grown at an average rate of 7.5%, and the final consumption at the rate of 7.3%, gross domestic product grew on average by 5.4% per year.

Table 1. The use of gross domestic product in the period 2002-2012. (in% and current prices)

Year	2002.	2003.	2004.	2005.	2006.	2007.	2008.	2009.	2010.	2011.	2012.
Final consumption expenditure	100	99	97	95	94	98	94,4	95,9	99,8	96,3	95,2
Individual consumption expenditure	88	87	88	88	88	91	88	89,4	93,2	89,7	87,3
The households sector	77	76	77	77	76	79	75,3	76,5	79,2	76	74
The	11	11	11	12	12	13	12,7	12,9	13,1	12,8	12,8

³ Stamenković, S., Kovačević, M., Vučković, V., Nikolić, I., Bušatlija, M., (2009), *Ka novom modelu ravnoteže*, Zbornik radova, Ekonomska politika u 2010. godini, Naučno društvo ekonomista, Beograd, pp. 23.

Year	2002.	2003.	2004.	2005.	2006.	2007.	2008.	2009.	2010.	2011.	2012.
government sector											
Collective consumption expenditure	12	12	9	6	6	6	6,9	6,5	6,6	6,5	6,5
Gross investments	18	19	19	19	21	21	23,2	16,7	17,8	18,5	19
Changes in inventories	2	3	10	5	3	3	5,4	2,64	-0,5	1,7	2

Source: Zec, M., Radonjić, O., (2010), *Sistemi deficit i tranzicija u Srbiji, Ekonomsko-socijalna struktura Srbije-Učinak prve decenije tranzicije, Zbornik radova, Naučno društvo ekonomista, Ekonomski fakultet Univerziteta u Beogradu, Beograd, pp. 160.*

The growing "gap" between production and consumption was being covered from the real sources: from revenues from privatization, donations and borrowing abroad, which have prevented serious inflationary pressures from excessive demand. It is clear that more was spent than produced, and that that is the main source of long-term problems, particularly given the structure of that consumption.

After examining the use of gross domestic product, it is evident that the individual consumption expenditures of households in that period were above 70% of gross domestic product, and in 2012 they even reached 74%. In addition, the total expenditure on final consumption of households and government has exceeded 95% of gross domestic product as a result of very low accumulative capacity of the Serbian economy. Almost the entire gross domestic product went on consumption, while domestic sources of investment were minimal, and there were none in some years. When taking into account gross fixed capital formation, it can be seen that the sum, with the final consumption exceeds the available gross domestic product by an average of about 15%, so it is clear that economic growth in 2000 was, for the most part, based on the foreign accumulation.

The presented data suggest that the key structural imbalances in the economy of Serbia, is related to improper relationship between production and consumption. It is also the main source of external imbalances, which is further emphasized by the unfavorable structure of gross domestic product. Slow growth of the domestic real sector and the dominance of the service sector in the creation of the gross domestic product, crucially aimed commodity flows of excess of domestic consumption in relation to production. Increasing demand for imported goods, the sudden liberalization of foreign trade flows and reducing supply of domestic goods for export, were a source of long-term trade deficit and a major source of dynamic growth in trade, transport and communication and financial intermediation.

The already mentioned three fundamental imbalances: the relationship between production and consumption, the structure of generating GDP and continual trade deficit, are followed by a number of developmental defects, which clearly reflect the unsatisfactory results of the economic policy in the transition period. In the first place, we should mention the movement of public expenditure and its structure during this period. Total public expenditure grew slightly more slowly than overall consumption, with average growth of 6.9%, much faster than the gross domestic product. In 2008, public spending has reached 46.1% of GDP, which was significantly more than similar neighboring countries, such as Croatia, with 39.6%, Bulgaria with 39.5 % and Romania, with 38.8%.⁴ The level of public spending alone would not be such a negative indicator in the case of high investment activity that positively affected the overall economic trends in the country. In contrast, in the structure of public expenditures, current expenditures accounted for 87.8% in 2007, and 89.7% in 2008. Capital expenditures were moving below 10%, indicating extremely unfavorable public spending. In addition, Serbia is leader in the amount of spending on pensions and salaries in the public sector, which in the period recorded the much faster growth than real gross domestic product.

⁴ Stamenković, S., Kovačević, M., Vučković, V., Nikolić, I., Bušatlija, M., (2009), *Ka novom modelu ravnoteže, Zbornik radova, Ekonomska politika u 2010. godini, Naučno društvo ekonomista, Beograd, pp. 26.*

Although the growth rate of gross investment was higher than the growth of GDP, due to the relatively low base-line in 2001, it was unsatisfactory. With an annual average of less than 20% of gross domestic product, the relative share of investment was much lower than in other post-socialist countries. However, the relative level of investment is not the only problem. Structure of investments followed the structure of gross domestic product, so the investments in the production of tradable goods accounted for just over 26%, as was the share of this sector in overall economic growth. Investments were concentrated in the service sector, especially in financial intermediation and real estate, which caused the deformation of the structure growth.

Based on these findings, it can be concluded that the main feature of the development of Serbian economy is extreme imbalance, with formed fundamental imbalances that hinder sustainable growth. Unique mark in domestic literature is that these developmental flows are a consequence of applied growth model after the year 2000, which main factor was consumption on a base of borrowed foreign accumulation. Autonomous sources of growth in this period were not made, but the national economy is again brought to the state of functioning with the rate of accumulation near zero, and without a strong material basis for repaying a growing external debt. The first crisis has melted growth potential, and the national economy entered a recessive trends, which led to the forced mitigation of some forms of structural imbalances (decrease in trade and payments deficit and public expenditure).

Arrangements with the International Monetary Fund and rescheduling of repayment of part of commercial debts, created a necessary break, which must be used for the necessary reforms and directing the national economy toward a new development model. One of the priorities certainly has to be to eliminate the structural imbalances created.

STRUCTURAL ADJUSTMENT OF THE ECONOMY IN THE FUNCTION OF EURO-INTEGRATION PROCESS

Transition and economic reforms in the Serbian economy have lasted for twelve years. As at the beginning of the third millennium, the Serbian economy is at an important crossroads. The initial macroeconomic successes, based on the stabilization that the government artificially maintained gave short-term results. However, the validity of the results has been questioned due to the current inflation, trade deficits, high costs of living and low competitiveness of the Serbian economy. The development of Serbian economy in these conditions, years of sanctions, war and political unrest, was limited by serious structural problems.

The economic structure of Serbia after the year 2001 was changed in favor of the service sector, which had the highest share of GDP in that year. Also, our economy has had a relatively high cost of economic growth. Achieved economic growth was based on the expansion of domestic demand, the current high cost deficits and deep debt.

The global economic crisis and domestic economic recession in 2008 and 2009 have been a good foundation for the creation of many systemic distortions in the economy, especially the structural ones. Considering that the economic crisis will continue, which means that Serbia in the near future cannot again expect to receive new foreign investment, it is necessary to find new sources of economic growth. We need to turn to domestic goods, investment and development of the right sector which could in the short term increase export, reduce unemployment and increase living standards.

The results that the economic development in Serbia has achieved show that the model of economic development urgently needs to change. Development policy in the future needs to be oriented towards the export market. In order to achieve this, the structural changes in the Serbian economy are necessary. Structural adjustment of the Serbian economy should include comprehensive changes in

many areas: the structure of production, finance, legislation and organizational structure at the micro and macro level.

While looking for an answer on how to continue to develop the domestic economy, European economic organizations as well as our organizations need to be involved in these issues so that Serbia joins the European market trends in some future period. Unfortunately, the need for major changes in the economic structure demands completely opposite of the existing conditions, because the economic crisis has halved foreign direct investments, as well as significantly reduced export. Significant limitations are reflected in the fact that the level of national resources is not significant enough to initiate a wave of investment in Serbia. Despite these adverse circumstances, Serbia has no choice. Previous economic development was based on an imposed model whose results are far from employment growth, reduction of the national debt, reduction of poverty and increase of living standards.

Preparation of internal markets for the European Union is certainly one of the main levers of economic structural adjustment. The strategy of the Serbian government is EU integration. That is, in a way, the easier way to reach world markets, and on the other hand, the basic condition for resolving the problems of development of the domestic economy and for achieving a stable democracy.

Also, that is the only way for all the countries of South East Europe, under the auspices of the EU, to provide free international flows of their goods, with structural adjustment and the development of their infrastructure and the acceptance of the European legal and institutional framework, and thus improve their competitive position in the European and world economy. European integration will enable Serbia to strengthen existing and normalize and improve lost relations with the former Yugoslav republics. Liberalization of the collaboration with neighboring countries and the Mediterranean countries is the natural direction of preparing for a higher level of competition in the markets of Western Europe and world markets.

To make something like this happen, it is necessary to lift our economy on a much higher level. For this to be achieved, it is necessary to create a synergy of macroeconomic policies and enable a strong development of microeconomic entities. In this sense, the export is one of the imperatives, and it can be increased only by developing competitive advantages of our economy.

The experience of most countries in transition shows that there is no satisfactory quantity and especially the quality of economic growth and development without a greater internationalization of the economy. It can be concluded that one of the most important determinants of policy development is export orientation and improved export performance of the domestic economy.

Fifteen-year long practice in our country is quite unfavorable. Already established production structure of the economy does not allow a significant expansion of export. Overestimation of the domestic currency led to a long-term stagnation in exports, due to the decline of its price competitiveness, as well as increasing import dependence of the economy. Export potential of the economy is characterized by low competitiveness with a high degree of diversification and the small effects of economies of scale, which has, with great dependence on imports, caused the increase in the foreign trade deficit.

The main cause of our huge trade deficit is the lack export potential of the domestic economy. Also, the main causes of the lack of exports are the lack of production, then its slow adjustment to structural changes of world import demand and the decrease of motivation of domestic producers to export. Export orientation is now restricted to a few industrial areas: manufacture of food products and beverages, basic metals, chemicals and chemical products, rubber and plastics and the production of garments and fur.

The index of price-cost limit shows that in the relatively large number of areas, the value of the cost is greater than the selling price, which is, from the viewpoint of basic economic principles, unacceptable. However, price elasticity of our export demand is very low. This shows that our exports are obviously directed to neighboring countries and less developed markets where price competitiveness is not sharp. In the Serbian development policy, special treatment should be received by the export industries that have achieved the technological competitiveness of their export products. Of great importance is the established scientific knowledge and modern technology as a key factor of economic competitiveness in the international market and the increase of export of technology-intensive products and services in international trade.

The creation of a competitive economy should lead to significant changes in the production and export structure of the economy. The prognosis is that it will change the structure of manufacturing in favor of high-tech industries, whose share of 14.6% in 2005 should be increased to 18% by end of 2012. Also, the share of semi-technological industries will fall from 48.35% to 45.95%, and the share of low technology industries from 37.15% in 2005, to 36.1% in 2012.

Table 2. Structural changes in the economy of Serbia in 2005 – 2012.

	2000.	2005.	2012.
Food products, drink and tobacco	28,7	31,9	31,3
Textiles and textile products	9,5	4,1	3,7
Leather and leather products	1,6	1,1	1,1
Wood processing	1,1	1,0	0,5
Paper and publishing	4,9	5,7	4,9
Coke and refined petroleum	1,5	12,3	12,7
Chemistry	12,6	12,3	12,7
Rubber and plastics	4,8	4,4	5,0
Non-metallic minerals	7,3	5,2	4,8
Metals	11,9	12,7	12,0
Machinery and equipment	4,1	6,7	8,0
Electronic and optical devices	3,9	4,3	5,0
Means of transport	5,1	3,6	5,0
Other industries	2,8	2,3	2,0

Source: „Nacionalna strategija privrednog razvoja Srbije 2006-2012“, Beograd, 2006, pp. 15.

According to the estimates given by the National Economic Development Strategy of Serbia, in the future, export leaders should be expected in the metal sector, food industry, chemical sector and the sector of rubber and plastic. Also, in the structure of exports, the high-tech industry should increase its share to 20%, while services will continue to dominate in the future.

As already mentioned, the branches whose development should be supported are those that in the most productive way use the factors of competitiveness that our country has. In other words, those branches in which domestic factors of competitiveness can be best expressed are needed.

The aforementioned statement does not mean that the Serbian economy should not follow modern technical and technological trends, but rather the opposite, depending on its capabilities and development potential, it must be included in the third technological revolution. Too much lag in technological development would lead the national economy to even more unenviable position in comparison to other European countries.

In order to improve export performance it should be determined, as soon as possible, which are the products that have already done well in the world market, but may face some constraints in the implementation. Or, what are the products for which the demand on the world market is still growing, and the fact that their production can be organized or encouraged in our companies. Of course, the

financial help from the state or through bank loans on more favorable terms than they currently are is needed.

New products and technologies as a result of the activity of the creator should be the pillar to enterprises in defining development options, which would lead to the unity of the concentration capacity and human resources, which is a prerequisite to creating a quality environment.

With proper reconstruction and transformation of the existing economic environment it is possible to increase the efficiency of existing production potential, as well as efficiency of the economy at the expense of creating new economic apparatus, through the introduction of new technologies through the creation of new products with the active use of scientific - technical achievements.

Acceptable development implies economic internationalization of Serbian companies and job growth in the international market. But to achieve this, it is necessary to harmonize the Serbian economy with modern conditions. The accumulated problems demand the acceptance of the new model centered on the export orientation of our economy. The emphasis should be on the development of those sectors that have good conditions for sale in foreign markets.

Historically, Serbia repeatedly stood at a crossroads. That's the situation again. Comprehensive and dynamic socio-economic changes are needed, as well as structural, institutional and technological changes.

CONCLUSION

Structural changes are a necessity in transition, taking into account adaptation to the conditions prevailing in the regional and global economic level. At the beginning of the XXI century, Serbia has started the process of transition, during which one of the main objectives defined in terms of the structural adjustment of the economy to international economic scene. Structural adjustment is assumed to formulate development strategies and policies that would allow equal participation of Serbian economy in the process of international economic relations.

The global economic crisis has placed the economic policy of Serbia in the second half of the 2008. the new challenges. After the political choices that are heralded as a milestone in the economic development of Serbia and its accession to the EU, it seems that the global economic crisis came at the worst time for the Serbian economy. Macroeconomic problems, which have certainly been present earlier, we are particularly exposed: the problem of inflation, unemployment, the problem of the exchange rate and balance of payments problem. Policymakers in Serbia were faced with issues that provide macroeconomic stability and financial stability of the banking system, as a guarantor of a much broader framework of economic system, which would prevent the occurrence of panic, both for businesses as well as the population.

The task is challenging, especially in conditions of high public spending, unrealized economic restructuring, high unemployment and the constant threat of inflation, and at the same time they can not rely on significant economic support to foreign, when there is financial insolvency of the most developed economies of the world. While it is clear that policy makers in Serbia can apply economic policies similar to those in developed countries, due to inflationary pressures, high aggregate demand, private consumption, but the question is whether the possible change in the economic policies of countries affected by the crisis. In relation to the question of whether a more active state role in the functioning of the economic system and what the consequences of such changes have on an otherwise underdeveloped market system.

It is also important to perform analysis of the relation between economic policy and structural changes in the transition through the movement of macroeconomic indicators, as well as establishing links

between their movements and structural changes. Particular attention should be paid to the analysis of export potential and foreign trade as a direct result of the current economic structure. In this way it is possible to measure the impact of economic policies on the development of existing structural imbalances within the Serbian economy.

Structural adjustment of the economy since the late 90 's of the last century, the central question of economic theory and practice in Serbia. Due to the reasons for the abandonment of the socialist economic system and the complexity of the construction process of the market mechanism, it is obvious that this is a profound and complex changes in the structure of the economy, with far-reaching consequences for the whole relations of society. The aim of these structural changes is determined by the need to address the fundamental problem in a multi- functioning economy, notably its systemic inefficiencies, which was most evident in the continued absence of the positive effects of investment on economic growth in its total standstill. Therefore, the interest of the scientific community in Serbia term related to redefine inherited and established a new economic structure, with the market as a mechanism supporting the optimal allocation of available production factors.

Although the theoretical postulates of the transition to a market economy have been widely accepted in all countries that have moved towards these fundamental structural changes implemented models of growth and development are very different from one to the other of the national economy. Serbia's 2000th years, with a significant delay compared to other countries, started the implementation process of structural adjustment of the economy, after years of debate and more declarative trying to change. In terms highlighted political instability, economic policy conceived the model of growth, based on the inflow of foreign capital and the dynamic development of the service sector.

However, the wave of the global economic crisis to the forefront came our key development issue - the unsustainability of the current model of growth and development. The delay in the inflow of foreign capital and a reduction in revenues from privatization have threatened long-term macroeconomic stability and disorders brought to the surface deep structural imbalances in the economy, so that it became apparent unsustainability further application development model of the last ten years. Despite the significant results achieved during this period, a relatively high rate of GDP growth has been accompanied by a continuous increase in unemployment, a large trade deficit of the state budget. All these developmental problems, largely the result of a marked degree of structural imbalances, which must be minimized in the future.

For the next period should be reviewed reality declared development objectives in the light of initial positions and inherited structural imbalances in economic development. You should also analyze the importance of re-industrialization, as a basis for post-crisis development model of Serbia, which implies a significant role in the industrial development of Serbia. Associated with the re-industrialization is intra-regional trade, which is one of the drivers of economic development because without a significant presence of Serbian economy in the region is not possible to expect reduction in the trade deficit and the considerable inflow of foreign funds from exports.

LITERATURE

- 1) Adžić, S., (2009), Strukturna politika kao dugoročni okvir nove ekonomske politike, Ekonomska politika Srbije u 2010. g. – Ka novom modelu makroekonomske stabilnosti, Zbornik radova, Naučno društvo ekonomista, Ekonomski fakultet u Beogradu, Beograd.
- 2) Bošnjak, M., (2011), Rezultati i izazovi ekonomskih reformi u Srbiji u tranzicionom periodu 2001 – 2008. godina, Ministarstvo finansija Republike Srbije, Beograd.
- 3) Nacionalna strategija privrednog razvoja Republike Srbije 2006-2012, <http://www.inkluzija.gov.rs/wp-content/uploads/2010/03/SKUPSTINA-NSPRS.pdf>
- 4) Savić, LJ., (2006), Privatizacija – veliki uspeh ili tranziciona zabluda, Ekonomski anali (april 2006), Ekonomski fakultet Univerziteta u Beogradu, Beograd.

- 5) Stamenković, S., Kovačević, M., Vučković, V., Nikolić, I., Bušatlija, M., (2009), Ka novom modelu ravnoteže, Zbornik radova, Ekonomska politika u 2010. godini, Naučno društvo ekonomista, Beograd.
- 6) Truman, E., (2006), Implications of Structural Changes in the Global Economy for its Management, Institute for international economy, Adelaide.
- 7) Veselinović, P. (2010), Sektorska struktura privrede Srbije i osnovni pravci prestrukturiranja, Ekonomska politika Srbije u 2010. godini – Ka novom modelu makroekonomske stabilnosti, Zbornik radova, Naučno društvo ekonomista, Beograd.
- 8) Veselinović, P., (2013), Nacionalna ekonomija, Ekonomski fakultet Univerziteta u Kragujevcu, Kragujevac.
- 9) Zec, M., Radonjić, O., (2010), Sistemski deficit i tranzicija u Srbiji, Ekonomsko-socijalna struktura Srbije-Učinak prve decenije tranzicije, Zbornik radova, Naučno društvo ekonomista, Ekonomski fakultet, Beograd.
- 10) http://epp.eurostat.www.ekof.bg.ac.rs/casopisi/download/EIP_02.pd
- 11) <http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language>

THE OPENING OF ACCESSION NEGOTIATIONS BETWEEN SERBIA AND THE EU - HARMONIZATION OF THE FOREIGN POLICY AND COMPANY LAW¹

Sonja BUNČIĆ²
Miroslava FILIPOVIĆ³

Abstract

Getting the date for opening accession negotiations with the EU represents a new level of intensification of the process of European integration of our country. At this point it is necessary to perform an analysis of possible positive and negative effects of these negotiations. In the first part of the paper the authors deal with an analysis of the possible effects of the negotiations on the foreign policy position of the country as well as the functional role of the negotiations in order to complete the process of democratization of the Republic of Serbia. A key step towards the EU integration is the harmonization of the Serbian legal system with the EU legal system. Harmonization of legislation, which began with the adoption of the Action Plan on the harmonization of domestic legislation with the EU in 2003, has still not been completed. Company law is one of 33 chapters relating to the compliance of national law on the path to full EU membership. In the second part of this paper, the authors analyze the current degree of harmonization of domestic economic and legal fields with European directives. Since the EU was established, company law has an important role in promoting economic integration. Convergence and harmonization of national company law is very demanding as it encompasses three areas: company law in the strict sense, accounting and auditing. National Programme for the Adoption of Acquis in the period from 2013 to 2016 assesses that company law has been mainly harmonized. However, as it is always related to economic development and is subject to constant changes, the programme plans for further process of harmonization of national company law with EU company law.

Key words: accession negotiations, European integration, company law, acquis, harmonization of legislation

INTRODUCTION

The main characteristic of relations among the member states within the EU is their close connection and clearly established mutual rights and obligations. Unlike its internal relations, the EU relation toward non-member countries is completely different. It is significantly different from the relations among the countries within the EU, since the non-member states have neither rights nor obligations towards this organization. In some cases, when it comes to closer relations and cooperation with non-member states, the EU's relationship changes. The process of strengthening ties among non-member states and the EU is termed accession, which indicates separate and specific relation through which a non-member state enters into closer cooperation with the EU and receives certain rights, but also takes over some responsibilities (Dimitrijević, Račić, 107) In order to complete accession, it is necessary that certain conditions are fulfilled, so that the new member state after the accession to the EU could work

¹ The research has been done as a part of the research projects "European Integration and Socio-Economic Changes of the Serbian Economy Towards the EU", No 47009, and "Improving Serbia's Competitiveness in the Process of the EU Accession" No. 47028 financed by the Ministry of Science and Technology of the Republic of Serbia.

² Full Professor, Faculty of Technical Science, University of Novi Sad, Serbia

³ Associate Professor, EDUCONS University, S. Kamenica, Serbia

within its system and the already established rules. The EU Council adopted the Copenhagen criteria (in 1993) which have determined three basic conditions that must be fulfilled by each country applying to become a full EU member. These conditions include political, economic and legal activities related to adoption of the EU *acquis*. The fourth condition known as the administrative condition was added later, in 1995 in Madrid. The latest condition demands the establishment of an administration apparatus capable of implementing the adopted *acquis* (*acquis communautaire*). So, according to these criteria, an EU potential member state, and thus the Western Balkan countries also, needs to direct political, economic and institutional development towards the values and models on which the EU is based, primarily in the domains of democracy, human rights and market economy.

The Western Balkan countries' accession has some specific features because of the process of disintegration and conflict through which they had passed. Significant differences that existed compared with the other countries of Central and Eastern Europe have imposed a different EU's approach in terms of their accession. In 1999 the EU Council adopted a special strategy for integration of these countries - Stabilisation and Association Process, as an opportunity for these countries to gradually approach the EU with the perspective of joining the European structures. The main goal of this process has been to achieve stability in these countries through bilateral and regional cooperation. The process is based on the idea that Western Balkan countries' accession is impossible without political and economic stability in the region (Radivojević, 61).

The legal basis and certainly the most important instrument of this process is the Stabilisation and Association Agreement, which has been concluded and implemented in the Western Balkan countries. The first two Western Balkan countries which signed The Stabilisation and Association Agreement were Macedonia (2001), and Croatia (2001). Subsequently, the same agreement was signed by Albania (in 2006) and Montenegro (in 2007). The Republic of Serbia concluded the agreement in April 2008 and Bosnia and Herzegovina in June of the same year. These agreements are characterized by the fact that prospective membership is planned for these countries but without an automatic right of a candidate status and there is no obligation of the Union to accept a member on this basis. (Vukadinović, 520).

LEGAL NATURE OF THE STABILIZATION AND ASSOCIATION AGREEMENT

Due to the mentioned characteristics, these agreements have a complex legal nature. They are, on the one hand, preferential trade agreements with certain political clauses (Radivojević, 62). At the same time, they are standard agreements, which means that the obligations that a signatory country assumes and the rights it acquires are same for all the countries of the Western Balkans and they are not the subject of negotiation. The only subject of negotiation are deadlines in which the contracting state should fulfil its obligations. Since the level of development of the Western Balkan countries is different, every country determines the term of the agreement implementation, by evaluating its potential to implement the concluded agreement in life. It is necessary that the EU accepts the proposed term. In current practice, the estimated terms were in the range of 6 to 10 years from the date of entry into force of the agreement.

On the other hand, by signing the agreement, it becomes the source of the community law for the Western Balkans. Implementation of the SAA provisions helps the Western Balkan countries to achieve harmonization of their legal system with the EU communitarian law. Due to the great importance of these agreements in the building and strengthening of new legal institutes within the EU, they are treated as "non-regular" source, but fully accepted by the European Court as "an integral part of communitarian law" (Bunčić, Andrejević, 515).

Association agreements must be ratified by all member states. The agreements are concluded by the Council after obtaining the approval of the European Parliament. The ratification process is very long, and because of that, at the same time the EU concludes transitional or interim agreements with each

country individually. These interim agreements aim to start with trade liberalization and harmonization of national legislation with the EU *acquis*.

THE ACCESSION NEGOTIATIONS - CONCEPT AND IMPORTANCE

The Republic of Serbia have had the same path of the European integration as other applicant countries. The SAA between the EU and its member states, on the one hand, and the Republic of Serbia, on the other hand, came into force on 1 September 2013, as the ratification process was completed on 24 July 2013. This ended the preparatory phase of Serbia's integration into the EU and the European leaders have made a decision to open accession negotiations with Serbia.

The accession negotiations represent the final stage of the integration process of the candidate country into the EU. In order to start accession negotiations with the EU, the concerned state must have fulfilled all the previous obligations from the process, i.e. concluded the Stabilisation and Association Agreement, been granted the candidate status and proven its ability to enter the final but most difficult phase of the European integration. The accession negotiations are in fact negotiations on conditions under which a candidate country accesses the EU. Those conditions are essentially related to the fulfilment of the third Copenhagen criteria, i.e. harmonization of national legislation with the EU *acquis*. The EU *acquis* is, for the purposes of negotiations, divided into 35 chapters and each chapter is negotiated separately. The basic principle of negotiations is that nothing is agreed until everything is agreed.

THE PHASES OF NEGOTIATIONS

Within the accession negotiations, first step is screening - an analytical examination of legislative harmonization of a candidate country (in our case Serbian law) with the EU law. The procedure is implemented by the candidate country in collaboration with the Union. The screening is conducted at two levels: multilateral and bilateral. Multilateral screening includes several candidate countries to which representatives of the European Commission present *the acquis communautaire*. Bilateral screening includes meetings of one candidate country with representatives of the European Commission, during which the relations between the national legislation and *the acquis communautaire* are established. On the basis of these meetings, the European Commission adopts the Screening Report.

The novelty in the methodology of the accession negotiations adopted by the EU in negotiations with Montenegro in comparison to negotiations with Croatia is putting the focus on chapters 23 and 24, which cover the area of judiciary and fundamental rights, justice, freedom and security. In the case of Serbia, these chapters will be the subject of screening in the very beginning and will remain open during the entire course of the negotiations. Unbalanced progress in the negotiations in these two chapters may lead to a delay in the opening and closing of other chapters. Another novelty is the introduction of interim benchmarks in these two chapters to be monitored. These criteria will be included in the EU Common Position on the opening of negotiations in the two chapters which means that it will take another decision, that is EU Common Position, on defining the fulfilment of transient closing benchmarks and establishing closing benchmarks. Once the last chapter is provisionally closed, the Council re-decides on the completion of the negotiations and the signing of the EU accession.

The course of the entire negotiating process should not be directed just to a quick negotiation closure and obtaining the date for the EU access, but the adjustment to the EU standards. It is in the interest of the candidate country to achieve the best possible introduction to the *acquis* and EU standards. Therefore Serbia should focus on its priorities and the development of cooperation with the countries of the Union.

FOREIGN POLICY OF SERBIA AND ACCESSION NEGOTIATIONS

At this point it is necessary to perform an analysis of possible positive and negative effects of the opening of accession negotiations as a new phase of European integration. The importance of opening negotiations is reflected in the foreign policy position of the country, the internal motions and the functional role of negotiations in relation to the completion of the process of democratization of the Serbian state. However, in the case of Serbia, it is first necessary to present and analyze briefly the impact of negotiations on the country's foreign policy in general – as not much research has been done in this domain. Also, while usually being the least transparent and poorly understood area of government work, foreign policy is a highly sensitive area, so the impact of international integration of a country on this policy deserves particular attention.

Theoretically, foreign policy is related to the goals (defined by ruling political parties) that a country seeks to realize abroad, the underlying values and the ways and means to achieve the selected goals (Kegli, Vitkof, 122), or as Modelski (6-7) put it long time ago, foreign policy it is the system of activities evolved by communities for changing the behaviour of other states and for adjusting their own activities to the international environment. Furthermore, some authors emphasize that “foreign policy of a nation as more than the sum total of its foreign policy (throughout the courses of action for achieving objectives) for it also includes its commitment, the current forms of its interests and objectives and the principles of right conduct that it professes” (Parkash, Prem, 66). In a nutshell, Chand summarizes the notion of a country's foreign policy as “an expression of its fundamental self identity as a civilization at given point of its history.” (Chand, 7) It is usually assumed that the main factors influencing a country's foreign policy include its geostrategic position, military strength, economic power and the state system. But, in the case of international integration, all or some of these factors may be reduced in the significance or voluntarily adjusted/subordinated to the integration goal.

In a globalized world, nations feel pressure to join trade and political pacts. These international groupings often erode national democracy while offering diminished accountability at the wider policy-making level. How, then, trade pacts can be subject to democratic accountability and how integration can proceed without losing the advantages of smaller-scale political process? The internationalists may be naive enthusiasts, while the nationalists may often be bigoted and reactionary. But somewhere in this debate lie the core issues of governance in a globalized and integrated planet⁴.

According to a research done by ISAC Fund (Novaković, 2013), the domain of Serbian foreign policy and the process of the decision making are qualified as being very non-transparent primarily for the reason of absent relationship between the foreign policy issues and Serbian citizens, but also for other reasons. In more politically developed countries, such a relation is usually based on activities of defining foreign policy priorities, creation of foreign policy and its implementation/control by its citizens, thus making the policy legitimate and embraced by the majority of citizens. As mentioned above, this is a critical input for developing a foreign policy as a fundamental self identity of a nation at a particular historical moment. In addition to such an inappropriate and unsustainable functioning of the decision making in the domain, it has been assessed that Serbian foreign policy faces two additional sets of important challenges: a rather short term horizon of Serbia's strategy for its international relations (due to a lack of a broader social consensus as its basis, which also stems from the absence of the above noted relationship), and the necessity of the country's foreign policy harmonization with the EU Common Foreign and Security Policy (CFSP).

There is a widespread belief (that is not completely unjustified) that Serbia has not managed to create/adjust its foreign policy in accordance with turbulent changes which have occurred in this globalized and interconnected world during the last decades. Longer-term foreign policy priorities are most commonly defined in a formal document created by the government and adopted by the

⁴ <http://www.globalpolicy.org/nations-a-states/political-integration-and-national-sovereignty-3-22.html> [19 Sept 2013]

assembly/parliament, thus ensuring wider social support. In contrast to all neighbouring/former Yugoslav countries, Serbia has not been able to create nor pass such a strategic document but its foreign policy could only be analyzed from specific/partial documents, actions or statements from ruling political elites. To put it simply, Serbia's foreign policy during the last several years could be presented as relying on 'four pillars', i.e. the EU, the US, China and Russia, or being stated forthrightly as 'both the EU and Kosovo'. The above mentioned research, however, underscores that the relations between the EU and Serbia are more of a unilateral nature as "... they imply the process of Serbia's integration into the EU through structural reforms based on the values the EU is founded upon. The goal of this relation, therefore, is a specific "Europeanization" of Serbia, i.e. its essential transformation into a country capable of assuming all rights and obligations stemming from the EU membership." (Novaković, 28)

Here we come to a quite delicate area in the country's negotiations with the EU, i.e. to what extent and at what speed Serbia can or wish to harmonize its foreign policy with CFSP. Chapter 31 of the *acquis* – Foreign, Security and Defence Policy, clearly states that CFSP and the European Security and Defence Policy (ESDP) are based on political declarations (expressing values and attitudes jointly achieved) and legal acts, in form of legally binding international agreements, but also includes actions aimed at realizing declarations and/or agreements. So, "applicant countries are required to progressively align with EU statements, and to apply sanctions and restrictive measures when and where required."⁵ Such an alignment does not refer only to declarations/actions made by the EU independently but also to corresponding documents and actions initiated by the EU in other international fora and organizations (for example, the UN, Council of Europe, etc.). In addition to 'technical' changes regarding Serbia's government and its work in the domain of its foreign and security policy (making the cooperation with the EU technically possible in the areas), a more difficult task in the harmonization of the country's foreign policy lies in the domain of foreign-policy values contained and stipulated in the related EU documents, declarations and actions. As defined above, a foreign policy is more than a sum of international actions taken by a country – it is also its commitment to certain set of values, in this case the underlying values of the EU itself. In this way, progressive harmonization of a candidate country sends a clear commitment signal to the EU.

Up to 2011, Serbia's record in harmonization of its foreign policy was rather slow, i.e. the country was not particularly efficient/willing in the alignment in this area. By the end of 2010, Serbia had been called upon to align with 357 declarations (out of more than 400 EU declarations), of which it aligned with 245. The main reason for that, of course, provided by the Serbian government, was the country's inability to circumvent its national interests as affected by the Kosovo's unilateral declaration of independence. Even so, the majority of declarations Serbia had not aligned with in the period were targeted on countries/regions outside the EU and even more surprisingly on certain areas where Serbia had already taken commitments. Such examples include the proliferation of nuclear arms (Treaty on the Non-Proliferation of Nuclear Weapons already ratified), death penalty (already abolished in 2002), human rights, etc. It could be understood why, for example, Serbia did not align with the EU declarations targeted at China or the US (death penalty) but strangely enough Serbia has not managed to align with the 2009 EU declaration targeting Iran pertaining to respect of human rights or the one targeting North Korea for its proliferation of nuclear arms (in 2008 and 2009).

However, since the beginning of 2012, the EU has praised Serbia's efforts to speed up its alignment in this domain. In October 2012 Progress Report⁶, the EU welcomed continuous political consultations with Serbia in the area of foreign policy issues, and especially the country's efficiency in harmonization of its foreign policy with CFSP: Serbia has aligned itself with 69 EU declarations and Council Decisions, out of 70 the country was invited to align with. The areas wherein greatest progress was achieved are restrictive measures (for example, those stipulated by the UN Security Council

⁵ For more details see <http://ec.europa.eu/enlargement/policy/conditions-membership/chapters-of-the-acquis/>

⁶ Serbia 2012 Progress Report: Enlargement Strategy and Main Challenges, European Commission{COM(2012)600}, Brussels, 10. 10. 2012.

although the corresponding legal framework has still not been developed), cooperation with international organizations (e.g. the UN, OSCE, etc), security measures (Serbia has ratified the relevant agreement with the EU regarding classified information), the country's participation in the EU civil and military crisis management operations (CSDP area, for example in Somalia). Still, significant harmonization is expected in the area of arms non-proliferation (for example, legal framework governing exports of military technology and equipment).

When it comes to the foreign policy effect of the opening of negotiations, it is essential to point out that the Republic of Serbia has been assessed as a mature democratic country with a willingness and capacity to become a full member of the EU. Such qualification is derived from the fact that the country has obtained a more-less precise date for the opening of negotiations. The results of the 2013 Brussels negotiations between Serbia and Kosovo have had a particular impact on the foreign policy position. The agreement reached between the parties has strengthened the foreign policy position of Serbia and has created the possibility for opening negotiations and the usage of the EU pre-accession funds. The conclusion of the Brussels Agreement was a crucial moment to help Serbia return to the international political scene.

The effect of the opening of accession negotiations is reflected in the consolidation of *internal political* attitudes on the domestic political level. Serbian government's decision to sign the Brussels Agreement in April 2013 provoked strong reactions both in Serbia and in Kosovo. The constant tension between two irreconcilable political paradigms shows the complexity of political life in Serbia. Getting closer to the EU has been an imperative for all the governments of the democratic changes from 2000 to the present, with the ultimate goal – full membership in the organization. Although it has been over a decade since the beginning of transition and more than two decades since the multiparty parliamentarism has been introduced, this goal has not been achieved. Serbian society and the public opinion still swings between two radically different ideological, political and symbolic worlds, Euro-scepticism and Euro-enthusiasm (Diković, Novaković,⁶⁴). Unlike other societies in the region, it has failed to solve the basic problem of identity, which almost all transition countries solved at the beginning of their reforms. Because of that, the effect of the opening accession negotiations on internal political relations is huge. The Serbian society and government will be required to pursue more responsible and more mature policy in perceiving positive and negative effects of the European integration.

The *functional effects*, i.e., the role of the opening negotiations with regard to the democratic development of the society, means completion of the democratic consolidation process. This would mean that democratic rules become a habit in our society and not just a sporadic phenomenon. Respect of democratic values with the existence of a strong legal framework normally provides system stability and a society that has the ability to deal with everyday economic and social issues. That is the main goal as well as the greatest value of entering the community of the European nations.

HARMONIZATION OF COMPANY LAW

Since the establishment of the EU, the company law has been considered a foundation of a modern, dynamic networked, industrialized society (Schmithoff, 74). In this regard, the European company law was created and developed as a consequence of free movement both for individuals and legal entities across the EU market. This freedom of movement is guaranteed by the Treaty on the EU establishment and it is based on the principle of prohibition of discrimination. The mentioned principle means that local and foreign persons, or persons coming from other member states, must be treated in the same way (Bunčić, Galetin,³¹⁹). Company law is incorporated primarily into the corpus of national law. Considering the relationship between European and national company law, we must point out that European company law today has not been built as a complete and separate legal system. The member states are not willing enough to give up to a large extent specifics of national corporate law in building a unified European company law. Harmonization of national company law is very demanding, as well

as creating a single European company law, given the fact that freedom of establishment should be facilitated and confidence in cross-border business should be enhanced, in terms of protection of shareholders, employees, creditors and other external stakeholders (Horak,15).

Categories of non-member states and harmonization of legislation with the European Union law

The harmonization of regulation among the EU member states, both through the EU legal instruments (positive harmonization) and through eliminating obstacles (negative harmonization) is a contractual obligation of member states that stems from the founding Treaties. The situation is slightly different in the case of third countries. In this regard, it is possible to distinguish several different categories:

1. States that do not pursue a goal of accessing the EU but they have economic interest to harmonize their legislation with the EU regulations. Examples of such countries are Switzerland, Norway, Liechtenstein and Iceland until recently (Iceland has applied for EU membership in July 2009 but stopped the negotiations in May 2013).
2. States that have not yet entered the procedure of the EU accession but take unilateral actions on harmonization, as a preliminary step, since their subsequent goal is the accession to the EU. The ability to harmonize national law with the EU law is one of the Copenhagen criteria and a certain degree of harmonization with the *acquis communautaire* indicates that this criterion could be fulfilled. The Western Balkan countries belong to this category.
3. States that have entered the procedure of the EU accession and have a contractual obligation to harmonize their legislation with the *acquis communautaire*. This obligation is therefore derived from the pre-contracts - they were previously called European treaties, now it is the Stabilization and Association Agreement. This obligation applies now to the Republic of Serbia, which ratified SAA (Knežević-Bojović,131).

Procedure – techniques of the process of harmonization with *acquis communautaire*

In order to assist candidate countries in fulfilling this task, in 1995 the European Commission issued the White Book on the preparation of the associated countries of Central and Eastern Europe for integration into the internal market of the EU.⁷ The White Book was originally intended for the countries of Central and Eastern Europe, but was later extended to the Baltic states and Slovenia, and it is also accepted by the Western Balkan countries, such as Serbia, and they make, based on it, action plans for harmonization of domestic legislation with the EU law. We can conclude from its name that the White Book covers only regulations relating to the internal market. These regulations are divided in Annex of the White Paper in 23 fields, and priorities for harmonization are highlighted within each field, more precisely, they suggest the order of measures to be adopted in the first and second stage. It is clear that the White Book does not represent a final list of regulations that needs to be harmonized, given the aforementioned extremely productive legislative activities of the Union, but it is certainly very useful template for planning harmonization, not only in the areas covered by it.

The legal basis for company law harmonization is contained in the provisions of primary legislation (EU founding treaties), but the harmonization process itself is implemented by the instruments of EU secondary legislation, in particular by regulations and directives. The main difference between directives and regulations is in their legislative purpose. Regulations deal with individual issues in mentioned areas and they replace national provisions governing specific, rule-based situation of the

⁷ White Paper: Preparation of the Associated Countries of Central and Eastern Europe for Integration into the Internal Market of the Union, COM(95) 163, May 1995

regulation, and because of its legal nature they do not present subject of harmonization. They become parts of the national legal system at the time of accession, since they have direct effect and are directly applicable. Directives are adopted at the supranational level and are intended to bring national laws closer to each other as much as necessary to achieve the goals of European integration. In the area of company law, except directives and regulations, the great importance has the jurisprudence of the European Court.

HARMONISATION OF REGULATIONS IN SERBIA WITH EU LAW IN THE AREA OF COMPANY LAW

Crucial step towards integration into the EU is the harmonization of Serbian legislation with the EU acquis. Harmonization of legislation that started by the adoption of the Action Plan for harmonization of domestic laws with the EU legislation in 2003, has still not been completed. Company law is one of 33 chapters relating to the compliance of national law on the road to the full membership.

The Company Law in the domestic legal system governs issues that are regulated by European directives in the field of company law. It was adopted in 2004 in order to harmonize domestic legislation with the current European legislation and to fulfil the Action Plan. It was already noted at that time that much of this area had been harmonized with European company law. The development of the European integration process showed that the area of company law should be further harmonized and that is why a new Company Law has been adopted in 2011. It has opened the possibility and implementation of business establishment (freedom of movement) in accordance with the EU, which shows a higher degree of harmonization with the EU *acquis communautaire*.

The law brought several novelties in accordance with the directives in the field of company law, such as the abolition of the payment of cash deposits in the establishment of the company, which has further facilitated the procedure of establishment. By its enactment, this law recalled the provisions of Law on Private Entrepreneurs, except those provisions which relate to a partnership activities. Partnerships shop owners have a duty to change their form of activity into the legal form of a company, and if they do not do it until 1st March, 2013, they will be registered as a partnership.

Convergence and harmonization of national company law is a very demanding process as it covers three areas: corporate law in the narrow sense, accounting and auditing. National Programme for the Adoption of the EU acquis in the period 2013-2016 ascertains that company law is harmonized to a large degree. However, it is always related to economic development and subject to constant change, so the programme envisages the adjustment of specific areas of company law to the EU law in the further process of integration.

Besides the Company Law, there are other important regulations in this area, such as Law on Accounting and Auditing, Insurance Law, Capital Market Law, Law on Registration of Business Entities, etc. These regulations are also harmonized to a large extent with the relevant EU regulations.

The Law on Registration Procedure of the Business Registers Agency (Official Gazette of RS 99/11), implementation of which has started in February 2012, has made the registration of business entities more efficient. The registration procedure is conducted within a one-stop registration system successfully set up in the Business Registers Agency in 2009. This system makes it possible to obtain unique identification number, tax identification number and notification for authorized funds for social and health insurance during the procedure of registration of establishment within two days of the application submission.

National Programme for the Adoption of the EU acquis in the field of harmonization of company law in the period from 2013 to 2016 set forth activities to improve the registration process. The introduction of new registers (Register of Institutions, Register of disqualified company directors,

Register of Agricultural Financing Contracts) are planned, as well as the improvement of technical requirements of registration. Electronic registration is conditioned by the establishing a system of certified electronic signature (Bunčić,382)

CONCLUSION

On the basis of the analysis of undertaken measures on the harmonization of company law of the Republic of Serbia with the EU *acquis (acquis communautaire)* we may conclude that the harmonization has been achieved to a great extent. It should be emphasized that the area of company law is related to the market economy system and thus is susceptible to a constant change. Therefore, it is reasonable to expect that the further integration process will require adjustment of some areas to the EU company law. The National Programme for the Adoption of the EU *acquis* has already planned new harmonization activities in the period from 2013 to 2016. When it comes to the foreign policy effects of the opening of negotiations, it is essential to point out that the Republic of Serbia, by obtaining a date for the opening of negotiations, has been qualified as a mature democratic country that has shown a willingness and capacity to become a full member of the EU. Nevertheless, its foreign policy domain, being the most sensitive in every country, is expected to undergo substantial changes, both in terms of technical changes and introduction/development of foreign-policy values contained and stipulated in the related EU documents, declarations and actions.

LITERATURE

- 1) Bunčić,S.,Andrejević,A.(2012) Strengthening western Balkan countries corporate competitiveness through the right of establishment, in *Managing structural changes*, Coimbra, Portugal ,Faculty of Economics of University of Coimbra
- 2) Bunčić,S.Galetin,M.(2012) Pravo nastanjivanja u praksi suda pravde Evropske unije, in *Aktuelna pitanja savremenog zakonodavstva*, Budva
- 3) Bunčić,S.(2009)Kvalifikovani elektronski potpis kao početak e-uprave,*Poslovna ekonomija* 2/2009,Sremska Kamenica
- 4) Chander, P., Prem, A. (1997) *International Relations*. New Delhi, Book hives.
- 5) Chand, A. (1992) *Foreign Policy: Planning and New Challenges*. New Delhi: Anmol Publications.
- 6) Diković J., Novaković A.(2012) Evroskepticizam nedostajuća karika političkog života Srbije, *Srpska politička misao*,3/12,Beograd
- 7) Dimitrijević,V., Račić, O. (2011) *Međunarodne organizacije*, Beograd
- 8) Horak, H.(2010) *Uvod u europsko pravo društava* , in *Uvod u europsko pravo društava*, Zagreb, Školska knjiga
- 9) Kegli, Č. V., Vitkof, J. (2006) *Svetska politika – Trend i transformacija*. Beograd, Prometej.
- 10) Knežević,Bojović A.(2011) *Harmonizacija kompanijskog prava sa pravom Evropske unije i pravila o slobodi osnivanja privrednih društava u SPP*. Strani pravni život 1/2011, Beograd
- 11) Modelski, G. (1962) *A Theory of Foreign Policy*. Praeger for the Center of International Studies, Princeton NJ, Princeton University.
- 12) Novaković, I. (2013) *From Four Pillars of Foreign Policy to European Integration*. Belgrade, ISAC Fund.
- 13) Radivojević Z. (2012)Sporazumi o stabilizaciji i pridruživanju, *Zbornik radova Pravnog fakulteta u Nišu*
- 14) Schmithoff,C.M. (1988) *Select Essays on international Trade Law* , Martines Nijhoff Publisher, London
- 15) Vukadinović, J.(2012)Neke karakteristike sporazuma o stabilizaciji i pridruživanju, *Pravni život*, 12/12Beograd

POSITIONING OF SERBIAN ECONOMY IN THE GLOBAL ECONOMY – THE DEVELOPMENT OF HIGHER FORMS OF COOPERATION WITH FOREIGN COUNTRIES

Dorđe ĆUZOVIĆ¹

Abstract

The positioning of the national economy in terms of globalization of markets has to be substantially designed project. The cornerstone of the positioning of the national economy to the global market is creating the strategy of global competitive recognition. Regional economic integration and globalization of the world economy is an opportunity and a threat to national economies, such as the economy of Serbia. With reference to contemporary theory and a progressive practice in this work we try to answer the question: how to integrate Serbia into the global market. We started from the assumption that the development of higher level of cooperation with foreign countries is an opportunity for integration of our economy into the global "coordinate system". We opened the question: how to increase the export of Serbia and establish a number of forms of cooperation with foreign countries. At the conclusion of the work we concentrated on the development of strategic alliances as models of higher level of cooperation with foreign countries. We came to the conclusion that Serbia needs a strategy of export-oriented growth. Last but not least, we point out that we tested a strategy of export-oriented growth and development of Serbian economy in practice, providing the opportunities and limitations.

Key words: globalization, the positioning, the Serbian economy, higher forms of cooperation, export-oriented strategy, strategic alliances.

INTRODUCTION: SUBJECT, PURPOSE AND CONTENT OF THE RESEARCH

Regional economic integration and globalization of the world economy is an opportunity and a threat to national economies such as ours. The liberalization of flows of goods, services, capital, labor, technological innovation and information, generally, integrate the national economy into the global market. However, regional and global markets are for a national economy, figuratively (mathematically) speaking, "coordinate system" in which it should operate. Depending on competitive recognition and business performance national economy will be positioned in a positive or negative field of "the co-ordinate system". This means that the macroeconomic management of Serbia and marketing management of business system, as the most responsible, are expected to identify opportunities and threats in regional and global markets in which they need to find their place.

It should be noted that the macro-micro management of the national economy needs to recognize the "nature of secret" of global market. In short, the answer is requested: how does the national economy operate in terms of globalization? It is about a phenomenon known in contemporary literature as a "competition area". (Pike, Rodrigues-Pose & Tomaney, 2006). Global market, i.e. "coordinate system" provides national economies a chance to compete, assessing and measuring their success in "coordinate system of global competitiveness". Starting with the introduction, which also announces the subject, purpose, and content of the research in this work we will put emphasis on two research segments as follows: the strategy of export-oriented growth and development of economy and strategic alliances, which besides foreign direct investment represents essential element positioning of the national economy in terms of market globalization and internationalization of business.

¹ Dorđe Ćuzović, PhD, Lecturer, Higher School of Professional Business Studies, Novi Sad

THE DEVELOPMENT OF HIGHER FORMS OF COOPERATION BETWEEN ECONOMY OF SERBIA AND FOREIGN COUNTRIES: METHODOLOGY APPROACH

In terms of globalization of market and internationalization of business, national economies have two possibilities: to become "captive" to environment, or leader in the global environment. The macro-micro management is required to review the state of the national economy and pave "the way" for its position in the regional and global environment.

Selection of strategic options is the cornerstone for the positioning of the national economy in the "global territory". Therefore, it is necessary to conduct a detailed analysis of the situation and resources in the national economy. Relevant literature in this area suggests the following analysis of the resources of the national economy (Blakely & Bradshaw, 2006) such as: 1) materials, 2) manpower, 3) markets, 4) governing or management and 5) money. This concept of analysis and assessment of available resources is known in the literature as the five Ms, and the name is derived from the initial letters of the English names of these resources. Policy makers and marketing management need to do a SWOT analysis before the "exit" to the regional and global markets. SWOT analysis intersects two determinants of the future positioning of the national economy (Tomos, 1997): 1) opportunities and limitations of global markets and 2) internal strengths and weaknesses. The first determinant (opportunities and limitations of the global market) contains information about the global environment, such as market analysis, competitive analysis and entry barriers. The second determinant (internal strengths and weaknesses) is a self-analysis of performance of the national economy (Porter, 1980). Self-analysis should answer the questions: **what is the current position of the national economy? What is national economy strong in? What are the businesses subjects of national economy known and accepted in regional and global markets?** By combining the opportunities and threats of the global environment, on one hand, and the strengths and weaknesses of the national economy, on the other hand, policy makers and marketing management must define a strategy of "fitting" into the global market.

In the context of the development of higher forms of cooperation between economy of Serbia and foreign countries as an important element of the strategy of accession to the EU market, we will remind of the macroeconomic indicators of economic development of our country.

Namely, the economy of Serbia before the global financial and economic crisis that began in 2008 faced macroeconomic imbalances. On the one hand, too rapid growth of private and public consumption in comparison to GDP, and too much reliance on the growth of non-tradable goods in producing gross value added (GVA), which increased the trade and current account deficit of the country. The share of exports of goods and services in GDP is less than 30%. The encouraging fact is the fact that an export-import ratio increased in the period 2009-2013, from 47.9% to 70%. Pride of place and merit belong to FAS (Fiat cars Serbia). However, this is only one side of the coin, but not sufficient for economic objectification of trade between Serbia and foreign countries. The fact that the export structure is dominated by non-tradable goods such as raw materials, raw materials and food, is still an alarming fact. Such export structure characterized us as a less developed country. This motivated the authors of "Post-Crisis Model of economic growth and development in Serbia 2011-2020" to note the following (Group of authors, 2011): "The global economic crisis has revealed that the current model of economic growth and development in Serbia is not sustainable and that must be changed fundamentally if we want to avoid the fate of undeveloped and heavily indebted country. Due to the drying up of privatization revenues and the limited possibilities of further excessive getting into debts abroad, Serbia needs to turn to a new model of economic growth and development which is pro-investment and export-oriented". Professor Predrag Veselinović analyzing developmental limitation of Serbian economy, two years before the post-crisis model of development of Serbia, stated the following (Veselinović, 2009): "Economic policy makers will have the opportunity to try hard and prove themselves in this field. For many of them it will be extremely difficult and thankless job, but a

job that cannot tolerate more delays, because the consequences will be extremely catastrophic for a country that is going through a painful and uncertain transition period”.

HOW TO INCREASE THE EXPORT OF SERBIA AND ESTABLISH HIGHER FORMS OF COOPERATION WITH FOREIGN COUNTRIES

Before answering this question we will focus on the competitive recognition of economy of Serbia in the global “coordinate system”. According to the World Economic Forum (WEF, 2013) Serbia, in 2012, ranked 101st place out of 148 ranked countries. At the same time, it is the last country in terms of competitiveness in the region. In front of it, there are: Albania (95th place), Bosnia (87th place), Croatia (75th place), Greece (91st place), Hungary (63rd place), Macedonia (73rd place), Montenegro (67th place) and Romania (76th place). Our most recognizable “export-products” in 2012 are young and educated persons. The unemployment rate before the crisis (2008) was 14%, and in 2012 was 23%. Of particular concern is the fact that the unemployment of population of youth (15-24) is about 60%. A number of dependents and the working population is almost equalized (1,0:1,1).

Previous analysis will serve as a platform for us to seek answers to the following questions: 1) where does Serbia want to go to, and 2) what does it want to take to the regional economic integration (EU) and global integration, which is the intention of the author of this text. We will remind that in the period of 2001 - 2008 gross domestic product (GDP) in Serbia grew at an average rate of 5.4%. However, at this period it did not contribute to the improvement of business performance and competitive recognition of the economy of Serbia. The crisis of 2008 revealed that this GDP growth is unsustainable. It is not too bad, however, GDP growth is not the result of growth in industrial production (real sector), but this growth is caused by privatization revenues. Since 2008, Serbia is facing a double crisis, which some economists (Đuričin, 2012) referred to it as the crisis with “double bottom”. It is about a structural crisis of our country, on the one hand, aided by the global financial and economic crisis, on the other hand. The alarming fact is that the level of GDP in Serbia (in 2012) decreased by 30% in terms of GDP (1989). Although the authors of the study “the strategy of re-industrialization of Serbia” regard that “output gap” is the usual companion of the first phase of transition, on the other hand, in our opinion it is contrary to economic logic, and devastating in comparison to other post-transition countries (Central and East Europe), the countries that increased GDP by an average of 40%. In this period, the industrial production in Serbia fell 3.5% and agricultural production by 8%. If we add other adverse indicators such as the high external debt and fiscal deficits above 3% of GDP, according to standard it is considered as the upper limit of indebtedness.

Serbian participation in the global economy is negligible. From the perspective of GDP in 2012 Serbia was found in 85th place out of 192 national economies, representing 0.07 per cent of global GDP. It is more negligible positioning of Serbia in the global economy in terms of per capita, where it takes 95th place. The share of our economy in world exports is about 0.07%, while imports accounted for 0.12% (World Bank, 2012). The structure of the already modest level of exports is unfavorable. The Serbian export intermediate products are 36.2%, consumer goods (perishable) accounted for 25.2% and capital goods 18.9%. The primary products of the manufacturing industry accounted for 86.4% of our exports, where the export of food products dominated by 13.3%, manufacture of basic metals 9.4%, chemicals 8.1% and semi-finished rubber and plastic products 7.1%. In short, the structure of our exports is dominated by non-tradable products or products of lower stages of processing.

The balance of foreign trade of Serbia in 2012 (Statistical Office of the Republic of Serbia, 2013), considered in terms of the structure of imports looks as follows: 28.4% of intermediate goods, capital goods 22.2%, fuels 23.5% and 13.4% of non-durable goods. From the perspective of individual share in total imports, we notice that the import of oil and gas (11.3%) and chemical products (16.5%) are in the leading position. Vehicles participate in our total imports with 6.2%.

Due to economic objectification of Serbian trade it is necessary to look back to geographical segmentation of market and regions and individual countries. We will start with the EU. The European Union is the most important trade partners of Serbia and participates with over 50% in the structure of export and import structure. Among other factors, the dominance of the EU as a foreign partner is based on the inflow of FDI. Its dominance in the future will be increased because of accession of some CEFTA countries to the EU.

From the point of view of EU member states in foreign trade with Serbia, dominating countries are Italy (in the export of Serbia) and Germany (in Serbian imports). Forecasting the growth rate of exports to the EU in the future is not an easy task. Forecasts are even harder if we take into account our:

1. technical and technological backwardness,
2. low competitiveness,
3. insufficient application of quality standards (ISO 9000, ISO 14000, HACCP, ISO 26000, ISO 27000, CE - European harmonization of quality,
4. an unfavorable environment for FDI,
5. non-harmonized investment standards between Serbia and the EU requests,
6. inconsistent macroeconomic policies,
7. negative trade balance,
8. high public debt and
9. the fiscal deficit.

The limiting factors for increasing the exports will not be reduced by this in the future. We should add a high unemployment rate, inadequate qualification structure, with the more precarious flow and completion of the global financial and economic crisis. A strategic partnership between FIAT and the "Zastava" and the foundation of a mixed company "Fiat Automobiles Serbia" (FAS), which is 67% owned by the "Fiat", and 33% owned by Serbia might encourage us. It is expected that the production of cars through cooperative network to increase exports of Serbia by the end of 2020 by 20% -30%. However, if the crisis becomes deeper in Italy, it can lead to a slowdown in the inflow of investments. It should be noted that the Italian investment in Serbia in the period 2005-2010 took the sixth place among FDI. In the process of privatization of the Italian company took the second place according to the number of purchased companies, 200 companies with Italian capital employs about 18,000 people. Also, the Electric Power Industry of Serbia and the Italian "Cut energy" signed on February 2011 the preliminary agreement on the construction of hydropower plants on the Drina, worth \$ 800 million and they plan the construction of hydroelectric power plants on the Ibar (Chamber of commerce and industry of Serbia 2011). Consequently, some of economic analysts predict that in the future our exports to the EU will grow up, notably after 2013, considering that according to the latest assessment of the European Commission Serbia makes progress in dealing preconditions for beginning negotiations for EU membership (Đuričin, 2012).

These are arguments for the previous (Group of authors, 2011):

- "the process of accession to EU membership will result in reducing the perception of risk of investing in Serbia,
- possibility of increasing exports from the Stabilization and Association Agreement (SAA), and on the basis of nominations for membership of the EU since March 1st 2012 (Modified by: Đ.C),
- moving labor-intensive production process of the EU to Serbia will increase the intensity of intra-industry trade, which is now at a low level,
- visa liberalization will facilitate local entrepreneurs the opportunity to establish contacts with potential business partners in the EU. "

Besides the EU our most important business partners are the countries of Southeast Europe with whom Serbia has a surplus in the CEFTA trade agreement (2006). This is especially referred to the former

Yugoslav Republics (FYR) with which Serbia accomplished a positive trade balance till the onset of the global financial and economic crisis (2008). The painful fact is that our province Kosovo and the Metohija now "legitimized" as UNMIK Kosovo, where political concerns made Serbia decrease exports in this area, and that the export leaders are Macedonia and Germany. For example, exports of Serbia to UNMIK Kosovo have decreased in the period (2002-2010) from 22% to 11%.

The third important trade partner of Serbia is the Russian Federation, with whom we have a large trade deficit. According to this indicator, the Russian Federation is, besides the EU, other regional partner we are import-dependent from. However, this does not mean that in the future we cannot export our economy to this market. Especially if we consider that Serbia has signed a free trade agreement with Russia, which foresees the gradual elimination of import duties on goods, that originate from one of the parties.

Wrapping up the debate on this issue raises the question: what strategy of cooperation should develop with foreign countries in order to promote exports?

SERBIA NEEDS A STRATEGY OF EXPORT-ORIENTED GROWTH AND DEVELOPMENT OF ECONOMY

Despite the measurements of Serbian Government (October 2013) on budget of consolidation, as transient "therapy" for preventing bankruptcy, all relevant stakeholders in Serbia (from the makers of economic policy to employees) are united in their assessment: Serbia needs strategies of export-oriented growth and development.

However, at first glance this simple answer hides a number of unknowns. There is a plenty evidence for this. There is neither in the theory nor in practice of international trade an accepted attitude on the topic: what model of export-oriented strategy is the most efficient and effective in terms of internationalization and globalization of business? As international trade develops theorists-practitioners have tried to answer the questions: why do countries trade with each other? What should countries produce and what should import? What should they export and at what price to export? What are the effects of exports and how they are distributed? What kind of cooperation should import and export? How should one select the most favorable strategic options and position oneself in the global market? In seeking answers to these questions some certain opinions have emerged, that "convert" to science education (courses). Chronologically speaking international trade schools developed in accordance with the development of trade and the theoretical assumptions, which have changed over time. They have passed the way of the traditional understanding of international trade to the modern theory of international trade. Without analyzing these theories thoroughly, we will conclude that there is no universal 'recipe' which will instrumentalize all of the national economy within the strategy of positioning in the global market.

However, on the other hand, with reference to theory and practice, the question arises: **what are desirable forms of cooperation between Serbia and other countries toward more distinctive positioning?** Before answering this question it should be noted that the main exporters in Serbia are successful privatized companies and surpluses of agricultural products. Statistically speaking, there are only 40 export-oriented enterprises.

The increase in exports in the future can be achieved under the following assumptions: a) If Serbia attract FDI in export-oriented manufacturing sector, b) It is desirable that there would be Greenfield and Brownfield investments, c) In the structure of import the share of tradable products should be increased, d) If the structure of export products increase the share of high technology, it would be achieved by reducing the share of resource-based products, e) if we attract FDI of transnational companies that will buy non-privatized large companies (e.g. FAP, MIN, EI, IMR IMT, Viskoza, Prva petoletku etc.). We should recall that in the previous period FDI was motivated by the privatization of

local monopolies in the field of: a) The banking sector, b) Tobacco industry, c) Industry of building materials (primarily cement), d) Energy-generating products e) black and non-ferrous metals (iron, steel and non-ferrous metals) and f) beverage industry.

"Re-engineering" of legal law regulations would contribute to the export-oriented growth and development of Serbia which would change the negative image of us as a state with too large and "sluggish" state apparatus. Let us recall of report on global competitiveness and position of the national economy, that "remind" us what needs to be improved. Primarily we bear in mind: 1) creation of the concept of the modern state, 2) the elimination of administrative barriers that began with "guillotine" regulations, 3) strengthening promotional and communication mix of Serbia in regional and global economic integration, 4) the introduction of tax incentives in order to attract FDI, 5) development of Serbia in accordance with the agenda, "Information and Digital society ", 6) the development of telecommunications infrastructure, 7) reform at all levels of education, 8) the development of a democratic society and the strengthening of political and commercial relations with the countries from the regional economic integration and the world.

In completing the answer to the question: what are desirable forms of cooperation between Serbia and other countries toward more distinctive positioning? We will give a few suggestions. Cooperation traditional forms such as exports and imports should be raised to a higher forms of strategic partnerships, such as: 1) internationalization of business according to the FDI system, 2) the development and implementation of franchising, 3) strategic alliances, 4) network companies, 5) cluster development, 6) acquisitions and mergers, 7) cooperation on the project model, 8), portfolio diversification and 9) export factoring and leasing. We should not forget that each of these forms of cooperation requires: organizational, marketing, managerial, technical, technological, and scientific and information restructuring of Serbia.

THE DEVELOPMENT OF STRATEGIC ALLIANCES IN ORDER TO STRENGTHEN THE COMPETITIVE ADVANTAGE AND INCREASE EXPORTS

In further discussing about how to increase the export of Serbia and establish higher forms of cooperation with foreign countries, there is also the question about the development of strategic alliances in order to strengthen the competitive advantage and business performance of our business systems. The theoretical and empirical knowledge in this field should serve marketing management of business systems of Serbia, as a landmark in the process of opting for a strategic alliance with one of the multinational companies.

Contemporary theory and progressive practice share an opinion, that besides foreign direct investment (FDI) strategic alliances represent an important segment process of globalization and internationalization of business. The term alliance includes all forms of cooperation between enterprises in the global economy which are more than normal market transactions, and less than mergers and acquisitions. (Milanović, 2009). The reason for entering into strategic alliances is strengthening the competitive advantage in the global market or parts of the global market. Failing to achieve this, the company is better to act independently in the market. Like other forms of cooperation, strategic alliance has also opportunities and certain dangers.

In addition to the terminology of the term alliance, strategic alliance is defined, as: any form of cooperative enterprises that may but does not have to, include equity investment, regardless of duration and the aim of establishing partnerships. (European Community, 1994)

Two elements are important for defining the alliance: first of all, the alliance may relate to all aspects of the company, from research and development to distribution of the final product, but rarely include the overall business activity of the company, and second of all, there is a clear distinction between alliances and mergers or acquisition. (Milanović, 2009). Mergers and acquisitions do not involve

cooperation between two independent companies, but their aim is the formation of the aggregate enterprise with complete control of the entire business.

Eminent economic theorists, Porter and Fuller, use term coalition to refer to long-term alliances (alliance) between companies that connect their activities, but it does not come to their merger. According to these authors, the coalition includes other forms of common cooperation: joint ventures, license agreements, supply agreements, marketing agreements, etc. (Fuller and Porter 1986). The same authors connect their classification of alliances to the activities of the chain of forming the new value which alliances refer to and clearly indicate the motive of forming alliances. According to Porter and Fuller, we may distinguish the following modes of alliances:

1. Technology-developing alliance – the companies approach to those due to the high cost of technological development and to achieve economies of learning and acquiring new technological knowledge;
2. Operative-logistical alliance – they are motivated by economies of scale and learning;
3. Marketing, sales and service alliances – they usually related to the activities which must be carried close to the customer and under conditions prevailing in a particular country;
4. Alliance involving more activities (Multi-activity) - arising for two reasons: 1) activities involving the alliance are closely related and interdependent, and 2) there is a need for the alliance in many different activities, so it is easier to agree with one, than more than one partner;
5. Alliance including one or more countries - geographic region of alliance suggests the motives for its formation;
6. X and Y alliance - in X alliance, participants share with each other different activities within the same industry, while in the Y alliance enterprises share the execution within the same action .

Contemporary theory and progressive practice agree in their assessment that the most common incentives for joining a company to strategic alliance are (Jepma and Rhoen, 1996):

- easier access to global-international market,
- reduction of risks and uncertainties of performance on the global market,
- reduce development costs of new products
- acquisition of new technologies
- learning marketing management skills and know-how,
- easier access to national and regional markets,
- providing capital for certain investments.

Strategic alliances are very popular, although empirical studies show a number of failures. A prerequisite for their occurrence is mutual benefit partner. The ideal partner should be competent with the resources and ability which gives confidence to other partners, members of strategic alliances.

As recognized factors (drivers) of the development of strategic alliances in the global business, commonly referred to:

- technological advances that led to changes of traditional competitive advantages;
- innovation-led growth and development of economy,
- intensity of scientific and technical progress, in which technological insufficient innovative companies and national economy lose "the race",
- shortening of product life cycle
- the emergence of new forms of business performance in the global market system and
- strengthening the national competitiveness in the global economy with multinational strategic alliances.

The globalization of markets and business internationalization are an opportunity and a risk for the company, which plans to emerge as independent "competitors" in the global game. Company, in order

to minimize the losses and the uncertainty of appearances in the global market, opts for a "cooperative strategy", known in the literature as strategic alliance. Professor Dussage author of "Cooperative strategies-successful application through strategic alliances" as the reasons for getting the company into strategic alliances notes: (Dussage, Garrett, 1999):

- a chance of the company to reduce risk and find new ways to access to attractive markets
- strategic alliance allows the company access to various technologies that often does not possess,
- globalization of markets changes the strategy of foreign investors and creating new forms of cooperative organization, which enables companies to compete successfully in the new market system and to be competitive recognizable.

Due to the economic objectification of strategic alliances as an "application" to the global market is not sufficient to consider only the positive side, so we will also look back to the risks that they pose. Most often, a company within strategic alliances faces two problems. The first problem is the choice of a partner in the alliance, and the second is alliance management when it is formed. The choice of the partner depends on the objective that the company uses in its commitment to the strategic alliance. Clearly defined aims and mission are the basis for successful strategic alliances management. The control system must be well designed in order to be able to intervene promptly if activities are not consistent with long-term aims.

Companies are opting for strategic alliances as they see this form of cooperation more effective and less expensive as compared to independent operation, mergers or usual market transactions.

The advantages of strategic alliances can be divided into three main sources: higher revenues, lower costs and reduce risks.

Wrapping up the discussion on the topic of strategic alliances in order to improve the competitive advantage and business performance of national economy, we will conclude that, despite all those positive effects, they represent a form of co-operation with a very uncertain outcome (Dussage, Garrett 1999). When theorists and practitioners discuss about it, they began the discussion with the fact that business partners are entering into strategic alliances, at first glance, with a distinctive business settings that are complementary and relevant to the alliance as a whole. However, it may happen that the business partners after reaching a business success, instead of the complementary strategy, use the strategy of imposing power and "control" of the other members of the alliance. Under such conditions, most often it comes to agreement cancelation and termination of mutual cooperation. Also, some different forms of strategic alliances, such as licensing arrangements, franchising systems and joint ventures in a particular period may become unstable. Most often the instability and uncertainty of business partnerships can be noted at the time when a business partner of the holder of strategic alliances ("leader") wants to "take control" over alliance. There are two reasons, one is constant volatility international environment and strategic goals of the company of "leader" and the other reason is the "misuse" of reciprocal cooperation which involves unequal use of resources, which leads to the asymmetry of business.

These examples should serve as a landmark marketing management of business system in Serbia in the process of opting for a strategic alliance with one of the multinational companies. However, the risk involved with carrying strategic alliances, should not discourage the marketing management of our business system to make a difference to the regional (EU market) and the global market, through the process of strategic alliances with business systems market in developed countries. Strategic partnerships such as marketing cooperation agreements, licensing arrangements, franchising systems and joint ventures are the chance for the internationalization of our business systems. Regional economic integration (mainly EU) and global processes are challenge for marketing- management of Serbian business system, to internationalize their business through mentioned modalities of strategic alliances. In this way, positive effects of strategic alliances will be felt, such as technology transfer,

marketing management skills, knowledge, information and innovation. The state and policy makers should help marketing management of our business systems and through alliances strategic make a step out to the international market. There are many reasons for that. We emphasize that businesses in our country are not competing recognizable in order to act independently on the international market. There are no conditions to internationalize their operations through foreign direct investment. In addition, we are not technological recognizable so that we can create a product with added value innovation to demanding global customers. Classical export-import strategy of Serbia is not enough to improve our trade balance and current account balance of payments. Furthermore, the global financial and economic crisis on the one hand, and the latest actions of the Serbian Government on budgetary consolidation, oblige makers of economic policy to use strategic alliances as a model for improving the export strategy, while we do not officially gain the status of a candidate country for EU membership.

CONCLUSION

With reference to contemporary theory and a progressive practice in this work we try to answer the question of how to position the Serbian economy in the global economy. We should answer the question: how to increase the export of Serbia and establish a number of forms of cooperation with EU. Developing the theme we went to the assumption that the development of higher level of cooperation with foreign countries is an opportunity to position the national economy into the global economy. Theorists and practitioners agree that the choice of strategic options for positioning is the cornerstone of the national economy in the "global territory." Therefore, it is necessary to conduct a detailed analysis of the situation and resources in the national economy. By combining the opportunities and threats of the global environment, on the one hand, and the strengths and weaknesses of the national economy, on the other hand, policy makers and marketing-management strategy should define "fitting" into the global market.

Predicting the growth rate of exports of Serbia to the EU is not an easy task. There are several reasons, such as: technical and technological obsolescence of equipment, low competitiveness, insufficient application of quality standards, unfavorable macroeconomic stability, the negative trade balance, high public debt, fiscal deficit, the unfavorable business climate and slow harmonization investment standards of Serbia with EU requirements. Internationalization of chain stores may serve as encouragement (Metro, Mercator, IDEA, Delez, etc.) with strategic partnership with "Fiat Automobiles Serbia" (FAS).

Hereafter we concentrated on the development of strategic alliances aimed at improving the competitive advantage and business performance of national economy. Strategic partnerships such as marketing cooperation agreements, licensing arrangements, franchising systems and joint ventures chance are for the internationalization of our business systems. The state and policy makers should help marketing management of our business system through the strategic alliances to establish higher forms of cooperation with other countries and to increase exports. All this leads to the conclusion that Serbia makes efforts to change its image in the eyes of the leaders of regional and global economic integration.

LITERATURE

- 1) Bjelić, P. (2011) International trade, Faculty of Economics, Belgrade, p. 500
- 2) Blakely, E. J. & Bradshaw, T. K. (2006) *Planning Local Economic Development-Theory and Practice*, Stage Publications Inc., California, p. 171.
- 3) Dussage, P. & Garrette, B. (1999) *Cooperative Strategy, Competing Successfully Through Strategic Alliances*, John Wiley and Sons Ltd. England.
- 4) Đuričin, D. (2012) Interview with Đuričin, D. March 6th 2012 Kopaonik Business Forum, Tanjug.

-
- 5) European Community. (1994) *Panorama of EU Industry*, Brisel.
 - 6) The Group of Authors, (2011) *Post-crisis model of economic growth and development of Serbia 2011-2020.*, USAID SEGA, Belgrade, p.6.
 - 7) Jepma, C. & Rhoen, A. (1996) *International Trade: A Business Perspective*, the Duth Open University, Logman, London and New York.
 - 8) Milanović, Z. (2009) *Impact of foreign direct investment on development of countries in transition*, master's thesis, Faculty of Economics, Faculty of Business and Economics, Banja Luka, p. 35th
 - 9) Pike, A., Rodrigues-Pose, A. & TOMANEY, J., (2006) *Local and Regional Development*, Routledge, New York, October 2006., p.10.
 - 10) Porter, M. (1980) *Competitive Strategy*, Free Press, 1980.
 - 11) Porter, M. E. & Fuller, M. B. (1986) *Competition in Global Industries*, Harvard Business School Press, Boston.
 - 12) Serbian Chamber of Commerce and Industry Of Serbia (2011) *Dealing with Foreign Countries*, Belgrade.
 - 13) Statistical Office of The Republic of Serbia (2013) *Statement no.189 (statistics of foreign trade)*, Belgrade.
 - 14) Tomos, J. G. (1997) *Strategic Menagement*, Harper and Row, Prentice-Hall, p.119.
 - 15) Veselinović, P. (2009) *Economic and financial relations between Serbia and foreign countries SSE and the Faculty of Economics*, Belgrade-Kragujevac, p. 190.
 - 16) World Bank. *World Development Indicators* (2012).
 - 17) World Economic Forum. (2013) *Global Competitiveness Report*.

INDUSTRIAL POLICY FOR ECONOMIC DEVELOPMENT: THE PERSPECTIVES FOR SERBIA¹

Bojana RADOVANOVIĆ²
Milica KOČOVIĆ³

Abstract

This paper argues that industrial policy, defined as a conscious effort on the part of government to encourage and promote a specific industry or sector, is an indispensable tool for economic development. Serbia is experiencing a process of de-industrialisation since 1990s. During the period 2001-2012 its industry has been growing at an average annual rate of 0.2%, but it however still did not reach the output of the late 1989. The share of industry in GDP has been decreased, as well as the share in the labour productivity. Moreover, employment in industry has sharply decreased. Serbian exports are dominated mostly by primary and labour- and resource-intensive products making unfavourable export structure. This paper argues that devastated industry of Serbia cannot recover without conscious efforts on the part of government.

Key Words: industrial policy, economic development, Serbia.

INTRODUCTION

The topic of industrial policy and its relevance for economic development has been highly contested during the past couple of decades. While some scholars, and particularly those from liberal tradition, have argued that state interventions have negative impact on economy and that market should be left on its own, the others, from the so called heterodox approach, stressed that industrial policy is an indispensable tool for economic development, which cannot happen through market mechanisms alone. Nowadays, there seems to be consent among the scholars and policy makers that industrial policy is an important tool, and the focus of discussion is changed from whether a country needs an industrial policy to how industrial policy should be designed and implemented. However, when talking about industrial policy authors often have in mind very different definitions.

The topic of industrial policy is highly relevant for Serbia today. The aim of this paper is two-fold. On the one hand, it aims at showing the importance of industrial policy for economic development, drawing from a relevant literature review. On the other, it aims at presenting and discussing the industrial development and the industrial policy in Serbia.

This paper has two sections. In the first section, we will provide definitions of industrial policy, then discuss the arguments in favour of its implementation, outline its main challenges and critiques, and finally present the main principles articulated in the literature about how industrial policy should be created and implemented. Then, in the second section, we will present the data on economic and industrial development in Serbia in past couple of decades, and we will analyse the industrial policy of the country.

¹ This paper is a part of research projects numbers 47009 (*European integrations and social and economic changes in Serbian economy on the way to the EU*) and 179015 (*Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements*), financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

² Associate Researcher, Institute of Economic Sciences

³ Associate Researcher, Institute of Economic Sciences

INDUSTRIAL POLICY IN A NUTSHELL

Two types of definitions of industrial policy could be found in the literature. Industrial policy, defined in a broad sense, encompasses all public policies that have an impact on industrial development, namely: “policies affecting ‘infant industry’ support of various kinds, but also trade policies, science and technology policies, public procurement, policies affecting foreign direct investments, intellectual property rights and the allocation of financial sources” (Cimoli, Dosi, Stiglitz 2009: 1). When defined in a more narrow sense, industrial policy is seen as “a concerted, focused, conscious effort on the part of government to encourage and promote a specific industry or sector with an array of policy tools” (DCED 2013), or “a policy aimed at particular industries (and a firms as their components) to achieve the outcomes that are perceived by the state to be efficient for the economy as a whole” (Chang 2003a: 112).

The question that rises is why there is a need for that effort on the part of government to encourage and promote a specific industry or sector or even firms. The shortest answer is that industrial policy is needed in order to foster economic development, seen as “great transformation from traditional economies to economies driven by industrial activities (and nowadays also advanced services)” (Cimoli, Dosi, Stiglitz 2009). More precisely, a country needs industrial policy because: (1) market fails to solve a coordination problem (Chang 2003a); (2) only certain activities, namely those with increasing returns, technological change and synergies, enable economic development, while the others, characterised by diminishing returns, unskilled labour, extreme price fluctuations, etc., keep a country underdeveloped (Reinert 2007); (3) in the presence of more developed countries, less developed countries cannot develop industries without a state intervention (Reinert 2007, Chang 2003b); (4) entrepreneurial - risk taking, visionary state invests in areas, crucial for economic development, where the private sector does not invest (Mazzucato 2013). We will briefly discuss all four arguments.

The first argument in favour of industrial policy is based on the market failure. It stresses the necessity of an *ex ante* coordination of economic actors’ activities. More precisely, in modern industrial economies, characterised by scale economies, only few firms can operate, which results in an oligopolistic competition. In such case economic actors are strategically interdependent, which leads to inefficiency and a state intervention is necessary. Chang argues that intervention needed here is not necessary an antitrust-type policy (Ibid). Since in modern industrial economies, assets are specific and they lose value when redeployed, coordination problem leads towards net reduction in the amount of resources available to the economy (Ibid). In order to solve a coordination problem, the following policies could be used: investment coordination, recession cartel, negotiated exit or capacity scrapping (for more details see Chang 2003a).

The second argument that stresses the necessity of industrial policy is based on the assumption that country’s productivity growth is dependent on the economic activities in which it specialises (Reinert 2007). In addressing the questions how rich countries became rich and why the poor stayed poor, Reinert argues that economic development is activity-specific and that it takes place in activities with increasing returns, technological change and synergies⁴. He distinguishes between two types of economic activities. On the one hand, Shumpeterian activities, which operate in manufacturing, by means of continual innovation leads to increasing wages, create welfare and development, while on the other Malthusian activities characterised by diminishing returns, unskilled labour, extreme price fluctuations, etc., and found in agriculture and raw material extraction, keep wage-levels close to the subsistence level (Ibid). Thus, it does matter whether a country specializes in labour- and/or resource-intensive types of activities or more technologically advanced, capital-intensive manufacturing. In other words, what a country produces influences how wealthy it is.

⁴ Reiner defines synergies as “factors that acting together produce the cumulative causations or reactions that create the structural change we call economic development” (Ibid 37)

The third argument states that, in the presence of more developed countries, a less developed country needs a state intervention through an industrial policy in order to develop new industries (Chang 2003, Reinert 2007). This is known as “infant industry argument”. Infant industry argument was first set out by Alexander Hamilton, the first Secretary of the Treasury of the USA, in his *Reports of the Secretary of the Treasury on the Subject of Manufactures* in 1791 (Chang 2003a, Reinert 2007), and further developed by Friedrich List in his book *The National System of Political Economy* published in 1841 (Ibid). Hamilton argued that due to the competition from abroad new industries that could become internationally competitive would not appear in the USA unless their initial losses were covered by the government (Ibid). These infant industries needed protection from the competition of more advanced foreign (in this case British) competitors until they grow enough to be able to compete on international markets. Hamilton advocated for the state aid in form of duties or in the rare cases prohibition of import (Chang 2003a). Thus, the industrial development of today's most developed country was based on interventionist policies and only when it obtained industrial supremacy, USA finally liberalised its trade (Ibid). However, USA was not the first to use infant industry protection. According to List, that was Britain (Chang 2003a). List argues that free trade is beneficial for the countries at the same level of development, while infant industries need to be protected until they are able to compete on international markets. The policy of infant industry protection, “by a system of restrictions, privileges, and encouragements” were used by the Britain and the USA, but also Germany, France, Sweden, Belgium, Netherlands, Switzerland, and they lie behind the success of Japan and Asian newly industrialised countries (Chang 2003a).

Finally, not only do less developed countries need industrial policy in order to climb up the ladder of economic prosperity, but an “entrepreneurial state” is the main driving force of the most developed countries, which is our fourth argument in favour of industrial policy. Mazzucato argues that “the radical, revolutionary innovations that have fuelled the dynamics of capitalism - from railroads to the Internet, to modern-day nanotechnology and pharmaceuticals – trace the most courageous, early and capital-intensive ‘entrepreneurial’ investments back to the State” (Mazzucato 2013: 3). She argues that “the visible hand of the State” made possible for investments that have embedded radical uncertainty to happen (Ibid). She points out that “all of the technologies that make Job’s iPhone so ‘smart’ were government funded (Internet, GPS, touchscreen display and the recent SIRI voice activated personal assistant)” (Ibid). Thus, contrary to the wisdom of the mainstream economics, which perceives private sector as dynamic and risk-taking, in fact, as Mazzucato argues, the most risky and uncertain activities in the economy are undertaken by the State, which takes shapes and creates new markets. Moreover, as Weiss argues, whilst it was not titled as industrial policy, the majority of governments continued to intervene in markets, affecting the economy in a highly selective manner (Weiss 2013). These interventions have been described as ‘competitiveness policy’, and many countries have published programmes to raise competitiveness, usually focusing on incentives for R&D and innovation.

After we have presented arguments in favour of industrial policy, we will now turn to its criticism of industrial policy. To begin with, critics of implementation of industrial policy stress the problem of information. They argue that it is impossible for governments to identify with any degree of precision and certainty the relevant firms, sectors, or markets that should be supported (Rodrik 2007). Since the government cannot have all the necessary information, it can “miss its targets, support economic activities with no positive spillovers, and waste the economy’s resources”, which is usually phrased as “governments cannot pick winners” (Ibid). Moreover, it is argued that industrial policy opens doors for corruption and rent seeking (Ibid). If governments provide support to the firms, the firms may demand extra benefits and then distort competition, and they would also engage much more in asking support than they would look for the ways to expand markets and reduce costs (Ibid). However, as Rodrik points out, “none of this makes this area of policy different from conventional areas of government responsibility such as education, health, social insurance and safety nets, infrastructure, or stabilization” (Rodrik 2007: 36). In other words, the question is not whether a country needs an industrial policy, it is much more about how an industrial policy should be created and implemented. Stressing that each country is a specific case, Rodrik outlines three general principles about how institutions carrying out industrial policy should be designed (Ibid).

First of all, an industrial policy should be “embedded” within society. According to Rodrik, industrial policy should not be seen as a list of policy instruments, but rather as a process of discovery. A close collaboration between the government and the private sector is thus needed. Rodrik argues that the right model for industrial policy lies in between the two extremes of strict autonomy of the state, on the one hand, and private capture, on the other. “It is a model of strategic collaboration and coordination between the private sector and the government with the aim of uncovering where the most significant bottlenecks are, designing the most effective interventions, periodically evaluating the outcomes, and learning from the mistakes being made in the process” (Ibid: 39). He also outlines major institutions in support for industrial policy formulation and implementation, such as deliberation councils, supplier development forums, “search networks,” investment advisory councils, sectoral round-tables, and private-public venture funds. He also stresses that contests in which private sector firms bid for public resources are useful for eliciting private-sector needs and priorities (Ibid).

Secondly, using “carrots and sticks” in order to incentive and discipline economic actors is crucial. As it has been already mentioned, an infant industry should be protected for certain period, even though it makes losses. Moreover, innovation requires rents for entrepreneurs, without which there would be too little investment in the activities that promote structural change. In other words, incentives (“carrots”) need to be designed for economic actors in order to engage in Shumpeterian activities. However, at the same time firms must be disciplined and it must be ensured that they do not stay unproductive monopolies. In other words, as Rodrik argues “the conduct of industrial policy has to rely on both prongs: it needs to encourage investments in non-traditional areas (the carrot), but also weed out projects and investments that fail (the stick)” (Ibid: 41). Rodrik lists the following mechanisms used in order to bring discipline: conditionality, sunset clauses, built-in program reviews, monitoring, benchmarking, and periodic evaluation are desirable features of all incentive programs, requiring that an incentive expire unless a certain goal is reached. It is important that the evaluation criteria are clear and set in advance (Ibid).

Thirdly, accountability on the part of the state is essential. While business is monitored by bureaucrats, the bureaucrats need to be accountable for their policies and monitored by the general public. Rodrik argues that there need to be identified a person “who has the job of explaining why the agenda looks as it does, and who can be held politically responsible for things going right or wrong” (Ibid: 40). Moreover, accountability can be fostered at the level of individual agencies by giving them clear mandates and then asking them to report achievements and deviations. Finally, a fundamental tool for accountability is transparency. Thus councils should make publications of the activities. Also, periodic accounting of the expenditures made under industrial policies is needed. In addition, any request made by firms for government assistance should be public information and government-business dialogs should remain open to new entrants.

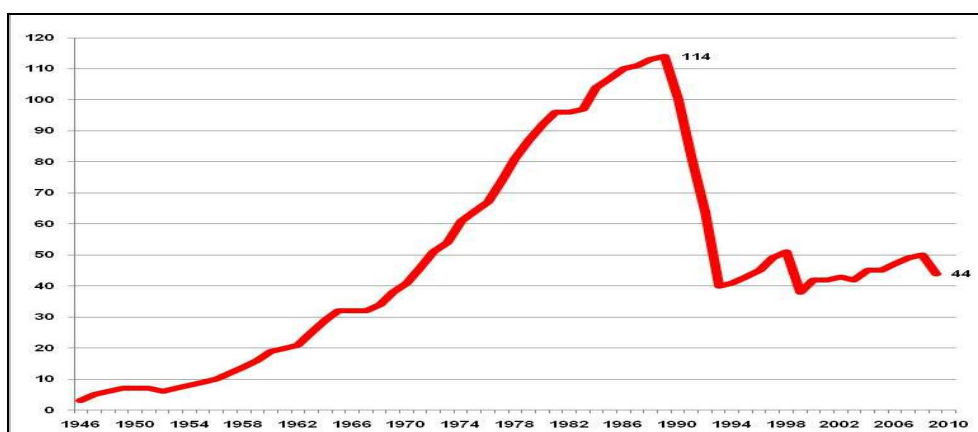
To sum up, we have argued that industrial policy, as a conscious effort on the part of government to encourage and promote a specific industry or sector with an array of policies, is an indispensable tool for steering economic development. However, it needs to be carefully developed and implemented. Now, we will turn to Serbian industrial development.

INDUSTRIAL DEVELOPMENT AND INDUSTRIAL POLICY IN SERBIA

A period of rapid industrialization of Serbia, after the Second World War, took place on the model of industrial centres. There were formed 26 big, 22 medium- sized and 114 small industrial centres by 1960s (Strategy and policy of industrial development in Serbia in the period 2011 – 2020 2011; hereafter Strategy 2011). For most of the development after the Second World War, Serbian industry has been growing at very high growth rates. An average growth rate of 7.7% was recorded between 1953 and 1990 (Savic, Boskovic 2011). Particularly satisfactory growth rates were achieved in the seventies, while the first difficulties manifested during the 1980s. An average growth rate during the 1980s was only 1 per cent, and in some years it recorded negative rates (Ibid). Serbian industry

experienced a breakdown during the last decade of the twentieth century, when the average rate of growth of Serbian industry was negative (-6.6%). The process of transition after the 2000s resulted in further devastation of Serbia's industry. Serbian economy is characterised by the very slow recovery to pre-transition peak. Serbia's economy in 2008, before the global recession, reached only about 80% of GDP of the year 1990, while the industry has been at the level of 50% of the output in 1990. In fact, Serbia is the only country in transition, which has not yet reached level of industrial production from 1989.

Figure 1. Indices of industrial production, 1945–2000 (1990=100)



Source: *Strategy and policy of industrial development in Serbia in the period 2011 - 2020*

The average growth rate of GDP in the period 2001-2012 was 3.0 %. In particular, during the period before the economic crisis (2001-2008) the growth rate of GDP was 4.9%, while in the period 2009-2012 there was a decrease of GDP at an average rate of 0.7 %. However, economic growth was based on privatisation followed by low level of technological development, employment reduction, as well as loss of intellectual resources, which led to negative technological progress.

The GDP structure has changed significantly during the period 2001-2012. A characteristic of the period 2001- 2012 is a faster growth of the service sector compared to the manufacturing sector. Although industrial output has been growing on an annual average rate of 0.2%, manufacturing recorded negative growth (-0.1%). There was a significant decline in the share of the sector of agriculture, forestry and fishing (-9.1 %) and manufacturing (-5.4 %) in the total GDP, while there was an increase in the service sector's share in GDP in 2012 as compared to 2001 of 9.5%. In short, a dominant concept of transitional reforms based on liberalization, privatization and structural changes in the period since 2001 led to deindustrialization of the economy, when manufacturing sector has been practically devastated.

Table 1. Growth rate and share of GDP of different sectors in Serbia 2001-2012

	Average growth rate 2001-2012	Share of GDP 2001	Share of GDP 2012	Difference 2012-2001
Agriculture, forestry and fishing	0.1	19.5	10.4	-9.1
Industry	0.2	24.6	23.5	-1.1
Manufacturing	-0.1	21.7	16.3	-5.4
Construction	4.2	3.3	4.3	1.0
Services	3.9	52.6	62.2	9.6
Trade	7.5	7.5	10.8	3.3
Transportation and storage	3.3	4.5	5.3	0.8
Information and	14.3	3.7	5.4	1.7

	Average growth rate 2001-2012	Share of GDP 2001	Share of GDP 2012	Difference 2012-2001
communication				
Financial and insurance activities	5.6	2.6	3.8	1.2
Real estate activities	1.9	14.4	11.9	-2.5

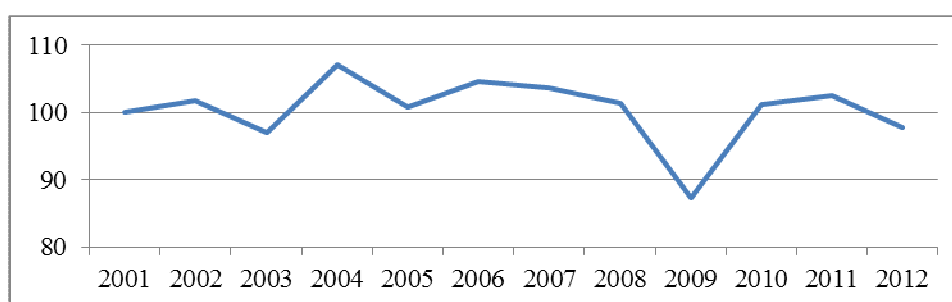
Source: Report on Development of Serbia 2012

Table 2. Indices of industrial production, 2001–2012 (Previous year = 100)

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
111.4	100.1	101.8	97.0	107.1	100.8	104.7	103.7	101.4	87.4	101.2	102.5	97.8

Source: Statistical Office, Republic of Serbia

Figure 2. Indices of industrial production, 2001–2012 (Previous year = 100)



Source: Statistical Office of the Republic of Serbia

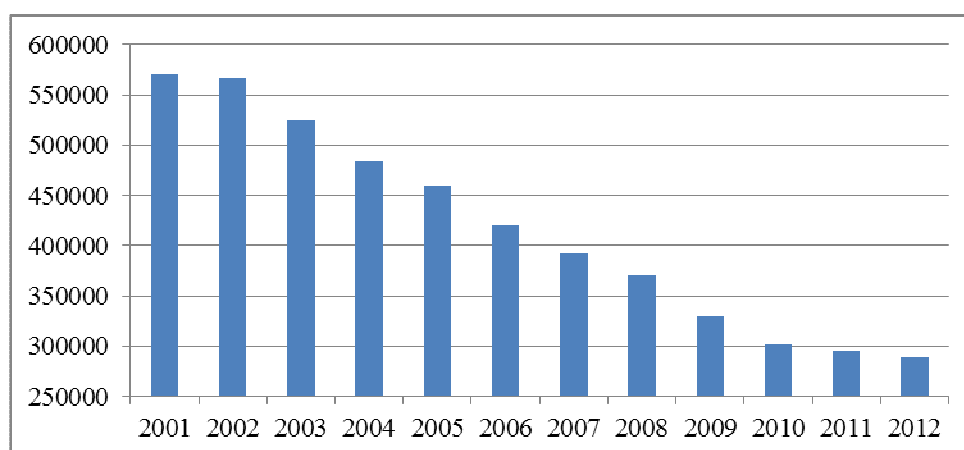
Employment in Serbian industry fell sharply in the period 2001 – 2008, from 619000 employees in 2001 to 439000 in 2008. At the same time, number of employees in industry increased in transitional countries such as Bulgaria, Czech Republic, Romania and Slovakia. During the period 2001 – 2012 a number of employees in manufacturing virtually halved – from 570608 to 289286.

Table 2. Employment in Industry in Selected Countries in Transition

Country	2001	2008	+/-
Bulgaria	645000	737000	92000
Czech Republic	1396000	1441000	45000
Hungary	959000	934000	-25000
Romania	1895000	1967000	72000
Slovenia	257000	237000	-20000
Slovakia	517000	544000	27000
Serbia	619000	439000	-180000

Source: FREN, Serbian Post-Crisis Economic Growth and Development Model 2011-2020

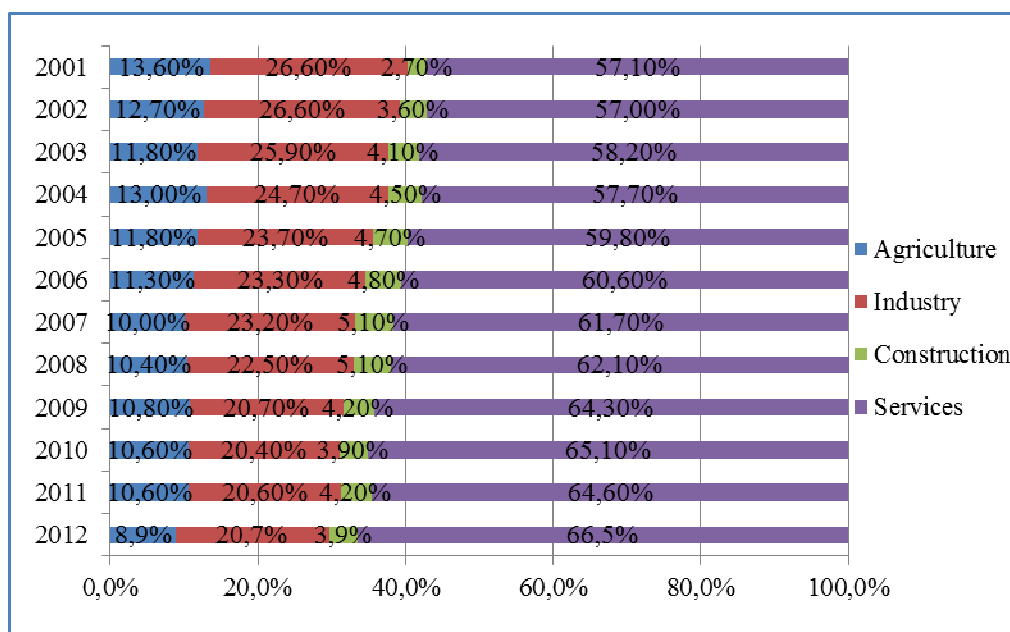
Figure 3. Employment in Manufacturing in Serbia in the period 2001-2012



Source: Statistical Office of the Republic of Serbia

Despite the large decrease in the number of employees in industry, a share of industry in labour productivity of Serbia has been diminishing since 2001. The labour productivity of each sector is calculated as the sum of GVA per employee of each sector, weighted by the sector's share in the total number of employees in Serbia. In other words, the competitive position of each sector is not only determined by the amount of value added that each worker creates, but it also depends on the sector's rate of employment. While share in productivity of industry was 26.6% in 2001, it was 20.7% in 2012.

Figure 4. Sectoral contribution to labour productivity



Source: Report on Development of Serbia 2012

The existing technological structure of manufacturing industries is unfavourable (Ibid). In Serbian manufacturing low technology (49.9 %) and medium-low (25.6 %) predominate and they have in total a share of 75.5%.

Table 3. The structure of the manufacturing industry

	2001	2002	2003	2004	2005	2006	2007	2008	2009
High-technology	0,6	1,6	0,7	2,7	2,3	1,4	1,2	1,0	0,9
Medium-high- technology	25,6	26,4	23,2	24,8	24,7	22,7	23,4	24,3	23,6
Medium-low-technology	25,5	26,2	27,7	25,4	27,0	28,3	27,4	27,6	25,6
Low-technology	48,3	45,8	48,4	47,1	46,0	47,6	48,0	47,1	49,9

Source: Strategy and policy of industrial development in Serbia in the period 2011 – 2020

Moreover, Serbia's foreign trade in the period 2001-2012 is characterized by high deficits and unfavourable export structure. The structure of Serbian exports is dominated by the products of the lower stages of processing (over 55%), largely raw materials and semi-finished products. These are mostly primary and labour- and resource-intensive products making unfavourable export structure. Serbia's economy depends on the product of low technological intensity, which recorded a growth in foreign trade in the 2011. The companies have increased the exports of medium-high- tech products, but, on the other hand, volume of trade in high-tech products recorded the highest decline in real terms by 18.8% compare to 2010 year. Thus, Serbian exports are dominated with low added value.

Table 4. Annual real rate of growth / decline in the total volume of foreign trade in 2011 to 2010 (%)

	Total
Manufacturing	3.0
Low-tech	2.5
Medium-low-tech	-0.5
Medium-high-tech	17.6
High-tech	-18.8

Source: Report on Development of Serbia 2012

To sum up, Serbia is experiencing a process of de-industrialisation in the past twenty years. During the period 2001-2012 its industry has been growing at an average annual rate of 0.2%, but it however still did not reach the output of the late 1989. The share of industry in GDP has been decreased, as well as share in the labour productivity of the country. Moreover, employment in industry has sharply decreased. Serbian exports are dominated mostly by labour- and resource-intensive products making unfavourable export structure, with low value added. Using Reinert's words, Serbia is exporting products of Malthusian activities, and thus changing export structure can only be achieved by changing the structure of the entire economy. The next question we will address is whether Serbia has had an industrial policy during this period.

The economic transition after 2000 was based on a neoliberal model of privatisation and liberalisation. Thus, Serbia did not explicitly define an industrial policy. However, there have been certain incentives for economic actors on the part of Government. In particular, institutional instruments of the Government and the Ministry of Economy and Regional Development for foreign direct investment and export promotion are framed by the formation of the Serbian Investment and Export Promotion Agency (SIEPA) and the Agency for Export Insurance and Financing (AOFI). Incentives (subsidies for greenfield investment) were routed in the manufacturing sector and the services that can be traded internationally (except for retail sale, tourism and agriculture). The main criteria have been the job creations, and grants are approved depending on the type of investment (Ibid).

Export incentives have been in form of grants to small and medium-sized companies to fund activities that contribute to the increase in exports, while export credit and insurance (over AOFI) has provided short-term loans to export companies.

Incentives for economic and regional development have been provided through the Development Fund of the Republic of Serbia, the National Investment Plan (since 2006), various forms of state aid funds and foreign aid. From these sources in the period 2001-2009 through the various incentive instruments total amount of over 6.6 billion euro for 18,838 projects in different areas of the economy has been invested (Ibid).

Table 4. Budget funds for programs of the Government for subsidies and credit support in the mill. RSD

Sector	2002	2003	2004	2005	2006	2007	2008	2009	2010
Transportation system assets	1.658,8	1.848,0	1.640,0	1.347,5	1.435,0	1.365,2	1.839,7	1.653,7	1.229,4
Metal complex	1.305,6	1.408,6	882,5	805,5	754,0	621,7	696,5	710,3	909,5
Metallurgy	1.210,0	843,0	743,5	496,5	211,5	297,0	96,1	95,0	11,0
Textile and leather	372,7	419,8	379,2	390,0	360,5	122,7	151,0	143,0	198,2
Chemical Industry	397,7	430,5	420,5	406,0	330,5	295,5	215,2	343,4	13,9
Processing of non-metals	182,5	305,0	231,5	210,5	285,5	45,5	172,2	74,2	111,0
Electrical machinery	237,7	376,5	244,0	156,0	120,5	130,5	247,6	230,2	205,0
Food industry	137,5	211,0	65,0	-	-	-	-	16,4	-
Wood industry	132,0	121,0	149,5	174,0	161,0	12,5	16,5	3,0	78,0
Industry - total	5.634,5	5.963,4	4.755,7	3.986,0	3.658,5	2.890,6	3.434,8	3.269,2	1526,6
Construction	127,5	138,0	167,0	199,0	160,0	121,0	46,2	32,3	7,2
Total (I + G)	5.762,0	6.101,4	4.922,7	4.185,0	3.818,5	3.011,6	3.481,0	3.301,5	1533,8

Source: Strategy and policy of industrial development in Serbia in the period 2011 – 2020

Although Serbia did not have an explicitly defined industrial policy, certain incentives in form of subsidies and credit support have been provided to the industry. However, as the above presented data indicate, these incentives did not have positive effects on industrial development of Serbia.

It was only in 2011 when Government of Serbia adopted a *Strategy and Policy of Industrial Development of Serbia 2011-2020*. However, industrial policy is defined within this document as implementation of measures and policies in order to facilitate and encourage emergence of new enterprises in general (Ibid). It stresses that liberalisation and privatisation are the main concepts of industrial policy. Thus, it is not seen as conscious effort on the part of government to encourage and promote a specific industry or sector with an array of policy tools, as industrial policy is defined within this paper. We are of the opinion that, contrary to the main pillars outlines in the *Strategy and Policy of Industrial Development of Serbia 2011-2020*, in order to steer economic development, government needs to design incentives for particular sectors and firms as their components, as well as tools to discipline economic actors. We are of the opinion that devastated industry of Serbia cannot recover without conscious efforts on the part of government.

CONCLUSION

In this paper, we have argued that industrial policy is an indispensable tool for steering economic development. Serbia is experiencing a process of de-industrialisation. During the period 2001-2012 its industry has been growing at an average annual rate of 0.2%, but it however still did not reach the output of the late 1989. The share of industry in GDP has been decreased, as well as the share in the labour productivity. Moreover, employment in industry has sharply decreased. Serbian exports are dominated mostly by primary and labour- and resource-intensive products making unfavourable export structure.

The economic transition after 2000 was based on a neoliberal model of privatisation and liberalisation. Although there have been certain incentives on the part of Government, an industrial policy has not been explicitly defined until 2011. However, industrial policy is defined within this document as implementation of measures and policies in order to facilitate and encourage emergence of new enterprises in general (Ibid). It stresses that liberalisation and privatisation are the main concepts of industrial policy. Thus, it is not seen as conscious effort on the part of government to encourage and promote a specific industry or sector with an array of policy tools as industrial policy is defined within this paper. We are of the opinion that, contrary to the main pillars outlines in the *Strategy and Policy of Industrial Development of Serbia 2011-2020*, in order to steer economic development, government needs to design incentives for particular sectors and firms as their components, as well as tools to discipline economic actors. We are of the opinion that devastated industry of Serbia cannot recover without conscious efforts on the part of government.

LITERATURE

- 1) Government of Serbia (2011), Strategy and policy of industrial development in Serbia in the period 2011 – 2020, Belgrade.
- 2) Government of Serbia (2013), Report on Development of Serbia 2012, Belgrade.
- 3) Chang, Ha-Joon, (2003a), Globalization, Economic Development and the Role of
- 4) the State, Zed Press, London.
- 5) Chang, Ha-Joon, (2003b), Kicking Away the Ladder: Development Strategy in Historical Perspective: Policies and Institutions for Economic Development in Historical Perspective, Anthem Studies in Development and Globalization, London.
- 6) Cimoli, Mario, Dosi, Giovanni and Stiglitz, Joseph (2009): "The Political Economy of Capabilities Accumulation: The Past and Future of Policies for Industrial Development" in Industrial policy and development. The political economy of capabilities accumulation Cimoli, Mario, Dosi, Giovanni and Stiglitz, Joseph E. (eds.), Oxford University Press, Oxford.
- 7) DCED (2013), Private Sector Development Synthesis Note, Industrial Policy – The Approach and Current Debates.
- 8) FREN (2010), Serbian Post-Crisis Economic Growth and Development Model 2011-2020, FREN, Belgrade.
- 9) Mazzucato, Mariana (2013), The Entrepreneurial State Debunking Public vs. Private Sector Myths, Anthem Press, London.
- 10) Reinert, Erik (2007), How Rich Countries Got Rich and Why Poor Countries Stay Poor 2007, Constable & Robinson Ltd. London
- 11) Reinert, Erik (2009), "Emulation versus Comparative Advantage: Competing and Complementary Principles in the History of Economic Policy" in Industrial policy and development. The political economy of capabilities accumulation Cimoli, Mario, Dosi, Giovanni and Stiglitz, Joseph E. (eds.), Oxford University Press, Oxford.
- 12) Rodrik, Dani (2007), Normalizing Industrial Policy, Commission on Growth and Development
- 13) Savic, Ljubodrag, Boskovic, Gorica (2011), "Uticaj svetske ekonomske krize na razvoj srpske industrije", in Industrija 4/2011, Economic Institute, Belgrade.

- 14) Statistical Office of the Republic of Serbia (2013), Statistical Yearbook Of the Republic of Serbia, Belgrade.
- 15) Statistical Office of the Republic of Serbia (2009), Statistical Yearbook Of the Republic of Serbia, Belgrade.
- 16) Statistical Office of the Republic of Serbia (2008), Statistical Yearbook Of the Republic of Serbia, Belgrade.
- 17) Statistical Office of the Republic of Serbia (2005), Statistical Yearbook Of the Republic of Serbia, Belgrade.
- 18) Statistical Office of the Republic of Serbia (2003), Statistical Yearbook Of the Republic of Serbia, Belgrade.
- 19) Statistical Office of the Republic of Serbia (2001), Statistical Yearbook Of the Republic of Serbia, Belgrade.

HARMONISING THE LEGISLATION OF THE REPUBLIC OF SERBIA IN THE FIELD OF ENERGY EFFICIENCY WITH THE LAW OF THE EUROPEAN UNION¹

Siniša DOMAZET²

Abstract

Improving energy efficiency contributes to increased competitiveness, security of supply, and the fulfillment of obligations under international treaties, notably provisions of the Kyoto Protocol. The Republic of Serbia has recognized the importance of energy efficiency, which was confirmed by the adoption of Law on Efficient Use of Energy. This Act was first thoroughly regulated this matter, which has so far been more or less ignored. The key barriers to implementing energy efficiency are unrealistic parity of energy prices and their volatility, the energy in Serbia is still not treated as a commodity, but as a social category. Therefore, it is necessary to undertake a series of measures that in practice would allow for increased energy efficiency (establishing funds which would be used to finance work on the installation of insulation walls-facades, apply for funding from the EU funds with appropriate projects, government must provide incentive mechanisms, encourage public companies to take measures in the field of energy efficiency, the value added tax must be repealed on materials for building insulation). It can be concluded that the process of harmonization of law of the Republic of Serbia with EU-law in the field of energy efficiency has begun, but it is necessary to take more steps in this direction.

Key words: Law, energy, efficiency, European Union, Republic of Serbia

INTRODUCTION

Given the increasing energy crisis worldwide, the need to reduce consumption and waste of energy is gaining importance. It should not be surprising. Improving energy efficiency contributes to increased competitiveness, security of supply, and the fulfillment of obligations under international treaties, notably provisions of the Kyoto Protocol.

However, the concept of energy efficiency is ambiguous, so it is necessary to accurately determine its scope. In this sense, there are two possible meanings, one of which is related to the device, while the second refers to the extent and behavior. As concluded by Zivkovic et al (2011) the energy efficient unit is one that has a high degree of efficiency, i.e. small losses during the transformation of one form of energy into another. On the other hand, energy efficiency includes the measures to be applied in order to reduce energy consumption. Regardless of whether it is technical or non-technical measures, or changes in behavior, all of the studies include the same or even higher level of achieved comfort and standards.

¹ This study is part of the project Interdisciplinary Research: No. III 47 009, Basic Research No. 179015, Challenges and Prospects of Structural Changes in SERBIA: Strategic Directions for Economic Development and Harmonization with EU Requirements, project of Basic Research No.179015, Challenges and Prospects of Structural Changes in Serbia: Strategic Directions for Economic Development and Harmonization with EU Requirements, and project of Basic Research No. 176019, Petrogenesis and mineral resources of the Carpatho-Balkanides and their importance for environmental protection, which is supported by the Ministry of Science and Technological Development of Serbia in the period 2011-2014.

² Siniša Domazet, PhD, Assistant Professor, Educons University, Sremska Kamenica, Serbia, e-mail: sdomazetns@gmail.com

Given the increasing importance of energy efficiency in ensuring energy security, it is necessary to create an appropriate legal framework. As noted by Avresa, Turntomb & Casten (2007) the energy taxes and regulation are feasible solutions to reduction of energy consumption, when the improving of energy efficiency of technology is an ineffective way to reduce consumption. Also, Herring (2006) commented that some of the savings from efficiency improvements will be taken in the form of higher energy consumption-the so called “rebound” effect. Until recently, energy efficiency in Serbia was not regulated by the single legal act, but the whole matter was in several different acts. After that, the National Assembly of the Republic of Serbia adopted the Law on the efficient use of energy³, which was first thoroughly defined the area of energy efficiency.

In what follows, we will write about positive legal regulations of the Republic of Serbia in the field of energy efficiency. After that, there will be an analysis of EU legislation, in order to determine the progress in harmonizing with its legislative achievements.

LEGAL REGULATION OF ENERGY EFFICIENCY IN SERBIA

Law on Efficient Use of Energy (hereinafter referred to Act) regulates the terms and conditions of the efficient use of energy and energy sources in the generation, transmission, distribution and consumption; policy of efficient energy use; energy management; labeling of levels of energy efficiency products that affect energy consumption; minimum energy efficiency in generation, transmission and distribution of electricity and heat production and supply of natural gas; financing, incentives and other measures in this area, as well as other issues of importance to the rights and obligations of natural and legal persons in relation to the efficient use of energy⁴.

The basic principles underlying the efficient use of energy are: a) energy security, b) the competitiveness of products and services, c) sustainable use of energy, g) organized energy management –management of energy consumption, d) cost-effectiveness of energy efficiency measures; f) the minimum energy efficiency requirements. The Act shall specify the aforementioned principles.

Thus, energy security is achieved by reducing the consumption of primary or final energy consumption by applying energy efficiency measures in the energy generation, transmission, distribution and consumption. Second, the competitiveness of products and services is achieved by reducing the cost of production or services provided resulting reduction in energy consumption *per unit* of goods or services implementing energy efficiency measures. The concept of energy efficiency means using less energy for the same unit of gross domestic product including the sustainability of quality products, including energy efficiency labeling of products that affect energy consumption. Third, the sustainability of energy use include reduced energy consumption, better use of available technology and the demands of eco-design, greater efficiency and effectiveness in the use of energy and sustainability from the standpoint of environmental impact, using the principles of environmental protection. Fourth, organized energy management –management of energy consumption is an integrated approach that aims to influence the reduction of total primary energy consumption and affects the environment through energy consumption monitoring and implementation of measures to increase energy efficiency. The economic viability of measures ensuring that investment in energy efficiency measures is economically justified. Energy saved is energy that must not be produced, which takes into account the positive impact on the environment caused by the decrease in consumption and a decrease in costs related to ensuring security of energy supply. Reducing energy consumption in the manufacturing, distribution, transmission and consumption of energy is ensured by

³ Law on the efficient use of energy, Official Gazette of Republic of Serbia RS, No. 25/13.

⁴ *Ibidem*, Art. 1.

fulfilling the minimum requirements for energy efficiency for new or reconstructed facilities for the generation, transmission and distribution of energy⁵.

Basic acts which establish policies efficient use of energy are⁶:

1. Energy Development Strategy of the Republic of Serbia, which is prepared and adopted as governed by the law governing the field of energy (hereinafter: the Strategy)⁷;
2. Program of the Energy Development Strategy of the Republic of Serbia (hereinafter: Strategy Implementation Program), which is prepared and adopted as governed by the law governing the field of energy⁸;
3. Action Plan for Energy Efficiency in the Republic of Serbia;
4. Program and the Energy Efficiency Plan, adopted by local governments;
5. Program and the Energy Efficiency Plan, adopted by other payers of energy management systems.

The most important part of the Act refers to the provisions relating to energy management. In accordance with the Act, the energy management system is an energy management system that includes the broadest set of regulatory, organizational, incentives, technical and other measures and activities and organized monitoring and analysis of generation, transmission, distribution and consumption of energy, which in the framework of its powers, determined and implemented by state administration bodies, local governments and taxpayers of the energy management⁹. The subjects of this system are the Government, Ministry, payers of energy management systems, energy managers and certified energy advisors¹⁰. Accordingly, the specific competencies of the Government and ministry of energy affairs are defined (Art. 13-15); obligors and participants in the energy management and the obligations they have (Articles 16-17); Energy Manager of the obligors of the system and the necessary conditions for performing these tasks (Articles 18-19); authorization and conditions for the acquisition and reception of a license of energy adviser, the duties and powers to carry out energy audits, content of reports on energy audits; methodology for conducting energy audits; energy consultant conflict of interest (Art. 20-36).

The Act regulates the labeling of the level of energy efficiency. In this regard, the Government prescribes the types of products that affect energy consumption requiring labeling of energy and other resources during their use and labeling of energy efficiency, as well as the dynamics of the introduction of mandatory energy labeling for different types of products¹¹. Energy efficiency label must contain information about the amount of power produced using the prescribed conditions. Second, it must visually indicate to the class of their energy efficiency and the lowest to the highest values of energy efficiency for a given type of product, as well as data showing consumer relevant product characteristics and resource consumption required for the operation of the product¹².

The manufacturer shall, prior to placing on the market of the product at its expense create a list of data, energy labeling and technical documentation that is sufficient to provide insight into the accuracy of the information contained in the data sheet and label for energy efficiency. On the other hand, the seller's obligations are to:

⁵ *Ibidem*.

⁶ *Ibidem*, Art. 6.

⁷ Official Gazette of Republic of Serbia, No. 44/05.

⁸ Official Gazette of Republic of Serbia, No. 17/07, 73/07, 99/09 и 27/10.

⁹ Act, Art. 5, p. 18.

¹⁰ *Ibidem*, Art. 13.

¹¹ *Ibidem*, Art. 37.

¹² *Ibidem*, Art. 38.

- 1) when the product is exposed to in Article 37 Paragraph 1 of this law set the label of the highest energy efficiency in the manner and place specified in accordance with the law, without the use of other signs, symbols and descriptions that may cause confusion among consumers;
- 2) make available to the consumers a list of the user data or other literature accompanying the product¹³;

The Act regulates the issue of eco-design. In this sense, eco-design is a set of conditions that must be fulfilled by product which use energy in relation to environmental protection in the period that includes the process of its creation, use, and put out of use of the product¹⁴. Products can be placed on the market and use only if they meet the requirements of eco-design prescribed by technical regulations, if their compliance determined in the prescribed procedure and are marked in accordance with the regulations applicable to that product group. Products that have an eco-label, in accordance with the regulations governing the eco-labeling are considered to be products that comply with the requirements of eco-design¹⁵.

The Act defined the issue of energy audit. Obligation to implement the subject of this review: a) the facilities used by payers system under Article 16 item 4) of this Act, the useful floor area greater than 500 m²; b) buildings or parts of buildings which are classified into one of the energy classes; c) buildings and parts facility in case of change of use, change of owner, or are intended for rent. The owners of these facilities or parts of facilities are required to conduct an energy audit at least once every 10 years. Investor, the seller, or the lessor of constructed facility or part thereof that has a report on the conducted energy audit facility shall: 1) prior to the sale or lease of the facility, or part thereof, make available to the prospective buyer or lessee, a report on the conducted energy audits, which can not be older than 10 years; 2) during the sale of the building, or part thereof, or the granting of the same lease, by signing the contract of sale, or lease of property or part thereof, take to the buyer or lessee a report on the conducted energy audits that can not be older than 10 years. In announcing the sale or rental of facility or part of facility in the public media, the advertisement contains information about its energy efficiency¹⁶.

Thus, the investor is obliged to install the devices for controlling and/or measuring submitted heat the heating installation of any new building, scheduled for connection to the district heating system or centralized heat supply. This refers to: a) devices for regulating and devices for measuring heat hand over to the building; b) devices for measuring the submitted of heat for every part of the building; c) devices for the controlled regulation of delivery of heat for each heater of heating system. The costs of equipment of system will be borne by the investor. All installed devices to measure heat submitted must be previously certified by the licensee or the Directorate of Measures and Precious Metals, in accordance with the regulations governing the heat meter. These provisions shall apply accordingly for systems for remote and centralized cooling facilities¹⁷.

Energy efficiency refers to the new and revitalized facilities for the production of electricity and heat and power plants for combined heat and power, and systems for power transmission, distribution systems of electricity and heat, as well as systems for the transportation and distribution natural gas. Government shall prescribe the minimum requirements for energy efficiency which mentioned systems and facilities must meet. Beside the application for an authorization for construction of new or rehabilitation of existing facilities to produce heat or electricity, as well as plants for combined heat and electricity by burning fossil fuels or renewable energy sources, applicant is required to submit a report on energy efficiency of the facility, whereby elaborate facilities for heat or electricity must include a techno-economic analysis to increase the total efficiency of the energy that would be

¹³ *Ibidem*.

¹⁴ *Ibidem*, Art. 5, p. 5.

¹⁵ *Ibidem*, Art. 42.

¹⁶ *Ibidem*, Art. 43.

¹⁷ *Ibidem*, Art. 44.

achieved by using the combined production of electricity and heat. The Minister shall prescribe the content of a study on the energy efficiency of the facility for the production of heat or electricity, as well as plants for combined heat and power, systems or parts of systems for transmission and distribution of electricity or thermal energy, and transportation and distribution of natural gas¹⁸.

Very important provisions of the Act relate to the measurement and calculation of electric and thermal energy consumption. In this regard, the competent authorities of local government shall include in tariff system for district heating an element in the calculation of rates of heating services and measured and actually handed over the amount of heat¹⁹. In this way, it allows the consumer protection given the many shortcomings of calculating the amount of energy per square meter. In addition, the Act also prescribes the duties of the transmission and distribution system, the transmission and natural gas distribution system, the distributor of heat and companies in the retail energy, public companies and other entities that deliver natural gas²⁰.

The Act also provides financing, incentives and other measures of efficient use of energy. Funds for financing provided from the budget of the Republic of Serbia, the budget of the provincial or local government, and also from funds of the European Union and other international sources, donations, gifts, contributions, aid and from other sources to increase the capacity for the implementation of the law, loans from international financial institutions and other sources in accordance with the law. At the same time, the Act has introduced duty to establish a budget fund for energy efficiency improvements. The fund concerned is used to record the special funds intended for financing energy efficiency activities which will be financed under this Act. Budgetary Fund is established for an indefinite period of time, in accordance with the law regulating the budget system. Budgetary fund managed by Ministry²¹.

Funds to finance the Budgetary Fund are provided from the appropriation in the budget of the Republic of Serbia for the current year, as well as from grants and loans. Government adopts an annual funding program of activities and measures to improve energy efficiency in line with the strategy, program implementation strategies, action plans and other documents and regulations in the field of energy efficiency, treaties, and international agreements signed by the Republic of Serbia²².

Budget Fund resources are provided to the users of the Budget Fund resources in order to finance energy efficiency, on the basis of public tenders published by the Ministry. Budget funds are available to fund legal and natural persons established in the territory of the Republic of Serbia who are eligible for grants based on open competition. The Minister shall prescribe the requirements for the distribution and use of budget funds, way of allocating these resources, as well as the method of monitoring the appropriate use of funds and contractual rights and obligations. Using funds from the Budget Fund shall be made in accordance with the annual program²³.

This Act provides for the possibility that the competent body of the autonomous province or local government units with its own may determine specific financial and other incentives, establishment of budgetary funds and the use of resources from its own existing funds for realization of projects and other activities for efficient use of energy in its territory, in accordance with the law and regulations governing the work of these bodies. For legal and natural persons that use technologies, products and put on the market products that contribute to a more efficient use of energy can be established tax, customs and other benefits, under the conditions and in accordance with the law and other regulations

¹⁸ *Ibidem*, Art. 45-46.

¹⁹ *Ibidem*, Art. 47.

²⁰ *Ibidem*, Art. 47-56.

²¹ *Ibidem*, Art. 58-60.

²² *Ibidem*, Art. 60.

²³ *Ibidem*, Art. 61-62.

governing taxes, duties and other charges. In addition, the Act stipulates the conditions in which the use of renewable energy is considered a measure of energy efficiency²⁴.

Articles 66-70 related to energy services. In this regard, the Act provides for the conclusion of the Energy service contract that is concluded between users of energy services and perpetrator energy service company (ESCO) – for the application of specific measures to improve energy efficiency, providing funds for the provision of energy services and the way of collection of funds for the provided energy services²⁵.

Also, the Act prescribes the obligations of the public sector in terms of energy efficiency. Thus, all the organs and institutions of the public sector, including public companies, are obliged to take measures to improve energy efficiency in the buildings they use or, in the performance of their activities, implementing primarily economically justified measures that create the greatest energy savings in the shortest period of time. Measures to improve energy efficiency for authorities, organizations and services, in addition to activities aimed at increasing energy efficiency, also include measures that educate employees with efficient use of energy and ways of their implementation and the establishment and implementation of energy efficiency criteria in the procurement of goods and services²⁶.

The provisions of Articles 71-73 Act relating to the efficient use of energy in the transport sector.

Understandably, the Act also regulates the monitoring of the implementation of the obligations established for a variety of subjects, as well as punitive provisions. Also, the Act also specifies the economic offenses and offenses, if the subjects violate its provisions²⁷.

LEGAL REGULATION OF ENERGY EFFICIENCY IN THE EU

As EU Commission and Simoes (2008, 2013) noted, in 2007 the European Commission (EC) set comprehensive climate and energy policy targets simultaneously focusing on energy efficiency, promotion of renewable energy sources (RES) and reduction of greenhouse gas (GHG) emissions. However, although there is good progress towards the RES objective, the Commission (2010) has acknowledged that the energy efficiency target is still “a long way from being achieved. Moreover, WWF, ECOFYS and OMA (2011) shows that government subsidies and private investments in large fossil and nuclear power plants vastly outweigh those in renewable energy and even more so those in energy efficiency. WCD (2000), Geota et al (2011) and Wade et al (2011) show that this seems to support statements by some non-governmental organizations (NGOs) that policy makers are focusing excessively on the supply side of energy systems, particularly centralised generation options, and not enough on end-use energy efficiency. Thus, despite the fact that more recent energy strategies and programmes combine many policies and measures to address climate change, energy security and energy efficiency, there is still a need for legislation that will adequately solve the problems in these areas, especially in the field of energy efficiency. Al-Mansour (2011) noted that The main objectives of EU energy policy are sustainability, competitiveness and security/reliability of supply. To achieve the goals of energy and climate policy, the EU adopted different directives regarding the efficient use of energy, increasing utilization of renewable energy sources and reduction of GHG emissions.

Energy efficiency in the EU is regulated primarily by Directive 2012/27/EU on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and

²⁴ *Ibidem*, Art. 63-65.

²⁵ *Ibidem*, Art. 63-65.

²⁶ *Ibidem*, Art. 68.

²⁷ *Ibidem*, Art. 83-91.

2006/32/EC²⁸. This Directive establishes a common framework of measures for the promotion of energy efficiency within the Union in order to ensure the achievement of the Union's 2020 20 % headline target on energy efficiency and to pave the way for further energy efficiency improvements beyond that date. Of course, the implementation of the objectives of the Directive concerned should provide funding. Financial support is available through a variety of programs and instruments, such as European Energy Efficiency Fund (EEEF), Intelligent Energy – Europe, ELENA Facility, Mobilising Local Energy Investments (MLEI), Cohesion policy, and FP7 Funding²⁹.

According to Directive, Each Member State shall set an indicative national energy efficiency target, based on either primary or final energy consumption, primary or final energy savings, or energy intensity. Member States shall notify those targets to the Commission. When doing so, they shall also express those targets in terms of an absolute level of primary energy consumption and final energy consumption in 2020 and shall explain how, and on the basis of which data, this has been calculated³⁰. One of the main new measures includes the obligation of Member States to establish a long-term strategy for mobilizing investment in the renovation of the national stock of residential and commercial buildings, both public and private. A first version of the strategy shall be published by 30 April 2014 and updated every three years thereafter and submitted to the Commission as part of the National Energy Efficiency Action Plans. Each Member State shall ensure that, as from 1 January 2014, 3 % of the total floor area of heated and/or cooled buildings owned and occupied by its central government is renovated each year to meet at least the minimum energy performance requirements that it has set in application of Article 4 of Directive 2010/31/EU. The 3 % rate shall be calculated on the total floor area of buildings with a total useful floor area over 500 m² owned and occupied by the central government of the Member State concerned that, on 1 January of each year, do not meet the national minimum energy performance requirements set in application of Article 4 of Directive 2010/31/EU. That threshold shall be lowered to 250 m² as of 9 July 2015. Also, Member States shall require that central government buildings with the poorest energy performance be a priority for energy efficiency measures, where cost-effective and technically feasible. If a Member State renovates more than 3 % of the total floor area of central government buildings in a given year, it may count the excess towards the annual renovation rate of any of the three previous or following years³¹.

Member States shall ensure that central governments purchase only products, services and buildings with high energy-efficiency performance, insofar as that is consistent with cost-effectiveness, economical feasibility, wider sustainability, technical suitability, as well as sufficient competition³².

The Directive sets out the legal obligation to establish energy saving measures in all Member States in the amount of 1.5% of average total amount of energy sold in the last three years. Each member country must devise its own scheme that will achieve this level of savings, in a way that is best suited to national circumstances, and at the same time follow the common EU targets for energy savings.

Distributors and suppliers of energy have important data on the energy consumption of end-users who might turn into major participants to save energy. Therefore directive proposes that all distributors and / or suppliers of energy, and operating in the territory of the Member States should commit to saving energy, which would be equal to 1.5% of average total energy sold in the previous three years. To achieve these savings distributors and / or suppliers of energy should cooperate with end-users of energy for the purpose of implementing energy savings. The Parties also must develop a long term strategy of reconstruction of public and private, residential and commercial buildings to the 2020th year.

²⁸ Directive 2012/27/EU on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC [OJ L315 p.1]

²⁹ About programs and instruments see closer: http://ec.europa.eu/energy/efficiency/financing/financing_en.htm

³⁰ Directive, Art. 4.

³¹ Directive, Art. 5.

³² Directive, Art. 6.

The public sector is required to purchase energy-efficient buildings, products and services. In addition, the public sector has to reduce energy consumption in buildings that are using and that are owned by him in a way that the first January in 2014 renewed annually 3% of the total floor area of heated or cooled parts of public buildings with a clear view to saving energy.

During the restoration should be taken into consideration criteria complete restoration.

Due to the large share of the public buildings in the total number of buildings (about 12% of public buildings in the EU), their restoration should serve as a catalyst for greater market presence of energy efficiency in other sectors, as well as developing the necessary skills and knowledge. Buildings (private and public) consume about 40% of total final energy, and in many cases the optimal cost of retrofitting of buildings can lead to a 60% energy savings. Renovation of public buildings would be largely paid itself through savings on energy bills and also help the economic recovery by stimulating economic activity and employment³³.

Accordingly, the public sector is required to publicly disclose information on energy consumption in public buildings with useful floor area greater than 500m² up to 11.15.2013.

Since the energy renovation of buildings requires initial investment for the implementation of energy efficiency, the directive includes provisions to strengthen the market for energy services through the use of model contracts on the energy performance³⁴.

The providers of energy services (ESCO) would thus invested in the initial investment and the money would go back through the savings in energy costs. In addition to energy savings, to launch new business opportunities and create jobs for example, construction companies or providers of equipment and services. The market for energy services is currently around 6 billion € in the EU and in the U.S. it costs 30 billion and is currently developed. The potential of the EU in this type of market is estimated at 25 billion €.

In this regard, Member States shall promote the energy services market and access for SMEs to this market by: (a) disseminating clear and easily accessible information on: (i) available energy service contracts and clauses that should be included in such contracts to guarantee energy savings and final customers' rights; (ii) financial instruments, incentives, grants and loans to support energy efficiency service projects; (b) encouraging the development of quality labels, inter alia, by trade associations; (c) making publicly available and regularly updating a list of available energy service providers who are qualified and/or certified and their qualifications and/or certifications in accordance with Article 16, or providing an interface where energy service providers can provide information; (d) supporting the public sector in taking up energy service offers, in particular for building refurbishment; (e) providing a qualitative review in the framework of the National Energy Efficiency Action Plan regarding the current and future development of the energy services market³⁵.

In addition, Member States shall also take other measures to promote energy efficiency. In that regard, Member States shall evaluate and if necessary take appropriate measures to remove regulatory and non-regulatory barriers to energy efficiency, without prejudice to the basic principles of the property and tenancy law of the Member States, in particular as regards: (a) the split of incentives between the owner and the tenant of a building or among owners, with a view to ensuring that these parties are not deterred from making efficiency- improving investments that they would otherwise have made by the

³³ The European Commission has published a report entitled: "Energy performance certificates in buildings and their impact on transaction prices and rents in selected EU countries". See further:
http://ec.europa.eu/energy/efficiency/buildings/doc/20130619-energy_performance_certificates_in_buildings.pdf

³⁴ Directive, Art. 18.

³⁵ Directive, Art. 18, p. 1-2.

fact that they will not individually obtain the full benefits or by the absence of rules for dividing the costs and benefits between them, including national rules and measures regulating decision-making processes in multi-owner properties; (b) legal and regulatory provisions, and administrative practices, regarding public purchasing and annual budgeting and accounting, with a view to ensuring that individual public bodies are not deterred from making investments in improving energy efficiency and minimising expected life-cycle costs and from using energy performance contracting and other third-party financing mechanisms on a long-term contractual basis. Such measures to remove barriers may include providing incentives, repealing or amending legal or regulatory provisions, or adopting guidelines and interpretative communications, or simplifying administrative procedures. The measures may be combined with the provision of education, training and specific information and technical assistance on energy efficiency³⁶.

It is necessary to encourage small and medium enterprises in conducting energy audits and implementation of recommendations to improve the energy audits. Large companies must undertake to conduct energy audits every 4 years³⁷.

End users of energy must be provided easy and free access to real-time and historical data on energy consumption and payment must be based on actual consumption, according to the data collected during the measurement. The deadline for the implementation of these measures is 1 January 2015th year for electricity, natural gas, hot water and central heating. It must also ensure installation of individual electric meters, gas, heating, cooling and hot water when replacing meters, larger renovation or building or new terminal in the building³⁸.

When the heating, cooling or hot water gets from the central heating system or central source for the building in a series, then the meter for heating and hot water needs to be installed on the heat exchanger or cost center. In residential buildings connected to district heating systems in heating and / or cooling individual metering of heating or cooling or hot water should be placed no later than 31.12.2016 for each dwelling unit. If that is not technically feasible or cost-effective, it has to be set up dividers heat and thermostatic valves on all radiators³⁹.

Potential savings that could be achieved because of the information due to a more appropriate measurement and collection estimated at 80 Mtoe. Potential savings that could be achieved because of the information due to a more appropriate measurement and collection estimated at 80 Mtoe.

The Directive specifies that until the first January in 2014. Member States shall establish a national heating and cooling plans in order to develop the potential of high-efficiency cogeneration (CHP) plants and efficient district heating and cooling⁴⁰. This would achieve savings of at least 30% compared to the separate production of electricity and heat.

Without prejudice to Articles 107 and 108 of the Treaty on the Functioning of the European Union, Member States shall facilitate the establishment of financing facilities, or use of existing ones, for energy efficiency improvement measures to maximise the benefits of multiple streams of financing. The Commission shall, where appropriate, directly or via the European financial institutions, assist Member States in setting up financing facilities and technical support schemes with the aim of increasing energy efficiency in different sectors. Member States may also set up an Energy Efficiency National Fund. The purpose of this fund shall be to support national energy efficiency initiatives⁴¹.

³⁶ Directive, Art. 19, point. 1.

³⁷ Directive, Art. 8.

³⁸ Directive, Art. 9-10.

³⁹ Directive, Art. 9, point. 3.

⁴⁰ Directive, Art. 14.

⁴¹ Directive, Art. 20.

EU Member States will each year, commencing on 30 April 2013th onwards, make report on the progress made in terms of achieving their national indicative targets for energy efficiency. Member States have a deadline to June 2014 to transpose the Directive into national legislation. Up to 30 June in 2014, the Commission will assess the progress made towards meeting the national target of energy efficiency to be achieved by 2020 and will propose additional measures if necessary.

THE DEGREE OF HARMONIZATION OF THE PROVISIONS OF THE ENERGY EFFICIENCY OF SERBIA WITH THE EU LAW

Harmonization with the EU acquis is performed by passing a Law on efficient use of energy. This is also one of the basic conditions for Serbia to joining to the European Union. The Treaty establishing the Energy Community between the European Community and the Republic of Albania, Bulgaria, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Montenegro, Romania, Serbia and the UN Interim Mission in Kosovo in accordance with UN Resolution 1244 and relevant decisions of the Ministerial Council of this body, expanded the area of the acquis Communautaire agreement regarding the necessity of application. Thus, having regard the decision number D/2009/05/MC-EnC, contracting parties are required to apply the following directives: Directive 2006/32/EC on energy efficiency in final energy and energy services, which repealed Directive 93/76/EES; Directive 2002/91/EC on the Energy Performance of Buildings and Directive 92/75/EES related to labeling of energy class of household appliances.

It should be noted that the Directive 2002/91/EC on the energy performance of buildings is replaced and repealed by Directive 2010/31 EU on energy performance of buildings from the 19th May, 2010, and that was taken Directive 2010/30/EU from 19 May, 2010 on the labeling and information on energy consumption of standard products and other energy-relevant products, which was repealed and replaced Directive 92/75/EES related to labeling of energy class of household appliances. The Ministerial Council of the Energy Community, based on the decision of 2010/02/MC/EnC of 24 September 2010th, has refer the parties concerned to the implementation of the newly adopted directives relevant to the field of rational use of energy. Based on Directive 2006/32/EC on energy efficiency in end-use and energy services, the Government of the Republic of Serbia adopted the First Action Plan for Energy Efficiency of the Republic of Serbia.

The existing Act should create a framework for the implementation of EU directives, including: Directive 2010/30/EU from 19 May, 2010 on the labeling and information on energy consumption of standard products and other energy-relevant products, and to amend the regulatory framework for the implementation of Directive 2010/31 EU on energy performance of buildings from the 19th May, 2010. The Government of the Republic of Serbia adopted the Action Plan for Energy Efficiency for a period of three years. The Act also prescribes the contents of this document. The first Action Plan for Energy Efficiency (for the period 2010-2012) was adopted in accordance with the Decision of Ministerial Council of the Energy Community of 2009/05/MS-Enc of 18th December 2009.

In accordance with the Decision of the Ministerial Council of the Energy Community of 2009/05/MS-Enc of 18 December 2009, the implementation of the acquis communautaire in the field of energy has also been extended with respect to 92/75/ES Directive on energy labeling of household appliances and Directive 2002/91/EC on the energy performance of buildings.

Given that the Directive 2002/91/EC on the energy performance of buildings is replaced and repealed by Directive 2010/31 EU on energy performance of buildings from the 19th May 2010, and that was taken Directive 2010/30 / EU from 19 May, 2010 on the labeling and information on energy consumption of standard products and other energy-relevant products, the Ministerial Council of Energy Community in accordance with the Decision No. 2010/02/MC/EnC from 24th September 2010 committed the signatories to the implementation of these new directives relevant to the field of energy efficiency.

Provisions on energy labeling of products (especially home and other technical equipment) which consume energy implement Directive 2010/30/EU. This directive includes the implementation of a series of delegated regulations, each of which covers a specific type of home appliances:

- 1) Delegated Regulation of the European Commission No. 1059/2010 which supplementing Directive 2010/30/EU with regard to energy labeling of dishwashers in the household;
- 2) Delegated Regulation of the European Commission No. 1060/2010 which supplementing Directive 2010/30/EU with regard to energy labeling of household air conditioners;
- 3) Delegated Regulation of the European Commission No. 1061/2010 which supplementing Directive 2010/30/EU with regard to energy labeling of washing machines for household;
- 4) Delegated Regulation of the European Commission No. 1062/2010 which supplementing Directive 2010/30/EU with regard to energy labeling of televisions;
- 5) Delegated Regulation of the European Commission No. 626/2011 which supplementing Directive 2010/30/EU with regard to energy labeling of air-conditioning cooling systems;
- 6) Directive 98/11/EC amending Directive 92/75/EEC in relation to energy labeling of household lamps;
- 7) Directive 2002/40/EC amending Directive 92/75/EEC in relation to energy labeling of electric ovens.

Finally, the Act also contains provisions on eco-design of product, which implemented Directive 2005/32/EC establishing a framework for the definition of requirements for eco-design of products which use energy.

THE PRACTICE OF THE EUROPEAN COMMISSION IN THE IMPLEMENTATION OF EU LAW IN THE FIELD OF ENERGY EFFICIENCY

The European Commission has jurisdiction for the enforcement of the EU in the field of energy efficiency. In this regard, the Commission has a right, in accordance with Article 257 TFEU, to initiate proceedings against Member States that do not harmonise its legislation with the EU regulations (for example, the Directive on energy efficiency).

The Commission takes action it deems appropriate in response to complaint or indications of infringements which it detects itself. Non-compliance means failure by a Member State to fulfill its obligations under EU law. It may consist either of action or omission. In doing so, it does not matter whether it is a central, regional or local authority. The first stage in the proceedings initiated by the Commission called "Infringement proceedings". The purpose of this pre-litigation stage is to enable the Member State to conform voluntarily with the requirements of the Treaty. There are several formal stages in the infringement procedure. The Commission may first have to carry out some investigation, namely when infringement procedures are launched further to a complaint. The letter of formal notice represents the first stage in the pre-litigation procedure, during which the Commission requests a Member State to submit its observations on an identified problem regarding the application of EU law within a given time limit. The purpose of the reasoned opinion is to set out the Commission's position on the infringement and to determine the subject matter of any action, requesting the Member State to comply within a given time limit. The reasoned opinion must give a coherent and detailed statement, based on the letter of formal notice, of the reasons that have led it to conclude that the Member State concerned has failed to fulfill one or more of its obligations under the Treaties or secondary legislation. Referral by the Commission to the Court of Justice opens the litigation procedure. In this respect, the Commission must point out that, in accordance with the established case-law of the Court of Justice, it enjoys a discretionary power in deciding whether or not to commence infringement proceedings and to refer a case to the Court. The Court has also acknowledged the Commission's power to decide at its own discretion when to commence an action⁴².

⁴² http://ec.europa.eu/eu_law/infringements/infringements_en.htm [01. 10.2013.]

In practice, there were several cases in which EU institutions responded. Thus, the Commission has formally requested Austria, Cyprus, Estonia, Lithuania, Luxembourg, Hungary and the United Kingdom to ensure full compliance with their obligations under EU legislation on energy efficiency in buildings (Directive 2010/31/EU). The Commission sent a reasoned opinion to these Member States asking them to notify the Commission of all their transposition measures for the directive, which had to be transposed into national law by 9 July 2012. If the Member States do not comply with their legal obligation within two months, the Commission may decide to refer them to the Court of Justice. Reasoned opinions were already sent to Italy, Greece, Portugal and Bulgaria in January 2013, to Spain and Slovenia in April 2013 and to Belgium, Germany, Finland, France, Latvia, Poland and the Netherlands in June 2013.

However, as Commission (2013) noted, Portugal is not transposed Directive 2010/31/EC on energy efficiency in buildings, so that the Commission initiated proceedings. The Commission proposes a daily penalty of €25 273.60. The level of this penalty is set taking into account the duration and the gravity of the infringement. In case of an affirmative judgment of the Court, the daily penalty is to be paid from the date of the judgment until the transposition is completed. The final amount of the daily penalty will be decided by the Court. The Commission sent Portugal a letter of formal notice concerning the transposition of the directive in September 2012. A reasoned opinion followed in January 2013. Although Portugal is working on draft legislation, no information is available on when this will be adopted, published and come into force. Therefore full transposition is still pending.

CONCLUSION

The Republic of Serbia has recognized the importance of energy efficiency, which was confirmed by the adoption of Law on Efficient Use of Energy. This Act was first thoroughly regulated this matter, which has so far been more or less ignored. However, it is not enough just to pass the law, it is necessary to apply it in practice. The key barriers to implementing energy efficiency are unrealistic parity of energy prices and their volatility, so that users are not interested in investing in projects to increase energy efficiency. In addition, the energy in Serbia is still not treated as a commodity, but as a social category, which also discourages investments in the sector. Therefore, it is necessary to undertake a series of measures that in practice would allow for increased energy efficiency, where Serbia was among the last countries in Europe. First, it must be established incentive fund of the state, and the funds which would be used to finance work on the installation of insulation walls-facades. Second, it is necessary to apply for funding from the EU funds with appropriate projects. Third, the source of funds for energy efficiency improvements can be loans, which would be guaranteed by the state. Fourth, the government must provide incentive mechanisms (in particular, various tax breaks) for entities that are set up insulation of external walls of building facades. Fifth, encourage public companies to take measures in the field of energy efficiency. Sixth, the value added tax must be repealed on materials for building insulation, in order to encourage their use. Finally, practice of institutions of the Union will be of great importance for improving energy efficiency. Finally, it can be concluded that the process of harmonization of law of the Republic of Serbia with EU-law in the field of energy efficiency has begin, while its outputs will be visible in the future, given the need to meet the financial, legal and technical requirements.

LITERATURE

- 1) Avresa, R. Turtonb, H. Casten, T. (2007) Energy efficiency, sustainability and economic growth. *Energy*. 32. p. 634-648.
- 2) AL-Mansour, S. (2011) Energy efficiency trends and policy in Slovenia. *Energy*. 36. p. 1868-1877.
- 3) Directive 2012/27/EU on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC [OJ L315 p.1]

- 4) European Commission, Energy efficiency in buildings: Commission refers Portugal to Court for failing to transpose EU rules- IP/13/579, Brussels, 20/06/2013.
http://ec.europa.eu/eu_law/infringements/infringements_en.htm [01. 10.2013.]
- 5) EU Commission. (2008). 2020 by 2020—Europe's climate change opportunity, Communication from the European Commission to European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions COM(2008) 30.
- 6) GEOTA, FAPAS, LPN, QUERCUS, CEAI, ALDEIA, COAGRET, FLAMINGO, SPEA, MCLT. (2011). Memorandum: the Portuguese dam program: economic, social and environmental disaster. Lisbon, Portugal.
- 7) Herring, H. (2006) Energy efficiency-a critical view. *Energy*.31. p.10-20.
- 8) Law on Efficient Use of Energy, Official Gazette of Republic of Serbia RS, No. 25/13.
- 9) Simoes, S. (2013) The savings of energy saving: interactions between energy supply and demand-side options-quantification for Portugal. *Energy efficiency*. DOI: 10.1007/s12053-013-9217-7
- 10) Wade, J. Guertler, P. Croft, D. Sunderland, L. (2011) National energy efficiency and energy saving targets—further detail on Member States. ECEEE—European Council for an Energy Efficient Economy. Pp. 42.
- 11) WCD. (2000). Dams and development—a new framework for decision making. The report of the World Commission on Dams. London: Elsevier.
- 12) WWF, ECOFYS, OMA (2011). WWF—The Energy Report. Pp. 256.
- 13) Zivkovic, Z. et al. (2011) Proposed measures for financing energy efficiency in buildings in Serbia, Beograd, pp. 9.

INSTITUTIONAL DETERMINANTS OF BUSINESS ENVIRONMENT IMPROVEMENT IN THE REPUBLIC OF SERBIA¹

Vlastimir LEKOVIĆ²
Vladan IVANOVIĆ³

Abstract

Establishment of institutions that support the development and effective functioning of the market system is one of the key prerequisites for creating a business environment which would be favorable for initiating and organizing economic activities and thus result in greater economic dynamic and more successful growth of per capita income. The economy of the Republic of Serbia requires an institutional environment where the rule of law will be established and property rights and enforcement of contracts unambiguously defined and strictly protected as a determined set of economic institutions that drive economic dynamics. This paper, based on the analysis of the general intellectual property rights index and its institutional indicators related to the economy of the Republic of Serbia, draws attention to institutional restrictions that halt more dynamic development of economic activities which can only be eliminated by systematic and continuous institutional development.

Key words: institutional infrastructure, business environment, property rights, contract rights, intellectual property rights

INTRODUCTION

Contemporary models of economic growth such as classical ones together with the endogenous growth theory, despite significant theoretical and empirical contributions, haven't fully answered the questions relating to development challenges faced by numerous economies. Their common feature is the lack of analysis in terms of the significance and impact of institutions on economic performance. In this respect, new models emerged that based on the basic postulates of conventional models better explain the causes of less successful economic development. These models, as a rule, find that fundamental and long-term causes of economic efficiency actually represent the factors substantiated in institutions. Accordingly, the long-term viability of an economic system cannot be adequately understood and addressed if the institutional determinants of economic dynamics are ignored. These determinants, along with geography and foreign trade, represent "deep" determinants of economic growth of nations. According to research conducted by D. Rodrik et al. (2004), out of all "deep" determinants of economic growth, institutions have the strongest relative effect on *per capita* income, especially the quality of protection of property rights and the legal system. At the same time, from the perspective of the broader institutional context which includes both formal and informal institutions, S. Knowles and C. Weatherstone (2006) identified strong cause-and-effect relationships between the formal and informal institutions and economic performance. Also, V. Leković (2011) points to the interdependence of formal and informal institutions and the effect of their interactions on the establishment of a business environment that is favorable for economic entities and improvement of their economic successfulness. In light of these facts, understanding and analysis of the economic

¹ This paper is a part of research project number 179015 (Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements), financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

² Associate Professor, Faculty of Economics, University of Kragujevac, Kragujevac, Serbia

³ ma, Faculty of Economics, University of Kragujevac, Kragujevac, Serbia

development of a national economy should be based on an analysis of institutional determination of economic activity, which gives us an opportunity to gain more detailed understanding of the advantages and limitations of certain national economic systems.

The subject matter of the research presented in this paper refers to the key elements of the institutional infrastructure which shapes the business environment, where, at the appropriate level of performance, economic activity takes place in a national economy framework. The aim is to point to the important characteristics of the business environment in the republic of Serbia as an important regulatory framework from whose quality the level of economic dynamics and the tendency of *per capita* income growth depend. The initial hypothesis is that a manner of defining and protecting property rights and enforcement of contracts decisively determines the economic performance of business entities and the growth of *per capita* income.

The paper is organized in four sections. The first section of the paper entitled "Literature review" gives an overview of the current research related to the importance of institutions as a framework that either facilitates or constrains transactions among business actors - which indirectly affects the economic dynamics. The second section presents the methodological aspects of the research and data sources used in the third section of the paper which refers to the interpretation and discussion of the key institutional characteristics of the Serbian economic system. Given that institutions are not merely a set of bureaucratic and administrative rules, but include the entire spectrum of formal laws, rules and regulations, as well as informal conventions and rules of behavior of economic agents, the paper puts an emphasis on analyzing the quality of formal institutions in the Republic of Serbia and their effect on economic performance. Finally, the concluding remarks make the fourth section of the paper and offer an assessment of the current institutional environment in the Republic of Serbia and, in this regard, identify the most significant constraints that are present in the national economic system.

LITERATURE REVIEW

It is only with the appearance of works by D. North (1990) that a more intensive examination of the influence of institutions on economic performance began. By declaring that institutions represent humanly devised constraints that shape human interaction, D. North (1990) points to their undeniable role in structuring human exchange – whether social or economic one, which are intended to ensure consistency in mutual interaction. Furthermore, according to D. North (1994), the role of institutions is indispensable since they decisively determine the economic performance by establishing the structure of incentives in a society. Only in an environment where the properties of the institutional structure elements are designed to direct individuals and economic entities towards the most productive activities, which involves a high degree of economic freedom and the effective protection of property rights, it can be expected that the efficiency of the economic dynamics will be significantly improved. Efficiency will be reached through a number of functions of institutional units –from motivational to coordination one, which in appropriate institutional environment achieve maximum operational efficiency.

In terms of institutional conditionality of economic performance and actual empirical measurements and modeling, a number of studies attempts to establish connections and relationships that exist between institutions and economic dynamics. One group of such studies analyze the relationships between specific characteristics of a political system as a system that produces rules and economic activities in order to determine the impact of institutional characteristics of the political system on the behavior and productive engagement of economic agents. The second group of studies consists of the research that is more focused on direct properties of specific sets of institutional rules, i.e. institutional norms that are most directly related to the economic sphere and thus directly affect the viability of business decisions. Special emphasis is placed on property rights and their relevance for the development of an efficient market system. In addition to this general systematization, many of the

studies are of the synthetic character, which means that they examine various institutional aspects, their interaction and synergistic effects on economic dynamics.

When analyzing the dependence of economic dynamics on the functioning of political institutions, and dependence of the total functioning of the institutional framework upon these "meta-" rules, some conclusions can even be drawn based on the quick look on the experiences of the most developed systems. In this sense, the development of market economy and related categories, such as division of labor, strengthening the position and importance of clear (private) property rights and dynamic technical and technological innovation in the context of a strong contribution to accelerating growth and economic activity, require appropriate political and institutional framework. Such framework should primarily stimulate the creation of rules that will support competition and free entry to the market thus stimulating the steady growth of the national economy and its participation in regional and global trade flows. In this context, as pointed out by D. Acemoglu and at al. (2005), it is clear that political institutions that would ensure long-term prosperity must be designed so as to provide economic opportunities through effective constraints implemented in the system that controls and monitors the executive authorities, which also indirectly represents the means of deterring executive authorities from utilizing economic power that incurs large social costs.

The significance of political institutions is undeniable, especially their open or latent instability, and the effects they have on the functioning of the economic system. Since the process of decision making of economic agents is carried out in a complex environment characterized by uncertainty, political stability becomes an indispensable prerequisite of success of an economic system. In an environment where there is no political stability, it is impossible to identify all alternative courses of action, and adaptation in terms of business decisions and actions taken by stakeholders in such circumstances becomes extremely expensive thus resulting in inevitable cuts in the economic system. In other words, the stability of institutions is necessary since they represent a mechanism for channeling individual expectations which help individuals to choose one (efficient) solution out of many possible solutions at their disposal. In this respect the study carried out by IMF should be mentioned. The study shows that additional shortening of mandate for one year reduces annual *per capita* real GDP growth by two percentage points. Decomposition of the transmission mechanisms (since the stability of political institutions *per se* has no direct impact on economic growth) showed that political instability primarily causes the decrease in productivity for 60%, then reduces the accumulation of physical capital for 20% and cuts down growth of human capital for 20 %. In addition to the previous facts, the political instability also diminishes predictability of government policy and the reaction of companies and general public to such situation is primarily manifested in the consequent adverse changes in the field of consumption and investment. At the same time, uncertainty over the sustainability of social security system, especially in the case of unemployment insurance, can lead to higher savings and reduced consumption. Such increased savings will have no effect on economic activity, since due to the uncertainty they are not converted into investment which increases the contractive effect. Furthermore, political stability guarantees protection of civil liberties, property rights and enforcement of contracts, thus supporting economic agents to start investing and maximizing their welfare. A key function in this process concerns the expectations of individuals and investors in the sense that they will be able to generate profit from transactions and have their return on investment protected. Inefficient political institutions have a special impact on irreversible investment, particularly in R & D sector, because economic agents delay the decision on investing until the uncertainty is resolved. In addition, the conditions of instability and inefficiency of the political institutions may lead to capital outflow, which narrows the prospects for a more dynamic economic activity. Price volatility, i.e. inflation, which usually accompanies political instability, represents an additional source of distortions in business operations.

La Porta et al. (1999), came to the conclusion that there is a positive correlation between the efficiency of political institutions and variables related to the effectiveness of the executive authorities, as well as between government's performance and per capita income. These conclusions are also confirmed by the research of D. Rodrik (2000), who concludes that the characteristics of the "meta-" institutions - as

he calls them, which are related to the independent judiciary, representative political institutions, regular and free elections and the presence of minority groups in institutions make the basis for the existence of an efficient political and institutional environment. Such a political system facilitates and encourages the creation and establishment of all relevant economic institutions thus exerting a strong indirect effect on economic efficiency. Based on the data referring to the legal framework, the characteristics of the constitutional order, the quality of bureaucracy, corruption, risk of expropriation and breach of contract rights by the executive authorities, R. E. Hall and C. I. Jones (1999) came to the conclusion that the differences in capital accumulation, education, and productivity can be to a large extent explained by the differences in institutional arrangements.

In addition to the above mentioned aspects, further importance of the institutions in a political system is reflected in the fact that the same factors which are necessary for the establishment of a functional democracy, such as independent judiciary and the respect of laws and individual rights, also represent the decisive conditions for establishing effective protection of property rights and enforcement of contracts as a crucial set of economic institutions that support economic dynamics. In other words, an efficient system of political institutions motivate individuals to work and invest, encourages the effective allocation of resources on the market and supports the private/individual and organizational activity aimed at maximizing economic welfare.

The importance of property rights for the development of efficient economic system is not only a rare common issue shared by the different, often on all other matters conflicting schools of economic thought; it is also documented in numerous studies. These studies mainly follow the basic postulates of the theory of property rights set by A. Alchian (1965), H. Demsetz (1967), R. Coase (1960) and O. Williamson (1971).

One of the most important studies in this context was conducted by D. Acemoglu and S. Johnson (2005), who found that countries with secure property rights have significantly higher levels of gross national income *per capita*. However, in the concept of broadly understood property rights, intellectual property rights (hereinafter IPR) hold especially important place because they are the key factors of economic performance in economic growth models that are based on research and development.

In this respect, S.T. Eicher and M. Newiak (2013) concluded that IPR cause an effect similar to the "rule of law" and that due to their evident effect on economic development, both property rights and intellectual property rights can be seen as its crucial determinant. However, in order to maximize the effect of IPR on economic growth, it is essential that they are effectively implemented. For this reason the efficiency of the judiciary is also analyzed as one of the additional institutional characteristics, which is crucial for providing the mentioned effect. Although there is consensus on the importance of property rights for economic dynamics, this relation is not completely unequivocal, i.e., the reforms in the property rights system will not *per se* lead to increased income. Promises that property rights will be protected will have effect on economic activity only when there is a true commitment that such promises will be implemented. In addition, independent judiciary is seen as a prerequisite, or a tool, which allows the state apparatus to make credible commitments, which further emphasizes the importance of the system of political institutions. This assumption is based on the position of S. Voigt and J. Gutmann (2013) which claim that judicial independence is correlated with better economic performance. There is also a position often present in studies that *de jure* protection of property rights has modest effect on economic growth unless it is accompanied by adequate *de facto* implementation.

An important implication in terms of stronger IPR protection system is reflected in its potential impact on investment. Namely, the activities of reputable companies could be directed towards investment and advanced technology transfers if there is a stable system for protection of enforcement of contracts and intellectual property rights. In this context one can speak of great importance of intellectual property rights, as well as the negative consequences that may result from their inadequate protection. That is to say, countries with modest IPR will probably be isolated from modern technologies, and will

be forced to develop their own sources of specific technologies, which, given the cost and resource capacity represents an almost impossible undertaking. Another negative effect is related to the fact that in these countries there will be almost no *spillover* effects and therefore no benefits from this source.

The connections and relationships in a broader institutional context, especially regarding political institutions and the efficient system of property rights, should also be emphasized in order to be able to properly evaluate the possibilities and potentials of the escalating progress in the institutional segment. The establishment of an effective system of political institutions, and thus the effects of institutional development, which is essential to creating a favorable business environment, is not an easy task. As the study of C. Clague et al. (1995) shows, it is only in a small number of countries which had implemented the transformation towards more efficient institutional solutions in the political system, that an increase in the security of property rights and enforcement of contracts occurred. This is because the transformation from insecure to secure property rights does not happen in the short term and does not spontaneously follow the change in the system of political institutions. Besides, D. Acemoglu et al. (2001), while analyzing the relationship between the actual economic performance and the current formal institutions, found a significant effect of formal institutions in the past on the ones that are still in use, which is found in the literature as an explanation based on *path dependence theorem*.

As a general and summary conclusion of most studies dealing with the analysis of the institutional conditionality of the business environment, the position of S. Haggard and L. Tiede (2011) should be accepted. They found that in many developing countries the weakness of state institutions and their inability to maintain the rule of law and effective protection of property rights represents a huge barrier to economic progress.

RESEARCH METHODOLOGY

The research in this paper is based on the data that can be classified into four categories –institutional property rights index (IPRI) which represents the mean value of the three categories of institutional indicators - legal and political environment (LP), physical property rights (PPR) and intellectual property rights in the narrow sense (IPR).

The most comprehensive of these indexes, which also has a strong influence on two other components, refers to the political environment, and is a barometer of the general political and legal environment for performing business activities in national economies. In this sense, this indicator also incorporates rankings concerning the functionality of the judicial and political systems, i.e., judicial independence, the rule of law, political stability and control of corruption. As far as this indicator is concerned, it should be noted that the strongest protection of property rights, whether physical or intellectual ones, cannot be achieved unless there are certain institutional conditions. Therefore, all the components of this index are essential for creating an environment where the transactional activities are efficiently carried out. Judicial independence, as the first component of the LP index measures the degree of judiciary independence from the influence of interest groups, both political and commercial once, in the course of its activities. If this aspect, at least to some extent, is not met, it is likely to have the stagnant course of a national economy and relative lagging behind the economic and political systems that have established efficient judicial institutions. "Rule of law" is the next variable included in this indicator. It is a very complex one since it refers to the wide range of institutional aspects such as the quality of contract enforcement, the police, the courts, and the likelihood of violence and criminal activity. The quantitative value of this indicator is a composite set which includes fairness, honesty, executive capabilities, agility and availability of the judicial system, the protection of private property rights, and the responsibilities of the judicial and executive authorities. Given the importance and components of the index, its complementarity with the judicial system is obvious. The third component is related to the political stability, which is also one of the essential dimensions for effective and efficient performance of business activities, the impact of which is manifested most notably in the area of property rights. The fourth component of the legal and political environment

refers to the control of corruption. This variable, like the previously described ones, combines several indicators from those which point to the presence and extent of the "small-scale" and "grand" corruption in the society to those that measure the degree to which there is an influence of certain social classes and private interests on the state. Corruption, perhaps more intensively than other indicators, affect perceptions of individuals and their confidence about the "healthy" implementation and protection of property rights, thus strongly determining their inventiveness. In addition, it is also an indicator of the weaknesses rooted in the formal institutional framework, as well as a good indicator of the extent of the informal economy in a given system.

Concerning the legal political environment, the data were collected from a large number of relevant databases and reports. The most frequently used data sources are those provided by the World Economic Forum - Global Competitiveness Report (judicial independence), the World Bank Group - World Development Indicators (confidence in the courts to protect property rights), the World Bank Institute - Worldwide Governance Indicators (political stability), Transparency International - Corruption Perception Index (perceived levels of public sector corruption in countries worldwide).

The second indicator used in the analysis refers to the physical property rights (PPR), and it identifies the extent to which the property rights are protected, simplicity/complexity of the procedures required to register property in terms of both length of time and necessary procedures, and access to loans. As well as the above mentioned indicators, this indicator is also a composite one. On the one hand, it includes the protection of physical property rights, and thus reflects, to a large extent, the strength of a country's property rights system since it reflects experts' positions on the quality of judicial protection of private property, including the financial assets. It also implies professionals' opinions on the clarity of the legal definition of property rights. Furthermore, it assesses regulatory procedures relating to the registration of property – i.e. the aspects related to the costs and time required to register a property. Practically, this indicator encompasses the full sequence of procedures necessary to transfer the property from seller to buyer when a business purchases buildings and/or land. This data is critical because the more complex the property registration is, the more likely it is that assets would stay in the informal sector, thus restricting the development of the broader public's understanding and support for a strong legal and solid property rights system. In addition, major restrictions reduce the mobility of assets in terms of uses which would lead to more efficient forms of production. The third component of the physical protection of property rights is related to the access to loans. This aspect is critical because access to loans without collateral serves as a proxy for the level of economic development. In addition, financial institutions have a complementary role, together with a property rights system.

Data used for constructing the PPRs index were collected from a number of sources, primarily: the World Economic Forum - Global Competitiveness Report (protection of property rights, ease of access to loans) and The World Bank Group - Doing Business (length of time and necessary procedures).

The third indicator refers to the protection of intellectual property rights, i.e. the *de facto* and *de jure* protection of two main aspects of intellectual property - patent law and copyright law. Patent protection reflects the strength of patent law(s) and is based on five criteria: coverage, membership in international treaties, restrictions on patent rights, enforcement, and duration of protection. Furthermore, the level of piracy is an important indicator of the effectiveness of the intellectual property rights enforcement. Basically, it indicates the piracy level for *copyright-protected* industries. The combination of objective and subjective measures is used to adequately cover the most important dimension of this group of institutional rules. For example, as far as the IPR protection is concerned, different individuals gave their assessment of the measures for IPR enforcement and protection by rating them on the scale from (0) weak and not enforced to (10) strong and enforced. On the other hand, objective measures are used when it comes to patent protection (coverage, membership in international treaties, restrictions on patent rights, enforcement and the duration of protection).

As far as this group of indicators is concerned, the necessary data were obtained from a number of resources and reports, particularly those of the World Economic Forum - Global Competitiveness

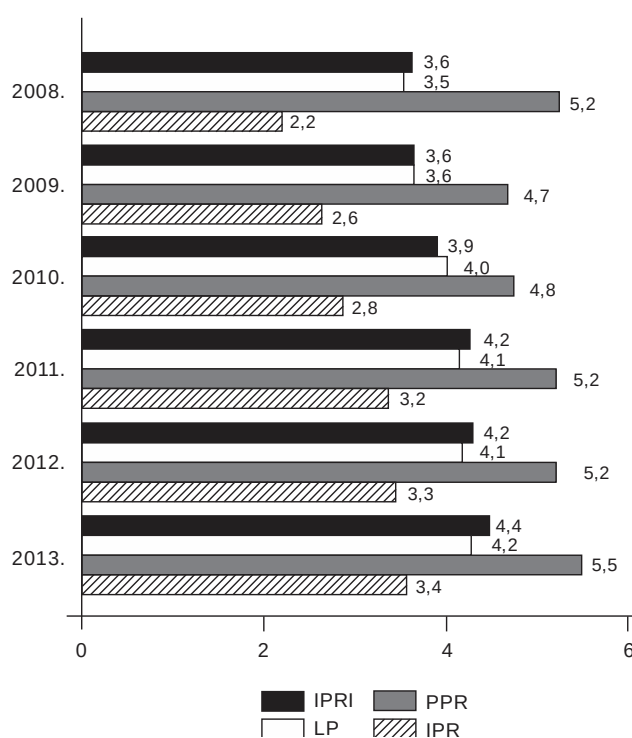
Report (relating to protection of intellectual property rights), Ginatre-Park Index of Patent Rights (measures the "strength" of patent laws), U.S. Trade Representative watch list – Special 301 (primarily used as a source for identifying the degree of piracy present in a particular system), and International Trademark Association (advancement and observance of trademark rights). It should be noted that Ginatre-Park Index is published every five years, so its value in many successive reports is the same, but since the issues related to patent law doesn't change rapidly, this index represent quite adequate measure of intellectual property rights protection in the long-term period, and therefore its validity is entirely justified.

The total value of property rights protection index score ranges from 0 to 10, where 0 reflects the lack of secure property rights, while 10 identifies the state of the highest possible protection of property rights. All other variables incorporated in the IPR index are also measured on the same scale.

ILLUSTRATION OF DATA AND DISCUSSION

Although the current issues and problems analyzed by the professional community in Serbia are more focused on a variety of macroeconomic imbalances and instabilities faced by the national economy, primarily the budget deficit, very high public debt and low investment dynamics, the situation in the field of institutional indicators is also serious and should be given attention. Besides, these macroeconomic imbalances are largely the result of inadequate institutions, lack of competent institutions or their *de facto* absence from the economic life. With regard to the last mentioned point, it is known that although there is no legal restriction concerning the allowed amount of public debt, which is currently 45% of GDP, this kind of institutional regulation does not represent the official regulatory requirement in terms of the activities and behavior of political actors. This fact undoubtedly points to problems that emerge in the domain of institutional structures when institutional arrangements exist but are not enforced.

Figure 1. The key institutional characteristics in Serbia 2008-2013.



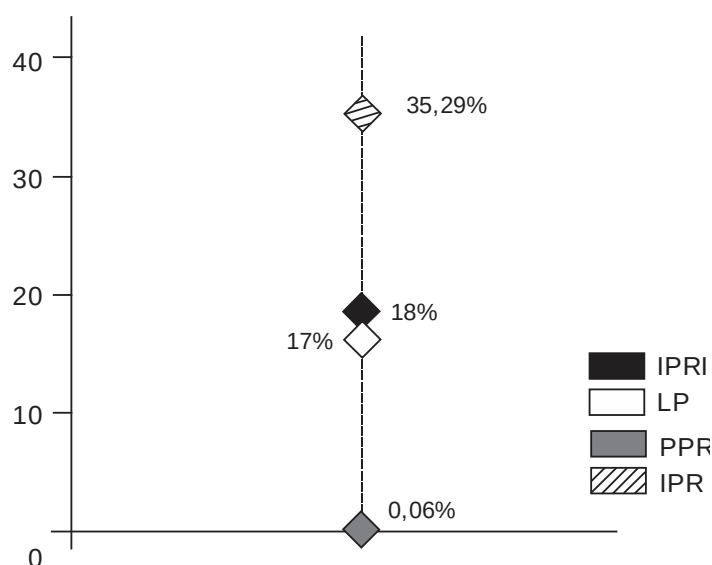
Note: IPRI - Institutional property rights index; LP - Legal and political environment; PPR - Physical property rights; IPR - Intellectual property rights

In table 3.3 Gb are average GDP growth rates for 2005-2010 increased by 50%, 66% and 100% respectively, K are coefficients (based on multiplication of growth rates during 2010-2022 period) for multiplication of GDP in 2009 to obtain predicted GDP for 2022. Compared with predicted GDP 2022 under assumption of extrapolation of based growth from 2005-2010 for the whole period until 2022, the improved GDP growth coefficient for the whole period K are adequately higher.

What can be concluded from the presented indicators is that all values recorded relatively modest improvement over this period, implicating an evolutionary character without significant improvement. The only index that had a negative variation i.e. where decrease was recorded, is that which relates to the PPR in 2009. One of the major sources of instability in this segment refers to the outbreak of the economic and financial crisis that shook the economy of the Republic of Serbia, especially the financial aspects of the business environment. Furthermore, this period is associated with the just completed 2008 election cycle, which further worsened the situation due to the increased political risk. There also existed serious restrictions concerning relatively difficult and expensive ways to access additional sources of funding for companies; however, other institutional components remained relatively stable. The reduced availability of bank loans was a result of their positions and strategies in the area of exposure to risks, because, according to Transition Report (2012), in mid-2012 the share of NPLs (*non-performing loan*: a loan that is in default or close to being in default) rose to over 20%. Also, it should be added that credit rating was still recovering from the fall in 2008. This further testifies of the difficulties faced by Serbian companies. The fall of PPR index was also caused by the lack of improvements necessary in the field of legal protection of private property. On the other hand, the system of rules regulating the procedure of registration of business entities created significant barriers, thus one portion of the assets remained in the informal sector which contributed to the poor institutional balance. The Bartelsmann Foundation (2012) assessed that about 800,000 people in 2010 were employed in the informal sector, and that this sector made more than a third of GDP (nearly 34%). This leads to negative impacts in the area of the allocation of assets, as due to the lack of access to additional financial resources that would foster growth, the mobility of material and financial resources is relatively low and the more dynamic business activities are halted.

Although other indicators showed moderate or very small improvement, it should be noted that this clearly points to the absence of a radical, but much needed, institutional changes that would fully motivate economic agents and thus result in the establishment of new enterprises and the increased inflow of foreign direct investments.

Figure 2. The relative changes of IPRI, LP, PPR and IPR between 2008 and 2013



Quantitatively speaking, the IPRI in 2013 was higher by 18% compared to 2008. In addition LP index recorded rise for 17% in the same period, while PPR, given the decline that occurred in 2009, showed a slight increase of only 0.06%. Therefore, the greatest increase is related to the intellectual property rights and their protection, since the IPR index in 2013 was higher for 64.71% than the value recorded in 2008, which amounts to the total increase of 35.29%. By comparing the initial and the current situation, the final scores can be considered as favorable ones. On the other hand, it should be pointed out that this situation is not the result of great efforts invested in the improvement of institutional structure, but the relatively low initial values that these categories had in 2008. According to the Transition Report (2012), positive changes were partly caused by improvements in loan information systems and land registries. In addition, these changes happened over a long period of time, which further lowers the overall score of institutional transformation. Relative changes and their dynamics in the five-year period are presented on the Figure 2.

However, the path of institutional transformation of the mentioned institutional aspects is even more devastating when Serbia and its position in this respect are benchmarked against the reference transition countries. Only in this way one can get a more complete picture of the institutional characteristics of the Serbian economy which are by no means stimulating for both entrepreneurial and business activities.

According to the Property Rights Alliance report, whose data were used for constructing the figure, the Republic of Serbia in 2013 holds the 107th position on the list of 131 countries studied, as well as the 19th position of the 24 observed countries in the Central and Eastern Europe. This shows relative stagnation in terms of the value of the overall index according to which in 2008 Serbia held 16th place (out of 20 observed countries) in Central and Eastern Europe. In that period only Albania, Azerbaijan and Moldova had poorer scores than Serbia. Due to the deterioration in 2009, which is the primary result of disturbances in institutional performance related to the protection of PPR - primarily in the area of access to loans, the regional ranking in 2010 put Serbia on 21st place among 24 analyzed countries.

The Republic of Serbia is constantly among 20% of the least developed countries included in the mentioned report in terms of institutional indicators. Other transition economies that belong to this group are Azerbaijan, Moldova, Albania, Bosnia, Russia, Ukraine and Kazakhstan. However, some may find comforting the fact that Serbia maintains middle position on this list (behind Kazakhstan, Russia and Azerbaijan). According to the changes in the value of the integral IPRI indicator, which in the period 2012-2013 was 0.1, if Serbia keeps the same dynamics, assuming *ceteris paribus*, it will be able to catch up with Hungary in some 20 years, with Slovenia in 15 and Estonia in 23 years. Serbia also shows significant lag behind Montenegro (9 years) and Croatia (13 years).

It should be noted that in 2011 the decline, although relatively small, was recorded in the activities related to the fight against corruption. This supports the fact that the endemic nature of the phenomenon was only deepened by the specific institutional solutions, which is obvious from very poor indicator values related to the level of investment activity. The decline in the values of the indicators related to fight against corruption is even more interesting if one takes into account that in 2009 an improved legislative framework concerning the fight against corruption was adopted. Previous statement, once again, clearly testifies of the commonly present problems referring to the new institutional solutions in developing countries. In the case of the Republic of Serbia we identify the absence of effective enforcement mechanisms and extremely low credibility that institutional solutions have concerning the private agents. According to the Bartelsmann Foundation (2012), another fact, which further deepens the impression of the low credibility of policy makers, refers to the data of the Serbian Anti-Corruption Agency, according to which only 15% of the objectives set out by the first National Anti-Corruption Strategy (2005) were fulfilled by 2011.

The institutional barriers, which are reflected in inadequate protection of property rights, adversely affect the development of entrepreneurship and the dynamics of business operations in general. They

also halt the development of a number of other policies that might be of great importance for efficient macroeconomic management since in such an environment these policies may be difficult to implement and may also prove extremely inefficient. Thus, for example, it is unlikely that in the conditions of weak institutions one would have successful implementation of the Strategy of Dinarisation of the Serbian Financial System (initiated by the National Bank of Serbia), which would potentially have a great economic importance for the economy of this country, especially in the long-term perspective, and which could also represent a key barrier against external shocks.

One of the peculiar paradoxes of institutional characteristics of Serbian economy is the institutional structure itself when observed in a broader context, since some of its constituents show a very high performance. For example, Serbia, like Poland and Bulgaria, adopted stricter regulation on banks than that stipulated in the EU regulatory framework. This is important as a safeguard mechanism against possible adverse impacts that can occur due to trends and shocks occurring in the external environment. However, good institutional solutions do not necessarily have (as is the case in Serbia) an impact on business performance, unless they are accompanied by necessary and complementary institutional adjustments.

The safety and protection in terms of enforcement of contracts is another burdensome problem. In this sense, internal inefficiencies, which are mostly accompanied by the widespread corruption and organizational weaknesses, burden the effective dispute resolution resulting in poor judiciary independence in terms of the influence of public authorities or private interest groups. Therefore a decline occurred in 2012, while a slight recovery was recorded in 2013. In other words, although *de jure* courts seem to function autonomously in practice, their *de facto* functioning is significantly burdened by corruption, nepotism and cronyism, political influence and organizational inefficiencies. In addition, as indicated by Bertelsmann Stiftung 2012, fiscal and administrative autonomy of the courts is limited, which additionally burdens their functioning. Therefore, widespread corruption (according to numerous sources the percentage of the population that experienced some form of corruption exceeds the 50% of population) and the increased effect of *red tape* and legal uncertainty, have an important role in explaining the low entrepreneurial activity and business dynamics in general.

Additional burden concerning the carrying out of the business activities can be found in the functioning of the complementary institutions, such as public administration whose competencies substantially overlap with some aspects of the protection and enforcement of property rights. Namely, these public organizations are characterized by significant inefficiencies, which are often accompanied by bribery and corruption. Thus, for example, the survey conducted in 2010 showed that out of 81% of the people who have experienced some form of corruption, 15.5% said that they gave a bribe to the clerks working in the Cadastre and Land Registry Office (source: Bertelsmann Stiftung 2012). Therefore, corruption, over-regulation and inefficiency in the area of the implementation of institutional arrangements which should guarantee the free use of property, as well as its contractual and legal protection, are essential characteristics that are reflected in all previously analyzed and graphically presented assessments of institutional performance.

CONCLUSION

Based on the presented data and discussion, the existence of a relatively unfavorable institutional environment in Serbia is identified, which, to a large extent, restricts the ability of dynamic performance of business activities. In addition, probably even more significant constraint to the development process than the existing institutional barriers is the lack of a more intensive and comprehensive approach to the process of institutional changes. This results in serious impediments to achieving better economic performance, both at the microeconomic and the macroeconomic levels. In addition, it is important to note that the protection of property rights and an efficient and more transparent institutional framework are essential given their direct connection with the R & D, that are again necessary for the development of strategies stemming from the economic and industrial policy,

because without establishing appropriate institutions and making improvements in the segment it is illusory to expect the effectiveness of these development strategies. At the same time, it should be noted that institutional changes represent a very complex and time consuming process whose effect in the realm of influence on the behavior of companies and private agents cannot be fully predicted.

The models aimed at intensification of economic activities in Serbia created after 2000 that primarily focused on the growth of demand, especially its public components, proved unsustainable - as evidenced by the crisis of public debt. Therefore, it is necessary to look further for new stimuli which would result in institutional solutions that would in turn provide long-term effectiveness and sustainability of the business transactions and their aggregate effect – i.e. the economic growth. It can only be expected that the adequate solutions might cure practically chronic economic underdevelopment or insufficient development, which is corroborated by the fact that the current GDP makes only 66-67% of that in 1989. This clearly requires not only interventions that focus on improving *ad hoc* investment climate, but a permanent, systematic and continuous institutional development that is simultaneously carried out in different institutional domains, which will certainly make the subject of the further research.

LITERATURE

- 1) Acemoglu, D., Johnson, S. and J.A. Robinson (2001), The Colonial Origins of Comparative Development: An Empirical Investigation, *American Economic Review*, Vol. 91, No. 5, pp. 1369-1401.
- 2) Acemoglu, D. and S. Johnson (2005), Unbundling Institutions, *Journal of Political Economy*, Vol. 113, No. 5, pp. 949-995.
- 3) Acemoglu, D., Johnson, S., and Robinson, J. A. (2005), Institutions as the fundamental cause of long-run growth, In P. Aghion, and S. Durlauf (Eds.) *Handbook of economic growth*, Vol. 1A, Amsterdam, Netherlands: North Holland.
- 4) Aisen, A. and F. J. Veiga (2013), How does political instability affect economic growth?, *European Journal of Political Economy*, Vol. 29, pp. 151-167.
- 5) Alchian, A. (1965). Some economics of property rights, *Il Politco*, Vol. 30, No. 4, pp. 816–829; Alchian, A. and Demsetz, H. (1973), The property rights paradigm, *Journal of Economic History*, Vol. 33, pp. 16–27.
- 6) Clague, C., Keefer, P. Knack, S. and M. Olson (1995), Property and contract rights in democracies and autocracies, *Journal of Economic Growth*, Vol. 1, No. 2, pp. 243-276.
- 7) Claessens, S. and L. Leaven (2003), Financial development, property rights and growth, *The Journal of Finance*, Vol. LVIII, No. 6, pp. 2401-2436.
- 8) Coase, R. (1960), The problem of social cost, *Journal of Law and Economics*, Vol. 3, pp. 1–44.
- 9) Cukierman, A. S., Edwards S. and G. Tabellini (1992b), Seigniorage and political instability, *American Economic Review*, Vol. 82, No. 3, pp. 537-555.
- 10) Commander, S. and Z. Nikoloski (2010), *Institutions and Economic Performance: What Can Be Explained?*, IZA Discussion Paper, No. 5247
- 11) David, P. (1994), "Why Are Institutions the 'Carriers of History'? Path Dependence and the Evolution of Conventions, Organizations, and Institutions", *Structural Change and Economic Dynamics*, Vol. 5, No. 2.
- 12) Demsetz, H. (1967), Toward a theory of property rights, *American Economic Review*, Vol. 57, pp. 347–359.
- 13) Eicher, S. T. and M. Newiak (2013), Intellectual property rights as development determinants, *Canadian Journal of Economics*, Vol. 46, No. 1, pp. 4-22.
- 14) Falvey, R., Foster, N. and D. Greenaway (2006), Intellectual property rights and economic growth, *Review of Development Economics*, Vol. 10, No. 4, pp. 700-719.
- 15) Feld, L. P. and S. Voigt (2003), Economic growth and judicial independence: cross-country evidence using a new set of indicators, *European Journal of Political Economy*, Vol. 19, No. 3, pp. 497–527.

- 16) Gould, M. D. and W. C. Gruben (1996), The role of intellectual property rights in economic growth, *Journal of Development Economics*, Vol. 48, No. 2, pp. 323-350.
- 17) Gregory, P. and R. C. Stuart (2004), *Comparing Economic Systems in the 21st Century*, 7th Edition, Cengage Learning, UK.
- 18) Haggard, S. and L. Tiede (2011), The Rule of Law and Economic Growth: Where are We?, *World Development*, Vol. 39, No. 5, pp. 673-685.
- 19) Hall, R. E. and C. I. Jones (1999), Why do Some Countries Produce So Much More Output Per Worker than Others, *Quarterly Journal of Economics*, Vol. 114, No. 1, pp. 83-116.
- 20) Hodgson, G. M. (2007), Evolutionary and Institutional Economics as a new mainstream?, *Evolutionary and Institutional Economics Review*, Vol. 4, No. 1, pp. 7-25.
- 21) Horst, C. A. and H. de Soto (2007), International Property Rights Index, 2007 Report, http://www.americansfortaxreformfoundation.org/userfiles/2007_IPRI.pdf
- 22) La Porta, R., Lopez-De-Salines, F., Schleifer, A. and R.W. Vishny (1999), The Quality of Government, *The Journal of Law, Economics, and Organization*, Vol.15, No. 1, pp. 222-279.
- 23) Lekovic, V. (2011). Interaction of formal and informal institutions - impact on economic success. *FACTA UNIVERSITATIS - Series: Economics and Organization*, Vol. 8, No 4, pp. 357-370.
- 24) Maskus, K. E. (2000), Intellectual property rights and economic development, *Case Western Reserve Journal of International Law*, Vol. 32, No. 2, pp. 471-506,
- 25) North, C. D. and R. P. Thomas (1968), *The Growth of American Economy*, University of South Carolina Press, Columbia, USA
- 26) North, C. D. (1990), *Institutions, Institutional Change and Economic Performance*, Cambridge University Press, Cambridge, U.K.
- 27) North C. D. (1994), Economic Performance Through Time, *The American Economic Review*, Vol. 84, No. 3.
- 28) Olson, M. (1993), Dictatorship, democracy and development, *American Political Science Review*, Vol. 87, pp. 567-576.
- 29) Przeworski, A. and F. Limongi (1993), Political Regimes and Economic Growth, *Journal of Economic Perspectives*, Vol. 7, No. 3, pp. 51-69.
- 30) Rodrik, D. (2000), Institutions for high-quality growth: What they are and how to acquire them, *Studies in Comparative International Development*, Vol. 35, No. 3, pp. 3-31.
- 31) Rodrik, D. (2004), Getting institutions right, *CESifo DICE Report*, Harvard University.
- 32) Rodrik, D., Subramanian, A. and F. Trebbi (2004), Institutions Rule: The Primacy of Institutions Over Geography and Integration in Economic Development, *Journal of Economic Growth*, Vol. 9, No. 2, pp. 131-165.
- 33) Schmieding, H. (1993), From plan to market: on the nature of the transformation crisis, *Weltwirtschaftliches Archiv*, Vol. 129, pp. 216-253.
- 34) Schneider, H. P. (2005), International trade, economic growth and intellectual property rights: a panel data study of developed and developing countries, *Journal of Development Economics*, Vol. 78, No. 2, pp. 529-547.
- 35) Voigt, S. and J. Gutmann (2013), Turning cheap talk into economic growth: on the relationship between property rights as judicial independence, *Journal of Comparative Economics*, Vol. 41, No. 1, pp. 66-73.
- 36) Williamson, O. (1971), The vertical integration of production: Market failure considerations, *American Economic Review*, Vol. 61, pp. 112-123.
- 37) Bartelsmann Stiftung, BTI 2012 – Serbia Country Report, Gütersloh: Bartelsmann Stiftung 2012, p. 17-18.
- 38) Transition Report 2012 – Integration Across Borders, European Bank for Reconstruction and Development

STABILITY ASSESSMENT OF FINANCIAL SYSTEM IN THE EU AND SEE COUNTRIES, PERSPECTIVE OF CREDIT-TO-GDP GAP

Rahela PUPOVIC¹

Abstract

In the aftermath of the current economic and financial crisis the question of how to maintain the stability of financial sector, i.e. how to create an early response to the external shocks is imposed. The current crisis wiped away the previous models for prediction and evaluation of financial stability. However, some of the indicators are still in use, despite of the flaws they have, they still manage to produce adequate responses. This paper reviews financial sector in the EU and the SEE countries, and attempts to consider the concept of financial stability by answering the hypothesis that credit-to-GDP gap is a sound indicator of financial (in)stability of a national economy and can be used as an early warning indicator of the instability of financial system in the SEE countries as well as EU.

Key words: crisis, financial stability, GDP, credit

INTRODUCTION

Asian crisis in the 1990s once again spurred the debate among economists and policy researchers on the importance of monitoring the trend and volatility of financial markets². As a preventive measure, the World Bank and the International Monetary Fund founded Financial Sector Assessment Program (FSAP) whose main objective was to monitor financial stability in its member countries. The events in 2008 were a sign that this issue has not been properly addressed yet. What is now clear is that financial booms and busts are not a shock to an economy, but an occasional period in a market subjected to contagion effects among them.

Analyzing some of the major crisis in previous decades it is evident that most of the financial crises rose from crises in banking sector. There are multiple channels of financial contagion. It is considered that the credit line is the most important one- reduced liquidity in the United States, Europe and largest Asian countries, followed by great risk aversion increased the price of external debt.

There are multiple techniques of estimating current condition of financial sector in a national economy. This paper deals in details with credit-to-GDP ratio as it proved to give useful insights of periods of booms and busts in the economy. However, a brief overview of other indicators will be examined.

First part of the paper gives a review of the concept of financial stability, early warning response system and the corresponding literature. Second part is made of analysis of the financial markets of 17 countries of the Euro Area³ with special emphasis on the macroeconomic situation in SEE countries. Third part of the paper introduces credit-to-GDP gap and the analysis of credit-to-GDP gap trend for EA-17 in the period 2000-2013. In the summary, conclusions are given on the use of this indicator as a variable for describing financial stability of the system.

¹ Institute for Strategic Studies and Prognoses

² (Galati & Moessner, 2010), (Trichet, 2010)

³ Belgium, Cyprus, Germany, Estonia, Ireland, Greece, Spain, France, Italy, Luxembourg, Malta, Netherlands, Austria, Portugal, Slovenia, Slovakia, Finland

FINANCIAL STABILITY IN TIMES OF FINANCIAL CRISIS AND SUPPORTING LITERATURE

As previously mentioned, in the financially integrated world, credit halt often induces effects that spill over national barriers on the other markets. In case they reach dramatic proportions they can cause an abrupt stop of capital flows to the Government, banks and companies in other countries. The event that supports this was the restrictive monetary policy of the US government in the 1980s (and the other countries afterwards) that significantly contracted credit flows globally and was an additional incentive to sovereign crisis in the Latin America and other countries. Empirical research in the early 1990s confirm that it was the fluctuation of interest rates in the US market that led to the volatility of capital lines and other macroeconomic variables in the Latin America⁴.

In order to preserve the financial stability in the global level some of the governing bodies were formed: Financial Stability Forum, Basel Committee on Banking Supervision, Financial Stability Institute, Committee on the Global Financial System, and International Association of Insurance Supervisors. Furthermore, specific international standards and codes provided the set of best methodologies for the specific area such as the International Accounting Standards Board which defines methodology for creating financial reports.

It is evident that system risks are difficult to manage. Internal risks can be managed via regulatory mechanism, surveillance and crisis management. In times when system risk spilled over on a national economy the first response is to increase country's absorption power. In previous years, global economic and financial crisis brought financial system to the verge of collapse and recession was a logical step that followed. After the storm passed and markets managed to somewhat recuperate, central banks pushed hard to rebuild their national systems and learn the lesson from the period they survived. Today, it seems that central banks learned two things⁵:

1. Financial stability should be addressed by macroprudential policies. This implies managing capital flows, imposing capital buffers, analyzing worse case scenarios, observing liquidity indicators and providing market-based value assessments of collateral. Role of central bank in this process is crucial, even though it might not be leading regulator. Macroprudential measures ease the procyclicality of system risk and building up the structural flows (which in most cases lead to recession)⁶. Yet, there still seems to be lack of adequate measures and regulatory policies that may provide easy transition to this method;
2. Price stability cannot lose its primacy in terms of monetary goals of the Central Bank. Reputation of the Central Bank is based on the grounds of an institution that preserves the stability of prices, and this reputation needs to be maintained.

Early warning system

In the most recent past, global scene witnessed the consequences of various financial crises. In order to avoid it as an outcome, a lot of pressure is being put by the Government to the Government to build up a legitimate system that would warn the official and policy makers of "dangerous" trends going on inside the system and potential system risks. From that standpoint, early warning system is what is looked for. Main components of this system would be financial and economic indicators, with their trends constantly monitored.

In 2009 representatives of G20 called the International Monetary Fund and Finance Stability Board to come up with a tangible action plan that would tackle the issue of lack of relevant information by

⁴ (Calvo, et al., 1993)

⁵ (Monetary and Capital Markets Department, IMF, 2010)

⁶ (Crockett, 2000)

creating set of indicators related to system risk, as well as provide continuous time series of data and information exchange.

The literature in the area of creating analytical tools that would contribute to the early warning system is numerous⁷. It dates back to late 1970s when several currency crises raised interest in further research about early warning system indicators that can be used as signals⁸. But, the actual debates regarding early warning indicators did not start before 1990s and related to the analysis of banking sector and balance of payments⁹, as well as currency crises¹⁰.

FINANCIAL MARKETS IN SEE COUNTRIES

The soil of the South-eastern Europe was subjected to constant change of landscape during the previous two and a half decades. The amount of progress made in terms of integration into global economic and financial markets was unimaginable twenty-five years ago.

Yet, 2009 was the year that hit hard Balkan countries. It took time for the crisis that emerged in the late 2007 in the western continents to spill over Balkans and it was not before the last quarter of 2008 when the first signals of approaching recession came to surface. First positive signs of output recovery came in February 2010.

Sharp fall in output could have risen from several sources: one of them is burdened access to finance, which seriously threatened businesses across the region. Furthermore, leading export markets reduced their demand, specifically for goods produced in the region. Also, decrease in the volume of remittances caused decrease in domestic demand and stalled the development of SMEs.

Table 1. GDP growth in European countries

	2010	2011	2012	2013 ^f
EU	2,1	1,6	-0,3	-0,1
Euro zone	2,0	1,5	-0,6	-0,4
Germany	4,2	3,0	0,7	0,4
Greece	-4,9	-7,1	-6,4	-4,2
Spain	-0,3	0,4	-1,4	-1,5
France	1,7	2,0	0,0	-0,1
Italy	1,7	0,4	-2,4	-1,3
Portugal	1,9	-1,6	-3,2	-2,3
Slovenia	1,2	0,6	-2,3	-2,0
Great Britain	1,8	1,0	0,3	0,6
Montenegro	2,5	3,2	-0,5	1,8
Croatia	-2,3	0,0	-2,0	-1,0

Source: EUROSTAT

Common growth model for SEE countries was based on open-access to foreign financing, since domestic markets were not in position to provide funding for high-level investments. This model proved to function very well before the crisis emerged and the vulnerabilities were spotted. Decrease in capital inflows reduced the lending and the FDI.

⁷ (Demirgüç-Kunt & Detragiache, 2005), (Hardy & Pazarbasioglu, 1998), (Hutchison & McDill, 1999)

⁸ (Bilson, 1979), (Krugman, 1979)

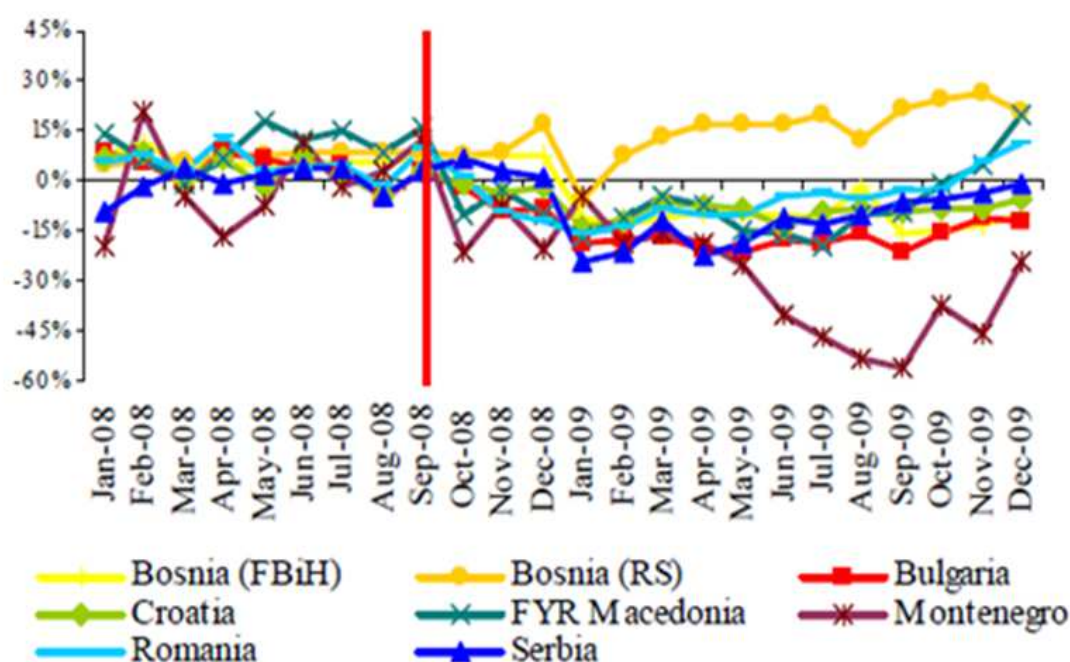
⁹ (Kaminsky & Reinhart, 1996)

¹⁰ (Frankel & Rose, 1996)

Major incentives of economic and financial growth in the Balkans are financial institutions. It can be said that the financial system in the South-Eastern Europe countries is bank-centric.¹¹ This makes them very vulnerable when stability of financial system is jeopardized.

Industrial output is one of the most sensitive indicators of macroeconomic imbalances. It is evident from Figure 1 that, starting from September 2008, global crisis wave came to the shore of SEE countries. Except Bosnia and Herzegovina, all countries experienced negative change in output on yearly basis.

Figure 1. Industrial output, yearly, change in %



Source: EBRD

Furthermore, other macroeconomic variables felt the bust- inflation (Figure 2), current account balances, employment, social expenditures, investments. Banking sector was one of those who were severely hit by the crisis. The reason might be in the fact that they have been running looser credit approval policy. Prior to 2008 many families and SMEs enjoyed the benefits of extra funding, and since the FDIs kept flowing to the Balkans (Montenegro is typical example, when total credits doubled year-on-year basis) the atmosphere among people and most of institutions was relaxed and confident that the boom will last. However, what came along in a matter of months caught were few people ready- sudden stop of credit approvals was one of the steps when banks had to figure out their tactics for the following period (even though they did have time to prepare evacuation scenarios, since it took some months before the SEE territory was hit). However, the complete tsunami of bank system was mitigated by dominant presence of foreign banks on the Balkans, which, at first, helped their daughter banks.

¹¹ (Kaoudis, et al., 2011)

the stability of financial system in the wider context. This way, aggregate index can capture periods of volatility and crisis on international market, capital market and banking sector. Another characteristic is that it can be traced through time and has a high level of transparency in calculation since data are not difficult to obtain.

CREDIT-TO-GDP GAP

In 2010 Bank for International Settlements presented a paper¹³ which explores the characteristics of multiple indicators of financial stability. What is common for the analysis is that the indicators are divided into three categories. First category is consisted of aggregate macroeconomic variables: real GDP growth, aggregate real credit growth, credit-to-GDP ratio and asset price growth. Furthermore, banking sector variables included variables of profit and gross losses and the third group regards different indicators of costs of funding, cost of liquidity, aggregate average corporate bond spreads and the performance of different conditioning variables.

Also, credit, measured by the deviation of the credit-to-GDP ratio proved to be the leading indicator for financial distress. In specific words, relation credit-to-GDP keeps a tendency of a slight growth above the trend line before the heavy downturns occur. Credit variable is normalized in order to reflect the size of the economy. Credit-to-GDP ratio is much more reliable indicator than credit growth indicator. Since this relation actually represents a ratio of the level of credits and GDP it does not have drastic swifts in trends, as does credit flow. This is where another positive characteristic arises- lower volatility (i.e. deviations among quarters are minimal).

Property prices have a history of strong growth prior to systemic banking events. And then they experience a heavy fall during the financial bust¹⁴. Indicators regarding banking sector is its profit is most trusted indicator of the state of the banking sector. Also, the side of losses is another credible indicator.

Downsides of these specific indicators will not be addressed in this paper since it deals with the most valuable indicator among all analyzed in the paper mentioned.

One of the first issues when trying to calculate credit-to-GDP gap is to determine what is considered as credit. According to the proposal by Basel Committee credits represent all the claims of the private sector (including the foreign market)¹⁵. Also, using the broader definition of credits is much better than narrowing it down since it lowers the risk of undesired consequences, such as non considering credits emitted only by banking financial institution.

Upon determining what is considered as credit the calculation can be performed. There are three steps in calculation credit-to-GDP gap.

Step 1: Calculate the ratio:

$$\text{ratio}(t) = \frac{\text{credit}(t)}{\text{GDP}(t)} \times 100\% \quad (1)$$

Level of credit and GDP is consisted of quarterly data in nominal value.

¹³ (Drehmann, et al., 2010)

¹⁴ As with the previous indicator, this one considers deviation of aggregate property prices from proper prices long term trend, (Borio & Drehmann, 2009)

¹⁵ (Basel Committee, 2010)

Step 2: Calculate credit-to-GDP gap:

$$gap(t) = ratio(t) - trend(t). \quad (2)$$

Foundations of this indicator lie in the fact that the ratio – credit-to-GDP is compared to its long-term trend line. If the gap is large, i.e. if the ratio deviates largely from the trend line, it can be said that the credit expansion is evolving and that the level of credits overcomes GDP.

The interesting part is calculating and analyzing the *trend*. It is a simple approximation of credit and GDP ratio based on historic statistical data in one economy. Since it has a highly efficient ability of alleviating structural changes, Hodrick-Prescott filter is used to calculate the trend. Other useful tools are simple moving average and method of linear time trend.

Hodrick-Prescott filter is a mathematical tool used in empirical macroeconomic research for trend calculation. It stands on the assumption that the original series (X_t) trend component (g_t) and cyclical component (c_t) are related as follows:

$$X_t = g_t + c_t \quad (3)$$

The authors of HP filter- Hodrick and Prescott¹⁶ actually suggest that the trend will be calculated when the minimization problem is solved, i.e. it is used to de-trend GDP growth:

$$\min_{\{g_t\}_{t=1}^T} \sum_{t=1}^T (y_t - g_t)^2 + \lambda \sum_{t=1}^T (g_{t+1} - 2g_t + g_{t-1})^2 \quad (4)$$

First part of the equation measures the fitness of the time series, that is, it restrains the variance of cyclical component, whereas the second term measures the smoothness. λ is a “trade-off” parameter.

If λ is 0, the trend component (g_t) becomes equivalent to the original series (X_t), and the optimal solution is $g_t = X_t$. If λ diverges to infinity, the trend component converges to a linear trend. Value of λ is set according to the frequency of the data:

- $\lambda=100$, yearly data
- $\lambda= 1600$, quarterly data
- $\lambda= 14400$, monthly data.

During the years, $\lambda= 1600$ is a norm set for business cycle analysis, and it represents a typical business cycle of 7, 5 years.

In our dataset, we used quarterly data in the period 2000-2013 (first two quarters), 54 data. Source of all available data is European Central Bank. According to EB, **GDP** used in calculations is Gross domestic product at market prices, Total economy, Debit (uses/assets), Four-quarter cumulated sum and **credits** are Euro area 17 (fixed composition), reporting institutional sector Households, non-profit institutions serving households - Closing balance sheet - Loans - counterpart area World (all entities), counterpart institutional sector Total economy including Rest of the World (all sectors) - Credit (resources/liabilities).

¹⁶ (Hodrick & Prescott, 1981)

Table 2. Data used for calculation

		GDP	Credit	Ratio ¹⁷	HP_trend	GAP ¹⁸
2000	Q1	6523489	3194936	48.98	48.12	0.85
	Q2	6608321	3253866	49.24	48.47	0.77
	Q3	6686001	3312923	49.55	48.82	0.73
	Q4	6767555	3379966	49.94	49.18	0.77
2001	Q1	6849265	3422793	49.97	49.53	0.44
	Q2	6932958	3475738	50.13	49.89	0.24
	Q3	7007789	3516560	50.18	50.26	-0.08
	Q4	7083543	3564076	50.31	50.63	-0.32
2002	Q1	7133352	3599424	50.46	51.02	-0.56
	Q2	7193700	3662508	50.91	51.42	-0.51
	Q3	7264221	3708039	51.05	51.84	-0.80
	Q4	7327588	3783776	51.64	52.28	-0.64
2003	Q1	7385457	3820040	51.72	52.73	-1.01
	Q2	7431832	3891705	52.37	53.20	-0.84
	Q3	7483641	3958520	52.90	53.69	-0.80
	Q4	7546464	4034680	53.46	54.20	-0.74
2004	Q1	7619868	4094160	53.73	54.73	-1.00
	Q2	7705529	4207316	54.60	55.27	-0.67
	Q3	7778464	4285637	55.10	55.82	-0.73
	Q4	7857886	4378224	55.72	56.39	-0.67
2005	Q1	7915632	4444133	56.14	56.96	-0.82
	Q2	7994198	4572593	57.20	57.54	-0.34
	Q3	8063457	4662509	57.82	58.12	-0.29
	Q4	8145978	4845235	59.48	58.69	0.79
2006	Q1	8255077	4970138	60.21	59.25	0.95
	Q2	8348227	5099851	61.09	59.81	1.28
	Q3	8451487	5190754	61.42	60.34	1.07
	Q4	8564183	5307843	61.98	60.86	1.11
2007	Q1	8682981	5380997	61.97	61.36	0.61
	Q2	8799963	5488036	62.36	61.84	0.52
	Q3	8918441	5575680	62.52	62.30	0.22
	Q4	9030443	5672406	62.81	62.73	0.08
2008	Q1	9102728	5682210	62.42	63.14	-0.72
	Q2	9182883	5788493	63.04	63.53	-0.50
	Q3	9230205	5847789	63.35	63.90	-0.54
	Q4	9222158	5887069	63.84	64.24	-0.40
2009	Q1	9136081	5859407	64.13	64.55	-0.42
	Q2	9021856	5903636	65.44	64.84	0.59
	Q3	8946781	5924488	66.22	65.10	1.12

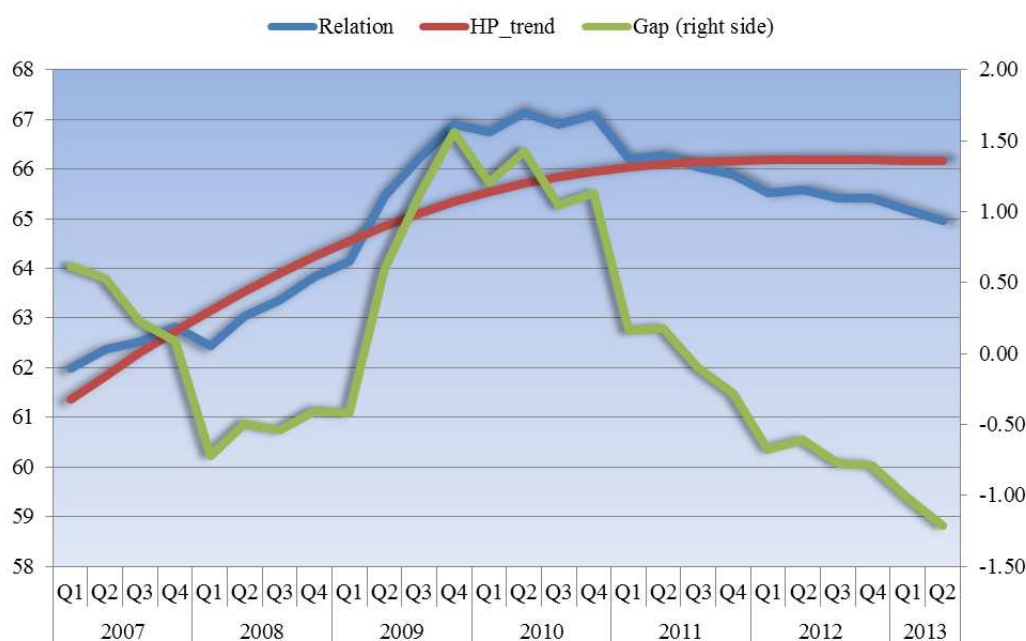
¹⁷ Ratio= Credit/GDP*100%¹⁸ GAP=Ratio – HP_trend

		GDP	Credit	Ratio ¹⁷	HP_trend	GAP ¹⁸
	Q4	8912553	5961457	66.89	65.33	1.55
2010	Q1	8948772	5972074	66.74	65.53	1.20
	Q2	9018402	6053246	67.12	65.70	1.42
	Q3	9085961	6076402	66.88	65.84	1.04
	Q4	9148346	6135753	67.07	65.95	1.12
2011	Q1	9233283	6111441	66.19	66.03	0.16
	Q2	9302564	6164641	66.27	66.09	0.18
	Q3	9364676	6183617	66.03	66.13	-0.10
	Q4	9404611	6195297	65.88	66.16	-0.29
2012	Q1	9435489	6180543	65.50	66.18	-0.67
	Q2	9445046	6193023	65.57	66.18	-0.61
	Q3	9452404	6182628	65.41	66.18	-0.77
	Q4	9458320	6184575	65.39	66.18	-0.79
2013	Q1	9454054	6159624	65.15	66.17	-1.01
	Q2	9480126	6156826	64.94	66.16	-1.22

Source: ECB

Even though EA-17 is a wider market for analysis, consisted of different markets, the principle of the analysis is evident and clear- credit-to-GDP ratio had an upwards trend since the beginning of 2000.

Figure 3. Relation of credit-to-GDP, trend and gap, 2007- 2013:Q2

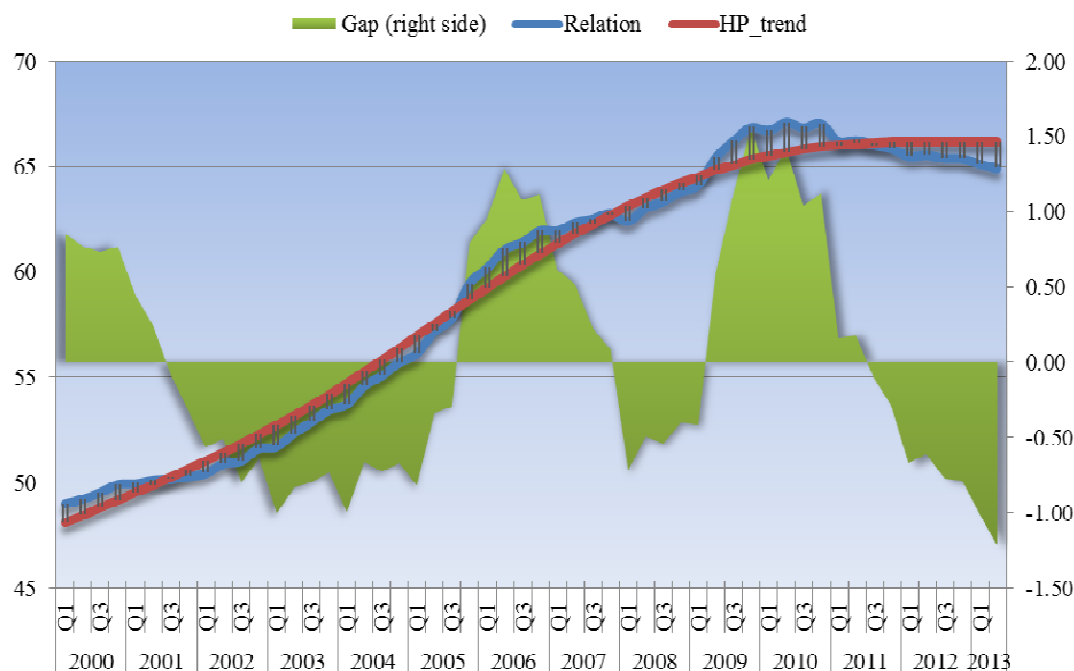


Source: European Central Bank

Results of the analysis stated that the gap was negative in period 2001:3Q until 2005:3Q, again 2008:Q1 until 2009:Q2, and has been negative again since 2011:3Q, until today. Upon each of these negative trends, there would be a large “jump” on the positive side which signified credit expansion.

More specific, during the period 2009 until the third quarter of 2011 gap had a positive trend, but, until today it remained negative throughout the whole period.

Figure 4. Relation of credit-to-GDP, trend and gap, 2000-2013



Source: European Central Bank

CONCLUSIONS

This paper reviews the concept of financial stability with a perspective of SEE countries and 17 countries of Euro Area. The Basel Committee on Banking Supervision suggested the indicator credit-to-GDP gap should be enlisted with other indicators when monitoring the stability of financial sector.¹⁹ This paper used Hodrick-Prescott filter to prove the hypothesis that credit-to-GDP ratio is valid indicator of monitoring the vulnerabilities of financial sector. The advantage of this filter, to all the others is that it gives higher weights to most recent observations and is more prepared to handle structural breaks more effectively.

All things being considered, this paper favors the above mentioned indicator and suggests its calculation on regular basis.

LITERATURE

- 1) Basel Committee on Banking Supervision, 2010. *Guidance for national authorities operating the countercyclical capital buffer*. December, Bank for International.
- 2) Basel Committee, 2010. Countercyclical capital buffer proposal.
- 3) Bilson, J. F. O., 1979. Leading Indicators of Currency Devaluations. *Columbia Journals of World Business* 14(4), pp. 62-76.
- 4) Borio, C. & Drehmann, M., 2009. Assessing the risk of banking crises - revisited. *BIS Quarterly Review*, March, pp. 29-46.

¹⁹ (Basel Committee on Banking Supervision, 2010)

- 5) Calvo, G. A., Leiderman, L. & Reinhart, C. M., 1993. "Capital Inflows and Real Exchange Rate Appreciation in Latin America: The Role of External Factors". *IMF Working Papers*, No. 92/62.
- 6) Cheang, N. & Choy, I., 2011. Aggregate Financial Stability Index for an Early Warning System. *Macao Economic Buletin*, October, pp. 27-51.
- 7) Crockett, A., 2000. *Marrying the Micro- and Macro-Prudential Dimensions of Financial Stability*, s.l.: Bank of International Settlements.
- 8) Demirgüç-Kunt, A. & Detragiache, E., 2005. Cross-country Empirical Studies of Systemic Bank Distress: A survey. *IMF Working Paper No. WP/05/96*.
- 9) Drehmann, M. et al., 2010. Countercyclical capital buffers: exploring options. *BIS Working papers* 317.
- 10) Frankel, J. & Rose, A., 1996. Currency Crashes in Emerging Markets: An Empirical Treatment. *Journal of International Economics*, 41, 3-4, pp. 351-366.
- 11) Galati, G. & Moessler, R., 2010. Macroprudential Policy- A Literature Review. *DNB Working Paper No. 267*, Netherlands Central Bank.
- 12) Hardy, D. & Pazarbasioglu, C., 1998. Leading Indicators of Banking Crisis: Was Asia Different?. *IMF Working Paper No. 98/91*.
- 13) Hodrick, R. & Prescott, E., 1981. Postwar U.S. business cycles: an empirical investigation. *Journal of Money, Credit, and Banking*, Volume 29, pp. 1-16.
- 14) Hutchison, M. & McDill, K., 1999. Are All Banking Crisis Alike? The Japanese Experience in International Comparioson. *Journal of the Japanese and International Economics*, vol. 13, pp. 155-180.
- 15) Kaminsky, G. & Reinhart, C., 1996. The Twin Crises: The Causes of Banking and Balance-of-Payments Problems. *Intenrational Finance Discussion Paper No. 544*, Board of Governors of the Federal Reserve System.
- 16) Kaminsky, G. & Reinhart, G., 1999. The Twin Crisis: The Causes of Banking and Balance of Payments problems. *American Economic Review*, Vol. 89/3, pp. 473-500.
- 17) Kaoudis, G. et al., 2011. Financial market aspects of the crisis in South East Europe. *From Crisis to Recovery Sustainable Growth in South East Europe*, January, pp. 53-72.
- 18) Kohn, D., 2009. *Monetary Policy Research and the Financial Crisis* [Interview] (09 Oktober 2009).
- 19) Krugman, P., 1979. A Model of Balance-of-Payments Crises. *Journal of Money, Credit and Banking* 11(3), pp. 311-325.
- 20) Monetary and Capital Markets Department, IMF, 2010. *Central Banking Lessons from the Crisis*, s.l.: IMF.
- 21) Trichet, J.-C., 2010. *Keynote speech at the 9th Munich Economic Summit* [Interview] (29 April 2010).
- 22) Trichet, J.-C., 2010. *Macro-Prudential Regulation as an Approach to Contain Systemic Risk: Economic Foundations, Diagnostic Tools and Policy Instruments* [Interview] (27 Septembar 2010).

4.

FINANCIAL SECTOR AND PUBLIC DEBT



ADJUSTMENT OF PUBLIC DEBT AS A PREREQUISITE FOR INTEGRATION PROCESS TO EU

Vladimir MIRKOVIĆ¹

Abstract

Public debt problem has a central place in analysis of various economists and researchers, since period of bringing Maastricht agreement, when EU was formed. Countries-members of EU obligated that portion of their public debt in GDP would not exceed defined threshold of 60%. Retrospectively observing events, we could make conclusion that developed European countries (Germany and France) were among topmost, which existing obligation did not fulfill and were not sanctioned for that behavior. Similar, many other countries within EU have significantly high level of public debt share into GDP, meaning that those countries are on the margin of high indebtedness. Beside EU countries, Serbia and other emerging economies, which are candidates for entrance in EU, are also faced with public debt issue. Significant amount of public debt, as well as, differences in methodologies and legislative solutions on local level in comparison with international standards, represent additional burden on the path of reaching long-run desired objective – i.e. integration in European Union.

Key words: public debt, European Union, GDP, methodological differences, macroeconomic stability, Serbia.

1. INTRODUCTION

European Union (hereinafter: EU) is going through one of the largest crisis since its foundation, putting under question mark survival of euro zone (EU-17) and creating a lot of euro-skeptics among economists. Serbia has an extraordinary interest for completing integration processes to EU, noting that is almost impossible to predict the final outcome of mentioned processes taking into account numerous deficiencies in Serbian economy as well as dramatic euro zone crisis on the other side. Starting point for reforms in Serbia was initiated in 2001 and has a result in significant progress in areas of: trade, foreign direct investments, banking industry and financial markets. The whole process of integration was very slow, bearing in mind that Serbia got the status of candidate for EU, very late – in March 2012. Key reasons for slower integration to EU, beside inefficiency in economic and legal reforms, should be assigned to instability in political circumstances in Serbia and Western Balkan in general.

Political instability is the main factor that influence on Western Balkan countries and have a direct consequence on economic slowness comparing to developed countries of middle and Eastern Europe [13]. As EU faces with a crisis among their members with huge dimensions, it is realistic to expect delay in admission of new member for certain period (approximately 6 or 7 years, that is average duration of negotiation process to EU accession). Final epilogue in terms of closing Serbia to EU will have unambiguous impact on country's credit rating and increasing confidence of foreign investors. Certainly, negative effects in euro zone, accompanied with internal weaknesses in Serbian economy are very important threat to prospective development.

¹Vladimir Mirković, MSc in Economics, SBERBANK a.d. Beograd, e-mail: vladamirkovic@orion.rs

GLOBAL CRISIS AND CRISIS IN EURO ZONE

Current crisis in EU partially has its origin in global economic crisis, which escalated in 2007-2008 and represent largest crises since Great Depression considering its duration and consequences. Globalization processes influenced on crisis contagion from the origin country (namely, USA) to other parts of the world. Crisis ceased into a global problem, facing a lot of economies with difficulties. Nevertheless, it is very biased and wrong approach of subscribing guilty for actual situation in EU to global economic crisis at whole. Argumentation for this attitude is impersonated into shortages and inefficiencies of system within EU, especially in the spheres of: building up institutions and monitoring of initiated processes. Also, behavior of EU members and insufficient implementation of generally accepted principles in EU does not go in favor of disciplined and organized system, as it is EU functioning envisaged.

According to Maastricht agreement 1992, there were defined 4 main macroeconomic convergence criteria, which are obligatory for all EU members. Those criteria are:

1. current budget deficit should not exceed 3% of GDP;
2. total public debt should not exceed 60% of GDP;
3. inflation should not overcome the average inflation of 3 countries with the lower inflation, for more than 1,5%
4. long-term interest rates should not overcome for more than 2% interest rates in countries with the lowest inflation. [10]

Defined criteria would not respect by EU members, so one simple insight in available data of Eurostat [4] lead to conclusion that leading European economies, such as: Germany, France and Austria, starting from 2003 did not finish any calendar year with ratio of public debt and GDP below proscribed minimum of 60%. Those countries are often emphasized as successful and more disciplined within EU, even it is obvious that abovementioned criterion of public debt is not fulfilled. Deficiencies of EU functioning are visible from the beginning and additionally are provoked by dividing countries on those that are relatively more successful and those which are unsuccessful. Inadequate and slow decision-making mechanism within EU contributed to financial crisis contagion and spillover effect on other countries, while each intervention was followed by significantly larger costs. Maintain of artificial stability was wrong on short run, while long-term solution needed for euro zone stability. Trying to conduct collective monetary policy within EU with non-existence of sufficient fiscal discipline, as a direct consequence has sovereign debt crisis in EU countries.

Losing confidence in EU institutions, among EU members and potential EU members as well, became a great problem. Namely, Eurobarometer made research and results of research were published in April 2013. Results showed decidedly dissatisfaction of EU citizens, who do not express positive attitudes toward EU institutions. Research is conducted within 6 largest EU countries, in which live 350 million citizens out of total 500 million citizens in EU. In Spain, even 72% of examinees were strictly against EU, while in high percentage their opinion regarding EU institutions expressed citizens from Germany (59%) and France (56%). In Great Britain, the level of reflectivity toward EU increased in previous five years for 20% and in research 69% of all examinees expressed its dissatisfaction with EU institutions. [9]

Clearly EU, as a complex mechanism, does not possess ability to react quickly on newly created difficulties and EU has wrongly assessed effects of conducting short-term solutions under „case-by-case“ principle, instead of focusing on option of permanent consolidation. Euro zone crisis intended some forced solutions which were not subject of envisaging just couple years before, especially in a time of EU foundation. Obviously, principles on which lie euro zone operating: unique market, monetary policy in hand of European Central Bank (ECB), existence of defined rules which limit government deficit and indebtedness, gradual entrance of new members into EU; were not sufficient when euro zone is in crisis of large extent and when it is very difficult to predict EU future operation with influence on European and global world economy. [14]

The first wave of global financial crisis 2007-2008 speeded up process of negative movements in EU and euro zone, while credit rating agencies react consequently by downgrading country ratings of the most problematic economies. The future of euro zone implies solution of the most sensitive issues in monetary and fiscal spheres as a precondition for sustainable growth on long run. The higher level of fiscal discipline represent necessary prerequisite for future prospective of countries in euro zone.

In December 2011, in order to maintain the stability of financial system, ECB injected totally 490 billion EUR for 523 banks with interest rates of 1% and maturity on 3 years. Users of these facilities were mostly the banks from PIIGS (common acronym for: Portugal, Italy, Ireland, Greece and Spain) and those funds were intend for refinancing of debts and strengthening of loan potential in banks within group of PIIGS countries. The importance ECB injections are impersonated in increased level of bank's liquidity, especially in terms of fulfilling requirements from Basel legislatives. Concretely, banks conducted deleveraging, meaning that they sold their assets simultaneously stopping increasing indebtedness on international financial market.

Euro zone crisis could be considered from 2 different points of views: as public debt crisis of euro zone countries, on one side and banking system crisis of mentioned countries, on the other side. Every new crisis related to euro zone countries, has an influence on larger uncertainty in euro zone markets. We could conclude that just subjects (countries) of crisis escalation are different (Spain, Greece, Cyprus for example), while permanent solution for crises are still absent. Escalation of new crisis bring appearance of bank's saving programs, known as bailout programs, for the purpose of further operating in EU on health ground. The absence of clear and long-term solution of crisis caused diminishing of banking system of euro zone countries, while inadequate policy conducted from ECB and other institutions, resulted in higher instability.

ANALYSIS OF PUBLIC DEBT IN SERBIA

Simple insight in main macroeconomic indicators in Serbia refers on conclusion of „easily indebtedness” inherent for Serbian economy in the past. Expenditures were above the earnings and negative difference is attempting to cover with borrowings on international markets under interest rates that exceeded even 7% on annual level. Described approach is unsustainable on the long run, because without economic growth and with continuous growth of debt, in a certain period debt will be higher than GDP and directly endanger government functioning.

Growth of borrowings causes uncertainty and worry on financial markets worldwide and as a result of increased uncertainty interest rates will rise further, simultaneously increasing sovereign debt funding costs. In circumstances when significant economic growth is absent or interest rates are not decreased, government could be forced on restructuring of public finances in order to reach surplus of revenues over expenditures. Decreasing of public consumption leads to savings paradox, impersonated in fact that larger savings in absence of investments in economies with negative growth rate, cause the fall of public consumption. Decline of public consumption influences on: GDP decrease, fall of general economic activity, tax revenues decrease, increase of social expenditures and ultimately higher level of indebtedness measured by portion of public debt in GDP.

Public debt in Serbia showed two expressly different trends, considering period from 2002, as follows:

1. decreasing trend of public debt – from 2002 to 2009; and
2. increasing trend of public debt – from 2009 to nowadays.

Table 1. Portion of public debt in GDP for period 2002 – 2013

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	september 2013
Public debt portion in GDP (%)	72,9	66,9	55,3	52,2	37,7	30,9	29,2	34,8	44,5	48,2	59,3	58,1

Source: Ministry of Finance, Public Debt Administration [6]

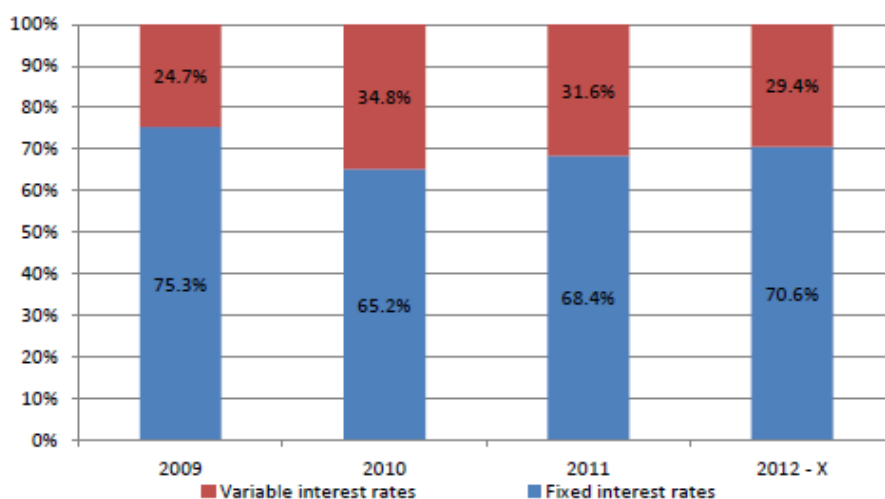
From 2010, public debt amount exceed the amount from 2002 with tendency of further increase, which is expressed from 2011 to nowadays.

Foreign exchange changes have significant impact on public debt movements. For example, in a period 2007-2008, public debt balance expressed in EUR is decreased for 160,4 million EUR due to local currency depreciation in relation to USD for 14,6%, 12,9% in relation to SDRs (special drawing rights), while EUR depreciation in relation to USD was 4,1% and 2,2% in relation to SDRs. In 2011, public debt growth in relation to GDP was lower in comparison with significant increase of public debt in absolute terms, which is mostly result of dinar appreciation.

Analyzing the structure of public debt Republic of Serbia, it is necessary to make distinction between internal debt (mostly in form of old savings bonds – frozen bonds) and external public debt. Debt based on old savings bonds is denominated in EUR, influencing on currency structure of internal debt, as well as on total debt structure.

Observing the trend of decreasing share of public debt in GDP until 2008, it could be concluded that major factors of decrease were following: write-off 66% of debt toward Paris Club of creditors, write-off 62% of debt toward London Club of creditors, pay-off 1,3 billion EUR of old savings bonds and domestic debts based on delays, pay-off debt to foreign creditors, using privatization revenues for budget deficit coverage and low amount of new indebtedness. From 2009, public debt grew in absolute terms as well as percentage in GDP, while the main causers of expressed enlargement are: primary fiscal deficit which is funded by borrowings, as well as, recognized government guarantees. According to projection made by Public Debt Administration, public debt share in GDP in Serbia should drop to 55,4% by 2015.

Figure 1. Interest rate structure of public debt 2009 – October 2012



Source: Ministry of Finance, Public Debt Administration [7]

SERBIA'S INDEBTEDNESS ON INTERNATIONAL MARKET

In September 2013, Serbia sold on international market Eurobonds worth 1 billion USD with maturity for 5 years under interest rate 5,875%, increasing in that way total level of indebtedness through Eurobonds on 2,5 billion USD just in 2013. Previous indebtedness was in February 2013, worth 1,5 billion USD under 4,875% interest rate. Retrospectively observing, at the end of September 2012, Serbia issued 2 billion USD nine-year euro-bonds under the "favorable" interest rate 7,5% yearly as it is represented to public in Serbia. Whole transaction of 1 billion USD with maturity date in 2021 is identified as great success of Serbian government, due to better condition in comparison with borrowings on international market than earlier.

In September 2011, we were witnesses of almost same rhetoric from the side of Serbian government, emphasizing successful sale of Eurobonds as reality, marginalizing the essence of transaction impersonated in budget deficit coverage.

Thesis of achieving favorable conditions for indebtedness based on better reputation of Serbia in international relation has one, but major drawback, which is clearly intentionally put aside. That disadvantage means absolutely marginal intent on social moment in country, because Serbia is faced with largest unemployment rate in region (24,1% as per Survey in the second quarter 2013) and beside that Serbian government is going on further borrowings under "favorable rates" on period of 10 years. The key question regards to increasing indebtedness is the question of morality in government bodies, as well as ethic codes of economic policy creators, in terms of transferring burden of debt repayment on future generations. [11]

In a period between September and October 2012, countries from Central and Eastern Europe increase its indebtedness on international market, achieving much favorable rates than Serbia. Namely, Poland achieved interest rate 3,75%, Czech Republic 3,87%, Romania 4,5%, Bulgaria 4,25%, while Serbia emphasized as great achievement, interest rates in range of 5,25% to 6,5% [1]. Serbia achieved definitely better conditions for borrowings than earlier, but it is still far away from conditions inherent for neighboring countries. Certainly, recovery of Serbian economy is related to investors' confidence into economic and fiscal measures which were set by Serbian government. The fact that Serbia achieved more favorable interest rates in 2012 vs. 2011, is partially result of generally higher liquidity on international financial market due to monetary expansion of FED and ECB.

IMF Mission arrival and potential arrangement with IMF have extraordinary significance for Serbia's prospective. Positive assessment of IMF Mission could reflect in larger confidence in Serbian economy from the point of view of foreign investors. Besides providing significant financial facilities, the most important outcome would be impersonated in higher credibility of the economy and better credit rating. Bearing in mind that external and public debt at current amounts are unsustainable on the long run, it is imperative to take measures for the purpose of discouraging balance of payment crisis. In that sense, it is very important to insure the flow of foreign direct investments in Serbia, but at the same time it is very difficult task due to euro zone crisis without drivers which could point on visible shift in favor of future progress.

Table 2. Country rating for Republic of Serbia

	Standard and Poor's	Fitch Ratings	Moody's Investors Service
Rating	BB- / negative outlook	BB- / negative outlook	B1 / stable outlook
Date	28. 03. 2013.	26. 07. 2013.	14. 07. 2013.
Activity	confirmed rating	confirmed rating	assigned rating

Source: National Bank of Serbia [5]

In the case of pessimistic scenario realization, without foreign direct investments in Serbian economy, consequences for Serbia could be catastrophic in terms of: unemployment, life standard decrease, inability of citizens to repay debts, with spillover effect from real to financial sector, mainly banking industry. In final instance, country's credit rating would be deteriorated, whilst currently stands at BB-, according to credit agencies Standard and Poor's and Fitch, with negative outlook for future.

DIFFERENCES IN SERBIA'S PUBLIC DEBT COVERAGE

Introduction of fiscal rule during 2010, in Republic of Serbia data regarding public debt amount got more importance as the public debt closer to upper limit. Simultaneously, different data regarding public debt were presented clearly indicating that National bank of Serbia and Ministry of Finance implement different methodologies for public debt coverage. Public debt in Serbia is defined separately in two laws: Law on Public Debt and Law on Budget System. Also, those methodologies are different from those that are used by IMF or those used within EU. Discrepancies in methodologies create additional problems upon occasion of insight total public debt of Serbia and create some kind of confusion in the public.

During analysis of ratio public debt/GDP, Ministry of Finance uses non-standard practice in international framework. Namely, public debt is divided by forecasted value of GDP in nominal (not in real) prices, so the denominator of ratio is sharply overvalued, causing lower total ratio of public debt/GDP during the year. Furthermore, at the beginning on each year, the portion of public debt in GDP apparently and rapidly fall and after that significantly rose during the year, causing that monthly statistic data could contain inconsistent data.

For the aim of solution dilemmas regarding definition and coverage of public debt, as well as share of public debt in GDP, the Fiscal Council of Republic of Serbia presented to public in February 2012 the document named as "Proposal for adjustment between methodologies for coverage and measurement of public debt Republic of Serbia"². [3]

According to Law on Public Debt, Republic of Serbia public debt consists of: debt based on contracts and securities, debt on guarantees and taken obligations of debt repayment for given guarantees (activated guarantees). Direct indebtedness represents direct public debt, while issue of guarantees is indirect obligation of government under condition that main debtor would not fulfill its obligation, then debt of main (original) debtor become public debt of government upon activation of guarantees. Direct and indirect obligations of central state are the only elements which are covered by methodology given within Law on Public Debt.

As per Law on Budget System, besides central government there is covered other levels of government (local municipalities) and social insurance funds. In that way, coverage given by Law on Public Debt is expanded and considered the general government debt level. Law on Budget System defined public debt as a sum of direct and indirect debt of general government, not just direct and indirect debt of central government. Also it is defined fiscal rule which consider that if debt of general government exceed limit of 45% of GDP, Government of Republic of Serbia takes corrective actions in order to decrease the debt and provide long-term fiscal stability.

According to international standards of coverage and measurement of public debt, the most used are IMF methodology and EU methodology as per Maastricht agreement. Mentioned methodologies showed large extent of similarities and in the definition of public debt include direct debt of general government (central, local and regional level of the state) increased for indirect debt which contains only activated guarantees. Inactivated guarantees are not the subject of coverage according to

² original name of the document is: „Predlog za usklađivanje metodologije obuhvata i merenja javnog duga Srbije“.

international standards implemented in EU and IMF.

It is visible that significant discrepancies exist between local regulation requirements in public debt coverage and generally accepted international standards. The broader coverage of public debt is inherent for Law on Budget System, while narrower is concept of public debt defined by Law on Public Debt. The narrowest concept is those implemented in EU and IMF, due to involvement only activated guarantees. In comparison with the Law on Public Debt, international standards have broader coverage in terms of including of unguaranteed debt of local municipalities and insurance social funds. Mismatching between local regulation and international standards is a huge problem for public debt coverage, so it is crucial to make adjustments in methodologies and their synchronization.

In order to create assumptions for reconciliation with international standards, it is priority to make adjustments of definitions and coverage of public debt in local frameworks under the unique methodology. So, the first step is a creation of unique definition of public debt, instead of existence of two different definitions: first, according to Law on Budget System and second, as per Law on Public Debt. Forming unique definition will help the public to monitor on transparent way the amount of public debt with data which are more comparable and simultaneously break the confusion regarding institution which create report on public debt and implemented methodology details.

Fiscal Council Republic of Serbia in document "Proposal for adjustment between methodologies for coverage and measurement of public debt Republic of Serbia" as a result of detailed analysis regarding advantages and disadvantages of local regulatory versus international practice concluded that public debt should cover following categories:

1. total direct debt of general government
2. all activated guarantees
3. part of inactivated guarantees for which exist high level of likelihood to be activated
4. part of delays if there is a significant risk to become direct debt of general government
5. government debt for deposits – due to fact that public debt is also gross debt of general government.

According to Fiscal Council opinion, public debt should not include inactivated guarantees for which there is no expressed risk to be activated in prospective.

The second, also very important problem that requires uniform solution is reporting and coverage of public debt portion in relation to GDP. The essential of problem is in defining of GDP that is denominator of the ratio, so overestimation of GDP lead to expressing unrealistic and low level of public debt, while underestimation of GDP showing public debt in GDP percentages much higher than it is in practice. For example, Ministry of Finance for public debt calculation uses estimated value of GDP (i.e. expected value in future period) and at the end of every month or quarter nominal value of debt is divided with the same value of GDP, in other words, that GDP value which is estimated for whole observed year. Possible correction in GDP growth rate will directly reflect on public debt portion in GDP following next algorithm: decrease of GDP grow rate will increase the portion of public debt in GDP and vice versa.

Apart from Ministry of Finance methodology, National Bank of Serbia for denominator takes achieved values of GDP in previous 4 quarters. It means that for calculation of public debt portion in GDP at the end of the first quarter 2014, would be considered achieved level of public debt in relation to reached GDP in the first quarter of 2014, as well as the second, the third and the fourth quarter of 2013. Under the other unchanged conditions, as GDP estimations for whole current year are larger than sum of reached GDP in previous 4 quarters, it is logical that public debt portion in GDP, as per Ministry of Finance methodology, will be lower in comparison with result after implementation of National Bank of Serbia methodology. Additionally, it is obvious that results under the both methodologies will be the same, only at the end of every year.

International framework for determination of public debt portion in GDP as a relevant data took ratio of public debt at the end of year and GDP for current year. Monthly and quarterly data are treated as indicators of public debt dynamic in observed period, while final data would not be retrieved on yearly level. In that sense, Fiscal Council Republic of Serbia suggested, as much more compatible method of monitoring relation between public debt and GDP following:

- for yearly data: GDP value in observed year is relevant
- for quarterly data: GDP value in previous 4 quarters is relevant
- for monthly data: GDP value in previous 12 months.

In the absence of monthly data for GDP, there were suggestions for implementation of methodology inherent for Statistical Office of Great Britain, which considered using of quarterly data which are divided by 3.

CONCLUSION

Global economic crisis 2007-2008, with its extended effects on sovereign debt crisis in euro zone countries, represents one of the most quoted reasons for sluggish economic growth of modern economies. Recession in euro zone, as not so optimistic projections for future period point out that uncertainty is still immanent for most of economies. Global crisis hit in large extent some seemingly strong economies, with dominating portion in international trade flows, but also smaller and weaker economies suffered from global crisis effects. Independently from external factors and their impact, Serbia is faced with numerous internally generated shortages, which are publicly known as a phenomenon of Serbian crisis in almost every sphere. Approximately, there is no neither one segment of Serbian economy and society, which is partially or totally hit by crisis, which devastating the main postulates of our civilization. In terms of derogation of social and ethics values, Serbian economy is in a very annoying position, observing from the point of view inter-connection between crisis in real and financial sector.

Ratio of external debt and GDP exceeds 80%, in other words, exceed the limit of entering into the zone of high indebtedness, which is more than warning signal. External solvency and liquidity are not at satisfactory level, imperatively requiring increase of export of goods and services and improving the balance of payment. From extraordinary importance is also taken measures in area of foreign direct investments attraction, which in final instance should result in higher credibility of Serbian economy and upgrade of country's rating. Reverse (pessimistic) scenario should mean not only downgrade of country's credit rating, which is currently assessed as BB-, already would increase aversion toward Serbia as attractive investment destination.

Consequently, conditions under which Serbia will increase its borrowings on international market would be worsened additionally, so indebtedness under favorable rate would be only „empty dream” for Serbia. Indebtedness on international market is not as favorable for Serbia as it is from some neighboring countries (Bulgaria, Romania), so additional ballast in the form of worsened conditions for borrowings is totally unwelcome. It only meant one step close undesired scenario: final economic and financial collapse.

Besides external debt, Serbia is confronted with the challenge of deriving public debt into regulatory limits, proscribed by Law on Budget System. Methodological differences in public debt coverage impersonated in various regulatory requirements in Law on Public Debt and Law on Budget System, are additional burden in already non-consolidated situation. Bearing in mind that coverage of public debt in large extent derogates from accepted international standards implemented by IMF and EU, then is clear that a lot of challenges in sphere of monitoring, coverage and measurement for public debt diminishing, are in front of Serbia. Decreasing of public debt portion in GDP is needed as from the aspect of defined fiscal rule within Law on Budget System framework (limit is 45% of GDP), as

from the aspect of international standards defined by Maastricht criterion (limit for ratio public debt/GDP is set at 60%).

Latest data that indicates ratio of public debt and GDP at the level of 58,1% (as of September 2013), mean that Serbia does not fulfill neither one of abovementioned and defined criteria, but comparing with other European countries (as Greece, Ireland, Italy, for example) Serbia is in the group of countries with lower indebtedness. Large portion of inherent risk comes from foreign exchange sign of public debt, i.e. public revenues are reached in local currency (dinars), while debt repayment has foreign currency clause. Also, economic activity is slower and GDP growth rate in 2012 was negative (1,7% vs. GDP in 2011) the first time after 2009. Those situations put Serbia in unenviable position regarding future development.

Fiscal consolidation is necessity as well as expressed political will for creation of credible fiscal policy, which should result in higher efficiency level in public finance management. Fiscal consolidation bears some very painful moves as freezing salaries and pensions and their real devaluation. In other words, fiscal consolidation means maintaining of current credit rating followed by attempts for economic recovery through attraction of foreign direct investments.

Arrival of IMF Mission at the beginning of December 2013 in order to review and discuss the package of newly accepted fiscal consolidation measures is very important for Republic of Serbia. According to Serbian government officials, Serbia is not in the phase of negotiation with IMF regarding new arrangement, but it is desirable to have a precautionary agreement with IMF, which would not envisage any borrowing. An adjustment in each part of economy that is currently hit by crisis is desired assumption for future integration to EU.

Finally, the largest ballast of conducted fiscal consolidation would bear Serbian citizens, least government bodies and entities that are mostly responsible for difficult situation. From the author's point of view, such scenario is completely opposite with all moral principles, which are the "mirror" of accepted value system in each civilized country.

LITERATURE

- 1) Arsić, M. (2013), „Fiskalna politika i oporavak privrede Srbije“, zbornik radova „Izazov za ekonomsku politiku Srbije u 2013. godini“, Naučno Društvo ekonomista Srbije sa Akademijom ekonomskih nauka i Ekonomski fakultet u Beogradu, Beograd, decembar 2012.
- 2) Đukić, P. (2011). „Agonija i šanse za oporavak realnog sektora: Ekonomska politika Srbije u drugom talasu krize“, zbornik radova „Privreda Srbije u drugom talasu krize – izgleđi za 2012“, Naučno Društvo ekonomista Srbije sa Akademijom ekonomskih nauka i Ekonomski fakultet u Beogradu, Beograd, 2011.
- 3) Fiskalni Savet Republike Srbije (2012), „Predlog za usklađivanje metodologije obuhvata i merenja javnog duga Srbije“, Beograd, februar 2012.
- 4) <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/>
- 5) <http://www.nbs.rs>
- 6) <http://www.javnidug.gov.rs/upload/Bilteni/Bilten%20CIR/2013/Mesecni%20izvestaj%20Uprave%20za%20javni%20dug%20-%20Septembar%20cir.pdf>
- 7) [http://www.javnidug.gov.rs/upload/Strategija/Strategy/Public_debt-eng\[1\].pdf](http://www.javnidug.gov.rs/upload/Strategija/Strategy/Public_debt-eng[1].pdf)
- 8) IMF (2012), World Economic Outlook – October 2012, „Coping with high debt and sluggish growth“, Washington D.C., 2012.
- 9) Lazarević, M. <http://www.balkanmagazin.net/novosti-i-politika/cid128-63548/evroskepticizam-na-istorijskom-vrhuncu>
- 10) Mirković, V., & Knežević, M. (2013), „Dug Republike Srbije kao prepreka ekonomskom rastu u 2013. godini“, zbornik radova „Institucionalne promene kao determinanta privrednog razvoja Srbije u 2013. godini“, Ekonomski fakultet u Kragujevcu.

- 11) Mirković, V. (2012), „Bankarski sektor Srbije: ostvarene performanse i izazovi u budućnosti“, Ekonomski vidici, tematski broj 4, decembar 2012.
- 12) Narodna banka Srbije (2012), „Analiza duga Republike Srbije“, septembar 2012.
- 13) Uvalić, M. (2012), „Integracija Srbije sa Evropskom Unijom“, zbornik radova “Evropska Unija i Srbija - Od tranzicije do pridruživanja“, Ekonomski fakultet u Beogradu.
- 14) Vujačić, I. (2012), „Evropska Unija - transformacija ili raspad“, zbornik radova “Evropska Unija i Srbija - Od tranzicije do pridruživanja“, Ekonomski fakultet u Beogradu.

ANALYSIS OF THE BEHAVIOR OF FOREIGN-OWNED BANKS IN SERBIA DURING GREAT DEPRESSION AND GREAT RECESSION¹

Dragana GNJATOVIĆ²
Vesna ALEKSIĆ³
Ana JOVANCAI⁴

Abstract

In this paper we analyse the actions of foreign-owned banks on Serbian financial market during two largest financial crises in modern era, in 1931-1935 and 2008-2010. In crisis moments, during the first half of the 20th Century, due to major disruptions in international financial markets, foreign-owned banks quickly withdrew their capital. On the contrary, during global financial crisis, at the end of the first decade of the 21st Century, they continued to operate in Serbia, in undiminished volume, thanks to the implementation of the Vienna Initiative. The establishment of this unique public-private forum for overcoming the consequences of the global financial crisis in the South-Eastern and Central Europe was initiated by the European Bank for Reconstruction and Development. Thanks to creating new mechanisms for crisis management, macroeconomic and financial stability has been maintained in Serbia, and that is a striking contrast to the situation of more than 70 years ago.

Key words: global financial crisis, Vienna Initiative, banking sector, Serbia

MONOPOLIY POSITION OF FOREIGN-OWNED BANKS ON SERBIAN FINANCIAL MARKET

In the interwar period, banking sector of The Kingdom of Serbs, Croats and Slovenes (SCS) consisted of four state, privileged banks as well as of numerous private shareholding banks and credit cooperatives.

Private shareholding banking in Serbia in the interwar period was characterized by a visible contrast. On one hand, domestic capital was very fragmented, situated in relatively large number of small shareholding banks; on the other hand, strong concentration of foreign capital was present in extremely small number of foreign-owned banks.

Comparing to other regions of The Kingdom of SCS, Serbia was on the last place regarding the level of capital concentration in domestically- owned shareholding banks, and on the first place regarding their number. The fact that domestically-owned shareholding banks in Serbia had on average almost three times less capital than such banks in Croatia and almost six times less capital than such banks in Slovenia speaks for itself about their modest strength.⁵

¹ This paper is part of the research projects „Advancing public policy in Serbia as a function of improving citizen's social safety and attaining sustainable economic growth” (no. 47004) and “Challenges and Prospects of structural changes in Serbia: Strategic direction for Economic Development and Harmonization with EU Requirements” (no. 179015), financed by The Ministry for Education, Science and Technological Development of The Republic of Serbia

² Dragana Gnjatović, Full Professor, Faculty of Hotel Management and Tourism, University of Kragujevac

³ Vesna Aleksić, PhD, Associate Professor, Institute of Economic Sciences, Belgrade

⁴ Ana Jovancai, PhD, Assistant Professor, Faculty of International Economics, Megatrend University, Belgrade

⁵ I. Kovačević: *Banking in Serbia 1921-2011*, Association of Serbian Banks, Belgrade, 2011, p. 31

Until the agrarian crisis, number of domestically-owned shareholding banks in Serbia was growing constantly. Just before The World War I, 208 shareholding banks operated on the territory of Serbia while in 1926, there were 302 of them.⁶ Such trend was a consequence of fast growing number of small family banks in rural areas. *The Law on shareholding companies* inherited from The Kingdom of Serbia allowed each shareholder to hold 10 percent of shares at the most, so it was common practice that all shares of a bank were held by one or two families. The clients of small shareholding banks were mostly farmers who were creditworthy only during postwar economic boom.

At the outbreak of Great Depression, foreign financial capital was concentrated in just 14 domicile shareholding banks and 4 foreign bank affiliates. Those 18 foreign-owned banks held 50 percent of overall shareholding banking capital in Serbia.⁷ Thus, in Serbia, a half of private banking capital was concentrated in only few, relatively strong foreign-owned banks and the other half was fragmented in large number of small, relatively weak domestically-owned banks. Moreover, in other regions of The Kingdom of SCS, foreign-owned banks had even larger share of the ownership of banking capital. Such banking network structure implicates the conclusion that in the interwar period, banks in direct or indirect ownership of foreigners had monopolistic position on the financial market in Serbia, just as in The Kingdom of SCS.

The pillars of the concentration of banking capital on Serbian financial market in the interwar period were three banks in Belgrade: Belgrade Commercial Bank (Beogradska trgovačka banka), Bosnian Industrial and Commercial Bank (Bosanska indutrijalna i trgovačka banka) and Adriatic-Danube Bank (Jadransko-podunavska banka). They were under direct control of foreign capital that participated with more than 75 percent in their shareholding capital. Foreign shareholders were mostly foreign banks, to a lesser extent foreign shareholding companies and very rarely physical persons who represented in fact foreign companies. Among foreign-owned banks in Serbia in the interwar period, the most prominent were Banque Franco-Serbe and Wiener Bank Verein, later to become General Yugoslav Banking Company (Opšte jugoslovensko bankarsko društvo). Foreign capital placed in Serbian banks in this period was mostly of French, Czech, Austrian or German, and Belgian origin.

In the interwar period, foreign-owned banks were main financiers of industry and instigators of coalescence of industrial and banking capital in Serbia. Most frequently applied forms of such coalescence were: bank participation in founding shareholding capital of a new company, transformation of sole proprietorship company in shareholding company or capital enlargement of the existing shareholding company. In Serbia, the best example of coalescence of industrial and banking capital was Adriatic-Danube Bank from Belgrade that held shares in 18 industrial companies.⁸

In 1928, French and Czech capital were the most prevalent in foreign-owned banks in The Kingdom of SCS. Almost 90 percent of French capital was engaged in Serbia and only 10 percent in other regions of The Kingdom of SCS. French capital was engaged mostly through Banque Franco-Serbe. Capital of French origin could rarely be found in other shareholding banks in combination with capital originating from other West European countries. However, that could not be said for Czech capital that appeared frequently in combination with Austrian, British or Belgian capital in Yugoslav banks. Almost 65 percent of Czech capital invested in shareholding banks was engaged in Serbia.⁹

Today, in Serbia, there are no small domestically-owned shareholding banks. At the same time, monopolistic position of foreign shareholding capital in banking sector is even more pronounced than

⁶ Op. cit., p. 36

⁷ Op. cit., p. 38

⁸ Op. cit., p. 51

⁹ V. Aleksić, "Foreign Financial Capital as the Catalyst of Serbian Economic Development before the Second World War": B. Hinić, ed., *Economic and Financial Stability in SE Europe in a Historical and Comparative Perspective*, Fourth Annual Conference of Southeastern Europe Monetary History Network (SEEMHN), National Bank of Serbia,, 2009, pp. 315-335

in the interwar period. There are 33 banks operating on the territory of The Republic of Serbia today. As of June 30, 2011, their overall balance sheet assets were 2,476 billion Dinars while their overall shareholding capital was 520 billion Dinars. Among banks in Serbia, 21 are completely owned by foreign private persons and 12 are owned by domestic persons, among which 8 banks are in the majority or the minority ownership of the State while four banks are owned only by private persons. In banking sector of Serbia, foreign-owned banks participate with 76 percent in overall banking profit, with 73 percent in overall balance sheet assets and with 71 percent in overall shareholding banking capital¹⁰.

Table 1. Ownership structure, country of origin and share in overall balance sheet assets in banks in Serbia (June 30th, 2011)

	Percentage share in overall balance sheet assets	Range of the share in overall balance sheet assets
Domestically-owned banks in the majority or the minority ownership of the State	18,6	
<i>Agrobanka</i>	3,2	11
<i>Čačanska banka</i>	1,2	23
<i>Jugobanka K.Mitrovica</i>	0,3	30
<i>Komercijalna banka</i>	10,4	2
<i>Dunav banka a.d. Zvečan</i>	0,1	32
<i>Poštanska štedionica</i>	1,3	21
<i>Razvojna banka Vojvodine</i>	1,5	18
<i>Srpska banka Bgd.</i>	0,6	27
Domestically-owned banks in private property	8,5	
<i>Aik banka Niš</i>	5,6	7
<i>Jubmes banka</i>	0,4	29
<i>Privredna banka Beograd</i>	1,1	24
<i>Univerzal banka</i>	1,4	20
Foreign-owned banks		
Italy	21,1	
<i>Banca Intesa</i>	14,4	1
<i>UNICREDIT BANK</i>	6,7	4
Austria	18,0	
<i>Erste Bank Novi Sad</i>	2,6	13
<i>Hypo Alpe-Adria-bank</i>	5,6	8
<i>Raiffeisen banka</i>	6,8	3
<i>VolksBank</i>	3,0	12
Greece	16,1	
<i>ALPHA BANK</i>	3,8	9
<i>Piraeus bank</i>	2,1	15
<i>Vojvodjanska banka (National Bank of Greece grupa)</i>	3,6	10
<i>Eurobank EFG</i>	6,6	5
	Percentage share in overall balance sheet assets	Range of the share in overall balance sheet assets
France	9,0	
<i>Credit Agricole banka Srbija</i>	2,1	16
<i>FINDOMESTIC BANKA</i>	0,7	26

¹⁰ Association of Serbian Banks: *Serbian Banking in 2011, 2012*

	Percentage share in overall balance sheet assets	Range of the share in overall balance sheet assets
<i>Societe Gen.Bank Srbija</i>	6,2	6
<u>Belgium</u>	1,2	
<i>KBC banka</i>	1,2	22
<u>Cyprus</u>	1,0	
<i>Marfin bank</i>	1.0	25
<u>Hungary</u>	1,5	
<i>OTP BANKA SRBIJA</i>	1,5	19
<u>Germany</u>	2,4	
<i>ProCredit Bank</i>	2,4	14
<u>Russin Federacion</u>	0,1	
<i>Moskovska banka a.d.-Beograd</i>	0,1	33
<u>USA</u>	0,2	
<i>Opportunity banka</i>	0,2	31
<u>Slovenia</u>	2,3	
<i>Credy banka</i>	0,5	28
<i>NLB banka</i>	1,8	17

Source: Association of Serbian Banks: *Serbian Banking in 2011, 2012*

Foreign-owned banks in Serbia are affiliates of international banking groups, whose head offices are in 11 states. Shareholding banks in the majority ownership of shareholders from four EU countries: Italy, Austria, Greece and France hold monopolistic position on the financial market in Serbia. In overall balance sheet assets, banks from Italy (Banaka Intesa and UNICREDIT BANK) participate with 21.1 percent, from Austria (Erste Bank Novi Sad, Hypo Alpe Adria-bank, Raiffeisen banka i VolksBank) with 18.0 percent, from Greece (ALPHA BANK, Piraeus bank, Vojvodanka banka NBG i Eurobank EFG) with 16.1 percent and from France (Credi Agricole banka Srbija, FINDOMESTIC BANKA, Societe Generale Banka Srbija) with 9.0 percent (Table 1). In total, affiliates of foreign banking groups from four mentioned countries participate with 64.2 percent, and affiliates of foreign banks from all other seven countries participate with 5.8 percent only in overall balance sheet assets of banks in Serbia.

BEHAVIOR OF FOREIGN-OWNED BANKS IN SERBIA DURING GREAT DEPRESSION

Differences in behavior of foreign-owned banks in Serbia during Greta Depression and global financial crisis could be explained with help of logic of the competition between oligopolies. In both cases, foreign-owned banks were questioning strategic decision; should they stay on Serbian financial market or withdraw their capital. Benefits for foreign-owned banks, competing on Serbian financial market, were and still are, of course, to maximize monopoly profit and, in the crisis situation they found themselves, to minimize monopoly profit losses.

Theoretically speaking, in the crisis conditions, foreign-owned banks could act in cooperative or non-cooperative way. Cooperative act would assume the banks reached binding agreement that could enable them to implement certain common strategy on the financial market. Cooperative solution would bring less damage to each party than non-cooperative one. However, at times of Great Depression, cooperative solution was not possible. Foreign banks were left to their own selves; there were no intermediaries who would assist their mutual agreements. National Bank of The Kingdom of Yugoslavia did not have financial strength to prevent capital outflow and multinational financial institutions that would initiate promptly the consolidation of banking sector did not exist at that time.

The crisis of Yugoslav and by the same token Serbian banking started in fall of 1931 and it was in tight connection with credit crisis that had already hit Germany and Austria, and sometime later Hungary, too. Due to close business ties that domicile foreign-owned banks had with banks from those countries, credit contraction on financial markets of these countries started to be felt in Serbia and whole Yugoslavia. Already in 1930, foreign capital outflow was recorded and it continued during 1931. The chain reaction that followed led the largest shareholding banks in Serbia and Yugoslavia to serious difficulties. Those difficulties were the consequence of the connectedness of financial, industrial and commercial capital, and they were felt in similar way in whole Europe in 1931-1935 period.¹¹

The withdrawal of foreign capital from Yugoslavia inevitably led to anxiety of domestic investors. At those times, they believed deeply foreign capitalists, who they saw as good businessmen, well acquainted with financial situation. Foreign capitalists were suggesting them not to trust the banking system. At the same time, credit policy of National Bank of The Kingdom of Yugoslavia contributed to increased distrust. Namely, the withdrawal of foreign capital provoked credit restrictions on domestic financial market. In an effort to preserve monetary stability, National Bank started to implement restrictive monetary policy measures, increasing discount rate from 5.5 percent to 7.5 percent. Moreover, the suspension of German reparation payments, just at time of the legal stabilization of Dinar in 1931, prevented the assistance of National Bank to commercial banks.¹²

Soon, commercial banks were faced with rush from their investors. In this way, the acute psychological banking crisis could not be neutralized and it turned to chronic, structural one that affected gradually almost all private banks in Yugoslavia. Soon, banking sector experienced such large disorder that National Bank could not avoid any longer placing emergency loans to commercial banks. However, the sum of those loans was not large enough to enable the banks to overcome acute phase of the crisis. Thus, the State announced banking moratorium, which aggravated the situation in commercial banks even more.¹³ So, Central Bank did not provide indirect liquidity for commercial banks. On the contrary, National Bank worsened already difficult situation in banking sector by its decision dating from August 8, 1931, that aimed to lift large margin of approved but not used credits. When it became clear that there were no chances for banks to establish liquidity by themselves and to continue with normal operations, Yugoslav Government took measures for reconstruction of credit organization in the country. For that purpose, on November 22, 1933, *Regulation on the protection of financial institutions and their clients* was enacted and, afterwards, regulations dealing with protection of credit cooperatives, cutting expenses of banks under protection and maximizing interest rates. Also, according to *Regulation on the protection of banking institutions* that was changed on November 23, 1934, three different protective regimes were foreseen: payments deferral, bank rehabilitation and non bankruptcy liquidation. Despite all those legal interventions of the State, banking crisis in The Kingdom of Yugoslavia had lasted during entire interwar period. In Serbia, since the emergence of agrarian crisis in 1926 until 1938, 46 shareholding banks were shut down.¹⁴ Among those in operation, many of them were in silent liquidation.

¹¹ V. Aleksić, op. cit.

¹² D. Gnjatović: „Foreign Exchange Policy in The Kingdom of Yugoslavia during and after the Great Depression“, P. Mooslechner, ed., *the experience of Exchange Rate Regimes in Southeastern Europe in a Historical and Comparative Perspective*, Second Annual Conference of Southeastern Europe Monetary History Network (SEEMHN), OeNB, Vienna, 2006, pp. 330-348

¹³ Ž. Lazarević: „Regulations of Banking Sector in Yugoslavia“, D. Gnjatović, Ž. Lazarević: *Contributions to Financial History of 20th Century Southeast Europe – Perspectives from Slovenia and Serbia* -, Beograd, 2011, pp. 21-50 (in Serbian)

¹⁴ Op. Cit

BEHAVIOR OF FOREIGN-OWNED BANKS DURING GLOBAL FINANCIAL CRISIS

There is major difference in the behavior of foreign-owned banks in Serbia in two observed cases: during Great Depression, those banks had pursued non cooperative solution and during global financial crisis they had chosen cooperative solution. In this second case, international financial organizations stood after the interests of foreign-owned banks and determined 'the rules of the game' which were obligatory even for monetary and fiscal policy decision makers in Serbia.

The situation in which banking sector was in the eve of global financial crisis in fall 2007 and during the first half of 2008, resembled very much Great Depression. With the outbreak of global financial crisis each foreign-owned bank in oligopoly position on Serbian financial market wondered if any competitor would withdraw capital in fear of monopoly profit loss. There was no answer to this question because no one knew how deep financial crisis would be and how long it would last. Though, it was clear that foreign-owned banks were preparing to start risky non-cooperative game, like that from Great Depression.

When this concrete situation is considered, no foreign-owned bank thought it would be possible to provide against threatening profit losses if interbank agreement on the terms of staying in Serbian financial market had been signed.¹⁵ On the other hand, if only one foreign-owned bank left Serbian financial market, all other foreign-owned banks would be exposed to the risk. Namely, foreign exchange deposits and savings could be withdrawn from those banks, and diminished capital supply and the resulting rise in interest rates would initiate smaller demand for bank loans. Thus, any separate move of any foreign-owned bank to leave Serbian financial market would initiate non-cooperative game with an uncertain outcome, in which all foreign-owned banks would have to participate. It was clear that if they decided to stay in Serbia, they would have to give up at least a share of their monopoly profit. Thus, non-cooperative game between foreign-owned banks on Serbian financial market would lead to their withdrawal of optimal strategy.

Foreign-owned banks in monopoly position on Serbian financial market are the affiliates of international banking groups that are all very present in whole region of South-East and Central Europe. Financial integration into the South-East and Central Europe is characterized today by the presence of a relatively small number of affiliates of banks from the Member States of the European Union. These banks have a dominant share of the financial market in the region. At the same time, these banks are an important foundation of financial sector of countries of origin.¹⁶

Global financial crisis reached the region of the South-East and Central Europe in the third quarter of 2008.¹⁷ Then, macro financial risks threatened to provoke non-cooperative games on regional financial market, similar to those played during Great Depression. Namely, individual moves of any international banking groups to relocate operations from Serbia would provoke a chain reaction of all other banking groups. In this case, however, not only the interests of foreign private investors and their countries of origin would be damaged but also the interests of international financial organizations that finance regional development. This primarily refers to European Bank for Reconstruction and Development – EBRD. This international developmental financial institution has placed a predominant portion of its loans in the South-East and Central European countries particularly through affiliations of 10 international banking groups (Raiffeisen International, Intesa Sanpaolo, Hypo Alpe-Adria, Eurobank EFG, National Bank of Greece, Unicredit, Société Générale, Alpha Bank, Volksbank

¹⁵ C. Andersen: *Agreement with Banks Limits Crisis in Emerging Europe*, IMF Survey online, October 28, 2009

¹⁶ C. Friedrich, I. Schnabel and J. Zettelmeyer: *Financial integration and growth - Is emerging Europe different?*, IFRD Working Paper, no. 23, 2010.

¹⁷ J. Schreiner and C. Zauchinger: *Developments in Selected Central, Eastern and Southeastern European Countries, Focus on European Economic Integration*, Q2/09, OeNB, 2009, pp. 6-54

International and Piraeus Bank), with head quarters in four EU countries (Austria, France, Greece and Italy). Therefore, it became a matter of urgency to initiate collective action at international level that would prevent non-cooperative solution.

The key role of the affiliates of international banking groups from the EU countries in the South-East and Central Europe asked for the participation of interested parties both from public and private sectors in the initiating of crisis management. In normal circumstances, the authorities of the countries in which the head quarters of private banks are situated and the private banks themselves do not participate in collective operations of overcoming debt and balance of payments crises.¹⁸ But the lack of suitable coordination mechanism threatened to create serious problems in financial crisis management and in maintaining financial stability in the Region, so the circle of participants in collective decision making had to be enlarged. In order to make foreign private banks and the countries where these banks have their seats agree to participate in creating the coordination mechanism for financial crisis overcoming in the region of the Southeast and Central Europe broad action on international level had to be initiated. The key interested party was the EBRD. At the end of 2008, together with Austrian Ministry of Finance and International Monetary Fund, the EBRD initiated the foundation of an international coordination mechanism. In January 2009, in Vienna, the initial meeting of the representatives of international financial organizations and European Union took place where the platform for financial crisis management in the South-East and Central European countrie has been established. This platform is known as VI/EBCI, (Vienna Initiative/European Bank Coordination Initiative). On the grounds of this platform, a number of cooperative games have been initiated between foreign banks that continued to be present in the region.

On the grounds of Vienna Initiative, an informal group has been made of the representatives of public and private sector. In those South-East and Central European countries that would voluntarily agree, this informal group took the obligation to conduct an action for financial crisis overcoming. This informal group consists of: international financial organizations (European Bank for Reconstruction and Development, International Monetary Fund, International Bank for Reconstruction and Development, and European Investment Bank); European institutions (European Commission and European Central Bank); Central Banks from the countries in which international banking groups have their seats; Central Banks and regulatory fiscal and monetary authorities from the countries in which affiliates of international banking groups are situated; and the largest West European Banking Groups that operate in the region.

During the first half of 2009, within the Vienna Initiative, individual meetings were held with the representatives of certain countries from the South-East and Central Europe. The outcomes of those meetings were binding individual agreements with Serbia, Hungary, Latvia, Romania and Bosnia and Herzegovina. Foreign-owned banks obliged themselves to continue to operate in those countries without contraction in their activities. They agreed on rescheduling debts and on short-term debt conversion of their clients, showing that they accept to earn lower monopoly profit. International financial organizations obliged themselves to provide a package of financial support for liquidity of the foreign-owned bank affiliates worth 27.1 billion Euros until the end of 2010, where International Bank for Reconstruction and Development participated with 6.8 billion Euros, European Investment Bank with 13.1 billion Euros, and the World Bank institutions with 7.2 billion Euros. Central Banks of mentioned countries have agreed to liberate foreign-owned banks from mandatory foreign exchange

¹⁸ Existing coordination mechanisms in the EU were not able to fulfill the task. Economic and Financial Council – EFC, for example, included the governments of the member states and central banks but not the supervisory and regulatory bodies of the European Union, individual Member states and international banking groups. Also, the Memorandum of understanding signed in June 2008 by the ministers of finance, supervisory authorities and central banks of the EU countries concerned was inadequate because its mandate and procedures have been established for use in banks un crisis as individual cases and not in broader regional framework. W. Nitsche: **The Vienna Initiative/European Bank Coordination Initiative: Assessment and Outlook**, *Federal Ministry of Finance of Austria, Working Paper 4/2010*, p. 6

reserves, provide them with easier access to credits for liquidity and allow their additional capitalization from subordinated liabilities. The governments of these countries committed themselves to implement programs of economic stabilization within the arrangements signed with the IMF.

VIENNA INITIATIVE AND SERBIA

After the coordination meeting of the forum of Vienna Initiative dedicated to Serbia that took place in Vienna on March 27th, 2009, National Bank of Serbia prepared special support measures for macro financial stability within the arrangement with the IMF. Those measures were aimed for assuring continued access to sources of liquidity, both in Dinars and in foreign exchange, stabilization of foreign exchange market, preventive action in the direction of preserving the quality of bank assets, providing the framework for modifying conditions for debt repayments for bank clients, reduction of the outflow of foreign exchange and reduction of depreciation pressures.¹⁹

In order to fulfill obligations assumed on coordination meeting of Vienna Initiative, National Bank of Serbia adopted three decisions: *Decision on special support measures to country's financial stability*²⁰, *Decision on the conditions and manner of granting short/term loans to banks for liquidity against collateral securities*²¹ and *Decision on Terms and Conditions of swap purchases and sales of foreign currency between National Bank of Serbia and Banks*,²² Special support measures were meant for those international banking groups which kept the level of exposure in Serbia reached in December 2008. Those banking groups agreed also, first, to enable their debtors to reschedule credits in foreign currency and credits indexed with foreign exchange clause and, second, to change the debt repayment conditions in accordance with the defined framework. To those international banking groups that fulfilled the above mentioned conditions, National Bank of Serbia offered, first, new sources of liquidity, i.e. credits in Dinars with one year amortization period: second, short/term foreign exchange swaps and exemption from obligation to calculate reserve requirements on deposits and loans received from abroad by October 2008 to December 2010, until their repayment. Besides, banks were allowed, for regulatory purposes, to include subordinated debt in their capital, up to 75 percent and to increase their foreign exchange risk to capital ratio from 10 percent to 20 percent.²³

Thanks to the realization of Vienna Initiative, banks in Serbia have successfully overcome the first wave of the global financial crisis that started in fall 2008. This could be seen from the following data: on December 31st, 2009, total balance sheet assets were 2,160.4 billion Dinars and was higher by 21.6 percent compared to 2008; there was an increase in total bank loans which amounted to 1.278,3 billion Dinars and was higher by 24.4 percent compared to 2008. True, the banks had to reconcile with the halved profits. Namely, at the end of 2009, banking sector profit before the taxation was 20 billion Dinars, while at the end of 2008 it was 44.1 billion dinars.²⁴ However, already during 2010, the banks enlarged their profit. Their positive net financial result was 22.6 billion Dinars and it was 28.8 percent higher comparing to 2009. Such result has been accomplished thanks to the growth of balance sheet assets and bank capital, increase in savings deposits and their participation in trading of securities as well as an increase in the volume of lending. According to data from financial statements for 2010, the banks have reported total revenues of 457.3 billion Dinars and expenses of 431.9 billion Dinars which were, compared to the previous year, increased by 17.0 percent and 16.4 percent respectively.²⁵

¹⁹ National Bank of Serbia: *Vienna Initiative*, Belgrade, 2009

²⁰ *Official Gazette of The Republic of Serbia*, no. 34/2009, 36/2009, 51/2009, 83/2009, 95/2009, 104/2009, 12/2010.

²¹ *Official Gazette of The Republic of Serbia*, no. 95/2010, 3/2011, 18/2011.

²² *Official Gazette of The Republic of Serbia*, no. 34/2009.

²³ National Bank of Serbia: *Vienna Initiative*, Belgrade, 2009

²⁴ Association of Serbian Banks: *Serbian Banking in 2011, 2012*

²⁵ Op. Cit.

CONCLUSION

The realization of Vienna Initiative had favorable effects in all South Eastern and central European countries that took part in it voluntarily. Besides Serbia, Vienna Initiative had been approached by Hungary, Latvia, Romania and Bosnia and Herzegovina. The above mentioned international banking groups have predominant share in the financial markets of all those countries. During the first wave of global financial crisis, the stability of banking sector had been preserved, primarily for the fact that foreign-owned banks did not withdraw their capital from those countries. Truly, foreign-owned banks have agreed to lower profits but they received in return a number of benefits from Central Banks in those countries and from international financial organizations.

Experts of the International Bank for Reconstruction and Development found that the key to the success of the Vienna Initiative is the fact that relatively small number of international banking groups from only four EU countries has a monopoly on financial market of the region of South-Eastern and Central Europe. Although this is true statement, it does not diminish the importance of the assistance that these international banking groups received from international financial organizations and governments of countries in which they operate. This is even more so when we look at the bitter experience of unprotected banking sector during Great Depression.

LITERATURE

- 1) Andersen, C.: Agreement with Banks Limits Crisis in Emerging Europe, IMF Survey online, October 28, 2009
- 2) Aleksić, V.: "Foreign Financial Capital as the Catalyst of Serbian Economic Development before the Second World War", B. Hinić, ed.: Economic and Financial Stability in SE Europe in a Historical and Comparative Perspective, Fourth Annual Conference of Southeastern Europe Monetary History Network (SEEMHN), National Bank of Serbia, 2009, pp. 315-335
- 3) Association of Serbian Banks: Serbian Banking in 2011, 2012
- 4) Friedrich, C, Schnabel, I. and Zettelmeyer, J.: Financial integration and growth - Is emerging Europe different? IBRD Working Paper, no. 23, 2010
- 5) Gnjatović, D.: „Foreign Exchange Policy in The Kingdom of Yugoslavia during and after the Great Depression“, P. Mooslechner, ed., The experience of Exchange Rate Regimes in Southeastern Europe in a Historical and Comparative Perspective, Second Annual Conference of Southeastern Europe Monetary History Network (SEEMHN), OeNB, Vienna, 2006, pp. 330-348
- 6) Kovačević, I.: Banking in Serbia 1921-2011, Association of Serbian Banks, Belgrade, 2011
- 7) Lazarević, Ž.: „Regulations of Banking Sector in Yugoslavia“, D. Gnjatović, Ž. Lazarević: Contributions to Financial History of 20th Century Southeast Europe – Perspectives from Slovenia and Serbia -, Beograd, 2011, pp. 21-50 (in Serbian)
- 8) Nitsche, W.: The Vienna Initiative/European Bank Coordination Initiative: Assessment and Outlook, Federal Ministry of Finance of Austria, Working Paper 4/2010
- 9) National Bank of Serbia: Vienna Initiative, Belgrade, 2009
- 10) Schreiner, J. and Zauchinger, C.: Developments in Selected Central, Eastern and Southeastern European Countries, Focus on European Economic Integration, Q2/09, OeNB, 2009, pp. 6-54

EFFECTIVENESS OF OFFICIAL INTERVENTION ON THE RSD/EUR MARKET: AN EVENT STUDY APPROACH¹

Srdan MARINKOVIĆ²

Abstract

This article is an event study of effectiveness of official foreign exchange interventions by National Bank of Serbia (NBS) on the RSD/EUR market. Without formally modeled response function of NBS, we assume that NBS intervenes as it is expected to do according to its mandate, i.e. to prevent excess daily fluctuations. The paper tests two alternative goals of official intervention, marking as a success an event in which NBS either break/reverse or smooth an ongoing exchange rate movement. The results supported the view that NBS has failed to reverse the trend but is fairly effective in smoothing exchange rate return. However, even smoothing effect is identified as short-lasting.

Key words: foreign exchange market, sterilized FX interventions, exchange rate dynamics, NBS, event study methodology

INTRODUCTION

Official exchange rate intervention in the foreign exchange market occurs when the authorities buy or sell foreign exchange, normally against their own currency and in order to affect the exchange rate (Sarno and Taylor, 2001, p. 839). Intervention might be unilateral, when one central bank act on its own, or coordinated one, when two or more central banks concert their actions in order to achieve what is considered to be mutual goal.

According to the impact of foreign exchange (hereafter FX) intervention on money supply, it can be classified either as sterilized or unsterilized. The sterilized type of intervention is more frequently investigated type in theory. It is because only this type of intervention allows researchers to isolate the effects of intervention as an independent policy tool. The sterilized intervention is the type of intervention that is immediately or after some short time followed by official domestic asset transaction with an aim to offset the effect of FX intervention operation on money supply. By their very nature, a sterilized intervention's effect on domestic money supply must be ultimately neutral or close to that, since an offsetting monetary transaction restores the pre-intervention size of the monetary base. Opposite to that, an unsterilized intervention is expected to have the same impact on domestic money supply as other monetary instruments (e.g. open-market operations) might have, with the only difference that foreign, rather than domestic assets are bought or sold. From this perspective, "an intervention operation is the analytical equivalent of a trade between the authorities and the public of securities denominated in one currency for those denominated in another" (Henderson and Sampson, 1983, p. 830).

Likewise many central banks of most developed countries, intervention conducted by National Bank of Serbia (hereafter NBS) belong to that of sterilized type. NBS uses repo operations to tune finely domestic money supply, apart of some other monetary tools. Since over the past decade direct foreign exchange intervention was far most important channel of monetary expansion (net effect of it was

¹ This paper is a part of research project number 179015 (Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements), financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

² Full Professor, Faculty of Economics, University of Niš, Republic of Serbia

selling reserve currency) the natural response was reverse repo. Consequently, NBS repo stock happened to explode.

Many would agree that intervention-free, pure flexible exchange rate regime is the case from university textbooks (e.g. Calvo and Reinhart, 2002). In the real world, we could hardly imagine a central bank protractedly absent from the exchange market. Central banks often face challenge to manipulate exchange rate by intervening directly on the exchange market. The nature of intervention differs, depending on exchange rate regime. When it pegs its currency, a central bank gives a guarantee that it will exchange (un)limited amount of foreign currency against the local one at the pre-agreed parity, as long as it has available international reserves. If exchange rate flexibility is the choice of a central bank, it will directly purchase and sell the foreign currency if only considers that necessary. If the necessity comes too often, it is the clear sign that the regime choice is made wrong. Sometimes, there is notable discrepancy between what central banks tell to do and what others see they are doing. So that without a closer look at what a monetary authority has done on the foreign exchange market, an assessment of real nature of exchange regime will stay biased.

The paper is structured as follows. We begin in Section 1 with a review of literature on the role of foreign exchange intervention, effects, economic rationale and motives behind it. Section 2 explores NBS intervention policy, while Section 3 describes recent dynamics of the RSD/EUR foreign exchange market and intervention data. Section 4 proceeds with the description of dataset and methodology, as well as discussion of results. Finally, Section 5 concludes.

THE ROLE OF FX INTERVENTION – LITERATURE REVIEW

As forcefully summarized in Dominguez (1998, p. 162) foreign exchange operations are a controversial central banks' policy tool. As stated "[i]n one view intervention policy is not only ineffective in influencing the level of the exchange rate, but also dangerous, because it can increase the volatility of the rate. Others argue that intervention operations can influence the level of the exchange rate, and can also 'calm disorderly markets', thereby decreasing volatility. Yet others argue that intervention operations are inconsequential, since they neither affect the level nor the volatility of exchange rates". Although it is not so rare in the economic science that so much of confusion is still there even after bunch of testing, it surely indicate an ardent nature of the issue that is still far from being solved.

By their nature, intervention operations are done to generate contemporaneous or at their best short-leaved effect on exchange rate dynamics. The crucial problem that researchers face in exploring effectiveness of official foreign exchange intervention is that economic science so far did not come with a theoretical model able to reliably explain short-term determination of exchange rate.

Relying on the tradition of monetary models of exchange rate determination, researchers first started with studying what is today known as portfolio balance channel. Portfolio-balance model of exchange rate determination assumes that investors hold diversified portfolio with both domestic and foreign assets (bonds). They would decide upon the relative stock of domestic vs. foreign assets by solving an problem of optimization of expected returns and the variance in returns. The channel operates through changing risk premium. In order to generate a shift in investors' relative stock currency composition, which must be an ultimate effect of it, an intervention has to generate a change in expected relative return, i.e. risk premium. Dominguez and Frankel (1993a) paper was the first one that questioned somehow disappointing results of studies on intervention effects, conducted before 90s. There was almost consensus among researchers and even policymakers that the effects of official intervention in the foreign exchange market were weak and transitory at most. Sarno and Taylor (2001, p. 862) suggest possible reason why portfolio balance channel appears to have relatively weak importance in a number of studies. Namely, the typical size of intervention is a very tiny fraction of total foreign

exchange market turnover. Of course, (preferred) net change in traders' end-of-day stock position, not total market turnover, is what may come in closer relation with intervention volume.

More recently, scholars start to investigate another channel of influence (e.g. Dominguez and Frankel, 1993b). It is known as information or signaling channel. If a signal is communicated to the market with credibility it will generate desirable effect no matter of amount of intervention. The intervention is then a vector used to convince (other) market participants about the commitment of monetary authority (intervenient) to support given exchange rate level, or to communicate private (superior) information about future course of monetary and fiscal policy as being fundamentals of exchange rate.

There is a bulk of empirical literature investigating which channel dominates the other in general and in any specific case (see Edison, 1993, for a review). Explicitly or implicitly the studies includes assumption about the trading strategy that monetary authorities use to impact on exchange rate. Lean-against-the-wind behavior assumes confronting the ongoing short-term trend of exchange rate. Most often the trends are interpreted as deviations from what is considered long-term equilibrium value. It assumes that one who leans against the wind actually chooses the weak side of the market. If, for instance, NBS are selling a reserve currency in exchange for local currency, it will decrease the value of the reserve currency. According to Kearns and Rigobon (2005) central banks typically leans against the wind. In some rare occasion central banks can act to enforce an ongoing trend. It is then denoted as "leaning-with-the-wind" behavior.

When intervening on foreign exchange market, a monetary authority not only chooses the weaker side of the market but also acts as a privileged dealer. The authority would decide upon intervention after the majority of participants already make their decisions, i.e. after it sees order flow. It is exactly what NBS does, since it intervenes during the second part of a trading day. From the market microstructure literature (e.g. Harris, 2003, p. 508) we know that a trader who see the asymmetry in order flow may engage in a profitable strategy. Namely, it will step in to supply liquidity on the weak side of the market. Since this side is weak, the market-clearing price generally favors it. If prices reverse afterwards, the trader will profit from its trade. This is why some researchers tried to assess the effectiveness of official intervention according to profitability criterion (see for reviews Henderson and Sampson, 1983, or Sarno and Taylor, 2001). Apparently, if the monetary authorities bought low and sold high, they would also reduce volatility in exchange rates as well as earn a profit. However, if the monetary authorities prevent any fluctuation in the exchange rate, they earn zero profit.

The problem with this approach is inconclusiveness. If, for example, the authority were to purchase foreign exchange when its price was low and sell it when its price was high, intervention would be profitable, even if the purchases and sales had no meaningful effect on exchange rate. There is also some technical issues. In order to calculate profit made from intervening in exchange markets one must choose the sample period and decide how to value initial and ending stock of reserve assets. Profit from official intervention operations are usually calculated by taking into account terms of which intervention are accomplished in successive operations with different sign in addition to any current income that comes from holding position in different currencies.

For studying contemporaneous effects of intervention market microstructure literature is the only one able to shed some lights on the issue. Namely, macroeconomic models of exchange rates perform poorly at frequencies higher than one year; the explanatory power of these models is essentially zero. Market microstructure approach is a novel way that brings into the focus relationship between order flow, information and price (Evans and Lyons, 2002a; 2002b). Roughly speaking, there are two generations of market microstructure models: inventory-based models and information-based models (see O'Hara, 2004, for more general and rather extensive review, or Lyons, 1995, for the application to foreign exchange markets). The inventory-based approach explains market-clearing mechanism and traders' price-setting behavior that come as a consequence of stochastic deviations in order flow. New order flow is by assumption non-informative, so that traders accommodate their bid and ask quote in order to restore optimal level of inventory. For example, if the distortion of order flow comes because

a central bank sells foreign exchange, traders will manage their positions by lowering both ask and bid exchange rate quote. By acting like this, they will simultaneously encourage clients to buy and discourage clients from selling. The inventory-based approach requires that initial orders made by the central bank should have a substantial size relative to normal order flow, to make quote readjustments necessary for portfolio rebalancing. Albeit, the intervention large compared to market turnover is not regular practice of world leading central banks as it is the case of NBS intervention, what makes inventory (portfolio) based channel an operable way of influencing the local exchange rate.

With the risk that the intervention conveys relevant information about future exchange rate fundamentals, price-setting behavior of traders becomes more complicated. It is a matter of crucial importance for trader profitability that she or he correctly extracts information from new order flow. For example, if a selling intervention brings new information that indicates lower exchange rate, even if the transaction volume is rather irrelevant, the right response of any trader would be the same as it was in the above case of stochastic order flow. Lower bid and ask quotes would ensure inventory optimization. However, if the trade (intervention) is mistakenly taken as informative, the old quotes would be still correct, while the new, revised quotes, would attract informed traders to buy from our trader, no matter if central bank cease or continue to intervene. Depending on elasticity between price and order flow, our trader would soon or latter loose its inventory. In order to get back in business she or he would must restore its inventory by buying foreign exchange shortly afterwards from other traders at rate higher that she or he previously sold it. This would decrease its realized spread and profitability. This risk of being wrong in assessing information content of the trade (as well as intervention) is known as adverse selection risk. Therefore, in order to be effective, official intervention has to convey a clear and credible signal about future stance of policies relevant for exchange rate determination. If hasn't, the signal, communicated to the market, will generate ambiguity amongst traders. This could be an explanation why sometimes intervention is followed with no persistent effect on the exchange rate level, but only with an increase in short-term volatility.

The above analysis indicates that there are two channels through which intervention can influence foreign exchange traders' (dealers) behavior. Some researchers (Lyons, 1995) found inventory-control channel slightly less important than information channel in transmitting the order flow impact on dealers quotation behavior, i.e. market-clearing exchange rate. Unfortunately, more recent studies (Bjønnes and Rime, 2005) found neither inventory nor information channel statistically significant, what is explained with changed structure of the contemporary FX markets, which now offers better possibilities to control inventory risk, and reduces informational asymmetry.

The literature also differs in terms of which intervention goal is primarily studied. According to Beine et al. (2009, p. 780) "the main objective of [foreign exchange] interventions is to influence the exchange rate level, reduce some undesirable trend, smooth exchange rate volatility, or intervene in favour of another central bank". Thus, there may be several intervention goals, with most of them being not mutually exclusive. If we try to simplify, there are only two direction of influence which fully correspond to two, more or less alternative, intervention goals; it is either exchange rate level of volatility that an official authority may attempt to tackle. The issue may get unified framework if we take that authority, by taking any level of exchange rate as desirable at the time, actually express its concern about long-term exchange rate volatility. Moreover, long gradual swings in the exchange rate might have even more devastating effects on specific economy than its short-term or daily volatility. Then, continuous intervention that lasts for long periods of time might reveal this type of concern.

Let us start with the studies that primarily investigated intervention influence on the level of exchange rate. The first study that has implemented case study approach in investigating official intervention effectiveness in this sense has been Dominguez and Frankel (1993b). They were first to challenge overly pessimistic view about the effects of intervention on exchange rate that was almost consensus in earlier papers (see Henderson and Sampson, 1983, or Edison, 1993 for a review). Based on similar methodology, but with some improvement in dataset, later on Dominguez (2003) and Fatum and Hutchison (2003) found the intervention operations effective, especially if they are properly conceived

and executed. Moreover, intervention is found more likely to be effective if it was consistent with future monetary policy intentions, i.e. future exchange rate fundamentals. The conclusion is completely in line with signaling approach suggestions. Similarly, Kearns and Rigobon (2005) found the coordinated interventions of Bank of Japan and Reserve bank of Australia generate contemporaneous effect on the level of exchange rate.

The above mentioned papers primarily investigated the influence of intervention on exchange rate level. Following recent changes in authorities' reaction function, a strand of contemporary literature was concerned with the influence of the intervention on exchange rate return volatility. The papers are also more sophisticated with methodology. For instance, Dominguez (1998) experimented both with GARCH conditional variances and implied volatilities from foreign exchange options to examine the relationship between intervention and exchange rate volatility. She found exchange rate volatility responsive to intervention, while *vice versa* was not true. The responses were situation-specific. By deferring secret from publically announced intervention, she found opposite way of influence between two kinds. Secret intervention policy did increase volatility, while for the other kind the opposite is true. In a more recent paper Dominguez (2006) found that G3 intervention did not lead to declines in intraday exchange rate volatility, suggesting that the information conveyed by intervention did not serve to resolve market uncertainty, but rather added to the rational confusion in the market. This effect was found short-leaved. The author called for the standard market microstructure trader heterogeneity argument that since the information conveyed by intervention is not common knowledge, either because traders do not receive information simultaneously, or because they interpret the information differently, intervention would bring immediate rational confusion. Following new developments in econometric analysis of financial market time series, Beine et al. (2002) switch from GARCH to Fractionally Integrated GARCH model that allows for some persistence of volatility shock. Apart of increasing short-term volatility, the intervention operations are found able to even exert an incorrectly signed effect on the level of exchange rates. The findings points out the limited efficacy of official interventions to stabilize in the short run and emphasize the cost in terms of volatility. Similarly, Beine et al. (2009) have studied the impact of G3 official intervention on daily realized moments of DEM/USD exchange rate returns and confirmed previous findings of a temporary increase of volatility after a coordinated central bank intervention.

All those studies were primarily concerned with the intervention practice of the leading central banks. Despite of their remarkable importance, studies of official FX intervention outside of it almost don't exist. This is perhaps because other central banks do not regularly publish their data on intervention. This paper is going to be a rare exception, what adds special value to it.

NBS INTERVENTION POLICY – SOME INSTITUTIONAL DETAILS

Since August 2006 (NBS, 2006) NBS *de facto* shifted from the exchange rate targeting to the pure inflation targeting monetary strategy. Exchange rate was not anymore the variable of prime concern. According to the agreement signed with the government (NBS, 2008a) and the following new memorandum, (NBS, 2008b, p. 4) "NBS is expected to intervene directly on the foreign exchange market in order to 1) prevent excess daily fluctuations [with no transparent numerical threshold], while avoiding cumulating the pressure from either side of the exchange market (buying or selling) in long term sequences, 2) control financial stability risk, and 3) safeguard adequate level of international reserves".

Although seemingly straightforward, the mandate does not limit behavior of NBS as strong as it may look at first glance. The first condition means that NBS is not expected to act as to put against the market forces. However, the second condition may be interpreted in a way that it allows confronting ongoing exchange rate trend if the exchange rate threatens to somehow endanger the financial stability. Finally, the third condition warns about scarcity of financial resources (international reserves) that can be used for above purposes.

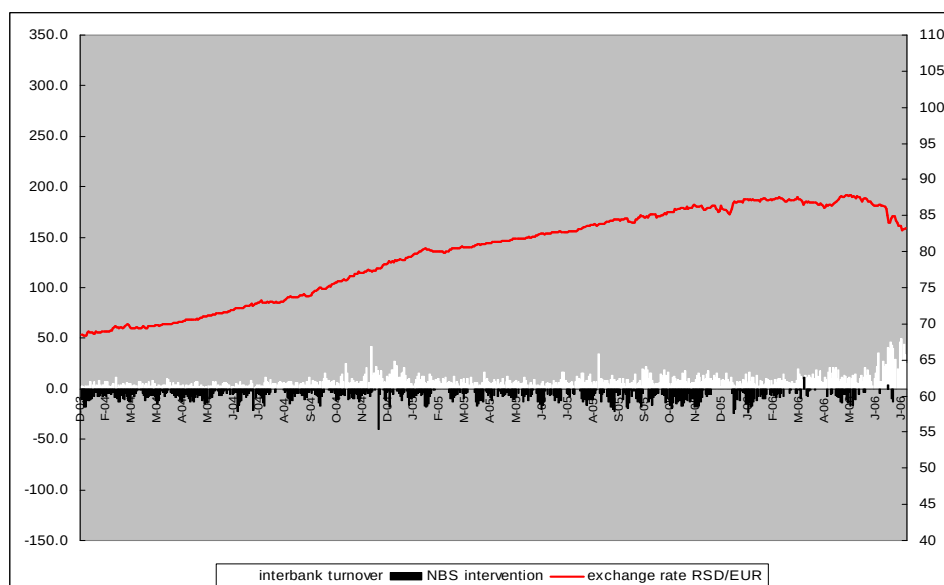
Let's get a closer look at the first two objectives. The most prominent objective of official FX intervention is smoothing exchange rate return (interpreted as daily return volatility). If the exchange rate moves in small increments (smoothly) but constantly in one direction, i.e. following a trend, it comes that the first condition for intervention is not satisfied, so that the authority has to stay away from intervention. However, if the trend is there, but the daily movements are large enough it will activate official response. By confronting such excess daily oscillations, the official authority will at the same time push against the ongoing trend. In absence of a transparent threshold, it may look like that NBS arbitrarily breaks the trend. Nevertheless, one could never say that NBS acts out of its mandate since the second condition, the financial stability, lays ground for intervention conditioned by level of exchange rate. It must be some level of exchange rate that could act as imaginary threshold that triggers FX intervention operations. Namely, for a small and open country, which is additionally burdened with rather pervasive level of financial euroization, the exchange rate becomes the variable able to endanger financial stability.

NATIONAL BANK OF SERBIA'S INTERVENTION AND EXCHANGE RATE DATA

Let us start with visual inspection of time series of some key variables which indicate activity on the RSD/EUR foreign exchange market. The entire period is separated so as to include three (sub)periods or phases, which are presented in three separate diagrams. These diagrams have equally scaled coordinate axis, in order to have dynamics of the variables comparable. Daily interbank turnover (white columns) as well as daily volume of official intervention is scaled on the left-hand side coordinate axis (dark columns). Values are in millions of the Euro. On the right-hand side is official mid-quoted exchange rate RSD/EUR, expressed in the units of local currency for the unit of the reserve currency (e.g. direct quotation).

The data are daily sampled so that they do not tell us whether NBS clusters its intervention within a trading day or intervenes with a single daily transaction. Central banks of most developed countries often do it on a former way, making clustering of intervention within a working day an important aspect for an analysis. Constrained with the data frequency, in this paper we will take the clustering of intervention the case in which NBS continuously intervenes on the same side of the market, during several days.

Figure 1. The period of exchange rate targeting (30.12.2003 – 24.07.2006)

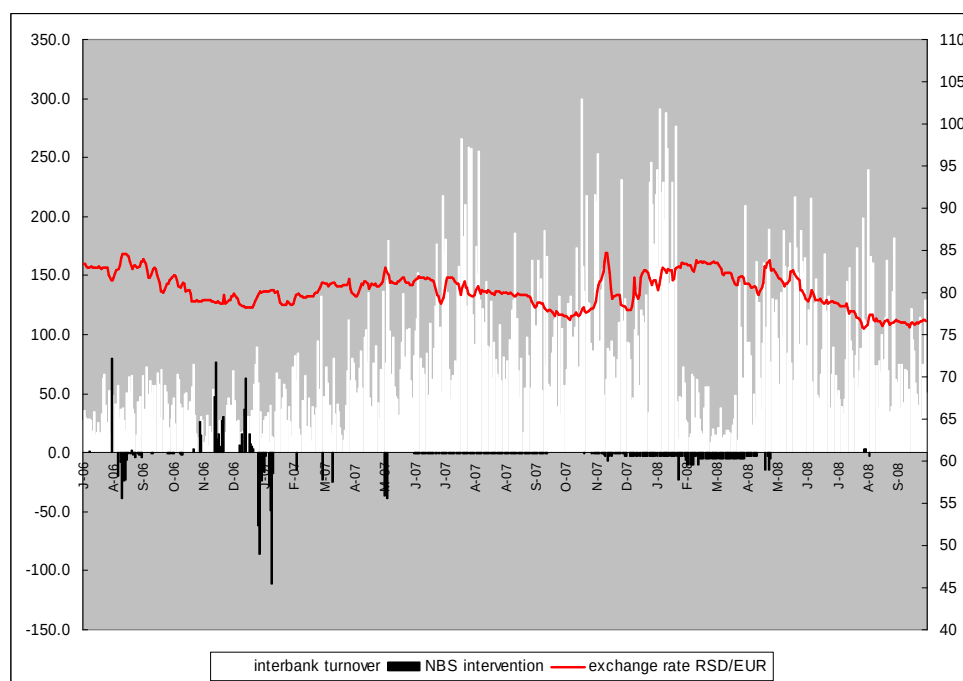


Source: NBS

There are some regularities of currency market that we need to observe. Firstly, total currency market turnover is incomparably smaller during the period from the end of 2003 till August 2006 than during the following time. Secondly, turnover realized with no official intervention and turnover in the transactions in which NBS was a contractual side, are figures of rather comparable size. To tell the truth, without National Bank of Serbia, as an intervenient, during the first period the currency market could hardly stay operable. Thirdly, in the first period NBS intervened on massive scale. NBS was continuously present, and almost constantly, it was on the selling side of the market, with an exception of a few interventions on the buying side of the market. Nevertheless, dinar was persistently losing its value against the Euro. The break up of the trend came not early then very end of the period. The local currency appreciates, together with waking up of interbank turnover and intervention growing weak. According to the data (Figure 1), we go on to conclude that NBS role was predominantly reactive, and as soon as the supply of reserve currency set up for rising, intervention ceased. According to „soft data“ collected from the interviewed highest NBS officials, this way of official reaction was necessity, since at the time the supply of reserve currency was so scarce that without additional supply from NBS, the exchange rate would suffer strong pressure from speculators.

The period which starts with the switch in monetary strategy, and lasts all the way to the break up of the financial crisis, is marked with rapid growth of volume in interbank transactions and rather rare intervention (Figure 2). Within this period, NBS also intervened a couple of times on the buying side of the market, what directly coincides with the periods of local currency appreciation. Such interventions surely have had stabilization impact on the market. This period was featured with both huge oscillation in the volume of interbank transactions, and significant increase in exchange rate volatility, especially if it is assessed in weak-long intervals. We could freely assess that in this period the forming of exchange rate was left to the market alone, but not without any adverse effects, since because of rather intense foreign capital inflow, in this period the local currency further appreciated in real terms.

Figure 2. The period of inflation targeting (25.07.2006 – 3.10.2008)

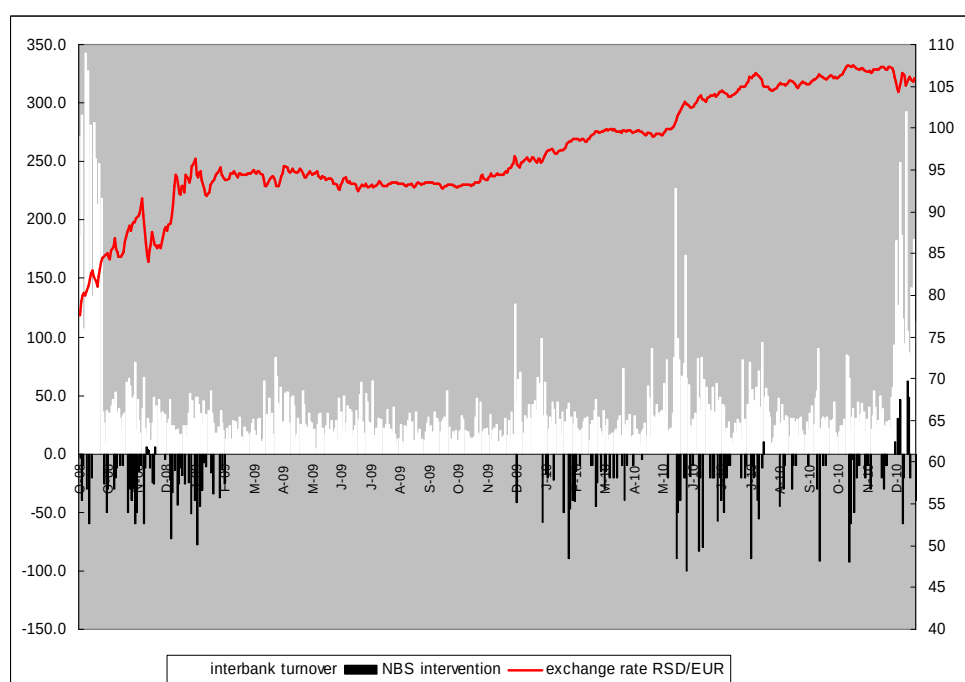


Source: NBS

The third period starts with an acute disturbance in the foreign exchange market (Figure 3). Completely in line with its mandate, NBS vigorously intervenes by selling international reserves.

However, despite of the defense, the local currency in just a couple of months lost significantly its value against the reserve currency. The last massive intervention from the selling side happened on February 25. Since then, all the way to the end of the year, the exchange rate has been setting exclusively according to supply and demand in interbank transactions. The ending up of this period NBS announced on December 4, with a selling reserve currency out of his portfolio. One has to wait till 30th of December 2009 to see the next intervention on the same side of the market. Afterwards it became again a regular practice. Although, the currency crisis has calmed down in the meantime, in the first quarter of year 2010 foreign exchange dynamics returned to that already seen in the starting period. It was most likely that the transmission of crisis from the deposit to the foreign exchange market brought anxiety about soundness of the banking industry and even entire local economy. The exchange rate became that important element in transmission of signals of crisis that was advisable not to leave to the market alone to set its level. In some rare cases NBS switched to buying the Euro in an effort to strengthen the Euro relative to the dinar.

Figure 3. The crisis and post-crisis period (6.10.2008 – 31.12.2010)



Source: NBS

DATA AND METHODOLOGY

The empirical section of this paper explores effectiveness of official NBS intervention by employing event study methodology. Why event study methodology? Contrary to exchange rate, intervention tends to come in sporadic clusters. Researchers (e.g. Dominguez, 1998) that employ time series econometric methodology often neglect actual intervention data by using dummy variable instead of real intervention data. There is some event studies (Fatum and Hutchison, 2003) that use actual data, but only from around periods of interventions. It is another way to circumvent limitations coming from unusual data-generating process, or sporadic nature of intervention.

The available data on NBS intervention tell us only about volume of transaction and the size of the market that NBS takes. There is no indication on exchange rate at which NBS sells or buys foreign currency in any specific intervention occasion. Consequently, having only volume information at hand, it is not possible to examine the joint volume (order flow) and price impact on the market.

Exchange rate return is calculated as daily logarithmic return and expressed in percentage terms. Logarithmic transformation was better choice because this way of expressing return satisfy additivity condition, which is necessary when operates with variable-time horizons.

The period for analysis is from December 2003 to December 2010. The nature of intervention in the period of exchange rate targeting (first period) make this period unsuitable for implementing the proposed methodology. Namely, over this period, NBS intervened in long-lasting sequences with a few days with no intervention in between. The monetary authority intervened on 519 out of total 645 trading days. It happened that just in two days NBS was buying the reserve currency. The reserve currency at all times almost constantly appreciates. Moreover, it was the period with most intense interventions, both in terms of its frequency (number of days in which NBS was present on the market) and intensity of intervention. In total, NBS saturated the market with 41.55 percent of reserve currency supply. In addition, over the period of exchange rate targeting NBS rarely acknowledged their own intervention operations.

Latter on, NBS has continued to intervene occasionally. Episodes have generally continued to involve operations across multiple days, but with long-lasting breaks in between. Thus, from August 2006 to the end of 2010 we identified 39 episodes of intervention clusters. Those operations differ in terms of transparency from the operations conducted over the first period. NBS started to routinely release information to the press, so that operations caught no longer the market by surprise. When intervenes, NBS does it on the large scale. It was almost with no single-exception the case during the crisis and post-crisis period.

Another issue that has to be solved with such methodology is to decide upon time window. We decide to operate with pre-event and post-event window lengths of two days. The issue which is further worth addressing is how the results are sensitive on chosen time window. In the referent study (Fatum and Hutchison, 2003) several time window are tested, i.e. 5, 10, and 15 days after the end of intervention. Although it is an indisputably beneficial statistical procedure, in our case, a longer-term after-event time window will generate huge data overlapping that will blur statistical inference. Namely, most frequently one intervention cluster comes after another with just a few non-intervention days in between.

Inference about intervention effectiveness depends on pre-defined success criteria. Before starting with numerical definition of what a successful intervention should be, it is worth addressing the issue in more general manner. Therefore, more generally, a successful intervention is one that in a meaningful way influences either the relative price or the volatility of a currency in the appropriate direction. In order to make the definition operable several issues must be solved. Firstly, it seems that there are two goals to be achieved: an impact on level and an impact on volatility of exchange rate return. In this paper, the empirical work will focus on both the influence of intervention on the level of the exchange rate and its volatility, albeit the impact on volatility is represented on less formal way. It is smoothing the trend that we take to empirically represent volatility of the exchange rate. Our forthcoming paper will focus exclusively on the influence of intervention on the volatility, which will be defined in more technical sense. The next issue is about clear idea what should be meaningful influence. Unfortunately, because of lack of empirically operable model for exchange rate determination, it is difficult to compare actual behavior to what exchange rate would have been in the absence of intervention. The next issue is the temporal dimension. Is there the case of successful influence if with no contemporaneous changes, after some days of intervention exchange rate moves in the desired direction? And, how much of time lag is acceptable to make the case of causality conclusive?

Table 1. Data on official intervention clusters

Period	Length (days)	INT Volume	Turnover Volume	Prior Return	Post Return
23 Aug 06 – 31 Aug 06	6	-120.4	232.4	0.546	0.239
6 Sep 06 – 14 Sep 06	7	-14.2	271.4	-1.081	0.179
22 Sep 06 – 27 Sep 06	4	-2.9	197.0	0.061	0.061
9 Oct 06 – 13 Oct 06	5	-5.0	182.7	0.947	0.179
19 Oct 06 – 23 Oct 06	3	-5.0	138.7	-0.746	0.072
31 Oct 06 – 2 Nov 06	3	4.0	173.3	-0.527	-0.273
7 Nov 06 – 8 Nov 06	2	41.2	36.0	-0.050	0.016
21 Nov 06 – 29 Nov 06	7	214.4	196.5	-0.069	-0.046
14 Dec 06 – 27 Dec 06	9	153.5	241.3	-0.683	0.040
3 Jan 07 – 17 Jan 07	10	-412.4	365.5	0.668	0.019
8 May 07 – 9 May 07	2	-75.4	211.9	1.044	-0.053
4 Jun 07 – 4 Oct 07	87	-88.0	9723.0	0.036	-0.041
15 Nov 07 – 22 Apr 08	109	-418.0	10183.0	0.120	-0.018
6 May 08 – 9 May 08	4	-38.0	618.1	2.405	-0.109
5 Aug 08 – 6 Aug 08	2	6.0	310.5	-0.738	0.084
3 Oct 08 – 15 Oct 08	6	-163.0	2127.3	1.244	0.577
27 Oct 08 – 30 Oct 08	3	-106.0	107.6	0.596	-0.048
5 Nov 08 – 13 Nov 08	5	-82.0	270.6	0.622	0.086
18 Nov 08 – 4 Dec 08	11	-366.8	615.0	0.524	-0.177
10 Dec 08 – 12 Dec 08	3	-63.3	63.7	1.496	0.200
29 Dec 08 – 15 Jan 09	10	-272.0	251.8	0.705	0.541
20 Jan 09 – 5 Feb 09	8	-286.7	474.7	2.075	-0.146
19 Feb 09 – 25 Feb 09	3	-76.3	125.9	0.234	-0.168
5 Jan 10 – 6 Jan 10	2	-37.0	94.3	0.352	0.114
27 Jan 10 – 3 Feb 10	5	-231.5	203.2	0.337	0.087
24 Feb 10 – 1 Mar 10	3	-85.0	136.3	0.174	0.027
4 Mar 10 – 9 Mar 10	3	-65.0	101.8	0.042	0.036
22 Mar 10 – 25 Mar 10	3	-60.0	135.6	-0.107	0.045
17 May 10 – 1 Jun 10	8	-349.0	1010.2	0.721	0.138
7 Jun 10 – 10 Jun 10	3	-183.0	247.0	0.327	-0.018
17 Jun 10 – 7 Jul 10	11	-288.0	558.6	0.176	0.007
27 Jul 10 – 3 Aug 10	5	-217.0	344.6	0.535	-0.029
24 Aug 10 – 27 Aug 10	3	-84.5	144.0	0.217	-0.012
3 Sep 10 – 8 Sep 10	3	-50.0	104.6	0.001	-0.148
28 Sep 10 – 6 Oct 10	4	141.7	302.7	0.062	0.019
28 Oct 10 – 8 Nov 10	7	-248.0	340.5	0.082	-0.031
12 Nov 10 – 18 Nov 10	4	-70.0	147.5	-0.089	-0.036
29 Nov 10 – 3 Dec 10	4	-70.0	170.3	0.105	0.011
13 Dec 10 – 16 Dec 10	4	116.0	525.2	-0.573	-0.118

Source: NBS

We here do not study monetary authority reaction function in formal way. However, we assume that NBS reacted as stated in its charter. Some casual empiricism tells us that this assumption is not that strong. Namely, in strong majority of cases, i.e. in 35 out of total 39 NBS was acting as expected according to its mandate. In four cases only it were selling reserve currency when the euro depreciates one day before intervention. Therefore, it can be taken that NBS reaction was the same way but a bit delayed.

In the rest of the paper we take intervention successful not only if it divert the previous trend, but also if it moderate, or smooth the pre-intervention trend. Thus, we have two success criteria; the reversal and the smoothing criterion. Reversal criterion for success implies that intervention is seemingly aimed at breaking an ongoing exchange rate movement. According to the direction/reversal criterion, an event is a success if holds either:

$$(I_i > 0 \wedge \Delta e_{i+} > 0) \vee (I_i < 0 \wedge \Delta e_{i+} < 0) \quad (1)$$

Practically, an official intervention is marked as success if after buying the foreign currency (positive intervention) it occurs an increase of its value against the local currency, or if after selling the foreign currency (negative intervention) it occurs a decrease of its value against the local currency. This way of denotation comes out from direct quotation of dinar, i.e. RSD/EUR.

The smoothing criterion is more relaxed than the reversal criterion. With this criterion, success is going to be an intervention that moderates ongoing trend even that no reversal occurs. This is why all intervention marked as success according to previous criterion simultaneously becomes success according to the second one. More formally we have the following condition:

$$(I_i > 0 \wedge \Delta e_{i+} > \Delta e_{i-}) \vee (I_i < 0 \wedge \Delta e_{i+} < \Delta e_{i-}) \quad (2)$$

From the condition above (2) it comes that if the central bank by buying foreign currency generates an increase of its value against the local currency bigger that it was immediately before the intervention, or even generates decrease that is lower than it was immediately before intervention, the intervention operation will be marked as success.

Table 2. Intervention clusters categorization

Period	Reaction function	LAW				LWW
		Depreciation		Appreciation		enforce
		reversal	smooth	reversal	smooth	
23 Aug 06 – 31 Aug 06	LAW	F	S			
6 Sep 06 – 14 Sep 06	LWW					F
22 Sep 06 – 27 Sep 06	LAW	F	S			
9 Oct 06 – 13 Oct 06	LAW	F	S			
19 Oct 06 – 23 Oct 06	LWW					F
31 Oct 06 – 2 Nov 06	LAW			F	S	
7 Nov 06 – 8 Nov 06	LAW			S	S	
21 Nov 06 – 29 Nov 06	LAW			F	S	
14 Dec 06 – 27 Dec 06	LAW			S	S	
3 Jan 07 – 17 Jan 07	LAW	F	S			
8 May 07 – 9 May 07	LAW	S	S			
4 Jun 07 – 4 Oct 07	LAW	S	S			
15 Nov 07 – 22 Apr 08	LAW	S	S			
6 May 08 – 9 May 08	LAW	S	S			
5 Aug 08 – 6 Aug 08	LAW			S	S	
3 Oct 08 – 15 Oct 08	LAW	F	S			
27 Oct 08 – 30 Oct 08	LAW	S	S			
5 Nov 08 – 13 Nov 08	LAW	F	S			
18 Nov 08 – 4 Dec 08	LAW	S	S			
10 Dec 08 – 12 Dec 08	LAW	F	S			
29 Dec 08 – 15 Jan 09	LAW	F	S			
20 Jan 09 – 5 Feb 09	LAW	S	S			
19 Feb 09 – 25 Feb 09	LAW	S	S			

Period	Reaction function	LAW				LWW
		Depreciation		Appreciation		enforce
		reversal	smooth	reversal	smooth	
5 Jan 10 – 6 Jan 10	LAW	F	S			
27 Jan 10 – 3 Feb 10	LAW	F	S			
24 Feb 10 – 1 Mar 10	LAW	F	S			
4 Mar 10 – 9 Mar 10	LAW	F	S			
22 Mar 10 – 25 Mar 10	LWW					F
17 May 10 – 1 Jun 10	LAW	F	S			
7 Jun 10 – 10 Jun 10	LAW	S	S			
17 Jun 10 – 7 Jul 10	LAW	F	S			
27 Jul 10 – 3 Aug 10	LAW	S	S			
24 Aug 10 – 27 Aug 10	LAW	S	S			
3 Sep 10 – 8 Sep 10	LAW	S	S			
28 Sep 10 – 6 Oct 10	LWW					F
28 Oct 10 – 8 Nov 10	LAW	S	S			
12 Nov 10 – 18 Nov 10	LWW					F
29 Nov 10 – 3 Dec 10	LAW	F	S			
13 Dec 10 – 16 Dec 10	LAW			F	S	

Legend: LAW – *Leaning Against the Wind*; LWW – *Leaning With the Wind*; F – *failure*; S – *success*;

It is clear that NBS failed to „reverse“ pre-intervention trend in more than half of cases. In all those cases it managed to „smooth“ the trend. In spite of small number of observations that massive intervention generate „smoothing“ effect. Although is possible that even small-scale intervention can do the same, the number of intervention of this type is too small to allow statistically reliable conclusions.

CONCLUSION

In the period of inflation targeting, official FX intervention was more balanced then it was before, but, with some rare exceptions, the same extent massive. Being of that type, the intervention is expected to have at least some influence on variable of concern, meaning either exchange rate level or its volatility.

NBS proved itself incapable to break or reverse the exchange rate trends, even in short-run. However, one can be rather sure that the intervention did influence the trend, by making it smoother.

In the paper we experimented with two-day time window, and found strong support that two days after intervention ceases, NBS manages to generate desirable effects. A possible way to interpret this regularity is by claiming that demand for the reserve currency decreases immediately after the intervention, since the market participants, knowing that NBS pressure will perhaps bring conditions that are more favorable for buying the euro, redirect its trade either forward or backward to intervention periods. However, this way of tactical behavior needs rather strong convincement amongst at least better informed market participants about the time when intervention will start and stop, and consequently how long they will last. Having in mind that NBS do not announce its intervention policy as is also true for the trigger exchange rates, it is unlikely that market participants could systematically beat NBS by breaking up the key of its response function and consequently foreseeing exchange rate intervention. By carefully monitoring the data we did not find the signs of weakening trading activity during the time window what rejects the assumption that market participants systematically chose to trade in the periods when NBS intervenes.

Finally, we would conclude that massive official FX interventions are expected to be effective in terms of its impact on exchange rate dynamics. If someone with specific privilege takes one side of the market, and start with strong pressure, it will be quite surprising that the market will go its way with no influence.

ACKNOWLEDGEMENTS:

The data on interventions were supplied by courtesy of the National Bank of Serbia. The authors also acknowledge the financial support from the Republic of Serbia Ministry of Education, Science and Technological Development (Research Project OI 179015: Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements).

LITERATURE

- 1) Beine, Michel, Sébastien Laurent, and Franz C. Palm (2009) "Central bank FOREX interventions assessed using realized moments", *International Financial Markets, Institutions and Money*, 19 (1): 112–127.
- 2) Beine, Michel, Agnès Bénassy-Quéré, and Christelle Lecourt (2002) "Central bank intervention and foreign exchange rates: New evidence from FIGARCH estimations", *Journal of International Money and Finance*, 21 (1): 115–144.
- 3) Beine, Michel, Gust Janssen, and Christelle Lecourt (2009) "Should central bankers talk to the foreign exchange markets?" *Journal of International Money and Finance*, 28 (5): 776–803.
- 4) Bjørnnes, Høidal Geir and Dagfinn Rime (2005) "Dealer behavior and trading systems in foreign exchange markets", *Journal of Financial Economics*, 75 (3): 571–605.
- 5) Calvo, A. Guillermo and Carmen M. Reinhart (2002) "Fear of floating", *Quarterly Journal of Economics*, 117 (2): 379–408.
- 6) Dominguez, M. Kathryn and Jeffrey A. Frankel (1993a) "Does foreign-exchange intervention matter? The portfolio effect", *American Economic Review*, 83 (5): 1356–1369.
- 7) Dominguez, M. Kathryn and Jeffrey A. Frankel (1993b) "Foreign exchange intervention: An empirical analysis", in Frankel, J. (ed.) *On exchange rates*, MIT Press, Cambridge, pp. 327–345.
- 8) Dominguez, M. Kathryn (1998) "Central bank intervention and exchange rate volatility", *Journal of International Money and Finance*, 17 (1): 161–190.
- 9) Dominguez, M. Kathryn (2003) "Foreign exchange interventions: Did it work in the 1990s?", in Bergsten C. Fred and John Williamson (eds.) *Dollar overvaluation and the world economy*, Special Report 16, Institute for International Economics, pp. 217–245.
- 10) Dominguez, M. Kathryn (2006) "When do central bank interventions influence intra-daily and longer-term exchange rate movements?" *Journal of International Money and Finance*, 25 (7): 1051–1071.
- 11) Edison, Hali, J. (1993) "The effectiveness of central-bank intervention: A survey of the literature after 1982", Special Papers in International Economics, No. 18, Princeton University.
- 12) Evans, D. Martin and Richard K. Lyons (2002a) "Order flow and exchange rate dynamics", *Journal of Political Economy*, 110 (1): 170–180.
- 13) Evans, D. Martin and Richard K. Lyons (2002b) "Time-varying liquidity in foreign exchange", *Journal of Monetary Economics*, 49 (5): 1025–1051.
- 14) Fatum, Rasmus and Michael M. Hutchison (2003): "Is sterilised foreign exchange intervention effective after all? An event study approach", *The Economic Journal*, 113 (487): 390–411.
- 15) Harris, Larry (2003) *Trading and exchange: market microstructure for practitioners*, Oxford University Press, NY.
- 16) Henderson, Dale and Stephanie Sampson (1983) "Intervention in foreign exchange markets: A summary of ten staff studies", *Federal Reserve Bulletin*, 69, 830–836.

- 17) Kearns, Jonathan and Roberto Rigobon (2005) Identifying the efficacy of central bank interventions: Evidence from Australia and Japan”, *Journal of International Economics*, 66 (1): 31–48.
- 18) Lyons, K. Richard (1995) “Test of microstructural hypotheses in the foreign exchange market”, *Journal of Financial Economics*, 39 (2/3): 321–351.
- 19) NBS (2006) Memorandum Narodne banke Srbije o principima novog okvira monetarne politike: Na putu ka ostvarenju ciljeva niske inflacije. Narodna banka Srbije. http://www.nbs.rs/internet/latinica/30/memorandum_novi_okvir_mon_pol_05092006.pdf. Accessed 15 August 2012.
- 20) NBS (2008a) Sporazum o ciljanju (targetiranju) inflacije. Narodna banka Srbije. http://www.nbs.rs/export/sites/default/internet/latinica/30/memorandum_o_saglasnosti_NBS_i_Vlade.pdf. Accessed 15 August 2012.
- 21) NBS (2008b) Memorandum Narodne banke Srbije o ciljanju (targetiranju) inflacije kao monetarnoj strategiji. Narodna banka Srbije. http://www.nbs.rs/internet/latinica/30/memorandum_monetarna_strategija_122008.pdf. Accessed 15 August 2012.
- 22) O’Hara, Maureen (2004) *Market microstructure theory*, Blackwell Publisher, Cambridge, Massachusetts.
- 23) Sarno, Lucio and Mark P. Taylor (2001) “Official intervention in the foreign exchange market: Is it effective and, if so, how does it work?”, *Journal of Economic Literature*, 39 (3): 839–868.

STRUCTURAL CHANGES AND PERFORMANCES IN BANKING AND INSURANCE - SERBIA VS. THE WESTERN BALKANS¹

Grozdana BELOPAVLOVIĆ²

Abstract

Expansion of national banking sector in the first decade of the 21st century is the result of performed regulatory reforms in financial system. Inflow of foreign capital, decreasing number of banks, strengthening of capital basis, capacity and profitability increases, as well as more efficient methods of management are the main characteristics of national banking system in the first years of the new millennium. Transforming the other segments of financial system of Serbia have been undergoing along with the restructuring of the banks. The structural changes of banks and non-bank financial institutions were performed with the aim of increasing the efficiency and competitiveness of the financial system.

Powerfull strikes of economic crises on banking and insurance sectors, as well as a high reputational risk required timely reaction of National Bank of Serbia that is responsible for the stability of these segments of financial system. Thanks to the supervision and adopted a set of measures, these financial institutions are preserved stability and public confidence despite risks they face. This paper analyzes structural characteristics and business performances of national banks and insurance companies in order to present current sectors conditions and evaluate directions of future development. Simultaneous comparison with relevant financial indicators in WB countries is performed with the aim to present the position of domestic observed sectors in relation to countries in the region.

Key words: banking sector, insurance sector, WB countries, structural characteristics, business performances, regulatory activities

INTRODUCTION

At the beginning of 21st century Serbian banking sector was faced with major problems, such as a low profitability, insolvency, the problems of insufficient capital, lack of reserves for absorbing the risks, investors confidence decrease, as well as the inadequate risk management. These problems led to a decrease of citizens trust in financial institutions, and pointed out the necessity of structural changes in financial sector.

Defining institutions that are responsible for stability and supervision of banking and non-banking sectors, as well as adoption of the laws and by-laws that support the changes, were the first step of the restructuring process of financial system. The National Bank of Serbia has a significant task to supervise the activities of banks and insurance companies, and also to bring the measures that will contribute to sectors stability and the creation the conditions for further development. Direct implications of the restructuring strategy were the internationalisation of financial institutions, inflow of foreign capital and efficient corporative management. High growth rates of capacity, productivity and profitability indicate to dynamic development of national financial sector.

¹ This paper is a part of research projects numbers 47009 (European integrations and social and economic changes in Serbian economy on the way to the EU) and 179015 (Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements), financed by the Ministry of Science and Technological Development of the Republic of Serbia.

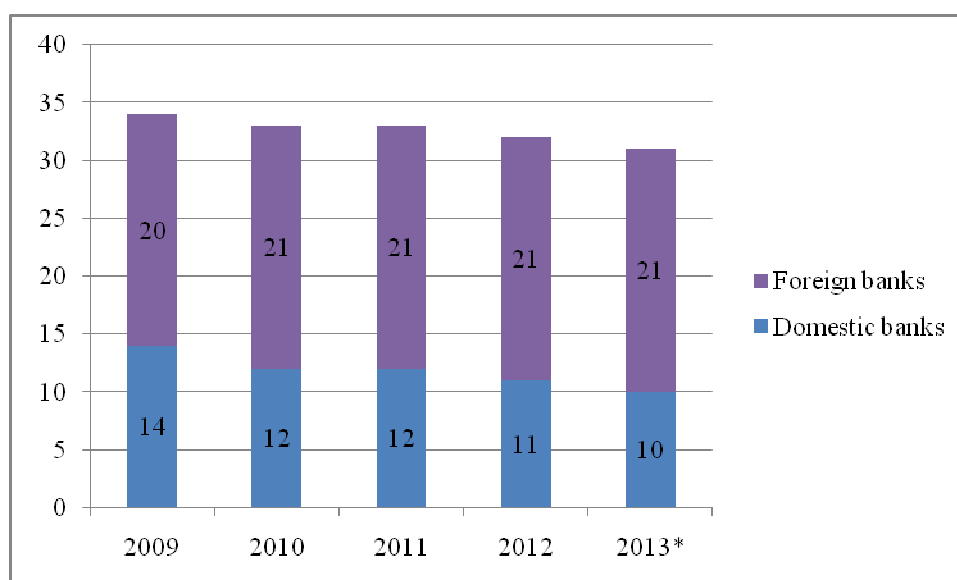
² Grozdana Belopavlović, PhD, Assistant, Belgrade banking academy – Faculty for banking, insurance and finance.

STRUCTURAL AND PERFORMANCE INDICATORS IN BANKING SECTOR - SERBIA VS. THE WESTERN BALKANS

The period of transformation of the national banking sector was characterized by enlargement and consolidation of banks (Vukovic, 2009). If compared with the end of 2002 when total number of banks was 50 (NBS, 2002), the banking system comprised 31 banks at the end of second quarter of 2013 (NBS, 2013). Simultaneously, the result of structural reforms is the increase of foreign banks share in the sector capital, which was achieved through recapitalisation or local banks takeover. Also, revised legal and institutional frameworks have created the conditions for the foreign capital inflows.

During the observed period (2009-2012), foreign-owned banks dominated the market, what are shown in the figure below. Foreign shareholders dominate by the number of banks where they have the majority of ownership, as well as in the assets they manage. At the end of second quarter of 2013, 21 banks were majority foreign-owned. Banks in foreign ownership kept dominant position, holding around 75% of banking sector assets and capital.

Figure 1. Ownership structure of Serbian banking sector



* Data as of June 30, 2013

Source: The data of NBS (Annual Report, 2009-2012)

Structural indicators.

According to the data of the National Bank of Serbia, reduction in the number of banks was followed by spreading of their organizational network until 2008 when the banking system faced with the implications of the world economic crisis. Slower business activities of banks, a rapid decrease of capital inflow and the growth of non-performing loans undermined key sources of income. In an effort to mitigate the negative pressure on profitability, the banks continued to reduce general operating expenses, including employee expenses and expenses of distribution channels.

The trend of decreasing the number of employees and the business network was presented not only in Serbia but also in Western Balkan countries, as well as in the EU and countries of Euro area. The data of European Central Bank show that, in most EU member states, the number of local units has continued the downward trend observed in previous years, as well as the number of bank employees in the EU has also continued to decline (ECB, 2011).

The following table presents a comparative structural indicators - the number of business units and movement of employees in the banking sector of observed countries in period 2009-2012.

Table 1. Comparative structural indicators

	Number of local units				Number of employees			
	2009	2010	2011	2012	2009	2010	2011	2012
Serbia	2,635	2,487	2,383	2,243	31,182	29,877	29,228	27,840
Croatia	1,297	1,274	1,266	1,254	21,730	21,770	21,865	21,639
BIH	982	955	972	952	10,595	10,321	10,362	10,336
Macedonia	428	436	413	423	6,084	6,052	6,011	6,026
Albania	530	531	534	538	6,404	6,384		
EU*	232,424	230,387	223,188		3,161,543	3,078,687	3,045,465	
Euro area*	183,608	182,350	176,722		2,196,056	2,132,902	2,107,709	

* The data are related to all credit institutions in the financial system

Source: The data of WB countries Central Banks and ECB data

The important indicators of the banking sector development are the number of credit institutions, population per credit institution, population per branch and ATM and assets per employee (ECB, 2010). The data presented in Table 2 enable evaluation the development of the sector capacities for each observed country.

Table 2. Number of banks and population per bank (2009-2012)

	Number of banks				Population per bank ³			
	2009	2010	2011	2012	2009	2010	2011	2012
SRB	34	33	33	32	215,318	220,491	217,784	224,422
CRO	34	33	32	31	130,265	130,019	133,903	144,519
BIH	30	29	29	28	142,906	148,208	148,132	134,690
MKD	18	18	17	16	112,364	114,294	121,164	128,893
MNE	11	11	11	11	57,409	56,309	56,418	56,366
ALB	16	16	16	16	199,616	199,686	177,000	187,679

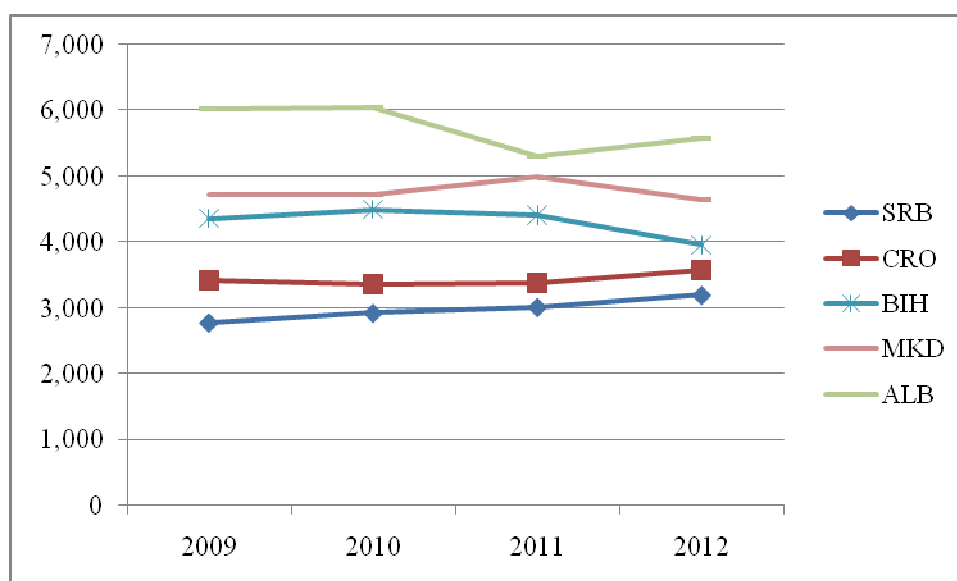
Source: The data of WB countries Central Banks (Annual Report, 2009-2012)

By monitoring population per bank in time and in comparison to the other countries, we can conclude that the Serbian banking sector occupies the last position. The largest number of inhabitants per bank is the implication of rapid reduction in the number of banks and its consolidation in the first decade of 21st century. Also, the fact is that the Republic of Serbia has the largest population in comparison to the rest of the Western Balkan countries. According to this capacity indicator, the Montenegro had the most developed banking sector in comparison with other WB countries. The second place belongs to Macedonia, although we can notice the growth of indicator during the period. The countries of Euro area had population of 55,504 per credit institution in 2012 (EA average). The best position within EA countries had Luxembourg, with 3,770 inhabitants per credit institution (ECB, 2013).

Figure 2 shows the movement of the second capacity indicator in Serbia and countries in the region – the number of inhabitants per local unit.

³ Calculation by author based on census of population and estimated population from relevant institutions and statistical offices of the WB countries.

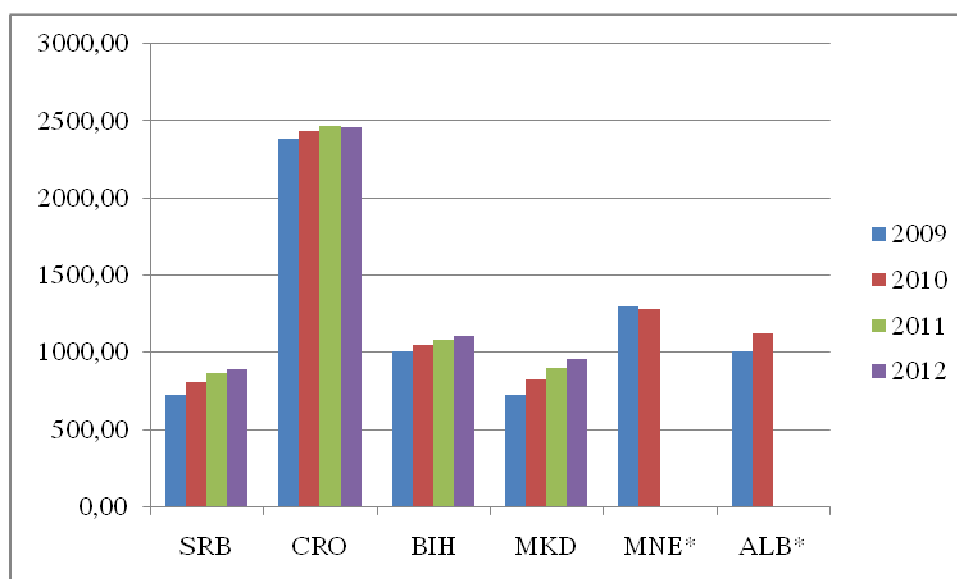
Figure 2. Population per business unit (2009-2012)*



* Calculation by author

Unlike the previous indicator, this figure indicates that Serbia is the best ranked in compare with other WB countries. The reason for that is the most developed network of banks, as well as a population decrease. However, the number of domestic business units reduced during the period, and therefore influenced the gradual increase of indicator. Lower indicator in Bosnia and Herzegovina in 2012 can be explained by significant estimated population decrease. According to the ECB data in 2012, the number of inhabitants per business unit was 1,945 in the Euro area countries (ECB, 2013). In the same year, indicators in WB countries were as follows: Serbia 3,202, Croatia 3,573, Bosnia and Herzegovina 3,961, Macedonia 4,639 and Albania 5,582. It is obvious that the countries in WB region are lagging behind the EU countries.

Figure 3. Assets per employee in 000 € (2009-2012)**



* The data on the number of bank employees in 2011 and 2012 were not available

** Calculation by author based on annual reports data (total assets are converted into EUR to facilitate international comparisons)

A ratio between total assets and employees in the banking sector is one of the most important indicator for evaluation of banking sector performances. Higher sum of balance sheet per employee indicates a better efficiency of banking sector. At the same time, this indicator can be used for evaluation business efficiency of each bank. As the figure below shows, Croatia had a greatest assets per employee in thousands of euros during the observed period. Serbia occupies the last position, with the lowest indicators in period 2009-2012. In 2012, total assets per employee in our country was 891.78 thousand EUR, which is 2.75 times less in compare with the best ranked WB country.

Assets per employee in the analyzed group of countries shows an increasing trend in the selected four-year period as indicated by the increase in capacity. In all countries the sector assets are increasing during the period, while reducing the number of employees as one of the measures provided by regulatory institutions during the crisis. Only the Croatian banking sector had a decrease in indicators in 2012, which was caused by the decrease in total assets in 2012 compared to the year 2011 by 1.76%.

The Western Balkans countries are lagging behind the developed countries within the European Union, which is indicated by the following: in 2012 in Serbia assets per employee was 891.78 thousand EUR, while the Ireland was recorded 27,463 thousand EUR and Luxembourg 28,400 thousand EUR (ECB, 2013). However, within the EU and the Euro area there are different levels of efficiency of the banking sector.

Banking sector concentration.

The level of concentration of banking sector is established by Herfindahl - Hirschman index (HHI), and its value can range from 0 to 10,000.⁴ With a large number of banks holding small shares of total assets, lending, deposits and income, the Serbian banking sector is considerably fragmented. At the end of 2012, HHI concentration index did not exceed 1,000 in any of the above categories. The lowest HHI was registered in the category of balance sheet assets (678). At the same time, HHI loans and deposits were 721 and 726 index points, respectively, which indicate the lack of concentration in the national banking market (NBS, 2012a).

Table 3 shows a degree of concentration in banking sector of WB countries, measured by HHI index and by CR5 ratio which represents the share of top five institutions with largest assets in total sector assets. Assets concentration index for top five banks is a more precise measure for evaluating the market domination.

Table 3. Concentration indicators (2012)

Indicator	Serbia	Croatia	Macedonia	Montenegro	Albania
HHI (assets)	678	1427	1456	1351	1500
HHI (loans)	721	1472	1785*	1310	1500
HHI (deposits)	726	1443	1973*	1529	1200
CR5 (assets)	48.0%	76.0%	74.5%	72.3%	-

* Data for household loans and deposits

Source: The data of WB countries Central Banks (Annual Report, 2012)

⁴ The value of HH index closer to zero indicates that market has a large number of banks of nearly the same market share, as well as under 1,000 indicates the low level of concentration in the sector. The value of index closer to 10,000 indicates that the market is concentrated (there is a monopoly in the market). The values between 1,000 and 1,800 indicate moderate concentration.

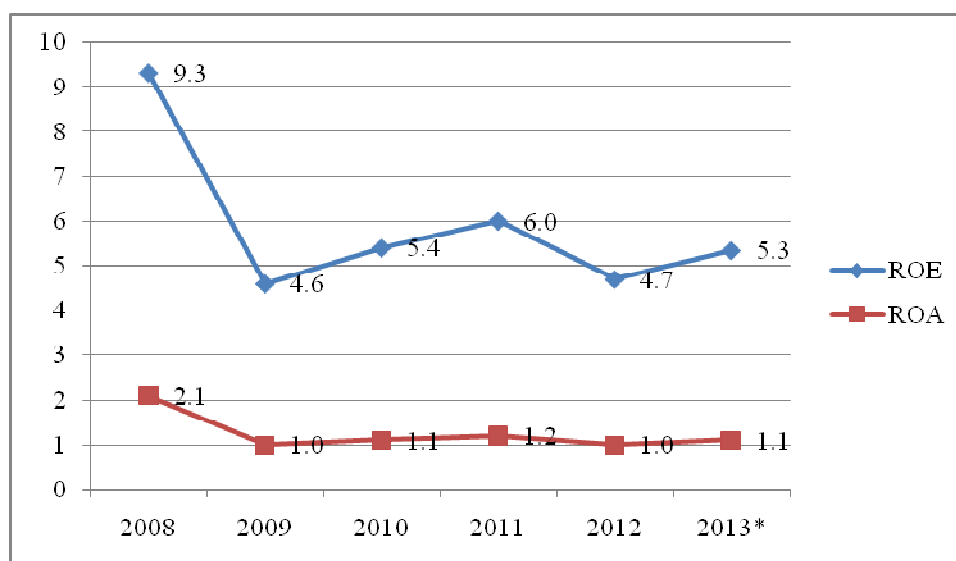
The observed countries, with the exception of Serbia, had a moderate concentration measured by Herfindahl - Hirschman index (assets). The concentration of Macedonian banking system is relatively high in all banking segments. However, the HHI of household loans is at acceptable level, while the concentration of household deposits is slightly above the acceptable ceiling (National Bank of the Republic of Macedonia, 2012). According to the data of Croatian National Bank, the high concentration in the banking system is confirmed by CR5 – with 76.0%, the CR5 is the highest in compare with other WB countries. Also, the share of assets of the two (four) largest banks in total assets shows a high level of concentration. In 2012, concentration index that measure the share of four banks (CR4) was 66.9%, and CR2 indicator was 43.3% (Croatian National Bank, 2012).

Observing individual countries in the EU, significant differences can be identified. ECB data show that in 2011 the largest HHI of assets concentration was recorded in Finland (3,700), followed by Estonia, Norway and Lithuania, which in the same year had a concentration index 2,613, 2,061 and 1,871 index points, respectively. The most fragmented market was in Germany having had the HHI of 317. It was followed by Luxembourg, Italy and Austria, with 346, 407 and 423 index points, respectively. The highest level of concentration measured by share of total assets by five largest credit institutions was registered in Estonia (90.6%). Luxembourg had the lowest CR5 indicator (31.2%), which indicates the higher level of market competition (ECB, 2011).

Business performances.

The growth of the sectoral profitability was interrupted in 2009 due to the spillover of the economic crisis on the Serbian banking market.

Figure 4. Profitability indicators in Serbian banking sector in 2009-2013 (%)



* Data as of June 30, 2013; Source: the data of the NBS (Annual Report, 2009-2012)

Slow lending, deposit outflows and deteriorating of asset quality reflected in the reduction of sectoral profit and decrease of key financial indicators – return on assets and return on equity. ROA has dropped from 2.1% in 2008 to 1.0% in 2009. Return on equity, which presents the level of return on equity invested by the owner, was 4.6% in 2009, which is a significant decrease in relation to the end of 2008 when the ROE indicator was 9.3%. Thanks to the measures performed by NBS, a growth of profitability was recorded in 2010. Dynamic of recovery indicators largely depends on banks business policies. In the longer term, sustainable recovery of profitability may be only the result of a lending growth based on adequate risk management.

A reduction in profitability was recorded in most countries during the crisis. ROA and ROE were positive in the region, with the exception of Montenegro during the whole period, and Bosnia and Herzegovina in 2010. The highest ROA indicators were registered in Croatia and Serbia during the observed period, while Montenegrin banking system recorded a negative growth rates of ROA (even -18.3% in 2012). *Table 4* presents the values of indicators of profitability in WB countries.

Table 4. Performance indicators in 2009-2012 (%)

	2009		2010		2011		2012	
	ROA	ROE	ROA	ROE	ROA	ROE	ROA	ROE
Serbia	1.0	4.6	1.1	5.4	1.2*	6.0*	1.0*	4.7*
Croatia	1.1	6.4	1.2	7.0	1.2	6.9	0.8	4.8
BIH	0.1	0.8	-0.6	-5.5	0.7	5.8	0.9	7.0
Montenegro	-0.7	-8.0	-2.8	-27.0	-0.1	-1.1	-18.3	-2.0
Macedonia	0.4	4.6	0.7	7.6	0.4	3.4	0.4	3.8
Albania	0.6	5.6	0.8	7.3	0.1	0.8	0.3	3.8

* Excluding from calculation banks delicensed in 2011 and 2012 (Agrobanka, Nova Agrobanka and Razvojna banka Vojvodine)

Source: The data of WB countries Central Banks (Annual Report, 2009-2012)

Slight recovery in profitability indicators in Croatia in the last two years, was interrupted in 2012. A major factor in the decline in profitability (the lowest level since 1999) was a continuous increase in non-performing loans, and the fall of margins as well as the increase in costs for the provision for losses. Despite the fall in profitability, in 2012 Croatia was still the leader according to the largest ROE indicators in the group of selected countries. With ROA of 1.0% and ROE of 4.7% in 2012, profitability of the national banking sector does not deviate much from the region average. A reduction in profitability is due to a high level of non-performing loans, as well as a sluggish lending growth (NBS, 2012c).

GENERAL TRENDS IN DEVELOPMENT OF INSURANCE MARKETS IN WB COUNTRIES

Serbian sector of financial services is dominated by banks participating by share of 92.6% in total financial sector assets in 2012. A dominance of banks in the financial sector prevails in other WB countries. In the overall financial sector of Serbia (banks, leasing, insurance companies and voluntary pension funds), insurance takes second place by its total assets, capital and employment levels. In 2012 the share of insurance companies in total assets of financial sector was 4.5%. With 11,408 employees at the end of 2012, the insurance sector accounts for 28.3% of total employment in the sector (NBS, 2012b).

In 2012, the number of insurance companies of the Serbian insurance sector remained unchanged (28 companies). Of those, 24 companies engaged in insurance activities and 4 companies in reinsurance. At the same year, the number of insurance companies in other WB countries were as follows: 28 in Croatia, 26 in Bosnia and Herzegovina, 15 in Macedonia, 12 in Montenegro and 10 in Albania.

Indicators of development of the sector

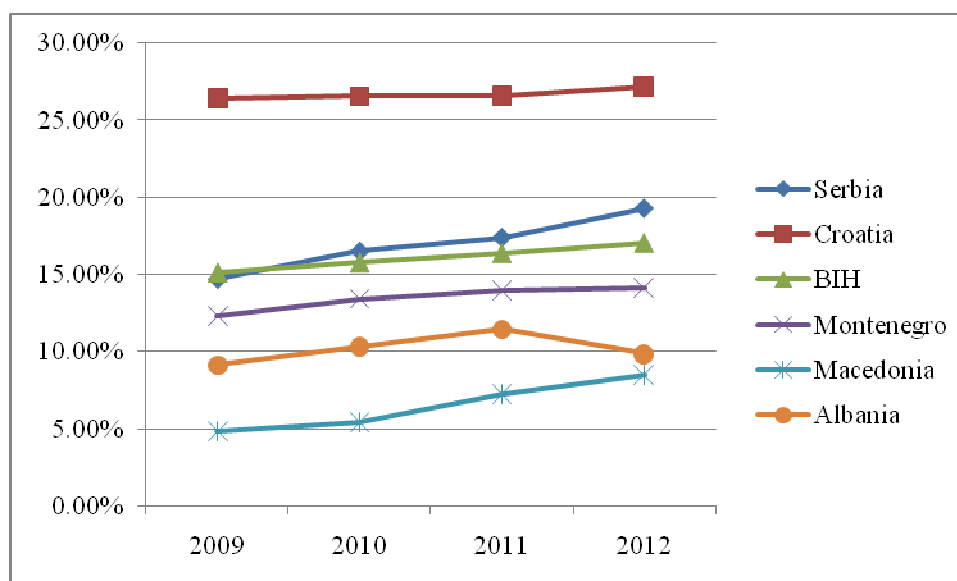
The international comparability and the importance of the insurance sector is usually presented through the three key indicators: the share of premium in Gross Domestic Product (insurance

penetration), gross written premium per capita (insurance density) and the share of life insurance premiums in gross written premium.

At the same time, the development of the insurance market can be traced through the movement of gross written premium in time. The development of the Serbian insurance market measured in terms of premium growth showed that the slightly positive trend was maintained – in 2012, gross premium amounted to RSD 61.5 bln, up by 7.2% in nominal terms from a previous year (NBS, 2012b). A growing trend of insurance premiums for the period 2009-2012 is also present in other WB countries. Gross written premium continued to make slight increase in 2012 (3.29% in relation to the previous year in Montenegro, 3.02% in Macedonia, 7.9% in Albania and 3.48% in Bosnia and Herzegovina). Among the WB countries only in Croatia the total insurance premium again recorded a negative growth rate (decrease of 1.2%). That continued a trend of reducing insurance premiums, which started in 2009.

In the structure of gross written premium, non-life insurance premium has a dominant position in all WB countries. In 2012, the share of non-life insurance in total premium was 80.7% in Serbia. The largest share of non-life premiums was recorded in Macedonia (91.4% in 2012), while the Croatia had the best position (with the lowest share of 72.77%). The share of life insurance premiums in gross written premium shows a growing trend during the selected four-year period in all WB countries. The development of Serbian life insurance is at a low level, but with a tendency to increase (Avdaloovic, 2007). As the figure below shows, the best ranked was Croatia (with 27.27% in 2012) followed by Serbia, B&H, Montenegro and Albania which had the share of 19.3%, 17.06%, 14.16% and 9.86%, respectively. According to this indicator of development, Macedonia is on the last place (with 8.53% in 2012).

Figure 5. The share of life insurance premiums in gross written premium (2009-2012)



Source: The data of NBS and WB insurance supervision agencies (Annual Report, 2009-2012)

While there are some slightly positive trends in terms of the rising share of life premiums, WB significantly lag behind the EU average. This is corroborated by the fact that the same indicator is much higher in EU member states (75.5% in United Kingdom and 46.2% in Germany in 2011).

The following table shows the values of the two key indicators for assessing the development of the insurance market in selected countries of the region.

Table 5. Insurance market development indicators (2009-2012)

Country	Premium to GDP ratio (%)				Premium per capita (in \$)			
	2009	2010	2011	2012	2009	2010	2011	2012
Serbia	1.90	2.00	1.80	1.80	110	98	98	99
Croatia	2.81	2.76	2.68	2.74	402	397	386	348
BIH	1.91	1.91	1.92	1.95	88	83	84	88
Montenegro	2.18	2.05	1.97	2.01	150	132	134	142

* Figures are converted into US dollars to facilitate international comparisons

Source: The data of NBS and WB insurance supervision agencies (Annual Report, 2009-2012)

As a table shows, Croatia had a largest gross written premium share in GDP (GWP as % of GDP) and the best position in compare with selected countries. Compared to EU member states, Serbian insurance sector is small and undeveloped. The previous statement is confirmed by the NBS data in 2011 - according to the development sector indicator of 1.8%, Serbia occupies the 68th position in the world, while in the same year this indicator in the EU amounts to 7.8% (NBS, 2012b). Apart from Serbia, other WB countries also have low premium to GDP ratio when compared with the developed economies. Due to the impact of economic crisis, as well as to a slowdown in growth of the Montenegrin economy, this indicator declined in 2010 and 2011, but in 2012 made a slight growth and amounted to 2.01% (Insurance Supervision Agency of Montenegro, 2012). According to the data of Insurance Supervision Agency, insurance penetration in Macedonia is the lowest in the selected countries in region (with 1.52% u 2012).

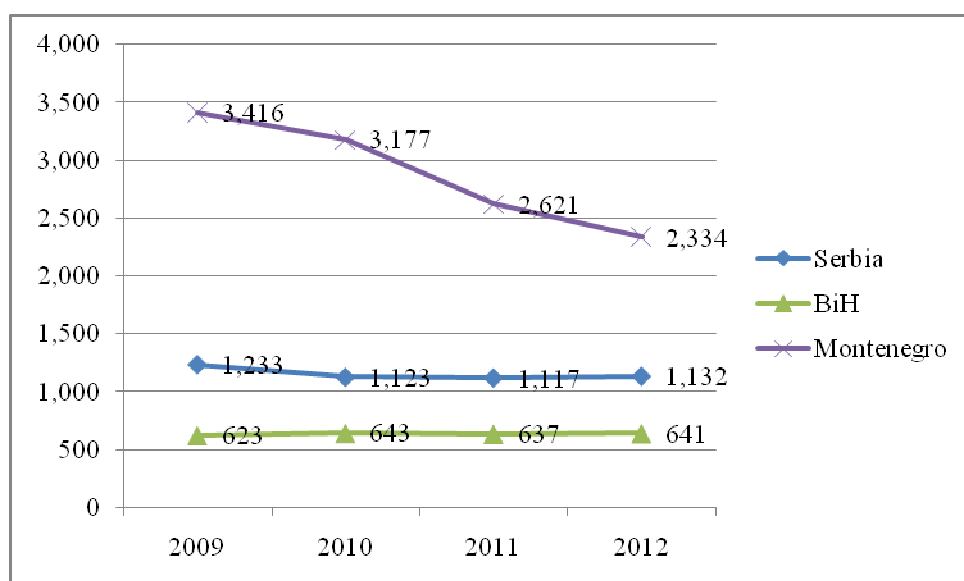
Insurance density is one of the most frequently used insurance market indicators, which represents the amount of gross written premium per capita (GWP per capita). In the studied group of countries, Croatia is best quoted having USD 348 premium per capita in the end of 2012 while Macedonia had 72.9 USD, and Albania which occupied the last position with USD 30 of premium per capita. Written gross premium per capita in all WB countries significantly lag behind the EU average. In 2011 the insurance density amounted to USD 2,379 for the EU, while in Serbia in the same year, the premium per capita was USD 98 - 67th position in the world (NBS, 2012b). That domestic insurance market is underdeveloped is also indicated by the fact that Switzerland, as the best-ranked EU member state according to this indicator (Swiss Re, Sigma, 2013), had GWP per capita of USD 7,908.

Insurance market concentration.

The level of concentration of insurance market is measured by Herfindahl-Hirschman index, whose values range from 0 to 10,000, and indicate non-concentrated market, moderate concentration or concentrated market (monopoly). The following figure shows the movement of the index in Serbia, Bosnia and Herzegovina and Montenegro.

According to the share in the total premium, in all observed years the HHI index in Serbia is over 1,000, which confirms that the concentration in the insurance market was moderate. Unlike Serbia, the concentration index in Bosnia and Herzegovina was well below 1,000, which means that the insurance market is fragmented. Regarding the insurance market of Montenegro, in the period from 2009 to 2012, the value of HHI ranged within the limits of concentrated market, since the values of this index belong to the interval from 1,800 to 10,000 (Insurance Supervision Agency of Montenegro, 2012). Concentration level at the market continues to be high, with the tendency of further reduction. Declining trend of the HHI index over the period indicates the growth of competition in the sector.

Figure 6. Concentration indicator in selected WB countries (2009-2012)



Source: The data of NBS and WB insurance supervision agencies (Annual Report, 2009-2012)

Operating indicators.

Solvency of insurance companies depends on the adequacy of technical provisions and the real value of their coverage, as well as capital (guarantee reserve) for undertaken obligations in a case of unforeseen operating losses (NBS, 2012b). According to the national *Insurance Law*, the level of guarantee reserve must always be higher than the calculated solvency margin (Insurance Law, Article 123). The available solvency margin (ALS) can be defined as a buffer in a company's assets covering its liabilities, but the more precise definition is that ALS is difference between the assets of "good quality" and liabilities (Sanstrom, 2006).

The national insurance sector is well-capitalised. This is corroborated by the following data: at the end of 2012 ratio between the guarantee reserve and solvency margin for non-life insurance companies was 186.7%, and 189.1% for life insurance companies (NBS, 2012b).

Insurance companies are obliged to establish technical provisions that are used to cover liabilities arising from insurance operations at the end of every period. Regulatory institutions supervise the calculation of technical provisions and their covering. According to the NBS data, in 2012 the coverage of technical provisions (by the prescribed types of assets) for non-life insurance companies was 100.24% in 2012, and for life insurance companies stood at 100.9%

The Serbian insurance market features low profitability. Based on the financial statements data for previous two years, ROE indicator for non-life insurance companies amounted to 3.1% in 2012, while in 2011 it equalled 1.8%. Return on assets for this companies was positive (0.76% in 2012 and 0.5% in 2011). On the other side, the life insurance companies recorded a negative growth rates of ROA (-0.3% in 2012 and -1.5% in 2011).

REGULATORY AND INSTITUTIONAL FRAMEWORK AS A SUPPORT TO THE STABILITY OF THE FINANCIAL SECTOR

Adequate regulatory and institutional framework is the support for preserving stability of the financial sector. In accordance with the above, the competent national authorities create laws which provide

basic pre-conditions for the stability of the sector, forming the basis for the development of the sector and preservation of customer trust. Institutions for supervision of the banking and insurance sector adopt by-laws and implement measures to increase the resilience of the financial sector in terms of various types of risk.

Given the strategic goal of joining the EU, gradual harmonization with the EU regulations is expected in WB countries. In order to strengthen the financial system, improving the function of supervision and increase transparency and market discipline, Basel II standards were fully implemented in Serbia in June 2011. Bearing in mind that Croatia joined the European Union on July 1, 2013, it is the first WB country which harmonized the overall legislation with the EU directives.

In the longer term, the profitability and sustainability of banks depend on efficient risk management and capital management. NBS data showed that the Serbian banking sector is most exposed to credit risk. Lending activity in Serbia in 2012 was decreasing as a result of not only reduced demand, but also tightened loan-granting conditions by banks. The slowdown in lending and decrease in the quality of the loan portfolio is noticeable in the banking sector in neighboring countries as well. Although in 2012 the share of non-performing loans in total loans of the banking sector decreased to 18.6%, the level of non-performing loans in Serbia was still above the average for the region (NBS, 2012c). Due to the high coverage of reserves for potential losses, non-performing loans, though high, do not threaten the stability of the sector, but they are one of the major factors that influenced the decrease in profitability in 2012.

The banking sector of Serbia in the observed period is characterized by adequate capitalization (capital adequacy ratio in 2012 amounts to 19.87%, and the minimum is 12%). The observed indicator in the same year in Croatia amounted to 20.89%, which indicates that Serbia and Croatia are leading in selected countries of the region. Strong capitalization makes an adequate buffer for the sector as a whole in the event of unfavourable shocks.

National banking sector is highly liquid - an indicator of sector liquidity in 2012 was 2.08 (prescribed minimum is 1.0), and the ratio of loans/deposits is 119.9%. Previous data show that the risk of liquidity was poorly expressed and that it does not endanger the financial stability of the sector. Macroeconomic stress-tests, according to the methodology supported by the IMF and according to which the National Bank of Serbia assesses the resistance of the sector to potential risks high resistance even in the extreme growth of credit risk and liquidity risk (due to unexpected sudden outflow of deposits).

The National Bank of Serbia implements supervision in the insurance sector, too. In other WB countries it is characteristic that supervision of insurance companies is under the jurisdiction of the insurance supervision agencies. Previous comprehensive analysis of the key indicators of development of the insurance market showed that that sector is underdeveloped in all WB countries and that it lags behind the developed economies.

Regulatory institutions responsible for the insurance sector are faced with two challenges - to maintain stability during the crisis and provide the basis for development. Legislation in the WB countries prescribes rules on risk management, related to the definition of criteria of solvency, the establishment of guarantee reserve funds and determining the available solvency margin for life assurance and especially for non-life insurance, as well as prescribing a forms of properties where insurance companies can deposit and invest technical provision funds and guarantee reserve funds. Also, adequate risk management implies reinsuring the excess risk over retention (Lukic, 2012). Regulatory institutions of the WB countries are expected to prepare adequately for the implementation of Solvency II, as a new comprehensive methodological framework for the risk management.

CONCLUSION

The banking and insurance sectors in all observed countries in the region are still under the influence of the financial and economic crisis which spread to most economies in Europe and which is not only reflected in the banks and financial system only, but in the real economy as well. The National Bank of Serbia has shown high level of responsibility reacting timely by adopting series of measures in order to insure resistance of the sector to the negative impacts. The relevant indicators, as well as stress tests performed, have shown that the Serbian banking sector is highly liquid and well capitalized. The regulatory institutions in the Western Balkans continued in 2013 to preserve the stability of the banking sector, as well as to set up the regulatory framework to macroeconomic conditions.

According to the premium as % of GDP and premium per capita, insurance markets are underdeveloped in all WB countries if they compare with EU countries. Croatia, as a new EU member state, is the best ranked in relation to the other Western Balkans, but still lags behind the developed economies. As regulators and supervisors, the National Bank of Serbia and the insurance supervision agencies in selected countries in region have a significant tasks to maintain sector stability and provide preconditions for further development. Having in mind that the insurance sector has important impact on the development of the overall economy, the competent institutions activities in 2013 geared at providing conditions for harmonisation with EU legislation, which means an integrated approach for technical provisions and capital requirements, as well as a comprehensive framework for risk management.

LITERATURE

- 1) Albanian Financial Supervisory Authority (2011). *Annual Report*, available in: <http://amf.gov.al/default.asp?lang=1>
- 2) Avdalovic, V. (2007). *Osiguranje*, Belgrade: Belgrade Banking Academy
- 3) Bank of Albania (2010-2012). *Annual Report*, available in: http://www.bankofalbania.org/web/BoA_Publication_introduction_2609_2.php
- 4) Central Bank of Bosnia and Herzegovina (2012), *Annual Report*, available in: <http://www.cbbh.ba/index.php?id=35&lang=en>
- 5) Croatia National Bank (2009-2012). *Banks Bulletin*, available in: <http://www.hnb.hr/eindex.htm>
- 6) Croatian Insurance Bureau (2009-2012). *Croatian Insurance Market*, available in: <http://www.huo.hr/eng/publications/50/>
- 7) Central Bank of Montenegro (2010-2012). *Chief Economist Annual Report*, available in: <http://www.cb-mn.org/eng/index.php>
- 8) European Central Bank (2010). *EU Banking Structures*, available in: <http://www.ecb.europa.eu/pub/pdf/other/eubankingstructures201009>
- 9) European Central Bank (2011). *EU Structural Financial Indicators*, <http://www.ecb.europa.eu/pub/pdf/>
- 10) European Central Bank (2013). *Banking Structures Report*, available in: <http://www.ecb.europa.eu/pub/pdf/other/bankingstructuresreport2013>
- 11) Insurance Supervision Agency of Montenegro (2009-2012). *Report on Insurance Market in Montenegro*, available in: <http://www.ano.me/en/>
- 12) Insurance Agency of Bosnia and Herzegovina (2010-2012). *Statistics of Insurance Market in Bosnia and Herzegovina, Annual Report*, available in: <http://www.azobih.gov.ba>
- 13) Insurance Supervision Agency of Macedonia (2010-2011). *Insurance Market in Republic of Macedonia, Annual Report*, available in: <http://www.aso.mk/>
- 14) Lukic, R. (2012). *Računovodstvo osiguravajućih kompanija*, Belgrade: Faculty of Economics, University of Belgrade

- 15) National Bank of Serbia (2002). *Annual Report*, available in: http://www.nbs.rs/internet/english/55/55_4/index.html
- 16) National Bank of Serbia (2009-2011). *Banking Supervision*, available in: http://www.nbs.rs/internet/english/55/55_4/index.html
- 17) National Bank of Serbia (2009-2011). *Insurance Sector in Serbia, Annual Report*, available in: http://www.nbs.rs/internet/english/60/60_6/index.html
- 18) National Bank of Serbia (2012a). *Banking Sector in Serbia, Annual Report*, available in: http://www.nbs.rs/internet/english/55/55_4/index.html
- 19) National Bank of Serbia (2012b). *Insurance Sector in Serbia, Annual Report*, available in: http://www.nbs.rs/internet/english/60/60_6/index.html
- 20) National Bank of Serbia (2012c). *Annual Financial Stability Report*, available in: <http://www.nbs.rs/internet/english/90/index.html>
- 21) National Bank of Serbia (2013). *Banking Sector in Serbia, Second Quarter Report*, available in: http://www.nbs.rs/internet/english/55/55_4/index.html
- 22) National Bank of the Republic of Macedonia (2010-2012). *Report on Banking System of the Republic of Macedonia*, available in: <http://www.nbrm.mk/>
- 23) Official Gazette (2004). *Insurance Law*, Belgrade: Official Gazette of the Republic of Serbia, no. 55/04 (55)
- 24) Sanstrom, A. (2006). *Solvency: Models, Assessment and Regulation*, Chapman & Hall/CRC
- 25) Swiss Re (2013). *Sigma, World Insurance in 2012*, available in: <http://www.swissre.com>
- 26) Vukovic, V. (2009). *Structural Changes and banking performance in Serbia 2002-2008*, Belgrade: Institute of Economic Sciences

MERGERS AND ACQUISITIONS BETWEEN BANK AND INSURANCE AS A CONSEQUENCE OF THE FINANCIAL CRISES¹

Mladenka BALABAN²
Miljka MARKOVIĆ³

Abstract

Modern financial markets are characterized by a process of enlarging the activities of financial institutions, mergers and acquisitions, where they assume the character of financial conglomerates. In order to achieve the greatest possible profits and improving overall performance, financial institutions took over the operations and activities of other financial institutions that are not traditionally associated with them. The aim of this paper is to provide insight that is closer to explain a new phenomenon in the financial market, which is related to the process of taking over the activities of insurance companies by banks - Bancassurance and perform some banking services by insurance companies - asurbanking.

Key words: insurance, banks, financial market, bancassurance, product, merger

INTRODUCTION

At the beginning of the 90s of XX century, in developed countries there has been a significant flow convergence of banks and insurance companies, which are primarily reflected in the downward trend and nearly disappearing strict distinction between these sectors (Table 1). Most banks now provide insurance services, while a significant number of insurance companies is moving in the direction of offering banking products and services. Due deregulation flows and liberalization, many participants in the financial markets have become a real financial giants who offer a wide array of different financial services. There are several terms related to the trend in the financial sector - are often used Bancassurance, assurfinance and all finance - while the financial institutions that have adopted this strategy, often referred to as financial conglomerates.

By analyzing the literature on this topic, it can be seen several definitions of financial conglomerates. Herring and Santamero under financial conglomerates include "companies that offer basic banking services along with other financial services." International Association of Insurance Supervisors define financial conglomerate as "any group under common control whose exclusive or predominant activities consist of providing significant volume of services in at least two financial sector (banking, insurance, securities trading)." ⁴

The tendency to form financial conglomerates and increase their role in the global financial market was started by the banks that are elaborated separate subsidiaries for a wide range of services such as leasing, consumer loans, mortgage loans, etc.. There are several reasons that have forced diversify bank their activities. One of the most important is the present disintermediation in commercial

¹ This paper is a part of research projects No. 47009 (*European integrations and social and economic changes in Serbian economy on the way to the EU*), and No. 179015 (*Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements*), financed by the Ministry of Science and Technological Development of the Republic of Serbia.

² Mladenka Balaban phd, professor, Institut of economic science, Belgrade

³ Miljka Markovic ma., professional associate, Unicredit Bank, Belgrade

⁴ Frederic S. Mishkin and Stanley G. Eakins, *Financial Markets and Institutions*, 3rd edition, Addison-Wesley, Reading MA, 2000, str. 546

banking. Specifically, both the asset side and the liability side, commercial banks are faced with the erosion of their intermediary function. On the asset side of the balance sheet, credit institutions are confronted with the fact that traditional bank loans are increasingly substituted determinate market funding sources. On the liabilities side, there is a significant outflow of deposits to a wide range of new products offered by companies from various sectors such as life insurance companies.

Table 1. Changes on World Financial Markets

	Until 1980.	At 2000.
Form of competition	Nonprice and price competititon	Point is on price competition
Barriers to entry	High	Small
Cost of investment	High	Small
Line of demarcation	Competition in same group	Competition is not limited
Specialization	Tradiconal offer	Modern offer

Source: Tina Harrison, Financial Markets and Institutions, Prentice Hall, 2000, str.29

The role of the Bank as agent of insurance company has a long history: "It is partly originated from the complementary nature of product is banking and insurance companies, and partly because of the possibility to reduce the cost of searching for existing customers who want to expand the range of products they buy."

Insurance companies have also exercised the use of the concept of business because they had at their disposal an additional distribution channel. However, the situation changed dramatically when the bank decided to individually signed by the risk by establishing their own insurance companies, which contributed to the cooperative interaction in the relationship between banks and insurance companies turned to competitive. It is worth noting that it is precisely from that moment concepts Bancassurance, all finance and financial conglomerates began to attract wide attention.

Establish their own insurance companies, banks tried to take over the deposits that are lost in competition with insurance companies, which have been extremely successful in mobilizing funds from the general public. In fact, fearing the vulnerability of the public pension system, people are becoming more and more shall be included in the additional pension benefits under contracts of life insurance. Moreover, the savings through life insurance is frequently supported by the attractive tax regime.

According to Lafferty Business Research (1991), the reaction of insurance companies in the growth and development of Bancassurance and financial conglomerates differ significantly from country to country. Facing an invasion of their territory, some insurance companies have decided to infiltrate the banking market (mainly to savings) developing banking activities virtually from the start point or by entering into distribution agreements (agreements distribution). In addition, the financial markets to realize a large number of mergers and acquisitions between banks and insurance companies, establishing strong relationships between partners from different financial sectors.⁵

MODELS OF THE FORMATION OF THE BANK INSURANCE

There is no unique way of forming a bank insurance that is best for each insurance company and for each bank. As in all business situations, appropriate strategic plan, created in accordance with the analysis of the external and internal environment of the company and its goals, is necessary before making any important decisions. There are many ways in which it can form bank insurance. Typical are the following models:

⁵ T. Hoschka, *Bancassurance in Europe*, 1994.

I The first model called distribution arrangements (distribution agreement) distribution channel one partner gets access to the database (file) the other partner. This is the simplest form of bank insurance, no deeper cooperation and the need for greater investment, but very easy and can be unutilized, if the partners do not cooperate enough to exchange data. Under this arrangement usually supplies the bank "friendly" "insurance company" "hot traces" (warm leads) from the database of bank customers, from which it can generate a very profitable revenue for both partners. It is the conclusion of an insurance company in the sale of its products. This type of arrangement may prove very profitable, as it requires a small investment, but the insurance products that are the subject of investments must have a "brand" (although the bank may sell them under their company) and are usually standardized.

II The second model is a strategic alliance (strategic alliance), which represents a higher level of business integration, coordination with management, the joint development of products and the possible sharing of client base. Requires less investment, primarily in the information technology and sales staff. In the first and second models and the lack of integration is the possibility that the system resources, and often duplicated, and that a synergy is not achieved.

III The third model is a joint venture (joint venture) and involves joint ownership of the products and clients (databases) that require long-term close cooperation and significant investments. Institutionally this joint venture can be achieved on a corporate basis by creating a new insurance company by existing banks and insurance companies. It is possible and each share of the share capital and the management of banks and insurance companies (cross shareholdings) that creates the connections between their business activities and services provided, as well as the preservation of a significant proportion to the degree of independence.

IV The fourth model is the creation of a group of companies providing financial services (financial services group) through the purchase (acquisition) of the existing banks (in whole or in majority part) by the insurance company or the establishment of new banks by the insurance company (the new beginning without association). Similarly, the purchase of an existing insurance company (in whole or in part) by the bank, or the establishment of new insurance companies by the bank. It is possible merger (merger, fusion) insurance companies and banks, in more or less equal footing. Operating systems of these entities are fully integrated in providing integrated financial services (one-stop financial services). If the line is highly convergent model (highly converged model) operations and infrastructure are integrated with cutting costs by sharing a database of customers and distribution channels.

Of course, this does not exhaust the possible forms of bank insurance. For example, it is model-based holding company where the financial institution, organized as a holding company, owns several companies (insurance companies, banks, finance companies, broker, etc.) that are "dependent" companies, but in proportion to the autonomous service each of its traditional market segments, with little integration. Model-based holding company to disperse risks, but makes it difficult to integrate, which often leads to duplication of systems and resources.

Banks and insurance companies have a lot in common, but is perhaps the most important common feature is that the core of their business process mediation. Selecting the right model for bank security depends to a great extent by regulatory, and cultural environment of the host country (for example, most bank security arrangements in Asia, distribution arrangements, and these arrangements are more involved and the insurer). Overall, more integrated model will allow more opportunities for rationalization and improvement of operational efficiency based on fully integrated financial services, but increasing complexity in other areas can reduce the overall benefit. Based models to a greater or lesser extent on the distribution arrangements are suitable for simple insurance products ie. traditional insurance products (traditional insurance products). Models that are in transition between distribution arrangements and real integration, are the "mixed banking and insurance products" (blended insurance-banking products) that are "tailored" to the bank insurance. In any case, banks and

insurance companies must agree to the sales channel used, which "belong" to clients, ensuring that products will be offered and how it will be offered.

REASONS FOR ENTRY OF BANKS INTO BANK INSURANCE

The main reasons that influenced the decision of banks to enter the insurance industry sector are as follows:

- Profit - it is estimated that the bank insurance participate but with 20-30% of the profits of banks in continental Europe.
- Intense competition among banks - in terms of reducing the spread of interest rates, has led to an increase in administrative and marketing costs and limited -profit network of traditional banking products, all of which caused the need to find new products to maximize productivity and profitability.
- Changes in the preferences of customers of banks - changes in the environment are inevitably led to changes in the behavior of customers. They began to seek to provide them with more services, better information, and most importantly, they want to see their money increase. Now it requires a wide range of professional and cost-effective banking services. All this has created a very competitive environment for banks and forced them to begin to think and act in a completely different way.
- Decrease in the share of traditional savings and deposits - which is the traditional core of the potential and profitability of banks that manage their clients' money. Life insurance products, which are mainly supported by favorable tax.⁶

The benefit of the Bankasurance for insurance companies is reflected in the fact that it allows them to expand their coverage to new customers ie. clients of the bank, or to areas where insurance companies had some form of territorial presence, a bank that has its business units. In this way, the bank does not have to build its own network of insurance agents which need a lot of money and time. We should not ignore the specific reasons, such as demographic, as the bank's customers represent a completely different segment of the population (age, gender, buying habits) in relation to the insurer who previously had mostly. Bank insurance enables insurance companies to expand their range of insurance products offered by, or through banking channels to sell their products that are not suitable for traditional distribution channels of insurance companies. Connection with the bank to the insurer that under relatively favorable conditions occur additional capital, and the development of new financial products for insurers much more effective if you work with a partner bank.

As for the clients (insurance companies and banks), they have an increasing importance of service offering "all in one", while saving time, lower commissions and premiums (as it will reduce the cost of the distribution company transferred to policyholders through reduced premiums) and the possibility to obtain complex information in one place.⁷

In any case, the insurance company is the dominant motif expansion of distribution channels, and reduce costs, as according to a study of the distribution channels of insurance products cost 33 % of the average premium equivalent (average premium equivalent), distribution through independent financial advisors / agents 42 % and over own sales network of 78 %. Otherwise, a study by the Boston Consulting Group and the Bank Administration Institute in the United States argues that the existing banking infrastructure allows banks to do business with one bank insurance at cost, which is 30-50% of the cost of traditional insurers. At the same time, through the Bank Insurance is possible to sell 3 to 5 times more than the policy in a way that is normally working insurers.

⁶ *Bancassurance in Practice*, Munchen Ruck, Munchen, 2001

⁷ Babić-Hodović V., *Bankoosiguranje-konkurencija ili kooperacija bankarstva i osiguranja*, Svet osiguranja br. 2/2003, str. 59-63

Product of Bankassurance

All life insurance products are natural products that belong to the broader financial services sector. For bank insurance operation, considered separately, decisions about the types of insurance products that will be sold is very closely related to the distribution methods that are intended to be used. Because the commitment and expertise required for the sale of the products must be compatible with the capabilities and cost base selected distribution method. A product that is inappropriate for sale through the available distribution channels will be successful in operation; it is expressed in the volume of sales or the amount of profit.

By bank insurance, can be placed almost all life insurance products . However, apart from the traditional insurance products Insurance Bank has developed specialized products to meet the specific needs arising from banking transactions or improve certain products to make them more attractive and useful to consumers. Particularly interesting are:

- Credit Insurance - Credit insurance in case of death of the borrower (insured), or his permanent incapacity to repay the loan taken, as in the case of non- repayment obligations on time. Loans that are the subject of insurance (mortgage loans, consumer loans, commercial loans, overdrafts) are usually for a period of 5 years.
- Simple a standardized insurance products - (such as auto liability insurance, household insurance) that are sold individually or in a "package" (where premiums less if purchased together).
- Pure investment products - which do not have "security element ", ie . No risk they represent the traditional domain of the bank, but some of them enjoy favorable tax treatment if they offer insurers.

In addition, insurance products that can be sold through the bank and the insurance : insurance associated with investments in mutual funds (unit- liken products), insurance against accident or illness , income insurance, insurance, medical expenses, voluntary pension insurance, credit cards and so on .

Non-life insurance products have traditionally been less important for marketing the bank insurance. The main reason for this could be the complementary nature of life insurance and banking products, where both types focused on the accumulation of resources and their management. For this reason, the banks find it easier to sell life insurance products than non-life insurance products. Second, life insurance as a long-term contract implies the necessity of investments entrusted funds in financial institutions, including banks poll well. At the same time, a good knowledge of the financial situation of the client and his needs to bank officers to more easily sell a life insurance policy, and this aspect is less important in the distribution of non-life insurance⁸

MERGER AND ACQUISITION IN EUROPE

The current financial crisis that has shaken the world leads to significant changes in the structure and functioning of the global financial system. The crisis in the 2008th was transferred to the mortgage market in the stock and bond markets and quickly became a presence on a global scale. The biggest structural change in the current crisis, the collapse of U.S. investment bank model as independent financial institutions. The crisis has been transferred to the segment of traditional banking, but the massive withdrawal of saving deposits with banks prevented state guarantees, except that the limits of these guarantees significantly increased. The effects of the crisis on the real economy have been reduced by the state responses towards the stabilization of the banking system and restore confidence in the company, investors, customers and creditors.

⁸ Swiss Re, Bancassurance developments in Asia – shifting into a higher gear, Sigma No.7/2002, str.24 -25

So, historically, in terms of uncertainty, particularly uncertainty that capital markets provide adequate sources of fresh funding, it is normal to expect a decline in M & A activity. The state of the financial markets has had a powerful influence on the behavior of financial firms and their strategic PRIORIT. New strategic priorities for financial companies include a greater focus on national priorities, the stability and solvency of the business at the expense of increasing revenue. Based on the characteristics of the twenty largest transactions of the 2008th which comprise 80 % of the total value of transactions, the change can be generalized as follows :

- The nationalization of some large financial companies in terms of taking majority stake of the state (more than half of the twenty largest transactions are of this type) . Some examples include the acquisition of Fortis from the Belgian government in the country, followed by nationalization of Dexia companies and recapitalization of KBC.
- Recover companies that have significant difficulties in business. Some of the western financial groups took the opportunity to take the weakened target companies for their “secondary home markets”, so the BNP Paribas Fortis took over the operations of the Group In Belgium and Luxembourg, by their government .
- Divestment of business activities that are not closely related to the core business. Often they conducted the sale of those assets or subsidiaries that are geographically distant. As an example the sale of the German retail banking segment of the Citigroup group Credit Mutuel . Allianz sold Dresdner Bank in August last year, the foreign buyer is found Commerzbank, which is in this transaction saw a chance to further strengthen domestic activities in the banking sector. This trend could have a significant impact on the operations European banks in CEE and SEE. Be sure that the banks that entered the market thinking about the divestment of subsidiaries in markets where failed to realize the projected benefits of synergy.
- Important guidance on the implementation of economies of scale and increase market share at the national level and fragmented domestic markets. A trend that will formed around these activities will mean a continuation of the consolidation of small and medium-sized banks in the fragmented markets of Italy, Spain and Germany . Here we point out the potential for the use of innovative ways of financing transactions such as swaps asset (asset swaps).

Decline in cross-border activities aimed at developing markets, mainly in CEE and SEE. Decline in activity directed at these markets began in 2007. years, partly due to the reduced number of attractive target banks, and partly due to the credit crunch. In 2008 year decrease in activity has continued, which have contributed to the lack of liquidity, slowing economic growth in the region, as well as the inability aquisitor to find good resources to finance new transactions.

Table 2. Top 20 transition on financial market in Europe in 2008

Time of transation	Target	Country	Aquisitor	Country	Value of transation
October	Royal Bank of Scotland Group (udeo 57,9%)	UK	UK Treasury	UK	€25.487m
October	Fortis Bank Nederland	Holand	States-General of the Netherlands	Holand	€6.800m
October	HBOS (udeo 58,1%)	UK	UK Treasury	UK	€10.854m
October	ING Groep NV	Holand	States-General of the Netherlands	Holand	€10.000m
August	Dresdner Bank AG Fortis SA/NV (udeo 75%);	Germany	Commerzbank AG	Germany	€9.800m
October	Fortis Banque Luxemburg	Holand/Belgia	BNP Pribas SA	France	€9.000m

Time of transaction	Target	Country	Aquisitor	Country	Value of transaction
	(udeo 16%)				
Septemb.	HBOS plc	UK	Lloyds TSB Group plc	UK	€7.659m
Novemb.	Bayerische Landesbank	Germany	German Federal State of Bavaria	Germany	€7.000m
Septemb.	Dexia Group (udeo 34,4%)	Belgija	Vlade Belgije i Holandije	Belgia, France	€6.000m
October	Lloyds TSB Group (udeo 32%)	UK	UK Treasury	UK	€5.746m
Jul	Citibank Privatkunden AG	Germany	Credit Mutuel SA	France	€5.200m
Avgust	Roskilde Bank A/S	Denmark	National Bank of Denmark	Denmark	€5.000m
Septemb.	Fortis Bank SA/NV (udeo 49,9%)	Holand/Belgia	Vlada Belgije	Belgia	€4.700m
			Konzorcijum na čelu sa Babcock&Brown Ltd.	Australia,	
Jun	Angel Trains Ltd	UK		Canada	€4.539m
				Germany	
Oktobar	KBC Groep NV	Belgiia	Vlada Belgije	Belgia	€3.500m
Oktobar	AEGON NV	Holand	States-General of the Netherlands	Holand	€3.000m
Decemb.	Deutsche Postbank AG	German<	Deutsche Bank AG	Gemany	€2.790m
Jul	HSBC France SA	France	Banque Federale des	France	€2.100m
			Banques Populaires		
Jul	Alliance and Leicester plc	UK	The National Treasury Management Agency	Spain	€1.673m
Decemb.	Anglo Irish Bank	Irland		Irland	€1.500m
	Corporation				

Source: PricewaterhouseCoopers, „Back to the domestic future", March 2009.

Previous changes marked the end of two trends that have dominated activities financial sectors in recent years. First, the marked decline in the value of total transactions in the financial sector and the banking sector. The total value of transactions in the European financial services sector decreased from € 208bn in 2007. to € 179bn in the 2008th year, of which the value of transactions in the banking sector amounted to € 152bn. If we exclude transactions in which the state is a aquisitor, we come to a figure of 65% decline in the value of M & A transactions in the 2008th year. Secondly, there has been a focus on national transactions at the expense of cross-border.

In the last decade M&A activity has fluctuated in all industry, especially in financial sector. Since the start of the financial crisis the risk perception has risen and the global M&A activity in financials has fallen, although the volume of the transactions is the largest in the sector.⁹

⁹ Eva Pinter, Merger and Acquisition in the financial services industry, International journal of social sciences and humanity studies Vol 3, No 1, 2011

Table 3. Global M&A Volume by Top industries (billions USD)

	Energy	Financial	Telecom	Healthcare	Materials	Utilities
2000	146,67	506,91	526,11	20,76	118, 69	97,24
2001	139,62	408,24	140,81	17,37	94,75	108,89
2002	74,26	260,77	91,15	24,03	50,5	95,3
2003	73,26	347,89	105,64	52,29	63,81	47,01
2004	186,05	522,14	220,69	53,03	105,19	68,43
2005	215,18	581,61	269,44	90,48	149,37	123,95
2006	252,45	940,56	281,37	133,68	283,92	249,33
2007	279,54	1016,8	205,93	118,66	296,35	304,52
2008	235,33	724,34	175,35	63,53	184,88	212,1
2009	223,14	422,55	98,4	25,96	81,73	103,01
2010	300,1	328,86	162,71	56,05	134,42	127,08

Source: Bloomberg 2011

In the financial sector we analyses the cross-sectorial changes to estimate the motivation of financial institutions. The European banking has experienced substantial changes and new forces of changes have taken place such as structural deregulation and prudential reregulation, competition, technological developments, globalization have occurred. M&A deals are one of the main responses to new force of changes in the banking sector.

Table 4. Value of M&A transactions between European Financial institutions

Target company industry	Acquirer company Industry							
	AFI	AM	Banks	Brokers	OCI	DF	Insurance	OF
AFI	39,8	440,4	0	0	0	0	0	258,2
AM	393,2	3834,9	3131,4	413,4	56	0	5301	11460,3
Banks	0	3574,3	178507	14037	63,4	0	67,4	127519,1
Brokers	59,8	21,2	2393,6	4590,5	0	0	45,2	5647,3
OCI	91,7	88	1855,5	1145	3420,7	0	1015,4	3153
DF	0	0	640,7	0	0	0	7,9	144,2
Insurance	479	1228,1	5222,5	125,4	0	0	45801,4	6451,5
OF	5620,7	9864,5	3880,2	199,9	181	0	35,7	8583,5

AFI: Alternative Financial Investment, AM: Asset Management, OCI: Other Credit Institutions, DF: Diversified Financial, OF: Other Financials

Source: Thompson ONE Banker database 2009

We realized before that financial suppliers needed to extend their activities to cope with the emerged competition in the financial services sector, but now we can support this theory with numbers. Banks have loosened their space against other non-bank supplier. Table 4 make clear that banks are motivated to defense the customer savings, so their sources, according to integrate insurance companies into their business.¹⁰

After the detailed M&A transactions, the largest number of transactions is made by insurance companies and banks. It shows us a real heavy competition. In terms of deal value, banks play the major rule with 195 631.4 million USD, beyond the insurance sector's 52 274 million USD. By the reason of global financial crisis, there is an enormous transaction value in terms of inside sector M&A in bank sector, but the second largest deal value lead up to the insurance industry with 5222.5 million USD. It demonstrates the necessity of widening services and that banking and insurance services or

¹⁰ Eva Pinter, Merger and Acquisition in the financial services industry, International journal of social sciences and humanity studies Vol 3, No 1, 2011 p.100

organizations can be complementary and not competitive alone. Recent statistics show a rising trend of M&A transactions since 2003.¹¹

MERGER AND ACQUISITION IN SERBIA

Mergers (mergers) and acquisitions (acquisitions) are the most important factor in the development of countries in transition, and Serbia. In Serbia a record number of mergers and acquisitions made in 2005, and their value peaked in 2006th year, when it recorded income of 4387 billion, primarily due to the arrival of Telenor. In doing should be noted that our country is characterized primarily trend acquisitions.

Of the 47 bank that are operating in the Serbian market before the acquisition today operates 34 One should expect a further decline in the number of banks. So far, the reduction in the number of banks was a consequence of the acquisition, and will continue to be the motive for retention market position and increase participation. In the process of privatization of the state sold its share packages that acquired on the basis of the conversion obligation for banks by the London and Paris Club, and the conversion liabilities on the basis of old foreign currency savings. Here are presented only some of the numerous examples acquisitions of banks in Serbia. The biggest takeover in the domestic banking sector to date , with the National Bank of Greece (NBG) when 2006th bought Vojvođanska banka ad Novi Sad for 385 million euros. Acquisition Vojvođanske Bank was interested in 11 banks.

Despite large differences in organizational structure and marketing activities, the Bank successfully continued joint operations. While the Vojvodina Bank maintained its name. This decision was made for marketing reasons, to preserve existing clients .

One important example is the bank Intesa Sanpaolo , which entered the Serbian market 2005th the merge with Delta Bank (90 % stake plus one share) of EUR 462 million . The process of privatization in the banking sector otherwise it is pretty bad implemented, and it is assessed that Serbia it lost 800 million euros. However, sales of Delta Bank, after sales Vojvođanske Bank, considered one of the most successful. Intesa Sanpaolo 1 January 2008. merged into the Pannonian bank purchasing 87.39 % of the share capital 140 million, which further strengthened its market position as the leading bank in Serbia .

New Ljubljana Bank (NLB) , Slovenia's largest bank , is specific in that it has made the acquisition and merger on the Serbian market . The first was in July 2005th acquired 98.43 % of the share capital of Continental Bank, New Sad to 49.5 million. Then the Continantal NLB banka Novi Sad and NLB LHB Banka Beograd merged and of 1 Januar 2009 sharing the name NLB banka Beograd , operating as a universal bank type.

Some banks have performed their acquisition through a capital increase. Thus, Credit Agricole entered the Serbian market 2005th The recapitalization of Meridian Bank AD Novi Sad , which was 100 % privately owned and before the acquisition. Credit Agricole has thus gained a 71 % stake , and a year later, the purchase remaining block of shares from minority shareholders became the sole owner of the bank . In the same way, and the Pireus Bank acquisition of Atlas Bank.

OTP Bank Budapest conducted the acquisition of three Serbian banks: Niska banka (which is initially mentioned a figure of 75 million, then 38 million , and eventually was sold for 14.21 million euros), then Kulska Bank for 118.6 million euros and Zepter bank for about 32 million euros. However, despite the OTP Bank now occupies only 3 % of the Serbian banking market. Eurobank EFG is assumed Postbank ad Belgrade March 2003. The group is , from Mart 2006 became the owner of

¹¹ Eva Pinter, Merger and Acquisition in the financial services industry, International journal of social sciences and humanity studies Vol 3, No 1, 2011 p.101

National Savings Belgrade . This privatization is still on the list of 24 controversial privatization, which requires a review of the European Commission.

Acquisitions are a key factor in the development of the insurance market in Serbia, which is in addition to previous investments still underdeveloped. The insurance company UNIQA entered the Serbian market end of 2006. the purchase 80 % of the capital Zepter insurance , which at that time consisted of about 35 % of the domestic market . In mid- 2007. The Slovenian Triglav has bought 95 % of the Belgrade Kopaonik insurance. Late 2011 sold 83.3 % Capital insurance company DDOR Italian insurance company Fondiaria SAI .

CONCLUSION

Mergers and acquisitions are one of the most basic and most important form of corporate restructuring. Taking into account all the benefits and privileges that mergers and acquisitions are carrying this form of corporate restructuring of the future will not be ignored. Also, despite the high percentage of failure of mergers and acquisitions (50-75%) will contribute to a more profound studies of the implications of corporate strategy.

As the global economic crisis has adversely affected almost all large companies, so the hostile takeover will be on the rise. Hostile takeovers, as a form of very rapid economic growth, will certainly have a negative prospects for target company - loss of identity of the company, layoff, taking patent and brands etc.. However, it is the growth of hostile takeovers will result in the improvement and enhancement of defensive strategies. Companies will overlook their statutes already hostile takeovers and react preventively, setting defensive strategies such as "golden parachute", various amendments in the event of a hostile takeover, and the like.

LITERATURE

- 1) Babić-Hodović V., Bankoosiguranje-konkurencija ili kooperacija bankarstva i osiguranja, Svet osiguranja br. 2/2003, str. 59-63
- 2) Eva Pinter, Merger and Acquisition in the financial services industry, International journal of social sciences and humanity studies Vol 3, No 1, 2011 p.100
- 3) Frederic S. Mishkin and Stanley G. Eakins, Financial Markets and Institutions, 3rd edition, Addison-Wesley, Reading MA, 2000,
- 4) Fritsch, M., Gleisner, F., Holzhauser, H., „Bank M&A in Central and Eastern Europe", 2007.
- 5) Hoschka T, Bancassurance in Europe, 1994.
- 6) Swiss Re, Bancassurance developments in Asia – shifting into a higher gear, Sigma No.7/2002,

DEMAND AND SUPPLY OF INVESTMENT BANKING SERVICES IN SERBIA¹

Vlastimir VUKOVIĆ²

Abstract

The aim of this paper is to study demand and supply of investment banking services in Serbia. The motif stems from the importance of these services for the growth of real and financial investment and promotion of economic development. In addition, in the times of the global financial crisis, investment banking services may provide the impulse to faster recovery in transition economies such as ours. Analyzed services in Serbia are provided by authorized and custody banks, which represent the organizational unit of domestic banks. Services related to securities are also provided by other investment firms, such as broker-dealer companies. Institutional framework for performing these tasks is consisted of relevant laws and institutions (Securities and Exchange Commission, Central Registry and the National Bank). Current regulatory environment for these activities was introduced last year, when the implementation of new Capital Market Law (2011) started. Demand for investment banking services has been declining since 2009, when the global financial crisis spilled over into the local economy. However, the primary cause for the decline in demand is the reduced market material due to the exhaustion of privatization shares and termination of issuing corporate debt securities. Along with the decline in demand, number of investment firms decreased - providers of these services, although the number of individual brokers, portfolio managers and investment advisers has been rising from year to year. Summary of the analyzed results is given in the conclusion part, with the general assessment that the demand for these services is not low due to their inadequate offer, but because of the lack of equity and debt securities that would attract foreign and domestic investors.

Key words: investment banking services, authorized banks, custody banks, securities, investors, funds, stock exchange, broker-dealer companies.

INTRODUCTION

Systematization of investment banking services is primarily determined by the definition of the investment banking concept. Some of concise definitions emphasize *that both investment banks trade securities help corporations issue securities by guaranteeing a price for the securities and then selling them* (Mishkin, 2012). According to the second, broader definition, *investment banking includes securities for universal banks and specialized investment banks. Broader meaning of investment banking in market conditions means the asset management, variety of funds and comprehensive financial management* (Vukovic, 2006).

Specialized investment banks are most common in the United States, while providing investment banking services within universal banks is characteristic for Europe. Of course, the European regulations and practices are also applied in Serbia. The similarity is understandable if one takes into account not only the geographical origin, but the fact that most of the domestic banking sectors are subsidiaries of European banking groups.

¹ This paper is a part of research projects: 179015 (Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements) and 47009 (European integrations and social and economic changes in Serbian economy on the way to the EU), financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

² Vlastimir Vuković, Ph.D, Senior Scientist, Institute of Economic Sciences, Belgrade.

Definition and scope of investment banking have changed over time. Therefore we can distinguish “traditional investment banking” and “new businesses”. *The central investment banking function is the generation and the retailing of price- relevant information. Traditionally, ‘investment banking’ refers to advisory functions that rest upon the provision and interpretation of this type information*³ ...*Traditional investment banking generates fees from a corporate client base. Asset management and securities services use the information networks of traditional investment banking to generate fees from an investor client base. These are relatively new businesses, which reflect the increasing importance of institutional investors and the aging population* (Morrison & Wilhelm, 2008).

Differences in the systematization of investment banking services were not essential, but are caused by the point of view and objectives of specific analyses. Among the most common is the distinction between “investment banking” “asset management” and “trading”.⁴

According to a recent European (German) study *investment banking activities represent financial intermediation (financial advisory, primary market, secondary market), proprietary trading, research, strategy* (Schroder et al, 2012).

Finally, we can state the last year’s definition of High-Level Expert Group on reforming the structure of the EU banking sector, according to which *investment banking activities include sales and trading, market-making, underwriting, risk management, etc.* (Liikanen et al, 2012).

Domestic institutional framework with regulatory environment determines financial instruments, investment firm (intermediaries and investors), the rules of their business, the functioning of markets, regulatory and supervisory institutions, and other relevant elements. Since the exhaustive classification of investment banking services in Serbia is given in the Law on Capital Market, the next section is devoted to the institutional framework.

Demand for investment banking services was analyzed using two different groups of data: the first consists of the data on total turnover by type of securities and of securities turnover on BSE (Belgrade Stock Exchange) and OTC and the other one is consisted of the participation of foreign investors (in percent). We analyzed the period 2007-2012, because it is useful to compare trends before and during the crisis. The primary data source of data was the Securities and Exchange Commission, Republic of Serbia.

Demand for these services can be measured by means of investment banking propensity indicator. Some of these indicators were used in this analysis. However, most of them are not included in the local statistics or they represent the activities that are not yet present in the domestic practice.⁵

Supply of the investment banking services were researched by using the number of authorized and custody banks, broker-dealer companies and brokers, members of BSE, portfolio managers and

³ *This type of advice is provided to firms and government organizations that wish to raise funds in the securities markets; to corporations that aim to purchase another firm’s securities in order to control it; and to corporations that need to renegotiate with security holders, and to restructure their liability structure, generally in order to avoid bankruptcy.* Morrison & Wilhelm, 2008.

⁴ *With respect to products and services, the activities of full-service investment banks can be broadly categorized into three: (1) investment banking, which is primarily mergers and acquisitions advisory services, and securities underwriting (“investment banking”); (2) asset management and other securities services (“asset management”); and (3) trading and principal investments, including broker/dealer activities and proprietary trading (“trading”).* Rhee, 2010.

⁵ *Investment banking propensity indicator - 1. Corporate Finance: I) Number of Enterprises. II) Number of M&A Operations as Buyer. III) Number of M&A Operations as Seller. 2. Capital Markets: IV) Stock Volatility. V) Bond to Stock Ratio. VI) Number of buy back operations. 3. Private Equity: VII) Percentage of capital held by Financial Intermediaries.* Giovannini et al, 2010.

investment advisers, investment funds and management companies, voluntary pension funds and management companies, and members of the Central Registry (CSD and clearing House).

In the final section the main findings of this analysis were presented, the assessment of perspective investment banking services in Serbia and their potential impact on economic development.

Consequently, after this Introduction (1) below, follow the Institutional Framework (2) Demand for investment banking services (3), Supply investment banking services (4), and Conclusion (5).

INSTITUTIONAL FRAMEWORK

Narrow institutional framework investment of banking services in Serbia is based on the laws that regulate these types of services, operations of authorized and custody banks and other investment firms, security market functioning, and the activities of regulatory and supervisory institutions. In this group, the most important laws are Law on the Capital Market⁶ and Rulebook on custody bank activities.

Broader institutional framework includes the laws, which regulate the operations of banks (credit institutions), companies, institutional investors (investment funds, voluntary pension funds and their management companies), foreign exchange operations, payment transaction, etc.

The most accurate definition of investment banking services is provided in the new Law on Capital Market. *Investment services and activities relating to any of the financial instruments means: (1) Reception and transmission of orders in relation to purchase and sale of financial instruments; (2) Executions of orders on behalf of clients; (3) Dealing on own account; (4) Portfolio management; (5) Investment advice; (6) Underwriting of financial instruments and/or placing of financial instruments on a firm commitment basis; (7) Services pertaining to placing of financial instruments without a firm commitment basis; (8) Operation of Multilateral Trading Facilities* (Article 2).

In addition to basic investment services, ancillary services associated with investment banking are defined by this law. *Ancillary services means: (1) Safekeeping and administration of financial instruments for the account of clients, including custodianship and related services such as cash / collateral management; (2) Granting credits or loans to an investor to allow him to carry out a transaction in one or more financial instruments, where the firm granting the credit or loans is involved in the transaction; (3) Advice to companies on capital structure, industrial strategy and related matters and advice and services relating to mergers and the purchase of companies and similar issues; (4) Foreign exchange services where these are connected to the provision of investment services; (5) Investment research and financial analysis or other forms of general recommendation relating to transaction in financial instruments; (6) Services related to underwriting; (7) Other investment services and activities* (Article 2).

The above mentioned normative systematization of investment services and activities, as well as ancillary services is in accordance with the relevant regulations in the advanced economies, especially Europe. The same applies to investment firms (authorized and custody banks, broker-dealer

⁶ The problem was a regulative of the capital market and money market, defined by the previous Law on the Market of Securities and other Financial Instruments (2006). The Securities Commission pointed out to the (pre) regulation of "the game rules" on the capital market and (sub) regulation of other segments (e.g. the closing of OTC), then a small number of securities, as well as the lack of complete transparency, especially about the liquidity (SEC, 2011). Along the need to correct the flaws, it was necessary to harmonize the domestic legislation in this area with the EU regulatory framework. That is the reason why there was a completely new law (Vuković and Minović, 2012).

companies), as well as the activities and powers of the regulatory and supervisory institutions (SEC, Central Registry).⁷ The broader institutional framework is also appropriate to the EU legislation.

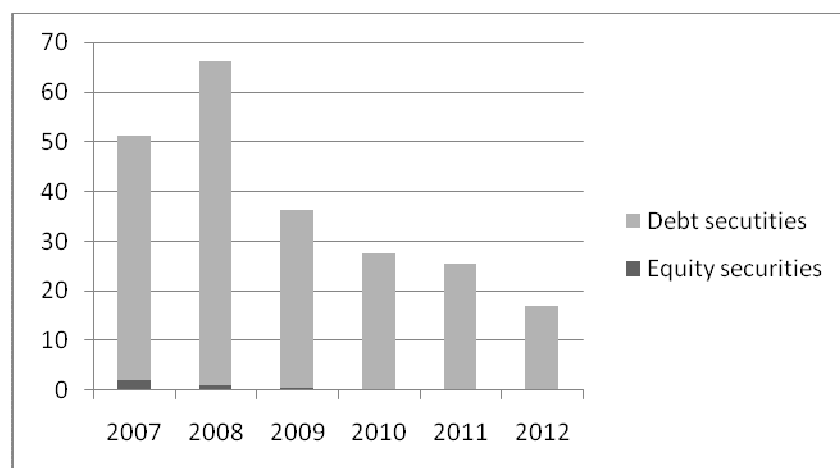
DEMAND FOR INVESTMENT BANKING SERVICES

Demand for investment banking services in Serbia can be analyzed on the basis of available data on the total turnover by type of securities, turnover of securities on BSE (Belgrade Stock Exchange) and OTC, and participation of foreign investors (in percent). In addition to these data, the number of transactions is monitored too, but the indicator is not relevant to this global analysis. Other information on the investment banking services and activities are not statistically recorded.

Data from different sources are presented in the annual reports of the Securities and Exchange Commission, Republic of Serbia, which are therefore the primary source of data. We used the data exclusively denominated in EUR, not in RSD, to eliminate the impact of domestic inflation on nominal amounts. The analysis covers the period from 2007 to 2012, which allows a comparison of the scope and structure of turnover before and during the crisis.

Total turnover of all types of securities reached a maximum 66.1 billion EUR in 2008 and then continuously declined (Figure 1). In 2012, total turnover dropped to 16.9 billion EUR, which is 3.9 times smaller even than the record-breaking 2008.⁸

Figure 1. Total turnover by type of securities (in billion EUR)



Source: SEC

At first glance, it can be noticed that debt securities dominated in the total turnover. The share of these securities increased from 96.1 % in 2007 to as much as 99.3 % in 2010. Over the last two years this share has been stabilized at 98.7 % and 98.6 % respectively. Therefore, it can be indirectly inferred about the structure of performed investment banking services. However, by the number of transactions the situation is quite opposite - 86.6 % average of all transactions related to equity securities, although they accounted for only 1.7 % average annual total turnover.

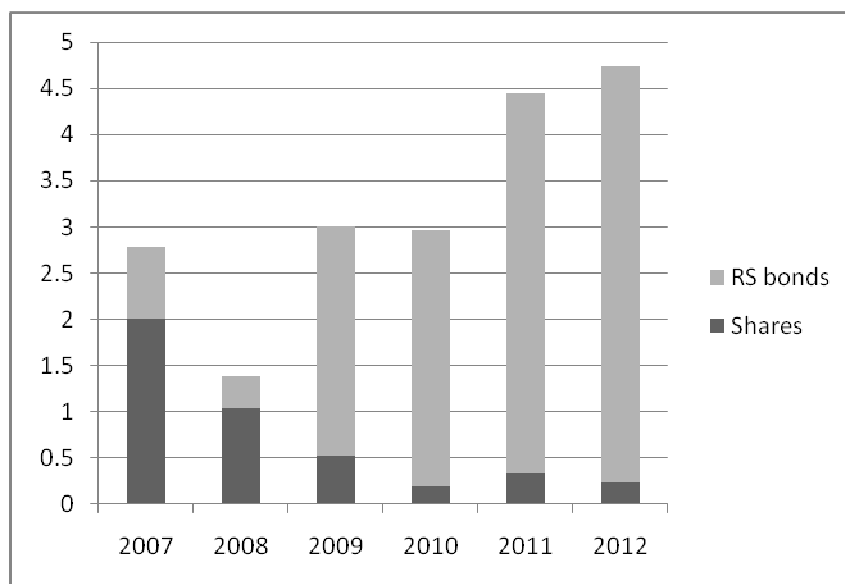
A partial answer is provided by the structure of debt securities, where repo securities of NBS had a predominant share. These securities accounted for approximately 88% of total annual turnover of all

⁷ Domestic specificity is represented by the unusually wide authorities of National Bank of Serbia (NBS), the regulator and supervisor of almost whole financial sector, excluding investment funds, broker-dealer companies and stock exchange.

⁸ It is necessary to bear in mind that the global financial crisis spilled over in Serbia in 2009, as in many other European transition countries.

types of securities. At the same time, repo securities are negligible part in the total number of transactions - 0.7 % a year on average. Bearing in mind that they are two-week (2W) repo transactions, which by definition do not belong to the capital market, the most appropriate is to exclude them from further analysis. Turnover of securities without repo is shown in the following Figure 2.

Figure 2. Turnover of securities without repo (in billion EUR)



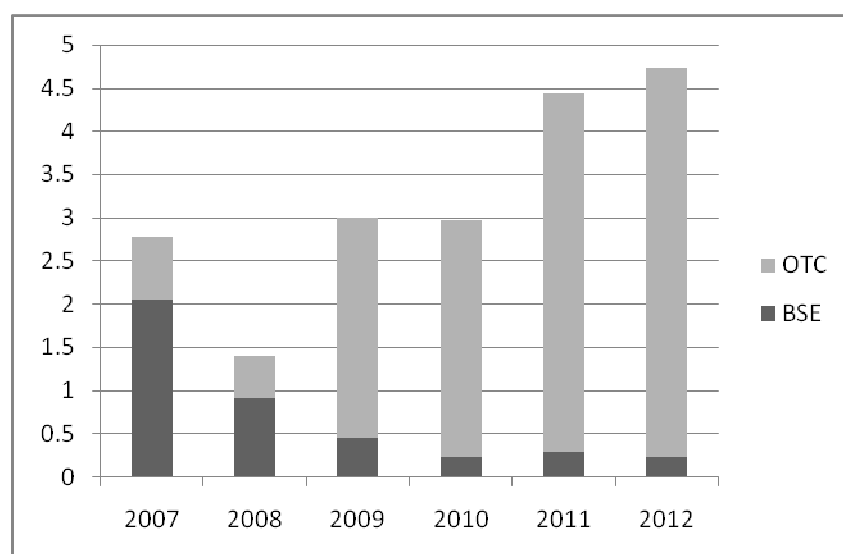
Source: SEC

The movement of the turnover of securities (RS shares and bonds) was completely different from the repo securities dynamics - minimum was recorded in 2008 (1.4 billion EUR), and a maximum in 2012 (4.7 billion EUR). However, the average annual turnover was a modest 3.2 billion EUR, which is little compared to GDP. It is clear that the increase in turnover was fueled by the government borrowing, because the RS bonds were the only debt securities. On the other hand, the market share has declined since 2007, when it was 2 billion EUR. The lowest level was recorded in 2010 – negligible 0.2 billion EUR. Last year and year before last, the turnover increased to some extent, but it has not recovered.⁹

Declining of already low turnover, as well as the failure to issue corporate debt securities, implies the reduction in demand for the investment banking services. Furthermore, data on the turnover of securities on BSE and OTC can be also seen (Figure 3).

Most of the turnover shares and RS bonds (series A) in 2007 was made on BSE (73.7 %). With the decline of turnover shares in the following years, the share of turnover on the BSE, dropped to the minor 4.6 % (0.22 billion EUR) in 2012.

⁹ Domestic market of equity securities is still based on privatization shares. The owners of these shares are the insiders, who received them either free or with a large discount. Buyers of these shares are not interested in dividends, but exclusively for taking over these companies, which leads to accelerated market emptying.

Figure 3. Turnover of securities on BSE and OTC (in billion EUR)

Source: SEC.

Table 1: Participation of foreign investors (in %)

	2007	2008	2009	2010	2011	2012
FIT	40.4	42.1	32.4	33.2	39.7	37.2
FIS	42.8	45.4	38.7	38.8	43.7	42.8
FIB	17.8	14.9	10.0	10.9	5.7	10.6

Source: SEC.

Decline in the turnover on BSE would have been even higher without the participation of foreign investors (Table 1). Their participation in the total value of the turnover (FIT) amounted to 37.5 % per year on average, while the trading shares (FIS) reached 42 % on average. Participation in the bonds trading (FIB) was only 11.7 % on average and related solely to the RS bonds series A. It is undisputed that this was not the indifference of foreign investors, but the lack of quality equity and debt securities.

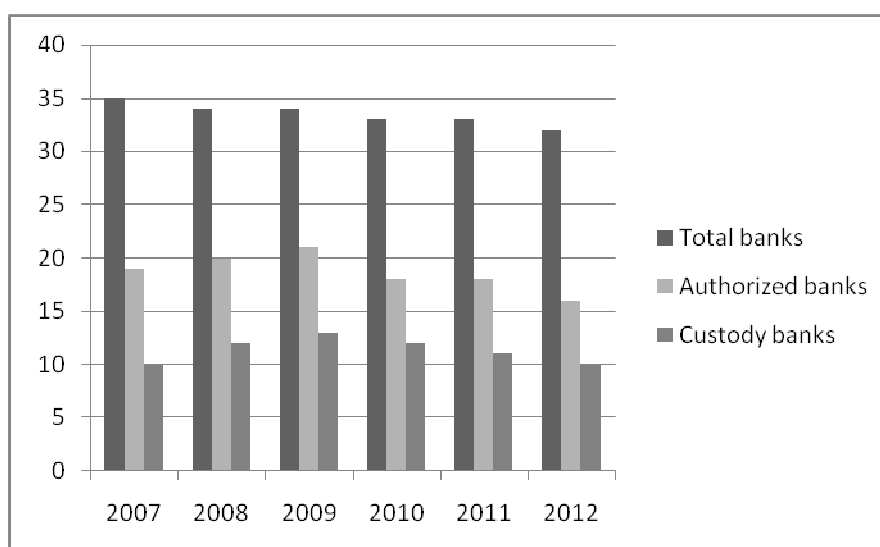
Inertia in issuing securities is shown by the data on approved financial instruments with public offering - four in 2011 and one in 2012, the total value of less than 5 million EUR (SEC, 2012). Issuers of these securities were banks and one insurance company, which apparently had an obligation to increase capital.

At the end of this analysis, it can be concluded that the demand for the investment banking services began to decline before the global financial crisis spilled over into Serbia (2009).

SUPPLY OF INVESTMENT BANKING SERVICES

The research of supply investment banking services is primarily focused on the movement of the number of authorized and custody banks and their relation to the total number of banks. In addition, we analyzed the number of broker-dealer companies and brokers, members of BSE, portfolio managers and investment advisers, investment funds and management companies, voluntary pension funds and management companies, and members of the Central Registry (CSD and Clearing House).

Figure 4. Number of banks total, authorized and custody banks



Sources: SEC&NBS.

Figure 4 shows, that the number of authorized (21) and custody (13) banks reached their maximum in 2009. Over the next three years the number of these banks, and specialized units, has been declining faster than the total number of banks. Consequently, the relative share of authorized banks was reduced from 62% to 50 %, while the share of custody banks declined from 38% to 31%.¹⁰ Reducing the number of banks that provide investment banking services had no effect on the demand of these services, because the supply in banks which offer these services still exceeds the needs of customers on the demand side.

Number of broker-dealer companies was reduced much faster than the number of authorized and custody banks (Table 2).

Table 2. Broker-dealer companies and brokers

	2007	2008	2009	2010	2011	2012
Broker-dealer co.	74	72	61	51	42	35
Brokers	983	1,066	1,091	1,096	1,114	1,126

Source: SEC.

The maximum number of broker-dealer companies was registered in 2007 - even 74, and finally in 2012 was less than half – 35. Simultaneously, the number of brokers increased from 983 to 1,126. It is obvious that the existing number of broker-dealer companies can satisfy higher demand for their services from the current.

During the period the number of portfolio managers multiplied (three times) and investment advisers (four times). The number of licensed portfolio managers and investment advisers is evident enough to meet the rapidly growing demand of these services.

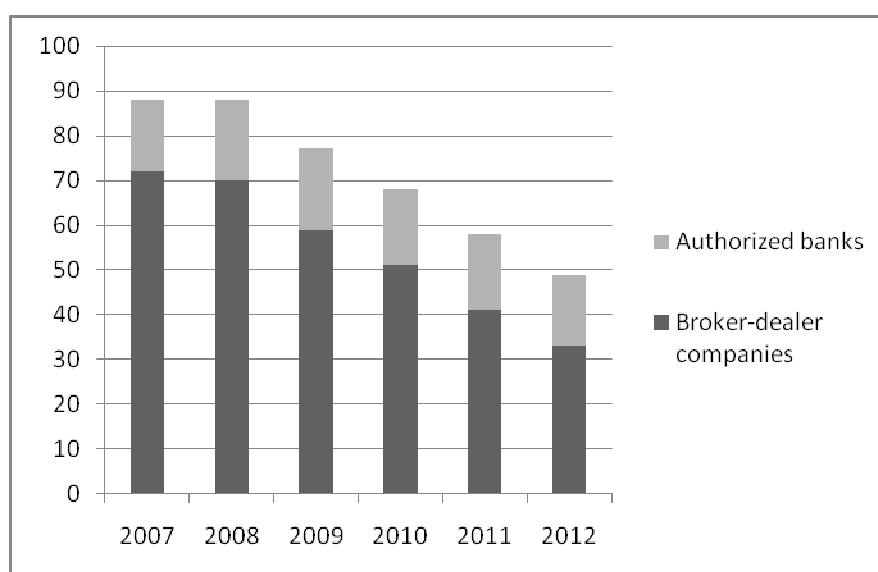
¹⁰ Profitability of the investment banking motivated the growth of the number of banks which, provide the investment services worldwide, long before the outbreak of Global financial crisis. *Profits in investment banking out distance those of all other financial services providers, including commercial banks* (Litan, 1988).

Table 3. Portfolio managers and investment advisers

	2007	2008	2009	2010	2011	2012
Portfolio managers	40	86	113	126	127	127
Investment advisers	11	20	34	37	41	42

Source: SEC.

Reducing of the Members of Belgrade Stock Exchange since 2008 (from 88 to 49) also reflects the global financial crisis in Serbia (Figure 5).

Figure 5. Members of Belgrade Stock Exchange

Source: SEC.

The most stable part of the membership of BSE have been authorized banks, whose number decreased slightly - from 18 (2008) to 16 (2012). A major factor in reducing the members of BSE had the broker-dealer companies, whose share fell from 72 (2007) to 33 (2012). However, the reduction of members is not the cause of the decline of securities turnover on BSE, but its consequence. The potential supply of remaining registered intermediaries on BSE may meet several times higher turnover volume and number of transactions.

For this analysis, the number of institutional investors is indicative - investment funds and voluntary pension funds, as well as their management companies. Delayed normative regulation of these funds and the short history of their business inevitably influenced their number before and during the crisis in Serbia.

Number of investment funds has been doubled during the analyzed period - from 10 (2007) to 20 (2012), which was mainly due to the open-end funds (Table 4). At the same time, unusually low proportion of closed-end funds (the only one left in 2012) and private funds (three still active) can be seen. This gap can be explained by the lack of high-quality securities, especially new issues. The inevitable impact of the global financial crisis and in this case was of secondary importance.

Table 4. Investment funds and management companies

	2007	2008	2009	2010	2011	2012
Management co.	10	15	11	9	8	6
Investment funds	10	16	17	21	20	20
- open-end funds	10	14	14	16	15	16
- closed-end funds	0	2	2	2	3	1
- private funds	0	0	1	3	2	3

Source: SEC.

A visible decrease in the number of management companies did not affect the organization, establishment and management of investment funds. The same applies to the management companies dealing with voluntary pension funds (Table 5). It is interesting that despite the crisis, one voluntary pension fund was established in 2011, so that at the end of last year there were 11 such funds.

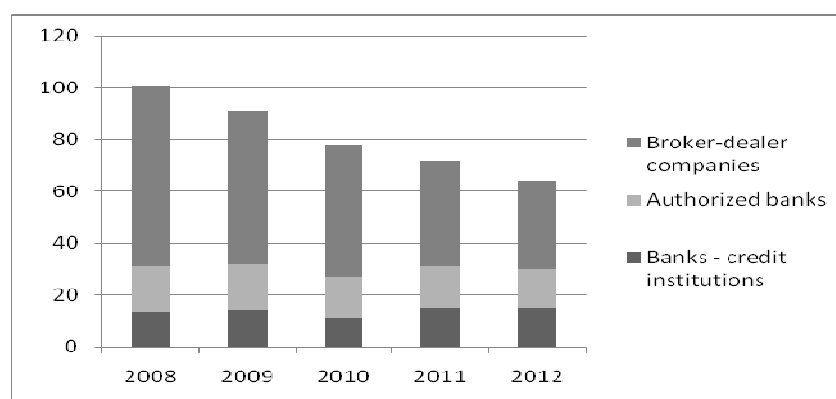
Table 5. Voluntary pension funds and management companies

	2007	2008	2009	2010	2011	2012
Management companies	7	9	9	6	6	5
Voluntary pension funds	7	10	10	10	11	11

Source: SEC.

Members of the Central Registry (CSD and Clearing House) declined much more slowly than members of BSE - from 101 (2008) to 64 (2012) members (Figure 6). Membership fall was slower, mainly due to a relatively stable membership of authorized banks (15 at the end of 2012) and banks - credit institutions (also 15 at the end of 2012). The largest decrease in the number of members registered in the CR was registered in broker-dealer companies. From 2008 to 2012 the number of members from this group was for a half less (70 to 34), in proportion to the reduction in the number of these companies in the market. However, this did not have a negative impact on the effective functioning of the Central Registry.

Figure 6. Members of the Central Registry (CSD and clearing house)



Source: SEC

Analyzed changes in the number of authorized and custody banks, broker-dealer companies and brokers, portfolio managers and investment advisers, members of BSE, investment funds and voluntary pension funds and their management companies, and members of the Central Registry indicate a decrease in the number of investment firms. However, this did not decrease the supply of investment banking services, since the capacities of active firms, as well as the number of brokers, portfolio managers and investment advisers can satisfy the increasing demand for multiple domestic and foreign investors for these services in Serbia.

CONCLUSION

Adoption of the new Law on Capital Market (2011), in force since 2012, rounded to the institutional conditions for the effective performance of investment banking services in Serbia. These services are performed in the specialized units of local banks, which have the status of authorized and / or custody banks. Locating these services within universal banks, according to the European experience, provides benefits for all clients (Schildbach, 2012), including corporate lending as their integral part (Steenis et al, 2011). In particular, demand from SMEs for an investment banking product is emphasized (Proskurovska 2012). It also highlights the importance of technological progress, which has revolutionized the investment banking since the 1970s (Morrison & Wilhelm, 2007).

It is obvious that domestic banks with specialized organizational units can provide appropriate services not only for SMEs but also large international companies and institutional investors. It is also undisputed that the qualified employees in the authorized domestic and custody banks use modern technology like their main banking groups in the EU.

Demand for investment banking services is generally based on the performance of banks specialized in their provision.¹¹ This also means issuing quality securities in the primary market and their sales in the secondary market. These assumptions are not met in Serbia, because the only securities in Serbia are privatization shares¹² and government bonds.

Using turnover by type of securities as an indicator, the analysis has shown that the demand for investment banking services began to decline before the global financial crisis spilled over into Serbia (2009). Relatively high participation of foreign investors only smoothed the decline in demand for these services.

Supply of the investment banking services measured by the number of authorized and custody banks, broker-dealer companies and brokers, members of BSE, portfolio managers and investment advisers, and members of the Central Registry, has been continually declining since 2008. However, these trends have not reduced supply of the investment banking services. The capacity of active firms as well as the number of brokers, portfolio managers and investment advisers can satisfy increasing demand for domestic and foreign investors for its services in Serbia.

Finally, the conclusion is that domestic investment banking services cannot provide a significant contribution to the revival of the capital market and economic recovery where *the bank credit is the most important financing channel for Serbia's private sector* (IMF, 2013). Therefore, *Foreign Investor's Guides* (NBS, 2012) are not of a significant help. Foreign and domestic investors can be attracted only by issuing high-quality securities with competitive yield rates.

¹¹ *The demand for investment banking advising and distribution services based on an informational asymmetry between an issuer of new securities and an investment banker. The investment banker is better informed about the capital market than is the issuer of the securities* (Baron, 1982).

¹² *Privatizations have dramatically increased the number of shareholders; large numbers of shareholder are not a stable ownership structure* (Megginson et al, 2000).

LITERATURE

- 1) Baron, D. (1982). A Model of the Demand for Investment Banking Advising and Distribution Services for New Issues. *The Journal of Finance*, 4/1982: 955-976.
- 2) Giovannini, R., Capizzi, V., Chiesi, M. (2010). Investment Banking Services: Ownership Structures, Financial Advisory and Corporate Governance Models. *International Journal of Business Administration*, 1/2010: 49-63.
- 3) IMF (2013). Republic of Serbia: Article IV Consultation – Selected Issues paper. *IMF Country Report*, 13/207, July 2013. International Monetary Fund.
- 4) Liikanen, E. et al (2012). *Final Report*. High-level Expert Group on reforming the structure of the EU banking sector.
- 5) Litan, R. (1988). Reuniting Investment and Commercial Banking. *Cato Journal*, 3/1988: 803-821.
- 6) Mishkin, F. (2012). *Macroeconomics: Policy and Practice*. Global Edition. Essex (England): Pearson Education & Addison-Wesley.
- 7) Morrison, A., Wilhelm, W. (2007). Investment Banking: Past, Present, and Future. *Journal of Applied Corporate Finance*, 1/2007: 8-20.
- 8) Morrison, A., Wilhelm, W. (2008). *Investment Banking: Institutions, Politics, and Law*. Oxford University Press, New York.
- 9) NBS (2012). *Foreign Investor's Guide: How to invest in the Serbian financial market*. National Bank of Serbia.
- 10) NBS (2013). *Banking Supervision – Fourth Quarter Report 2012*. National Bank of Serbia.
- 11) Proskurovska, V. (2012). *European Banking sector: Facts and Figures 2012*. European Banking Federation, Brussels.
- 12) Rhee, R. (2010). The Decline of Investment Banking: Preliminary Thoughts on the Evolution of the Industry 1996-2008. *Journal of Business & Technology Law*, 1/2010: 75-98.
- 13) Schilbach, J. (2012). Universal banks: Optimal for clients and financial stability. *DB Research - Current Issues*, November 20, 2012: 1-22.
- 14) Schroder, M. Et al (2012). *The Role of Investment Banking for the German Economy*. Dokumentation Nr. 12-01. ZEW, Mannheim.
- 15) SEC (2007). *Izveštaj o radu Komisije za hartije od vrednosti Republike Srbije i kretanjima na tržištu hartija od vrednosti u Republici Srbiji u 2006. godini*. Securities Commission Republic of Serbia.
- 16) SEC (2008). *Izveštaj o radu Komisije za hartije od vrednosti Republike Srbije i kretanjima na tržištu hartija od vrednosti u Republici Srbiji u 2007. godini*. Securities Commission Republic of Serbia.
- 17) SEC (2009). *Izveštaj o radu Komisije za hartije od vrednosti Republike Srbije i kretanjima na organizovanom tržištu kapitala u Republici Srbiji u periodu: januar – decembar 2008. godine*. Republic of Serbia - Securities Commission.
- 18) SEC (2010). *Izveštaj o radu Komisije za hartije od vrednosti Republike Srbije i kretanjima na organizovanom tržištu kapitala u Republici Srbiji u periodu: januar – decembar 2009. godine*. Republic of Serbia - Securities Commission.
- 19) SEC (2011). *Izveštaj o radu Komisije za hartije od vrednosti Republike Srbije i kretanjima na organizovanom tržištu hartija od vrednosti u Republici u periodu: januar – decembar 2010. godine*. Republic of Serbia - Securities Commission.
- 20) SEC (2012). *Izveštaj o radu Komisije za hartije od vrednosti Republike Srbije i kretanjima na tržištu kapitala u Republici Srbiji u periodu: januar – decembar 2011. godine*. Republic of Serbia - Securities Commission.
- 21) SEC (2013). *Izveštaj o radu Komisije za hartije od vrednosti Republike Srbije i kretanjima na tržištu kapitala u Republici Srbiji u periodu: januar – decembar 2012. godine*. Republic of Serbia - Securities Commission.
- 22) Steenis, H., Moynihan, E. et al (2011). Wholesale & Investment Banking Outlook. *Morgan Stanley Blue Paper*. Morgan Stanley & Oliver Wyman, 23 March 2011: 1-31.

- 23) Vuković, V. (2006). Investiciono bankarstvo u Srbiji – regulative, rezultati i perspektiva. *Računovodstvo*, 1-2/2006: 130-136.
- 24) Vuković, V., Minović, J. (2012). Needs and possibilities for enhancement of Serbian financial markets. Chapter 7 in: *Managing structural changes: trends and requirements*. Faculty of economics of the University of Coimbra, Portugal, 2012: 129-147.
- 25) Official the Belgrade stock exchange (BSE) web site, <http://www.belex.rs>
- 26) Official the National Bank of Serbia (NBS) web site, <http://www.nbs.rs>
- 27) Official the Securities Commission (SEC) Republic of Serbia web site, <http://www.sec.gov.rs>

5.

COMPETITIVENESS



COMPETITIVENESS OF REPUBLIC OF SRPSKA ECONOMY

Jovan ĐUKIĆ¹
Radovan RODIĆ²
Darko MILUNOVIĆ³

Abstract

Global competitiveness is the main characteristic of modern economies and one of the priorities in national economic policies oriented to growth. National economies compete for new markets, technologies, skills and innovations, in order to improve a living standard of their population. The main role and challenge for policy makers is to create good investment climate and opportunities for companies and entrepreneurs – low interest rates, high level of property rights and protection of investors, low inflation rate, emerging domestic market etc. This paper is focused on the main aspects of competitiveness of Republic of Srpska economy, at micro and macro level and in comparison with global indicators, regarding the methodology of WEF global competitiveness index.

Key words: competitiveness, global index, innovations.

INTRODUCTION

The key challenge for Republic of Srpska economy is to achieve economic growth, built on economic competitiveness and export boost. It is obvious that its economic survival as a small open economy mostly depends on the position in international trade, which is, again, mostly determined by its competitiveness.

Information society shifts the emphasis of competitiveness from traditional comparative advantages (low-cost labor force, natural resources...) toward internal factors such as knowledge, information, strategic planning, business environment etc. Globally, basic determinants of national competitive advantage become increase of economic productivity, innovations, and conversion of economic growth into improvement of people's living standard.

The Republic of Srpska faces accumulated development issues, particularly accentuated in the last few years:

- Low participation of manufacturing in GDP;
- External debt and gap between savings and investments in households, companies and public sector continually grow, making reliance on remittances even more significant;
- Insufficient investments in production of tradable goods, which consequently led to low export and persistent trade balance deficit;
- Low employment rate and high unemployment rate due to structural disturbances on labor market;
- Rise of public debt, independent of economic growth (strong economic growth or recession).

Competitiveness is not the objective *per se*, but the tool by which companies and entrepreneurs can utilize current development advantages and possibilities, while strengthening on macro and micro

¹ Jovan Đukić, B.Sc., Economics institute Banja Luka

² Radovan Rodić, Ph.D., Economics institute Banja Luka

³ Darko Milunović, M.Sc., Faculty of economics, University of Banja Luka

level can diminish abovementioned development issues and make them more tolerable. A number of modern economists agreed that global competitiveness has highlighted the 21st century and would retain high priority in national economic growth policies in long-term perspective. Intention of authors in this paper is to emphasize the importance of the competitiveness for Republic of Srpska economic growth, demonstrate its current position in terms of global competitiveness index and give recommendations for its improvement.

DEFINITION AND SIGNIFICANCE OF COMPETITIVENESS FOR ECONOMIC GROWTH

Competitiveness can be observed from different aspects, placed in different contexts and, consequently, it can be differently defined. The most common definition said that competitiveness is the process of competing between different subjects with aim of gaining as better results as possible. This paper refers to definition of competitiveness related to macro and micro business aspects.

From the *macroeconomic point of view*, the competitiveness can be defined as the ability of the country to achieve success on international market. This should contribute to highly productive economy and higher living standard of the population.

According to the OECD, competitiveness is a country's ability to produce goods and services under free and equal market conditions that pass the test of the international market while also maintaining a long-term increase in the real income of its population.⁴ Highly competitive countries are developing faster than countries with lower competitiveness ability. They achieve more success competing on global market, thus creating additional capacities to strengthen their highly productive economies and raise living standard of the population, as the ultimate objectives.

According to Porter (Global Competitiveness Report, 2004: 21), a country's standard of living is determined by the productivity of its economy, which is measured by the value of goods and services produced per unit of its resources. Productivity depends both on the value of a nation's products and services - measured by the prices they can command in open markets - and by the efficiency with which they can be produced. Productivity is also dependent on the ability of an economy to mobilize its available human resources. For example, some European countries have high productivity per hour worked, but high unemployment rate decreases GDP per capita. Consequently, true competitiveness of the economy and companies is the measure of its productivity. Productivity supports high wages, a strong currency and attractive returns on capital – and with them high standard of living. Therefore, the objective is productivity, not an export. Only if nation increase an export of those products and services that produce more productively than average economy, national productivity will rise (Global Competitiveness Report, 2004: 21).⁵

At *micro level*, competitiveness is the ability to timely provide products and services of certain quality and price, more efficiently and effectively than relevant competitors. In other words, micro level competitiveness is a constant struggle between companies for the same group of customers.

SOURCES OF COMPETITIVE ADVANTAGE

Sources of competitive advantage in modern business environment substantially differ from traditional ones relying on low-cost labor and natural resources. In *Competition in Global Industries* (1986) and other works published in '80s, Porter discussed that simple factors such as low-cost unskilled labor and natural resources are increasingly less important to global competition than complex factors such as skilled scientific technical personnel as well as advanced infrastructure (Porter, 1986: 39). What is

⁴National competitiveness Council

⁵V.Paraušić, D.Cvijanović: *Competitiveness of Serbia measured by WEF global competitiveness indexes 2007–2008*.

important today in international success is unleashing innovations in the proper direction, instead of passive exploitation of a country's static cost advantages, which shift rapidly and can be overcome (Porter, 1986: 40–41).⁶

In *Competitive Advantage* (1985) Porter emphasize the significance of competitive strategy, since companies can "...shape attractiveness of an industry and competitive position, what makes the choice of competitive strategy even more exciting."⁷ Author argues that the choice of competitive strategy is underlined by two central questions:

1. Attractiveness of industries for long-term profitability and factors that determine profitability;
2. Determinants of relative competitive position within one industry.

In any industry, the rules of competition are embodied in five competitive forces:

1. The entry of new competitors ,
2. The threat of substitutes,
3. The bargaining power of buyers,
4. The bargaining power of suppliers,
5. Rivalry among the existing competitors.

The five forces determine industry profitability because they influence the prices, costs and required investments of firms in an industry - the elements of return on investment. Buyer power influences the prices that firms can charge, for example, as does the threat of substitution. The power of buyers can also influence cost and investments, because powerful buyers demand costly services. The bargaining power of suppliers determines the costs of raw materials and other inputs. The intensity of rivalry influences prices as well as the costs of competing in areas such as plant, product development, advertising, and sales forces. The threat of entry places a limit on prices, and shapes the investment required to deter entrants.⁸

GLOBAL COMPETITIVENESS OF REPUBLIC OF SRPSKA

Analysis of the competitiveness of the Republic of Srpska economy is based on results of the research conducted within the project "Support to improvement of competitiveness of RS economy", carried out by the Economics institute Banjaluka in cooperation with Faculty of Technology Zvornik in 2012.⁹

The main goal of the project was to measure and compare competitiveness of the Republic of Srpska economy, and according to results, give recommendations for future economic policy measures in RS and B&H. Besides that, one of the goals was helping the selected enterprises to improve their micro competitiveness. Also, by permanent research of this phenomenon, it will be possible to analyze and compare the competitiveness of RS economy during the time and to identify key problems, resources and potential improvements for future period.

Methodology

Methodology of the research was mainly based on Global Competitiveness Index (GCI) of the World Economic Forum (WEF), and by taking into consideration the available results of other relevant studies, publications and research projects implemented in BH. Some adjustments of the methodology approach were necessary and they were mostly related to specific organization of Bosnia and

⁶ V.Paraušić, D.Cvijanović: *Competitiveness of Serbia measured by WEF global competitiveness indexes 2007–2008*.

⁷ Michael E. Porter, *Competitive advantage*, Asee books, Novi Sad, 2007. p.22

⁸ Ibid, p. 23-25.

⁹ *Support to improvement of competitiveness of Republic of Srpska economy*, Banja Luka, 2012.

Herzegovina/Republic of Srpska and their local particularities. The survey included the sample of 39 companies, with confidence level of 95% and confidence interval of 15. Part of the data for RS was obtained from relevant statistical and other available sources. Some data are published only for Bosnia and Herzegovina as a state (certain macroeconomic data, inflation rate, tariffs, credit rating, etc.) and these data were taken as such for Republic of Srpska.

Global competitiveness index consists of 12 pillars and 111 indicators, distributed in three groups:

1. **Basic requirements**—consists of four pillars—(a) institutions, (b) infrastructure, (c) macroeconomic environment and (d) health and primary education. These pillars are key for *factor driven economies*,
2. **Efficiency enhancers**—consists of six pillars—(a) higher education and training, (b) goods market efficiency, (c) labor market efficiency, (d) financial market development, (e) technological readiness and (f) market size. This group of factors is key for *efficiency driven economies* and
3. **Innovation and sophistication factors**—consists of two pillars—(a) business sophistication and (b) innovations. These factors are key for *innovation driven economies*.

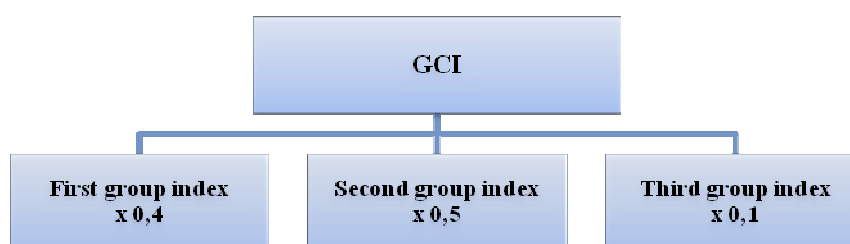
The GCI takes the stages of development into account by attributing higher relative weights to those pillars that are more relevant for an economy given its particular stage of development.

Table 1. Weights for Global Competitiveness Index

	Factor driven economy	Efficiency driven economy	Innovation driven economy
Basic requirements	60%	40%	20%
Efficiency enhancers	35%	50%	50%
Innovation and sophistication	5%	10%	30%

These three categories (groups) are weighted differently, depending on the stage of development (GDP per capita). Specifically, weighting for Republic of Srpska was done according to the rank of Bosnia and Herzegovina - first category was weighted with 40%, second with 50% and third with 10%, as for other efficiency driven economies.

Figure 1. Weighting for calculation of index for Republic of Srpska



The importance of each pillar within the group was balanced, which means that first four pillars within group of basic requirements were weighted with 25%. Next six pillars within the group of efficiency enhancers were weighted with 16.7%, and two last pillars were weighted with 50%, for the third group.

Key part was calculations of index for each pillar (12 indexes), which included internal weighting, because, in this case, there is no universal rule, in spite of weighting by groups.

Calculation of indicators

Each pillar consists of indicators, i.e. soft and hard data obtained in response from questionnaire or from secondary data sources. This classification of indicators (questions) is important because it employs different methodologies for calculations of these two classes.

On one hand, the indicators obtained as a result of research based on a questionnaire (which are ranked on Likert scale from 1 to 7), applied as a simple arithmetic average of the following formula (1). It should be noted that the share of these indicators in total is about 70%.

$$\text{Indicator } I = \frac{\sum_{k=1}^N \text{Data } k}{N} \quad (1)$$

where: k – data from one questionnaire; N – total number of questionnaires.

On the other hand, for the indicators which were not collected from the questionnaire but from different secondary sources (these questions were not ranked on Likert scale 1-7), it was necessary to transform them to be comparable. For this purpose, the formula given below (2a and 2b) is used, where the first was applied in case when a higher value of observed variables is better (such as, for example, the number of patents, the number of mobile phones in the number of residents, etc.) and the other one when the lower value of variable is more desirable (for example, number of people affected by a disease, amount of inflation, etc.).

$$\text{Indicator } I = 6 \cdot \left(\frac{\text{Countryvalue} - \text{Minimum}}{\text{Maximum} - \text{Minimum}} \right) + 1 \quad (2a)$$

$$\text{Indicator } I = -6 \cdot \left(\frac{\text{Countryvalue} - \text{Minimum}}{\text{Maksimum} - \text{Minimum}} \right) + 7 \quad (2b)$$

In this way, all values were transformed to number in the interval from 1 to 7, which means that it becomes comparable with the other results.

There were certain issues in calculating indicators such as:

- Concerning inflation, the rule is that countries with level of inflation between 0.5 and 2.9% get rank 7, and rank for other countries (outside of this interval) decreases linearly with increase of inflation.
- The impact of malaria, tuberculosis and HIV on the business is also specifically defined. It was applied in combination with questions from the questionnaire (because it is not influenced only by the rate of incidence, but also with the question of how much each of these diseases costs employers, and how they affect them). For the purpose of combination of secondary data and data from the questionnaires, firstly, it is determined the relationship (ratio) between the percentage of observed disease in the Republic of Srpska and the highest percentage of AIDS in the world. Then, it was multiplied by the ratio result for the Republic of Srpska, and then the product is normalized on a scale from 1 to 7. It is important to note that the countries with zero rate of these diseases shall rank 7, irrespective of the data from the questionnaires.
- Size of domestic market, as a basis for obtaining the required index is constructed as the natural logarithm of the sum of GDP and total imports of goods and services, minus exports of goods and services. The result is then normalized on a scale from 1 to 7.
- Size of foreign market is determined by the size of natural logarithm of export of goods and services and then normalized on a scale from 1 to 7.

Global Competitiveness Index for Bosnia and Herzegovina

According to The Global Competitiveness Report¹⁰, compared to the former Yugoslav countries and countries in transition, Bosnia and Herzegovina was the lowest ranked country.

Table2. Selected countries and their rankings

Country/economy	GCI 2012–2013		GCI 2011–2012		Change
	Rank	Score	Rank	Score	
Estonia	34	4.64	33	4.62	-1
Poland	41	4.46	41	4.46	0
Slovenia	56	4.34	57	4.30	+1
Lithuania	45	4.41	44	4.41	-1
Montenegro	72	4.14	60	4.27	-12
Hungary	60	4.30	48	4.36	-12
Slovak Republic	71	4.14	69	4.20	-2
Turkey	43	4.45	59	4.28	+16
Rusia	67	4.20	66	4.21	-1
Romania	78	4.07	77	4.08	-1
Latvia	55	4.35	64	4.24	+9
Bulgaria	62	4.27	74	4.16	+12
Croatia	81	4.04	76	4.08	-5
FYR Macedonia	80	4.04	79	4.05	-1
Albania	89	3.91	78	4.06	-11
Ukraine	73	4.14	82	4.00	+9
Serbia	95	3.87	95	3.88	0
Armenia	82	4.02	92	3.89	+10
Bosnia and Herzegovina	88	3.93	100	3.83	+12

Out of 111 indicators, Bosnia and Herzegovina has relative competitive advantage in only 14 indicators. But, these indicators are mostly related to basic requirements such as business costs of terrorism, crime and violence, and five indicators are related to health sector (business impact and incidence of HIV/AIDS, tuberculosis or malaria).

Competitive advantages were demonstrated within labor market efficiency, related to hiring and firing practices and participation of women in the workforce.

In all other areas, only competitive disadvantages were identified. No competitive advantages were identified in areas that are critically important for development, such as financial market development, technological readiness, market size, business sophistication, or innovations. The position of B&H can be shortly summarized as follows:

- Transparency of government policymaking - 134th out of 142 countries,
- Protection of minority shareholders' interests - 139.,
- Brain drain -126.,
- Ethical behavior of firms - 134.,
- Efficiency of legal framework in settling disputes - 119.,

¹⁰Global Competitiveness Report 2011–2012, World Economic Forum, Geneva, Switzerland 2011;
Global Competitiveness Report 2012–2013, World Economic Forum, Geneva, Switzerland 2012.

- Efficiency of legal framework in challenging regulations - 109.,
- Intellectual property protection - 121.,
- Quality of overall infrastructure - 140. (roads - 141, air transport - 138),
- Firm-level technology absorption - 107.,
- Reliance on professional management - 108.,
- Availability of research and training services - 98.,
- Efficacy of corporate boards - 71.,
- Strength of auditing and reporting standards - 119.,
- Production process sophistication - 118,
- Extent of marketing - 110. etc.

In other words, the competitiveness of B&H companies is low. This conclusion doesn't diminish the fact that Bosnia and Herzegovina has recorded significant progress of 12 places for the period of 2012-2013, and reached 88th place within 144 countries, with average score of 3.9, and with increase of 0.1 point compared to previous year. The most problematic indicator is related to brain drain, in which Bosnia and Herzegovina is among the most vulnerable countries in the world.

Competitiveness Index of Republic of Srpska

The main results of research of competitiveness of RS economy are shown down bellow. Rank is determined by comparison with results presented in Global competitiveness report 2011/12.

Basic Requirements

There are four pillars inside this group - Institutions, infrastructure, macroeconomic environment and health and primary education and they are presented in the following table.

Table 3. Basic requirements

Indicators	RS	
	Score	Rank
Basic requirements	4,2	89
1 st pillar: Institution	3,5	98
2 nd pillar: Infrastructure	3,2	96
3 rd pillar: Macroeconomic environment	4,3	97
4 th pillar: Health and primary education	5,7	70

Score for group of basic requirements for Republic of Srpska is 4.2, which corresponds to 89th place in world rankings. Best result within this group was achieved for the fourth pillar, which describes health and primary education with score of 5.7 and ranking on 70th place and the results achieved by other pillars gave fairly uniform placement (96th to 98th place).

Efficiency Enhancers

There are six pillars within this group – higher education and training, goods market efficiency, labor market efficiency, financial market development, technological readiness and market size.

Table 4. Efficiency enhancers

Indicators	RS	
	Score	Rank
Efficiency enhancers	3.5	117
5 th pillar: Higher education and training	3.4	106
6 th pillar: Goods market efficiency	3.7	132
7 th pillar: Labor market efficiency	4.0	112
8 th pillar: Financial market development	3.3	126
9 th pillar: Technological readiness	3.1	110
10 th pillar: Market size	3.1	93

Efficiency enhancers' score for RS is 3.5 which place this economy on 117th place in world rankings. Within the group the best result was achieved for the seventh pillar (labor market efficiency) with index of 4.0, and the worst results were achieved for 6th (rank 132), 9th and 10th pillars (score 3.1).

Innovation and Sophistication Factors

Two pillars are in third group – business sophistication and innovations.

Table 5. Innovation and sophistication factors

Indicators	RS	
	Score	Rank
Innovation and sophistication factors	2.7	138
11 th pillar: Business sophistication	2.8	140
12 th pillar: Innovations	2.5	128

Score for this group is 2.7 which place RS economy on 138th place in world rankings.

STRENGTHENING THE COMPETITIVENESS OF REPUBLIC OF SRPSKA – STRATEGIC GUIDELINES

When thinking how to boost the competitiveness of the Republic of Srpska, one should rely on experiences of benchmark countries which demonstrate skilled labor force, highly sophisticated buyers, top suppliers, and highly competitive domestic market. Also, the EU implements Horizon 2020 initiative which objectives are stabilization and recovery of European economy, financial system reform, support to real sector (boosting investments, better financial regulation, diversification of energy sources, abatement protectionism...), maintaining high employment rate and promotion of global recovery (supporting international cooperation, development of 'green' production...). Three mutually reinforcing priorities of EU 2020 strategy are smart, sustainable and inclusive growth. These priorities are underlined by seven strategic initiatives:

- Innovation Union
- Youth on the move
- Digital agenda for Europe
- Resource efficient Europe
- An industry policy for the globalization era
- An agenda for new skills and jobs

- European platform against poverty

Each strategic priority steer the process of creating a more competitive economy, and Republic of Srpska should translate it into its own national target for boosting up the competitiveness and attaining sustainable growth.

Creation of More Favorable Investment Climate

Boosting up the competitiveness of Republic of Srpska's economy is largely shaped by national policies related to creation of propulsive investment climate. Favorable business environment is determined by systematic approach in providing different kind of support to firms, not just by introducing business incentives, but also reinforcing institutions accounted for its execution.

Building a propitious business climate can be attributed to **“the ten golden rules of competitiveness”** developed by IMD business school:

1. Create a stable and predictable legislative and administrative environment.
2. Ensure speed, transparency and accountability in the administration, as well as the ease of doing business.
3. Invest continually in developing and maintaining infrastructure both economic (road, air, telecom, etc.) and social (health, education, pension, etc.).
4. Strengthen the middle class: a key source of prosperity and long-term stability.
5. Develop privately-owned medium-sized enterprises: a key element of diversity in an economy.
6. Maintain a balanced relationship between wage levels, productivity and taxation.
7. Develop a local market by promoting private savings and domestic investments.
8. Balance aggressiveness on international markets with attractiveness for added-value activities.
9. Counterweight the advantages of globalization with the imperatives of proximity to preserve social cohesion and value systems.
10. Always return the tangible signs of successful competitiveness to the people by providing a higher level of prosperity for all.¹¹

Business environment is crucial for rapid accumulation of assets, knowledge, and skills, flow of information about consumers' needs for products and services, and conducive to innovative activities and investments. Companies operating in such environment have a better chance not just to attain competitive advantage, but also to improve it.

According to Executive Opinion Survey, as a major component of Republic of Srpska competitiveness report¹², one of the key obstacles to more efficient business and labor productivity are administrative impediments. Burdensome administrative requirements, bad practices, contradictions, and bad coordination, coupled with unskilled administrative employees, inadequate structure and insufficient number of institutions remain challenges for entrepreneurs and start-ups, both national and international and make normal business activities more costly and time consuming. The Report underlines two major obstacles: political uncertainty in Bosnia and Herzegovina and ineffectiveness of public sector, both adversely affecting companies' environment and preventing higher FDI inflow, absorption of technology and entrepreneurship, thus diminishing competitiveness of Republic of Srpska economy.

There are several steps to take that can contribute to creation of more favorable business environment in Republic of Srpska. Without detailed explanations, we have recognized some that could make a substantial change: political certainty, supporting start-ups, investing in education and labor skills, maintaining healthy banking system and accompanying financial infrastructure, unburdening fiscal

¹¹Historical aspects of competitiveness, p.8.

¹²Support to improvement of competitiveness of Republic of Srpska economy, B.Luka, 2012.p.27-31

policy, monetary policy that stimulate export of products and services, public sector competence and capacity building, etc.

Strengthening competitiveness in Republic of Srpska should be focused on compliance with the provisions of Stabilization and Association Agreement between Bosnia and Herzegovina and European Union, strong support to export oriented companies, new technologies uptake, and increasing government expenditures on education and R&D as a percentage of GDP.

BOOSTING COMPANIES' COMPETITIVENESS

According to Porter, firms' competitive advantage and the choice of competitive strategy are underlined by two central questions: "*the first* is the attractiveness of industries for long-term profitability and the factors that determine it. Not all industries offer equal opportunities for sustained profitability and the profitability of industry is one of the key factors of firm's profitability. *The second* central question in competitive strategy is the determinants of relative competitive position within an industry. In most industries, some firms are much more profitable than others, regardless of what the average profitability of the industry is... While attractiveness of an industry partially reflects factors on which firms have relatively low influence, competitive strategy can significantly influence on attractiveness of an industry. At the same time, by choosing the strategy firm can improve or worsen its position in an industry. Not only competitive strategy reacts on environment, but it also tries to shape it in companies favor."

¹³

Having laid this groundwork, creating and sustaining competitive advantage requires: focus on consumers, constant improvement in competitiveness, use of flexible or virtual organization, creative human resources, atmosphere of equality, technology support, openness, self-efficiency, and cultural understanding.

Among all elements that underlined competitive advantage, Porter highlights the benefits of domestic suppliers, regarding innovations and improvements.

"Maybe the highest benefit of domestic suppliers is related to process of innovations and improvements. Competitive advantages arise from tight relationship between global suppliers and production. Suppliers help firms to employ new methods and possibilities in adoption of new technologies and production. Firms get quicker access to information, new ideas and suppliers' innovations. Suppliers also tend to intermediate information and innovation transfer between firms, what speed up information spread in national industry. Benefits of this procedure are increasing if suppliers are located close to firms, while communication paths shorten."

¹⁴

Companies in Republic of Srpska can use a broad range of activities to strengthen their competitiveness. Competitive advantage can be created and sustained through:

- Supporting process of innovation;
- Diversification and promotion of new export products;
- Reinforcing confidence in domestic producers and decrease of import of products that can be domestically produced;
- Higher investments in workers' knowledge and skills ;
- Investments in manufacturing capacities and higher level of products finalization;
- Introduction of international quality standards;
- Product design and brand;
- Establishing clusters;

¹³ M. E. Porter, *Competitive advantage*, Asee books, Novi Sad. 2007. p. 21-22.

¹⁴ M.E. Porter. *Changing Patterns of International Competition*, "The Competitive Challenge", Boston, Ballinger Pub. Co, 1987. p. 29-30. according to: D.Đurić, J.Simić: *Main factors of competitive advantage of global organization*

- Setting up “network of domestic suppliers” etc.

Which measures companies will deploy, primarily depends on consumers demands, level of competition in the industry and development tendencies in the society. It is suggested to explore possibilities offered by CEFTA, being very competitive, but still far less demanding than developed markets.

Republic of Srpska development strategy should be oriented toward improving competitiveness, while boosting FDI inflow. Public administration reform and infrastructure investments were given high priority in previous period, but they should be reexamined and employed on behalf of the economy and competitiveness. State administration must operate as citizens and business service; otherwise, reforms will not obtain expected benefits. Beside, Republic of Srpska must create innovation system that will connect economy, universities and science and research institutions.

CONCLUSIONS

According to previously described methodology, Republic of Srpska ranked 113 in 2011-2012, with 3.7 score, indicating very unfavorable position. The Report complies with similar international studies that demonstrated how much efforts should be placed on raising competitiveness and improving foreign trade structure.

For example, the success of an economy is measured by the number of internationally recognized brands, while Republic of Srpska doesn't have any brand or a specific product even regionally recognized. Study on Republic of Srpska's competitiveness also indicated a lack of sophisticated tools that drive national competitiveness. Companies doesn't perform market research, marketing function almost doesn't exist in companies; they have no control over international distribution, doesn't invest in research and development, and are disconnected from academic or research community. Looking at the competitive ranking by pillars or specific indicators, it can be concluded that Republic of Srpska achieve below average results in key competitive elements.

In order to seriously cope with the competitiveness issue, Republic of Srpska should adopt the competitiveness strategy and focus on leverages that can provide major benefits.

This paper only refers to some possible solutions how to boost economy competitiveness. Special attention is placed on public administration in creation of more favorable business climate and support to creation and sustaining innovative system, but also other determinants of competitiveness such as political certainty, encouraging start-ups, investments in education and skills, supporting innovative business activities, diversification and promotion of new export products, reinforcing confidence in domestic producers and decrease of import of products that can be domestically produced, introduction of international quality standards, product design and brand, establishing clusters, setting up “network of domestic suppliers” etc.

Producing final products that contain high level of value added should be one of the top priorities in adjusting economy structure of Republic of Srpska.

A lack of domestic sources for boosting competitiveness should be overcome by building capacities for attracting pre-accession and other EU funds aimed for regional and rural development. It is very important to comply with provisions of the Stabilization and Association Agreement, and exploit advantages offered by CEFTA.

If Republic of Srpska wants to achieve better results in foreign trade and overall development, than more proactive approach in solving open issues of insufficient competitiveness must be taken. It is

necessary to maintain continuity in studying competitiveness and benchmarking factors underpinning national competitiveness.

LITERATURE

- 1) D.Đurić, J.Simić: Main factors of competitive advantage of global organisation.
- 2) Doc. Dr Ana Jovanović. Competitiveness of Serbian economy
- 3) Historical aspects of competitiveness,
- 4) Kim Moller. Company strategy: social responsibility,
- 5) Michael E. Porter: competitive advantage, Asee books, Novi Sad. 2007. Str. 21-22.
- 6) Mr Vladimir Mičić: Clusters – factors of improvement of Serbian industry competitiveness.
- 7) National council for competitiveness of Croatia.
- 8) Operativni program za regionalnu konkurentnost Republike Hrvatske 2007 – 2013.
- 9) P. Kotler i J. A. Caslione. Chaotics – the business of managing and marketing in the age of turbulence Mate, Zagreb. 2009.
- 10) Support to improvement of competitiveness of Republic of Srpska economy, Banja Luka, 2012. p. 27 – 31
- 11) The Global Competitiveness Report 2011–2012, World Economic Forum, Geneva, Switzerland 2011;
- 12) The Global Competitiveness Report 2012–2013, World Economic Forum, Geneva, Switzerland 2012.
- 13) V.Paraušić, D.Cvijanović: Competitiveness of Serbia measured by WEF global competitiveness indexes 2007–2008

IMPROVING SERBIA'S BUSINESS ENVIRONMENT FOR MORE FOREIGN AND DOMESTIC INVESTMENT¹

Slavica PENEV²
Matija ROJEC³

Abstract

Serbia's strong economic growth from the pre-crisis period, interrupted when the global financial crisis was transmitted to the country, is expected to be slower in the coming years than in the pre-crisis period, as the growth model based on high domestic consumption and foreign savings' financing is no longer possible. Creation of a favourable business environment is one of the key preconditions for attracting foreign and domestic investment, necessary for structural changes, economic recovery, and sustainable growth of Serbian economy.

According to the several key international databases and surveys, Serbian business environment has a number of weaknesses. Its quality is lagging in a number of indicators not only behind the EU-10 region, but also behind the Western Balkans. The most prominent weaknesses of Serbian business environment, which inhibit the foreign and domestic in Serbia are: slow progress in structural and institutional reforms, poor implementation of laws, inefficient government bureaucracy, high level of corruption, and high administrative barriers in the area of construction permits, paying taxes and closing a business.

The paper concludes that the best way for Serbia to improve the quality of its business environment, is to speed up the reform process and to strengthen the structural and institutional reforms. Further progress with the EU accession process is also of great importance for the improvement of the business environment, improving the attractiveness of the country for domestic and foreign investment.

Key words: Serbia, Western Balkans, EU-10, business environment, investment, FDI, weaknesses

INTRODUCTION – MACROECONOMIC SETTING AND FDI

Serbia's strong economic growth from the pre-crisis period, interrupted when the global financial crisis was transmitted to the country, is expected to be slower in the coming years than in the pre-crisis period, as the growth model based on high domestic consumption and foreign savings' financing is no longer possible. Creation of a favourable business environment is one of the key preconditions for attracting foreign and domestic investment, necessary for structural changes, economic recovery, and sustainable growth of Serbian economy.

Serbia is the largest country in the Western Balkan region⁴. Its population represents around 43% of the regional population, while its GDP amounts for 47% of the region's GDP. All the other countries

¹ This paper is a part of research projects numbers 47009 (European integrations and social and economic changes in Serbian economy on the way to the EU) and 179015 (Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements), financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

² Slavica Penev, PhD, Institute of Economic Sciences, Belgrade

³ Matija Rojec, PhD, University of Ljubljana, Faculty of Social Sciences, Ljubljana

⁴ Western Balkan region or Western Balkans refers to Albania, Bosnia and Herzegovina, Macedonia, Montenegro and Serbia

have fewer inhabitants and can be regarded as small countries (table 1). Serbia's per capita in purchasing power parity (PPP) terms in 2012 was 9026 EUR, just slightly above the regional average, but extensively lagging behind the EU-10⁵ average.

Table 1. Basic indicators, Western Balkan countries, 2012

	Population million	GDP (EUR bn)	GDP in EUR at PPP, per capita EU 27=100	GDP in EUR at PPP, p.c.
Albania	2.816	9.4	30	7584
Bosnia and Herzegovina	3.836	13.1	28	7274
Macedonia	2.06	7.5	35	9557
Montenegro	0.621	3.3	42	10863
Serbia	7.24	29.9	35	9026
Western Balkans	16.573	63.3	34	8861
EU-10 ¹	98.9	972	63	15900

Source: EU Progress Reports 2013

Serbia and Western Balkans as a region witnessed strong economic growth in the pre-crisis period, but the growth was based on high domestic consumption linked to fast credit growth, and was accompanied by a widening current account deficit and increasing private sector debt. This growth was interrupted when the global financial crisis was transmitted to the region through trade and financial channels, resulting in reduced external demand for the region's exports, a credit crunch, a decline in remittances, and a decline in foreign direct investment. In spite of some signals of recovery in 2010 and in the first half of 2011, the economic activity weakened in the second half of 2011 and in 2012, pointing to the fact that the short-term economic prospects not only for Serbia, but for the Western Balkan region as well have remained weak and vulnerabilities have increased as a result of the Eurozone crisis (Table 2). Expected growth in Serbia in the coming years will be slower than in the pre-crisis period, as the growth model based on high domestic consumption and foreign savings' financing is no longer possible.

Table 2. Real GDP growth and projections, 2001-2013, (% of GDP)

	2001-2003	2004-2006	2007	2008	2009	2010	2011	2012	2013 proj
Albania	6.0	5.6	6.0	7.7	3.6	3.3	3.0	1.6	1.5
BiH	4.3	5.6	6.8	6.0	-2.8	0.7	1.3	-0.5	0.1
Macedonia	-0.3	4.1	5.9	4.8	-1.0	1.9	3.1	-0.3	1.5
Montenegro	1.8	5.7	10.7	7.5	-5.7	2.5	2.4	-0.5	1.0
Serbia	4.0	7.0	6.9	5.5	-3.5	1.0	1.6	-1.7	2.2
Western Balkans	3.2	5.6	7.3	6.4	-1.1	2.2	2.7	0.2	1.0
EU-10	3.4	5.8	6.3	4.2	-3.6	2.2	3.4	1.5	1.2

Source: IMF and EBRD database

Similar to the GDP trend, gross fixed investment rates have also declined during the period of the global crisis, their recovery has been slow, and their post crisis level is well below the precrisis level

⁵ The EU-10 refers to the new EU member states excluding Malta, Cyprus and Croatia (Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, the Slovak Republic and Slovenia)

(Table 3). During the period 2008-2012, investment rates in Serbia were below the Western Balkan average rates.

Table 3. Gross fixed investment as % of GDP, 2008–2012

	2008	2009	2010	2011	2012
Albania	40.9	37.9	31.2	31.2	n.a.
BiH	25.2	20.4	18.1	19.2	22
Macedonia	21.0	19.9	19.1	20.6	29.0
Montenegro	38.2	26.8	21.1	18.4	17.9
Serbia	23.8	18.8	17.8	18.5	17.9
Western Balkans	29.8	24.8	21.5	21.6	21.7

Source: EU Progress Reports 2013

Table 4. Savings–investment gap in Western Balkan countries, 2008-2011 (% of GDP)

	2008	2009	2010	2011
Albania				
Gross domestic investment	40.9	37.9	31.2	31.2
Gross national savings	17.0	14.0	14.0	12.0
Foreign savings	23.9	23.9	17.2	19.2
Bosnia and Herzegovina				
Gross domestic investment	25.2	20.4	18.1	19.2
Gross national savings	10.0	16.0	15.0	13.0
Foreign savings	15.2	4.4	3.1	6.2
Macedonia				
Gross domestic investment	21.0	19.9	19.1	20.6
Gross national savings	15.0	21.0	25.0	25.0
Foreign savings	6.0	-1.1	-5.9	-4.4
Montenegro				
Gross domestic investment	38.2	26.8	21.1	18.4
Gross national savings	-24.0	2.0	-6.0	-8.0
Foreign savings	62.2	24.8	27.1	26.4
Serbia				
Gross dom. Investment	23.8	18.8	17.8	18.5
Gross national savings	8.0	16.0	16.0	18.0
Foreign savings	15.8	2.8	1.8	0.5
Western Balkans				
Gross dom. Investment	29.8	24.8	21.5	21.6
Gross national savings	5.2	13.8	12.8	12.0
Foreign savings	24.6	11.0	8.7	9.6

Source: World Bank database and EU Progress Reports 2013

Not only Serbia, but also all the countries of the region have benefited from relatively easy access to external financing in the period before the global crisis, which enabled them to fill the savings investment gap. However, the decline in investment rates was partly the result of the decrease of the inflow of foreign capital to the region as a result of the global crisis. The increase in the savings rates in Serbia from 8% in 2008 to 18% in 2011, helped to prevent further decrease of investment rates in Serbia. Similar trend was characteristic for the other countries of the region, but their investment savings gap was much larger, and had to be filled by larger amount of foreign savings (Table 4).

FDI inflows to Serbia as well as into the region have also been strongly affected by the crisis. In the period 2008-2010 Serbia experienced a decrease in FDI inflows, mostly due to the impact of the global economic crisis. However, after some recovery in 2011, the negative trend continued in 2012, with FDI amounting only 352 mil. EUR or 0.8% of GDP. Similar trend, but less sharp was characteristic for Western Balkan region (Table 5).

Table 5. Inward FDI flows, 2006-2012, (in USD million)

	2006	2007	2008	2009	2010	2011	2012
Albania	324.4	658.5	974.3	995.9	1 050.7	1 036.2	957.0
BiH	554.7	1 818.3	1 024.5	149.3	324.0	379.9	632.9
Macedonia	432.6	692.5	585.8	201.4	211.9	468.2	134.6
Montenegro	622.0	934.4	960.4	1 527.3	760.4	558.1	609.5
Serbia	4 255.7	3 438.9	2 955.3	1 958.8	1 328.6	2 709.3	352.2
Western Balkans	6 189.4	7 542.7	6 500.3	4 832.7	3 675.6	5 151.6	2 686.4
EU-10	62 778.6	72 851.4	63 151.3	27 344.6	31 550.6	37 648.8	37 822.5

Source: UNCTAD, FDI/TNC database (www.unctad.org/fdistatistics).

BUSINESS ENVIRONMENT IN SERBIA - WEAKNESSES AND NEED FOR IMPROVEMENT

In order to generate more balanced and sustainable growth and to return to the growth rates of the pre-crisis period, Serbia will need to change its growth model and find new sources of growth. Future sustainable growth should be more production-based and export-led, with a focus on structural and institutional reforms. However, to attract more domestic and foreign investment, due to their deterioration during and after the economic crisis, additional efforts should be necessary on the improvement of the business and investment environment in Serbia.

A number of studies support the view that the quality of business environment affects private investment and economic performance. Djankov et al. (2002) argue that inadequate institutions and excessive regulation can have a significant negative impact on investment. Busse and Groizard (2008) claim that countries need a sound business environment in order to be able to benefit from FDI.

What is the role of business environment in attracting FDI? The answer is provided by the so called OLI paradigm of FDI, in the part concerning location specific factors which make a country more or less attractive for foreign investors. Location specific factors could be classified into main economic (structural and market) factors, which represent the basic reason/motive of foreign investor for investing in particular country (market size and growth, availability and price of production factors, possibility of more efficient production etc.), and into factors of business environment with regulatory economic policy framework, and broader investment climate, including support to entrepreneurship. Regulatory-policy framework and business environment represent more or less favourable framework for the realisation of basic motives (see UNCTAD, 1998: 91).

The business environment undoubtedly has a crucial impact on the decision of a foreign investor whether or not to go ahead with the realization in line with his primary motivation determined with structural factors. In short, an inadequate business environment, regulatory and policy framework could turn away a foreign investor, who would otherwise choose to invest as far as market, resource / asset or cost considerations are concerned.

Further on we look at the main characteristics and weaknesses of the Serbian business environment by analysing the most relevant international sources in this domain, i.e. World Economic Forum Global Competitiveness Reports (WEF GCR), World Bank's Doing Business (WBDB), World Bank Worldwide Governance indicators (WBGIs), World Bank and EBRD Business Environment and Enterprise Performance Survey (BEEPS) and Transparency International's Corruption Perception Index.

The World Economic Forum's Global Competitiveness Report is based on a comprehensive annual survey conducted in more than 140 countries, and is used to measure the competitiveness of national economies based on examinations that include a wide spectrum of parameters influencing a country's competitiveness. It is currently compiled for 142 countries. Based on an assessment of various weighted indicators along 12 pillars, which are classified into three sub-indexes: Basic Requirements, Efficiency Enhancers, and Innovation and Sophistication Factors, it measures the fundamentals required for a competitive environment, such as the institutional framework, quality of infrastructure and macroeconomic stability. The indicators are built upon both hard data and the results of an executive opinion survey, which combines the perceptions of executive managers (a median of 89 in each country) on issues related to public institutions, corruption, infrastructure and the environment.⁶ The Global Competitiveness Report complements the Doing Business report and provides comprehensive insight into the subject country's strengths and weaknesses. It covers, in great detail, the factors that have the most influence on the country's business environment and international competitiveness. The significance of individual pillars for country's competitiveness depends on its stage of development. According to WEF's methodology, countries are classified into three stages of development: (i) factor-driven stage, (ii) efficiency-driven stage, and (iii) innovation-driven stage. The criterion used in determining the development stage of a given economy is GDP per capita.

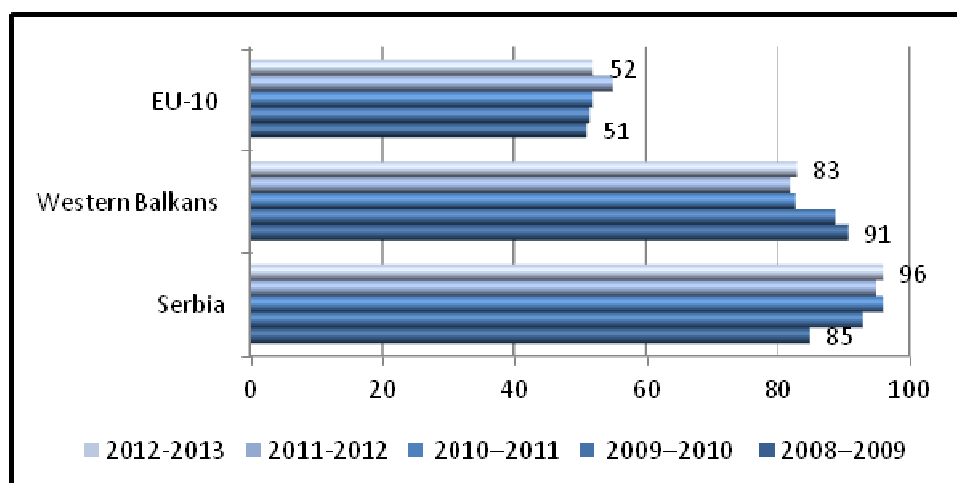
Not only Serbia, but all the Western Balkan countries are in the second development stage, with economies that are primarily efficiency-driven. At this stage, competitiveness is increasingly driven by higher education and training, efficient goods markets, well-functioning labour markets, developed financial markets, the ability to harness the benefits of existing technologies, and a large domestic or foreign market.

According to the Global Competitiveness Index rankings, during the last five years, Serbia has worsened its position from 85th in 2008-2009, to 96th in 2012-2013, lagging thirteen positions behind the Western Balkans average ranking, and forty-four positions behind the EU-10 average. It also lagged behind these two regional averages in terms of all sub-indexes (Figure 1).

Serbia's greatest weakness in terms of the first sub-group of competitiveness factors - *basic requirements* in 2012-2013 were institutions and macroeconomic stability (Table 6).

⁶ For further information on the methodology of the WEF Global Competitiveness Index, see www3.weforum.org/docs/WEF_GCR_Report_2012-13.pdf.

Figure 1. WEF Global Competitiveness Index, rankings, 2008/2009- 2012/2013



Source: World Economic Forum (WEF): *The Global Competitiveness Reports*

Note: The 2008–2009 rank is out of 134 countries, 2009–2010 out of 133 countries, 2010–2011 out of 139 countries, 2011–2012 out of 146 countries, and 2012–2013 out of 144 countries. The lower the rank number, the better.

In terms of the second sub-group of competitiveness factors- *Efficiency Enhancers*, which **are** the most relevant for Serbia and for the other Western Balkan countries. Serbia scored below the regional average, and was ranked 88th, only one position lower than the Western Balkans. However, but both of them were lagging behind the EU-10 by 40 places. Within this subgroup, Serbia lags most behind the region in the 6th pillar, goods market efficiency, while its rank in 10th pillar, market size, was 31 places better compared to the Western Balkans, as all the countries of the region except Serbia have a very small market size. In higher education and training, Serbia lags behind Western Balkans by 12 places, and behind the EU-10 by 64 places (Table 6 and 7).

For the third sub-group of competitiveness factors, Innovation and Sophistication Factors, Serbia scored relatively poorly (3.0), and its rank in 2012-2013 (124th) lags behind the EU-10 average by 63 places (Table 6 and 7). According to these score and ranking, Serbia can be considered as relatively uncompetitive in terms of innovation and sophistication factors, not only compared with the EU-10, but even compared with the Western Balkans. Within this subgroup, Serbia performs worst in Business sophistication, lagging behind the Western Balkans by 27 places and behind the EU-10 by 64 places.

Table 6. WEF Global Competitiveness sub-indexes and pillars of competitiveness, (rankings), 2012-13

	Serbia	Western Balkans	EU-10
Basic requirements	95	82	47
1st pillar: Institutions	130	84	75
2nd pillar: Infrastructure	77	82	57
3rd pillar: Macroeconomic stability	115	95	49
4th pillar: Health and primary education	66	69	46
Efficiency enhancers	88	87	47
5th pillar: Higher education and training	85	73	42
6th pillar: Goods market efficiency	136	84	59
7th pillar: Labour market efficiency	100	91	64

	Serbia	Western Balkans	EU-10
8th pillar: Financial market development	100	92	68
9th pillar: Technological readiness	58	66	41
10th pillar: Market size	67	98	61
Innovation and sophistication factors	124	103	61
11th pillar: Business sophistication	132	105	68
12th pillar: Innovation	111	97	59

Source: World Economic Forum (WEF): *The Global Competitiveness Reports*

Note 1: The 2012-2013 rank is out of 144 countries. The lower the rank number, the better.

Table 7. WEF Global Competitiveness sub-indexes and pillars of competitiveness, (scores), 2012-13

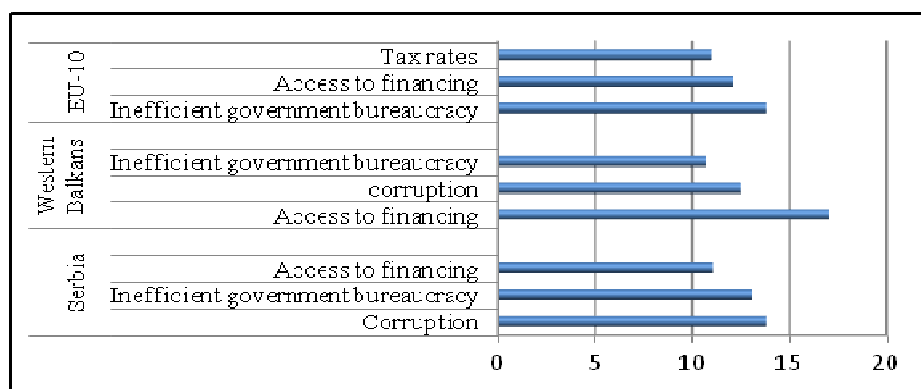
	Serbia	Western Balkans	EU-10
Basic requirements	4.2	4.3	4.8
1st pillar: Institutions	3.2	3.7	3.9
2nd pillar: Infrastructure	3.8	3.7	4.3
3rd pillar: Macroeconomic stability	3.9	4.3	5.1
4th pillar: Health and primary education	5.7	5.7	6.0
Efficiency enhancers	3.8	3.9	4.4
5th pillar: Higher education and training	4.0	4.2	4.8
6th pillar: Goods market efficiency	3.6	4.1	4.4
7th pillar: Labour market efficiency	4.0	4.1	4.4
8th pillar: Financial market development	3.7	3.8	4.1
9th pillar: Technological readiness	4.1	3.9	4.7
10th pillar: Market size	3.6	2.9	4.0
Innovation and sophistication factors	3.0	3.2	3.7
11th pillar: Business sophistication	3.1	3.5	3.9
12th pillar: Innovation	2.8	2.9	3.4

Source: World Economic Forum (WEF): *The Global Competitiveness Reports*

Note: Scores rank for 1 = the lowest possible to 7 = the highest possible. The higher the score the better.

The WEF Global Competitiveness Report also identifies the most problematic factors for doing business, based on the opinion of businesses. According to the 2013 report, corruption is the most serious problem for businesses in Serbia. It was followed by inefficient government bureaucracy and access to financing, pointing out the necessity of conduction of a public administration reform, which would positively influent the reduction of corruption, especially within the public administration. These three impediments were also the most problematic in Western Balkans as a region. Limited access to finance was an important impediment even before the global crisis, but it has only worsened during and after the crisis hit Serbia and the region, strongly affecting the inflow of the capital to these countries. Similar factors represent the the most serious problems for businesses in the EU-10, with inefficient government bureaucracy as the most problematic factor for businesses, followed by access to financing and tax rates (Figure 2).

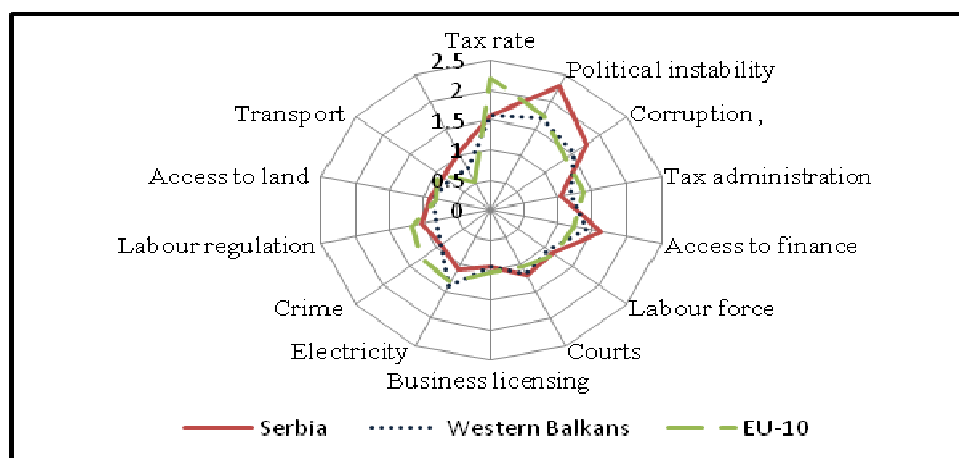
Figure 2. Top three most problematic factors for doing business, WEF GCR, 2013 (% of responses)



Source: The Global Competitiveness Report 2013 : World Economic Forum

Similar obstacles to business operations were identified by the EBRD/World Bank Business Environment and Enterprise Performance Survey (BEEPS). Even though the survey was conducted in 2009, it only confirms that corruption, limited access to finance and tax rates were important impediments even before the global crisis (Figure 3). The poor functioning of judiciary is also considered as an impediment to investment in Serbia. The essential preconditions for safeguarding the rule of law are to secure a judiciary which is independent and efficient and which has high standards of impartiality, integrity and quality of adjudication.

Figure 3. Regional business environment scores by country and obstacle, 2009



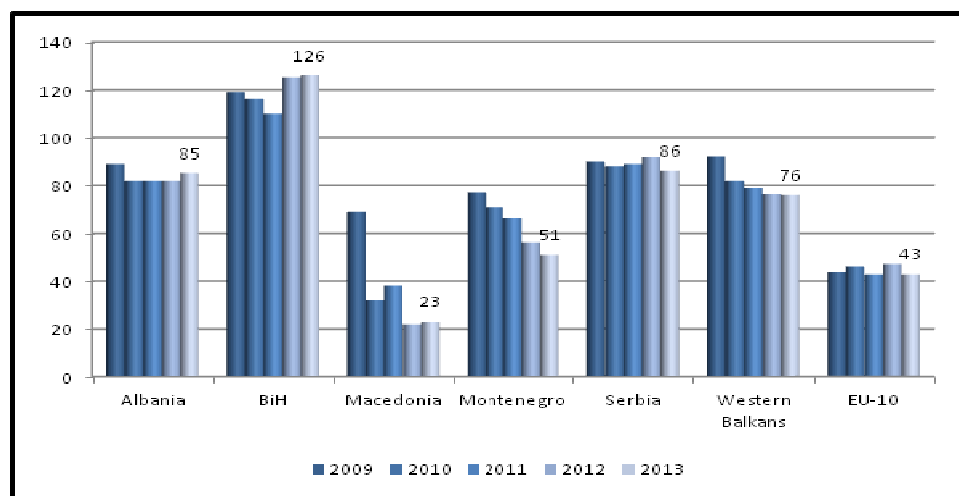
Note 1: The BEEPS presents interviewees (owners or senior executives of a company) with a list of potential obstacles and asks them to rate the severity of each one on a scale of 0 (no obstacle) to 4 (very severe obstacle).

World Bank survey Ease of Doing Business, a comprehensive analysis of regulations and obstacles to starting, operating, and closing a business, compares the ease of doing business among more than 180 countries around the world. It is focused on issues pertaining to the quality of business environment, and refers mainly to administrative procedures, regulations, legal system, etc. It provides a quantitative measure of regulations for ten areas: (i) starting a business, (ii) dealing with construction permits, (iii) employing workers, (iv) registering property, (v) getting credit, (vi) protecting investors, (vii) paying taxes, (viii) trading across borders, (ix) enforcing contracts, and (x) closing a business, as they apply to domestic small and medium-size enterprises (World Bank 2010).

According to the Doing Business 2013 ranking list, Serbia slightly improved its rank from 92nd in 2012 to 86th in 2013 on the list of 185 countries, but is still lagging behind the Western Balkan average.

The gap between Serbia and Western Balkans on one side and the EU-10 on the other side is much larger, as the EU-10 average rank in 2013 was 43 (Figure 4).

Figure 4. World Bank Doing Business Rankings: Ease of Doing Business Rank, 2009-2013

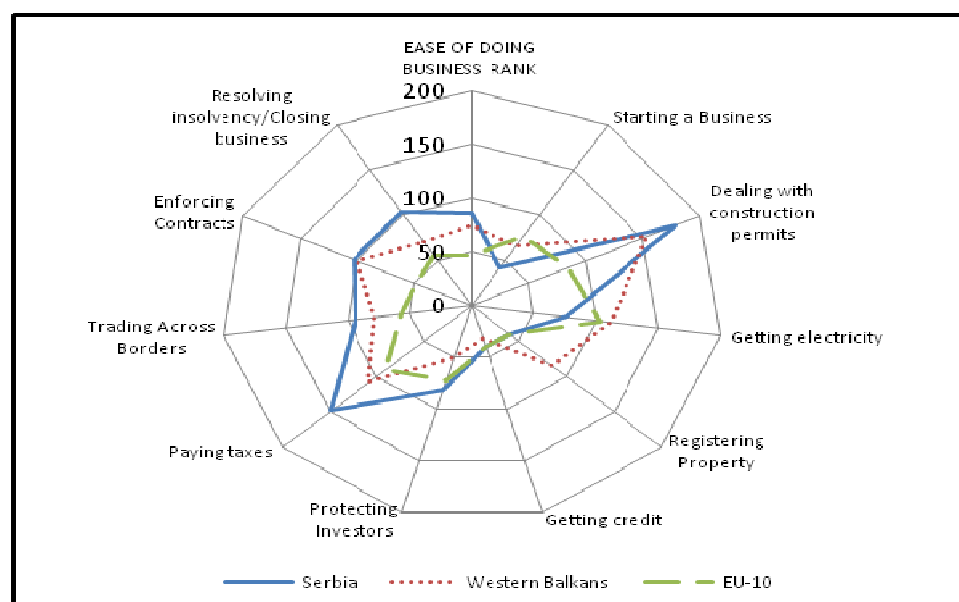


Source: World Bank Doing Business 2013

Note 1: Ease of Doing Business Rank among 185 countries in 2013.

Dealing with construction permits and paying taxes have been the most burdensome administrative procedures for enterprises, not only in Serbia but in the Western Balkan region as well (Figure 5). On the other side, starting a business, getting credit were and registering a property were the least burdensome procedures in Serbia, in which Serbia scored like the EU-10 in a case of getting credit were and registering a property, or even much better in the case of starting a business.

Figure 5. World Bank Doing Business Rankings per dimension: 2013



Source: World Bank Doing Business 2013

Note 1: Ease of Doing Business Rank among 185 countries in 2013.

The World Bank aggregate Governance Indicators combine the views of a large number of enterprise, citizen and expert survey respondents in industrial and developing countries. The individual data

sources underlying the aggregate indicators are drawn from a diverse variety of survey institutes, think tanks, non-governmental organizations, and international organizations. Regulatory Quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. Rule of Law captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as of the likelihood of crime and violence. Control of Corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.

The scores of the Regulatory quality indicator in Serbia are well above the scores of the other two indicators, the Rule of law and the Control of corruption, as the regulatory reform and the EU harmonization process resulted in the drafting of a significant number of regulations that fulfil market standards. In the last few years, countries of the region achieved notable improvement in the quality of laws. This improvement was directly influenced by the progress not only Serbia, but all the Western Balkan countries achieved in their EU accession process (Table 8).

Table 8. Quality of law, World Bank Governance Indicators, 2012

	2005	2006	2007	2008	2009	2010	2011	2012
Albania	-0.3	-0.1	0.1	0.1	0.2	0.2	0.2	0.2
BiH	-0.5	-0.4	-0.3	-0.2	-0.1	-0.1	0.0	-0.1
Macedonia	-0.2	0.0	0.1	0.2	0.3	0.3	0.3	0.3
Montenegro	-0.1	-0.3	-0.2	-0.1	0.0	-0.1	-0.1	0.0
Serbia	-0.6	-0.4	-0.3	-0.3	-0.1	0.0	0.0	-0.1
Western Balkans	-0.2	-0.2	0.0	0.0	0.1	0.1	0.2	0.1
EU-10	0.9	0.9	0.9	1.0	1.0	1.0	0.9	0.9

Source: World Bank Governance Indicators Database

Note 1: The values of indicators range from -2.5 to 2.5, with higher scores corresponding to better outcomes

In addition to the reforms of the legislative framework, building of institutional infrastructure and strengthening the existing institutional infrastructure is of utmost importance for the efficient implementation of laws and the rule of law. Progress in the implementation of laws is significantly lagging behind the achieved progress in legislative quality, as the institutional building process requires serious reform efforts, which is confirmed by the World Bank Governance Indicators which measure the achieved level of the rule of law (Table 9). According to this data, Serbia scored not only below the average level of EU-10, but also below the Western Balkans average as well.

The rule of law is strongly inter-related to the level of corruption in a country. A sound legal framework and reliable institutions are necessary in order to underpin a coherent policy of prevention and deterrence of corruption. According to the World Bank Governance Indicators, Serbia's scores were almost identical to the average of Western Balkans, but lagged extensively behind the EU-10 (Table 10).

Table 9. Rule of law, World Bank Governance Indicators, 2012

	2005	2006	2007	2008	2009	2010	2011	2012
Albania	-0.8	-0.7	-0.7	-0.6	-0.5	-0.4	-0.5	-0.6
BiH	-0.6	-0.5	-0.5	-0.4	-0.4	-0.4	-0.3	-0.2
Macedonia	-0.4	-0.6	-0.5	-0.4	-0.3	-0.3	-0.3	-0.2
Montenegro	-0.3	-0.3	-0.2	-0.1	0.1	0.0	0.0	0.0
Serbia	-0.9	-0.6	-0.5	-0.5	-0.4	-0.4	-0.3	-0.4
Western Balkans	-0.5	-0.5	-0.4	-0.3	-0.2	-0.2	-0.2	-0.2
EU-10	0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.6

Source: World Bank Governance Indicators Database

Note 1: The values of indicators range from -2.5 to 2.5, with higher scores corresponding to better outcomes

Table 10. Control of Corruption, World Bank Governance Indicators, 2012

	2005	2006	2007	2008	2009	2010	2011	2012
Albania	-0.7	-0.8	-0.7	-0.5	-0.5	-0.5	-0.6	-0.7
BiH	-0.2	-0.3	-0.4	-0.4	-0.4	-0.3	-0.3	-0.3
Macedonia	-0.4	-0.4	-0.4	-0.2	-0.1	-0.1	0.0	0.0
Montenegro	-0.4	-0.4	-0.3	-0.2	-0.2	-0.2	-0.2	-0.1
Serbia	-0.4	-0.3	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3
Western Balkans	-0.3	-0.3	-0.3	-0.3	-0.3	-0.2	-0.2	-0.2
EU-10	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3

Source: World Bank Governance Indicators Database

Note 1: The values of indicators range from -2.5 to 2.5, with higher scores corresponding to better outcomes

Transparency International's Corruption Perception Index, which measures the perceived levels of public sector corruption in more than 170 countries, shows that in 2012 the index score for Serbia was 39, and its rank was 80th, only slightly better compared to Western Balkans average. However, not only Serbia, but Western Balkans as a region, lagged extensively behind the scores and ranks achieved by EU-10 (Table 11). Similarly to World Bank Governance indicator scores for the control of corruption, these results indicate that corruption remains one of the major weaknesses of Serbia, pointing that the legal environment must be tackled urgently.

Table 11. Transparency International's Corruption Perception Index, 2012

Country rank	Country	CPI score
113	Albania	33
72	Bosnia and Herzegovina	42
69	Macedonia	43
75	Montenegro	41
80	Serbia	39
82	Western Balkans	40
51	EU-10	52

Source: Transparency International's Corruption Perception Index 2011, 182 countries surveyed

Note 1: The CPI 2011 score relates to perceptions of the degree of corruption as seen by business people, academics and risk analysts, and ranges between 100 (highly clean) and 0 (highly corrupt).

CONCLUSIONS

Serbia's strong economic growth from the pre-crisis period, interrupted when the global financial crisis was transmitted to the country, is expected to be slower in the coming years than in the pre-crisis period, as the growth model based on high domestic consumption and foreign savings' financing is no longer possible. Creation of a favourable business environment is one of the key preconditions for attracting foreign and domestic investment, which are necessary for structural changes, economic recovery, and sustainable growth of Serbian economy.

According to the several key international databases and surveys, Serbian business environment has a number of weaknesses. Its quality is lagging in a number of indicators not only behind the EU-10 region, but also behind the Western Balkan region. The most prominent weaknesses of Serbian business environment, which inhibit the foreign and domestic in Serbia, are: (i) slow progress in structural and institutional reforms, (ii) poor implementation of laws, (iii) inefficient government bureaucracy, (iv) high level of corruption, (v) high administrative barriers in the area of construction permits, paying taxes and closing a business.

The main message arising from empirical evidence suggest that the best way for Serbia to improve the quality of its business environment, as a precondition for the attraction of foreign and domestic investment is to speed up the reform process and to strengthen the structural and institutional reforms. Further progress with the EU accession process is also of great importance for the continuation of institutional reforms and establishment of functioning market economy in Serbia. The fulfilment of the Copenhagen criteria would improve the business and investment environment, improving the attractiveness of the country for domestic and foreign investment, and improving the country's competitiveness.

LITERATURE:

- 1) Bevan, A. & Estrin, S. (2000). "The Determinants of Foreign Direct Investment in Transition Economies". William Davidson Institute, Working Paper Number 342, William Davidson Institute at the University of Michigan Business School.
- 2) Billington, N. (1999): "The Location of Foreign Direct Investment: An Empirical Analysis". *Applied economics*, 62, 1988-197.
- 3) Bolaky, B. and C. Freund (2004), *Trade, Regulations and Growth*, World Bank Policy Research Working Paper No.3255, Washington DC: World Bank
- 4) Borensztein, E, de Gregorio, J. & Lee, J. (1998). "How does foreign direct investment affect economic growth?" *Journal of International Economics*, 45, 115-135.
- 5) Buckley P., Clegg J., Wang C. & Cross, A. (2002). "FDI, regional differences and economic growth: panel data evidence from China". *Transnational Corporation*, 11(1), 1-28.
- 6) Business International, Creditanstalt. 1992. 1992 East European Investment Survey. Vienna.
- 7) Busse, M. and L. Groizard (2008), *Foreign Direct Investment, Regulations and Growth*, The World Bank Policy Research Working Paper Series number 3882. World Bank, Washington, DC.
- 8) Djankov, S., et al. (2002), 'The regulation of entry', *Quarterly Journal of Economics*, 117(1), pp. 1-37.
- 9) Dunning, J.H. 1993. *Multinational Enterprises and the Global Economy*. Wokingham: Addison-Wesley.
- 10) Dunning, J.H., Lundan, S.M. (2008). "Multinational Enterprises and the Global Economy". Cheltenham, UK: Edward Elgar.
- 11) Herzer, D., Klasen, S. and Nowak-Lehmann D. F., 2008. "In search of FDI-led growth in developing countries: The way forward," *Economic Modelling*, 25(5), 793-810.
- 12) Meyer, K. 1998. *Direct Investment in Economies in Transition: Making Central European Industries Competitive*. Cheltenham: Edward Elgar.

- 13) Moran, T.H., Graham, E.D., Blomström, M. (Eds) (2005) "Does foreign direct investment promote development? " Washington, DC, US: Institute for International Economics / Center for Global Development.
- 14) Rojec, M., T. Redek in Č. Kostevc. 2007. Domet in možni elementi politike aktivnega spodbujanja tujih neposrednih investicij v Sloveniji. Delovni zvezek št. 5/2007, let. 16, Urad za makroekonomske analize in razvoj, Ljubljana.
- 15) Penev, S. and A. Marusic (2011), Progress in Transition and Reform Implementation in Serbia Comparing to other Western Balkan Countries, with Main Focus on Regulatory Reform (2011), IFC, World Bank Group, Washington DC
- 16) Penev, S., (2012), Economic and European Prospects of Western Balkan Countries, Westminster Foundation for Democracy (WFD), Western Balkans Parliamentary network of committees for economy, finance and budget, Faculty of Economics and Business, Sarajevo and Institute of Economic Sciences, Belgrade
- 17) Sanfey, P. 2010, South-eastern Europe: lessons from the global economic crisis, European Bank for Reconstruction and Development.
- 18) Sanfey, P and Zeh, S. (2012) »Making sense of competitiveness indicators in South-Eastern Europe«, *Working Paper No. 145*, EBRD, London.
- 19) Kathuria, S. (ed.). 2008. Western Balkan Integration and the EU: An Agenda for Trade and Growth, The International Bank for Reconstruction and Development / The World Bank
- 20) Shan, W. in Song, J. (1997). "Foreign direct investment and the sourcing of technological advantage: evidence from the biotechnology industry", *Journal of International Business Studies*, 28(2), 267-84.
- 21) UNCTAD. 1998. World Investment Report 1998. New York and Geneva.
- 22) UNCTAD. 2009. Assessing the impact of the current financial and economic crisis on global FDI flows, UNCTAD, Geneva.
- 23) UNCTAD. FDI/TNC database (www.unctad.org/fdistatistics).
- 24) World Bank. 2012. Doing Business in 2013, Washington, DC.
- 25) Zakharov, V. and Kušić, S. (2003) »The Role of FDI in the EU Accession Process: The Case of the Western Balkans«, ETSG Fifth Annual Conference, Madrid, September 11-13, Frankfurt am Main: Johann Wolfgang Goethe University, Faculty of Economics

FOREIGN DIRECT INVESTMENT IMPACT ON THE HOST COUNTRY COMPETITIVENESS

Marija PETROVIĆ-RANĐELOVIĆ¹
Snežana RADUKIĆ²

Abstract

Issues and problems of economic development, and the possibility of acceleration of economic growth have been the subject of continuing interest in economic theory and practice. Actuality of this problem is confirmed by the fact that it is imposed as an integral element of modern international economic processes that involve the entire world: countries that are at the bottom of the scale of economic development and that seek to improve their position on it, as well as the countries that have attained a high level of economic development, but the current processes of transformation of the global economy as a development goal imperatively impose on them to discover new methods to preserve existing positions. From the standpoint of economic development opportunities for its acceleration depend on the availability of a variety of factors that exist in an economy. Foreign direct investment is now considered a factor that strongly influences the design of the host country business performances, and the key lever to improve its competitive position. For these reasons, the aim of this paper is to highlight the importance that foreign direct investment has in improving the competitiveness of the host country economy from the aspect of Global Competitiveness Index. In addition, special attention will be devoted to the analysis of the dynamics of foreign direct investment flows and their role in improving the competitiveness of the Serbian economy.

Key words: foreign direct investment, Global Competitiveness Index, Competitiveness, Serbia.

INTRODUCTION

Attract, retain and expand foreign direct investments (FDI) is a strategic decision of each country, as they enable the creation of new jobs, modern technology, efficient management and a new corporate culture. In order to achieve this, it is necessary to improve the business environment and the rule of law. Government intervention is necessary to achieve these objectives.

Appropriate measures aimed at improving the investment climate by accelerating reform programs and strengthening of institutions at all levels. Also, by developing closer links with the private sector at all levels, the problems of competitiveness and raise awareness of the importance of foreign investment would be solved. As a result of these measures would lead to the construction and operation of the system in order to affirm the market economy, market institutions and mechanisms which serve to promote market liberalization and competition.

In order to raise the overall competitiveness of the Serbian economy, it is necessary decisive implementation of transition and reform processes that can trigger the development potentials of the country - human, material and natural, and also make the Republic of Serbia more attractive for private sector development and increasing foreign capital investments. The main task of the state is, therefore, to establish a sound market environment and, in order to maintain internal and external macroeconomic equilibrium (price stability and balance of payments), to manage of the main aggregates of GDP - investment and consumption. Foreign direct investment should contribute to

¹ Marija Petrović-Randelović, PhD, Assistant Professor, University of Niš, Faculty of Economics

² Snežana Radukić, PhD, Assistant Professor, University of Niš, Faculty of Economics

productivity growth and employment in the amount of one quarter, but three-quarters should be the contribution of domestic savings.

Attracting foreign direct investments is one of the main levers for modernization of equipment and production processes. Foreign direct investments, in addition to the capital, bring in the country modern technology and management, ensuring the export markets and activate processes that improve the businesses of domestic firms. Foreign direct investments enables the inclusion of the economy in the global economic and financial flows by creating and increasing internationally competitive, industrial, service and agro-industrial facilities for a modern production and supply of modern markets.

Attract more foreign direct investments requires an open economy and a healthy market environment suitable for foreign investment and domestic savings, and ultimately creating a critical mass of small and medium-sized enterprises to take over the work force from unprofitable ones. Creating a favourable climate for foreign investments exceeds the "standard" macroeconomic assumptions. Foreign direct investments require the implementation of development policy without interference from bureaucratic institutions, and certainly without administrative delays at registration, employment, exports, repatriation of profits, providing the necessary legal protection and so on. In addition, we assumed transparent and fair legal framework and efficient banking and financial system. The state should encourage and support all of the changes that lead to strengthening the production base and the real competitiveness of exports.

It is well known that foreign direct investments in the early years do not contribute to a significant increase in employment, and they are often the cause of the layoffs. However, after some time, FDI induces growth of employment in the small and medium enterprises. The consequence of this process is more rapid productivity growth, while employment growth moderate.

Foreign direct investment entry into the industry may increase competitive pressure and thus force domestic enterprises to improve their operational efficiency. It is often said that no matter what kind of market structure make direct investments, entry of foreign affiliates in the host country market leads to increased competitive pressure and market performances, more than entry of domestic companies with the same initial positions (Blomstrom and Kokko, 1997).

This effect manifests itself more strongly in transition countries, where in the past there were very high barriers to foreign direct investments. The effect of FDI on the market of the host country may not always be a positive one, as it sometimes happens that multinational corporations, using their advantages, can eliminate domestic competition, primarily by reducing utilization of production capacities. This will be reflected in the decrease in productivity of local companies which will ultimately have a negative impact on their competitive position.

In such cases, often the appearance of monopolization of multinational corporations who are likely transfer its profits to the home country, thereby worsening the financial situation in the capital importing country. Described the negative effect may be enhanced if multinational corporations use transfer prices for tax reduction, and the host country leads protectionist policy. It may be that local authorities, in the implementation of its policy to attract foreign direct investments, provide excessive benefits, which further reinforces the negative effects. Excessive competitive power of multinational corporations reduces the ability of local firms to undertake new investments and caused the famous crowding-out effect. However, the overall dynamic effect can be negative, if there is a phenomenon as mentioned above.

Positive effects on the local economy due to increased competition are possible in cases where there is the elimination of a number of the national companies. If the market goes a number of inefficient domestic firms, which under normal market functioning would not be able to survive, the competitive pressure may relieve some of the local capacities and resources that are not currently being used in an

efficient way. In the long term, free resources and their proper allocation would lead to increased economic growth. The overall effect of FDI on the economy of host country depends on the ability of domestic firms to adopt new technologies.

However, if the host country leads economic policy that requires liberalization of foreign trade flows, competition policy, policy of reducing barriers to market entry, it is reasonable to expect that the presence of multinational corporations in the market of host country has a positive effects on the domestic economy. If an increase in the competitiveness of domestic firms, then the technological gap between them and the affiliations are reduce, which will reduce demand for the products of multinational corporations and create the conditions for the transfer of new technologies.

In accordance with the laid objective the structure of this paper is as follows. After introduction, the attention will be routed towards the analysis of the dynamic of the foreign direct investment flows. Such analysis will construct the basis for further research. In the third part of the paper will be examined national competitiveness according to the latest World Economic Forum Report in case of the Republic of Serbia, while in the fourth part instead of conclusion remarks will be given the main recommendations for improving the Serbian economy competitiveness.

THE ANALYSIS OF THE DYNAMIC OF FOREIGN DIRECT INVESTMENT FLOWS IN SERBIA

The ongoing process of globalization of the world economy imposed the compelling need to find ways in which the realization of business activities in the international market will contribute to raising the level of micro-economic competitiveness, and enhancing economic efficiency and improve its competitive performance. It can therefore be stated that competitiveness in the last decade was, and still is the dominant economic theme and the central issue around which conduct heated debate among economists.

Unsatisfactory competitive performance of Serbian economy in the previous period can rightly be attributed to the inappropriate activities and timely reaction of economic policy makers in responding to solve this critical problem, and thus demonstrated impotence of economic policies to contribute to the improvement of national competitiveness. Therefore, Bošnjak (2005, pp. 130-131) clearly indicates that the “economic policy influenced on inefficiency and no competitiveness of the economy through the instruments and mechanisms of exchange rate policy, monetary policy, fiscal policy, trade policy and competition policy and incomes policy, while institutions influenced through nonentity of strong rules of conduct and protect property and contracts, failure to ensure economic freedom and the failure to prevent corruption. These two pillars of competitiveness of Serbian economy should improve significantly in the transition period, as well as the third pillar of competitiveness, which relates to the strengthening of enterprises and banks, and increasing their competitiveness, mainly through privatization, innovation, cost efficiencies and strengthen market institutions”.

As in other transition countries, in Serbia also in the past period of pursuance of this process, foreign direct investment played a role as a developmental agent who is due to the strength of its internal incentive mechanism acted as a driver of growth and development of the Serbian economy.

The experience of Serbian economy in the field of foreign investment over the past ten years directly confirms the assumption that between the inflows of foreign direct investment and the speed of implementation of the reform process exist mutually inter-relationships. Namely, the progress in implementing market reforms and achieving a certain degree of macroeconomic stability is an important determinant of the expected profitability of investment projects, which indirectly contributes to the attractiveness of the current investment environment for foreign direct investment, and vice versa, the greater inflows of foreign direct investment, the greater the opportunity to collect the full development benefits of their inflow and accelerating the pace of reform process.

The beginning of the increasing foreign direct investment inflows in the Serbian economy can be traced to the period after 2001, a period in which is visible results in the implementation of comprehensive reforms of the Serbian economy and society, and made the progress on the development trajectory. It is important to note that the period of intensive growth of the Serbian economy after 2001 interrupted by an unexpected wave of the economic and financial crisis in 2008, with the strongest negative effects manifested in the 2009 with prolonged action to 2010. "Regarding from the aspect of the present time distance, attempted measures of economic reforms, which are at the very beginning aimed to create a modern market economy, in the period from 2001 to 2008 have as a consequence a relatively satisfactory results. In fact, the period from 2001 to 2008 can be characterized as a period in which there is an effectuation of positive results of the measures of overall reforms. After a decade of stagnation and decline of the economy for the first time was achieved a relatively high rate of economic growth (average annual economic growth rate during this period was 5.4%), macroeconomic stability has been established, which is along with the progress in the implementation of the liberalization measures (in the area of price and foreign trade) and the implementation of structural reforms resulted in the creation of an enabling business environment and accelerating the dynamics of inward foreign direct investment flows in the economy of Serbia" (Petrović-Randelović and Radukić, 2012, p. 36)

Economists are unanimous in opinion that the services sector in the period before effecting the negative impacts of the global economic and financial crisis (2001-2008) served as a key engine of growth of the Serbian economy. However, the inability to export the products of service character suggesting that such a high growth rate was due to the expansion of domestic demand, which in turn was not followed by the corresponding production growth, but growth in imports and, consequently, a widening of the trade deficit problem as a part of the balance of payments. If it bears in mind that the dynamic growth of the Serbian economy in this period most deserving service sector (from sub-sector perspective, the fastest pace of growth achieved the financial sector, wholesale and retail trade, and transport and telecommunications sector), and taking into account the pronounced orientation of increased flows of foreign direct investment to the service sector, then it can conclude that the Serbian economy in the previous period, its growth was based upon the inflow of foreign direct investment.

However, the main disadvantage of such development orientation is reflected primarily in the fact that the services sector belongs to the non-tradable part of the economy, so that long-term based of such strategic orientation not has some perspective. Furthermore, from the aspect of improving the competitiveness of the Serbian economy, there not exist good reasons and there is no economic justification for the promotion of such economic structure and sectoral orientation of foreign direct investment. Therefore, attracting greenfield foreign direct investment with all available instruments became priority task for economic policy makers, since only on the manner that involves running an export-oriented manufacturing Serbian economy can be redirected to the track of rapid economic growth and development.

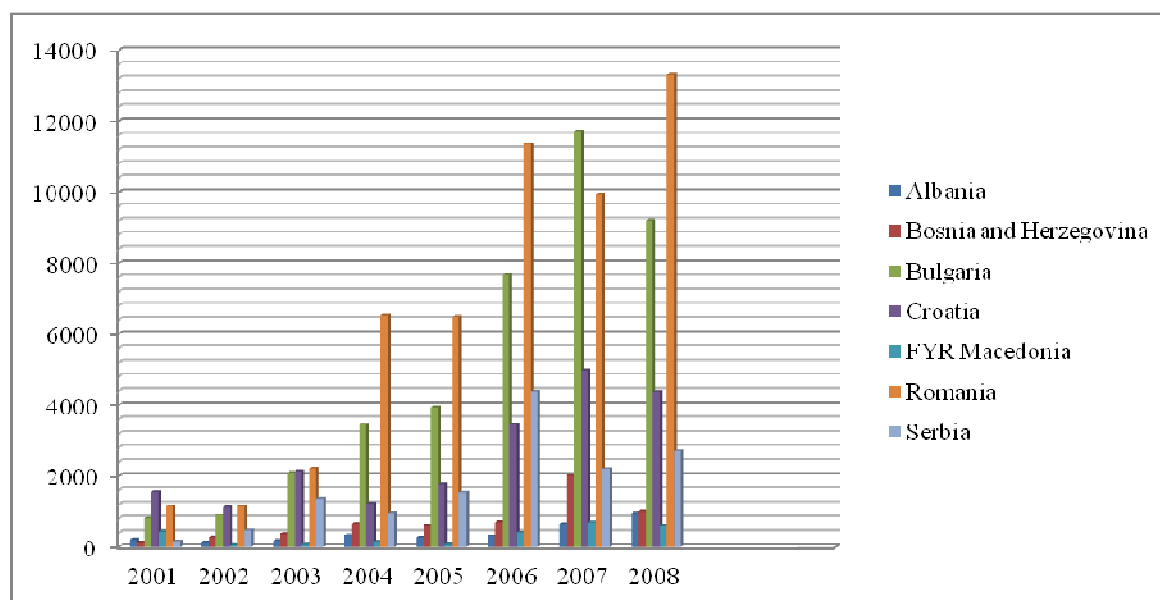
If the analysis is limited to the period before the effectuation of the negative effects of the global economic and financial crisis on the economy of Serbia, i.e. the period since 2001 to 2008, it could see that a relatively high average growth rate of the Serbian economy achieved under the influence of foreign direct investment contributed to more than double the GDP per capita (4,444.5 and 1,708.7 EUR, respectively). However, a comparison of competitiveness rank of Serbia and neighbouring countries (Table 1) shows that Serbia is at the rear of the other countries in terms of competitiveness, as evidenced by the low level of foreign direct investment compared to selected countries (Figure 1 and Table 2).

Table 1 Competitiveness rank according to the GCI, selected countries, 2007-2012

	2007	2008	2009	2010	2011	2012
Albania	109	108	96	88	78	89
Bosnia and Herzegovina	106	107	109	102	100	88
Bulgaria	79	76	76	71	74	62
Croatia	57	61	72	77	76	81
FYR Macedonia	94	89	84	79	79	80
Romania	74	68	64	67	77	78
Serbia	91	85	93	96	95	95

Source: World Economic Forum, *The Global Competitiveness Report*, various years, Geneva, Switzerland.

Figure 1 The inflows of foreign direct investment in selected countries in Southeastern Europe in mil. USD, 2001-2008



Source: UNCTAD, *World Investment Report*, various years, viewed August 2013,
<http://www.unctad.org/Templates/Page.asp?intItemID=1485&lang=1>

In the period after the 2008 the most important macroeconomic indicators in Serbia show the trends of deterioration, primarily as a direct consequence of the impact of the crisis on the economy of Serbia. About how the lack of macroeconomic stability and increased economic risk of investment plays a crucial role in making investment decisions, witness statement of the decrease of the foreign direct investment inflows value in Serbia's economy after the 2008, from 1,930 million dollars in the 2009 to 1,329 million dollars in 2010. Almost double the increase in the inflow of 2011 is a result of the delayed effects of the undertaken measures of the Government of the Republic of Serbia to mitigate the crisis consequences, although it was clear that such growth will not have long-term trends under the influence by the new wave of the crisis and slower growth in the euro zone. Evident trend of decline in the value of foreign direct investment in the 2012 with a tendency of further deterioration, caused by the effects of some factors, among which are considered as a key the recession in the member countries of the European Union, poor credit rating of Serbia and the absence of the program with the International Monetary Fund (IMF).

Table 2. Annual inflows of foreign direct investment in selected countries, in Millions of dollars, 2001-2012

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Albania	207,3	135	180	338	262	324	658	956	979	1.097	1.036	957
Bosnia and Herzegovina	130	265	381	668	595	708	2.022	1.009	501	63	380	633
Bulgaria	813	904	2097	3.452	3.923	7.667	11.716	9.205	4.467	2.170	1.827	1.899
Croatia	1.561	1.124	2.133	1.227	1.788	3.457	4.982	4.383	2.605	583	1.502	1.251
FYR Macedonia	441	78	95	157	97	424	699	598	248	293	468	135
Romania	1.157	1.144	2.213	6.517	6.483	11.367	9.923	13.305	6.329	3.573	2.523	2.422
Serbia	165	475	1.360	966	1.550	4.387	2.195	2.717	1.920	1.329	2.709	352

Source: UNCTAD, *World Investment Report*, various years, viewed in August 2013,
 <<http://www.unctad.org/Templates/Page.asp?intItemID=1485&lang=1>>

With the decline in the inflows is noticeable the slowing the process of privatization and restructuring of the Serbian economy, which is a direct confirmation of the thesis of the existence of relations of mutual dependence between privatization and foreign direct investment inflows: the opening of privatization to foreign investors at the beginning of the reforms seemed supportive to the foreign direct investment inflows, and vice versa, with a large inflows corresponds the faster dynamics of the privatization process.

This statement is best illustrated by the fact that in the period from 2003 to 2007 the privatization was taking place at an accelerated pace, which actually represents a period in which are achieved the largest foreign direct investment inflows. After the 2008 the privatization is showing a declining trend, which is caused by the deterioration of the macroeconomic performance of the economy due to the global economic crisis and, consequently, the downward trend in foreign direct investment inflows.

Improving the competitiveness of the Serbian economy in the future must be based on export-oriented greenfield projects of foreign direct investment, since such a commitment is a key prerequisite for the achievement of export-oriented growth in the post-crisis period.

Achieving and maintaining stable economic development and raising the competitiveness of the economy necessarily impose the implementation of the measures and directing the state activities towards encouraging the inflow of foreign direct investment to the industry and agriculture sector, in order to increase productivity and thus increased exports and accelerate economic growth.

NATIONAL COMPETITIVENESS ACCORDING TO THE LATEST WORLD ECONOMIC FORUM REPORT IN CASE OF THE REPUBLIC OF SERBIA

Analysis of the competitive position of the country starts from the level of gross domestic product per capita (GDP pc). According to this indicator, Serbia in the last three years has worsened their position, and according to the latest World Economic Forum Report and data for 2012 at the 85th place (73rd place for 2010 or 75th place for 2011). However, according to the Global Competitiveness Index (GCI), Serbia in the competition from 148 countries is currently at a 101st place, which shows significant decline compared to the previous two years when it was at the 95th place. The difference of 16 positions between these two indicators shows that in the past has driven the wrong economic growth strategy, which was based on the "expansion of domestic demand instead of saving and investment" (Petrović-Randjelović and Radukić, 2012, p. 40).

As the biggest problems affecting the decrease in productivity in Serbia are corruption (13.8%), inefficient government bureaucracy (13.1%), access to financing (11.1%) and government instability (10.9%). To get a more accurate appraisal of competitiveness, it is necessary to analyze all four components of so-called Porter's diamond with more than 100 sub-indices. Porter (1990) in his book "The Competitive Advantage of Nations" as determinants of national competitive advantage is stated as follows:

1. factor conditions,
2. strategy, structure and rivalry of companies,
3. demand conditions and
4. related and supporting industries.

These determinants of competitive advantage are called "Porter's diamond". In less developed countries, such as Serbia, the most important are the first two dimensions (quality of factor conditions and firm strategies and rivalry) and therefore measures to remove these deficiencies must be a priority for the authorities.

Growth strategies only based on exports will not improve the performances of the entire economy in the long run, and today is more often applied Porter's competitiveness framework which is comprehensive. It includes an analysis of the so-called diamond of national competitiveness and provides an analytical method for the identification of key barriers based on specific data of each country.

GCI takes into account a number of different components of competitiveness which are grouped into 12 pillars of competitiveness. The latest World Economic Forum Report takes into account the 148 countries and examines their ranking of competitiveness in various fields.

Factor conditions

Competitive advantages of Serbia are: infrastructure of primary health care (1-40th positions), as well as the communication infrastructure, according to the number of phone lines in the area of fixed telephony (37th position), mobile telephony (41st position) and the number of computers (Internet bandwidth – 29th position). In these segments, Serbia had previously recorded competitive advantages, but it is noticeable reduction in rank compared to the previous period.

However, the competitive disadvantages in this component are very distinctive and they are the main weaknesses of the competitiveness of Serbia. The main disadvantages are: the "brain drain" or the country's ability to attract and retain talents (146th and 147th place), administrative infrastructure and legal state (from 66th to 144th places), logistic infrastructure (from 95th to 139th places) and capital market (from 99th to 136th places). In the administrative infrastructure, the most favourable position is realized in the field of business costs of terrorism (66th), and the most unfavourable position is recorded in the field of protection of minority shareholders' interests (144th) and efficacy of corporate boards (138th). Improving the function of ownership, management and control at the enterprise level can have a positive impact on its competitiveness (Radović and Radukić, 2012). Competitive advantage at the financial market is realized only in the index of legal rights where Serbia has 42nd position.

In a sample of 148 countries, according to the competitiveness level, Serbia has a very low position. It can be concluded that the factor conditions are key component of the diamond that reduces the level of competitiveness of our country.

The context for strategy and rivalry

This is the central component of the diamond of market competitiveness, because it shows the degree of market orientation of the economy. In this dimension of competitiveness, competitive advantages Serbian economy were encouraging tax rates, as well as, according to the latest Report, imports as a percentage of GDP and the number of procedures to start a business, while a number of competitive disadvantages are expressed primarily in the market for goods and services.

It should be noted that within this pillar of competitiveness, there are indices that are related to foreign direct investments. According to the rules relating to foreign direct investments, Serbia is on the 129th place and according to the prevalence of foreign ownership on the 118th place. It can be concluded, among other things, that there are not enough foreign direct investments and the environment for their attraction is not attractive enough.

The observed number of weaknesses in the field of administrative infrastructure and implementation of the legal state, as well as in the field of strengthening market competition, should be a government priority. In general, the improvement of performances of these two segments is crucial for raising productivity and hence competitiveness of the national economy.

Demand conditions.

As we already mentioned, the third and the fourth element of a diamond are important for developed countries. Demand conditions, as third component of a diamond, determine the sophistication of consumers and the willingness of companies to improve the quality of products and services. Although the increase in purchasing power led to raising the level of sophistication of local consumers in recent years, Serbia does not have a competitive advantage in this segment. Thus, according to the sophistication of buyers Serbia occupy 143rd place and to the degree of customer orientation 128th place.

Competitive disadvantages are most pronounced in the area of business and strategies of companies (business sophistication), where Serbia is at the bottom of the list according to number of sub-indices (from 116th to 145th places). In particular, Serbia has a bad position in terms of competitive advantages, because it takes 145th place. It is followed by weakness in the labor market in terms of the unwillingness of companies to rely on professional management (135th place), a low level of co-operation between employer-employee (144th) and particularly low level of readiness of companies to staff training (140th). In the labor market, Serbia has a competitive advantage only in redundancy costs (23rd position) and the flexibility of wage determination (35th position), and “the whole of this segment of the market makes it uncompetitive, as evidenced by high unemployment and social tensions” (Petrović-Randjelović and Radukić, 2012, p. 42).

Related and supporting activities.

The fourth component considers availability of local suppliers and other partners in order to raise the level of specialization and thus the competitiveness of the economy. In terms of related and supporting industries, integration into the world economy, the level of development of clusters, as well as regional, supra-national clusters, Serbia does not have competitive advantages.

The main competitive disadvantages in this segment are low level of cluster development (129th place), and therefore the extent of innovative activities, which is reflected in the capacity for innovation (133rd), the company spending on research and development (127th place) and low availability of research and training in the field of higher education (121st place).

INSTEAD OF CONCLUSION - THE MAIN RECOMMENDATIONS FOR IMPROVING THE SERBIAN ECONOMY COMPETITIVENESS

Attracting and retaining foreign direct investments is a major goal of many countries, as it is quite clear that they play an important role in the creation of new, permanent jobs, increasing exports, transfer of technology and business knowledge, increasing competitiveness, improving the overall production and, finally, poverty reduction through overall economic growth and development. Creating favorable conditions for domestic and foreign investment are a major challenge for all countries, given the process of globalization, and there is a need for continuous improvement of the general business environment and the performances of the companies. At the macroeconomic level, in ensuring stability and improve the overall business environment have a key role governments, and market pressures to be competitive requires continuous improvement of efficiency and greater flexibility of enterprise management.

Based on the above analysis we can conclude that Serbia has a very low level of competition in the form of the achieved level of GDP per capita (85th place) and according to the Global Competitiveness Index (101st place). Porter's diamond analysis on the example of Serbia pointed out numerous competitive disadvantages and slight competitive advantages.

The most important recommendation for improving the Serbian economy competitiveness is improving factor conditions, and the greatest weaknesses are manifested in the field of logistics, administrative and innovation infrastructure. Responsibility for improving the competitiveness of this segment is mainly borne by the state. We also need to improve education and innovation infrastructure, capital markets and financial system, but there is a shared responsibility between the state and the relevant educational, scientific, and financial institutions.

Another important recommendation is related to the segment of the company strategy and rivalry, and related to better regulation of markets for goods and services, primarily in antitrust policy, market dominance and intensity of local competition. Also, improvements are related to the sphere of corporate governance (effectiveness of corporate boards and the impact of audit reports). For the implementation of the first group measures mainly responsibility borne by the state, while for the second group the responsibility borne by the business sector also.

So, first we need to start by solving the problem in the first two components of competitiveness, because they are basic and affect other components. Because of the numerous deficiencies in all aspects of competitiveness, it is necessary to distinguish those components for which the Serbian economy is at the end of the world list. These deficiencies are most pronounced and require urgent and decisive measures of the state. Although Serbia has expressed a number of competitive weaknesses, they also represent an opportunity to improve competitiveness in the future taking into account the forthcoming accession of Serbia to the European Union.

For middle-income countries, such as Serbia, first it is necessary to develop the factor conditions in terms of infrastructure and institutions, and to improve company strategy and rivalry, which is related to better regulate market competition and corporate governance. Only when we reach a satisfactory level of competition in these two segments, which are basic and have an impact on the other, it is necessary to improve other components which results in the improvement of national competitiveness in quantitative and qualitative terms.

LITERATURE

- 1) Blomstrom, M & Kokko, A 1997, "How Foreign Direct Investment Affect Host Countries", *World Bank Policy Research Working Paper*, No.1745.

- 2) Bošnjak, M 2005, "Konkurentnost i razvoj kao poluge evropske perspektive Srbije", *Ekonomski anali*, br. 166, pp. 129-148.
- 3) Ekonomski institut (MAT) & Ekonomski fakultet (FREN) 2010, *Postkrizni model ekonomskog rasta i razvoja Srbije 2011-2020*, Beograd.
- 4) Hunya, G 2002, "Recent Impacts of FDI on Growth and Restructuring in Central European Transition Countries", *WIW Resarch Reports*.
- 5) Petrović-Randelović, M & Radukić, S (2012) "Improvement of Macroeconomic Performances in Order to Raise the Level of Competitiveness of Serbian Economy", *Proceedings of the International Scientific Conference: Serbia and the European Union*, Faculty of Economics, University in Niš, Niš, Serbia, 31-45.
- 6) Porter, M E 2008, *The Competitive Advantage of Nations*. In: On Competition – Up-dated and Expanded Edition, pp. 171-211. MA, Harvard Business School Press, Boston.
- 7) Radović, M & Radukić, S 2012, "The boards of directors in function of improvement of the competitiveness of the Serbian companies", *TTEM - Technics Technologies Education Management*, Vol. 7, No. 1, str. 128-136.
- 8) Savić, N 2010, "Novi indeks konkurentnosti i rang Srbije", *Proceedings of the papers: Kuda ide konkurentnost Srbije?*, FEFA – Fakultet za ekonomiju, finansije i administraciju, Beograd, Srbija, pp. 9-35.
- 9) Savić, N, Džunić, M, Barjaktarović, L, Albijanić, M, Drašković, B & Brkić, I 2010, "Ocena nivoa konkurentnosti Srbije sa predlogom mera", *Kopaonik biznis forum 2010*, viewed March 2012, http://www.ses.org.rs/pdf/kopaonik2010/Nebojsa_Savic.pdf >
- 10) UNCTAD, *World Investment Report*, various years, viewed August 2013, <http://www.unctad.org/Templates/Page.asp?intItemID=1485&lang=1>>
- 11) World Economic Forum, *The Global Competitiveness Report 2012-2013*, Geneva, Switzerland, viewed September 2013, <http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2012-13.pdf>
- 12) World Economic Forum, *The Global Competitiveness Report*, various years, Geneva, Switzerland.

POSITIONING OF SERBIAN NATIONAL BRAND¹

Ivana DOMAZET²

Abstract

Raising awareness about global limitation of natural resources, along with intensive development of new technologies and escalating pollution of our planet, has led to the intensification of market competition both between global multinational competitors, and among the states. Beginning of the 21st century was distinguished by market competition between countries in respect to the creation and improvement of national brands. Their goal is to promote themselves, primarily in the international community, through national branding, tending to change and improve national brand and reputation after this manner. Consequently, in the economic and commercial sphere the greatest effects of building a national brand are expected with positive impact on increasing sales and exports, foreign direct investment, access to limited resources, the development of tourism, as well as improvement of political position and diplomatic relations. National branding, as a very important competitive tool in achieving economic goals, is based on the finding, building and presenting a unique, attractive and interesting value package. Hence, the aim of this study is to promote the importance of the national branding process and analyze the position of Serbia as a national brand worldwide. The emphasis in this paper is given to several crucial areas such as: national branding concepts, national identity as the foundation of national brand, positioning of Serbia on the world map of national brands and tools for improving national brand of Serbia.

Key words: Branding, national image, positioning strategies, Serbia, social networks

INTRODUCTION

Globally well-positioned national brand influences the acceleration of economic development, the strengthening of political and cultural power of the state in the world, but also affects the creation of a positive climate for the political, diplomatic and economic activities of that state in the region. National branding can be defined as a multi-step process that is based on finding, building and presenting a unique and market attractive value package. The results of a successful branding process of a nation are its recognition and differentiation from the rest of the world, which leads to (National Branding, 2010): increased exports and sales volume; greater inflow of foreign direct investment, tourism development, improvement of diplomatic relations; culture, art, science, customs and traditions are more attractive and interesting to the rest of the world; researchers, scientists, students and business people find the country more attractive for life and scientific work; it is easier for the people who live in the diaspora to find engagement; the conduct of foreign affairs is more successful.

The goal of national branding is to create a *clear, simple, differentiating idea* that can be both visualized and verbalized, and as such understood by diverse nations in different situations (Fan, 2006). Recognizable national brand represents an unparalleled unity, which is differentiated in the market by its uniqueness and diversity. The process of national branding is directly related with the image that a country enjoys in the world. In other words, the image of one state is its perception in the eyes of the world. Bad image that accompanies a country can therefore be associated with a bad

¹This paper is a part of research projects numbers 47009 (*European integrations and social and economic changes in Serbian economy on the way to the EU*) and 179015 (*Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements*), financed by the Ministry of Science and Technological Development of the Republic of Serbia.

² PhD Ivana Domazet, Research Fellow, Institute of Economic Sciences, Belgrade, Serbia

opinion of the people (nation) about themselves, because when the nation does not value their quality enough, it may lead to the creation of negative internal branding. Over time, the negative effects of the internal branding, spill over to the process of national branding. Unlike the national image that represents the experience or perception that the world has about us, the national identity represents a set of values that we as a nation possess.

The national identity is created on the basis of its own values and facts (Skoko, 2009, p.15). Identity can be defined as a characteristic, feeling or belief that makes a distinction between people. Also often quoted definition of national identity is the one that was given by Šiber (Šiber 1988). He defines national identity as a feeling of belonging to a particular group, which was acquired during the socialization process. National identity consists of other identities. Jelić (1999, 42) argues that national identity proceeds from national idea, the idea of belonging. That sense of belonging historically corresponds to efforts, which were achieved by individual nations in the process of homogenization of the territories that resulted in structuring of the society. Huntington (2007, 110), states that various peoples differently rate national identities in comparison with their other identities, and the relative importance and intensity of the national identity of any nation varied with time.

Anholt (2007, 119) says that the countries of strong and specific reputation stand out from the crowd, retain their national identity and progress as prominent part of the whole. European Union expansion cannot and will not do much to protect and support the fragile cultural identities of its Member States: it is up to them to look after their own interests. Perhaps this could be one of the main factors that produce the national identity crisis. Banovac (2002, p.174) believes that globalization undermines the very foundations of the community by razing the established economic, political and cultural boundaries, thereby destabilizing the spatiotemporal basis of national identity. Countries need to be aware of how they are perceived abroad, and it is important to invest in research on the perception of their national attributes (characteristics), products and services, and other essential elements of the brand. National characteristics and values that are eligible to constitute the identity of the national brand must have a basis in reality. Also, changing the image of a country is neither a quick nor an easy job (Anholt, 2009). Such an image is in some cases formed for centuries, shaped by wars, religion, diplomacy, sports victories and defeats, the famous "sons and daughters" of the nation, and finally there are the products that the country exports. Brand of a country is like a supertanker, which needs eight miles to change course and thirteen to stop. Precisely this statement is dictating that "states and nations today have to become aware of their demanding environments and clearly define who they are and what they want, what they can offer to the world, why would they be important for anyone and wherefore they would be respected. Simply they have to find a way that will attract the attention of the others and tell them a story about themselves in a way that will make admirers, customers, lobbyists, friends, or at least decrease the number of enemies" (Skoko, 2009, p.10).

In this regard, in order to better position the national brand, Serbia should use the concept of integrated marketing communications as well as systematic national approach to promotion. Therefore, Serbia should, at the state level, create an umbrella agency that would manage the complete project of improving its national brand through a consistent promotional activity (Domazet, Hanić, 2013). In order to effectively compete for its place on the global stage, one state has to be recognizable for something: by values, people, products, natural resources, aspirations, culture, history, athletes, lifestyle, or a combination of all this that makes its national brand.

The starting hypothesis of this paper is that Serbia, despite visible progress in comparison to the nineties, is considerably behind in the process of national branding given the real potential. The results of researches of relevant international agencies dealing with national branding of countries and competitiveness indicators of the World Bank and the World Economic Forum indicate that Serbia is not well positioned in respect to national branding. Such records significantly reduce chances for developing tourism and increased inflow of foreign capital, as well as opportunities for the growth of export – and those are the key prerequisites for boosting economic activity. Despite its potential,

Serbia is not holding a significant place on the global map of national brands, but there is a realistic framework for more significant improving its global position.

The structure of this paper is designed accordingly. After the introduction, which also includes the review of relevant literature on the topic of national identity, image and branding, in the second part presents the concepts of developing national branding. The third part is devoted to the analysis of Serbia's position on the global map of national brands based on relevant research agencies and the Global Competitiveness Index (GCI) of the World Economic Forum. The final section of the paper analyzes the potential of improving the position of Serbia in the field of national branding.

THE CONCEPT OF NATIONAL BRANDING

The syntax - "national branding" appears in the scientific literature within the last five years, and there is only a few authors who are exclusively engaged in this issue whose originators are considered to be Simon Anholt and Wally Olins. In American and British literature one can find slight differences in defining the *nation brand* and the term *national brand* (Fan, 2006). "The national brand is a multidimensional brand and may contain value categories such as high quality of products and services, business dynamics, creativity, inventiveness, entrepreneurship, educated and skilled population, high capacities for recreation and entertainment, excellent infrastructure and a healthy natural environment" (Brand Magazine, 2013). In the process of creating or strengthening the national brand, it is necessary to work hard on the recognition and continuous selection of strong brands that may be carriers of national brand and its identity.

The development phases of the process of national branding have different degrees of complexity for branding, which is shown in the Table 1. The level 1 is the simplest form of the national brand that is displayed or as a visual symbol or as a slogan. Level 2 includes a number of brands in the unified umbrella of brands (eg tourism and / or export) and more complicated for the branding from the visual symbols. The development of the national brand at the level 3 is most similar to corporate branding and deals with reputation, position and branding of the state, and it is the last level in respect to easy branding. Starting with the phase of positioning the state, national branding process becomes more complicated and complex. At the level 7, the tendency is to build competitive nation and ensure its sustainability in the market while at the level 8 the national brand is equated with national identity. Table 1 shows the complexity of sub-levels in the process of national branding and demonstrates the genesis of national branding and the complexity of the entire process.

Table 1: Development of a national branding

Development level	Easy branding	Complex branding
1. Visual symbol	❖	
2. Slogan	❖	
3. Umbrella of brands	❖	
4. Image of the state	❖	
5. Reputation of the state		❖
6. Positioning of the state		❖
7. Competitive advantages		❖
8. National identity		❖

Source: Adapted on Fan 2006, pp 5-14.

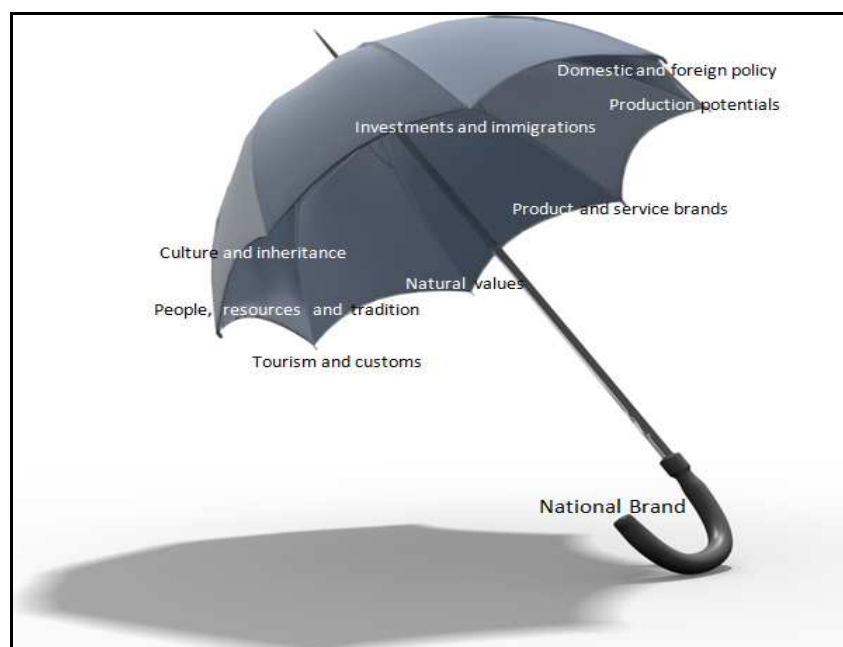
The national brand, as opposed to the commercial brands, must not be based on material products or services, but only on intangible entities, made up of the consumer's attributes and preferences, which together affect that brand of the state becomes unique. In other words, the national brand must not offer tangible products or services, but it shall introduce the world with: geographical and tourist sites,

historical heritage, culture, science, language and mentality, political system, economic system, known and prominent figures from the fields of science, culture, sports, politics. The coverage of the national brand should be defined as precisely as possible in terms of what will fit under the umbrella brand (national brand). In this regard, there are several options for the development of the national brand:

1. Focused the national brand development model is directed to a smaller number of economic sectors or only to one (the most common example is tourism). This model is very limited and can block or slow down the development of other sectors and make an initial idea of building a strong brand unfulfilled, or the results to be suboptimal. The problem with this model is that it does not recognize the essence of the national brand - which is distinctive because it contains and promotes the most important elements of identity of one nation and country. Thus, the approach to create brand identity in this model can be characterized as poor.
2. Multi-sector model is the most effective model for the construction of a national brand and encompasses several sectors, which provides a high level of integration, interaction, cooperation, and, finally, synergy (national brand has a higher value than the sum of the individual values of single of brands, while individual brands receive additional value from the national brand).
3. Model of economy brands is the model that does not recognize the importance of the national brand but the state is making significant efforts in the development of brands of most important economic sectors (subsectors, industries, clusters, groups, etc...) Or even of individual brands. This model, although incomplete, can produce significant results.

With a variety of models of brand development, it is necessary to take into account many realistic factors. Specifically, when creating a brand identity, one must take the reality and the facts into account. It is not recommended to "invent" identity elements that are not possessed in reality for the needs of branding. In this sense, the most important elements of national identity should be recognized, bounded, and presented to the world public in the best possible way. This is the only way to achieve the goal - that the global public perceives the national brand as it is desired.

Figure 1. National Brand Umbrella



Source: Adapted on Brand Magazine (2013)

Attempt to present a false identity is therefore doomed to fail, because today, in an era of rapid information exchange, it is impossible to hide the true characteristics of a country. In addition, countries must be aware of the way they are perceived abroad. It is therefore very important to invest

in research on the perception of their national traits (characteristics), products and services, and other essential elements of the brand. National characteristics and values that are selected to constitute the identity of the national brand must have a foothold in reality. Every single brand within the national brand must be compatible with the values and messages, with the identity of the national brand.

National brand may include the following important elements: the individual products and services (corporate) brands, business and technology solutions and processes, social institutions, culture, sports, arts, natural resources, tourism, investments, immigration, festivals, events, people, customs and ethics, mentality, architecture, artistic creativity, cultural and historical monuments. The entire process of national branding must be unique, and a state in the process of self-branding must use a coherent campaign (with acceptable small deviations depending on what is set in the forefront in the process of national branding). The essence of branding Serbian state is that all of us should strive to show the world all the values of Serbia, to create new values and do everything we can for Serbia to become progressive country. The brand implies successfully differentiated entity in the market and allows the product (service, company, city, region or country) to be separated from the mass of indistinguishable goods (or other entities) as a special.

POSITION OF SERBIAN NATIONAL BRAND

The positioning of countries in the global public is the area of interest of a large number of agencies. In the next segment we will present some of the world's foremost researches and Serbia's position in them, as well as the Global Competitiveness Index (GCI) of Serbia by the World Bank report.

Worldwide, there are a number of agencies and researches that are, using different methodologies, dealing with the positioning of individual countries / nations in the global public. Among them, we have selected the researches made by some of the most prominent companies:

- Bloom Consulting
- Future Brands (FB)
- East West Comms – Country Branding Global Index 200
- GfK Roper (The Nation Brand Index) and
- Legatum Prosperity and
- World Economic Forum.

Bloom Consulting Country Brand Ranking is the only country or nation brand ranking which classifies countries by the effectiveness of their country brand strategies and its subsequent impact on the country's GDP. In order to do so, Bloom Consulting has taken into account variables that define the economic performance of the countries as well as variables that characterize the strategies' accuracy and market acceptance. They have used hard facts, such as economic indicators and analysis of the official country brand strategies as well as soft data indicators, thereby measuring the economic impact of each country's tourism brand strategy. Furthermore, this marks the first time that Online Search Demand (OSD) has been incorporated into a ranking of this type. The 2012 Bloom Consulting Country Brand Ranking © Tourism accounts for the most comprehensive, objective research done in the field so far. Bloom Consulting creates separate rankings for Trade and Tourism, and include 161 country and all economic data comes from recognized sources such as the World Bank, the United Nations, and the World Tourism Organization. According to the report of the agency, Serbia ranks with the ranking A (slightly strong) in the category of tourism, while in the trade category ranks as the BBB (very good). This report positions Serbia relatively positive when compared to other reports of relevant agencies. Just as international rating agencies rank countries' credit risk, Bloom Consulting uses the CBS Rating © Classification System as shown in Table 2 below:

Table 2. Bloom Consulting Rating

Score	Description
AAA	Very Strong
AA	Strong
A	Slightly Strong
BBB	Very Good
BB	Good
B	Slightly Good
CCC	Slightly Weak
CC	Weak
C	Very Weak
D	Poor

Future Brands Country Brand Index (CBI) - Country Brand Index (CBI) is created by the *Future Brand* organization, based on perceptions made by approximately 3,000 international business and tourist travelers from nine countries (U.S., UK, China, Australia, Japan, Brazil, UAE, Germany and Russia). Country Brand Index (CBI) is the global study that uses relevant statistical data and opinions of prominent leaders in the industry, which is issued each year since 2005. *The Country Brand Index* uses different aspects when ranking states: authenticity, history, art and culture, infrastructure, ease of travel, security, accommodation, rest and relaxation, natural beauties, beaches, nightlife, shopping, food, entertainment, sports, hospitality, standard of living, attractiveness for business, political situation, quality of products / services, advanced technology, the environment and the desire to visit or re-visit a country. Each fall, global consulting agency Future Brands (FB) in cooperation with the BBC World Service, publishes the ranking of countries according to the strength of their national brand. This ranking is called the Country Brand Index and it is developed based on the extensive research conducted on 3,400 people of different nationalities aged 21 to 65 who have, for tourism or business reasons, visited one of the 102 analyzed countries. The parameters in the survey of Future Brands include: the knowledge of facts about the State concerned, the attitude regarding to the virtues of that state, such as the quality of life, cultural heritage, value system and take into account the reverence that the respondent feels in respect to that particular state, interest in travel to it, and willingness to give recommendations to friends for a visit. Among the 118 countries Serbia has taken, not at all flattering, 108 place in 2012. This is an extremely regressive trend, since in 2010 Serbia ranked 84. The main cause of such setbacks lies in the category *Quality of Life*. Public spending cuts paired with slow progress on pensions, healthcare, wages and unemployment have left many citizens without vital services that contribute to overall quality of life.

Table 3. Serbia FutureBrands ranking in the period 2010 -2012

Year	Serbia ranking
2010	84
2011	97
2012	108

Source: Future Brands, Country Brand Index 2012-2013

East West Comms – Country Branding Global Index 200 - East West Comms group is engaged in the provision of communications services and branding and publishes Country Branding Global Index 200 (CBI) ranking by the Perception Metrics system, which compares positive and negative news of the countries in the world's leading media on quarterly basis. One of the main reasons for pooling of East West with Perception Metrics is the scientific basis to be used for the analysis of international perception of state brands. The index is created by Perception Metrics system that compares the positive and negative news of certain countries in international mainstream media. East West national brand index uses *Natural Language Processing* system authorization, which is developed by the Perception Metrics. This system consists of a dictionary which includes about 16,000 words and

phrases indicating either positive or negative message. In their analysis, the East West uses only positive (aid, freedom, support, victory ...) and negative (violence, murder, separatism ...) words and messages that are linguistically and conceptually related to the observed state. From the analysis of the positive and negative messages, the result (rank) is being calculated, and the comparison is made with respect to the other countries covered by the study.

East West Nation Brand Perception Index analyzes hundreds of thousands of articles from many countries, and shows that the international media quoted Serbia poorly. Out of *200 ranked countries* (of which 192 UN member states) Serbia is ranked 151st place in 2010, while at the end of 2011 it was on discouraging 169th place. List for 2012 has not yet been released, but when the position of Serbia is concerned, there is no reason for optimism.

Table 4. Serbia East West Nation Brand ranking in the period 2008 -2012

Year	Serbia
2008	183
2009	180
2010	151
2011	169
2012	N/A

Source: East West Nation Brand Perception Index 2012

GfK Roper (The Nation Brand Index) – German company GfK Roper Public Affairs & Media, is one of the largest market research companies in the world. Simon Anholt (who is one of the most prominent theorists in the field of nation/state branding) has developed the Nation Brand Index concept in cooperation with GfK group, and designed a unique, rational and universal system for measuring the reputation of the national brand. *The Nation Brand Index* was conceived in 2005, with the aim to measure the image and reputation of the nations in the world and is considered to be one of the most reputable research methods in this area. Anholt's Nation Brand Hexagon compares the different factors and the values that state possesses that affect on a nation's reputation in the world. Anholt-GfK Roper Nation Brand Index measures the strength and the quality of brand image of each particular country by combining following six dimensions: 1. Exports, 2. Management, 3. Culture and Heritage, 4. Reputation of population, 5. Tourism, 6. Investments and Immigration. According to the GfK Index ranking for 2012, that included analysis of 118 countries based on these six parameters Serbia ranked as 108.

British analytical center Legatum Prosperity has made a study in which our country is ranked at the 76th place out of 142 countries. Compared with the previous year, Serbia moved up three steps on recently published list of most prosperous countries in the world 2013. Serbia got the lowest score in the areas of personal freedom, social values and economy, while in the areas of health, education and safety was listed a little better. At the top of the list whose results were obtained by crossing the data from eight areas, and that measures wealth and prosperity of the population is Norway, followed by Switzerland, Canada, Sweden, New Zealand and Denmark. Luxembourg is ranked at tenth place, while the United States are 11th.

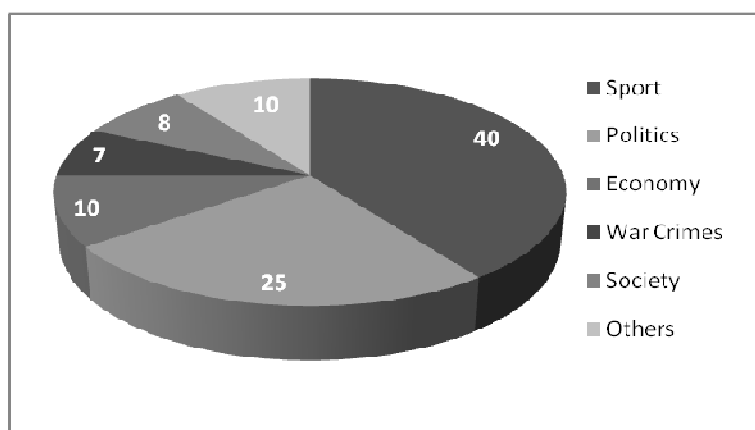
In our country, as many as 87 percent of citizens believe that the corruption is widespread in the economy and politics, while in Norway this percentage is less than 30. The survey revealed that the Serbs have the most confidence in the army, but that every third citizen has no confidence in the legal and the judiciary system. Compared to the year 2012, our country has made the greatest progress in the field of health care and recorded a "jump" from 61 to 54 place. This area assesses the percentage of immunization, the number of hospital beds per 1,000 people, the mortality rate of children, the quality of drinking water, etc.. While education is one of the areas where we have shown the best results, this year we have made a step down in this area - from 61st to 62nd place."

World Economic Forum - According to the World Economic Forum (WEF) report for 2013, Serbia was ranked at 101st position in the list of global competitiveness, which includes 148 countries, representing a drop of six places compared to the previous year. In 2013 Serbia had a Global Competitiveness Index (GCI) of 3.77, which is a 0.1 decrease compared to previous year. This led to led to backsliding Serbia from 95th to 101st on the list. Unlike last year, when a negligible decline in the value of the GCI of 0.01 was recorded, this year the fall could be conceived as significant, as they reached value of GCI is at the historic minimum in the seven-year period between 2007 and 2013. In addition, if this result is considered in an international context, recorded 101st position clearly represents a historical minimum when it comes to ranking of Serbia. Historically the highest GCI value of 3.90 Serbia has achieved on the eve of the first wave of 2008 crisis, while in the following 2009 the GCI has considerably decreased to the level of 3.77. This period was followed by the gradual recovery, while in 2013 the GCI value once again dropped down to the 2009 level. According to the overall competitiveness, as measured by the GCI report for this year, Serbia is located at the rear of the group of countries that include Albania, Bosnia and Herzegovina, Croatia, Greece, Hungary, Macedonia, Montenegro, Romania, Slovakia and Slovenia. Besides Serbia, in 2013 significant declines are recorded by Albania, Slovakia and Slovenia, while significant progress on the list was made by Croatia, Greece, Macedonia and Montenegro.

The most significant decline Serbia recorded in areas of infrastructure, macroeconomic environment and financial market sophistication, while a moderate downtrend was recorded in labor market efficiency and technological capability. There was no notable positive development in 2013 and modest shifts appear in the goods market efficiency and business sophistication.

Positioning of Serbia in foreign (primarily European) print media, as well as major global TV networks is analyzed through newspaper articles of influential European printed media (Guardian, Times, Independent, Le Mond, Die Presse, Deutsche Welle, El Pais, El Mundo) and global media services webpages such as CNN, Euronews, BBC, TV5, CBS, Al – Jazeera, Sky news and RTL during 2012. According to the authors' research, during 2013, the distribution of articles on Serbia, based on the reporting nature in these media was as follows: 59% neutral, 36% positive, and 5% negative.

Figure 4. The structure of articles based on thematic areas in selected media in 2012



Most of the analyzed articles are related to sports (40%), and then on politics (25%), economy (10%), and a bit less on society (8%) and war crimes (7%) articles relating to other subject areas in aggregate do not cross the representation of 10% (Figure 2).

According to results of the analysis, there is a tendency for incremental but steady improvement of Serbia's national brand. This tendency would have been developed more rapidly in the positive direction, if Serbia was not accompanied by a negative image as a result of recent wars and bombing of our country, followed by negative campaigns promoted by major international media during the

nineties. However, this is also the result of neglecting of promotional and communication strategies that our country has not applied in its fight for a place on the world stage for over a decade. The basic problem is that when it comes to the promotion of the national brand, our country steered to strategic approach only a few years ago. Along with these general attitudes, the real downturn of the position of Serbia that was presented by the eminent research agencies must not be ignored: Bloom Consulting, Future Brands (FB), East West Comms – Country Branding Global Index 200, GfK Roper (The Nation Brand Index and Country Brand Index (CBI) are saying that Serbia is not moving in the right direction when the improvement of the national brand is concerned, because besides improving the position in the analysis of Bloom Consulting agency, other agencies relevant to national branding indicate that Serbia recorded inferior status of a national brand in 2012. This would have to make an influence on the government to move towards the implementation of the development strategy of national brand more intensively.

THE POTENTIAL FOR IMPROVING THE NATIONAL BRAND OF SERBIA

So far Serbia has made positive steps to improve its national brand, because there are institutions that are already involved in the development of certain elements of the Serbian national brand, such as: Council for the Promotion of Serbia, Serbian Investment and Export Promotion Agency - SIEPA, Chambers of Commerce of Serbia and Belgrade, Tourist Organization of Serbia and Belgrade, Serbian Society of Lobbyists. Moreover a national Internet portal devoted to Serbian brand (www.srbijabrend.gov.rs) is presented and launched, featuring the program of the National Serbian brand. It contains the following key groups of activities directed towards achieving the goal that Serbian brand becomes recognizable and conveniently positioned in the global public:

- Establishing an efficient and sustainable institutional framework for the Serbian national brand
- Implementation of a comprehensive studies
- Preparation of the necessary strategic documents relevant for Serbian national brand
- Creation of a visual identity and national brand value
- Positioning of Serbian national brand in the world and domestic public
- Sponsorship and patronage of various trade fairs, exhibitions, cultural, sporting and other events under the logo of the national brand
- Providing technical and financial support to build individual brands in Serbia
- Supporting the implementation of projects and initiatives that promote the values of Serbia.

Unfortunately, despite a number of institutions that are more or less dealing with various issues of national branding, it can be concluded that research and analysis results suggest the existence of a major shortcomings in relation to the benefits, as well as the prevalence of hazards over the odds. Among the major weaknesses the following stand out (Domazet, 2013):

- The lack of a systematic approach related to the development of Serbia's national brand, and the consequent lack of a strategy for improving national brand of Serbia.
- Underestimation and / or lack of understanding of the importance of branding for the promotion of national economic potential of the country (exports, foreign investments, tourism).
- Inefficient (unclear) institutional structure and coordination between the institutions responsible for specific issues relevant to establishment of the national brand - which often creates confusion and does not lead to the desired results.
- The low level of financial investments in the process of national branding.
- The lack of information and inadequate communication that results in poor positioning of Serbia in the international public.
- Unsynchronized and often contradicting national branding approach by relevant state institutions.
- Lack of cooperation between the public and private sectors on the development of national brand.

In the process of establishing and positioning the national brand of Serbia, it is important to bear in mind the following facts (Srbija brend, 2013):

- Many domestic products of high quality have not become strong brands yet, but the development of the awareness regarding the necessity for marketing implementation and branding in business sounds encouraging.
- Numerous traditional products, particularly in the food sector and the textile, are not properly valorized through branding despite the evident quality.
- What hampers the penetration of high-quality domestic brands to international markets can be attributed to insufficient recognition of the country, which can be rectified quite easily by more powerful promotion of Serbia.
- In the structure of Serbian exports, the products at higher levels of processing, as well as products and services with higher added value are under-represented. Therefore, strengthening competitiveness through branding and effective communication of enhanced competitiveness of Serbian products and services is vital.
- Insufficiently utilized capacity which could be used by sectors such as culture, arts, sports, science, education, heritage, customs and natural beauties, is in the domain of promoting individual brands and brand of Serbia as an umbrella brand.

Limitations of the domestic economy in the domain of building strong brands are outdated production technology of products and services, an inadequate product design and packaging, lack of funds to finance improvement of production and marketing activities and the introduction of modern quality systems, lack of awareness of the importance of marketing and branding, under-represented proactive and strategic approach to business, undeveloped use of modern marketing techniques and tools, etc... Establishing a significant set of strong Serbian brand has numerous effects on the development of the national economy, as branded products have a higher value, greater perception quality and the potential for higher customer loyalty compared to the unbranded product. It is important to achieve that domestic brands more effectively meet the needs and requirements of domestic and foreign consumers, to improve the structure of Serbian exports towards more sophisticated products and services, to increase the value of our exports, to improve the image of Serbian economy in the world and to facilitate the access of emerging brands in foreign markets.

Prerequisite for successful national branding lies in the analysis of different models of communication, where the primary goal of integrating marketing communications is to increase the efficiency of communication and improve positioning of Serbian national brand. The basic steps in developing effective communication Serbian national brand should be (Domazet, Hanić, 2012): situation analysis and identification of the target audience; determining the communication objectives, such as: awareness, knowledge, liking, preference, persuasion and acceptance; creating a general national branding strategy; determining the budget for the implementation of the communication strategy; communication designing and creating the message in terms of content, structure, format, etc.; choice of communication channels, which are primarily meant to be massive, including the creation of an interactive website in accordance with the visual identity of the Serbian national brand; deciding on the media mix and creating communication media plan; management and coordination of communications; measuring campaign results and comparison of the achieved results with defined objectives.

CONCLUSIONS

Development of a coherent national brand may extremely help in better positioning of countries in transition, such as Serbia. However, the current positioning of Serbian national brand is at a low level and certainly far below our expectations, according to the results of relevant global agencies. The main reason for this is that there is still no articulated national branding strategy that should be a part of global marketing strategy and the first step is to define the basic values that Serbia wants to position in the target market.

Namely, the absence of a systematic approach related to the development of Serbia's national brand, and the consequent lack of a strategy for improving national brand of Serbia; underestimation of the importance of branding for the promotion of national economic potentials; inefficient (ambiguous) institutional structure and the low level of financial investment in the process of national branding, together with a lack of information and inadequate communication, are the main causes of unsuitable positioning of Serbia in world public. Enhancing the national brand positioning should be directed primarily on development of infrastructure (institutional frame), and then on the design and implementation of communication strategies of Serbian national brand.

Well positioned national brand will contribute to a significant improvement of the country's competitiveness, as reflected in the following: differentiation of the country (place or industry) from all others; projecting a positive image of the country to the world; increasing prestige beyond borders; creating a persuasive case for tourists to visit attractive destinations within the country; make a persuasive case for investors to select that particular national economy among others; make a persuasive case for importers to traffic national exports; create a positive synergy of national assets. The national brand that is being developed should be supported by relevant communication activities, from public relations to advertising, sponsorships and social media marketing.

LITERATURE

- 1) Anholt, S. (2007), "Brand Europe": Where Next?, *Place Branding and Public Diplomacy*, 3(2) April, p.115-119.
- 2) Anholt, Simon. Brand New Justice: The Upside of Global Branding. Butterworth Heinemann,
- 3) Arnold, D. 1992, *The Handbook of Brand Management*. The Economist Books, Addison Wesley Publishing Company, 1992.
- 4) Bloom Consulting Brand Ranking 2012, <http://www.bloom-consulting.com/en/country-brands-ranking> (Accessed on October 22, 2013).
- 5) Brand Magazine 2013 <http://www.brandmagazine.com> (Accessed on October 25, 2013).
- 6) Clifton R. et al. (2009), *Brands and Branding*, Profile Books Ltd, Canada.
- 7) Dinnie, K. (2008.), *Nation Branding – Concepts, Issues, Practice*, Butterworth-Heinemann, UK.
- 8) Domazet I, Hanić A. (2012) Promotion of Serbian National Image in the Light of EU Accession, in Monograph *European integration process in Western Balkan countries*, Faculdade de Economia Universidade de Coimbra, Portugal, pp. 589-607.
- 9) Domazet I. (2013) Brendiranje Srbije, *Treći program* No. 157-2013, pp. 191-209.
- 10) Domazet, I. (2012) *Integrirane marketing komunikacije finansijskih organizacija*, Institut ekonomskih nauka, Beograd.
- 11) Dunn, M. and Davis, S. (2003), „Building brands from the inside“, *Marketing Management*, Vol. 13-3, pp. 22-28.
- 12) East West Nation Brand Perception Index 2012, <http://www.eastwestcoms.com/global.htm> (Accessed on October 18, 2013).
- 13) Fan, Y. 2006. Branding the nation: What is being branded? – *Journal of Vacation Marketing*, Jan 2006 vol. 12, p.5-14.
- 14) Future Brand, <http://www.futurebrand.com/think/reports-studies/cbi/2012/overview/> (Accessed on October 11, 2013).

- 15) GFK Roper The Nation Brand Index, http://www.gfkamerica.com/practice_areas/roper_pam/nbi_index/index.en.html (Accessed on October 05, 2013).
- 16) Han, J.K. (1998), Brand extensions in a competitive context: Effects of competitive targets and product attribute typicality on perceived quality, *Academy of Marketing Science Review*, 1998 (1), p.1-13.
- 17) Jaffe E. D. and Nebenzahl, I. D. 2001. *National Image and Competitive Advantage*. Copenhagen Business School Press
- 18) Kotler Ph, Country as brand, product and beyond – Philip Kotler – *Journal of Brand Management* 9:45, pp 249-261
- 19) Kotler, Philip and Gertner, David. “Country as brand, product, and beyond: A place marketing and brand management perspective”. *The Journal of Brand Management*, vol. 9. No. 4-5, April 2002.
- 20) Legatum Prosperity Ranking 2013, <http://www.prosperity.com/ranking>, (Accessed on November 1, 2013).
- 21) Leonard, Mark with Catherine Stead and Conrad Smewing . *Public Diplomacy*. London: The Foreign Policy Center, 2002. <http://www.fpc.org.uk>. (Accessed in September 25, 2013).
- 22) Nation Branding, 2010, <http://nation-branding.info/2010/01/16/what-does-having-a-good-nation-brand-really-mean/>, (Accessed in September 29, 2013).
- 23) O’Shaughnessy J. and N. O’Shaughnessy, (2000), Treating the nation as a brand - *Journal of Micromarketing*, Vol.1 No.1/2000, pp. 56-64.
- 24) Olins, W. (2005), *Trading Identities - Why companies and countries are taking on each others’ roles’*, Foreign Policy Centre, New York.
- 25) Papadopoulos, Nicola and Heslop, Louise. “Country equity and country branding: Problems and prospects.” *The Journal of Brand Management*, Vol. 9. No. 4-5, April 2002.
- 26) Šiber, I. (1998), *Osnove političke psihologije*, Politička kultura, Zagreb.
- 27) Skoko, B. (2009), *Država kao brend – Upravljanje nacionalnim identitetom*, Matica Hrvatska, Zagreb.
- 28) Srbija brend, 2013, www.srbijabrend.gov.rs (Accessed on October 04, 2013).
- 29) Szondi G. (2007) The role and challenges of country branding in transition countries: The Central and Eastern European experience, *Place Branding and Public Diplomacy* No 3/207, pp 8-20.

ALTERNATIVE FORMS OF FINANCING OF SMALL AND MEDIUM SIZED ENTERPRISES FOR THE PURPOSE OF STRENGTHENING COMPETITIVENESS AT THE INTERNATIONAL LEVEL¹

Sonja ĐURIČIN²
Isidora BERAHA³

Abstract

The goal of this research is to indicate the importance and function that the alternative sources of funding SMEs have in the process of strengthening the competitiveness at the international level. The subject of the research is the analysis and the evaluation of the most frequently used sources of funding in SME sector in Serbia and possibilities of using their alternative forms such as Business angels (BA), Venture Capital (VC) and Private Equity Funds (PEF). The results of the research indicate that the alternative to the insufficiently intense efforts for ensuring conditions of using BA, VC and PEF, is the bankruptcy of SMEs, as in the prevailing market conditions they are financing the majority of their activities from the commercial banks loans.

Key words: debt, maintaining real value of total equity, solvency, Business Angels, Venture Capital, Private Equity Funds, competitiveness

INTRODUCTION

Small and medium sized enterprises represent an important factor as the Serbian economy is in the process of approaching to the developed market economies and due to this their development has been defined as one of the priority goals of the national economy economic policy. Through expressive entrepreneurial initiative, creativity, innovativeness and tendency to risk activities small and medium sized enterprises are given an opportunity to adapt more quickly than the big entities to the changes in the dynamic business environment. High level of flexibility and adaptability to changes gives opportunity for the small and medium sized enterprises to respond to the consumers needs in short time and by that participate in the strengthening the competitive edge of the country.

In Serbia since year 2000, the SME sector has to the greatest extent contributed to the economic development. Its role and importance in the development of the national economy, due to the effects of the global economic crises, have decreased since 2009. Apart from the weakened intensity of its participation in the most important indicators of the national economy, from 2009 the SME sector represents the pillar of the economic growth and development of the Republic of Serbia. In the period 2000-2008 the SME sector has achieved the dynamic growth of employment. For this period, it has largely contributed to the GVA and total export of the country. In spite of the negative effects of the global economic crisis in the period following 2009 and as the significant factor of the recovery of the national economy, SMEs have generated approximately the 2/3 of employment, trade and GVA and about 1/2 of import, export, profit and investment of the nonfinancial sector.

¹ This paper is a part of research projects No. 47009 (European integrations and social and economic changes in Serbian economy on the way to the EU) and 179015 (Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements), financed by the Ministry of Science and Technological Development of the Republic of Serbia.

² Sonja Đuričin, MSc, Research Associate, Institute of Economic Sciences, Belgrade

³ Isidora Beraha, MSc, Research Associate, Institute of Economic Sciences, Belgrade

Apart from the significant role they have in the process of the national economy development, survival, growth and development of SMEs is unpredictable due to the limited possibilities of funding the business activities from more favourable sources. Limited access to the funding resources, principally as to the price and conditions of their utilisation, poses the greatest problem for SMEs. With the very limited possibilities of obtaining the necessary funds, the SMEs strive for the optimal structure of the capital that will fulfil their needs in the different phases of the life cycle.

On the basis of the analysis of the existing state, the goal of the research is to indicate the dominant and present the alternative forms of financing SMEs that would to a great extent contribute to the strengthening of the national competitiveness through the growth and development of this sector.

DATA AND METHODOLOGY

The need for the alternative sources of financing has been explained on the basis of the results gained by analysing the SME sector entities' debt. In the aim of evaluating the level of debt of SME sector enterprises, the following methods have been used – qualitative and quantitative financial analysis methods, classical methods of data collection and analysis, methods of description and synthesis (Đuričin, S., and Beraha, I., 2012, p. 495; Đuričin, S., and Beraha, I., 2013, p. 124). The debt analysis has been carried out for the ten randomly selected entities from SME sector. The sample contains the equal number of small and medium sized enterprises.

The subject of analysis is examining the level of debt on the basis of data published in the financial reports in the period 2006-2012. In concerns the financial reports of manufacturing enterprises and services taken from the Serbian Business Registers Agency – SBRA.

Justifiability of changing the structure of funding sources has been examined for the enterprises with the established growth of loan participation in the total sources of financing. The justifiability of debt growth has been analysed from the aspect of organic composition of capital and inflation ratio. Organic composition of capital has been established on the basis of the participation of the fixed assets in the total assets. By 2009 the inflation rate has been monitored on the basis of the retail price index. Since January 2009 the rate of inflation has been established on the basis of consumer price index (Consumer price index by COICOP). For the purpose of research the annual consumer price index that monitors the change of price in the current month (December) in comparison to the same month in the previous year (m/m-12) has been used.

In comparison to the fluctuation of the inflation rate, the analysis and evaluation of maintaining the real value of total equity has been carried out for the enterprises which have been registered with the growth of debt. The analysis and evaluation of maintaining the real value of total equity has been carried out by comparison of the net equity index value and inflation rate. The net equity index has been calculated from the ratio of net capital expressed in balance sheet of the current year and net capital expressed in balance sheet of the previous year. The value of accumulated net profit of the current year has been taken into consideration for calculating the value of net equity index. By mutual comparison of the values of net equity index and inflation rate, the ability of maintaining the real value of total equity has been assessed on the basis of the effects of revalorisation and accumulated net profit.

For the purpose of assessing the ability of settling due liabilities within a period, the quick ratio was calculated and secondary liquidity was determined. Quick ratio or acid test ratio measures the liquidity within the period of one year and is calculated from the ratio of the sum of cash on hand and on deposit accounts at sight and term deposits up to one year, securities cashable within one year and short-term receivables with maturity of one year all on one side, and short-term liabilities with maturity of up to one year, on other side. As a desirable value of quick ratio was the value ≥ 1 taking into account that the companies included in the analysis do not have seasonal inventory.

For the purpose of assessing specifics of obtaining funding in the SME sector some of the results of research conducted in 2012 were used for the needs of publishing monograph entitled *Financing of Small and Medium Sized Enterprises* (Erić D., et al., 2012). The study involved more than 600 companies from the SME sector that responded to 31 questions.

Using the qualitative analysis of financial statements a breakdown has been performed, and using the quantitative analysis a measurement of the subject of analysis. Data obtained in the analysis of indebtedness are temporally and spatially compared with each other. Within a range of traditional methods of collecting and analyzing data the content analysis was used and in such a way, based on collected relevant literature, the necessary data were obtained for testing the hypotheses (Đuričin and Beraha, 2012, p. 497; Đuričin, S., and Beraha, I., 2013, p. 125).

Descriptive method was used to highlight the role and importance of small and medium enterprises in the modern market economies, the specifics in providing their funding sources as well as in the discussion of the research results. Synthesis method is used in the final phase of the research. By connecting facts, obtained using the above methods, into a single logical unit, the conclusions were made regarding the need for alternative forms of financing of small and medium enterprises.

RESULTS AND DISCUSSION

Decisions on funding of current business operations and investment projects are the two main areas of financial decision making. Security of creditors, profitability and autonomy of the debtor depend from the selection of sources that will be used to finance current business activities and investment projects. Following the traditional financial rule the SME owners need to make financial decisions that will bring end result containing an equal share of own and borrowed sources of funding or on the basis of which the total assets will be two times higher than the debt. Such a structure of sources of funding provides security to creditors who believe that there is little likelihood that the borrower loses more than 50% of invested assets. At the same time, funding structure determined by the traditional financial rule provides a certain degree of autonomy to the borrower whose borrowed sources are partially operating liabilities i.e. spontaneous resources typically without interest to be paid. Safe business financing provides constant yields involved in the assessment of earning power of the company and its profitability.

Decisions on the use of short-term and long term sources of financing are made depending on the type of business activity. The short-term funding sources used to finance current assets usually include short-term liabilities, which are primarily related to accounts payable, borrowings that fall due for payment up to one year, short-term securities, etc. Long-term sources of financing that determine a capital structure of the company, are mainly divided into own and borrowed funds. While the long-term borrowed sources are borrowings with maturities longer than one year and long-term securities debt instruments, company's own internal and external sources fall into own long-term sources. Own internal long-term assets represent the portion of the profit which is retained in the company in the form of retained earnings which are available to profitable entities in the later stages of their life cycle. Own external long-term assets are collected in the market by issuing new stakes (LLC) or equity securities or shares (JSC).

Theoretically, the optimal capital structure is the point at which the costs of capital are the lowest (Erić, D., et al., 2012, p. 52). It is the weighted average costs of capital (*weighted average cost of capital* - WACC) whose level is determined by the following formula:

$$WACC = (P_d \times D) + (P_e \times E) \quad (1)$$

Meaning of symbols:

Pd - the share of debt in total long-term sources of financing,

D - the costs of borrowed funds,

Pe - the share of own funds in total long-term sources of financing

E - the costs of own resources

While the costs of borrowed funds are determined by the amount of interest rate to be paid on loans and issued securities debt instruments, the costs of own resources depend on the amount of dividend rate, or required rate of return of the owner (Ibid).

Table 1. Debt analysis of small and medium sized enterprises

Enterprise	1							2						
Year	2006	2007	2008	2009	2010	2011	2012	2006	2007	2008	2009	2010	2011	2012
Own Capital	42,91	54,97	45,08	36,73	26,65	0,00	0,00	72,57	74,28	68,39	72,60	78,74	85,10	91,13
Total liabilities	57,09	45,03	54,92	63,27	73,35	100,00	100,00	27,43	25,72	31,61	27,40	21,26	14,90	8,87
Liabilities from business	25,59	14,39	11,27	26,41	17,97	11,12	13,62	8,36	4,64	3,23	2,84	4,54	5,02	5,41
Financial liabilities	31,51	30,64	43,65	36,85	55,38	88,88	86,38	19,07	21,08	28,38	24,56	16,72	9,87	3,46
Total sources of financing	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
Enterprise	3							4						
Year	2006	2007	2008	2009	2010	2011	2012	2006	2007	2008	2009	2010	2011	2012
Own Capital	39,97	39,36	31,79	32,07	32,50	32,61	33,12	77,39	70,21	60,57	60,76	49,08	32,22	0,00
Total liabilities	60,03	60,64	68,21	67,93	67,50	67,39	66,88	22,61	29,79	39,43	39,24	50,92	67,78	100,00
Liabilities from business	50,84	37,86	41,91	23,30	29,81	28,89	36,13	13,71	17,16	22,29	26,76	42,25	49,82	83,80
Financial liabilities	9,19	22,77	26,30	44,63	37,70	38,50	30,75	8,90	12,63	17,15	12,48	8,67	17,96	16,20
Total sources of financing	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
Enterprise	5							6						
Year	2006	2007	2008	2009	2010	2011	2012	2006	2007	2008	2009	2010	2011	2012
Own Capital	99,35	99,12	99,05	99,14	98,21	97,25	95,14	0,00	8,06	19,70	29,11	15,83	20,01	18,70
Total liabilities	0,65	0,88	0,95	0,86	1,79	2,75	4,86	100,00	91,94	80,30	70,89	84,17	79,99	81,30
Liabilities from business	0,65	0,88	0,95	0,86	1,51	2,75	2,84	100,00	91,94	80,30	70,89	45,76	48,13	44,04
Financial liabilities	0,00	0,00	0,00	0,00	0,28	0,00	2,02	0,00	0,00	0,00	0,00	38,40	31,86	37,26
Total sources of financing	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
Enterprise	7							8						
Year	2006	2007	2008	2009	2010	2011	2012	2006	2007	2008	2009	2010	2011	2012
Own Capital	33,03	39,68	36,96	36,84	53,91	53,91	53,91	6,73	4,79	3,80	4,46	4,25	3,62	11,80
Total liabilities	66,97	60,32	63,04	63,16	46,09	46,09	46,09	93,27	95,21	96,20	95,54	95,75	96,38	88,20
Liabilities from business	53,44	47,83	42,73	54,73	46,09	46,09	46,09	89,06	85,26	84,87	77,99	79,35	84,73	70,18
Financial liabilities	13,53	12,49	20,32	8,43	0,00	0,00	0,00	4,21	9,94	11,33	17,56	16,40	11,65	18,02
Total sources of financing	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
Enterprise	9							10						
Year	2006	2007	2008	2009	2010	2011	2012	2006	2007	2008	2009	2010	2011	2012
Own Capital	74,21	78,10	65,89	67,20	73,08	71,18	70,62	4,95	4,19	4,27	1,60	0,00	1,60	0,00
Total liabilities	25,79	21,90	34,11	32,80	26,92	28,82	29,38	95,05	95,81	95,73	98,40	100,00	98,40	100,00
Liabilities from business	12,74	14,88	27,31	24,18	20,87	25,53	19,26	82,98	85,40	88,00	89,20	90,26	89,20	90,26
Financial liabilities	13,05	7,02	6,80	8,62	6,04	3,29	10,12	12,07	10,41	7,73	9,19	9,74	9,19	9,74
Total sources of financing	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00

Source: Independent research by the authors

In order to identify the need to use alternative sources of financing in the SME sector, the analysis of their debts was made i.e. the percentage of the debt share (Pd) and own resources (Pe) in the total long-term sources of financing. The analysis included ten companies that have been using RSD and foreign currency long term loans for seven years under a variety of conditions and in varying degrees. Taking into account that in the Notes to the financial statements of each of the analyzed companies, the price at which they used their long-term borrowed sources of financing was not indicated, the calculation of the weighted average costs of capital is lacking.

Year	2006	2007	2008	2009	2010	2011	2012	2006	2007	2008	2009	2010	2011	2012
Organic composition of assets	78,10	76,42	72,59	80,50	81,57	85,32	79,44	35,62	34,03	28,05	57,96	50,00	45,04	59,03
Enterprise	8							10						
Year	2006	2007	2008	2009	2010	2011	2012	2006	2007	2008	2009	2010	2011	2012
Organic composition of assets	12,10	6,96	5,43	1,77	1,63	1,20	1,13	14,78	9,67	7,60	7,01	10,47	7,01	10,47

Source: Independent research by the authors

The increase in inflation rate requires greater share of own sources in total sources of financing. This is because the creditors are reluctant to lend capital at lower interest rates than the rate of inflation, because they suffer inflationary losses on receivables. If interest rates are above the rate of inflation, both financing expenses and the risk to achievement of gross financial result are high, which in turn leads the enterprises to strengthen the share of its own equity in total liabilities.

Table 4. Inflation rate

Year	2007	2008	2009	2010	2011	2012
Inflation rate	111,0	108,6	106,6	110,2	107,0	112,2

Source: Statistical Office of the Republic of Serbia

For example, the enterprise under number 6 in 2012 experienced the increase in indebtedness by 1.31% in comparison to 2011. The increase in indebtedness in the that period is not justified in case of this company because the increase in the inflation rate from 107 to 112.2 and the growth of the organic composition of assets from 45.04 to 59.03% require straightening of its own sources in the borrowed sources of financing. In the same period the company under number 4 experienced the increase in indebtedness by 32.22%. In 2012 the overall business activity of the company was financed from loans. In this case the indebtedness is not justified taking into account both the organic composition of assets and the rate of inflation. As a mitigating circumstance is the fact that a larger share of borrowed sources in total sources is the result of the increase in spontaneous sources of financing which are generally free of interest payments.

Table 5. Maintaining the real capital value

Enterprise	1							3						
Year	2006	2007	2008	2009	2010	2011	2012	2006	2007	2008	2009	2010	2011	2012
Net equity index	-	125,45	71,04	88,99	63,17	0,00	0,00	-	113,09	98,85	101,55	101,80	103,33	102,01
Enterprise	4							6						
Year	2006	2007	2008	2009	2010	2011	2012	2006	2007	2008	2009	2010	2011	2012
Net equity index	-	105,65	89,95	89,68	78,44	60,28	0,00	-	250,98	170,48	106,94	140,35	119,19	117,03
Enterprise	8							10						
Year	2006	2007	2008	2009	2010	2011	2012	2006	2007	2008	2009	2010	2011	2012
Net equity index	-	103,79	94,13	153,53	98,54	120,36	385,26	-	85,36	107,47	36,54	0,00	0,00	0,00

Source: Independent research by the authors

Enterprises in which a dominant or growing share of borrowed sources in total sources of financing was recorded, are subject to the analysis of maintenance of the real value of their equity. Maintenance of the real value of equity in inflationary conditions provides the ability to maintain business activity at current level (Đuričin, S., 2012, p. 107). In the case of reducing the real value of equity, the company would not be able to buy the quantity of items and means of work, which would be able to buy if the real value of the equity was maintained. In this case, the possibility of funding of elementary reproduction from its own funds would be lost and the company would be forced to select one of two possible alternatives (Rodić, J., et al., 2007, p. 299):

- decrease in production volume, which leads to a negative impact of fixed costs (expenses) which reduce the financial result, or
- increase in indebtedness

The enterprises included in the analysis have decided to increase their debts and in such a way endangered their safety, profitability and autonomy. Only with the company under number 6, which was found to unjustifiably increases the share of borrowed sources in total sources of financing, during the monitoring period was observed not only the maintenance but also growth in the real value of the equity. The growth in the real value of equity can be partly justified by additional borrowings due to the current composition of organic resources and prevailing inflation rate. This is due to the increase in the real value of own equity from the aspect of revaluation and accumulated net profit. In the event that the maintenance of the real value of own equity is determined only on the basis of a revaluation, increase in indebtedness could not be justified. Maintaining the real value of own equity exclusively on the basis of revaluation means that the financial result is higher than a result shown in the income statement. The difference resulting in the amount that is higher than the financial result recorded in the balance sheet is exactly equal to the amount by which the real value of own equity increases from revaluation. The omitted portion of financial result is not taxed which means that such balancing represents a legal tax evasion that reduces the final demand based on distribution of financial result.

Enterprises under numbers 1, 4 and 10 in which there has been an increase in indebtedness due to the impossibility of maintaining the real value of own equity in recent observed years are completely losing their own sources of financing.

The company analyzed under number 1 can serve as a typical example of the weakening financial strength and transition from liquid to insolvent business due to the impossibility of timely servicing of its matured liabilities. The company number 1 was observed over the period of seven years, gradually coming to an increase in the ratio of borrowed sources in total sources of financing. The borrowed resources were largely accounted for short-term and long-term loans. Inability to service debts from short-term and long-term financial liabilities resulted in an overall loss of equity and bankruptcy proceedings.

Table 6. Liquidity of the second degree

Enterprise	1							3						
Year	2006	2007	2008	2009	2010	2011	2012	2006	2007	2008	2009	2010	2011	2012
Liquidity of the second degree	1,39	1,47	0,91	0,88	0,52	0,08	0,39	0,73	0,64	0,64	0,62	0,67	2,06	1,72
Enterprise	4							6						
Year	2006	2007	2008	2009	2010	2011	2012	2006	2007	2008	2009	2010	2011	2012
Liquidity of the second degree	0,42	0,50	0,58	0,51	0,36	0,18	0,19	0,32	0,34	0,54	0,40	0,52	0,48	0,30
Enterprise	8							10						
Year	2006	2007	2008	2009	2010	2011	2012	2006	2007	2008	2009	2010	2011	2012
Liquidity of the second degree	0,72	0,85	0,86	0,88	0,93	0,96	1,02	0,75	0,35	0,42	0,46	0,41	0,37	0,30

Source: Independent research by the authors

Only the companies under the number 3 and 8 increase their liquidity ratios and this can be attributed to the low and decreasing share of fixed assets in the total assets. Greater percentage of share in the current assets within total assets in these companies in the recent observed years offers the possibility of its easy conversion into cash and timely settlement of maturing liabilities. In the remaining business years with these two companies and other entities the insolvent operations were reported during the whole observed period.

Additional borrowings by which they tried to maintain the real value of own equity did not give the desired results. The fact that the financial liabilities of enterprises increased in low organic composition of resources and increasing inflation rate resulted in the insolvent operations for a long time that led the majority of the observed entities in the bankruptcy proceedings. The bankruptcy proceedings may result in reorganization or bankruptcy and closing of business. As the reorganization process involves rehabilitation of business during the bankruptcy proceedings and its strengthening in

order to perform further operations continually, the question is how realistic are such solutions considering the state of the analyzed companies. In all the companies analyzed in this paper, which saw a decline in the real value of its equity, the rehabilitation through further reduction of equity was impossible. The impossibility of rehabilitation by reducing equity opens up the possibility of implementing this process through:

- additions to the equity from the personal assets of the owner,
- capital increase or issuance and selling of equity securities (JSC) or, which is more common case in the SME sector mainly consisted of limited liability companies, the sale of new stakes,
- restructuring of assets that usually leads to the sale of fixed assets that do not condition the functioning of the company as a whole, or sale of long-term investments and obtaining the cash that would ensure the settlement of liabilities due within the period, and
- restructuring of liabilities that, if possible, include converting of the short-term liabilities to equity and long term liabilities.

The rehabilitation through additions to equity and capital increase is unlikely due to the fact that SMEs mostly use its initial investments from its own funds, borrowings from family members and retained earnings which in this case are either small or non-existent. The restructuring of assets is a realistic option given that most of the analyzed companies are heavily indebted and have a dominant share of fixed assets in total assets but the question is what kind of results such option brings in the long run. On the other hand, the rehabilitation through restructuring liabilities largely depends on the financial power of the creditors and their ability and willingness to allow the conversion of short-to long-term financing. Since none of the above options is an ideal solution that would allow the survival of the company there is a need to analyze the possibility of using alternative forms of financing.

ALTERNATIVE FORMS OF FINANCING FOR SMALL AND MEDIUM ENTERPRISES IN SERBIA

In developed financial systems, there are many forms of alternative financing for SMEs, the most common are Business angels or Angel investor (BA), Venture Capital (VC) and Private Equity Funds (PEF). Common to all alternative forms of financing of SMEs is that they are used in the initial stages of development, that the money invested represents investor's own funds therefore as a consequence of investment there are no debtor-creditor relations but proprietary relations. Unlike Venture Capital and Private Equity Funds which make their investments in SMEs indirectly, Business angels do it directly.

Business angels are companies that invest their own funds in SMEs like real angels. Individually or by grouping more natural or legal persons BA directly invest in SMEs not only their capital but also personal experience, skills and contacts to help the growth and development of a company. Most BA invest in SMEs for financial reasons but it often happens that individuals or group of people interested in investing for quite different reasons. That is the case when BA are successful executives who are currently retired and their motive, along with the financial investment, is a desire to share through mentoring their knowledge, skills and contacts to owners of SMEs and thus actively participate in the business world.

Serbian Business Angels Network - SBAN is the first and only organization of this kind in our region. The main objective of SBAN organization is to bring together business people who want to invest in projects of SMEs and entrepreneurs. BA who are members of the SBAN network have direct access to business ideas and SMEs and entrepreneurs projects that need investments. Projects and business ideas can be searched in line with areas of their interests or by investment capital needed. BA network gives the opportunity of joint investment in an investment project or business idea and in such a way the process of obtaining sufficient amount of required capital is facilitated and a risk of investment failure reduced. SBAN has an active collaboration with regional networks of BA and BA networks in EU, UK and USA. In this way, the local SMEs and entrepreneurs have the possibility to implement

projects and business ideas by using foreign capital. On the other hand, to domestic investors have been given the opportunity to invest their capital in projects implemented abroad.

Unlike BA, Venture Capital and Private Equity Funds fall into area of financial intermediation. They collect capital from individual investors and invest in one or more SMEs. VC and PEF invest funds collected from institutional and individual investors. Private capital provided by investors usually is invested in SMEs that are in the initial stage of development. Institutional and individual investors become active co-owners of SMEs in which they invested their capital. As the co-owners, VC and PEF perform the function of management and control. In addition to investing VC and PEF are also involved in monitoring and exit (Erić D., et al, 2012).

Monitoring usually involves monitoring and controlling of business processes which should result in the development of business activities. In most cases, it performs the monitoring and control of deviations from the pre-defined target performances. A predominantly monitored performance is the required rate of return of the owner. The reason for this is the level of required rate of return as one of the main parameters to be taken into account when making decisions to invest in SMEs or in a business idea or project.

Investment and monitoring should result in increase of the company's value and then the potential harvest strategy (harvesting) or exit should be analyzed. The success of implementation of the exit strategy is determined by the level of yield on the investment previously made.

There are a number of strategies for exit from the SMEs in which was invested, as commonly used strategies are sale and issuance of shares and its sale on the stock exchange through the process of IPO (Initial Public Offering - IPO) (Cendrowski, H., et al, 2008; Lerner J., et al., 2005; Erić, D et al, 2012).

A part of the company to be sold may be purchased by the founders, managers, employees and strategic or financial investors. Selling to the founders is a rare situation because in most cases they do not have enough money for the purchase.

The situation is similar when it comes to the internal stakeholders. Namely, in most cases the management and employees do not have the necessary amount of money to buy it, and if they decide to proceed by using the loan the transaction is called Leverage Buy-out. Strategic investors in most cases purchase one part of the company whereby the transaction occurs most commonly in the form of mergers and acquisitions (Mergers & Acquisition - M & A). If a part of the company is sold to the financial investor that investor usually evaluates the future growth of the business. Financial investors aim to further increase the value of the company in order to sell it better or to prepare for the IPO. Issuance of shares and their sale on the stock market through the IPO process is possible if VC and PEF decide that the conditions have been met for SME, in the form of LLC, to be transferred in the form of JSC.

Alternative forms of obtaining financing for SMEs through BA; VC and PEF have a number of advantages but also a number of disadvantages. One of the main disadvantages is reflected in the difficult acceptance of SME owners that BA, VC and PEF are offering the adequate solutions for the process of obtaining the necessary funding. The aspect that fears the most the SME owners is the loss of 100% ownership. Putting personal bias before the primary goal which is reflected in the maximization of enterprise value is the most common reason explaining why BA; VC and PEF are used to a lesser extent than is realistically possible. Another drawback is related to the fact that BA; VC and PEF are available only to SMEs that operate in the dynamic industries that are characterized by a growing demand and great potential for an internal rate of return. The third drawback could be seen as a lack of harmonized legal framework governing BA, VC and PEF at the EU level. Their operations so far have been regulated indirectly by the large number of regulations. In addition to SBAN Serbia also has one PEF. That is a global investment fund Small Enterprise Assistance Funds (SEAF). SEAF provides funding for the accelerated development of SMEs. Exclusively deals with the investment in SMEs that are locally controlled and which are characterized by a simple ownership

structure (2-3 dominant owners). SEAF does not invest in SMEs involved in the production of tobacco, alcoholic beverages containing more than 15% alcohol, weapons and similar.

In order to attract a large number of BA, VC and PEF Serbia primarily should create a favorable institutional and legal framework to ensure the safety of potential investors. An important role also has the adoption of a new tax legislation that would attract potential investors.

Providing opportunities for the development of a number of BA, VC and PEF in our region would open the possibility of easy and unrestricted access to capital. The advantage of acquiring financial assets through BA, VC and PEF lies in the absence of the threat of bankruptcy. Financing business in this way will result in the improvement of the financial and non-financial performance that enables managers to focus on the growth and development, not on the survival of the company. In addition to the funding available to SMEs, consulting services are also available together with knowledge, experience, and professional assistance provided by investors. A change in the ownership relations due to investment, conditions the change in organizational culture that places emphasis on entrepreneurial thinking and innovation activities. Provision of funds by BA, VC and PEF enables the continuous operation which is certainly one of the main objectives in the establishment of SMEs.

CONCLUSION

The analysis of certain parameters regarding financial position based on the data disclosed in the financial statements of the ten SMEs selected randomly indicates that 60% of them recorded the dominant use of borrowed funds. The borrowed funds are predominantly loans given by the commercial banks and their use in the observed period was not justified in terms of inflation and the organic content of funds. Unjustified use of the bank loans as a dominant form of financing, and conditions under which such funds were given, resulted in a permanent insolvency of the companies. A failure to meet the due liabilities within a period is inherent to all companies that financed the most of their business activities from the bank loans. Insolvent business in each of the studied companies has been lasting for years resulting in the initiation of bankruptcy proceedings that, after considering the business conditions and limitations to the implementation of rehabilitation process, will highly likely end up in bankruptcy.

The alternative forms of financing of SMEs are those that stand against the risk carried by the financing mostly made from loans given by the commercial banks. The use of alternative sources of financing such as BA, VC and PEF is characterized by the absence of the threat of bankruptcy. The path leading to easier access to capital that ensures business continuity, growth and development of SMEs can be opened through a series of legislative and institutional reforms at the national level. In the intensive use of alternative sources of financing a crucial role has been assigned to different forms of promotion which should lead to a change in prejudices that exist in the majority of SME owners, concerning the sale of a part of their property to the potential investors.

According to the analysis and the results obtained, it is clear that, in the prevailing market conditions, alternative for avoiding the use of BA, VC and PEF as a form of financing of SMEs, is the bankruptcy, or dissolution and removal from the register.

Strengthening of the SME sector, as a pillar of the national economic development, would greatly enhance the strengthening of national competitiveness by opening access to the alternative forms of financing. This is primarily due to the fact that when making calculations of the Global Competitiveness Index, among others scores that are taken into account, there is also a score given for the sophistication of financial markets whose level is determined by the availability and accessibility of financial services, the level of development of the local capital markets and the availability of loans and venture capital.

LITERATURE

- 1) Cendrowski H, J. P. Martin, L. W. Petro & A. A. Wadecki (2008) *Private Equity – History, Governance and Operations*, John Wiley, New York
- 2) Đuričin, S. (2012) *Analiza poslovanja i mogućnosti izlaska preduzeća iz zone gubitka*, Institut ekonomskih nauka
- 3) Đuričin, S., and Beraha, I. (2012) *Promoting availability of financing to SMEs in Serbia on the road to EU integration*, European integration process in western balkan countries Coimbra, Portugal, pp. 493-511
- 4) Đuričin, S., and Beraha, I. (2013) *Evaluation of business performances of agricultural enterprises and their impact on economic growth of the Republic of Serbia*, Agriculture in Serbia and Portugal: Recent developments and economic policy implications, Coimbra, Portugal, pp. 122-138
- 5) Erić, D., Beraha, I., Đuričin, S., Kecman, N., Jakišić, B. (2012) *Finansiranje malih i srednjih preduzeća u Srbiji*, Institut ekonomskih nauka, Privredna komora Srbije
- 6) Lerner, J, F. Hardyman and A. Leamon, (2005) *Venture Capital and Private Equity – A Casebook*, 3rd edition, John Wiley & Sons, New York
- 7) Rodić, J., Vukelić, G., Andrić, M. (2007) *Teorija, politika i analiza bilansa*, Poljoprivredni fakultet, Zemun

6.

TRADE AND GROWTH



THE IMPACT OF THE UNDERVALUATION OF THE CHINESE CURRENCY ON FOREIGN TRADE WITH THE EUROPEAN UNION

Ana CARDOSO¹
António Portugal DUARTE²

Abstract

The aim of this paper is to analyze the impact of the undervaluation of the Chinese currency – the Renminbi – on foreign trade with the European Union. After describing the Chinese exchange rate policy and analyzing China's integration into World trade, we examine whether the Chinese competitiveness is due to the existence of misalignment (undervaluation) of its exchange rate, or rather, to other sources of competitiveness. For this purpose, we use a Vector Error Correction (VEC) model to estimate a long-run exports equation. The empirical results indicate that over the past few years, Chinese exports have benefited from an 'unfair' competitive advantage resulting from the manipulation of its currency value.

Key words: Competitiveness, China, European Union, foreign trade, misalignments, real exchange rate.

INTRODUCTION

In recent years, the Chinese economy has been characterized by a strong and rapid growth, a fact that has caught the attention of many authors³. Likewise, the extraordinary increase in the competitiveness of Chinese enterprises and the high revenues from foreign investment have given way to numerous debates all over the world, in particular on the issue of the 'opportunity or threat' raised by the economic upswing of China⁴.

This growth is mainly the result of an increase in exports. In this sense, there are many authors⁵ who point out the low value (undervaluation) of the Yuan/Renminbi (RMB) exchange rate, relative to its equilibrium value⁶, as being the responsible factor for this increase. But, while Chinese competitiveness is not just a matter of currency undervaluation and low labor costs, it is a fact that this policy represents a huge stimulus to the growth of its exports, by making them cheaper than they would be if the exchange rate were flexible and RMB appreciated. This option of the Chinese authorities for maintaining the currency's value below its equilibrium value has been a growing concern within the international community. Although the amount of RMB undervaluation is not unanimous, it is certain that this misalignment of the exchange rate results in a distortion of the economic fundamentals, exerting an adverse effect on the macroeconomic performance of the world economy.

¹ Ana Cardoso, Masters in Economics, Faculty of Economics, University of Coimbra, Portugal.

² António Portugal Duarte, PhD in Economics, Assistant Professor, Faculty of Economics, University of Coimbra, Portugal and Research Fellow, GEMF – Grupo de Estudos Monetários e Financeiros, Faculty of Economics, University of Coimbra, Portugal.

³ See, for example, Martins (2005), Rodrik (2006) and Assche et al. (2008).

⁴ See Pereira (2006).

⁵ See, for example, Shi (2006), Cline (2010) and Cline and Williamson (2011).

⁶ A situation usually known in economic literature as exchange rate misalignment. In general, the exchange rate misalignment is defined as the difference between the observed Real Exchange Rate (RER) and estimated RER. In other words, the exchange rate misalignment measures how much the exchange rate deviates from the long-term equilibrium rate. See, for example, Cline and Williamson (2011).

In these circumstances, the issue of undervaluation of the Chinese currency has been the subject of numerous controversies, in particular with regard to how it reflects upon international trade. In the case of the European Union (EU), on one side, Chinese exports compete directly with the goods in which the EU has a comparative advantage, and on the other side, several European governments argue about the need for greater cooperation between the EU and China, as a precondition for a balance in the International Monetary System's functioning.

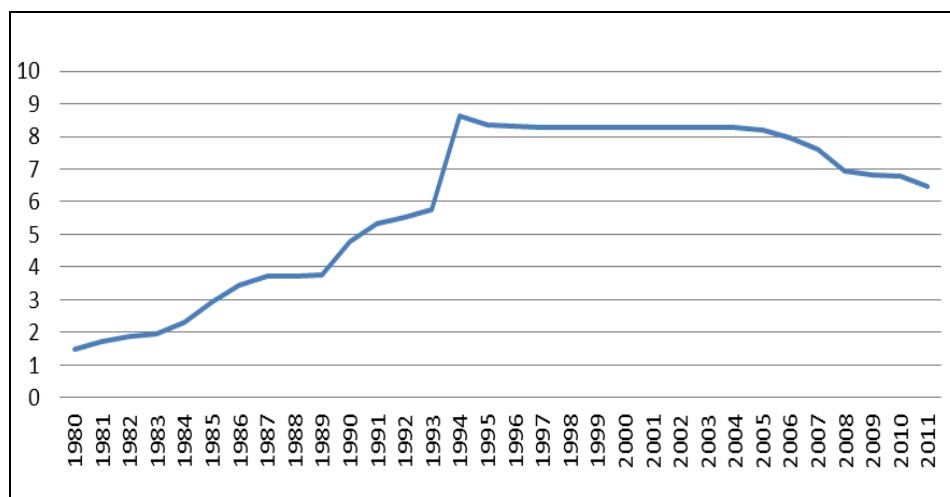
The present work has as its main objective, to give an answer to a set of issues relating to the impact of the Chinese exchange policy on foreign trade with the European Union.

The work is structured in five sections. In section 2 a characterization of the Chinese exchange policy is provided. In section 3 we analyze China's integration into world trade. Section 4 analyzes the effects of an RMB appreciation on foreign trade with the European Union, and finally, section 5 concludes the work.

CHINESE FOREIGN EXCHANGE POLICY

In recent years, the Chinese exchange policy has undergone several transformations. Figure 1 shows the evolution of the nominal exchange rate (RMB/USD) over the period between 1980 and 2011.

Figure 1. Nominal Exchange Rate (RMB/USD) – annual average



Source: Authors' compilation based on data from the OECD.

The analysis of Figure 1 shows that since 1994 there has been a reversal of the nominal exchange rate depreciation trend that prevailed in the period 1980-1993. However, it should be noted that the RMB appreciation was not as significant as the depreciation observed during the first years of reforms implementation in the Chinese economy.

In the late 1970s, a centralized mechanism to control the exchange rate prevailed. However, as the economy advanced through the process of reforms, between 1986 and 1994, a regime of managed float with a narrow band was in force. In 1994, China decided to index the value of its currency to the US dollar (USD). However, with the outbreak of the Asian crisis in 1997, the Chinese monetary authorities decided to fix the exchange rate against the dollar - 8.28 RMB per USD - a decision that remained until July 2005. On this date, partially giving in to international pressure, the People's Bank of China allowed an appreciation of the Renminbi against the USD of about 2% and announced that the country would adopt a system of managed float for its currency, based on a basket of currencies. With this decision, it introduced the possibility of greater flexibility in the relationship between the

Chinese currency and the main currencies of the world economy. Nevertheless, this measure resulted from strong external pressure, especially from the United States and the European Union, both arguing that the maintenance of a fixed and artificially undervalued exchange rate has a negative impact on the competitiveness of North American and European exports.

In these circumstances it is not surprising that from 2005 to 2008, the RMB appreciated by 18.6% in real effective terms and by 16% against the USD in nominal terms. However, the financial crisis in the US once again led the Chinese authorities to ‘freeze’ the value of the RMB against the USD and, in July 2008, China decided to end the process that allowed the assessment of its currency, seeking greater stability in an environment of great internationally uncertainty.

The surplus in the current account and a fixed exchange rate against the US dollar (6.83 RMB/USD) again placed China at the center of a debate about its effects in the worsening of global imbalances⁷. In this context, the basic question that arises, and that has been an issue of concern in the context of global macroeconomic imbalances, is to know if the Chinese currency is undervalued and if so, in what amount. In other words, it is necessary to determine whether China has an ‘unfair’ export advantage.

However, empirical studies that have sought to define a level of ‘equilibrium’ as a means of enlightening the subject under discussion, have simply generated more controversy since they have produced very different results, even when using the same methodology to determine the Real Equilibrium Exchange Rate (REER).

In Table 1 we highlight some of the studies produced in this area and their estimates of the degree of Chinese currency misalignment against the real effective equilibrium exchange rate and the real bilateral equilibrium exchange rate (against the dollar)⁸.

Table 1. Estimates of Undervaluation and Required Appreciation of Renminbi

Authors / Version	Year	Undervaluation (%)		Required Appreciation (%)	
		Effective RER	USD	Effective RER	USD
PPP					
Big Mac Index (2007) ; S	2007		-58		138
Bosworth (2004)	2004		-40		67
Cheung, Chinn and Fujii (2007) ; B-S	2007		-50		100
Coudert and Couharde (2005) ; B-S	2003		-33 to -29		41 to 50
Frankel (2004) ; B-S	2000		-36		56
Wang (2004) ; B-S	2004	-5		5	
FEER					
Anderson (2006)	2006		-20 to -15		18 to 25
Cline (2005)	2005	-17	-31	21	45
Cline (2007)	2007	-15 to -10	-28 to -25	11 to 18	34 to 39
Coudert and Couharde (2005)	2002-03	-23	-35 to -31	30	44 to 54
Goldstein (2004)	2004	-30 to -15		18 to 43	
Goldstein and Lardy (2006)	2004	-26 to -17		20 to 35	
Goldstein and Larly (2007)	2007	-38 to -26		35 to 60	
Jeong and Mazier (2003)	2000	-33	-38	49	60

⁷ See, Cline and Williamson (2010), Ferry and Darvas (2010) and Cline (2010).

⁸ In general, estimates of the REER are based on the following approaches: Purchasing Power Parity (PPP), Fundamental Equilibrium Exchange Rate (FEER), and Behavioral Equilibrium Exchange Rate (BEER). See Balassa (1964), Samuelson (1964), Williamson (1983), Rogoff (1996), Clark and MacDonald (1998) and Montiel (1999).

Authors / Version	Year	Undervaluation (%)		Required Appreciation (%)	
		Effective RER	USD	Effective RER	USD
Stolper and Fuentes (2007)	2007		-13		15
Wang (2004)	2003	-5 to 0		0 to 5	
Wren-Lewis (2004)	2003		-18 to -16		19 to 22
BEER					
Bénassy-Quéré et al. (2004)	2001	-14	-31 to -29	16	41 to 44
Bénassy-quéré (2006)	2004	-31 to -24	-37 to -23	31 to 45	30 to 59
Coudert and Couharde (2005)	2002		-18		22
Funke and Rahn (2005)	2002	-6 to -3	-11	3 to 6	12
Macdonald and Dias (2007)	2007	-30 to -7		8 to 42	
Stolper and Fuentes (2007)	2007		-7		7
Wang (2004)	2003	0		0	
Wren-Lewis (2004)	2002		-18 to -16		19 to 22

PPP: Purchasing Power parity; FEER: Fundamental Equilibrium Exchange Rate; BEER: Behavioral Equilibrium Exchange Rate; B-S: With Balassa-Samuelson effect; S: simple; RER: Real Exchange Rate. The minus sign (-) indicates undervaluation. The estimates presented are not exhaustive and should only be seen as indicative. For an undervaluation of $X\%$, the appreciation needed to achieve the balance value is $100[1/(1-0.01X)-1]$.

Source: Adapted from Bouveret et al. (2006), Siregar and Rajan (2006) and Cline and Williamson (2007).

THE INTEGRATION OF CHINA INTO THE WORLD TRADE

In its recent history, China has experienced traumatic times, from foreign occupation in the late nineteenth century until the Communist Revolution in 1947. However, over the last quarter of a century, China has gradually stabilized and gained a strong position in international trade.

In 1978, two years after the death of Mao Tsé-Tung, Deng Xiaoping assumed leadership of the Chinese Communist Party and formulated a reform and modernization policy. This process involved the diversification of property forms, and promoted a decentralized and market-oriented economy. At the same time, there was foreign trade liberalization, and conditions to boost the Foreign Direct Investment (FDI) were created. The reform process culminated with China's accession to the World Trade Organization (WTO) in December 2001. China's accession to the WTO has been reflected in high rates of growth of real GDP, accompanied by an even more significant growth in foreign trade and in investment. Figure 2 illustrates such performance of the Chinese economy.

As can be seen in next figure, China's GDP features a surprising growth trajectory, although its behavior was quite erratic between the beginning of the 80s and 90s. Periods of deceleration are associated with international episodes and not with internal reasons. These episodes are the Asian crisis of 1997-98 and the financial crisis of 2007. This exceptional performance of China's GDP was led either by investment rates, and/or export growth.

Figure 2. Chinese Real GDP and Percentage of Exports and FDI in Chinese GDP



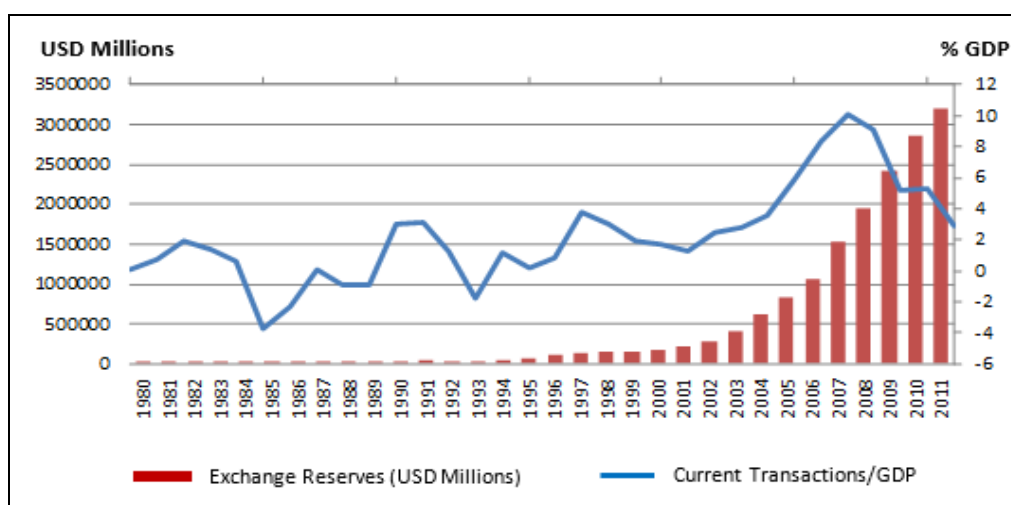
Source: Authors' figure based on data from UNCTAD.

With regard to investment, a very selective and target sector oriented policy was in force (export sectors and productive of substitutes for imported goods sectors), with the intention of attracting FDI. Figure 2 shows that by the end of the 80s, the entry of FDI in China had rather modest values. However, from the beginning of the 90s, a significant increase in capital inflows is noticed.

As regards to exports, these also showed a significant growth. When we analyze the exports share of Chinese GDP, we observe that in the early 80s this only represented about 8% of GDP but, in the middle of 2006, the ratio reached 40%.

The growth strategy led by exports resulted in a growing accumulation of foreign exchange reserves. However, as Prasad and Wei (2005) argue, the growing accumulation of exchange reserves is not exclusively related to the trade surplus and FDI inflows, but to expectations of a Renminbi appreciation. Figure 3 documents the evolution of the current account balance and of exchange reserves in the period 1980-2011.

Figure 3. Current Account balance (% of GDP) and Foreign Exchange Reserves



Source: Authors' figure based on data from UNCTAD.

According to data from UNCTAD, during this period, exchange reserves represented more than twelve months of imports. In 2009, they reached a high enough value to ensure more than 28 months of purchases abroad.

However, in view of what has been presented here, and recalling that the object of this work is to consider China's foreign trade with the European Union 15 (EU15), it becomes relevant to conduct a more detailed analysis of the evolution of China's foreign trade, with special emphasis on trade flows between the region and the EU15. In fact, China's integration in world trade has been accompanied by a significant change in the composition of its exports.

At the beginning of the opening of China's economy to the outside world, Chinese exports were characterized by labor-intensive products and low technological content. Nevertheless, in recent decades, China has evolved technologically, offering products with higher added value and increasing technological content, as documented in Table 2.

Table 2. China Exports by Degree of Technological Intensity

Degree of Technological Intensity	Export Share (%)		Growth Rate (%) 1992-2007	RCA Index	
	1992	2007		1992	2007
High	10.4	31.3	21.2	0.6	1.6
Medium-High	10.2	21	18.3	0.4	0.8
Medium-Low	10.2	15.1	15.9	0.8	1.1
Low	53.3	26.5	8.3	2.5	1.7
Other	16	6.1	6.5	0.7	0.2
Total	100	100	13.1	1	1

Note: The RCA Index refers to the index of Revealed Comparative Advantage.

Source: Adapted from Ma and Assche (2011).

In 1992, 'High Tech' products represented about 10% of Chinese exports, but in 2007 they represented about 31%. Inversely, 'Low Tech' products, which are intensive in labor force and natural resources, reduced their share from about 50% to 27%, during the same period. As can be seen, the growth of Chinese exports is largely fuelled by the exports growth in the two technologically higher categories. According to Rodrik (2006), today China has an export tariff compatible with a country with per capita income much higher than its own.

In Table 3 the distribution of Chinese exports, in the world and in the EU15, disaggregated by SITC,⁹ is shown.

Given the importance of China's accession to the WTO, we consider two sub-periods of analysis, trying to capture differences in the composition of exports, before and after the country's accession¹⁰. As can be seen, between 1995 and 2001, most significant exports to the EU15 occurred in SITC 5, 6, 7 and 8. From 2002 to 2011, a rise in exports of SITC 7, verifying a decrease in performance of SITC 5, 6 and 8, occurred. In turn, Chinese exports by SITC to the world present a behavior similar to that seen for the EU15. It is thus apparent that the most exported commodity chains from China, either to the EU15 or the world, are the same for both zones (from SITC 5 to SITC 8 representing processed products).

⁹ Standard International Trade Classification. Product classification often used to classify imports and exports of a country and allow the comparison of different countries.

¹⁰ Since China only joined the WTO in December 2001, for the purposes of our analysis, it is considered that 2002 marked the year of entry.

Table 3. Chinese Exports (%) by SITC (1995-2011)

SITC	World	1995/01	2002/11	UE15 ^(a)	1995/01	2002/11
0: Food and Live Animals	3.09	4.80	2.75	1.82	2.85	1.71
1: Drinks and Tobacco	0.18	0.33	0.14	0.09	0.18	0.08
2: Crude materials, inedible, except fuels	0.97	1.57	0.82	0.96	2.31	0.83
3: Mineral fuels, lubricants and related	2.08	3.16	1.93	0.83	1.25	0.78
4: Animal and vegetable oils, grease	0.05	0.04	0.03	0.03	0.05	0.02
5: Chemicals and related products	5.26	5.02	5.24	4.68	6.83	4.46
6: Final manufactured	17.04	16.47	16.92	15.99	16.80	15.90
7: Machines and transport equipment	45.07	35.66	47.22	47.24	35.26	48.49
8: Intermediate manufactured	26.11	32.74	24.79	28.33	34.39	27.69

Note: (a) Except for Luxembourg due to missing data; the SITC9 is also not considered due to missing data for Sweden; consider the values an approximation, due to missing data for some countries in some categories or years.

Source: Authors' compilation based on data from UNCTAD.

By way of conclusion it can be said that the growing economic importance of China seems to increasingly represent a threat to the EU15 trade flows, seen in the extent to which Chinese products are gradually climbing up the value chain. The penetration of high technological products from China into the major economies is synonymous with the fact that the EU15 has been losing its comparative advantage to China in the production of these goods.

In this context, it is important to analyze to what degree this gain in economic importance by China can be explained by the move to retain the undervaluation of its currency, and to what extent an eventual appreciation may negatively reflect on Chinese exports, but in return, contribute to a better balance in world trade, and specifically, in trade with the EU. It is precisely this analysis that we propose to present in the following sections.

EFFECTS OF AN APPRECIATION OF THE RENMINBI ON CHINA'S EXPORTS TO THE EUROPEAN UNION

In a context of growing global imbalances and increasingly intense pressure by the industrialized countries for greater flexibility in the Chinese exchange rate, the question that arises is whether China should allow an appreciation of its currency, providing a tool that allows it to reduce its huge trade surplus, thus contributing to a better balance in international trade relations. The answer to this question is very dependent upon the effects that a real appreciation of the Renminbi may have on exports and imports.

In the face of this reality, section empirically analyzes the effects of an appreciation of the Renminbi's real exchange rate against the Euro in the macroeconomic performance of the EU-15 countries¹¹.

To determine the Chinese exports' sensitivity to changes in Renminbi's RER, we estimate the price elasticity of export value. For this type of analysis, we take as a general empirical outline, an export equation developed by Yue and Hua (2002), thus seeking to ascertain to what extent the increasing export capacity of China can be explained by the maintenance of the Renminbi's real exchange rate at a level much lower than its equilibrium value (undervalued).

In order to test whether the comparative advantage explains the rapid growth of Chinese exports, Yue and Hua (2002) proceeded to the estimation of a reduced equation for exports, obtained through a demand equation and a supply equation, to which they added three indices of Revealed Comparative Advantage (RCA) for the categories of processed products, since these are the main constituents of trade between China and the World. Featured within this equation are: indices of Revealed Comparative Advantage from SITC 5 to 7, the Real Effective Exchange Rate, a measure of foreign demand, and a measure of productive capacity.

However, in this work, we only intend to analyze trade flows between China and the EU15*. Therefore, we fit the variables to the data available for these two groups of countries, and since the most relevant product categories are those relating to processed products, the same indices of RCA are maintained. Hence, the equation to estimate will take the following form:

$$\ln VX_t = \alpha_1 \ln RER_t + \alpha_2 \ln GDP_t^{Ch} + \alpha_3 \ln GDP_t^{EU} + \alpha_4 RCA5_t + \alpha_5 RCA68_t + \alpha_6 RCA7_t + \varepsilon_t \quad (1)$$

where, $\ln VX$ represents the Real Exports Value logarithm of processed products from China to EU15*; $\ln RER$ represents the Renminbi's Real Exchange Rate logarithm against the Euro, being $RER = NER \times (P_e/P)^{12}$; $\ln GDP^{Ch}$ represents the Chinese Gross Domestic Product logarithm; $\ln GDP^{EU}$ represents the EU15* Gross Domestic Product logarithm; and RCA_j represents the Revealed Comparative Advantage of China in relation to EU15*, for the product category j, with j=5, 7 and 68¹³.

Based on economic theory, it is expected that $\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5, \alpha_6 > 0$.

Data

In this work, quarterly data covering the period from 1995Q1 to 2011Q4 are used, and clearly, the period covered should be extended, but the unavailability of data has precluded this.

The EU15* real GDP represents the difference between the EU15 real GDP and the sum of the real GDPs of the three countries that were excluded from the analysis. China's real GDP was only converted into Renminbis.

¹¹ EU15: European Union 15, excluding Denmark, Sweden and the UK, which are countries that although belonging to the European Union, continue to maintain their own currency, not using the Euro, so if considered in the real Exchange rate of RMB/EUR would 'distort' the results.

¹² Taking China as the national space, P_e is the Consumer Price Index of EU15*, and P is the Consumer Price Index of China. In its turn, NER corresponds to the Renminbi's Nominal Exchange Rate against the Euro, expressed as units of Renminbi's (domestic currency) per unit of Euro (foreign currency).

¹³ SITC 68 corresponds to the junction of SITC 6 and SITC 8.

In the calculation of the real exchange rate, data from the EU15* Consumer Price Index and China's Consumer Price Index were used. The Nominal Exchange Rate RMB/EUR resulted from a cross of nominal exchange rates against the USD.

The data concerning the exports of processed products results from the difference between the sum of the values of SITC 5, 6, 7 and 8 exports from China to EU15, and the sum of the values of exports from China to Sweden, to Denmark and to the United Kingdom, on these same SITCs. The data were subsequently converted into Renminbis and deflated by the Chinese Consumer Price Index.

Finally, the data used for the Revealed Comparative Advantages in sectors 5, 7 and 68 resulted from applying the following formula:

$$RCA = (X_{ij}/X_{it})/(M_{ij}/M_{it}) \quad (2)$$

where, i =China and j =SITC 5, 6, 7 and 8, X_{ij} represents the product j exports value from China to EU15*; X_{it} represents the total of exports from China to EU15*; M_{ij} represents the product j imports value of China from EU15* and M_{it} represents the total of Chinese imports from the EU15*. Again, from the total of EU15 we subtract corresponding values for Sweden, Denmark, and the UK.

With regard to exports of processed products, these correspond to the sum of SITC 5, 6, 7 and 8 exports value from China to EU15*, divided by the Chinese Consumer Price Index¹⁴.

All variables were seasonally adjusted by X-12 ARIMA filter, and the variables Actual Value of Exports of processed products, Real Exchange Rate, Chinese GDP and EU15* GDP, were transformed into logarithms, according to Yue and Hua (2002). The estimation results of exports equation were obtained using the program Gnu Regression Econometrics and Time-series Library (GRETSL).

Methodology and Results

The first step in data processing is to determine whether the series are stationary or not. In this work, to test the order of series integration, we used the Dickey-Fuller (ADF)¹⁵ unit root test. This test has as a null hypothesis the presence of unit root in time series, and as an alternative hypothesis, its stationarity. The inclusion (or exclusion) of a constant and/or trend in the test depends on the behavior of the series, being the maximum number of lags chosen according to the frequency of the data. The results of this test are summarized in Table 4.

The results of the ADF test in respect of the level variables do not indicate the rejection of the null hypothesis, according to which the series contains a unit root, at a significance level of 5% (p -value greater than 0.05). Therefore, we conclude that none of the series is stationary in level, it then being necessary to differentiate them and conduct new tests to verify their order of integration. The results obtained by applying the ADF test to the variables in first differences, indicate that they are stationary at a significance level of 5% (p -value less than 0.05).

¹⁴ For a description of the variables used in this study see Table A in Appendix.

¹⁵ See, Dickey and Fuller (1979).

Table 4. Augmented Dickey-Fuller (ADF) Unit Root Test

Variable	C	T	Lag	I(d)	p-value	Variable	C	I(d)	p-value
I_GDP^{Ch}	Yes	Yes	1	I(1)	0.8403	ΔI_GDP^{Ch}	Yes	I(0)	5.361e-005
I_GDP^{EU}	Yes	Yes	1	I(1)	0.8068	ΔI_GDP^{EU}	Yes	I(0)	4.288e-005
I_RER	Yes	Yes	1	I(1)	0.3571	ΔI_RER	Yes	I(0)	2.549e-006
I_VX	Yes	Yes	2	I(1)	0.9419	ΔI_VX	Yes	I(0)	0.0112
$RCA5$	Yes	Yes	3	I(1)	0.5856	$\Delta RCA5$	Yes	I(0)	1.604e-013
$RCA7$	Yes	Yes	0	I(1)	0.9055	$\Delta RCA7$	Yes	I(0)	4.9e-011
$RCA68$	Yes	Yes	1	I(1)	0.682	$\Delta RCA68$	Yes	I(0)	5.503e-013

Note: C: test with constant; T: test with trend; I(d): integration order; (Δ): first difference of the series; Lag: number of lags required to overcome the autocorrelation of the errors. In the test to the variables in the first differences, we do not include a trend, because by differentiating the trend is diluted. All tests were performed at a significance level of 5%.

Source: Authors' compilation based on data from the research.

Given that all series are non-stationary, but have the same order of integration - I(1) -, the next step is to see whether there is co-integration between the variables. For this purpose we adopted the Johansen method (1995), which uses the trace test (*trace* λ) and the value of the maximum eigenvalue (λ max.), to determine the number of co-integrating vectors. In the co-integration test by the Johansen procedure, we use the variables in level and two lags. The number of lags was recommended by the information criteria AIC (Akaike Information Criterion). The results are shown in Table 5.

Table 5. Johanson Co-integration Tests

λ trace			eigenvalue	λ max.		
H ₀	H _A	p-value		H ₀	H _A	p-value
$r = 0$	$r > 0$	0.0193	0.51843	$r = 0$	$r = 1$	0.0257
$r \leq 1$	$r > 1$	0.2624	0.35690	$r = 1$	$r = 2$	0.4965
$r \leq 2$	$r > 2$	0.4551	0.27112	$r = 2$	$r = 3$	0.6983
$r \leq 3$	$r > 3$	0.5425	0.22500	$r = 3$	$r = 4$	0.6041
$r \leq 4$	$r > 4$	0.6824	0.16224	$r = 4$	$r = 5$	0.5905
$r \leq 5$	$r > 5$	0.8235	0.070549	$r = 5$	$r = 6$	0.7624
$r \leq 6$	$r > 6$	0.9387	8.97e-005	$r = 6$	$r = 7$	0.9387

Source: Authors' compilation based on data from the research.

The results of the co-integration tests indicate the existence of one co-integration vector. As can be seen, the null hypothesis of the trace test $r = 0$ was rejected at a significance level of 5% (*p-value* less than 0.05). For the assumption of at least one co-integration vector, the results of this test indicate the non-rejection of the null hypothesis at a significance level of 5% (*p-value* greater than 0.05). The same can be observed for the test of the λ max..

In the face of such results, a long-term relationship between the variables is assumed. Thus, we should use the Vector Error Correction model (VEC)¹⁶ for the estimates of the long-term elasticities.

¹⁶ See Harris (1995).

A VEC model is similar to a VAR model, but the first considers the inclusion of an error correction vector in all equations, which, as its name indicates, aims to correct the co-integration relations. Estimating the regression according to the theoretical model, we obtain the results documented in Table 6.

Table 6. Long Run Estimation of Co-integration Equation (1995Q3 to 2011Q4)

Co-integration Equation			
Beta	Coefficient	Standard Error	t-statistic
L_VX_t	1.0000	(0.00000)	
$L\_GDP_t^{Ch}$	-0.83161	(0.10954)	-7.59184
$L\_GDP_t^{EU}$	-1.5398	(0.55677)	-2.76559
L_RER_t	-1.0581	(0.077436)	-13.66419
$RCA68_t$	-0.10923	(0.038797)	-2.81542
$RCA5_t$	0.62543	(0.18862)	3.31582
$RCA7_t$	-1.2301	(0.33784)	-3.64107

Source: Authors' compilation based on data from the research.

The results for the long-term equation indicate that the signals are correctly specified (except for $VCR5^{17}$), showing a direct relationship between manufactured exports and the exchange rate, the Chinese GDP, the EU GDP, and the $VCR68$ and $VCR7$. In other words, a depreciation of 1% in the RER (and consequent increase of Chinese competitiveness) must produce, on average, in the long run, an increase of 1.06% in the value of manufactured exports, ceteris paribus. This result is consistent with that obtained by Yue and Hua (2002). These authors also concluded that Chinese exports are more and more sensitive to exchange rate variations. An increase of 0.83% in Chinese exports should correspond to an increase of 1% in Chinese GDP, while an increase of 1% in EU GDP must correspond to an increase of 1.54% in manufactured exports. The RCA indices highlight the fact that the coefficient of RCA, relative to the sector of Chemicals and Related products, is negative, contradicting the expected sign. However, the truth is that from among four considered sectors (SITC 5, 6, 7 and 8), this is the one in which China has a major disadvantage when compared to EU. Therefore, it is understandable that an increase in the production of SITC5 goods does not represent an increase in manufacturing exports to the EU15*. With regard to the coefficient associated with the comparative advantage in the production of SITC7 goods, its signal is in line with what would be expected. When compared to the EU15*, China does not have a comparative advantage in the production of these goods. However, this may turn out to reverse itself, in so far as this disadvantage is becoming smaller. As we have seen, China has evolved technologically and, being that its products are technology-intensive, it is natural that this is happening. Finally, with respect to SITC 68, there is an undeniable advantage for China in its ability to produce these labor-intensive goods.

The t-statistic analysis also allows us to conclude that all coefficients of the vector are significant, since at a level of significance of 5%, it is possible to reject the null hypothesis that the coefficient is equal to zero.

¹⁷ The signal obtained for this coefficient is contrary to that expected by economic theory.

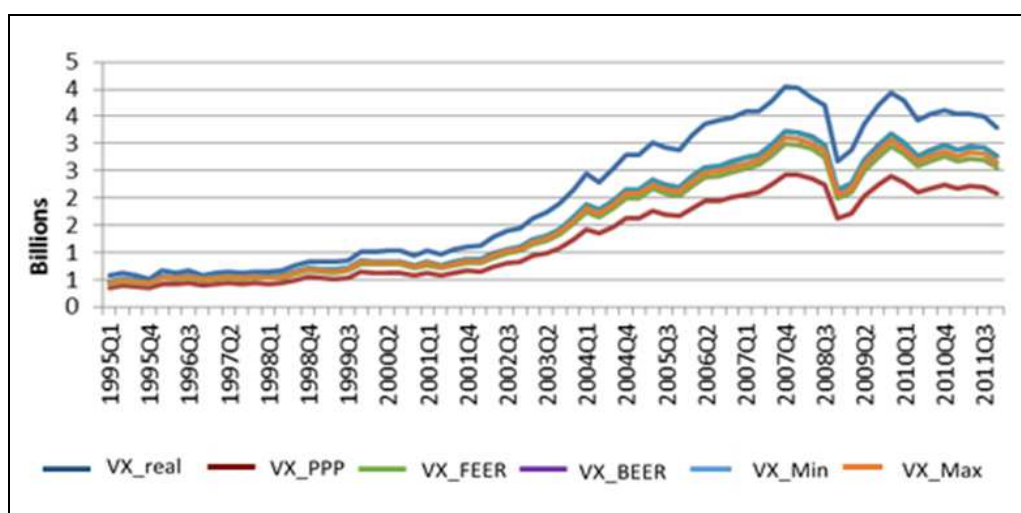
Correction of the Imbalance: A Short Essay

Returning the information of Table 1, we build averages for values of necessary RMB appreciation against the USD, either by the approach for determining the REER, or taking a minimum and a maximum value of appreciation.

The approach based on PPP suggests a necessary appreciation of the RMB against the USD of, on average, 67%; the FEER estimated an average of 37.4%, and in its turn, the BEER showed an average of 28%. As can be seen, the PPP is the approach that produces the highest estimates, while the values mentioned in the FEER and BEER are not widely dispersed. Considering only the FEER and BEER approaches, given that the PPP has very high estimates, it was estimated that it would take a minimal appreciation of 28.15% and a maximum appreciation of 32.77%, for the imbalance of the Renminbi's RER to be corrected.

By crossing exchange rates, we obtained the values for the EU15*. In Figure 4 the values of processed products exports checked and corrected are given.

Figure 4. Real Exports Value of China by Type of Approach



Source: Authors' figure based on data from the research.

As can be seen, after an appreciation of the Renminbi's RER against the Euro, exports of processed products from China to EU15* decrease significantly. If China appreciated its currency as suggested by the PPP, their exports (in value) would be reduced, on average by 39%. According to the other two approaches, and the minimum and maximum values, this reduction would be around 20%.

This result reveals an 'unfair' export advantage, which has negative impacts in terms of EU macroeconomic performance. In other words, if China allowed greater flexibility of its currency so that its value were determined by the market, it is most likely that its surplus from trade between these two regions would decrease. This assertion is risky in the sense that, given the specificities of the Chinese market, the effects of an exchange rate appreciation on imports are ambiguous. If, on the one hand, economic theory postulates that currency appreciation has negative impacts on a country's imports, on the other hand, since China is a 'factory' for re-export, it is natural that its imports retain a growth rate similar to that seen previously. This may provide an opportunity for the EU countries. They should enjoy their comparative advantage in the production of intermediate goods, intensive in capital, and thus increase their exports to China.

CONCLUSION

China has experienced a rapid and strong economic growth mainly supported by exports and foreign investment, and its exchange rate policy is often cited as a determining factor of this growth. This fact has aroused a growing interest in the international community, not only because of its intensity but also because of the relative sustainability of its growth, concomitant with a period in which the world as a whole showed medium economic growth.

Given that processed products represent the more tradable class of products between these two groups of countries, we estimated an equation for exports, based on the work undertaken by Yue and Hua (2002), and we concluded, as expected by economic theory, that a Renminbi appreciation would have a negative impact on China's export growth. Then, using the values of Renminbi undervaluation, mentioned in the literature about the subject, we recalculated the Chinese real exchange rate against the euro, trying to correct their misalignment (with an appreciation of about 32%). Assuming that the value of imports remains constant with Exchange rate movements (a very simplistic assumption, but possible), we concluded that the Trade Balance between these two countries reports significant changes (a reduction of around 20%). These results suggest that the maintenance of a low value of the Renminbi's real exchange rate is an important tool for its growth, as reflected in its export capacity.

To this result is added the fact that a Renminbi undervaluation provides a stimulus for investment in China. In this sense, many companies from the European Union Member Countries relocated their businesses to the Chinese territory, creating scope for an increase in unemployment in their home countries. Another effect of this strategy (for attracting FDI to modernize their productive structures) is reflected in the growing technological evolution of Chinese products, allowing them greater competitiveness in sectors with a rather significant influence on the European economy and in which they have comparative advantage (SITC7).

ACKNOWLEDGMENTS

The author thanks Adelaide Duarte and Pedro Bação for their helpful comments and suggestions. The GEMF is financially supported by the Foundation for Science and Technology. The usual disclaimer applies.

LITERATURE

- 1) Assche, A.; Hong, C. and V. Sloodmaekers (2008), "China's International Competitiveness: Reassessing the Evidence", *Licos Centre for Institutions and Economic Performance*, Discussion Paper 205/2008.
- 2) Balassa, B. (1964), "The Purchasing Power Parity Doctrine: a Reappraisal", *Journal of Political Economy*, Vol. 72, No. 6, pp. 584-96.
- 3) Bouveret, A.; Mestiri, S. and H. Sterdyniak (2006), "The Renminbi Equilibrium Exchange Rate: an Agnostic View", *Observatoire Français des Conjonctures Économiques*, No. 2006-13, July.
- 4) Clark, P. and R. MacDonald (1998), "Exchange Rates and Economic Fundamentals: A Methodological Comparison of BEERs and FEERs", in R. MacDonald and J. Stein (eds.), *Equilibrium Exchange Rates*, Kluwer: Amsterdam and IMF Working Paper 98/67, March.
- 5) Cline, W. (2010), "Renminbi Undervaluation, China's Surplus, and the US Trade Deficit", *Peterson Institute for International Economics*, Policy Brief 10-20, August.
- 6) Cline, W. and J. Williamson (2007), "Estimates of Equilibrium Exchange Rate of the Renminbi: Is There a Consensus and, If Not, Why Not?", *Peterson Institute for International Economics*, Paper Presented at the Conference on China's Exchange Rate Policy, October.
- 7) Cline, W. and J. Williamson (2010), "Estimates of Fundamental Equilibrium Exchange Rates", *Peterson Institute for International Economics*, Policy Brief 10-15, November.

- 8) Cline, W. and J. Williamson (2011), "The Current Currency Situation", *Peterson Institute for International Economics*, Policy Brief 11-18, November.
- 9) Dickey, D. and W. Fuller (1979), "Distribution of the Estimators for Autoregressive Time Series with a Unit Root", *Journal of American Statistical Association*, No. 74, pp. 427-431.
- 10) Ferry, J. and Z. Darvas (2010), "The Threat of Currency Wars: a European Perspective", *Bruegel*, December.
- 11) Harris, R. (1995), "Cointegration Analysis in Econometric Modelling", Prentice Hall, London.
- 12) Johansen, S. (1995), "Likelihood - Based Inference in Cointegrated Vector Autoregressive Models", *Advanced Texts in Econometrics*, Oxford University Press.
- 13) Ma, A. and A. Van Assche (2011), "China's Role in Global Production Networks", *Trade Policy Research Special Edition: Global Value Chains - Impacts and Implications*, A. Sydor, Ottawa: Department of Foreign Affairs and International Trade, pp.127-56.
- 14) Martins, C. (2005), "A Economia Chinesa e a sua Integração na Economia Mundial", *Banco de Portugal*, Boletim Económico, Inverno.
- 15) Montiel, P. (1999), "Estimating Equilibrium Exchange Rates: An Overview", in L. Hinkle and P. Montiel (eds.), *Exchange Rate Misalignment: Concepts and Measurement for Developing Countries*, Oxford University Press.
- 16) Pereira, R. (2006), "O Novo Papel da China como Motor de Crescimento e da Integração no Leste Asiático", *Estudos Sobre a China VIII*, Vol. 2, Instituto Superior de Ciências Sociais e Políticas, Lisboa.
- 17) Prasad, E. and S. Wei (2005), "The Chinese Approach to Capital Inflows: Patterns and Possible Explanations", *IMF*, Working Paper No. 79.
- 18) Rodrik, D. (2006), "What's So Special About China's Exports?", *National Bureau of Economic Research*, Working Paper 1197, January.
- 19) Rogoff, K. (1996), "The Purchasing Power Parity Puzzle", *Journal of Economic Literature*, Vol. XXXIV, June, pp. 647-68.
- 20) Samuelson, P. (1964), "Theoretical Notes on Trade Problems", in J. Stiglitz (ed.), *The collected Scientific Papers of Paul A. Samuelson - Volume II*, Cambridge: MIT Press.
- 21) Shi, J. (2006), "Are Currency Appreciations Contractionary in China?", *National Bureau of Economics Research*, Working Paper 12551, September.
- 22) Siregar, R. and Rajan, R. (2006), "Models of Equilibrium Real Exchange Rates Revisited: A Selective Review of the Literature", *Centre for International Economic Studies*, Discussion Paper No. 0604, August.
- 23) Williamson, J. (1983), "The Exchange Rate System", *Policy Analyses in International Economics* 5, *Institute for International Economics*, Washington.
- 24) Yue, C. and P. Hua (2002), "Does Comparative Advantage Explains Export Patterns in China?", *China Economic Review*, No. 13, pp. 276-96.
- 25) Wang, T (2004), "Exchange Rate Dynamics", in E. Prasad (ed.), *China Growth and Integration into the World Economy: Prospects and Challenges*, IMF Occasional Paper 232, Washington, DC: International Monetary Fund.

APPENDIX

Table A: Description of the Variables

Variable	Unit of Measure	Frequency	Source
GDP at constant prices of 2005 - China	Millions of US\$	Quarterly	Oxford Economics
GDP at market prices - EU15, Sweden, Denmark, United Kingdom	Millions of national currency	Quarterly	Eurostat
Price Index (GDP deflator), 2005=100 – EU15, Sweden, Denmark, United Kingdom	National currency	Quarterly	Eurostat
Nominal Exchange Rate USD/RMB	Chinese currency per US\$	Monthly	People's Bank of China
Nominal Exchange Rate USD/EUR	National currency per US\$	Monthly	Bank of England
Imports SITCs 5, 6, 7, 8 and Total - from China to EU15, Sweden, Denmark and United Kingdom	Value in Euros	Monthly	Eurostat
Exports SITCs 5, 6, 7, 8 and Total - from China to EU15, Sweden, Denmark and United Kingdom	Value in Euros	Monthly	Eurostat
Consumer Price Index – EU15, Sweden, Denmark, United Kingdom	2005=100	Monthly	MEI, Edition October 2012, OECD
Consumer Price Index - China	2005=100	Monthly	MEI, OECD

THE EFFECTS OF INTERNATIONALIZATION OF TRADE ON EMPLOYMENT IN SERBIA

Sreten ĆUZOVIĆ¹
Svetlana SOKOLOV MLADENOVIĆ²

Abstract

Trade is a labor-intensive activity that employs staff of the specific profile. Statistics show that one in five employees in Serbia works in trade. On the other hand, by adopting the concept of open and modern market economy at the beginning of this century, Serbia is becoming an attractive market for international trading companies. Thus, the market of Serbia attracted several international trading companies that participate in a certain percentage of total employment in the trade. The aim of this study was to investigate the effects of the internationalization of trade has or may have in addressing the unemployment problem. The work will be divided into two parts. The first part of the research will be focused on the process of internationalization of trade and the arrival of international supermarket chains in Serbia. In this context, it will be processed specificity of human resources of these companies, and the challenges of adapting to local conditions. In the second part of paper will be focus on the analysis of trends in the number of employees in different international retail chains. The goal is to determine their contribution to solving the problem of unemployment during the period of operation of the market, with the marking of the companies that stand out. The premise of this paper is that the internationalization of trade, taken the form of international retail chains operating in the Serbian market, has its effects on employment in the trade of Serbia, and thus on employment in Serbia. This hypothesis will be tested in the second part of paper.

Key words: internationalization, trade, employment, HR, international trade chains

INTRODUCTION

Unemployment is one of the major problems faced by the Serbian economy. Statistics illustrate the growing trend in the unemployment rate over the past few years. According to research by Statistical Office, the unemployment rate in April 2013 was 25.0, whereas only six months ago (October 2012) was 23.1.³ In only six months, the unemployment rate rose from 23.1 to 25.0 according to a survey by the Statistical Office done in accordance with the recommendations of the International Labor Organization and the EU Agency for Statistics, Eurostat. In addition, the trend of increasing unemployment is something that describes the macroeconomic situation in the country the past few years. These data suggest a high rate of unemployment and at the same time raise the question of how and by what measures go in the direction of overcoming and solving the problem of unemployment. In addition, the solution can be found in all those areas which are regarded as labor intensive. One of them is trade, which currently employs one in five workers in Serbia. In addition, the store is the most sensitive and vital sector of the economy which in recent years have occurred significant changes. By adopting the concept of open and modern market economy, trade Serbian "opened the door" to foreign trade companies, which in Serbia see opportunities to generate new sources of profit. Their arrival in our market, with different performance models (direct investment, licensing, joint ventures, mergers and acquisitions), the de facto means new jobs and recruiting specific profile. In Serbia there are currently several foreign trade companies, and the recent arrival of Belgian supermarket chain

¹ Professor Sreten Ćuzović, PhD, Faculty of Economics, Niš

² Assistant Professor Svetlana Sokolov Mladenović, PhD, Faculty of Economics, Niš

³ *Anketa o radnoj snazi 2013*, Republički zavod za statistiku, Beograd, 2013.

Delhaize confirms the claim of their interest in our market. Each of these companies has a certain level of participation in employment Serbia, through job creation and participation in solving the problem of unemployment. This study presents the effects of international trade companies have or may have on employment in Serbia. In doing so, we will have the specifics of their business in foreign markets and adapting to local labor market conditions.

THE INTERNATIONALIZATION OF TRADE - A MODEL OF GROWTH AND DEVELOPMENT OF TRADING COMPANIES

One of the contemporary trends in European and world trade is business internationalization. Manifested by the expansion of the business outside the country of domicile of the market in which trading company is headquartered. It is the increasing number of foreign trade companies while reducing domestic. Through the internationalization of business finds space for market expansion, as well as an additional incentive for the growth and development of companies. Moreover, in this way leads to the innovation and the ability to learn from its competitors. Internationalization is intrinsic to large retail companies in several countries, usually with developed trade in Europe. These are, above all, Germany, France, Great Britain, Belgium and the Netherlands. In addition to these countries, the direction of internationalization has gradually expanded, so today accepted triad approach (to be in the market): 1) EU, 2) the U.S. and Canada, and 3) Japan.

Internationalization process is carried out in parallel with the concentration of trade embodied in the creation of large areas of stores. Given that national markets have a high degree of saturation, large retail businesses choose to seek sources of generating revenue in foreign markets. Thus, internationalization is becoming legality of the major trading companies.⁴

Table 1. The five largest trading companies and their activities in the world, 2011⁵

Number	Company	Country	Business format	Number of countries in which the company is present	The sales volume, in millions \$
1.	Wal-Mart	U.S.A	Discount stores, hypermarkets, superstores	28	446.950
2.	Carrefour	France	Cash&Carry, conveniente store, discount stores, hypermarkets, supermarkets	33	113.197
3.	Tesco	U.K.	Conveniente stores, department stores, hypermarkets, supermarkets, superstores	13	101.574
4.	Metro	Germany	Cash&Carry, conveniente stores, department stores, hypermarkets, supermarkets, superstores	33	92,905
5.	Kroger	USA	Supermarkets	1	90.374

The current situation in the field of internationalization of trade can be seen through the list of the 250 largest retail companies in the world (considered by sales volume), which is annually published by U.S. consulting firm Deloitte. From table 1 we can see the 5 biggest trading companies in the world, with an overview of countries in which they operate and the actual volume of sales in the 2013 year.

⁴Ćuzović, S., Sokolov Mladenović, S. (2012) Internacionalizacija kao strategija rasta i razvoja trgovinskih kompanija, *Tematski zbornik Nauka i svetka ekonomska kriza*, Niš: Ekonomski fakultet, str. 345-357.

⁵DeloitteToucheTohmatsu, 2013, *Global Powers of Retailing*, New York 2013, p. 11; www.deloitte.com/consumerbusiness (13.10.2013)

Thus, the internationalization of trade is continuously gaining in importance. In 2013 250 largest trading companies, on average, operating in 9 countries, an increase compared to the average from 2010 year, which amounted to 8.2 countries and 2009 year, when the average stood at 7.7 countries. In addition, these companies have an average of 23.8% of the total volume of sales made outside the national market, or through international expansion. In doing so, we note that in the 2011 the volume of sales outside the national market (23.8%) was slightly increased compared to 2010 when the average was 23.4%. All these facts point to the importance of internationalization as an important growth strategy trading companies. This is supported by data illustrating the physiognomy of the level of internationalization of trade through international expansion of trading companies from different regions of the world (Table 2).

Table 2. The level of internationalization by region of the world, 2013

Regions	Number of companies	Sale volume, in mil. \$	The average number of countries in which the companies operate	% sales outside the national market
Africa/Middle East	7	6.474	10,3	26,9
Asia/Pacific	58	11.009	5,0	11,6
Japan	40	9.608	3,4	6,6
Europa	88	18.685	15	38,2
France	13	30.555	30	43,2
Germany	18	24.977	14,6	42,9
U.K.	15	18.320	17,1	23,0
Latins America	11	8.518	2	17,8
North America	86	21.504	6,2	15,3
U.S.A.	76	22.713	6,8	15,3

From the table we can see that the European and African / Middle Eastern trading companies dominate in terms of the achieved level of international expansion. Thus, the European trading companies in 2011 were present in approximately 15 countries, generating 38.2% in the sales volume. Within the European trade companies, the leading position occupied by the level of internationalization has France and Germany. Thus, the 13 French trading companies from the list of top 250 were present in approximately 30 countries, generating 43.2% of sales, while 18 German trading companies on average were present in 14.6 countries with recorded sales volume of 42.9% in these markets.

Unlike Europe, the U.S. trade companies still are not major players in terms of international expansion. This is confirmed by the fact that of 76 trade companies, with a list of top 250, 52 of them operates only in the domestic market. Other companies operate in approximately 6.2 foreign countries 2011 and generate only 15.3% of the total sales volume.

Regarding the degree of international expansion trade companies from Asia / Pacific region (specifically Japan) and Latin America have the least success. Thus, the 40 Japanese trading companies, with TOP 250 list, was present in only 3.4 countries 2011th year, thereby generating 6.6% of the total sales volume, while Latin American companies were present in the fewest number of countries, only 2, the achieved 17.8% of total sales.

The internationalization of trade and human resources

Terms such as internationalization, concentration, human resource management, and value for consumers are dominant in academic circles of science on trade, trade management, and marketing. In addition, the facts that people are the key asset trading companies. Shop serves consumers, including taking all actions to meet the demand of the increasing number of well-informed and sophisticated consumers. Viewed through the prism of changes in the national and international level, people are an essential element of a successful and sustainable business.

On the other hand, trade is labor-intensive sector of the economy, resulting in the continuous trading companies are facing the challenge of reorganizing and adapting their staffing structures in order to increase efficiency. The necessity for employees with part-time opening in the need to trade companies implements flexible employment policy and human resource management. Adaptation and the need for more proactive style of management of human resources are the characteristics of modern trading companies, especially those whose operations spread across national borders.

Research in the field of human resource management in the context of the internationalization of trade is more recent date. During the last two decades, scholars and practitioners identified the growing importance of corporate power and international trading companies.⁶ At the same time, an international trade company accumulated experience in the design and development of strategies in all areas of its business. It is observed the presence of a large number of research methods, theoretical foundations and concepts in the field of internationalization of trade. Looking at the theory and practice on the agenda come topics, such as the implementation of the internationalization strategy, operational dimensions of internationalization, inter and intra company's relationships in the internationalization process and the withdrawal of capital from the selected markets.⁷ The moment when international trading companies face the risk of withdrawal from the market, which is not in the interests of themselves and of the host countries, it is important issue of human resource management. So many international trading companies recognize the human resource management (HRM) as an essential component of long-term success, not only as a means of restructuring employees. To the fore are the areas such as the recruitment, induction, retention, monitoring and evaluating performance, training, development and motivation of employees. Decision making and finding new sources of expansion will be a continuous task employed in the human resource (HR).

Given the fact that the international trading company acting on different markets, it is necessary to continuously adapt in response to current trends. In this context, the sector of human resources management (HRM) are expected to think globally, but at the same time is able to meet local aspirations. This idea is based on Hofstede's theory of culture, the launching of a well-known slogan, "Think globally, and act locally."⁸ The main task of human resources at the international level is to provide expertise in the interpretation of local law and working conditions, which would provide practical solutions in the success of the business activities of the international trade companies.

The need for a precise definition of the tasks of human resources at the international level is the result of practical results which last year achieved an international trade company. For example, the German retail chain Metro, the fourth in the world by sales volume, 50% of the total number of workers employed outside the German market. Approximately the same percentage of employees outside the national market has Wal-Mart, Carrefour and Tesco.⁹ These are companies that have the greatest, viewed by sales volume, and using the internationalization strategy of growth and development. This raises the question of how to successfully transform the national business model in the international and the importance of human resources in the process of internationalization of trade.

The human resource management strategy is based on the company's strategy. Any ignorance of local conditions and requirements threaten the company to enter into the risk of withdrawal from the market. The examples confirm this. The withdrawal of U.S. Wal-Mart and Britain's Marks & Spencer,

⁶Burt, S.L., Sparks, L., (2002) Corporate branding, internationalisation and the retailer as a brand, *Corporate Reputation Review*, Vol. 5, No 2/3, pp. 194-204.; Palmer, M. (2004) International retail restructuring and divestment: the experience of Tesco, *Journal of Marketing Management*, Vol. 20, pp.1075-1105.

⁷Palmer, M., Quinn, B., (2005) An exploratory framework for analysing international retail learning, *International Review of Retail, Distribution and Consumer Research*, Vol. 15, No. 1, pp. 27-52.

⁸Sternquist, B., (2007) *International retailing*, New York: Fairchild Publications, p. 89.

⁹Krafft, M., Mantrala, M.K. (2010) *Retailing in the 21st Century-Current and Future Trends*, New York: Springer, p. 261.

the German market is the result of ignorance of the specifics of German culture, belittling local competition, especially German consumer sensitivity to prices.¹⁰ As the famous theorist Dawson stated: "Trade is the answer to the culture"¹¹ and human resource management plays a crucial role in assisting corporate management to understand and adapt to the local culture. With the interaction of managers from the HR department and the employees of the local market can successfully identify the characteristics of the market. On the other hand, the involvement of staff from the local market is moving towards a new generation of labor and job creation, which is in the interest of the economy of the host country. For these mutual effects were achieved, an international trade company, especially their sector human resource management needs to work on the implementation of strategic and operational tasks, but also to respond to the challenges of the environment and follows current business conditions.

Human resource management - the challenges of trade management in terms of internationalization of trade

Human resource management in terms of internationalization of trade is facing great challenges. Differences in economic systems and labor law in some countries HRM policy can do in one efficient, but not in other countries. For example, in the U.S., where the rules are individual culture, trade, companies can rely on the assessment of individual performance of individuals, and this practice is not acceptable in a country dominated by the collective culture. This is the case with China and Japan, where the emphasis is on the needs of teams and teamwork. In addition to culture and political and legal system can dictate the practice of trading companies in relation to human resources. So the U.S. is not allowed any practice discrimination of employees, while in Singapore completely legal to employment gives primacy to the male population between the ages of 25 and 40.¹²

To overcome of these differences adequately, sector human resource management in international trade companies must continually work towards meeting the strategic and operational objectives. Theoretical and practical discussion on the tasks of human resources sector, as the main strategic tasks marks the following:¹³

- Adequate coping with intense competition, changes in the environment, increasing costs, the problems of time management and the need to make decisions quickly;
- Continued development of modern information technology and its optimal use in order to create a balance between productivity and the services provided to customers;
- Continuous "recruitment" and the development of talented staff, training for all age groups of employees, ensuring a well-balanced age structure and development of a working environment in which employees achieve adequate results;
- "Recruitment" and training meet the requirements of the local market, including cooperation with local managers who will make a balance between strategy and policy of the company, on the one hand and the properties and characteristics of local culture, on the other hand;
- Identify and retain highly skilled and highly motivated individuals who are ready to meet the challenges of internationalization of trade, the international expansion strategy of translating the local framework.

The main operating tasks are:¹⁴

¹⁰Mellahi, K., Jackson, T.P., Sparks, L. (2002) An exploratory study into failure of a successful organisations: the case of Marks and Spencer, *British Journal of Management*, Vol. 13, pp. 15-29.

¹¹Dawson, J.A. (2000) Retailing at century and some challenges for management and research, *International Review of Retail, Distribution and Consumer Research*, Vol. 10, pp. 119-148.

¹²Levy, M., Weitz, B.A. (2009) *Retailing Management*, New York: McGraw-Hill, p. 246.

¹³Barber, F., Strack, R. (2005) The Surprising Economics of a „People Business, *Harvard Business Review*, June 2005, pp. 81-90.

¹⁴Same

- Restructuring of employees in order to introduce new skills as a result of changes in the methods of replenishment, conducting transactions, and changes in the way the display of goods;
- Identify and collect data for the purpose of assessing the return on investment in human resources;
- Continued development of the sector of human resources, which will allow the company to organize and optimize the return on investment in human resources.
- Implementation of the above strategic and operational tasks by the sector of human resources involves simultaneous "response" to the challenges that the sector faces permanently. These are the following challenges: 1) the strategy of the company, 2) the management of value added, 3) change management, 4) "recruitment" and retention of employees, 5) employment and continuing education.
- When it comes to the challenge of the company's strategy sector human resource management must be adapted to the vision and strategy of the company. It is well known that companies with good sector human resource (HR) create greater value for stakeholders in relation to the other. The strategy itself, HR must be modern in terms of adapting their practices long-term development of the company.

Sector Human Resources Management is faced with the realization of value-added activities, both for consumers and for stakeholders. The implementation of these activities, it is essential that HR include certain elements such as personal integrity, self-motivation, and the ability to identify the benefits for the employees, motivating employees to participate in the company's value, training and development of employees.

Managing change means that HR effectively responds to permanent changes in the environment, with a redefinition of the company's performance in terms of reducing the cost and achieves profitable growth. Employees are expected to understand the impact of these changes on the company's business.

The selection and retention is one of the great challenges facing the HR sector. To respond to this challenge, it is necessary to make trading company attractive to employees, especially highly skilled and highly motivated.

Considering that trade companies, especially international, are company with many employees, a policy of continuous employment and their education is a challenge that HR sector corresponds to the following activities: adapting to changes in environment and modern technology through the introduction of 'learning throughout life, "strong partnerships with schools and universities to" produce "trade personnel profiles, continuous communication between manager-employee relationship and the need for creative management.

METHODOLOGY RESEARCH

As we pointed out in the introductory remarks, the initial hypothesis of this study is that the internationalization of trade has its effects on employment in the Republic of Serbia. In order to test the hypothesis will provide an analysis of the largest international retail chains, i.e. the movement of employees within five years. Trends in the number of employees in these companies observers and the percentage of the number of employees in the commercial sector in Serbia.

In developing the theme we started from the analysis of the number of employees in trade and the total number of employees in Republic of Serbia (Table 3).

Table 3. Number of employments in trade of Republic of Serbia (2007-2011)¹⁵

Years	2007.	2008.	2009.	2010.	2011.
Number of employments in Serbia	2.002.344	1.850.857	1.889.085	1.831.464	2.253.209
Number of employments in retail	295.171	298.113	302.344	299.080	260.548
Number of employments in whole sale	82.939	64.655	76.117	63.550	86.081
Number of employments in trade	378.110	362.768	378.461	362.630	346.629
Share of trade in total employment	18,8%	19,6%	20,03%	19,8%	15,38%

From Table 3 we see the tendency to increase the participation of employees in the store the total number of employees in the country, which confirms the previously expressed the fact that trade is labor- intensive sector that has a significant participation in the workforce.

Such changes in the number of employees in trade, the contribution gives every retail chain, and each individual retail store. Moving to the concept of open and modern market economy in 2000 year, Serbia is becoming an attractive market for foreign trade companies. Arrival of the first foreign trade company recorded 2002 years, after that period came intense performances of foreign retail chains in our market. Serbia currently has the following foreign retail chains: 1. Mercator (Slovenia), 2. Mercur (Slovenia), 3. EnergoTus (Slovenia), 4. Metro Cash & Carry (Germany), 5. Veropoulos (Greece), 6. Pevec (Croatia), 7. Interex - Intermarche (France), 8. Idea (Croatia), 9. Mr. Bricolage (France) and 10. Delhaize (Belgium).¹⁶

A logical continuation of research opened up the question of the participation of employees in the largest international trade chains operating in the Serbian market, in terms of market share. These are: Delhaize (17.5%), Mercator (8%), Metro (8%), Idea (8%) and Interex (3%).¹⁷ Trends in the number of employees in these companies can be seen from Table 4.

Table 4. Number of employment in international trade chains (2008-2012)¹⁸

Company	2008.	2009.	2010.	2011.	2012.
Interex	363	344	332	332	357
Delhaize	5.331	5.536	5.814	6.081	6.356
Idea	3.225	3.221	3.579	4.254	4.262
Mercator	963	3.625	3.967	4.093	4.456
Metro	1.289	1.264	1.376	1.644	1.578

We observe a tendency of increasing the number of employees in the companies analyzed. Certain fluctuations of individual companies, as is the case with the company Interex and Metro, are the result of the economic situation in the companies, which confirming their financial statements. In other words, identical movement is characteristic of the total revenues of the company (see Table 5).

¹⁵Statistički godišnjak Republike Srbije (2013), *Republički zavod za statistiku*, Beograd, str. 315.

¹⁶Ćuzović, S., Sokolov Mladenović, S. (2011) Strategies of trade internationalization on Serbian market. *Proceedings of the International Scientific Conference Distributive trade as SEE and CEE development driver*: 290-301. Zagreb: Faculty of Economics; Ćuzović, Sokolov Mladenović (2012), *Marketinška dimenzija internacionalnih trgovinskih kompanija s posebnim osvrtom na tržište Srbije*, Ekonomske teme, br. 4, Niš, str. 571-597.

¹⁷www.gfk.com (20.10.2013)

¹⁸Financial reports of companies Interex, Delhaize, Idea, Mercator, Metro

Table 5. Total revenues in international trade chains (2008-2012)¹⁹

Company	2008.	2009.	2010.	2011.	2012.
Interex	3.819.339	3.861.793	3.681.446	4.412.445	5.234.695
Delhaize	62.025.693	67.389.925	78.018.525	72.550.772	75.027.518
Idea	28.468.988	36.190.068	41.335.649	48.961.099	53.223.730
Mercator	10.789.041	45.221.187	51.417.173	58.569.929	64.453.445
Metro	19.375.637	21.478.585	24.752.235	26.377.390	25.318.751

Table 5 shows the trends in the number of employees corresponds to the movement of the total revenue of the analyzed companies.

In Table 6, we analyzed the percentage of the number of employees in selected international trade chains in the total number of employees in trade of Republic of Serbia.

Table 6. Percentage of the number of employees in selected international trade chains in the total number of employees in trade of Republic of Serbia

Year	2008.	2009.	2010.	2011.
Total number of employment in trade	362.768	378.461	362.630	346.629
Total number of employment in analysed companies	11.171	13.990	15.068	16.404
Share of number of employment in analysed companies in total number of employment in trade	3,1%	3,7%	4,2%	4,7%

Given the initial hypothesis and the data in Tables 3, 4, 5 and 6, we come to the following conclusions:

- The trade of Serbia, according to available statistical data, in the period since 2007 to 2010, shows the tendency to increase participation in the workforce in Serbia, but in 2011 employment declines in trade and proportionately lower share of trade in total employment.
- This situation reflects the overall economic status of the Serbian economy, so it is not surprising stance scientific expert public that the trade is “mirror “of all the changes taking place in the socio -economic life of a country.
- The 2002 year to date records the arrival of international trade chains in Serbia market which shows the internationalization of trade is a continuous and unstoppable process. This is corroborated by the fact that the German Lidl plans to open its stores in Serbia.
- Belgium chain Delhaize is currently the last international trade chain that has expanded its operations in the market through the takeover of domestic retail chain Maxi.
- Delhaize currently has the largest market share of 17, 5%. Although the company was taken over by Maxi 2011, we have analyzed the trends in the number of employees since 2008 to 2011. It is significant that after the takeover, in 2012 it is increased employees in relation to the 2011. An example of the company confirms the hypothesis about the positive impact of internationalization of trade on employment.
- The tendency to increase the number of employees was noted by companies Idea, Interex, Metro and Mercator.
- Certain fluctuations in employment trends can be observed in companies Interex and Metro.
- Fluctuations in the number of employees (Interex , Metro) illustrate the economic picture in the companies (Table 5).

¹⁹ Financial reports of companies Interex, Delhaize, Idea, Mercator, Metro

- Analysis of the percentages of the number of employees in analyzed trade companies in the total number of employees in trade of Serbia, shows tendency of increasing, and confirms the hypothesis about the positive impact of internationalization of trade on employment.

CONCLUSION

The trade has a key role in the creation of an integrated market economy in Serbia and has an important place in the economy of Serbia. The trade sector is facing major challenges, such as increased competition in the domestic market, the concentration and download, introduction of new technologies, new forms of retail, e-commerce and internationalization. In the last 20 years, the business world has significantly changed the perception of the trade, especially retail. Successful business operations leading trading companies, some of which are already operating in the Serbian market, have largely contributed to the computerization of trading companies and deleting old photos on trade as a traditional industry in which there is no application of information technology. These facts point to the process of internationalization which affected trade of Serbia. In addition to the effects in the form of business modernization, internationalization of trade has its effects on employment, which was the initial hypothesis of this study. The unemployment rate is one of the major economic problems facing the economy of our country. Statistical data illustrating that one in five employees working in the store support the assumption that trade is an important sector of the Serbian economy, which may be involved in solving the problem of unemployment. Definitely contributes to international retail chains. Their role and contribution to employment was the subject of a separate analysis of the second part. In doing so, we emphasize that the main limitation of this study that the sample was drawn from all five international retail chains (those with the largest market share), which is engaged in the sale of food product types. Recommendations for future research would be to be the subject of analysis and international retail chains fashion orientation that, in recent years, the market of Serbia as a new source of generating profit.

LITERATURE

- 1) *Anketa o radnojsnazi 2013*, Republickizavodzastatistiku, Beograd, 2013.
- 2) Barber, F., Strack, R. (2005) The Surprising Economics of a „People Business, *Harvard Business Review*, June 2005, pp. 81-90.
- 3) Burt, S.L., Sparks, L., (2002) Corporate branding, internationalisation and the retailer as a brand, *Corporate Reputation Review*, Vol. 5, No 2/3, pp. 194-204.
- 4) Ćuzović, S., Sokolov Mladenović, S. (2011) Strategies of trade internationalization on serbian market. *Proceedings of the International Scientific Conference Distributive trade as SEE and CEE development driver*: 290-301. Zagreb: Faculty of Economics
- 5) Ćuzović, S., Sokolov Mladenović, S. (2012) Internacionalizacija kao strategija rasta i razvoja trgovinskih kompanija, *Tematski zbornik Nauka i svetka ekonomska kriza*, Niš: Ekonomski fakultet, str. 345-357.
- 6) Ćuzović, Sokolov Mladenović (2012), Marketinškadimenzija terna nacionalnih trgovinskih kompanija s posebnim osvrtom na tržište Srbije, *Ekonomske teme*, br. 4, Niš, str. 571-597.
- 7) Dawson, J.A. (2000) Retailing at century and some challenges for management and research, *International Review of Retail, Distribution and Consumer Research*, Vol. 10, pp. 119-148.
- 8) DeloitteToucheTohmatsu, 2013 Global Powers of Retailing, New York 2013, www.deloitte.com/consumerbusiness (13.10.2013)
- 9) Financial reports of companies Interex, Delhaize, Idea, Mercator, Metro
- 10) Krafft, M., Mantrala, M.K. (2010) *Retailing in the 21st Century-Current and Future Trends*, New York: Springer.
- 11) Levy, M., Weitz, B.A. (2009) *Retailing Management*, New York: McGraw-Hill.
- 12) Mellahi, K., Jackson, T.P., Sparks, L. (2002) An exploratory study into failure of a successful organisations: the case of Marks and Spencer, *British Journal of Management*, Vol. 13, pp. 15-29.

-
- 13) Palmer, M. (2004) International retail restructuring and divestment: the experience of Tesco, *Journal of Marketing Management*, Vol. 20, pp.1075-1105.
 - 14) Palmer, M., Quinn, B., (2005) An exploratory framework for analysing international retail learning, *International Review of Retail, Distribution and Consumer Research*, Vol. 15, No. 1, pp. 27-52.
 - 15) Statistički godišnjak Republike Srbije (2013), *Republički zavod za statistiku*, Beograd.
 - 16) Sternquist, B., (2007) *International retailing*, New York: Fairchild Publications.
 - 17) www.gfk.com (20.10.2013)

HEALTH CARE SPENDING AND ECONOMIC GROWTH: SOME INSIGHTS FOR PORTUGAL

Tiago AGOSTINHO¹
Marta C.N. SIMÕES²

Abstract

The global financial and economic crisis and the subsequent public finances sustainability problems Portugal is experiencing resulted in a request for financial assistance from the EU, ECB and the IMF (known as Troika) in 2011. The associated economic and financial adjustment program demands large cuts in public spending and the health sector has not escaped these cuts. According to the OECD, for the first time in decades real health expenditure fell in Portugal: -5.2% in 2011. This decline in health expenditures can have a negative impact on economic growth in Portugal, if they constitute an important source of human capital accumulation, a main driver of growth. The main objective of this paper is to examine whether there is a causal relationship between health expenditures and economic growth in Portugal over the period 1970-2010. For this purpose we start by defining a trivariate VAR model with real GDP, real health expenditures and the old age dependency ratio. A preliminary analysis of the stationarity and cointegration properties of the series resulted in the estimation of a VECM in order to perform Granger causality analysis. The results point to the existence of a long-run relationship between the variables and two-way causality between health expenditures and GDP. Additionally, the impulse-response analysis shows a positive initial impact of health expenditures on output that becomes permanent after around 10 years, albeit with some fluctuations. A shock to GDP increases permanently health expenditures right from the around the third year after the shock. These results support the concern about the negative impact on Portugal's long-run macroeconomic performance of the recent decline in health expenditures, reversing a positive trend of almost four decades, with remarkable effects in the health status of the Portuguese population.

Key words: health expenditure, economic growth, causality, VECM, Portugal.

INTRODUCTION

In recent decades, the Portuguese health sector has been through considerable changes, the most important one was the creation of the National Health Service (NHS) in 1979, which have triggered major improvements in the sector and, consequently in the health status of the Portuguese population. Indeed, these improvements can be observed in the decline of the mortality rate, and especially the decline in the infant mortality rate, and the increase in life expectancy, among other indicators. Most of these investments in the health sector, which is essentially a public service in Portugal, were carried out by the different governments. The global financial and economic crisis and the subsequent public finances sustainability problems Portugal is experiencing resulted in a request for financial assistance from the EU, ECB and the IMF (known as Troika) in 2011. The associated economic and financial adjustment program demands large cuts in public spending and the health sector has not escaped these cuts. According to the OECD, for the first time in decades real health expenditure fell in Portugal: -5.2% in 2011 (Morgan and Astolfi (2013)). This decline in health expenditures can have a negative

¹Tiago Agostinho, Master in Economics, Faculty of Economics, University of Coimbra, Portugal.

²Marta Simões, PhD in Economics, Assistant Professor, Faculty of Economics, University of Coimbra, Portugal and Research Fellow, GEMF –Group for Monetary and Financial Studies, Faculty of Economics, University of Coimbra, Portugal.

impact on economic growth in Portugal, if they constitute an important source of human capital accumulation, a main driver of growth.

In this context it is important to assess the impact of health expenditures on output to assist policy-makers in designing policies regarding the health sector as a means to sustain long-run growth. To help in this task, the present study investigates the existence of a long run relationship and the nature of the causal relationship between health care spending and output in Portugal over the period 1970-2010 using Johansen's cointegration methodology, Granger causality analysis and impulse response functions based on the estimation of a trivariate VAR model with real GDP, real health expenditures and an indicator of the age structure of the Portuguese population.

The remaining of the paper is structured as follows. The next section reviews some of the existing studies on the impact of health spending on economic growth. Section 3 describes the data and methodology and presents the results. The last section contains some conclusions.

A Brief Overview of the Literature on Health Expenditures and Economic Growth

Health care spending can play a very important role in terms of economic growth to the extent that health expenditures provide the necessary services for the accumulation of human capital, a fundamental ingredient in the modern theory of economic growth. A healthier worker can work more efficiently and effectively, can think better, becoming more productive, and devote more time to productive activities. Indeed, empirical studies devoted to the analysis of the influence of health status indicators on economic growth point to the existence of a positive correlation (see e.g. Bloom et al. (2004)). In what is known as the augmented Solow model, Mankiw et al. (1992) introduce human capital as a factor of production of final goods, along with physical capital and labour, with its accumulation explained by the decisions of economic agents in terms of consumption and savings. In a neoclassical framework, the authors show that differences in human capital availability are key to explain the differences in income levels across countries, with higher human accumulation also leading to faster growth, at least in the short to medium-run. But in growth models known as endogenous, the main source of growth is not capital accumulation but technological change, and human capital is also considered fundamental for knowledge production. In the models of Romer (1990) and Jones (1995), Jones (2005), for instance, human capital is essential for the production of new ideas, while in the models of Nelson and Phelps (1966), Abramovitz (1986), Barro and Sala-i-Martin (1997) and Rogers (2003) human capital is a key determinant of the ability to absorb new technologies by economies more distant from the technological frontier. For these economies to be able to carry out imitation activities and thus improve from its technological backwardness, they need a workforce that can incorporate, adapt and use new technologies. Benhabib and Spiegel (1994) pioneer empirical study of the different mechanisms of transmission of human capital – both as a factor of production of final goods and as a crucial input in the creation of new ideas (inventions), but also for the imitation and absorption of existing technologies - concluded that the relative importance of these different channels depends mainly on the level of development of countries, with the role of human capital in the generation of technological change more important for advanced economies, as expected.

The empirical analysis of the relationship between health spending and economic growth has relied on the estimation of growth regressions in which the dependent variable is the growth rate of real GDP, total or per capita, and expenditure on health services appears as the main explanatory variable, along with a number of other independent variables, the so-called control variables, which have proved to be important in explaining output growth in previous empirical studies (see Sala-i-Martin (1997), Doppelhofer et al. (2004), Durlauf et al. (2005)). These studies explore information for a wide range of countries over different time periods. An example of a recent study that follows this approach is Beraldo et al. (2009) who analyze the simultaneous impact of expenditure on education and health on output growth and also differentiate between the impact of public and private expenditures. The

sample includes 19 OECD countries over the period 1971-1998. Both variables show a positive influence on the rate of growth of output, but stronger in the case of health expenditures. Another interesting result concerns the greater influence of public spending on health and education relative to private spending.

A methodological problem that can be pointed to the previous study is that it does not properly take into account the possibility of reverse causality, i.e. the fact that output growth could lead economies to spend more on health (and education). The approaches followed to incorporate this hypothesis include studies focusing on the situation of single countries, exploiting only time series information, and studies that apply the concerns of time series econometric analysis to groups of countries, using methodologies for cointegration and causality analysis specific for panel data. In this latter context, Erdil and Yetkiner (2009) focus on the study of the direction of causality between the growth of real GDP per capita and real expenditure on health per capita growth for a set of 75 countries between 1990 and 2000, split according to income levels. The estimation of a VAR model with two variables and panel data allows the authors to conclude for the existence of causality in both directions for 46 of the 75 countries analyzed. In the group of high income economies, composed of 24 countries, the influence that seems to prevail is the positive impact of health expenditures on output, which the authors attribute to the greater dependence of these countries on human capital given the more advanced technologies they use in production activities. In the case of middle and low-income countries the sense of causality that stands out is the inverse one from output to health spending, also with a positive sign. Wang (2011) focuses on the influence of (total) health expenditures on output growth in 31 OECD countries between 1986 and 2007. The panel cointegration tests carried out indicate the existence of a long-run relationship between total GDP and, alternatively, three measures of health expenditure: total expenditures, per capita expenditures, and individual health care expenditures. The author goes on to estimate the relationship between output and health expenditures applying FMOLS (fully modified ordinary least squares) that allows to take into account the possible endogeneity of health expenditures, concluding for the existence of bi-directionality between these and output. The application of a Granger causality test for panel data also leads to a positive influence from health spending growth to output growth, but negative from the second to the first. Finally, Wang (2011) tries to identify the existence of differences in the impact of health spending growth on output growth according to the distribution of the two variables using the method of quantile regressions. From this analysis the author concludes that in countries with low output growth rates the growth of health spending has a negative impact on output growth. In countries with higher output growth rates (over 5 %), the sign of the relationship changes to positive. On the other hand, considering the impact of output growth across the distribution of health expenditures growth, the impact is negative when health expenditures growth is either rather low or rather high. Hartwig (2008) also tests in the context of panel data for the existence of Granger causality between the growth of real GDP per capita and the growth of health spending per capita for 21 OECD countries between 1970 and 2005 by estimating a VAR model. The results support the existence of a negative influence of the growth of health spending on output growth, while output growth has a positive influence on health expenditures growth.

Hartwig (2012) applies a methodology similar to that in Hartwig (2008), but he estimates a growth regression to test the relationship between growth in education and health expenditures per capita, together and separately, and the growth of real GDP per capita in a sample of 18 OECD countries between 1970 and 2005. The only other determinant of growth considered is the rate of growth of investment in physical capital. The results regarding the influence of health and education expenditures growth on the growth rate of real GDP per capita depend on whether or not the influence of the investment rate is considered and the inclusion of Japan in the sample. In the first case, when the author considers the investment rate as an explanatory variable he does not find any influence for health and education expenditures on growth. However, the exclusion of Japan from the sample makes this influence negative.

The question of the direction of causality can also be addressed based on the individual situation of each country, i.e. by exploring the information of the relevant time series. Devlin and Hansen (2001)

provides an example of such an approach for 20 OECD countries, concluding that in six of the countries analyzed between 1960 and 1987 there is no confirmation, according to the Granger causality test, that real per capita health expenditures and real GDP per capita influence each other. In eight countries the causality occurs from health expenditures to output, in another eight countries causality occurs only in the opposite direction, and thus in only two countries, Denmark and Iceland, is there a simultaneous influence. Maitra and Mukhopadhyay (2012) analyze in turn a group of twelve developing countries in Asia and the Pacific between 1981 and 2011 (maximum), trying to identify causality relationships between public expenditure on education, public expenditure on health and output. Also in this case the results differ depending on the country in question. In nine countries public spending on education has a positive influence on output, while the positive influence of public spending on health occurs in only five countries. In one case public spending on education has a negative influence on output and in three countries the impact of public spending on health on output is also negative. An interesting result highlighted by the authors is that the positive impact of public spending on education and health on output is not immediate, i.e. it takes some time before they produce the desired effect on GDP, and the lags are generally higher in the case of education.

DATA, METHODOLOGY AND RESULTS

The data used in this study consists of annual observations spanning the period between 1970 and 2010. To analyze the causal relationship between health care spending and economic growth in Portugal we estimate a VAR model with three variables: the log of real total GDP (GDP at 2005 prices in thousands of millions of euros from the AMECO database) – l_real_GDP ; the log of real total health expenditures³ (l_HE), taken from the OECD Health Data 2012 and AMECO; and the old age dependency ratio ($OADR$ ⁴), taken from the World Bank Development Indicators database. This last variable captures the age structure of the Portuguese population, a potential determinant of the evolution of health care spending and also of output given its effects on the size and composition of the labour force. VAR models allow us to take into account inter-dependencies and dynamic relationships between variables by explaining the behavior of the endogenous variables by their own past values. Our basic VAR model can thus be generically represented as:

$$X_t = \alpha + \beta_1 X_{t-1} + \beta_2 X_{t-2} + \dots + \beta_p X_{t-p} + \varepsilon_t, \quad (1)$$

with vector X including the variables under analysis:

$$X = [l\_real\_GDP \quad l\_HE \quad OADR] \quad (2)$$

Table 2 contains some descriptive statistics of the series and Figure 1 the respective evolution over the period 1970-2010.

Table 1. Descriptive statistics

	Min.	Average	Max.	Standard deviation
l_real_GDP (log)	3.859	4.606	5.076	0.375
l_HE (log)	0.130	1.831	2.831	0.761
$OADR$ (%)	15.697	20.947	26.801	3.382

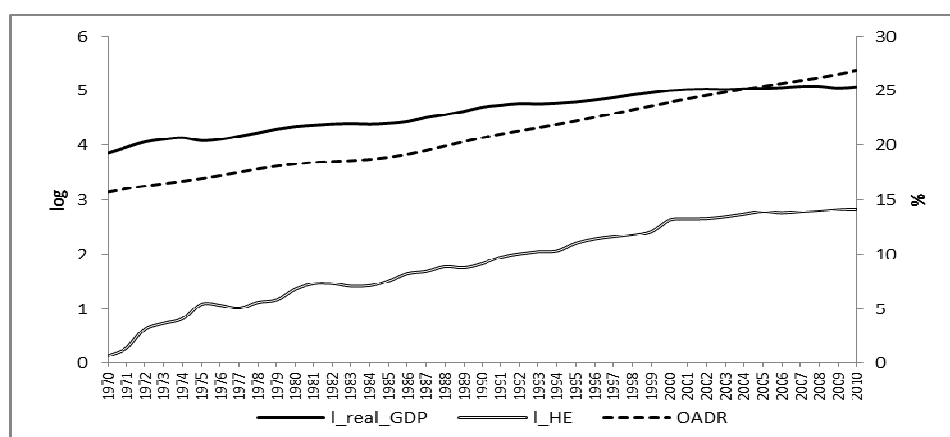
Source: Authors' calculations.

³ Total expenditure on health as a percentage of GDP was taken from the OECD Health Data. Using data on gross domestic product at current market prices and the price deflator of gross domestic product at market prices we obtained real total expenditure on health (2005 prices, in thousands of millions of euros).

⁴ The old-age-dependency ratio is the ratio of the number of elderly people at an age when they are generally economically inactive (i.e. aged 65 and over), compared to the number of people of working age (i.e. 15-64 years old).

http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Glossary:Old-age-dependency_ratio

Figure 1. GDP, health expenditure and age structure, Portugal 1970-2010



Notes: l_real_GDP is the natural logarithm of total real GDP at 2005 prices in thousands of millions of euros (left axis); l_HE is the log total of real expenditure on health GDP at 2005 prices in thousands of millions of euros (left axis); $OADR$ corresponds to the old age dependency ratio (right axis).

Source: OECD Health Data, AMECO and World Development Indicators.

As a preliminary step to investigate the link between health expenditures and growth in Portugal, we test for the order of integration of variables, a necessary condition to perform Granger causality analysis. We examine the unit root properties of the variables in Table 2 that presents the results of the augmented-Dickey-Fuller (ADF) unit root test (see Dickey and Fuller (1979)). This test considers as the null hypothesis (H_0) the presence of a unit root in the series against the alternative hypothesis (H_a) that the series is stationary. This can be expressed as, for any series y :

$$\Delta y_t = C + \beta T + \delta * y_{t-1} + \theta_1 \Delta y_{t-1} + \theta_2 \Delta y_{t-2} + \dots + u_t \quad (3)$$

where C is a constant and T a time trend, included according to the characteristics of the series. The test for a unit root is conducted on the coefficient of y_{t-1} in the regression. If the coefficient is significantly different from zero then the hypothesis that y contains a unit root is rejected. Rejection of the null hypothesis implies stationarity. If H_0 cannot be rejected for the series in levels we next apply the test to the first differences of the series (Δ) and so on until the series becomes stationary. Table 3 presents the results of the ADF test that reveal the presence of a unit root in the level variables. When applied to the first differences of the variables, the tests indicate that Δl_real_GDP and Δl_HE are stationary, and therefore it can be concluded that these series are integrated of order one, $I(1)$. As for the $OADR$, according to the ADF test its first difference is not stationary so we apply an alternative stationarity test known as KPSS (Kwiatkowski-Phillips-Schmidt-Shin).

Table 2. Results of the ADF Test

Variables	t-statistic	P value	Stationary?(5%)
l_real_GDP	0.581436	0.9995	No
Δl_real_GDP	-4.3514	0.0003562	Yes
l_HE	-3.48668	0.05455	No
Δl_HE	-5.14216	0.001337	Yes
$OADR$	-3.13535	0.09803	No
$\Delta OADR$	-1.32617	0.6196	No

Notes: Δ represents the series in first differences. All tests were performed with a maximum of 9 lags. The tests for the variables in levels include a constant and a trend. The tests for the variables in first differences were performed with and without a constant. Rejection of H_0 : presence of unit root, at a significance level of 5% when p-value < 0.05.

Source: Authors' calculations.

Table 3 contains the results of the KPSS stationarity test for the variable *OADR* given the differences concerning the ADF tests results relative to the series *I_real_GDP* and *I_HE*⁵. The KPSS test considers as the null hypothesis that the series is stationary against the alternative of non-stationarity. According to these results the *OADR* can be considered as integrated of order one, *I*(1), so we proceed our analysis based on this hypothesis.

Table 3. Results of the KPSS Test

Variables	t-statistic	Critical values			Stationary?
		10%	5%	1%	
<i>OADR</i>	0.232625	0.122	0.149	0.212	No
$\Delta OADR$	0.272919	0.352	0.473	0.719	Yes

Notes: Δ represents the series in first differences. All tests were performed with 4 lags. We reject H_0 :stationarity, when the t-statistic is higher than the critical value.

Source: Authors' calculations.

Since the series are integrated of order one, we next perform cointegration analysis that allows for the identification of long-run relationships between variables and to avoid the problem of spurious regressions. We say that the variables are cointegrated if they have the same order of integration (one, in our case), and if there is a linear combination of the variables that is integrated of order zero. To test the number of cointegration vectors in our model we follow the Johansen procedure (see Johansen and Juselius (1990); Johansen (1995)). If there is no cointegration vector, we can continue to estimate a VAR in first differences in order to perform causality analysis. If there are one or more vectors, we must estimate a Vector Error Correcting Mechanism (VECM) system. Before applying the Johansen's cointegration methodology we have to determine the appropriate number of lags to be used in the estimation our VAR model since this is crucial to eliminate autocorrelation. Table 4 reports the appropriate lag length selected in accordance with the Akaike (AIC), Schwartz (BIC) and Hannan-Quinn (HQC) information criteria. As reported in Table 5, according to the three criteria the appropriate lag length for the VAR model is three.

Table 4. Selection of the appropriate lag length for the VAR model

Lags	AIC	BIC	HQC
1	-15.7804	-15.2633	-15.5964
2	-17.5651	-16.6601	-17.2431
3	-21.1612*	-19.8687*	-20.7016*

Notes: The asterisks indicate the best (minimized) values of the respective information criteria. AIC=Akaike, BIC=Schwarz Bayesian, and HQC=Hannan-Quinn. The maximum number of lags is 3, selected according to the Schwert (1989) rule : $k = \text{int} \left[12 \left(\frac{T}{\ln T} \right)^{\frac{1}{4}} \right]$, where T is the number of observations in the sample.

Source: Authors' calculations.

Having determined the optimal number of lags to be included in the VAR model we can proceed to the cointegration analysis. The Johansen methodology considers a VAR(p) such as:

$$\Delta X_t = \mu_t + \Pi X_{t-1} + \sum_{i=1}^{p-1} \Gamma_i X_{t-i} + \varepsilon_t \quad (4)$$

where $\Pi = \sum_{i=1}^p A_i - I$ and $\Gamma_i = -\sum_{j=i+1}^p A_j$. The Johansen test estimates r , the rank of matrix Π that contains information about long-run relationships in X_t . To find out the number of cointegrating vectors (r) we use two types of log-likelihood ratio tests, the λ -trace test (the null hypothesis is that the number of cointegration vectors is equal to or less than r) and the λ -max test (the null hypothesis is

⁵ The results for these two variables with the KPSS test coincide with those of the ADF test.

that the number of cointegration vectors is r , against the alternative of exactly $r+1$ vectors). The results from the cointegration analysis are presented in Table 5. The results reject the no cointegration hypothesis that is they indicate that there is a stable long run relationship between output, health expenditures and the age structure of the population. Specifically, the results show that there is a unique cointegrating vector between l_real_GDP , l_HE , and $OADR$ since the null hypothesis of the λ -trace test, $r=0$, is rejected at the 5% significance level (p-value lower than 0.05). The same result can be observed with the λ -max test.

Table 5. Johansen's cointegration tests results

Null Hypothesis	Alternative Hypothesis	p-value
λ-trace		
$r=0$	$r>0$	0.0000***
$r\leq 1$	$r>1$	0.2924
$r\leq 2$	$r>2$	0.6517
λ-max		
$r=0$	$r=1$	0.000***
$r=1$	$r=2$	0.2363
$r=2$	$r=3$	0.6517

Notes: We reject the null hypothesis when the p-value < 0.05, indicated by ***.

Source: Authors' calculations.

Based on the previous results, Table 6 contains the estimated cointegration vector between l_real_GDP , l_HE , and $OADR$. The results confirm our expectations on the influence of health expenditures and the OADR on output with the estimated coefficients presenting the expected sign and also being statistically significant. An increase in health care spending as a positive effect on output, probably because it leads to higher human capital accumulation in the Portuguese economy. On the other hand, an increase in the old age dependency ratio has a negative impact on output since it leads to a reduction in the labour force available in the economy as most of the persons aged 65 years or more are already retired.

Table 6. Cointegration vector estimated coefficients

Variable	Coefficient	Standard error
l_real_GDP	1,000	0,0000
l_HE	-0.58809	0.021968***
$OADR$	0.018881	0.0046475***

Notes: *** indicates that the coefficients are significant at the 1% significance level.

Source: Authors' calculations.

Even though cointegration indicates presence of Granger causality, at least in one direction, it does not indicate the direction of causality between variables. The direction of Granger causality can only be detected through the vector error-correction model (VECM) derived from the long-run cointegrating vector. The VECM representation of the VAR model of order 3 (optimal number of lags) is given by equations (5)-(7), where EC is the error term of the estimated cointegration equation that corrects for short-run disequilibria:

$$\Delta l\_real\_GDP_t = \beta_0 + \beta_{11}\Delta l\_real\_GDP_{t-1} + \beta_{12}\Delta l\_real\_GDP_{t-2} + \beta_{21}\Delta l\_HE_{t-1} + \beta_{22}\Delta l\_HE_{t-2} + \beta_{31}\Delta OADR_{t-1} + \beta_{32}\Delta OADR_{t-2} + \delta_1 EC_{t-1} + \varepsilon_{1t} \quad (5)$$

$$\Delta l\_HE_t = \psi_0 + \psi_{11}\Delta l\_real\_GDP_{t-1} + \psi_{12}\Delta l\_real\_GDP_{t-2} + \psi_{21}\Delta l\_HE_{t-1} + \psi_{22}\Delta l\_HE_{t-2} + \psi_{31}\Delta OADR_{t-1} + \psi_{32}\Delta OADR_{t-2} + \delta_2 EC_{t-1} + \varepsilon_{2t} \quad (6)$$

$$\Delta OADR_t = \theta_0 + \theta_{11}\Delta I_{real\_GDP}_{t-1} + \theta_{12}\Delta I_{real\_GDP}_{t-2} + \theta_{21}\Delta I_{HE}_{t-1} + \theta_{22}\Delta I_{HE}_{t-2} + \theta_{31}\Delta OADR_{t-1} + \theta_{32}\Delta OADR_{t-2} + \delta_3 EC_{t-1} + \varepsilon_{3t} \quad (7)$$

Before proceeding to the analysis of causality based on the estimation of the VECM model described in equations (5)-(7) it is necessary to verify if the model is well specified, which means there is no autocorrelation or heteroscedasticity in the residuals and also the normality of the residuals. The results of these diagnostic tests are presented in Table 7. It can be seen through the Ljung-Box Q Test that there is no autocorrelation, given that the null hypothesis of absence of autocorrelation is not rejected at a level of significance of 5%. Also the ARCH process test indicates that the residual are homoscedastic. Finally, the Doornik-Hansen test indicates that the residuals might not follow a normal distribution since the p-value is quite low. However, since this last information is still within an acceptable range we consider that the model is correctly specified and we proceed to the causality analysis.

Table 7. Model specification tests results

	Autocorrelation	Heteroscedasticity	Normality of residuals
	Ljung-Box(1) Q Test	ARCH(1) Process	Doornik-Hansen Test
<i>H0</i>	No autocorrelation.	Homoscedastic Process.	Normality. of residuals
<i>Ha</i>	There is autocorrelation.	ARCH Process	Non-normality of residuals.
<i>p-value</i>	Equation (5) =0.538 Equation (6) =0.515 Equation (7) =0.0595	Equation (5) = 0.690 Equation (6) = 0.6945 Equation (7) = 0.1028	0.0108

Notes: number of lags=1.

Source: Authors' calculations.

The results of the estimation of the VECM model between output, health expenditures and the age structure of the population are displayed in Table 8. To investigate the direction of causality between the variables in our model in a VECM we have to look at the significance of the coefficients of the lagged changes of the independent variables in each equation and the significance of the lagged error-correction term. There is a “short-run” causal impact in the Granger causality sense if the lagged changes of the independent variables are statistically significant, whereas a “long-run” causal impact results from the significance of the lagged error-correction term. Based on the results presented in Table 9, the following causal relationships can be derived between health expenditures, the OADR and economic growth: bi-directional long-run causality is confirmed between all variables in the model based on the sign and statistical significance of the lagged error-correction term in the three equations that compose our VECM. The coefficient is statistically significant at the 1% significance level in all three equations and it is negative in the output equation and positive in the other two equations, as expected. As for short-run causality, there is no evidence of causality of this type from health care spending to output growth since the coefficients of the lagged changes of health expenditures in this equation are not statistically significant, and the same applies to short-run causality from output growth to health care spending based on the lack of statistical significance of the coefficients of the lagged output changes in the health care spending equation. On the other hand, the results support the existence of short run-causality from output and health expenditures to the age structure of the population since all the coefficients of the lagged independent variables in the OADR are statistically significant. Finally, there is also some evidence of short-run causality from the OADR to output and health expenditures since in each of these equations one of the lagged changes of OADR presents a statistically significant coefficient.

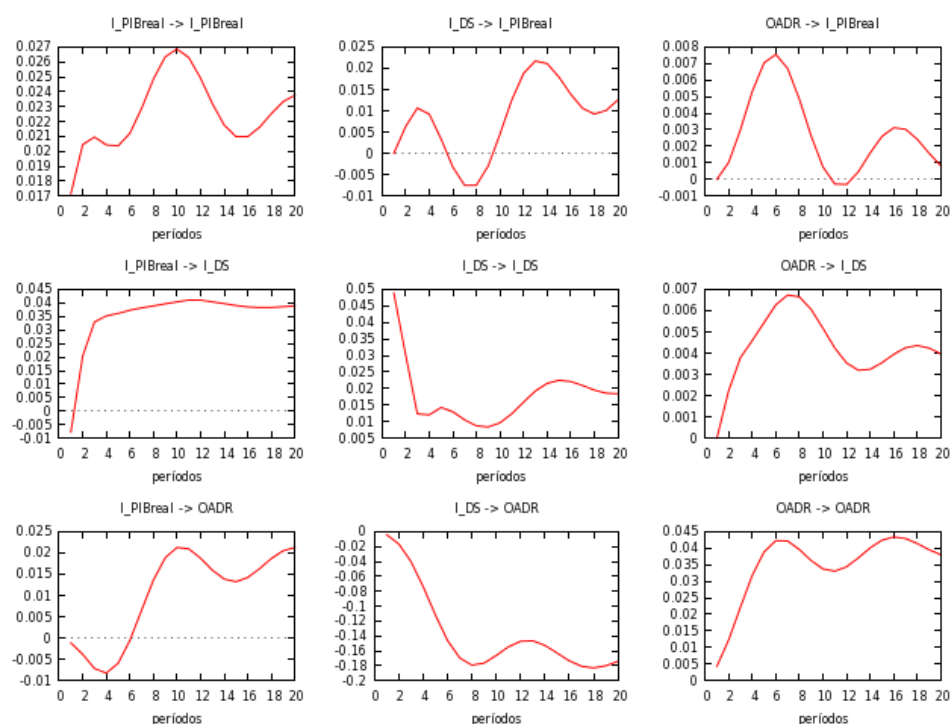
Table 8. Results of the estimation of the VECM model

	Dependent variable: $\Delta l\_real\_GDP_t$		Dependent variable: Δl_HE_t		Dependent variable: $\Delta OADR_t$	
	coefficient	t-statistic	coefficient	t-statistic	coefficient	t-statistic
constant	107.456	3.179***	-3.550	-3.64***	-1.0626	-8.956***
$\Delta l\_real\_GDP_{t-1}$	0.556074	3889***	0.5800	1.406	-0.36744	-7.320***
$\Delta l\_real\_GDP_{t-2}$	0.116269	0.6487	-0.19176	-0.3709	-0.1261	-2.005*
Δl_HE_{t-1}	-0.01642	-0.3301	0.21219	1.479	0.063986	3.664***
Δl_HE_{t-2}	-0.00345	-0.08485	-0.068877	-0.5876	0.053612	3.759***
$\Delta OADR_{t-1}$	0.243419	2.213**	0.502817	1.585	184.970	47.91***
$\Delta OADR_{t-2}$	-0.11996	-0.9883	-0.80609	-2.302**	-1.0643	-24.98***
ECt_1	-0.28091	-3.203***	0.93759	3706***	0.28876	9.381***
R ²	0.6057		0.4628		0.9938	
DW (Durbin-Watson)	2.162		1.737		1.373	

Notes: ***, ** and * denote rejection of H_0 at significance level of 1%, 5% and 10%, respectively.

Source: Authors' calculations.

Figure 2. Impulse-response analysis results



Notes: $Y \rightarrow X$: impact/shock in variable $Y \rightarrow$ response of variable X . The legend of the different graphics is in Portuguese. The corresponding translation into English is: *períodos=periods*; $l\_PIBreal=l\_real\_GDP$; $l\_DS=l\_HE$.

Source: Authors' calculations

Finally, we performed impulse response functions analysis that shows how a one standard deviation shock in one of the variables of the model affects the contemporaneous and future values of all endogenous variables in that same model. The impulse response analysis is thus an alternative way of obtaining information regarding the relationships among the variables. The impulse response of output, health expenditures, and the OADR to a one-standard deviation shock in each of the other variables is presented in Figure 2.

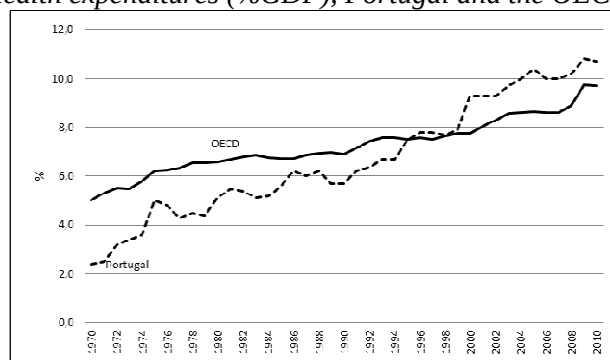
From the analysis of Figure 2 and focusing on the relationship between health care spending and output, we can see that a one standard-deviation shock in the growth of real GDP has an immediate negative impact on health expenditures, which rapidly becomes positive and reaches a stable positive quite higher value from around the third period onwards. On the opposite direction, a shock to health expenditures has no immediate impact on real GDP but then grows to a positive value until the fourth period. It then decreases and reaches negative values between the sixth and the eighth period, followed by another (higher) increase until period 14. Afterwards it decreases again but the decline is less sharp than before and the impact remains positive 20 periods after the shock. The response of output to a shock in health expenditures thus presents high volatility, although still positive towards the end of the period under analysis, and higher than in the initial periods and, to be more precise, it stays positive from period 10 onwards. The impulse response analysis thus also confirms the bidirectional influence between health expenditures and real GDP.

As for the impact of a shock to output and to health expenditures, respectively, on the age structure of the population it is increasingly negative until the fourth period in the first case, but then it steadily increases and remains positive from period 10 onwards, while in the second case it has an immediate negative impact that becomes increasingly negative until period 8, when it more or less stabilizes. Finally, a shock to the OADR has a volatile impact on real GDP increasing strongly until period 5 followed by a strong decrease until period 13, then another less strong increase occurs until period 15 followed by another decrease until period 20, the last period of the analysis. As for the response of health expenditures, it increases strongly until period 8 followed by a less strong decrease until period 13, and then it more or less stabilizes around a positive value.

In summary, concerning the relationship between health care spending and economic growth, the main focus of our analysis, from the Granger causality analysis we concluded that there is a bidirectional relationship, in line with the results of Erdil and Yektiner (2009) and Devlin and Hansen (2001). The impulse-response functions analysis indicated that the response of output to an increase in health expenditures is quite volatile, especially during the first 10 periods but it remains positive from them onwards and with less oscillation. In the opposite direction, the reaction of health expenditures to a shock to output is quite strong and stable immediately around three periods after the shock. The results concerning the long-run causal effect of health care spending on output growth thus support our concerns with the current reduction in health expenditures in Portugal that can have long lasting negative effects on its long-run macroeconomic performance due to its relationship with human capital accumulation, a major driver of growth in modern economies.

In the past, the efforts carried out in Portugal in the health sector, that translated into a steady increase in the ratio of total health expenditure to GDP and even exceeding in recent years the OECD average (see figure 3), produced impressive improvements in the health status of the Portuguese population measured for example in terms of the infant mortality rate and life expectancy trends (see figures 4 and 5).

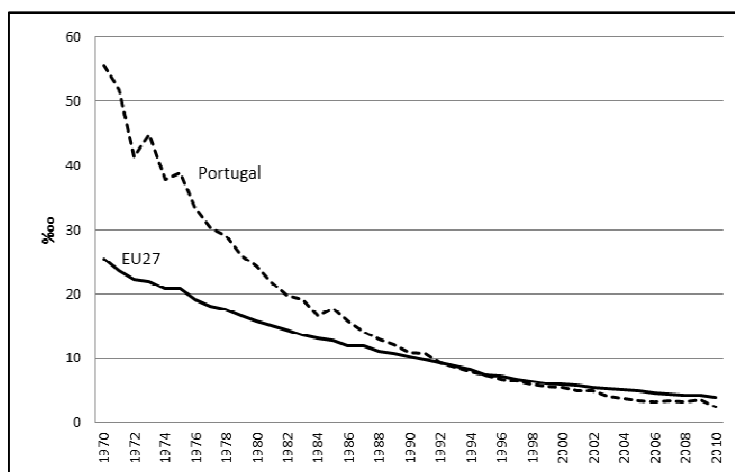
Figure 3. Health expenditures (%GDP), Portugal and the OECD 1970-2010



Source: OECD Health Data.

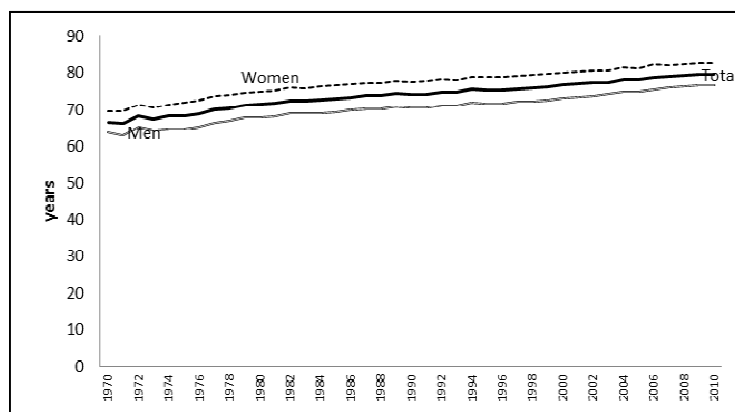
From the inspection of figures 4 and 5, it becomes clear that Portugal went a long way in terms of the health status of its population over the period 1970-2010, and especially since the creation of the National Health Service in 1979 until the beginning of the new millennium. The infant mortality rate decreased from a value around 55 deaths per thousand born babies in 1970 to less than 5 in 2010 and since the early 1990s is in line with the EU27 average, while life expectancy at birth increased from around 65 years in 1970 to almost 80 years in 2010. The recent reduction in health expenditures can thus jeopardize these accomplishments and hamper faster growth in the future.

Figure 4. Infant mortality rate (‰), Portugal and the EU27 1970-2010



Source: PORDATA.

Figure 5. Life expectancy at birth, Portugal 1970-2010



Source: PORDATA.

CONCLUSIONS

The aim of this paper was to examine the relationship between health care spending and output in the Portuguese economy. For this purpose we estimated a trivariate VAR model with real GDP, real health expenditure and the old age dependency ratio over the period 1970-2010. The results from the unit root tests carried out show that the series are non-stationary, more precisely they are integrated of order one, $I(1)$. Applying the Johansen cointegration methodology revealed that the series are cointegrated that is there is a long run relationship between them with the estimated cointegration vector pointing to a positive impact of an increase in health expenditures on output. Additionally, the results from the Granger causality analysis based on the estimation of our VECM model show that there is bi-directional causality from health expenditures to real GDP, and the impulse-response

analysis shows a positive initial impact of health expenditures on output that becomes permanent after around 10 years, albeit with some fluctuations. A shock to GDP increases permanently health expenditures right from the around the third year after the shock. The results support the existence of a long run impact of health expenditures on output as predicted by growth theory, possibly because they are a source of human capital, a major driver of growth in modern knowledge based economies. Policies directed to the health sector in Portugal should thus take into account this potential long-run impact, preventing in this way that the recent contraction in health expenditures becomes an obstacle to a good macroeconomic performance in the long-run, reversing a positive trend of almost four decades, with remarkable effects in the health status of the Portuguese population.

Future research should focus on a more precise identification of the human capital transmission channel from increased health expenditures to output growth in order to be able to derive more precise and accurate policy implications, which also involves the estimation of multivariate VAR models with a higher number of variables that can help clarify the nature of the relationship.

LITERATURE

- 1) Abramovitz, M. (1986.) Catching Up, Forging Ahead and Falling Behind. *Journal of Economic History*, 46, 385-406.
- 2) Barro, R. J. & Sala-i-Martin, X. (1997.) Technological diffusion, convergence, and growth. *Journal of Economic Growth*, 2, 1-26.
- 3) Benhabib, J. & Spiegel, M. (1994.) The role of human capital in economic development: Evidence from aggregate cross-country data. *Journal of Monetary Economics*, 34, 143-173.
- 4) Beraldo, S., Montolio, D. & Turati, G. (2009.) Healthy, educated and wealthy: A primer on the impact of public and private welfare expenditures on economic growth. *Journal of Socio-Economics*, 38, 946-956.
- 5) Bloom, D. E., Canning, D. & Sevilla, J. (2004.) The Effect of Health on Economic Growth: A Production Function Approach. *World Development*, 32, 1-13.
- 6) Devlin, N. & Hansen, P. (2001.) Health care spending and economic output: Granger causality. *Applied Economics Letters*, 8, 561-564.
- 7) Dickey, D. A. & Fuller, W. A. (1979.) Distribution of the Estimators for Autoregressive Time Series with a Unit Root. *Journal of the American Statistical Association*, 74, 13-33.
- 8) Doppelhofer, G., Miller, R. I. & Sala-I-Martin, X. (2004.) Determinants of Long-Term Growth: A Bayesian Averaging of Classical Estimates (BACE) Approach. *American Economic Review*, 94, 813-835.
- 9) Durlauf, S., Johnson, P. A. & Temple, J. (2005.) Growth Econometrics. In: AGHION, P. & DURLAUF, S. (eds.) *Handbook of Economic Growth*. Amsterdam: North-Holland.
- 10) Erdil, E. & Yetkiner, I. H. (2009.) The Granger-causality between health care expenditure and output: a panel data approach. *Applied Economics*, 41, 511-518.
- 11) Hartwig, J. (2008.) Has health capital formation cured 'Baumol's Disease'? – Panel Granger causality evidence for OECD countries. *KOF Swiss Economic Institute, ETH Zurich, KOF Working papers No.*, 08-206.
- 12) Hartwig, J. (2012.) Testing the growth effects of structural change. *Structural Change and Economic Dynamics*, 23, 11-24.
- 13) Johansen, S. (1995.) *Likelihood Based Inference on Cointegration in the Vector Autoregressive Model*, Oxford, Oxford University Press.
- 14) Johansen, S. & Juselius, K. (1990.) Maximum Likelihood Estimation and Inference on Cointegration – with Applications to the Demand for Money. *Oxford Bulletin of Economics and Statistics*, 4, 222-234.
- 15) Jones, C. I. (1995.) R&D-based models of economic growth. *Journal of Political Economy*, 103, 759-784.
- 16) Jones, C. I. (2005.) Growth and Ideas. In: AGHION, P. & DURLAUF, S. (eds.) *Handbook of Economic Growth*. Amsterdam: North-Holland.

- 17) Maitra, B. & Mukhopadhyay, C. K. (2012.) Public Spending on Education, Health Care and Economic Growth in Selected Countries Of Asia And The Pacific. *Asia-Pacific Development Journal*, 19, 19-48.
- 18) Mankiw, N. G., Romer, D. & Weil, D. (1992.) A contribution to the empirics of economic growth. *Quarterly Journal of Economics*, 107, 407-437.
- 19) Morgan, D. & Astolfi, R. (2013.) Health Spending Growth at Zero: Which Countries, Which Sectors Are Most Affected? *OECD Publishing, OECD Health Working Papers No. , 60*.
- 20) Nelson, R. R. & Phelps, E. S. (1966.) Investment in humans, technological diffusion and economic growth. *American Economic Review*, 56, 69-75.
- 21) Rogers, M. (2003.) *Knowledge, technological catch-up and economic growth*, Cheltenham, UK, Edgar Elgar.
- 22) Romer, P. (1990.) Human capital and growth: theory and evidence. *Carnegie-Rochester Conference Series on Public Policy*, 32, 251-286.
- 23) Sala-I-Martin, X. (1997.) I just run two million regressions. *American Economic Review*, 87, 178-183.
- 24) Schwert, G. W. (1989.) Tests for unit roots: a Monte Carlo investigation. *Journal of Business and Economic Statistics*, 7, 147-59.
- 25) Wang, K.-M. (2011.) Health care expenditure and economic growth: Quantile panel-type analysis. *Economic Modelling*, 28, 1536–1549.

THE TRANSATLANTIC TRADE AND INVESTMENT PARTNERSHIP – A NEW MILESTONE IN THE EU – US RELATIONS

Jovan ZAFIROSKI¹

Abstract

The launch of the negotiations for creation of the Transatlantic Trade and Investment Partnership opens a new era in EU-US relations. Deepening the economic ties between the countries sharing same democratic values in terms of protection of the human rights, political and economic rights will have outstanding effects for the world trade and will particularly affect the countries from the Western Balkans as candidate countries for EU accession. The establishment of the TTIP is expected to boost the trade across the Atlantic and to promote growth and jobs creation. Also, the agreement will push for more trade liberalization on the world level and will have certain impact on the ongoing trade negotiations in the framework of the WTO and the Doha round, which as well known have no substantial success. An examination of the process of negotiation of the TTIP, the legal aspects, estimated effects, possible obstacles and main challenges is necessary from the point of view of the Western Balkan countries whose trade, investments and the entire economic system is highly dependent on the EU as a major trading partner.

Key words: EU-US Transatlantic Trade and Investment Partnership, World trade Organization, candidate countries

INTRODUCTION

After the positive assessment and recommendation made by the US-EU High Level Group on Jobs and Growth, on the 13 February 2013, the intention for negotiations for creating on the Transatlantic Trade and Investment Partnership (hereinafter TTIP) was declared². The second round of negotiation was successfully concluded on 15 November 2013. The idea and the main goals for this profound agreement are the economic stimulus and boost of the economic growth and job creation by expanding the trade and investment between the parties. The negotiations will also include questions such as intellectual property protection, data protection, competition and environmental and social safeguards.

The removal of the remaining tariffs and barriers to investment, harmonization of rules and technical standards and liberalization of the public procurement markets is going to create a barrier free marketplace for trade and investment which, as expected, will make positive environment for better economic prospects on both sides. In the post crisis period where the developed countries are under constant reforms while gloomy forecasts for the economic future are not helping the efforts for economic recovery any possible solution promising growth and job creation is welcomed.

Even in the phase of the negotiation, the TTIP provokes great interest in the public. The creation of the free trade for goods and investments of the two largest economies in the world will have outstanding effects for the global economy and will change the landscape of the current trade liberalization process around the globe. As potential members of the EU, the countries from the Western Balkans are highly affected by this process. The accession to the EU has as its primary goal the integration to the European market which as such is the most important element of the EU. The European market has

¹ Jovan Zafiroski, Phd, assistant professor (docent), Faculty of law “Iustinianus Primus”, University st. Cyril and Methodius, Skopje, Macedonia

² US-EU High Level Working Group on Jobs and Growth, Final Report High Level Working Group on Jobs and Growth, 11 February 2013

evolved from a free trade and customs union, through common and internal market to the ultimate level of economic integration i.e. the economic and monetary union. The first task of the candidate countries is to prepare to join the market and to create ability to compete and to resist on the market pressure of the biggest market in the world today. The principal document concluded with the countries from the Western Balkans regulating the relations between the EU and its Member States at on one side and the candidate country on the other is the Stabilization and Association Agreement signed with all the countries from the Western Balkans. By looking into the provisions of these agreements one may conclude that their main objective is to create conditions and a framework providing a smooth accession of the candidate country to the EU market.

The possible creation of the TTIP will open new questions in the process of accession of the Western Balkan countries to the EU. Here, as in other areas, we are facing the problem of “moving target” where the objectives for harmonization or the targets for the candidate countries are constantly evolving and changing. If established, the TTIP will change the current trade pattern of the EU while the negotiation of the agreement might provoke certain changes in the legal framework guiding the technical and other different standards for certain products and services.

Having into consideration the fact that the main trade partner for all the candidate countries in the Western Balkan is the EU, which after the accession of Croatia in the EU is even more accentuated, the creation of the TTIP is important moment for the whole region. The trade with the EU and other candidate countries is more than 80% of the traded goods and services. Second largest partner is the Russian Federation for the reason of trade with energy, gas and petrol³. While there are no economic assessments about the economic implications of the creation of the TTIP for the countries of the Western Balkans this text will attempt to present the main characteristics, possible effects and the main challenges of the creation of the TTIP. Therefore, the possibility for the creation of the TTIP is to be considered from a legal point of view (2) while both the positive and the negative effects of the TTIP are examined (3) by highlighting the possible challenges and obstacles in the process of negotiation of the TTIP (4).

LEGAL ASPECTS

When analyzing the idea for the establishment of the TTIP the very first question arising is the possibility of its creation when looking into the rules of the World Trade Organization (hereinafter WTO), where both the EU and the US are important members. The guiding principle or the main obligation deriving from the WTO is the *most-favored-nation treatment* requiring that the country is committed to give each of its trading partners the best treatment it gives to any of them. However, the GATT allows that a country might give preferential treatment or market access to one or more trading partners forming a free trade area provided that the agreement covers substantially all trade. Thus, under article XXIV of GATT and article V of GAAS with the aim of increasing the freedom of trade the formation of customs union and free trade areas are permitted while two requirements should be fulfilled. Firstly, the agreement should provide, even if a transitional period might be granted, that the trade barriers would be eliminated for substantially all trade. No exception should be made. This provision, as analyzed later, might have substantial impact on the TTIP and for the entire process of its negotiation. Secondly, the overall burden, in terms of tariffs and non-tariff barriers, for non-participating members should not be greater than before the creation of the trade zone with the agreement in question⁴.

The provisions of the named articles of the GATT and GAAS were used for the establishment of the EU free trade area and the customs union. Also, the European countries unwilling or unable to join the

³ See, European Commission, Directorate-General for Trade, Trade in goods with Western Balkans, 2013, pg. 9, available at: http://trade.ec.europa.eu/doclib/docs/2006/september/tradoc_113477.pdf

⁴ See more, Understanding on the Interpretation of Article XXIV of the General Agreement of Tariffs and trade 1994, p.33, available at: http://www.wto.org/english/docs_e/legal_e/10-24.pdf

European Economic Community have created the European Free Trade Area. Moreover, the Stabilization and Association Agreements concluded with the countries from the Western Balkans include provisions that the agreement is fully compatible with the rules of the WTO and the article XXIV of GAAT and article 5 of GAAS in particular⁵. Also, the strong initiative and the positive effects from the European integration have incited the later creation of the North American Free Trade Agreement and other different forms of regional integration. At this time, almost all the members of the WTO are taking part in several bilateral and regional free trade agreements⁶. The sole example of a country without a free trade agreement is Mongolia.

Hence, as far as the WTO legal framework is concerned, the regional or co-regional trade liberalization agreements are permitted under certain conditions. The main intention of the agreement should be a free trade promotion without making obstacles and competitive disadvantages for other members⁷.

ESTIMATED EFFECTS

The effects deriving from the future creation of the free trade and investment area should be located as in the effects on the economies in the EU and the US as well as effects on the future of the global free trade and on the process of liberalization.

As far as the first question is concerned the effects on the US and the EU economies depend on their size and mutual trade and connections. Both the US and the EU are giants on the global stage. Their economic weight is immense. Together the EU and the US are accounting 40% of the global GDP (in terms of purchasing power), 40% of the industrial global value, 60% of total foreign direct investments whereas they represent almost 12% of the world's total population. The US and the EU account 33.4% of global imports of goods, 28.2 of global exports⁸.

The EU and US are each other's principal trading and investment partners. In 2011, 18% of the US exports went to EU while 14% of US imports came from the EU. In comparison to other trading partners it should be noted that EU imported three times many American products as did China and fifteen times more than the India, while the EU sold the US nearly two times the amount of goods it sold in China and nearly seven times if sold in India⁹. In 2012, 63% of US foreign direct investments went to the EU while 44% of foreign direct investments inflows to the US originated from the EU¹⁰.

Even if the transatlantic trade is strongly liberalized there still exist tariffs amounting on average 3.5% on industrial goods and 13% (EU) and 5% (US) on agricultural goods. The large volume of trade means high possibilities for growth on the both sides of the Atlantic. The potential benefits from the

⁵See for example the article 6 of the Stabilization and Association Agreement between the Republic of Macedonia of the one part, and the European Communities and their Member States of the other part, Brussels 26 March 2001, 6726/01 and article 9 of the Stabilization and Association Agreement between the Republic of Serbia of the one part, and the European Communities and their Member States of the other part, 2007

⁶Other famous examples of regional integration are the ASEAN - Association of Southeast Asian Nations, the COMESA - Common Market of Eastern and Southern Africa, the MERCOSUR - Common Market of the South the CARICOM - Common Market of the Caribbean etc.

⁷A detailed survey for the relations between the WTO and PTA is offered in: World Trade Organization, World Trade Report 2011 – The WTO and Preferential Trade Agreements: From Co-existence to Coherence, Geneva 2011

⁸ See, European Commission DG Trade, US Trade statistics, available at: http://trade.ec.europa.eu/doclib/docs/2006/september/tradoc_111704.pdf

⁹ A New Era for Transatlantic Trade Leadership, A Report from the Transatlantic Task Force on Trade and Investment, GMF, February 2012, pg. 16

¹⁰ OECD, The Transatlantic Trade and Investment Partnership: Why does it matter, Better Policies for Better Lives, 2013

new EU-US free trade area are in both import and export of goods. On the long run the EU exports are expected to increase by between 7-18% while US Exports to EU by between 8-17%. The trade intensification among parties will create additional jobs estimated between 200.000 - 520.000 for the EU and between 190.000 - 400.000 in the US. Overall, a successful TTIP will increase the EU's and US's GDP from 0.5 to 1%¹¹ which in times of desperate need for economic recovery and growth is more than welcomed.

Furthermore, the future partnership is of a great importance for the global trade. The significance of the TTIP goes beyond the interest of the parties. The promotion on deeper economic relations between the EU and the US will have effects on the relations of the parties with other countries and in their proper economic cooperation. The new agreement will have outstanding influence on future multilateral initiatives and on the future developments on the trade liberalization in the framework of the WTO which, as it is well known, for the last ten years has hopelessly stalled in the negotiation of the Doha round¹². So, one possibility is that this agreement will impede the process in the framework of the WTO while creating the possibilities for protective responses¹³. Also, this partnership may provoke similar initiatives for arrangements for free trade between parties not included in the EU – US agreement which at ultimate stage is positive and desirable for the world's trade for the reason that it promotes free trade. Possibly, the TTIP will be a signal of clear determination on the both sides of the Atlantic for promotion on deeper economic ties and will push the negotiating parties in the framework of the WTO to set aside their narrow national interests and to go for further in promotion of the free trade.

POSSIBLE OBSTACLES AND MAJOR CHALLENGES

The TTIP is negotiated between parties with profound economic cooperation and interdependence, well known to each other, sharing a similar model of governance, market organization, protecting same democratic values. However, even if there are more positive elements and characteristics bringing closer the both sides, the process of negotiation might be difficult and uncertain. There are possible reasons for postponing and possible failure of the conclusion of the future partnership agreement. Firstly, the possible obstacles in the process of the negotiation and conclusion of the TTIP might be found in the political relations within the negotiation parties, the EU and the US. Thus, on one hand, on the side of the UE the negotiations process is guided by the EU Commission Directorate General for Trade, which might be difficult for the reason that the Commission should take into consideration the various interests of different Member States, notably their interests in particular sectors (agriculture, automotive industry...etc.). On other hand, the administration in Washington might not be able to negotiate the final text of the TTIP for the reason that the Congress might be willing to reevaluate the achieved agreement which will have to be additionally renegotiated with the EU which complicates the process and makes it uncertain and long-lasting. Nevertheless, as far as the US is concerned the TTIP should be supported by both the Republicans which are traditionally keen on support of the free trade and the Democrats having the administration that has agreed the launch of the TTIP and guides its negotiation¹⁴. Also, the partnership is to be concluded with the EU partners having very high standards in terms of quality protection, health protection, workers' rights etc.

¹¹See, Joseph Francois (project leader), Reducing Transatlantic Barriers to Trade and Investment, An Economic Assessment Final Project Report, March 2013, Centre for Economic Policy Research, London, available at: http://trade.ec.europa.eu/doclib/docs/2013/march/tradoc_150737.pdf

¹² The Transatlantic Trade and Investment Partnership: Why does it matter, Better Policies for Better Lives, 2013, p.3

¹³ Stormy-Annika and Claudia Schmucker, Trade Agreement with Side-Effects?, European Union and United States to Negotiate Transatlantic Trade and Investment Partnership, SWP, June 2013, pp. 4-6

¹⁴See, The Economist, Free Trade Across the Atlantic, Come on, TTIP, 16 February 2013, available at: <http://www.economist.com/news/leaders/21571890-good-idea-state-union-address-business-should-rush-support-come-ttip>

something that is welcomed by the Democrats as traditionally supportive to this kind of policies. It seems that the TTIP will gain political consensus in the US.

Secondly, there might be difficulties when negotiating trade liberalization for certain sectors. From the EU side the main obstacle will be the sector of agriculture which is well protected by the EU while there is strong resistance for liberalization of products of GMO. The problem with certain sectors might put in question the entire agreement. As explained previously, by virtue of the article XXIV of GAAT the elimination of the duties and other restrictive regulations should extend to all trade. No particular sector should be excluded. Exclusion of one sector from the agreement will breach the rules of the WTO.

Thirdly, very different approaches in the model of regulation of different standards (technical, safety, hygiene and health standards, etc.) between negotiating parties might pose problems in negotiation for removal of the non tariff barriers. Even if agreed, the process of harmonization will be time demanding and will postpone the positive effects of the agreement. However, the evolution of the EU market liberalization may give an excellent example as far as the non tariff barriers are concerned. Faced with very different models and regulation on its grounds which impeded the agreed freedom of movement of goods as one of the four Community freedoms which alongside the freedom of movement of services, workers and capital was one of the main pillars of the European market integration process, the European Court of Justice set one core principle called principle of “mutual recognition”¹⁵ which might be the best possible solution for the EU-US agreement. Namely, this principle states that any *product lawfully marketed in one Member State and not subject to Union harmonization should be allowed to be marketed in any other Member State, even when the product does not fully comply with the technical rules of the Member State of destination*. This means that the removal of the non-tariff is possible without substantial harmonization of the regulation. However, this solution will open debate about certain products and services treated differently in the EU and the US, as was the case with previously mentioned GMOs.

Even if there are various possible obstacles that might obstruct the conclusion of the agreement where there is a strong will the solutions are always present. The parties should be unified by the common interest and the things that might be used for reaching the agreement. Therefore, looking into the current trade arrangements and what might be used in the process of negotiation and for the conclusion of the TTIP two possible options could be suggested. Firstly, one possible solution for bridging the gaps between the two parties, converging their interests, is the use of the achievements in the negotiation of the Trans-Pacific Partnership as a blueprint for TTIP. It is a modern trade agreement with similar goals and objectives as the TTIP¹⁶. The TPP is open partnership to other countries willing to join. Secondly, the both sides the US and the EU have signed a similar trade agreement with South Korea. KORUS¹⁷ free trade agreement and KOREU¹⁸ free trade agreement as newly signed and maybe most comprehensive trade agreement might be a substantial base for the future TTIP. What the EU and the US have agreed by conclusion of these agreements makes clear what is acceptable for the negotiating parties and with certain changes it will be accepted and agreed by the EU and the US in the new TTIP.

¹⁵ Case 120/78 Rewe-Zentral AG v. Bundesmonopolverwaltung für Branntwein,

¹⁶ Trans-Pacific countries includes the following countries – Australia, Brunei Darussalam, Chile, Malaysia, New Zealand, Peru, Singapore, Vietnam and the United States. Its main goals are to enhance trade and investment among the partners, to promote innovation, economic growth and jobs creation. See more, Office of the United States Trade Representative, Trans-Pacific Partnership, <http://www.ustr.gov/tpp>

¹⁷ See Free Trade Agreement Between the United States of America and the Republic of Korea, Final text, available at <http://www.ustr.gov/trade-agreements/free-trade-agreements/korus-fta/final-text>

¹⁸ See, Free trade Agreement between the European Union and its Member States, of the one part, and the Republic of Korea, of the other part, Official Journal of the European Union, L 127, 14 May 2011, available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:127:FULL:EN:PDF>

CONCLUSION

The economic integration of the two biggest economies in the world is a significant event for the world's trade. Both the EU and the US are economic giants sharing same democratic values in terms of human, political and economic rights protection, having similar model of democratic governance and free market orientation.

Even if the trade across the Atlantic is well developed, there are strong economic ties between the two sides, a slight reduction of the costs deriving from the tariffs and non tariff barriers will have considerable economics effects. The creation of the TTIP is expected to boost the trade between the two sides which will improve the economic situation and will create more jobs. Possible negative effects from the TTIP might be found in its influence on the world trade and the responses that it might provoke from the third countries who will consider the TTIP as an obstacle for the free trade and as a threat for their economic interests. This is expected as was in the case with all the previous regional trade agreements when the third parties were protecting themselves by creation of another free trade area or by taking measures towards the newly created trade area. However, another possibility is that the creation of the TTIP will push the negotiation in the framework of the WTO and will create positive environment for more trade liberalization on the world level.

The negotiations are conducted among parties well known to each other, with strong economic and political ties, committed for deepening the cooperation between them. However, the difficulties in the negotiation process may possibly occur. Firstly, the European Commission as a representative of the EU in the negotiation process should balance between the EU interests and the particular interests of the Member States. Also, the agreed TTIP should be supported by the US Congress which brings uncertainties. Secondly, problems may arise when negotiating certain sectors such as agriculture where the parties have completely opposite approaches. Thirdly, the differences in the regulations and different standards (technical, health...etc) might prologue the implementation of the TTIP and postpone the positive effects of the partnership.

The creation on the TTIP is of global importance, notably for the countries willing to join the EU as the countries from the Western Balkans. The EU-US agreement will bring some possible changes in the EU market regulation which means a new target for the candidate countries and new tasks in the process for preparation for accession to the EU and its market in particular.

LITERATURE

- 1) A New Era for Transatlantic Trade Leadership, A Report from the Transatlantic Task Force on Trade and Investment, GMF, February 2012, pg. 16
- 2) European Commission DG Trade, US Trade statistics, available at: http://trade.ec.europa.eu/doclib/docs/2006/september/tradoc_111704.pdf
- 3) European Commission, Directorate-General for Trade, Trade in goods with Western Balkans, 2013, pg. 9, available at: http://trade.ec.europa.eu/doclib/docs/2006/september/tradoc_113477.pdf
- 4) Free trade Agreement between the European Union and its Member States, of the one part, and the Republic of Korea, of the other part, Official Journal of the European Union, L 127, 14 May 2011, available at:
- 5) Free Trade Agreement Between the United States of America and the Republic of Korea, Final text, available at <http://www.ustr.gov/trade-agreements/free-trade-agreements/korus-fta/final-text>
- 6) <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:127:FULL:EN:PDF>
- 7) Joseph Francois (project leader), Reducing Transatlantic Barriers to Trade and Investment, An Economic Assessment Final Project Report, March 2013, Centre for Economic Policy Research, London, available at: http://trade.ec.europa.eu/doclib/docs/2013/march/tradoc_150737.pdf
- 8) OECD, The Transatlantic Trade and Investment Partnership: Why does it matter, Better Policies for Better Lives, 2013

-
- 9) Office of the United States Trade Representative, Trans-Pacific Partnership, <http://www.ustr.gov/tpp>
 - 10) Stabilization and Association Agreement between the Republic of Macedonia of the one part, and the European Communities and their Member States of the other part, Brussels 26 March 2001, 6726/01, available at: http://ec.europa.eu/enlargement/pdf/the_former_yugoslav_republic_of_macedonia/saa03_01_en.pdf
 - 11) Stabilization and Association Agreement between the Republic of Serbia of the one part, and the European Communities and their Member States of the other part, 2007 available at: http://ec.europa.eu/enlargement/pdf/serbia/key_document/saa_en.pdf
 - 12) Stormy-Annika and Claudia Schmucker, (2013.) Trade Agreement with Side-Effects?, European Union and United States to Negotiate Transatlantic Trade and Investment Partnership, SWP, June 2013, pp. 4-6
 - 13) The Court of Justice of the European Communities, Case 120/78 Rewe-Zentral AG v. Bundesmonopolverwaltung für Branntwein,
 - 14) The Economist, Free Trade Across the Atlantic, Come on, TTIP, 16 February 2013, available at : <http://www.economist.com/news/leaders/21571890-good-idea-state-union-address-business-should-rush-support-come-ttip>
 - 15) The Transatlantic Trade and Investment Partnership: Why does it matter, Better Policies for Better Lives, 2013, p.3
 - 16) Understanding on the Interpretation of Article XXIV of the General Agreement of Tariffs and trade 1994, p.33, available at: http://www.wto.org/english/docs_e/legal_e/10-24.pdf
 - 17) US-EU High Level Working Group on Jobs and Growth, Final Report High Level Working Group on Jobs and Growth, 11 February 2013
 - 18) World Trade Organization, World Trade Report 2011 – The WTO and Preferential Trade Agreements: From Co-existence to Coherence, Geneva 2011

COMPARATIVE ANALYSIS OF BUSINESS PERFORMANCE OF SMES IN THE FOOD SECTOR IN BOSNIA-HERZEGOVINA, CROATIA AND SERBIA¹

Fikret HADŽIĆ²
Aida HANIĆ³

Abstract

The main objective of this research is to make comparative analysis of the core business performance on the sample of a hundred small and medium enterprises in the food sector in Bosnia-Herzegovina, Croatia and Serbia. The analysis will comprise eight most important financial indicators of business operating of the enterprises in this sector by which the success of their business, with the primary use of benchmarking methodology is measured. Benchmarking methodology basically uses the Balances Scorecard model principles. On this basis, a model of the international database of over 100,000 companies from 24 countries has been created. This database has been used as a basis of comparison (benchmarking) of business performance of individual companies, and Bosnia-Herzegovina is the first country in the region that has been involved in it. The authors chose neighboring countries (Croatia and Serbia) for the comparison because Bosnia-Herzegovina has had a significant trade with them, and as BH, they underwent economic transition as well and they are, in addition to the regional, also direct competitors at the EU market. The research will be conducted with the use of different statistical methods and applicable use of SPSS software. The analysis will primarily relate to the period of 2007-2011 years. This research should determine the competitiveness of enterprises in the food sector in the three neighboring countries, and in which areas the competitiveness is most significant. The aim of the work is to, with the use of identical financial indicators, determine how the small and medium enterprises in the food sector in Bosnia-Herzegovina, Croatia and Serbia operated. In this way it will become known in which business fields the companies from the stated three countries produce the best results, but also it will be observed in which country the food industry suffered the greatest losses as a result of the global financial crisis.

Key words: Business performance, Food Sector, Bosnia-Herzegovina, Benchmarking methodology, Croatia, Serbia

INTRODUCTION

Small and medium-sized enterprises (SMEs) are very important part of economic development of every country but at the same time they are representative of private property and entrepreneur spirit. In EU law, category of micro, small and medium-sized enterprises is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding 50 million euro, and/or an annual balance sheet total not exceeding 43 million euro. SMEs are very important for the countries in transition and developing countries especially because of the problem of unemployment and unequal distribution of earnings. In EU there are around 23 million of SMEs and they have

¹This paper is a part of research project No. 179015 (*Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements*) and project No. 47009 (*European integrations and social and economic changes in Serbian economy on the way to the EU*), financed by the Ministry of Science and Technological Development of the Republic of Serbia

² PhD, School of Economics and Business, University of Sarajevo, BiH

³ Ma, Institute of Economic Sciences, Belgrade, Serbia and a student of PhD studies at School of Economics and Business, University of Sarajevo, BiH

provided two thirds of the total private employment and around 80% of new jobs. To highlight the role and importance of SMEs, it is necessary to analyze the impact of SMEs sector on the business performance of individual industries in the national economy, and in this paper it is the business performance of the food sector.

Food industry means use of natural resources and countries like BiH, Croatia and Serbia have excellent potentials to use their resources. These resources are specifically related to the production of healthy food to meet the demand on domestic and international market. But the main problem is that resources are not used well or sufficiently. Food sector employs a proportionately high number of employees, often with a very low qualification structure; it contributes to the generation of income both at the level of households and farmhouse production, and at the level of simple organizational forms (collectives)⁴. Average number of employees per company in the sector is the highest in Croatia 27, followed by Serbia 22, while with 20 employees – it is the lowest in BiH⁵. This research will show that there are considerable differences in the food sector in observed countries.

SMES SECTOR IN BIH, CROATIA AND SERBIA

SMEs are generator of changes in the economy because they increase the mobility of the labor market, employment and exports, provide opportunities for development and generally they are an engine of economic development. In BiH the situation in SMEs sector is very specific. There is no law on a state level so there is no unique definition of SMEs what means that every entity uses their own definition of SMEs. In 2010 in BiH there was between 26.000 to 29.000 companies from which 97% were SMEs. It is important to say that BiH is signatory of The Small Business Act⁶ (SBA). According to data collected by *Doing business*, BiH stands at 162nd place in the ranking of 185 economies on the ease of starting a business. To start a business in BiH it requires 11 procedures, takes 37 days, costs 14.9% of income per capita and requires paid-in minimum capital of 29.1% of income per capita.⁷

Table 1. The ease of starting a business in BiH in period 2010-2013

Indicator				
	2010	2011	2012	2013
Rank	-	-	162	162
Procedures (number)	12	12	12	11
Time (days)	69	64	40	37
Cost (% of income per capita)	15,8	17,7	17,0	14,9
Paid in Min. Capital (% of income per capita)	29,8	30,5	29,4	29,1

Source: *Doing business database*.

Without law of SMEs on state level BiH losses financial help from EU what is not a good signal to entrepreneurs who want to start a business in their own country. But beside all these problems, there is a great number of companies who succeeded what we will see in the second part of this paper.

⁴Association of Business Consultants in BiH, *Banchmarking report for 2012: Comparative analysis of business performance of the companies in BiH in food, wood and metal sectors compared with the same sectors in Croatia and Serbia*, (Sarajevo, 2013.), p.23.

⁵Ibid, p.24.

⁶The Small Business Act (SBA) is the EU's flagship policy initiative in support of Small and Medium-sized Businesses. SBA is a set of 10 principles which should guide the design and implementation of policies both at EU and national level.

⁷The World Bank and International Finance Corporation, *Doing business Bosnia and Herzegovina: Smarter Regulations for Small and Medium-Size Enterprises*, (Washington, DC: WBG, 2013.), p.15

From July 2013, Croatia became the 28th EU member so their legislation in this area is consistent with the EU laws. According to data collected by „Doing business“, Croatia stands at 80th place in the ranking of 185 economies on the ease of starting a business. To start a business in Croatia it requires 6 procedures, takes 9 days, costs 7.3% of income per capita and requires paid-in minimum capital of 13.4% of income per capita.⁸

Table 2. The ease of starting a business in Croatia in period 2010-2013

Indicator				
	2010	2011	2012	2013
Rank			72	80
Procedures (number)	7	6	6	6
Time (days)	22	9	9	9
Cost (% of income per capita)	8,4	8,6	8,6	7,3
Paid in Min. Capital (% of income per capita)	13,4	13,7	13,8	13,4

Source: Doing business database.

Croatia SMEs sector is characterized by a large proportion of SMEs in general, and small firms in particular and the Croatian SME sector closely reflects that of the EU average, with micro and small enterprises accounting for nine out of every ten enterprises. On average, an SME in Croatia employs 5 workers which is slightly higher than the EU average of 4,2 persons. In terms of sectoral distribution, 39% of the Croatian SMEs are active in service sectors such as renting and business services, transport, tourism or constructions, 32% are active in trade and only about 16% work in manufacturing.⁹

Of observed countries, Serbia is the largest market in the region. According to data collected by Doing Business, Serbia stands at 42nd in the ranking of 185 economies on the ease of starting a business. To start a business in Serbia it requires 6 procedures, takes 12 days, costs 7.7% of income per capita and requires paid-in minimum capital of 0.0% of income per capita.¹⁰

Table 3. The ease of starting a business in Serbia in period 2010-2013

Indicator				
	2010	2011	2012	2013
Rank			91	42
Procedures (number)	7	7	7	6
Time (days)	13	13	13	12
Cost (% of income per capita)	7,1	7,9	7,8	7,7
Paid in Min. Capital (% of income per capita)	6,1	6,0	6,0	0,0

Source: Doing business database.

According to the data provided by the Serbian National Statistical Office, Serbia's SMEs sector has a higher share of small, medium, and large companies than the EU average. The SMEs sector contributes less to employment and value-added than in the EU, but it still accounts for more than half of all workers in the business economy, and half of the contribution to gross domestic product. On average, SMEs in Serbia employ 7.3 workers, which is significantly higher than the 4.5 EU average,

⁸The World Bank and International Finance Corporation, *Doing business Croatia: Smarter Regulations for Small and Medium-Size Enterprises*, (Washington, DC: WBG, 2013.), p.15

⁹European Commission-Enterprise and Industry: *SBA Fact Sheet for Croatia*,(s.l.,2011.), p.1

¹⁰ The World Bank and International Finance Corporation, *Doing business Serbia: Smarter Regulations for Small and Medium-Size Enterprises*, (Washington, DC: WBG, 2013.), p.15

suggesting a need to do more to develop Serbia's framework conditions for entrepreneurship. SMEs in Serbia are concentrated in the business service sector, followed by trade, transport, tourism, construction and manufacturing¹¹.

Although the SMEs sector in the observed countries has improved, especially if we consider the fact that all three countries were part of socialism regime, it is still needs to make more efforts from the policy makers to provide all conditions needed to create a good environment for entrepreneurship.

FOOD INDUSTRY IN BIH, CROATIA AND SERBIA

In this part of paper authors gave a brief outline of the food industry in Bosnia and Herzegovina, Croatia and Serbia with special reference to the SWOT analysis of observed countries.

Food sector is very important for the countries of Western Balkan because it significantly contributes to countries GDP and their exports. Main territory of Bosnia and Herzegovina is covered by forest. It is important to notice that BiH is on the 5th position in Europe by forest wealth. On the other hand BiH is a strong net-importer of food. Annual import of agricultural and food products is worth over 2.6 billion KM, which is about 16 percent of total imports into the country. Annual export of agricultural products is about 410 million KM. The largest share of imported food are processed agricultural products, as products with added value, while the value of imported unprocessed primary agricultural products is lower although the imported quantity is much more. Imported foods often don't have the same quality in BiH as in the developed countries, even if it is the same brand and manufacturer. SWOT analysis of BiH includes the following¹²:

SWOT analysis for BiH

Strengths	Weaknesses
- Connection to Bosnian diaspora - Sufficient quality water - Favourable conditions for food production - Large companies have quality management systems	- Strong importer of food - Fragmented primary production - Small size of processing companies - Low technology and administrative difficulties - Political risks
Opportunities	Threats
- Domestic market - CEFTA member - Duty-free access to the EU market for most products - Harmonization with EU in process	- Strong market dominance of foreign brands - Low purchasing power of domestic consumers - High unemployment

In Croatia, food products represents 74% in total exports of food and agriculture products. Croatia has 1,3 million ha of arable land and very long tradition in food industry and very good climate conditions for growing many varieties. Although all this positive facts, at the moment country is facing challenges in the area of food industry because of countries entrance to EU were national companies will have to operate in conditions of tight competition. At the moment country became EU member, the membership in CEFTA was over for Croatia whose products were well-positioned on CEFTA market. The main problem will be export on Croatians most important market – Bosnia and Herzegovina. SWOT analysis of Croatia includes the following¹³:

¹¹ European Commission-Enterprise and Industry: *SBA Fact Sheet for Serbia* ,(s.l.,2012.), p.1

¹² GFA Consulting Group, *Food Industry Study in Southeast Europe: Final Report*, (Hamburg, 2010), p. 27.

¹³ GFA Consulting Group, *Food Industry Study in Southeast Europe: Final Report*, (Hamburg, 2010), p. 20

SWOT analysis for Croatia:

Strengths	Weaknesses
- Food sector is the main sector - Large companies with expansion into neighbouring countries - As a EU member new markets to export their products	- Relatively weak agricultur production - Production costs relatively high - Dependence on raw mateiral imports - Low share of EU markets - Dependence on CEFTA market
Opportunities	Threats
- Rising foregin investments - High quality of domestic products - EU funds for agriculture	- High unemployment - Competition from EU contries - Big public debt - Big loses of leaving CEFTA

Of observed countries, Serbia is the world's third largest producer of raspberries. In 2012 export of food-agri products was worth 2.090 millions of euro. Food industry is the most important area of the manufacturing industry in Serbia. It generates about 30% of total operating revenues and in the total exports it accounts for about 15.5%. The situation of Serbia can be best analyzed through SWOT analysis that includes the following¹⁴:

SWOT analysis for Serbia

Strengths	Weaknesses
- Largest size of arable land (5,1 million ha). - Long tradition in food industry. - Low labor costs. - EU candidate status in 2011.	- Only few brands are internationally recognized, - Fragmented primary production, - Political risks - Unstable domestic currency (RSD)
Opportunities	Threats
- Large domestic market - Large regional market - CEFTA member - Free Trade Agreement with Russia - Harmonization with EU in proces	- Natural risks (floods) - Low purchasing power of domestic consumers - High unemployment

From the SWOT analysis we can conclude that all three countries still have a lot of strengths and opportunities to use and weaknesses and threats to be aver of them and to improve them.

BENCHMARK ANALYSIS OF THE FOOD PRODUCTION SECTOR IN BIH, CROATIA AND SERBIA

Benchmark analysis of the food production sector in BiH, Croatia and Serbia shows that number of companies in the food sector in the period 2007 - 2011 is stagnating in BiH while in Croatia and Serbia it shows the tendency of growth. In 2011 in BiH there was 949 companies with total of 19,003 employees who generated the total revenue of 2,86 billion KM.

¹⁴Ibid. p.11

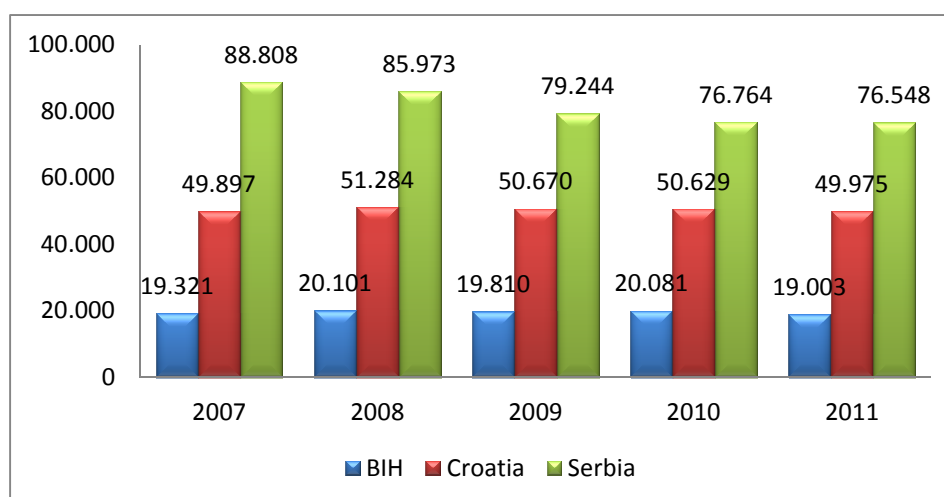
Table 4. Food sector in BiH, Croatia and Serbia

FOOD SECTOR	BIH	CROATIA	SERBIA
Total revenue in BAM (2011)	2.860.623.292	9.844.893.513	11.066.141.104
Number of FTE employees (2011)	19.003	49.975	76.548
Number of companies (2011)	949	1.799	3.373

Source: Banchmarking report for 2012: Comparative analysis of business performance of the companies in BiH in food, wood and metal sectors compared with the same sectors in Croatia and Serbia

Compared to Croatia, who has almost twice many companies with 2,6 times more employees and 3,44 time higher total revenue, BiH is not in a good position. But on the other hand if we compare BiH and Serbia we can see that there are 3,6 times more companies in Serbia with only 3,5 time higher total revenue. In the period from 2007 to 2010 the number of employees varies, so in Croatia there was almost identical number of employees while in Serbia it dropped by 12.044. We can notice that global financial crisis didn't have major impact in Croatia and BiH like in Serbia. Also in the period of crisis in BiH there has been a mild drop in employment, amounted to 1,6 % while at the same period in Serbia number of employees was 13,6 % less.

Figure 1. Number of FTE employees in Food sector in BiH, Croatia and Serbia



Source: Banchmarking report for 2012: Comparative analysis of business performance of the companies in BiH in food, wood and metal sectors compared with the same sectors in Croatia and Serbia.

Table 5: Total revenue in Food sector in BiH, Croatia and Serbia

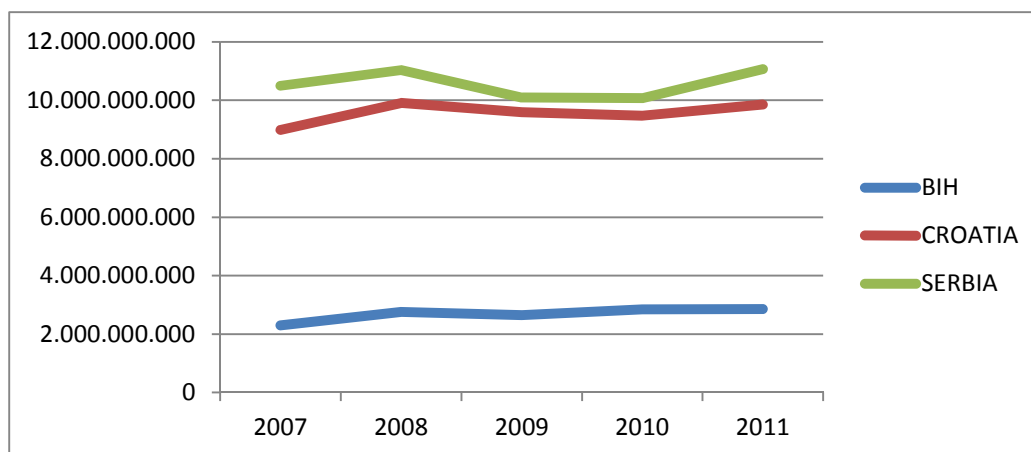
FOOD SECTOR	BIH	CROATIA	SERBIA
Total revenue (2007)	2.298.861.151	8.990.769.910	10.495.776.210
Total revenue (2008)	2.756.304.841	9.898.480.805	11.033.626.958
Total revenue (2009)	2.652.065.410	9.582.874.078	10.092.028.463
Total revenue (2010)	2.847.436.644	9.467.520.753	10.071.121.655
Total revenue (2011)	2.860.623.292	9.844.893.513	11.066.141.104

Source: Banchmarking report for 2012: Comparative analysis of business performance of the companies in BiH in food, wood and metal sectors compared with the same sectors in Croatia and Serbia

Indicators of total revenue in BiH show the tendency of growth where in period from 2007 to 2011 total revenue of these companies grew by 24,4 %, in Croatia the grow was 9,5 % and in Serbia the sector saw a decline of total revenue that amounted to 4 percentage points.

From the table above we can conclude that, comparing to BiH, Croatia has well-developed production capacities in the food sector because in the same period Croatia realised 4,3 times higher export.

Figure 2. Total revenue of companies in the food sector in the period 2007-2011



Source: Banchmarking report for 2012: Comparative analysis of business performance of the companies in BiH in food, wood and metal sectors compared with the same sectors in Croatia and Serbia

Benchmark analysis of key performance indicators

Benchmark analysis of key performance indicators considers analyses of: Net Profit Margin, Return on total assets (ROTA), Staff costs as a percentage of sales, Current ratio, Total revenue per full-time employed employee, Profit before tax per-full time employed employees and Gross gearing.

Net Profit Margin

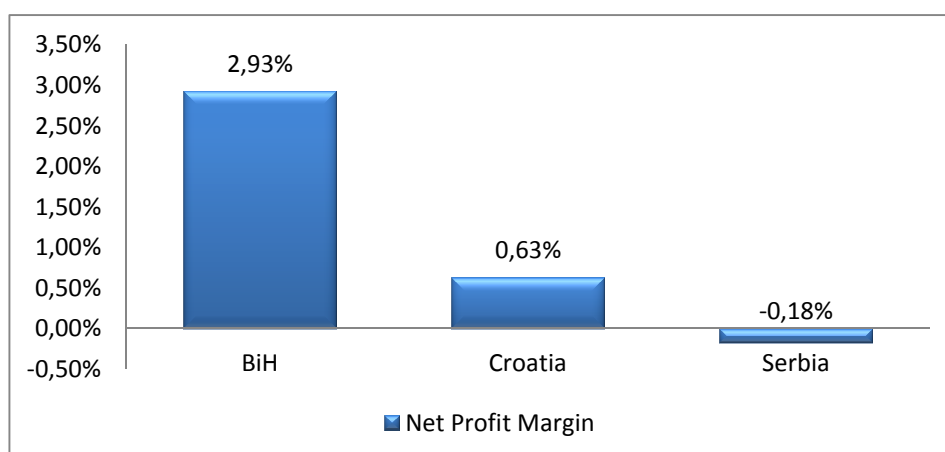
The analyses of Net Profit Margin indicator considers 90 companies in BiH, Croatia and Serbia. The indicator varies in observed countries where the highest was demonstrated by companies in BiH (2,93%), in Croatia (0,63) while in Serbia companies didn't make any profit and their Net Profit Margin was -0,18%.

Table 6. Net Profit Margin in food sector in BiH, Croatia and Serbia

Net Profit Margin		Number of Companies	Minimum %	Mean %	Maximum %
Sector	Country				
FOOD SECTOR	BiH	90	-16,06	2,93	14,84
	Croatia	91	-20,48	0,63	15,97
	Serbia	91	-57,02	-0,18	22,79

Source: Banchmarking report for 2012: Comparative analysis of business performance of the companies in BiH in food, wood and metal sectors compared with the same sectors in Croatia and Serbia

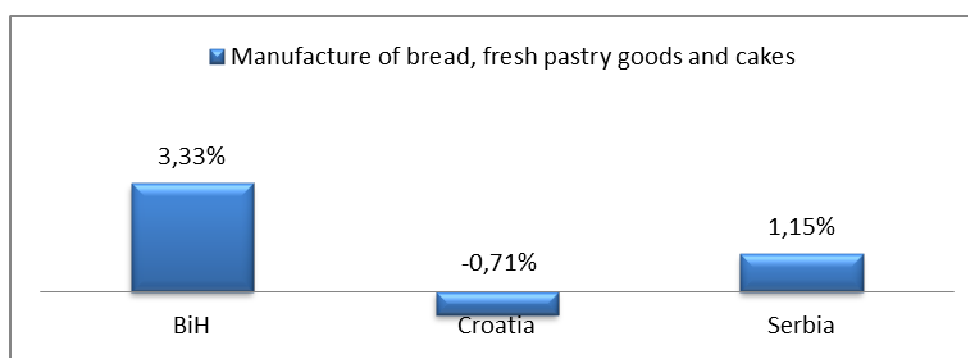
Figure 3. Net Profit Margin in the food sector in BiH, Croatia and Serbia



Source: Banchmarking report for 2012: Comparative analysis of business performance of the companies in BiH in food, wood and metal sectors compared with the same sectors in Croatia and Serbia

To understand better the reasons for these results, it is necessary to analyze the taxation system in observed countries. Net profit margin of companies manufacturing meat and poultry meat products in BiH is favorable and amounts to 3,34 % so that it is considerably better than the net profit margin of companies in Croatia (1,15%) and Serbia (1,33%). Significant differences were recorded still in the companies dealing with the manufacture of dairy products where the highest net profit margin in 2011 was realized by the companies from BiH (2,49%), while Croatian companies had a negative net profit margin (-7,96%) and those from Serbia had this indicator as low as -28,36% (this sample includes 21 companies from observed countries)¹⁵. In bread and fresh pastry goods and cakes manufacturing, companies from BiH realized the highest net profit margin (3.33%) while in Serbia the net profit margin was 1,15 % and in Croatia it had negative percent (-0,71%).

Figure 4. Net Profit Margin in manufacture of bread, fresh pastry goods and cakes in BiH, Croatia and Serbia



Source: Banchmarking report for 2012: Comparative analysis of business performance of the companies in BiH in food, wood and metal sectors compared with the same sectors in Croatia and Serbia.

Return on total assets (ROTA)

Return on total assets ratio is considered an indicator of how effectively a company is using its assets to generate earnings before contractual obligations must be paid. Higher percentage of return indicates

¹⁵ Association of Business Consultants in BiH, *Benchmarking report for 2012: Comparative analysis of business performance of the companies in BiH in food, wood and metal sectors compared with the same sectors in Croatia and Serbia*, (Sarajevo, 2013.), p. 29

that company assets are better used. ROTA indicator is consisted by two indicators: the percentage of sales margin and the turnover of assets which influences the basic indicator. According to this companies from BiH, in 2011, didn't lag significantly behind companies from Croatia and Serbia. Also it is important to notice that when the indicator was calculated some companies had ROTA with extreme values so they were excluded from the sample.

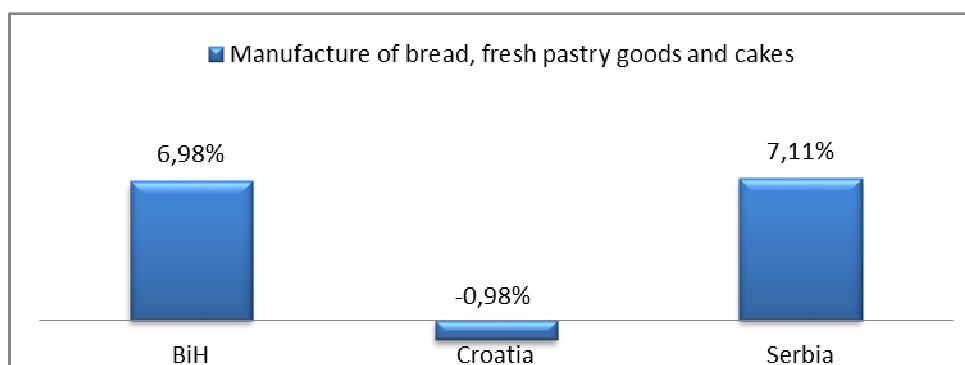
Table 7. ROTA in food sector in BiH, Croatia and Serbia

ROTA		Number of Companies	Minimum %	Mean %	Maximum %
Sector	Country				
FOOD SECTOR	BiH	90	-7,76	5,42	22,41
	Croatia	90	-12,18	2,12	18,36
	Serbia	90	-23,37	4,06	37,57

Source: Banchmarking report for 2012: Comparative analysis of business performance of the companies in BiH in food, wood and metal sectors compared with the same sectors in Croatia and Serbia

Relating the manufacture of dairy products and cheese making, companies from BiH were better than companies in Croatia and Serbia. The reasons could be found in the significantly higher value of assets owned by the companies in Croatia as a result of better and higher level of technical equipment, high hygiene and other technical and technological standards. In the sector for the manufacture of bread, fresh pastry goods and cakes companies from BiH were also doing better than those from Croatia and Serbia.

Figure 5. ROTA in manufacture of bread, fresh pastry goods and cakes in BiH, Croatia and Serbia



Source: Banchmarking report for 2012: Comparative analysis of business performance of the companies in BiH in food, wood and metal sectors compared with the same sectors in Croatia and Serbia

Favorable position of the companies from BiH in the observed NACE Codes could be found by the considerably lower level of technical equipment (what means the lower value of assets) and relatively high profit margin.

Staff costs as a percentage of sales

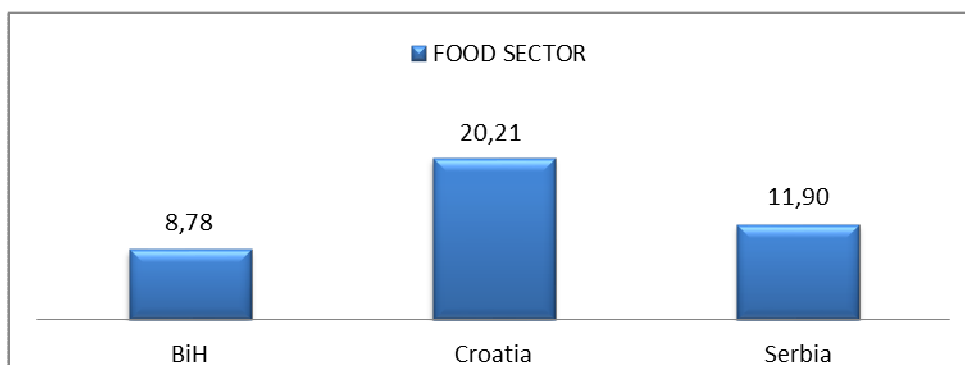
Staff costs as a percentage of sales is an indicator of the price of labor. For the observed countries this indicator is almost the identical.

Table 8. Staff costs as a percentage of sales in BiH, Croatia and Serbia

STAFF COSTS AS A PERCENTAGE OF SALES		Number of Companies	Minimum %	Mean %	Maximum %
Sector	Country				
FOOD SECTOR	BiH	90	1,80	8,76	22,66
	Croatia	90	5,44	20,21	54,65
	Serbia	90	2,79	11,90	37,93

Source: Banchmarking report for 2012: Comparative analysis of business performance of the companies in BiH in food, wood and metal sectors compared with the same sectors in Croatia and Serbia

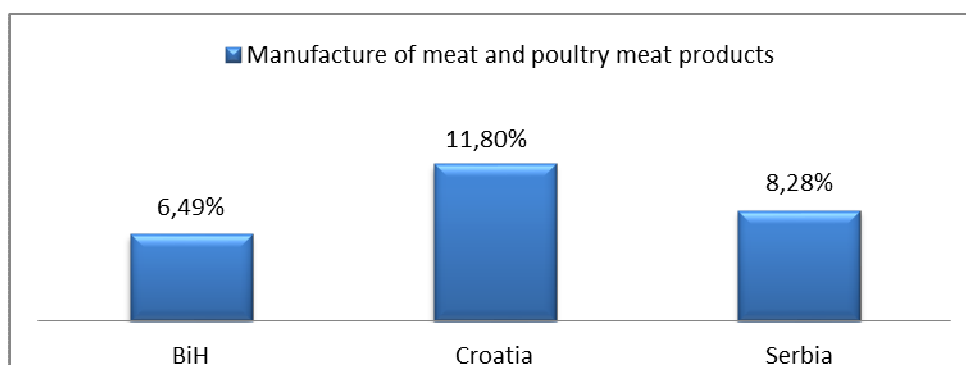
Figure 6. Staff costs as a percentage of sales in food sector in BiH, Croatia and Serbia



Source: Banchmarking report for 2012: Comparative analysis of business performance of the companies in BiH in food, wood and metal sectors compared with the same sectors in Croatia and Serbia

In the individual NACE Code – Manufacture of meat and poultrymeat, the staff cost vs. sale were the highest in Croatia (11,80%), in Serbia they were 8,28 % and the lowest were in BiH (6,49%).

Figure 7: Staff costs as a percentage of sales in production of meat and poultry meat products in BiH, Croatia and Serbia

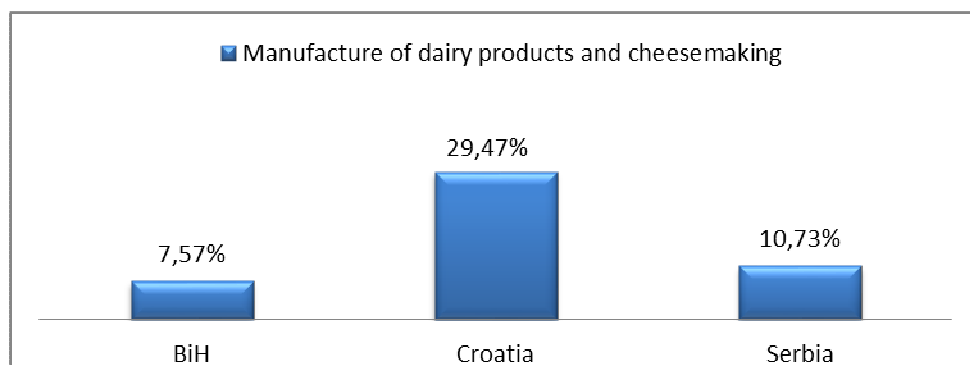


Source: Banchmarking report for 2012: Comparative analysis of business performance of the companies in BiH in food, wood and metal sectors compared with the same sectors in Croatia and Serbia.

In the NACE Code – Manufacture of dairy products and cheesemaking the costs were the highest in Croatia 29,47% than in Serbia 10,73 % and the lowest in BiH 7,57%.

In the NACE Code – Manufacture of bread, fresh pastry goods and cakes the highest costs were also in Croatia 37,19%, in Serbia 18,23 % and in BiH 15,85%. These results can be explained by a high share of manual work in the production of mainly small bakeries.

Figure 8: Staff costs as a percentage of sales in production of dairy products and cheesemaking in BiH, Croatia and Serbia



Source: Banchmarking report for 2012: Comparative analysis of business performance of the companies in BiH in food, wood and metal sectors compared with the same sectors in Croatia and Serbia.

Current ratio

Current ratio is also known as "liquidity ratio", "cash asset ratio" and "cash ratio". Current ratio measures a company's ability to pay short-term obligations. The value of this indicator in the observed countries is most favorable in BiH than in Croatia and Serbia.

Table 9: Current ratio in food sector in BiH, Croatia and Serbia

CURRENT RATIO		Number of Companies	Minimum %	Mean %	Maximum %
Sector	Country				
FOOD SECTOR	BiH	90	0,35	1,49	5,96
	Croatia	90	0,52	2,14	13,38
	Serbia	90	0,38	1,59	5,11

Source: Banchmarking report for 2012: Comparative analysis of business performance of the companies in BiH in food, wood and metal sectors compared with the same sectors in Croatia and Serbia.

The mean value of this indicator in the companies dealing with the manufacture of meat products and poultrymeat products in BiH IS 0,84, in Croatia 1,34 and in Serbia 1,07%. It is important to notice that the optimum value of this indicator is from 1,8 to 2,0 what means that companies in this field have problems with the liquidity.

Total revenue per full-time employed employee

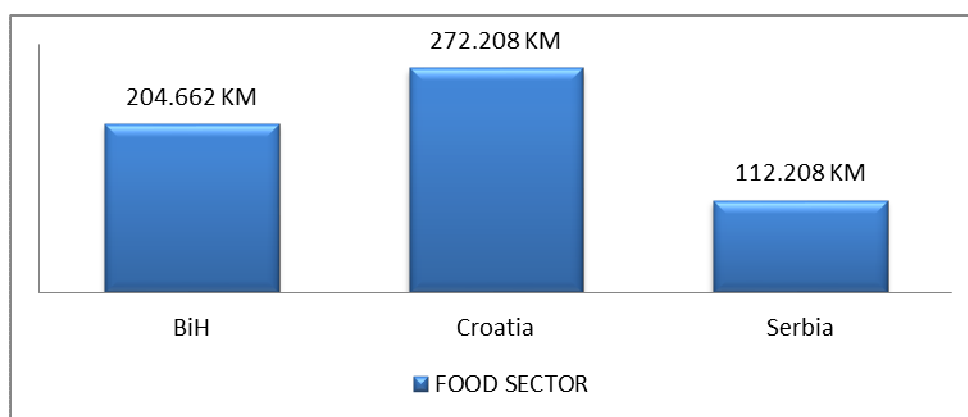
This indicator shows that companies in BiH were in more favorable position than the companies in Serbia but in worse position than companies in Croatia. Worker in BiH in the food sector realized 13,2% higher revenue than his colleagues in Serbia and in Croatia this indicator was 6,3%. Total revenue per a full-time employee in the field of manufacture of meat and poultrymeat products is 46% higher in Croatia than in BiH and even 3,5 times higher than total revenue made by an employee in Serbia. In manufacture of dairy and cheesemaking, companies from BiH achieved the most favorable where an employee of a company from BiH generated 2,5 times higher revenue than the one in Serbia.

Table 10. Total revenue per FTE employee in food sector in BiH, Croatia and Serbia

Total revenue per FTE employee		Number of Companies	Minimum KM	Mean KM	Maximum KM
Sector	Country				
FOOD SECTOR	BiH	90	44.613	204.662	657.564
	Croatia	90	83.501	272.208	734.023
	Serbia	90	18.456	112.018	311.363

Source: Banchmarking report for 2012: Comparative analysis of business performance of the companies in BiH in food, wood and metal sectors compared with the same sectors in Croatia and Serbia.

Figure 9. Total revenue per FTE employee in food sector in BiH, Croatia and Serbia

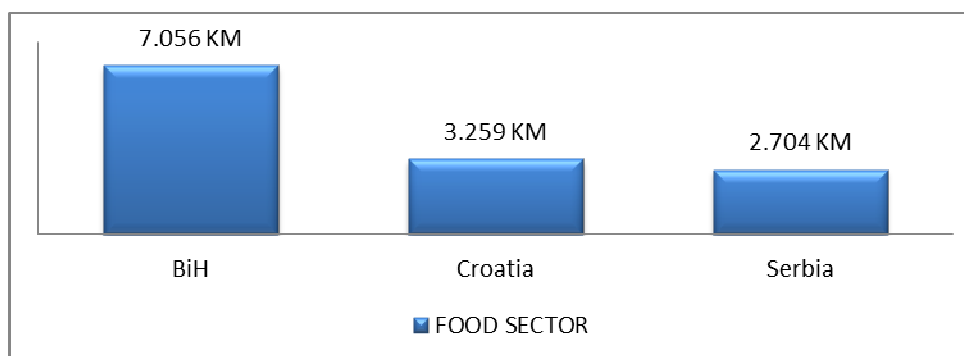


Source: Banchmarking report for 2012: Comparative analysis of business performance of the companies in BiH in food, wood and metal sectors compared with the same sectors in Croatia and Serbia.

Profit before tax per full-time employed employees

This indicator shows that companies from BiH had best results were profit before tax per FTE employee were 7.056 KM, in Croatia it was 3.159 KM and in Serbia it was 2.794 KM. In the manufacture of meat and poultrymeat products in Croatia amounted to 7.202 KM and is almost four times higher than the profit made by workers in the same field in Serbia, 1.857 KM. For BiH employees in this field the level of profit before tax was 5.740 KM. Companies in the field of manufacture of dairy and cheesemaking in BiH were more successful than those in Croatia and Serbia. Companies from BiH generated 7.807 KM profit before tax per a FTE employee while in Croatia it was 709 KM and 1.291 KM in Serbia.

Figure 10. Profit before tax per FTE employee in food sector in BiH, Croatia and Serbia



Source: Banchmarking report for 2012: Comparative analysis of business performance of the companies in BiH in food, wood and metal sectors compared with the same sectors in Croatia and Serbia.

Gross gearing

Gross gearing is one of the most relevant indicators in corporate finance. Gearing is a measure of financial leverage, demonstrating the degree to which a firm's activities are funded by owner's funds versus creditor's funds. In EU if this indicator exceeds the standard value (for the food sector in EU 0,5 i.e. 50%) the company will face long-term problem which can lead to its bankruptcy and even liquidation.

Table 11. Gross gearing in food sector in BiH, Croatia and Serbia

GROSS GEARING		Number of Companies	Minimum %	Mean %	Maximum %
Sector	Country				
FOOD SECTOR	BiH	84	0,01	1,17	7,04
	Croatia	90	0,00	1,26	10,42
	Serbia	80	0,01	0,89	4,64

Source: *Banchmarking report for 2012: Comparative analysis of business performance of the companies in BiH in food, wood and metal sectors compared with the same sectors in Croatia and Serbia.*

This indicator shows that companies from Serbia were the least indebted while companies from BiH and Croatia were over-indebted given the their respective debts were 1,26 and 1,17 times higher than their capital.

CONCLUSION

SMEs sector is the key of country's development. In BiH, Croatia and Serbia, SMEs sector is still in progress. In this paper, authors gave a comparative analysis of business performance of SMEs in the food sector in BiH, Croatia and Serbia. All three countries have a long tradition in food production and although there where cyclical instability, stagnation or slowed-down growth, this paper shows that food sector in observed countries is very important for their economy. The results of comparative analysis of business performance of SMEs in the food sector in BiH, Croatia and Serbia (where identical financial indicators were used) can be described in the following:

- In the period from 2007 to 2011 number of companies in the food sector in BiH is stagnating (949 companies) while in Croatia (1.799 companies) and Serbia (3.373 companies) it shows the tendency of growth.
- In the period from 2007 to 2011 the number of employees varies, so in Croatia there was almost identical number of employees while in Serbia it dropped by 12.044. Analysis show that global financial crisis didn't have major impact in Croatia and BiH like in Serbia where in the period of crisis in BiH there has been a mild drop in employment, amounted to 1,6 % while at the same period in Serbia number of employees was 13,6 % less.
- Indicators of total revenue in BiH show the tendency of growth where in period from 2007 to 2011 total revenue of these companies grew by 24,4 %, in Croatia the grow was 9,5 % and in Serbia the sector saw a decline of total revenue that amounted to 4 percentage points.
- The Net Profit Margin indicator varies in observed countries where the highest was demonstrated by companies in BiH (2,93%), in Croatia (0,63 %) while in Serbia companies didn't make any profit and their Net Profit Margin was -0,18%.
- Return on total assets (ROTA) indicator shows that companies from BiH, in 2011, didn't lag significantly behind companies from Croatia and Serbia.
- Staff costs as a percentage of sales indicator is almost identical for the observed countries.
- Current ratio indicator is most favorable in BiH than in Croatia and Serbia.
- Total revenue per full-time employed employee indicator shows that companies in BiH were in more favorable position than the companies in Serbia but in worse position than companies in Croatia.

- Profit before tax per-full time employed employees indicator shows that companies from BiH had best results were profit before tax per FTE employee were 7.056 KM, in Croatia it was 3.159 KM and in Serbia it was 2.794 KM.
- Gross gearing indicator shows that companies from Serbia were the least indebted while companies from BiH and Croatia were over-indebted given the their respective debts were 1,26 and 1,17 times higher than their capital.

ood sector can be a good development potential in the economy of all three observed countries so countries government must make conditions in which food industry can prosper.

LITERATURE

- 1) Association of Business Consultants in BiH: Banchmarking report for 2012;
- 2) Comparative analysis of business performance of the companies in BiH in food, wood and metal sectors compared with the same sectors in Croatia and Serbia, Sarajevo, 2013.
- 3) GFA Consulting Group: Food Industry Study in Southeast Europe: Final Report, Hamburg, (2010.)
- 4) Lovrić, T.: Procesi u prehrambenoj industriji s osnovama prehrambenog inženjerstva, (2003.) Hinus, Zagreb,
- 5) Milanović, M.: The Food Industry of FR Yugoslavia: Development–Production–Consumption–Quality–Export, 1980–2000. (2002.) IAE and SAEJ, Belgrade,
- 6) Renko, N., Delić, S., Škrtić, M.: (1999.) Benchmarking u strategiji marketinga, Mate, Zagreb,
- 7) The World Bank and International Finance Corporation; Doing business Bosnia and Herzegovina: Smarter Regulations for Small and Medium-Size Enterprises, (2013.) Washington,
- 8) The World Bank and International Finance Corporation; (2013.) Doing business Serbia: Smarter Regulations for Small and Medium-Size Enterprises, Washington,
- 9) The World Bank and International Finance Corporation; (2013.) Doing business Croatia: Smarter Regulations for Small and Medium-Size Enterprises, Washington

A PROJECT APPROACH TO DEVELOPING LOCAL COMPETITIVE ADVANTAGE AND ENTREPRENEURSHIP BASED ON GROWTH OF INNOVATIVE FIRMS, EXPORTS & BRANDS

Milan VEMIĆ¹

Abstract

This paper will address issues within the thematic component of entrepreneurship based on growth of innovative firms, exports & brands in the function of regional development. Many governments pay particular attention to the current and potential needs of entrepreneurship and innovation. The justification for this focus is the potential and disproportionately significant contribution that entrepreneurship and innovation can make to overall economic and regional development through, for example exports, employment and FDI. This research looks at the specific implications of this economic development priority in the Republic of Serbia. In the first part of the paper advancement of technological development and growth of local SME sector is discussed as a development priority while in the second part the role of conducive business climate for economic development and investment is addressed. The third part of the discussion provides an insight into entrepreneurial networking & development of regional economic identity as a precondition for development. Finally, the role of lifelong learning, development of knowledge and skills are discussed as a precondition for developing local competitive advantage and entrepreneurship key issues are also highlighted for further discussion.

Key words: *Competitive advantage, entrepreneurship, innovation, regional development and SMEs.*

METHODOLOGICAL FRAMEWORK

Impact is a key attribute of economic development. The lack of a clear and explicit sustainability strategy is a major risk factor. Therefore, entrepreneurship based on growth of innovative firms, exports & brands in the function of regional development should benefit from sustainable economic impacts in a timely and effective manner.

In the context economic development sustainability can be defined as the establishment and continuation of benefits after major policy interventions have been completed. Key points to note in this definition are that the focus is on sustaining the flow of benefits into the future and that managing impact sustainability is a process aimed at maximizing the flow of sustainable benefits to SMEs². Hence, our project approach methodology for development hierarchy systematically formulates and describes each of the basic five elements: aims, activities, outputs, outcomes, and impact for entrepreneurship based on growth of innovative firms, exports & brands in the function of regional development. Each element is defined, in part, by the previous element. So we work from the 'top' down: What main outcomes are needed to achieve the desired sustainable impact? What outputs are needed to achieve the desired outcome? And so on.

¹Milan Vemić, Associate professor of finance and economics, Faculty for management of small and medium-sized enterprises, Belgrade, milanvemic1@yahoo.com

²Ministry of Economy and Finance, Ministry of Regional Development and Local Self/Management, National Agency for Regional Development, (2012). Report on SMEs and entrepreneurship for 2011. Available at <http://narr.gov.rs/index.php/narr-en/Activities/Research-and-Analysis/Report-on-SME> pp5. Accessed [September 15th, 2013]

Outputs, including outcomes and impact, represent desired changes the development aim hopes to bring about. Each aim is unique and is aimed at achieving a set of different outcomes. Note that a policy decision has direct control up to the output level. If the aim's hypothesis is sound and does its work well, its outputs should lead to desired outcomes. However, the outcomes are beyond its direct control. Outcomes are what others do (influenced by the development aim).

Effect changes represent the first level of desired outcomes that we want to design for and later verify. There are two basic types of effect outcomes - behavioral and systemic. Our development design logic tells us that these effect changes will occur as a result of all the goods and services (the outputs) an aim produces, plus the fulfillment of key assumptions regarding external factors. The success or achievement at one level in the hierarchy is dependent on those levels below.

Thus, the desired change at the effect level will be the result of the successful completion of the development outputs. If the aim produces all of its planned outputs but the effect level changes do not occur, then something was wrong with the development's logic, leading to the selection of an improper set of policy interventions. Alternatively, the logic was correct but something significant changed while implementing the aim.

MID TERM ECONOMIC DEVELOPMENT PRIORITIES OF SERBIA

The currently missing business climate involves a set of commercial and administrative preconditions for running of a business. The conditions for running a business, taxes and favourable surrounding for investments, improved human resources and developed financial sector, have the biggest sustainable impact on businesses in any region. Unfortunately at the time of writing this paper the business surrounding in Serbia does not provide favourable conditions for efficient functioning of market economy. Thus, one of the most important priorities is establishment of competitive surrounding for flow of all main factors of production: goods, capital, work force and entrepreneurship. Developing an enabling environment requires actions in the public sphere from the country government, by multilateral development institutions and by the private sector³.

Serbia has a long tradition of industrial production, and its main characteristic is existence of industrial facilities in privatized and public companies. These companies used to be the pillars of economical development of the region and used to employ many people. Most of these companies were struck by capital and property erosion, poor management and slow process of privatization, resulting in decrease of number of the employed in the region. Apart from big industrial companies, private SMEs have a lot of space for development in the new economical surrounding being created in Serbia. And while there is no definitive delineation between a small and medium sized business the SMEE sector in Serbia consists of micro, small, and medium-sized enterprises (SME) and entrepreneurs. With raised awareness for business-orientation, this sector can recognize good business possibilities on the field which can be supplements to big industrial capacities currently operating sub-optimally. In local SMEs sector development, particular emphasis should be placed development of the institutional framework and other preconditions which could support for the sector. According to the situation on the field, the main problems related to the SME related strategic aims in Serbia could be conceptualized and summarized as follows:

- Insufficiently developed business climate and uncompetitive business surrounding
- Slow process of restructuring and privatization of big companies
- Insufficiently developed SMEs sector which also lacks adequate institutional financial and non-financial support

³UNDP, 2004. Unleashing entrepreneurship – Making business work for the poor. Report to the Secretary General of the United Nations, Commission on the Private Sector & Development, UNDP, New York, p. 38-42.

The main supposition related to this priority is that the process of restructuring and privatization will be finished as soon as possible.

Specific SME aims could be conceptualized and summarized as follows:

- Development of a stronger SME sector, with appropriate technical and institutional assistance: viable business incubators and clusters.
- Improved financial sector related to establishment of guarantee and development funds as well as micro-credit lines for enterprises and entrepreneurship development
- Improvement of business infrastructure and of business network (clusters, associations, incubators)
- Effective local administration and developed support for investors

The main measurable indicators of SME development measuring the expected results within this priority could be conceptualized and summarized on the basis of the structure of national income as follows⁴:

- Share of SMEs in the total number of enterprises
- Share of SME turnover in the GDP
- SME share in exports and FDI attraction
- Number of employees in SME sector

ADVANCEMENT OF TECHNOLOGICAL DEVELOPMENT AND GROWTH OF THE SME SECTOR IN BUILDING LOCAL COMPETITIVE ADVANTAGE AND ENTREPRENEURSHIP

Analysis of Serbia's technological results and potential the field, clearly reveals that in last 15 years the regional economy has been significantly lagging behind the modern trends and technology. The technological lagging behind involves both obsolescence of the equipment and obsolescence of usage of new knowledge, skills and technologies. As a result, the goods quality has significantly deteriorated, the foreign markets are mostly lost, and the level of innovations in the economy is very low. The sector of business services for SMEs sector is also undeveloped. The problems are both on the side of offer and demand. It clearly emphasizes the need for support to SMEs sector growth through training and education programmes, consulting, market research and marketing by raising the quality level.

Aims, expected results of technological development and growth of SMEs

Implementation of this step should contribute to realisation of the following aims:

- Regenerating wider rural and regional economy
- Increased number of export-oriented enterprises and increased export
- Innovation development for ethno products, wood working and tourism
- Improved transfer of knowledge, skills and technologies
- Increased level of technical and technological equipment of SME sector

The strategy of scientific and technological development of Serbia 2010-2015⁵ mentions SMEs only briefly, in relation to research and in relation to the ministries.

⁴Strategy of development of competitive and innovative SMEs in Serbia, 2008 - 2013, pp.5, Available at: <http://www.gs.gov.rs/english/strategije-vs.html> Accessed [September 10th, 2013]

⁵Strategy of scientific and technological development of Serbia 2010-2015, pp 29 and 34. Available at: <http://www.gs.gov.rs/english/strategije-vs.html> Accessed [September 17th, 2013]

Proposed main specific activities for technological development and growth of SMEs

Missing are the main measurable indicators for proposed specific activities of technological development and growth of the SME sector which are hereby conceptualized and summarized as follows:

- Establishment of technological centres (ICT, agriculture, wood industry, metal industry, etc.) for technological transfer, information exchange and business communication
- Financial and technical support to technological development and improvement of technical equipment of SMEs
- Support to export-oriented enterprises (consultancy services, market research, marketing and training)
- Specialized training programmes for entrepreneurs and unemployed in the field of management, quality management, enterprise development, marketing, public relations
- Establishment of a regional information-documentation centre (information on donors and credit programmes, information on market, a data base on experts and consultants for SME development, a directory of companies)

Strategically addressing economic development the detailed measurable indicators of technological development and growth of the SME sector should include the following non-exhaustive list:

Table 1. Outputs, outcomes and impact of technological development

Main Outputs	• Number of established technological centres • Number of specialized training programmes • Number of conducted market researches and consultancy services to export-oriented enterprises
Main Outcomes	• Number of users of services of technological centres • Number of trainees of specialized training programmes • Number of enterprises with innovated equipment and technology • Number of users of services of In-doc centres
Sustainable Impact	• Percentage of productivity increase of users of services of Centres for technology transfer • Percentage of productivity increase of enterprises which introduced new equipment and technology • Number and value of export-oriented enterprises • Percentage of export share in foreign trade balance structure

DEVELOPMENT OF CONDUCIVE BUSINESS CLIMATE FOR ECONOMIC DEVELOPMENT AND INVESTMENT

The competitive business surrounding represents one of the preconditions for development and investments attraction. During the preparation of this paper, the following key issues in this field were identified:

- Inertia in institutions, bureaucracy and poor access to information
- Unfavourable terms of giving credits and loans to companies and generally poor access to capital
- Lack of an information and attraction system for investors in Serbia's regions
- Undeveloped infrastructure for support to business development

Besides, there is also the problem of political instability and incapability of the local institutions to provide quality services in this field. This step exactly represents the response to the need for the local institutions in the wider territorial region to actively participate in creation of favourable conditions for running a business and for attraction of investments, as the increase of GDP needs increased foreign investments.

Aims and expected results of developing a conducive business climate

Implementation of this step should contribute to realisation of the following main aims:

- Reducing local and regional bureaucratic barriers
- Development of industrial zones for the broader territory
- Establishment of business incubators and increase in business survival rate
- Improved access non-bank sources of finance, particularly business angels
- Attraction of investment to the wider territorial region, other than Belgrade

Proposed main specific activities for developing a conducive business climate

A high ranking on the ease of doing business index means the regulatory environment is more conducive to the starting and operation of a local firm. Serbia currently ranks 89th in the World Bank *Doing Business Project*⁶. Following is a non-exhaustive list that would allow improvement of a business climate in Serbia:

- Reduction of bureaucratic barriers in local administration by introducing training programmes for employed and establishment of sustainable well equipped, trained and financed „one stop shop“ centres
- Development of programmes and documents for setting up of industrial zones and technological parks in the wider territory other than large cities
- Establishment of new business cooperatives, clusters and incubators
- Establishing a regional development guarantee funds as well as introducing micro-credit lines and alternative non bank financial institutions
- Further developing a strategy and programme for attraction of foreign direct investments and parallel to it municipal asset management in all municipalities
- Advisory and technical assistance to entrepreneurs, SMEs and farmers for development and investment

Experience with entrepreneurship development programmes has shown that “start-ups” will be more successful if professional mentoring is provided during the business incubation stage. In order to find mentoring specialized financial and non financial support centres in local governments and agencies, such as the Agency for Regional Development in Serbia, need to be approached effectively. Hence, strategically addressing economic development the detailed measurable indicators of developing a conducive business climate are as follows:

⁶Available at: <http://www.doingbusiness.org/rankings> Accessed [October 31st, 2013]

Table 2. Outputs, outcomes and impact of conducive business climate

Main Outputs	• Number of established „one stop shop“ centres • Number of industrial zones • Number of newly established business incubators • Number of micro-credit schemes
Main Outcomes	• Number of users of services of „one stop shop“ centres • Number of enterprises in industrial zones • Number of enterprises in business incubators • Number of enterprises users of guarantee fund or micro-credit schemes
Sustainable Impact	• Number of foreign investors and foreign enterprises • Number of jobs

ENTREPRENEURIAL NETWORKING & DEVELOPMENT OF REGIONAL ECONOMIC IDENTITIES WITHIN SERBIA

As Konakčiev (2004) in his research rightly found on the example of Bulgaria in conditions of open competitiveness, liberal market and globalization processes, the networking of economical entities and creation of a regional identity and its marketing represent an important factor for regional development⁷.

Joint appearance on the market, decrease of production purchase costs and maximization of the existing resources represent main reasons for networking of the enterprises.

Aims and expected results in development of regional economic identities

The implementation of this step should contribute to the realisation of the following aims:

- Establishing viable associations of SMEs and entrepreneurs for public policy dialogue and advocacy
- Strengthening of regional comparative advantages
- Introduction of the concept of cluster development in the production process developing groups of industries and organisations that are linked together in buying and selling relationships, who share the same infrastructure, customers or skills base and whose linkages enhance competitive advantage
- Development and promotion of regional brands

Proposed specific activities for development of regional economic identities

- Establishment and development of efficiency and effectiveness of associations of entrepreneurs
- Preparation of a regional strategy of cluster introduction, education of businessmen and setting up of pilot clusters (e.g. furniture, footwear industry, car spare-parts industry, metal-processing industry, civil engineering)
- Development of regional brands (for wood working, furniture, footwear...)
- Establishment of regional agricultural, tourist and ethno product fairs

⁷Konakčiev, D. (2004) *Obsa teorija na regionalnata i ekonomika politika*, knjiga vtor, Varnieski sloboden universitet „Černirizec Hrabr“, Varna pp. 45-64.

- Joint appearance of clusters of SMEs on domestic and international fairs

Strategically addressing economic development the detailed measurable indicators of for development of regional economic identities can be summarized as follows:

Table 4. Outputs, outcomes and impact of regional economic identities

Main Outputs	• Number of newly established clusters • Number of newly established associations of SMEs and entrepreneurs • Number of developed local and regional brands
Main Outcomes	• Number of enterprises in clusters and incubators • Number of enterprises members of associations • Number of organized fairs locally, regionally, nationally • Number of joint appearances on fairs
Sustainable Impact	• Percentage of increase in production scope of enterprises • Increase of competitiveness and self-sustainability of SMEs

ESTABLISHMENT AND PROMOTION OF THE LIFE-LONG LEARNING PROCESS WITH TRAINING PROGRAMMES FOR DEVELOPMENT AND IMPROVEMENT OF KNOWLEDGE AND SKILLS

The Serbian economy is characterised by persistently high unemployment. Unemployment has proved to be a resistant problem throughout the transition process, somewhat reduced in 2008 prior to the onset of the world financial crisis. Since the beginning of the crisis in late 2008, unemployment rates have risen again. According to data from the Labour Force Survey (LFS) conducted bi-annually by the Statistics Office of the Republic of Serbia, unemployment rate for 2010 (overall figure for 2010) was 19.2%, while in 2011 it continued to grow, reaching 23.7% in November 2012 (691,841 unemployed individuals).⁸

Comparably the unemployment rate in Serbia is drastically higher than the average rate in the EU-27, which was 11.8% in June 2013.⁹ Many unemployed have no qualifications, or have the skills and knowledge not wanted on the labour market, and there are also those who have not had any practice since they finished their training and education.

The traditional skills become more and more useless, and they are being replaced by the professions never heard of before. It means that a person is supposed to change at least twice or more his or her career, thus transforming traditional three phases into a cycle of training, employment, prequalification, employment etc. This has a significant Sustainable Impact on learning process of adults and explains the need for introduction of life-long learning concept rightly defined by EU as all general education, vocational education and training, non-formal education and informal learning undertaken throughout life, resulting in an improvement in knowledge, skills and competences within a personal, civic, social and/or employment-related perspective¹⁰. It involves significant changes in institutions dealing with employment as well as in those which deal with education and training.

⁸National Employment Service, Monthly Statistical Bulletins.

⁹Available at http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Unemployment_statistics Accessed [September 17th, 2013]

¹⁰ Available at http://ec.europa.eu/education/programmes/llp/guide/glossary_en.html Accessed [October 18th, 2013]

Possible aims and expected results of the life-long learning process for social economic development

- Increased number of organizations/companies which introduced Steps for continuous training process of their employees in order to enhance their skill base and increase competitiveness of the companies
- Implementation of a training needs analysis at least once in two years
- Improved participation of local institutions in implementation and financing of training programmes for adults
- Increased number of institutions with training programmes for adults
- New training programmes for adults developed according to local/regional needs
- Reduced number of unemployed registered by National Employment Service
- Increased number of employers involved in preparation and implementation of training programmes
- Increased number of unemployed involved in training programmes

Proposed specific activities for the life-long learning process

Addressing economic development from necessity to develop an advanced knowledge society, with sustainable economic development, more and better jobs and greater social cohesion, while ensuring good protection of the environment for future generations, main activities are as follows:

- Support to promotion and development of regional centre for adult education
- Promotion and financing of the life-long learning process and its introduction in companies
- Training needs analysis of the local and regional labour market
- Preparation and implementation of training programmes by training institutions, with acquiring work experience
- Establishment of partnerships (bilateral and multilateral) to carry out European activities in lifelong learning.
- Encouraging placement for spending a period of time in an enterprise or organisation in an EU Member State
- Development of cooperation between higher education institutions in the field of e-learning and with the **CEDEFOP** (European Centre for the Development of Vocational Training).

Strategically addressing economic development the detailed measurable indicators of the life-long learning process can be summarized as follows:

Table 5. Outputs, outcomes and impact of the life long learning process

Main Outputs	• number of short term, medium term, advanced intensive training and tutoring programmes developed • quality and number of developed training management programmes • number of employers involved in acquiring work experience of trainees and in training needs analysis
Main Outcomes	• number of adults (unemployed & employed) involved in training programmes based on wider rural/regional economy needs • number of employers involved in programmes of acquiring work experience • number of employers cooperating with the Regional centre for adult education

	• number of institutions providing training in cooperation with the Centres
Sustainable Impact	• Number of institutions which introduced life-long learning principle for their employees • Number of unemployed who found work after the training

Obviously, training programmes, which target the right groups, cannot follow a standard scheme, but need to be tailor-made for the target group. A strong emphasis on building self-confidence and assertiveness must also be applied in order to incorporate the knowledge of succeeding and life skills in modern societies. Specialised trainers for such courses need to bring specific pedagogical qualifications.

DEVELOPMENT OF NEW KNOWLEDGE AND SKILLS IN ORDER TO SUPPORT INTRODUCTION OF NEW TECHNOLOGIES AND PROMOTE RESEARCH

There are few institutions in Serbia's regions dealing with research and development (at Kragujevac University for example, there are 5 scientific centres), and which would be able to follow modern trends and apply new technologies.

Apart from the fact that the wider territorial region used to be an industrial centre and that the further development is based on development of economy, primarily SMEs, it is necessary to establish several institutions in various fields, which would be able to offer various form of help to relevant industries in the region.

On the other hand, the greatest regional development potential are young people, women and/or students on University and in secondary schools. Available research shows that significant number of students want to leave the country after graduation¹¹.

It is necessary to invest in those segments which will ensure quality of living and expression of creative and entrepreneur abilities of young people, in order to preserve the value of that potential. Establishment of favourable surrounding for development, application and transfer of new technologies (primarily, digital and ICT) and innovations, is one of the ways of a productive engagement of the youth on vital rural and regional¹² positioning for development. By digital transformation this paper refers to a broad strategic initiative in which multiple parts of an organization use new digital technologies (such as social media, mobile, analytics or "smart" devices) to enable critical business improvements (such as enhancing the customer experience, streamlining operations, or creating new business models).

The special efforts should be put into recognition of very talented and ambitious experts, thus creating the possibility for further investments into their education according to the highest international standards.

Aims and expected results of development of new knowledge and skills

- Effectively strengthening of the existing research institutions
- Connecting research centres with economy in a practical manner
- Development of entrepreneurial knowledge and skills among youth/women

¹¹http://www.setimes.com/cocoon/setimes/xhtml/en_GB/features/setimes/features/2013/06/22/feature-02 Accessed [August 23rd, 2013]

¹² UNDP, Accenture, Markle Foundation, 2001. Creating a Development Dynamic, Final Report of the Digital Opportunity Initiative, pp.41.

Main proposed specific activities for development of new knowledge/skills

- Establishment of the Centres for business and tourist innovations in the wider territorial regions (for stimulation of innovativeness and protection of intellectual property, transfer of „know how” and scientific research)
- Support to entrepreneurship among young people through introduction of „Youth/Women entrepreneurship” as a optional subject in secondary schools
- Establishment of „Centres for talented” and Scholarship Fund for talented students and researchers in regions
- Development of stimulant programmes, aimed at encouraging SMEs to employ highly educated persons (holders of MA and PhD)

Strategically addressing economic development the detailed measurable indicators of the development of new knowledge and skills can be summarized as follows:

Table 6. Outputs, outcomes and impact of new knowledge and skills

Main Outputs	• Number of local schools with entrepreneurship curricula • Number of granted scholarships from the Scholarship Fund
Main Outcomes	• Number of local users of services of the Centre for business innovations • Number of students from the wider territorial region who took the subject “Young/Women entrepreneurship” • Number of scientific-research works
Sustainable Impact	• Percentage of the productivity increase of users of services of the Centres for business innovation • Number of applied innovations • Number of experts who found employment in SME sector

CONCLUSIONS

The main Critical Success Factors for developing local competitive advantage and entrepreneurship based on growth of innovative firms, exports & brands are based on five interrelated strands:

- (1) Enhancing the level of technological development
- (2) Enhancing conducive business climate for economic development and investment
- (3) Encouraging a more entrepreneurial attitude towards regional economic identities within Serbia and broader by netowrking in the region
- (4) Encouraging a more entrepreneurial attitude towards life and pro-activeness towards the life-long learning process with training programmes for development and improvement of knowledge and skills
- (5) Development of new knowledge and skills in order to support introduction of new technologies and promote research

Detailed methods are also required to measure risks and assumptions and to track unintended effects and in order to achieve sustainable impact further support and more coordination are needed in all of these five fields of Serbia’s economic development.

LITERATURE

- 1) Konakčiev, D. (2004.) Obsa teorija na regionalnata ikonomija politika, Varnieski sloboden universitet „Černirizec Hrabr“, Varna
- 2) Ministry of Economy and Finance, Ministry of Regional Development and Local Self/Management, National Agency for Regional Development, (2012). Report on SMEs and entrepreneurship for 2011.
- 3) National Employment Strategy of Serbia, 2011-2020
- 4) National Employment Service, Monthly Statistical Bulletins
- 5) Strategy of development of competitive and innovative SMEs in Serbia, 2008 – 2013
- 6) Strategy of scientific and technological development of Serbia 2010-2015
- 7) UNDP, Accenture, Markle Foundation,(2001.)Creating a Development Dynamic, Final Report of the Digital Opportunity Initiative.
- 8) UNDP, (2004.) Unleashing entrepreneurship, Making business work for the poor. Report to the Secretary General of the United Nations, Commission on the Private Sector & Development, UNDP, New York.

CHALLENGES FOR WESTERN BALKANS SMES – EXPORT BARRIERS IN THE GLOBAL ECONOMIC CRISIS

Jelena VAPA-TANKOSIĆ⁴⁵⁴
Biljana LAZIĆ⁴⁵⁵,
Miroslav STOJSAVLJEVIĆ⁴⁵⁶

Abstract

Small and medium enterprises (SMEs) are important participants in economic trends of both developed and developing countries. Integration process towards the European Union standards provides Western Balkan countries with many benefits, but at the same time also produces new challenges and threats. The global economic crisis has caused a decline in demand for goods and services, accompanied by increased payment delays and a consequent shortage of working capital and decreased liquidity that has led to increased defaults, insolvencies and bankruptcies of SMEs in Western Balkan countries. In order to benefit more from the opportunities offered by the Single Market Western Balkans countries SMEs have used adopted frameworks for trade cooperation in the Western Balkan countries, Central European Free Trade Agreement (CEFTA) and Stabilisation and Association Process (SAP). Their aim is to eliminate impediments to trade such as differences in market access, low competitiveness and rules of origin thus by improving the SMEs export performance and competitiveness in the long-term. The theoretical aim of this paper is to present a framework of the need to support greater internationalisation as SMEs face on their exit to Single Market, while the second part of the paper identifies the critical problems that Serbian SMEs exporters face as the main barriers that have the greatest impact on their limited export activity. This study contributes to the export literature by identifying the barriers that have the greatest impact on exporters from a low developed country in order to potentially deepen the economic integration of exporters on the Single market, on the path towards European Union (EU) membership.

Key words: SMEs, internationalisation, export, barriers, competitiveness, Republic of Serbia.

INTRODUCTION

Small and medium enterprises (SMEs) are indispensable participants in economic trends of developed countries, but are also increasingly becoming the drivers of growth of GDP and reduction of unemployment in countries in transition. Certainly, internationalization contributes to the improvement of competitiveness of all companies, regardless of their size, but its importance stands out when it comes to SMEs. In the current business environment, entrepreneurs who commence with the application of the global strategy of development are provided with many benefits of performing international business operations, including revenue growth, the exchange of know-how, improvement of management skills and strengthening of long-term competitive advantages. The scope of this paper is to analyze the issue of internationalization of SMEs in the Western Balkan countries (WBC). SMEs in this region are financially very weak, have limited access to additional sources of financing while the issue of internationalization is quite understated, incentives hardly exist, and many barriers are precisely of internal character. The last chapter of the paper will try to identify the critical problems

⁴⁵⁴PhD Assistant Professor, Faculty of Economics and Management Engineering, University Business Academy, Novi Sad vapa@libero.it

⁴⁵⁵MA Teaching Assistant, Higher School of Professional Business Studies in Novi Sad, vps.biljalazic@gmail.com

⁴⁵⁶MA Teaching Assistant, Faculty of Economics and Management Engineering, University Business Academy, Novi Sad minjast@eunet.rs

that SMEs exporters face in the Republic of Serbia, as one of the Western Balkan countries having the status of European Union (EU) candidate countries. Important contribution of this research is that majority of studies have been conducted in developed countries (e.g. USA, Canada and Western Europe) with very little attention given to developing countries (Julian, 2003). These findings may not be transferable to countries with lower levels of economic development as exporters from low developed nation face, in the context of an pre-accession country like Serbia, face different challenges. The framework has been tested via a survey of 50 SMEs exporting firms managers. The results are then presented and their implications for theory are discussed. The motivation for the study stems from the desire to contribute to the Serbian export industry in the framework of raising the importance of exports to the Serbian economy, having in mind the limited research that has been conducted on identifying the country-specific factors that inhibit the success of Serbia's export firms.

SMES IN WESTERN BALKAN COUNTRIES IN THE CONTEXT OF EU INTEGRATION

In recent years, SMEs play more significant role in accelerating the process of economic growth and development, GDP growth and reduction of unemployment rate in the Western Balkans, while offering strong support for the continuation of the process of transition. It is very difficult to determine the precise number of SMEs operating in the region since it is known that there are a number of entrepreneurs who operate in the gray area of the economy. The integration process towards the European Union (EU) provides the transitory countries with many benefits and advantages. Regardless of the current status in the negotiations with the European Union, most of the Western Balkan countries are included in the programmes of the European Commission aimed to improve the business environment and supporting the development of the SME sector. Moreover, SMEs are the true backbone of the European economy, being primarily responsible for wealth and economic growth, next to their key role in innovation and R&D, with nine out of ten SMEs in the EU belong to the category of micro enterprises with less than ten employees. According to Irwin (2007) economies with high proportion of SMEs will be more resilient to external shocks and will be more likely to have more firms which grow into larger business.

Table 1. Classification standards for SMEs

EU

Company category	Employees	Turnover or	Balance sheet total
Medium-sized	< 250	≤ € 50 m	≤ € 43 m
Small	< 50	≤ € 10 m	≤ € 10 m
Micro	< 10	≤ € 2 m	≤ € 2 m

Serbia

Company category	Employees	Turnover or	Balance sheet total
Medium-sized	< 250	≤ € 10 m	≤ € 5 m
Small	< 50	≤ € 2,5 m	≤ € 1 m

Source: Data from European Commission 2012b and National Agency for Regional Development, Belgrade 2012.

The Western Balkan countries approached the European Union, in accordance with their individual abilities to meet the key criteria of accession. Croatia gained the status of a candidate for membership

in 2000. In June 2011 it completed all pre-accession negotiations with the European Commission and has joined in July 2013. Primarily by fulfilling the defined obligations towards the UN, and then the other necessary conditions, in March 2012 Serbia has gained the candidate status for membership in the European Union. European Council (2012) has stated that the granted candidate status should encourage Serbia to take further steps to meet the political and economic criteria for membership in the European Union further supporting regional cooperation and good neighbourly relations in the Western Balkans. Since 2010, Montenegro has the status of a candidate for membership and is currently in the process of fulfilling the requirements defined by the European Commission in order to accelerate the beginning of membership negotiations. Macedonia can boast of a very rapid rise since the moment in 2004 when it had applied for EU membership until next year when it received candidate status. However, it is still unknown when it will start accession negotiations as the main obstacle is a protracted dispute between Macedonia and Greece regarding the name of the former Yugoslav Republic.

On the journey towards European integrations, the slowest progress is the one of Bosnia and Herzegovina, which in 2008 signed a Stabilization and Association Agreement with the European Commission Delegation, and is still in the process of fulfilling the necessary conditions for the submission of application for EU membership. The lack of political consensus represents a key obstacle to the normal course of the integration process. Albania has since 2010 achieved significant progress in the areas of concern, and must continue with further reforms in the judiciary and public administration as well as in the direction of reducing corruption and crime. If the next parliamentary elections in this country in 2013 are to be held on the basis of democratic principles and if it continues with the implementation of these reforms, Albania could be granted the status of candidate for EU membership in the following year.

Membership in the EU and the provision of access to new markets and new sources of financing are expected to make way for significant progress in the development of the SMEs sector in the Western Balkans. According to Wilson (2007) challenges for SMEs integration in regional and European markets include:

- Quality standard of products and competitive prices.
- Specialisation of less sophisticated products based on competitive advantages.
- Investments in traditional, local products with export potential.
- Focus on marketing channels and export strategies.
- Better use of the economic potential of expatriate communities.
- Use of SMEs clusters combined with domestic market needs.
- Investments in high technology to replace old technologies.
- Transfer of know-how, aimed to a better access of foreign markets.

Internationalized SMEs will be able to provide a stronger contribution to economic development, employment and productivity growth, as well as the improvement of competitiveness of the Western Balkans. While providing access to an enlarged economic area, EU enlargement will also require SMEs to face a more complex and dynamic environment which will require greater competitiveness in terms of improved quality, efficiency and management practices (Szabo, 2002). However, the competitiveness of the region is at a much lower level compared to other European countries.

SMES INTERNATIONALIZATION, COMPETITIVENESS AND ECONOMIC CRISIS

Despite the efforts that are being taken to encourage the internationalization process and to facilitate its implementation, internal and external barriers are still present in many countries. Among the external barriers to internationalize commonly referred to are inflexible administrative rules, high tax burdens as well as various forms of trade barriers. Strong competition in international markets,

prompted by a large number of participants, can also be a barrier for SMEs. However, if it tends to increase its' competitiveness, responds quickly to market challenges, adapts to market changes and establishes cooperation with other companies, an SME greatly increases its potential for achieving success in the international market. Internal barriers are mainly related to the existence of cultural differences and language barriers, lack of valuable information, underdevelopment of necessary skills and abilities as well as limited access to the necessary financial resources.

SMEs often do not have a clearly defined strategy of internationalization at the beginning of their international appearances as well as the knowledge and ability to identify potential partners and assess market potential. Many of the barriers are of national character and can be found in inadequate institutional frameworks, inadequate infrastructure, unregulated competition issues, inefficient education policy and not clearly defined legislative norms, constant political instability and the presence of various forms of economic crime and corruption.

Participants of the OECD conference (2004) agreed that globalization of large companies also provided the opportunity to SMEs to engage in this process as participants in various segments of the value chain of these companies. Internationalization has also provided them with numerous opportunities for conquering new market segments, the introduction of modern technologies, reduction of operating costs and improvement of R&D activities. Liesch and Knight (1999) believe that exactly these factors provide substantial international opportunities for entrepreneurial SMEs which often have greater flexibility and are better able to internalise market information than large firms.

The competitiveness of many countries has decreased in recent years due to the global crisis, whereas the countries in transition have experienced the sharpest decline in competitiveness. The Global Competitiveness Index (GCI) records microeconomic and macroeconomic foundations of national competitiveness and contributes to a better understanding of the key factors that determine economic growth of any country (WEF, 2012). Its' predecessor was the Business Competitiveness Index, which was oriented towards the microeconomic drivers of prosperity and published until 2004. In the current period of overcoming the consequences of economic and financial crisis, a very important role of GCI in measuring the impact of global recession to sustaining long-term competitive advantage is strongly emphasized (Vapa-Tankosić and Lazić, 2012).

Judging by the fact that the World Economic Forum (WEF) analyzed the competitiveness of 144 countries of the world it may be concluded that the global competitiveness of the Western Balkans is very low. Montenegro is located right in the middle of the competitive list, while other countries take up positions between 80th and 90th place in the second half of the list, along with many underdeveloped economies. Looking at individual aspects of the competition, we conclude that all of the analyzed countries have problems with the inefficiency of the institutional sector, underdeveloped infrastructure network capacity and insufficient energy capacities for the operations of business entities as well as for use by the population. The modest size of the national markets, inefficient labor markets and commodity markets, underdeveloped financial markets and the lack of modern technology are just some of the reasons that do not encourage SMEs in the Western Balkans countries to opt for internationalization. Lu and Beamish (2002) believe that international expansion is a significant decision for SMEs who traditionally have a small financial base, a domestic focus and a limited geographic scope.

SME operations are hindered by the presence of monopolistic companies on the markets of these countries as well as the occurrence of crime and corruption. Negligible financial resources are allocated for the implementation of R&D activities and innovation, patents are given insufficient attention, and labour force can not boast with business culture developed due to lack of willingness to delegate authority among employed workers and negligible participation of women in leadership positions.

In order to determine leading factors that impede the normal functioning of the economy and prevent smooth conduct of business activities in Western Balkan countries, the WEF and its partner institutes from those countries have conducted a survey among owners and managers of SMEs regarding the mentioned issues and singled out the most critical areas. Inefficient government, high levels of corruption, lack of funds and poor credit conditions, as well as high inflation rates generate almost half of the problems in the business activities of SMEs in this region and frequently reject potential entrepreneurs from the idea of starting a business. They are particularly concerned about constant political instability, very expressive corruption, rigid foreign exchange regulations and poor work ethic. Long lasting procedures for obtaining building and other permits, insufficiently precise legislation governing many business areas and unfavourable tax treatment of business entities are additional elements that make Western Balkan countries very unattractive investment destinations. As long as the national governments do not take concrete steps to address these issues, it will be very difficult for SMEs to survive in the market and develop their own businesses, and it will be even more difficult for them to commit to internationalization.

In 2011 7.097 new SMEs were established in Serbia, 12% less than in 2010, but at the same time 11.607 stopped their activities, compared to 6.173 SMEs terminated in previous year (Belgrade Chamber of Commerce, 2012). Although high fluctuation is common for SMEs, such drastic increase in number of entrepreneurs that opted to stop their business implies serious impact of global financial crisis on Serbian economy and SMEs in particular.

European Commission (2012b) stresses the importance of SME sector and accents that more than 99% of all European businesses are, in fact, SMEs, as can be seen in Table 2, providing more than half of the total value-added created in the EU.

Table 2. SMEs in Serbia and EU

	Number of enterprises			Employment		
	Serbia		EU 27	Serbia		EU 27
	Number	Share	Share	Number	Share	Share
Micro	72.062	86,20%	92,10%	207.164	20,20%	29,80%
Small	8.939	10,70%	6,60%	180.875	17,70%	20,40%
Medium sized	2.121	2,50%	1,10%	222.425	21,70%	16,80%
SMEs TOTAL	83.122	99,40%	99,80%	610.464	59,70%	66,90%
Large	509	0,60%	0,20%	412.884	40,30%	33,10%
TOTAL	83.631	100%	100%	1.023.348	100%	100%

Source: European Commission 2012b

European perspective is the driver of regional cooperation (Monastiriotis, 2008). Frameworks for trade cooperation in the Western Balkans are provided by Central European Free Trade Agreement (CEFTA) and Stabilisation and Association Process (SAP). Their aim is to eliminate impediments to trade such as differences in market access, low competitiveness and rules of origin. CEFTA region is more than four times important as export market (35% of total), then for import (8% of total). According to participation in total export of Serbia, CEFTA members are the second by importance, after the EU market. Surplus in trade is traditionally made with Bosnia and Herzegovina, Montenegro, Macedonia and Albania. And while the trade with CEFTA countries Serbia achieves surplus, in trade with the rest of the world performs more than 7 times higher trade deficit. The largest deficit is with

Russian Federation mainly because of import of energy, oil and gas, followed by China, Germany and Hungary.

The availability of finance, the medium and long-term especially, is often poor for developing country. Financing for trade is particularly scarce in time of financial crisis, yet the availability of financial instruments is vital for support of international trade. SMEs exporters with limited access to working capital often require financing for the period before receiving payments, while SMEs importers need funds to buy raw materials and goods from overseas. In addition to problems with securing adequate finance, SMEs exporters face a number of additional risks including nonpayment by the buyer, and both categories must beware of foreign exchange risks.

During current global financial crisis Serbian banking sector did not faced losses in a way as it happened in developed markets. The banks on the Serbian financial market did not engage in significant volume in financial products similar to those which were the crisis triggers in the developed countries. In December 2008, the Government of Serbia has adopted the Framework on Minimizing the Impact of the Crisis. The Framework mainly consists of three groups of measures (Vapa-Tankosić et al, 2010a): saving measures; a package of incentives to boost economic activities; conclusion of arrangements with international financial organizations. Serbia was the first country in the region to seek financial arrangement with the IMF as precautionary measure in line with the wish to implement transparent economic policy under the IMF umbrella.

The trends of decreased imports and exports have been present in recent years (2010 onwards). The main cause of such situation is world financial crisis, as it has caused decrease of economic activity throughout the world and it is certainly reflected on the external trade of Western Balkans countries. Decreased imports is the result of fall of the industrial production and domestic consumption and decreased exports have been caused by decreased prices of primary products on the world market, as they present great share in the structure of WBC exports. Serbian export economy, for example, is highly concentrated on developed markets, with primary products prevailing and very few internationalized companies. Presently, Serbian exporters are concentrated on the markets of European Union (over 50% of the total exports is directed to Italy, Germany and Slovenia), and CEFTA countries with around 88,2% of total exports. That makes Serbian exporters particularly vulnerable to the problems experienced by these countries (Vapa Tankosić, 2009).

MAIN BARRIERS TO SMES EXPORTING ACTIVITIES IN REPUBLIC OF SERBIA

The barriers most frequently cited in the literature include (Leonidou 1995; Shoham&Albaum, 1995; Leonidou, 2004) identifying potential markets, learning the mechanics of export (procedural aspects including documentation, logistics and legal issues), communications, fierce international competition, providing adequate customer service, difficulty in matching competitors' prices, excessive transportation/insurance costs, different foreign customer habits, and poor and deteriorating economic conditions abroad and political instability in foreign markets. Tesfom and Lutz (2006) in their research article derived a classification of export problems of SMEs from developing countries with a classification of problems into internal and external barriers, with the internal barriers including company barriers and product barriers and external export barriers being the industry barriers, export market barriers and macro environment barriers.

The analysis performed by Kastikeas, Piercy, and Ionnidis (1995) pointed out to the country-specific problems of Greek exporters such as poor quality in export packaging, meeting importer's expectations of quality and design, poor organization of the export department, lack of available experts as consultants, ineffective national export promotion, red tape in Greek public institutions, and currency devaluations. Turkish exporters have identified main export barriers related to excessive export bureaucracy, difficulties competing with high-tech products, outdated manufacturing plants with limited capacity, inability to compete due to high costs, insufficient product quality, expensive

imports needed for production (Karafakioglu,1986). Leonidou (1995) identified that the major country-specific barriers for Cyprus exporters were inability to offer competitive prices, lack of government incentives, lack of production capacity, and lack of competent export personnel. The results of the empirical findings suggest that the exporters face constraints classified into financial (availability and cost of finance), marketing (export marketing, export packaging and creativity), technological (related to access and quality management) and inputs (availability of skilled labour and raw materials).

This survey is aimed to identify the main barriers to export in developing transitional country on its' pathway to integration and inclusion into the European Single Market. Firstly, a review of the relevant literature was made. Second, the list of questionnaire items was developed with the co-operation of business professionals, from the Serbian Agency for Export Credit Insurance (AOFI) and two academicians familiar with research on export marketing. The majority of export barriers in the existent questionnaire was adapted according to identified exporters' problems in Greece by Katsikeas et al (1995). Finally, the research instrument was pretested through personal interviews with various export executives ensuring that the questions were relevant and phrased in a meaningful manner. In the data collection process, particular attention was given to the identification and selection of the most appropriate executive in each responding firm to answer the survey. This survey was sent by e-mail and post to executives to more than 50 exporting firms, majority of them being SMEs, in Serbia resulting in a reduced sampling frame of 47 firms. Data from the surveys was coded and entered into an Excel spreadsheet. The reliability of the applied survey is satisfactory (Cronbach alpha=0,843). Nineteen exporting problems (EP) items were selected as barriers for the study. Respondents were asked to indicate how frequently each EP item was experienced during their exporting operations. The scale polarized from "never" having a problem (1) to "always" being a problem (5).

The results from the Table 3 indicate that the exporters consider the ineffective national export promotion programmes, red tape in domestic public institutions, lack of government assistance in overcoming export barriers and the existence of a strong international competition. The crucial role that the government can play in the development of successful export activities, this finding gives credibility to the importance of those studies focusing on the appraisal of public policy programmes for export promotion (e.g. Kotabe and Czinkota, 1992; Seringhaus, 1986; Seringhaus and Botschen, 1991). Ineffective national export promotion programmes may be the most important barrier to overcome in attempts to maintain regular business activities and, subsequently, succeed in export markets. On the other hand, the results suggest that the exporters consider their staff to be qualified for the exporting arrangements, to have effective communication with overseas customers with no language barriers, that product design and style for export markets is satisfactory of proper quality in export packaging and that the export department organisation is absolutely satisfactory.

Table 3. Results after descriptive analysis

1. Ineffective national export promotion programmes
2. Red tape in Serbian public institutions
3. Lack of government assistance in overcoming export barriers
4. Strong international competition
5. High transportation costs
6. High cost of capital to finance exports
7. Insufficient information about overseas markets
8. Inadequate promotion in export markets
9. Inability to self-finance exports
10. Complexity of export documentation requirements
11. Lack of competitive prices
12. Lack of education on foreign currency exposure products

13. Difficulty in meeting importer's product quality standards
14. Lack of "experts" in export consulting
15. Lack of personnel qualified in exporting
16. Ineffective communication with overseas customers and language barriers
17. Poor product design and style for export markets
18. Poor quality in export packaging
19. Poor organization of firm's export department

CONCLUSION

There are no universal principles and rules that are applicable in all economies which lead to the desired goal and the realization of successful internationalization of SMEs in Western Balkans countries. The aim of this paper is to present a theoretical framework of the need to support greater internationalisation as SMEs face on their exit to Single Market while the second part of the paper identifies the critical problems that Serbian SMEs exporters face as the main barriers that have the greatest impact on their limited export activity. Minimization of the existing barriers to SMEs internationalization should be their primary goal in the future European single market perspective. The role of government in supporting export during the financial crisis remains a crucial and necessary condition for the revitalization of the economy and trade. Relative to global business activities of SMEs in the Republic of Serbia, little is still known about SMEs motivations to engage in exporting activities, ways and means of assessing their readiness to export, or how foreign target markets are selected, which warrants a further research on these topics.

LITERATURE

- 1) Autio, E. and Sapienza H. (2000) Comparing Process and Born Global Perspectives. In: *The International Growth of Technology-based New Firms. Working Paper Series 2000*. Espoo: Helsinki University of Technology, Finland.
- 2) Belgrade Chamber of Commerce, 2012. News, Available at: http://www.kombeg.org.rs/aktivnosti/c_eko/Detaljnije.aspx?veza=7333 [Accessed 20 November 2012]
- 3) European Commission (2012a). *Trade/Regions/Western Balkans*, Available at: <http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/regions/balkans/#referrer-1> [Accessed 20 November 2012]
- 4) European Commission, (2012b). *Facts and Figures*, Available at: http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/index_en.htm [Accessed 20 November 2012]
- 5) European Commission, (2007). *Enterprise and Industry Directorate –General: "Final Report of the Expert Group on Supporting the Internationalization of SMEs"* Available at: ec.europa.eu/enterprise/policies/sme/files/.../report_internat_en.pdf
- 6) Garth W. (2005) *Should SMEs be at the International Policy Table? Lessons learned in North America*. International Small Business Congress, Washington D.C., June 2005
- 7) Handjiski, B., Lucas, R., Martin, P., and Sarisoy Guerin, S., (2010): *Enhancing Regional Trade Integration in Southeast Europe*, World Bank Working Paper 185, The International Bank for Reconstruction and Development. Washington.
- 8) Irwin, D., (2007). *Financing Entrepreneurship at the Regional and Local Level in South-East Europe*. *OECD Papers: Promoting Entrepreneurship in South-East Europe – Policies and Tools*, 6 (12), pp. 15-17.
- 9) Julian, C. C. (2003) Export marketing performance: A study of Thailand firms. *Journal of Small Business Management*, 41, (2), pp. 213-221
- 10) Katsikea, C., Piercy, N. and Ioannidis, C. (1995) Determinants of export performance in a European context. *European Journal of Marketing*, 30(6), pp. 6-35.

- 11) Kotabe, M. and Czinkota, M.R. (1992) State government promotion of manufacturing exports: gap analysis, *Journal of International Business Studies*, vol. 23, no. 4, pp. 637-58.
- 12) Leonidou, L. C. (1995) Export barriers: Non-exporters' perceptions. *International Marketing Review*, 12(1), pp.4-25.
- 13) Leonidou, L.C. (2004) An analysis of the barriers hindering small business export development", *Journal of Small Business Management*, Vol. 42 No. 3, pp. 279–302.
- 14) Liesch, P.W. and Knight, G.A. (1999) Information Internalisation and Hurdle Rates in Small and Medium Sized Enterprise Internationalisation. *Journal of International Business Studies*, 30(2), pp.383-394.
- 15) Lloyd-Reason, L., Damyanov, A., Nicolescu, O. and Wall S. (2004) Internationalisation Process, SMEs and Transitional Economies: A Four-Country Perspective. *International Journal of Entrepreneurship and Innovation Management*, 5(3-4), pp.206-226.
- 16) Lu, J.W. and Beamish, P.W. (2002) The Internationalisation and Growth of SMEs. *Strategic Management Journal*, 22(6-7), pp.565-586.
- 17) Monastiriotis, V. (2008) *Quo Vadis Southeast Europe? EU Accession, Regional Cooperation and the need for a Balkan Development Strategy*, GreeSE Paper No 10 Hellenic Observatory Papers, London School of Economics.
- 18) National Agency for Regional Development, Belgrade, (2012). *Activities*, Available at: <http://narr.gov.rs/index.php/Aktivnosti> [Accessed 20 November 2012]
- 19) OECD (Organization for Economic Co-operation and Development), (2004). *Second OECD Conference of Ministers Responsible for SMEs "Promoting Entrepreneurship and Innovative SMEs in a Global Economy"*. Istanbul, Republic of Turkey 3-4 June 2004. Paris: Organization for Economic Co-operation and Development
- 20) OECD (Organization for Economic Co-operation and Development), (2012), *Small and Medium-Sized Enterprises (SME) Policy Index*, Available at: <http://www.oecd.org/daf/privatesector/development/smallandmedium-sizedenterprisessmepolicyindex.htm> [Accessed 20 November 2012]
- 21) Regibeau M.P. and Rockett E.K. (2006) *Administrative delays as barriers to trade*. Contribution to Economic Analysis and Policy. Vol.5, No.1
- 22) Seringhaus, F.H. R. (1986), The impact of government export marketing assistance, *International Marketing Review*, Vol. 3 No.2, pp. 55-65.
- 23) Seringhaus, F.H.R. and Botschen, G. (1991) Cross-national comparison of export promotion services: the views of Canadian and Austrian companies, *Journal of International Business Studies*, First Quarter, pp. 115-133.
- 24) Shoham, A. and Albaum, G.S. (1995) Reducing the impact of barriers to exporting: A managerial perspective. *Journal of International Marketing* 3(4), pp.85-105.
- 25) Stevenson, H. (1985) *The Heart of Entrepreneurship*. *Harvard Business Review*. March-April Issue, pp.85-94.
- 26) Szabó, A. (2002) Internationalisation of SMEs, *United Nations Economic Commission for Europe*, Available at: <http://www.unece.org/indust/sme/internat.html> [Accessed 20 November 2012]
- 27) Tehfelsbauer W. (2005) *Optimal Organisation of Cross Sectoral SME Peak Associations*. European Association of Craft and Small and medium sized enterprises with support of the European Commission, Avignon, France
- 28) Tesfom, G. and Lutz, C. (2006) A classification of export marketing problems of small and medium sized manufacturing firms in developing countries. *International Journal of Emerging Markets*, Vol. 1(3), pp. 262–81.
- 29) Twaalfhoven, B. and Wilson K. (2005) Breeding More Gazelles: The Role of European Universities. In: Kyro, P. and Carrier, C., ed. 2005, *The Dynamics of Learning Entrepreneurship in a Cross-Cultural University Context*. Hämeenlinna: University of Tampere, Research Centre for Vocational and Professional Education

-
- 30) Wilson, K. (2007) Encouraging the Internationalisation of SMEs. *OECD Papers: Promoting Entrepreneurship in South-East Europe – Policies and Tools*, 6 (12), pp. 54-61.
 - 31) Vapa-Tankosic, J. (2009) *Fostering trade and export promotion in overcoming the global economic crisis*. International Journal of Euro-Mediterranean Studies. ISSN 1855-3362
 - 32) Vapa-Tankosić J., Jevtić A. (2010) Export Finance: A Key to Economic Recovery. Proceedings from the International Scientific Conference Economic Prospects in the Second Decade of the 21st Century. How to Get Out of the Crisis. April 14-15, 2010. Belgrade Banking Academy. pp. 146-156. ISBN 978-83-8-1118-53-4.
 - 33) Vapa-Tankosic J, Ćirić M. Jevtić A. (2010b) Strategic Development of SMEs Export Performance in the light of best practices of State Support of Export. Proceedings from the 3rd International Conference for Entrepreneurship, Innovation and Regional Development (ICEIRD), University of Novi Sad, Faculty of Technical Sciences May 27-29, 2010. pp. 773-780. ISBN 978-86-7892-250-3.
 - 34) Vapa-Tankosic, J. and Lazic, B. (2012) Improvement of Competitiveness of Serbia – Step Forward in Overcoming the Crisis. In: *II International Symposium Engineering Management and Competitiveness*. Zrenjanin, Republic of Serbia 22-23 June 2012. Zrenjanin: Technical Faculty Mihajlo Pupin, University of Novi Sad
 - 35) World Economic Forum (2012) *The Global Competitiveness Report 2012-2013*[pdf] Available at: http://www3.weforum.org/docs/WEF_GCR_Report_2012-13.pdf [Accessed 23 November 2012]

THE GROWTH OF SERVICES AND AGGREGATE PRODUCTIVITY DYNAMICS: PORTUGAL 1970-2006

Tiago SANTOS¹
Marta C.N. SIMÕES²

Abstract

This paper investigates the relationship between the growth of the services sector and aggregate productivity growth in the Portuguese economy over the period 1970-2006. The persistence of relative low aggregate productivity levels and performance in Portugal might be linked to the strong weight of services, and especially traditional stagnant personal services. The so-called modern progressive services, on the other hand, usually register productivity levels comparable to those of manufacturing, since they are more receptive to the use of information technologies and are increasingly tradable across borders. The results from the estimation of an empirical model with TFP growth as the dependent variable point to a negative influence of an increase in the weight of the services sector as a whole on aggregate productivity growth, but this effect is not statistically significant. Considering the separate influence of five services subsectors confirms the expected negative and statistically significant influence of the traditional personal services sub-sectors wholesale and retail trade and hotels and restaurants, and a positive and statistically significant influence of transport, storage and communications, and of finance, insurance, real estate and business services, given their potential for productivity improvements as modern progressive sectors, but also a positive and statistically significant influence of community social and personal services, classified as traditional personal services. A possible explanation for this last result is that this subsector fosters human capital accumulation, which in turn is essential for productivity growth. Portugal thus needs to develop modern progressive services sectors if it wants to restore and sustain long-run growth, but it cannot also forget the role of some traditional personal services as sources of human capital, a main driver of productivity growth.

Key words: services sector, aggregate productivity growth, Portugal.

INTRODUCTION

Until recently the potential contribution of the services sector to accelerate economic growth was faced with some skepticism, with earlier theories arguing that moving from an agrarian to an industrialized economy would be the engine of economic growth, while the tertiary or services sector was viewed as a stagnant or unproductive sector when compared to manufacturing (see e.g. Kaldor (1966); Baumol (1967)). In the limit, tertiarization could lead to stagnation. However, the services sector can no longer be considered a homogeneous sector composed of non-tradable services with no opportunity for scale economies and improvements in productivity, known also as traditional personal services. These include, for instance, trade, hotels, restaurants, and public administration. Technological change allowed the development of services such as communication, banking, insurance, and business-related services, that can be easily transported, face low transports costs and have a high potential to increase productivity through the incorporation of technological advances.

¹ Tiago Santos, Master in Economics, Faculty of Economics, University of Coimbra, Portugal.

² Marta C.N. Simões, PhD in Economics, Assistant Professor, Faculty of Economics, University of Coimbra, Portugal and Research Fellow, GEMF –Group for Monetary and Financial Studies, Faculty of Economics, University of Coimbra, Portugal.

These services, that share many characteristics with manufacturing, are known as modern impersonal progressive services (see Baumol (2002) and Ghani (2010)).

Since the services sector is currently the most relevant sector in terms of output and employment in many countries, it is important to identify empirically the respective importance in terms of economic growth via productivity improvements, the main driver of growth in modern knowledge based economies. In Portugal services represented in 2011 62.8% of employment (hours worked) and 74.5% of gross value added (at current prices), while the secondary sector accounted for only 27.3% of employment and 23.3% of GVA (National Statistics Office, Portugal). In this context, and given the growth slowdown Portugal has been experiencing since the turn of the century and the current economic and fiscal sustainability crisis it is facing, in this paper we investigate the importance of the increasing tertiarization of the Portuguese economy for its aggregate productivity performance. This assessment can help us gain further insights as to the causes of the persistent relative low aggregate income and productivity levels and performance in Portugal. In order to accomplish this we estimate a TFP growth regression for the period 1970-2006, with the weight of the services sector as our main explanatory variable. Since the services sector is composed of heterogeneous activities in terms of their potential for productivity improvements we also distinguish between the contributions of different services sub-sectors that can be broadly classified as either traditional personal services or modern progressive services.

The remainder of the paper is organized as follows. In section 2 we review some theoretical arguments and empirical evidence on the linkages between the expansion of services and economic growth. Section 3 contains a brief characterization of the services sector in Portugal for the period 1970-2006. Section 4 presents the estimation methodology and discusses the results. Section 5 contains the main conclusions.

LITERATURE REVIEW

For a long time the services sector was seen as unproductive, merely functioning as a complement to other sectors. Since the 1950s the growing participation of services in employment and value added in most developed countries has drawn the attention of many researchers concerned with its consequences on long-run macroeconomic performance. This dynamic structural change process has raised the question of whether services can be a source of sustained growth. From a theoretical point of view, earlier theories on structural change and growth predicted a negative influence of an increased specialisation in services. From a supply-side perspective, Baumol (1967) suggests that, due to differences in the rate of technological progress, the three major sectors grow at different rates, which means that changes in the composition of production and employment can determine important differences in the aggregate growth rate of an economy. Since the services sector was traditionally viewed as a low productivity (stagnant) sector, increased specialization towards services would lead to a growth slowdown. Kaldor (1966) had already defended that the manufacturing sector was the engine of growth, with faster growth in this sector leading to faster growth of overall output due to spillover effects to the other sectors of the economy.

A few empirical studies from the 1990s seem to confirm the concerns of Kaldor and Baumol. Ansari (1992) investigates whether the aggregate growth slowdown in the Canadian economy from 1961-72 to 1973-88 can be attributed to the shift in resources from manufacturing to services. Based on the evidence of a positive influence of the growth rates and shares of output in the industrial and manufacturing sectors on real GDP growth the author concludes for an adverse effect of deindustrialization on growth. Dutt and Lee (1993) use data for a sample of between 57 to 98 countries to estimate growth regressions for three sub-periods, the 1960s, the 1970s and the 1980s, and conclude that the impact of the services sector on real total GDP growth depends on the period considered and the way the role of services is measured, but argue for stronger evidence in favor of a negative growth impact. However, these studies do not differentiate across services sub-sectors and do not consider

more recent periods when information and communication technologies became more important for productivity growth, especially in the services sector. In fact, Dutt and Lee (1993), p. 324 suggest that “(...) aggregative cross-section exercises such as ours ignore the important structural differences between countries as well as the characteristics of different components of the services sector. Time series studies for particular countries which can take into account such structural differences are preferable to the work reported here.”

Recently several empirical studies have questioned the hypothesis of a stagnant, unproductive services sector calling the attention to the fact that the services sector is composed of many different activities with different potential to increase their productivity. Even Baumol (2002), quoted in Maroto-Sánchez and Cuadrado-Roura (2009), changed its position, admitting that it is necessary to differentiate between the various types of services and draws attention to the role of innovation and technology in the evolution of productivity in some sub-sectors. Services can also be a driver of sustained growth, as long as the change in the composition of production and employment occurs towards services sub-sectors that have benefited from what some authors call the 3Ts, technology, transportability, and tradability (see Ghani (2010)). Peneder (2003) estimates how the share of services affects either the level of real GDP per capita or its growth rate in a sample of 28 OECD countries over the period 1990-1998. Besides some typical control variables always present in the estimation of growth regressions, the author considers as additional variables to control for the influence of structure on the level or growth of real GDP, the value added shares of technology driven and human capital intensive manufacturing industries, and the relative exports and imports shares of technology driven and high skill industries. The results point to a negative influence of an increasing share of services on the aggregate growth of GDP per capita, as well as on its level, and are thus consistent with Baumol's predictions. However, the impact is weak and the author stresses that it might be the case that opposite signs effects are netting out, and that in any case there might be a positive contribution from certain types of services industries that systematically achieve higher rates of productivity growth.

More recent studies thus disaggregate the services sector to study the relationship between tertiarization and growth. Maroto-Sánchez and Cuadrado-Roura (2009) assess the impact of tertiarization on overall productivity growth for a sample of 37 OECD countries over the period 1980-2005. The authors estimate a panel data productivity growth regression to test how structural change or growth of services contributed to the evolution of overall productivity. The dependent variable is the aggregate labour productivity growth rate and the variables that control for the influence of structural change towards the services sector are the initial total employment share of services and its change. The main empirical finding is that the increase in the weight of services had a positive and quantitatively important effect on overall productivity growth. Additionally, the initial weight of services at the beginning of the period is also statistically significant with a positive sign. The heterogeneity of the services sector is taken into account by estimating the productivity growth regression differentiating the structural variables for market services and non-market services. The estimated coefficients are positive in both cases but the productivity growth impact of market services is quite stronger. Silva and Teixeira (2011) adopt two different classifications of industries, one that takes into account the industries' skill requirements, and a classification based on technological characteristics, to assess the importance of structural change for productivity growth in a sample of 10 countries (including Portugal) described by the authors as 'relatively less developed' in the late 1970s but that exhibited different paths of structural change from then onwards. The main idea is to test whether these different paths in terms of promoting changes in the economic structure towards more skilled and technology-intensive activities can explain the different growth performances (in terms of value added over employment measured in hours) registered over the period 1980-2003. The evidence suggests that a change in the high-skill industries (these include services such as communications, financial intermediation, except insurance and pension funding, real estate activities, computer and related activities, research and development, legal, technical and advertising, and education) and science-based industries shares influences positively labor productivity growth. In contrast, an increase in the VA share of supplier-dominated industries (such as hotels and restaurants) results in a decline in labor productivity growth.

Finally, Hartwig (2012) tests the more recent view that even the so-called stagnant services can make a positive growth contribution “(...) because of the human capital-accumulating nature of major ‘stagnant services’ like health care and education” (p.19). The data used refers to 18 OECD countries between 1970 and 2005 and the variables of interest are the growth rates of real per capita GDP and the real per capita education and health care expenditures, with the latter serving as proxies for the importance of health and education services in the economy. The results however lend at most support to Baumol’s predictions, with expenditure growth on health and education Granger-causing real per-capita GDP growth with a negative sign.

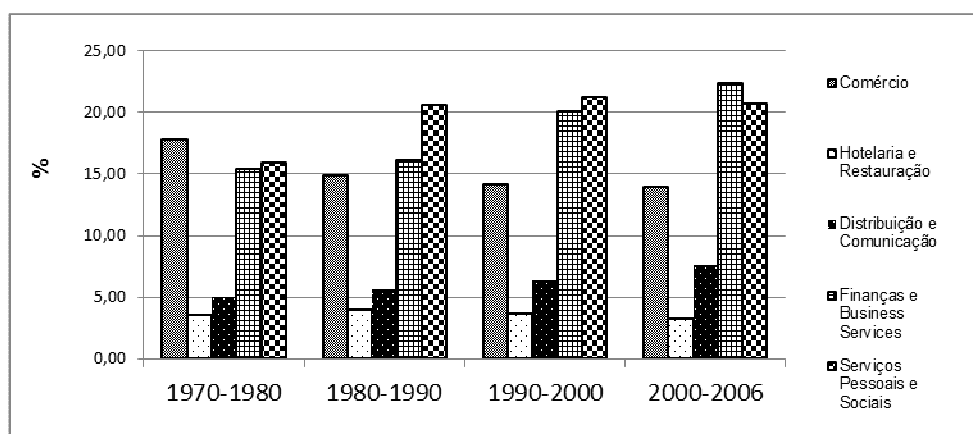
AN OVERVIEW OF THE SERVICES SECTOR IN PORTUGAL

In order to characterize the services sector in Portugal, annual output and employment data from 1970 to 2006 were obtained from the EU KLEMS database (see O’Mahony and Timmer (2009)). Output is measured as gross value added at 1995 prices. Employment corresponds to total hours worked by persons engaged. Labor productivity was obtained dividing gross value added by the total hours worked by persons engaged. In order to better ascertain the role of services productivity on overall productivity in the Portuguese economy we took into account different services sub-sectors at different levels of aggregation following ISIC rev.3, used in the EU-KLEMS database, and their importance for the Portuguese economy. We considered five services sub-sectors: wholesale and retail trade; hotels and restaurants; community social and personal services; transport and storage and communications; and finance, insurance, real estate and business services. The first three sectors can be broadly classified as traditional personal services and the last two as modern progressive services.

The process of tertiarization of the Portuguese economy can be described by looking at the evolution of the shares of the different services sub-sectors in total real value added. Figure 1 contains information on the real value added shares of the five services sub-sectors from 1970 until 2006. Considering the whole period, transport and storage and communications, community social and personal services, and finance, insurance, real estate and business services increased its participation in total value added, while hotels and restaurants maintained it and wholesale and retail trade registered a decrease. The services sector as a whole represented in 1970 around 55% of total value added but by 2006 its participation had increased to almost 70%. In 1970-80, the services sub-sectors that contributed the most to total value added were wholesale and retail trade, finance, insurance, real estate and business activities, and community social and personal services, representing together around 47% of the total. In 2000-06, these remained as the most important services sub-sectors in terms of value added, but transport and storage and communications almost doubled its importance, while wholesale and retail trade registered a decrease. Community social and personal services are the second higher contributor to total value added, although towards the end of the period (1990-2006) its importance hardly registered any change. On the contrary, finance, insurance, real estate and business activities, and transport and storage and communications were more dynamic in the last two sub-periods.

Structural change towards the services sector can also be analyzed from the perspective of employment. Figure 2 contains information on the total employment shares of the different services sub-sectors over the period 1970-2006. Employment refers to total hours worked by persons engaged. Four out of the five services sub-sectors analyzed increased (if only slightly in some cases) its participation in total employment from 1970-80 to 2000-06. The exception is the transport and storage and communications sector where employment more or less stagnated since the 1980s. As expected, the highest employment shares at the beginning and the end of the period are those of the traditional personal services, wholesale and retail trade, hotels and restaurants, and community social and personal services, with the latter climbing to the first position from the late 1990s onwards. In 1970-80, employment in the services sector represented a little more than 40% of total employment, and by 2000-06 this share increased to around 58%.

Figure 1. Total real value added shares of the services sector, Portugal 1970-2006.

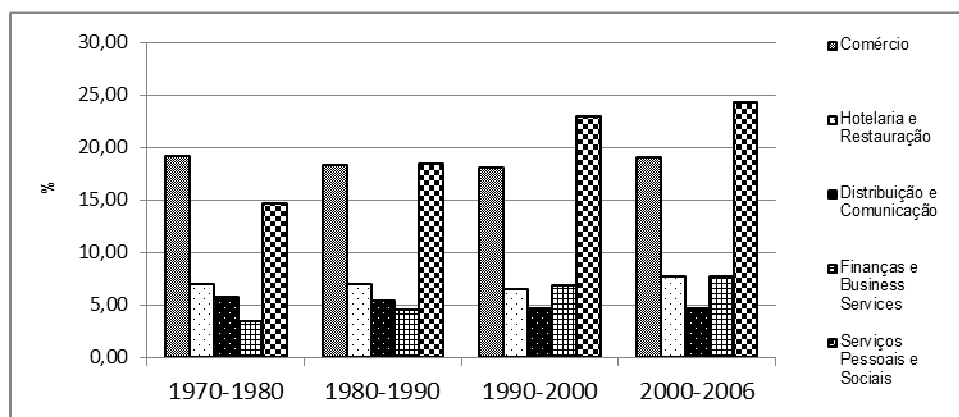


Notes: Comércio=wholesale and retail trade; Hotelaria e Restauração=hotels and restaurants; Distribuição e Comunicação=transport and storage and communications; Finanças e Business Services=finance, insurance, real estate and business services; Serviços Pessoais e Sociais=community social and personal services.

Source: authors' computations based on data from the EU-KLEMS database.

Comparing the different sub-sectors employment and value added shares evolution (see Figures 1 and 2), contrary to what happened in terms of value added shares, wholesale and retail trade and hotels and restaurants increased its employment share, while transport and storage and communications registered a decrease. In finance, insurance, real estate and business services and community social and personal services the growth rate of the employment share was higher than the growth rate of the value added share, with a higher differential in the first case.

Figure 2. Total employment shares of the services sector, Portugal 1970-2006.



Notes: see notes to Figure 1.

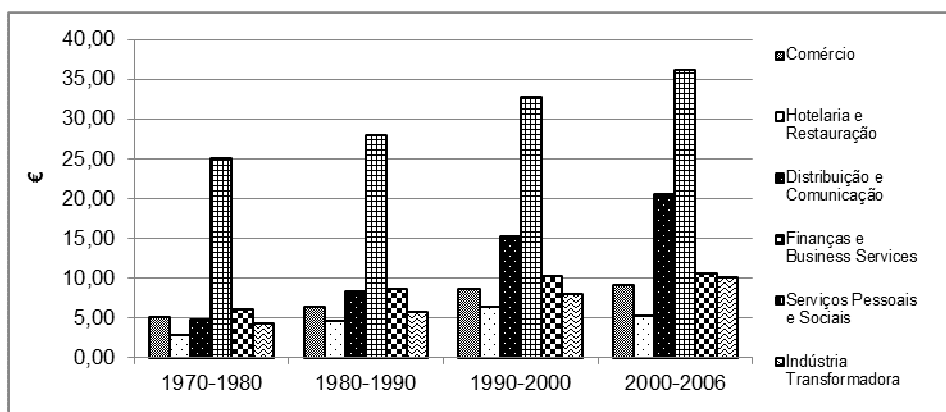
Source: authors' computations based on data from the EU-KLEMS database.

Figures 3 and 4 trace the evolution of labor productivity in the Portuguese services sector over the period 1970-2006, and compare it with manufacturing given the concerns described in the previous section with the relative productivity performance of the two broad sectors³. As far as the productivity levels are concerned, the sub-sectors that registered the highest average labor productivity were finance, insurance, real estate and business services followed by transport and storage and communications, community social and personal services, wholesale and retail trade, and finally hotels and restaurants. Finance, insurance, real estate and business services present the highest level in 1970-80 and again in 2000-06. The transport and storage and communications sector occupied the

³ Ideally we should compare the levels and performance in terms of TFP, the most adequate proxy for productivity. However, this data is not available at the sectoral level for Portugal.

fourth position of the ranking in 1970-80 but since the 1990s it climbed to the second position. Relative to productivity in the manufacturing sector, in 2000-06 transport and storage and communications and finance, insurance, real estate and business services registered productivity levels that were, respectively, the (more or less) triple and the double of manufacturing productivity; productivity in community social and personal services was in line with the manufacturing level; and wholesale and retail trade and hotels and restaurants, especially the latter, were less productive. All the services sub-sectors considered exhibit a positive labor productivity trend over the period under analysis, although at different paces. On average, the sector that grew the most, and the only one that grew faster than manufacturing, was transport and storage and communications, followed by community social and personal services, hotels and restaurants, wholesale and retail trade, and finally finance, insurance, real estate and business services. However, towards the end of the period under analysis all sectors registered a productivity growth slowdown, especially strong in the hotels and restaurants sector, wholesale and retail trade and community social and personal services, but also finance, insurance, real estate and business services. Transport and storage and communications remains as the only sector whose productivity grew faster than that of the manufacturing sector.

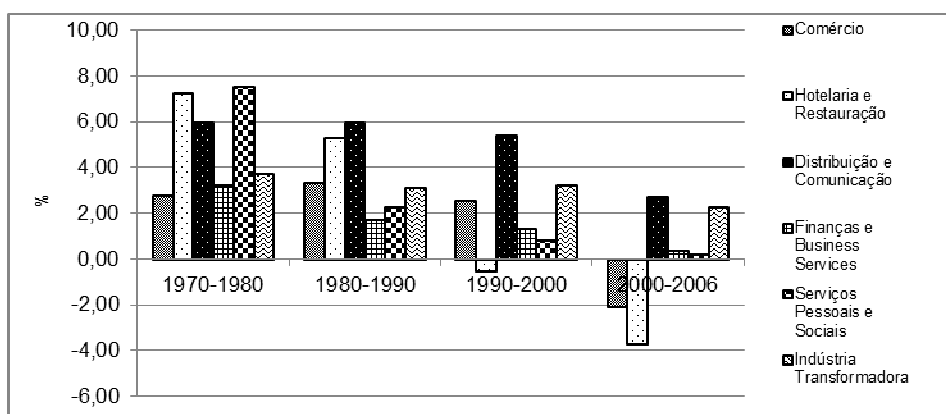
Figure 3. Labor productivity levels in the services sector, Portugal 1970-2006.



Notes: see notes to Figure 1. Indústria Transformadora=manufacturing.

Source: authors' computations based on data from the EU-KLEMS database.

Figure 4. Labor productivity growth in the services sector, Portugal 1970-2006.



Notes: see notes to Figure 1. Indústria Transformadora=manufacturing.

Source: authors' computations based on data from the EU-KLEMS database.

EMPIRICAL MODEL AND RESULTS

In this section we analyze the possible impact of the increased tertiarization of the Portuguese economy on the respective aggregate total factor productivity (TFP) growth by estimating a productivity growth regression with the weight of the services sector as the main explanatory variable and a set of control variables identified as relevant in explaining productivity growth in previous studies. We will initially analyze services as a whole and then we disaggregate it into five sub-sectors in order to capture possible different effects of each services activities. To complement our analysis we will also estimate a regression with the weight of manufacturing. The period under analysis goes from 1970 to 2006 and the data were taken from the EU KLEMS database, AMECO (for TFP data) and Teixeira (2005).

We estimate a basic equation similar to that of Silva and Teixeira (2011), given by equation (1)⁴:

$$\Delta Y_t = \alpha + \delta W_{it} + \phi \Delta W_{it} + \beta EDU_t + \theta \Delta EDU_t + \gamma INV_t + \psi \Delta INV_t + \omega EMP_t + \varepsilon_t \quad (1)$$

where Y_t is the logarithm of total factor productivity (TFP) and the symbol Δ represents the first differences, ΔY_t is thus the annual growth rate of TFP; W_i is the employment share of the services sector (or subsector i)⁵; EDU corresponds to the average total years of schooling of the working age population⁶; INV is the investment rate (ratio of gross fixed capital formation to GDP); EMP is the employment rate; α is a constant term; ε_t is the error term with the usual properties; and t represents time.

As far as the expected signs of the estimated coefficients of the different explanatory variables are concerned, δ and ϕ , the coefficients of the weight of the services sector and its change are expected to be positive when countries specialize in modern impersonal services, otherwise the sign is negative (see section 2). The estimated coefficients of the variable EDU and respective growth rate (β and θ) are predicted to be positive, based on endogenous growth models where human capital is an essential ingredient for the production of knowledge and technological diffusion (Romer (1990); Jones (1995); Nelson and Phelps (1966); Abramovitz (1986)). An increase in years of schooling is thus expected to have a beneficial effect on productivity growth not only because it increases the ability to incorporate and use new technologies, but also because it is a key input for the production of innovation. The estimated coefficients on the investment rate and its change, γ and ψ , are expected to be positive to the extent that investment may increase the incorporation of technology and innovation and thus contribute positively to aggregate productivity growth (see Silva and Teixeira (2011)). The employment rate, EMP , is included in order to try to control for the influence of cyclical fluctuations in economic activity. Given the pro-cyclical nature of labor productivity, ω is predicted to be positive.

Table 1 presents some descriptive statistics for the variables used. The TFP growth rate registered an average value of 1.5%, but when we look at the standard deviation we find that this is higher than the average indicating some volatility in its behavior during the period under analysis. The services employment share presents an average value of 55.6%, and its standard deviation is only 5.3%. The services subsectors of wholesale and retail trade and community personal and social services present average values of 18.6% and 19.5% respectively, with W_p showing the highest standard deviation, 4.0%. Hotel and restaurants, transport and storage and communications and financial services present a similar average, 6.9%, 5.1% and 5.3%, respectively. Of these three subsectors, financial services present the highest variation with a standard deviation of 1.7%. Concerning the employment share of manufacturing, we can observe that the average value is close to 27.5% while its standard deviation is 3.1%. Average years of schooling presents a value that exceeds 5.7 years and shows a standard

⁴ All variables are in logs.

⁵ We also performed the regressions with the VA shares but the results did not change.

⁶ We also performed the regressions with education disaggregated by schooling levels, primary, secondary, and tertiary, but the results did not change significantly.

deviation of around 1.6 years. The investment rate and the employment rate registered an average close to 26.3% and 94.2% respectively, and standard deviations of 2.7% and 2.1%.

Table 1. Summary Statistics

Variables	Description	Mean	Min.	Max.	St. Dev.
ΔY_t	Annual TFP growth rate (%)	1.58	-6.09	7.91	2.6
Wtot	Total employment share of services (%)	55.62	46.71	65.52	5.31
Wc	Total employment share of wholesale and retail trade (%)	18.64	16.61	19.98	0.73
Wh	Total employment share of hotels and restaurants (%)	6.93	5.81	8.38	0.67
Wd	Total employment share of transport, storage and communication (%)	5.10	4.42	6.07	0.52
Wf	Total employment share of finance, insurance, real estate and business services (%)	5.35	2.52	8.11	1.77
Wp	Total employment share of community personal and social services (%)	19.59	13.63	24.64	4.03
Wind	Total employment share of manufacturing (%)	27.42	20.31	31.82	3.19
EDU	Average number of years of total schooling	5.74	3.28	8.29	1.61
INV	Investment rate (%)	26.33	22.31	32.94	2.8
EMP	Employment rate (%)	94.26	91.49	98.79	2.15

Source: authors' construction.

In multiple regression analysis, for statistical inference to be valid the series used must be stationary. We test for stationarity using the Augmented Dickey-Fuller (ADF) test (Dickey and Fuller (1979)). Table 2 presents these results. All the variables are non-stationary in levels, with the exception of the investment rate and the employment rate. On the contrary, the first differences of the series are all stationary except for $\Delta Wind$, which we differenced again in order for it to become stationary.

Table 2. Results of the ADF tests

Variables	Coefficient	Test statistic	p-value	Conclusion
ΔY_t	-0.988	-4.828	0.000***	Stationary
Wtot	-0.484	-3.475	0.057*	Non Stationary
ΔW_{tot}	-1.106	-6.394	0.000***	Stationary
Wc	-0.408	-2.817	0.065*	Non Stationary
ΔW_c	-1.390	-8.640	0.000***	Stationary
Wh	-0.294	-2.247	0.189	Non Stationary
ΔW_h	-1.170	-5.258	0.000***	Stationary
Wd	-0.264	-2.027	0.567	Non Stationary
ΔW_d	-1.604	-5.494	0.000***	Stationary
Wf	-0.380	-2.848	0.190	Non Stationary
ΔW_f	-1.038	-5.979	0.000***	Stationary
Wp	-0.020	-0.245	0.989	Non Stationary
ΔW_p	-0.825	-4.742	0.000***	Stationary
Wind	-0.101	-1.597	0.774	Non Stationary
$\Delta Wind$	-0.648	-2.721	0.070*	Non Stationary
$\Delta \Delta Wind$	-1.664	-12.600	0.000***	Stationary
EDU	-0.183	-1.601	0.772	Non Stationary

Variables	Coefficient	Test statistic	p-value	Conclusion
ΔEDU	-0.999	5.755	0.000***	Stationary
INV	-0.270	-3.055	0.030**	Stationary
ΔINV	-0.759	-4.476	0.000***	Stationary
EMP	-0.196	-4.007	0.001***	Stationary

Notes: All tests consider 2 lags. ***, **, * imply that the coefficients are statistically significant at the 1%, 5% and 10% levels, respectively.

Source: authors' construction.

Based on the results of the ADF test, we began by estimating equation (1) with only the stationary variables using the OLS method. In order to confirm that we can apply this method we applied the Wu-Hausman test that considers as the null hypothesis that the regressors are indeed exogenous and thus not correlated with the error term (Greene (2008)). Based on the inspection of the time series evolution of the dependent variable we also included a time dummy for the year 1975 to control for a possible structural break. The results of the Wu-Hausman test did not allow us to reject the null hypothesis, and so we can proceed with the estimation of our equation with OLS⁷. Afterwards, we decided to include also a time trend and to further lag the explanatory variables in order to control for additional possible endogeneity problems. The estimated equation is thus given by:

$$\Delta Y_t = \alpha + \phi \Delta W_{t-2} + \theta \Delta \text{EDU}_{t-2} + \gamma \text{INV}_{t-2} + \psi \Delta \text{INV}_{t-2} + \omega \text{EMP}_t + \mu + \text{time} + \varepsilon_t \quad (2)$$

where μ is the time *dummy* and *time* the trend⁸.

Table 3 contains the results of the estimation of equation (2). Regarding the influence of the services sector as whole on TFP growth, the results (column (i)) show that an increase in the weight of services has a negative impact on the growth of TFP, although this impact is not statistically significant.

As discussed in section 2, the services sector includes activities very different in terms of their potential for productivity improvements, so that a rigorous analysis of its influence requires that we disaggregate it. Considering the influence of the different services sub-sectors (columns (ii) - (vi)), we find that the wholesale and retail trade and hotels and restaurants sub-sectors have a negative and statistically significant effect on TFP growth. This negative sign is in accordance with theoretical predictions since these subsectors can be described as traditional personal services. The remaining three subsectors, transport and storage and communications, finance and business services and community personal and social services have positive and statistically significant estimated coefficients. In the case of the first two subsectors the positive sign is as expected, since these activities use new technologies intensively, especially telecommunications, belonging to the group usually known as modern impersonal services where the potential for productivity growth is higher and they have spillover effects to other sectors of the economy, thus leading to an increase in aggregate productivity. As far as the community personal and social services sub-sector is concerned, which belongs to traditional personal services, the positive sign appears to contradict theoretical predictions. However, recent studies argue that some activities within this subsector, mainly education and health care, stimulate productivity growth due to the fact that they contribute to increase human capital accumulation (see Pugno (2006); Hartwig (2012)). Finally, we also tested for the influence of the manufacturing sector weight on productivity growth (column (vii)). The corresponding estimated coefficient is positive as expected but not statistically significant, which might be due to the strong weight of low-productivity, low-skills manufacturing activities in the Portuguese economy, such as textiles.

⁷ The results are available from the authors upon request.

⁸ To assess the robustness of the results from the estimation of equation (2) we performed the usual diagnostic tests. The White test did not allow us to reject the null hypothesis of homoscedasticity. We also did not detect any autocorrelation or multicollinearity problems. The RESET test confirmed that the model specification is correct. The results from these tests are available from the authors upon request.

Concerning the influence of the control variables, the growth rate of average years of education despite having a negative coefficient is not statistically significant. This might be due to the fact that our variable is not an adequate human capital proxy from a conceptual point of view. For instance, it does not account for differences in the quality of schooling over time. Regarding the variable INV, the estimated coefficient is significant in all estimations, and the opposite applies to the respective growth rate. In the case of INV the sign of the estimated coefficient is negative, contrary to theoretical predictions. This however might be an indication that investments have not had the desired effect of increasing the productive capacity and productivity of the country. Concerning the employment rate, included to control for the influence of cyclical fluctuations on the behavior of aggregate productivity, the estimated coefficient is not statistically significant. The estimated coefficient of the trend variable (time) in all regressions is negative and statistically significant, indicating that the behavior of aggregate productivity growth is also explained by factors other than those included in our model.

Table 3. Results of the estimation of equation 2

Explanatory variables	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)
$\Delta W_{tot\ t-2}$	-0.0118 (0.1267)						
$\Delta W_{c\ t-2}$		-0.1374* (0.0685)					
$\Delta W_{h\ t-2}$			-0.0670* (0.0390)				
$\Delta W_{d\ t-2}$				0.2042** (0.0877)			
$\Delta W_{f\ t-2}$					0.06123** (0.0249)		
$\Delta W_{p\ t-2}$						0.2577** (0.1241)	
$\Delta \Delta W_{ind\ t-2}$							0.0033 (0.0613)
ΔEDU_{t-2}	-0.1187 (0.1174)	-0.1522 (0.1106)	-0.0817 (0.1133)	-0.0818 (0.1080)	-0.1093 (0.1059)	-0.1248 (0.1088)	-0.1165 (0.1216)
INV_{t-2}	-0.1089*** (0.0329)	-0.1125*** (0.0304)	-0.1204*** (0.0316)	-0.1157*** (0.0298)	-0.1078*** (0.0294)	-0.1112*** (0.0302)	-0.1096*** (0.0337)
ΔINV_{t-2}	0.0637 (0.0517)	0.0637 (0.0481)	0.0620 (0.0490)	0.0327 (0.0488)	0.0596 (0.0466)	0.0688 (0.0479)	0.0629 (0.0531)
EMP_t	-0.1921 (0.1599)	-0.2046 (0.1476)	-0.2109 (0.1506)	-0.1746 (0.1443)	-0.1885 (0.1427)	-0.1130 (0.1514)	-0.1738 (0.1833)
Time	-0.0013*** (0.0003)	-0.0013*** (0.0002)	-0.0013*** (0.0002)	-0.0014*** (0.0002)	-0.0013*** (0.0002)	-0.0012*** (0.0002)	-0.0013*** (0.0003)
Adjusted R²	0.5461	0.6068	0.5922	0.6242	0.6314	0.6105	0.5359
Number of observations	34	34	34	34	34	34	34

Notes: Standard errors in parenthesis.***, **, * indicate that the coefficients are statistically significant at the 1%, 5% and 10% levels, respectively.

Source: authors' construction.

CONCLUSIONS

This paper investigated the linkages between services sector expansion and aggregate productivity in the Portuguese economy over the period 1970-2006. The main aim was to examine whether the increasing tertiarization of the Portuguese economy constituted an obstacle or an opportunity in terms of its productivity growth performance. Since the services sector is composed of heterogeneous activities in terms of its potential for productivity improvements we distinguished between five different services sub-sectors that can be broadly defined as either traditional personal services or modern progressive services. Given the varied theoretical predictions and empirical results on the linkages between the expansion of the services sector and economic growth the most suitable approach seemed to be testing for the existence of a relationship between services sector expansion and aggregate TPF growth.

Our findings suggest that the increase in the weight of the services sector as a whole was detrimental for aggregate productivity growth in Portugal, but this effect was not statistically significant. However, a disaggregated analysis considering the separate influence of the five services subsectors confirmed the expected negative and statistically significant influence of wholesale and retail trade and hotels and restaurants, both traditional personal services sub-sectors, and the positive and statistically significant influence of the modern progressive sub-sectors, transport, storage and communication, and of finance, insurance, real estate and business services, but also a positive and statistically significant influence of personal and social services sub-sectors. A possible explanation for this last result is that this subsector, that includes education and health services, fosters human capital accumulation, which in turn is essential for productivity growth. Portugal thus needs to develop modern progressive services sectors if it wants to restore and sustain long-run growth, but it cannot also forget the role of some traditional personal services sub-sectors as sources of human capital, a main driver of productivity growth.

Avenues for future research include a more detailed analysis of the mechanisms of transmission from some services sub-sectors productivity to aggregate productivity. The generalization of the results also entails the consideration of other countries in the analysis and thus the use of panel data methods.

LITERATURE

- 1) Abramovitz, M. 1986. Catching up, Forging Ahead, and Falling Behind. *Journal of Economic History*, 46, 385-406.
- 2) Ansari, M. L. 1992. Growth effects of recent structural changes in the Canadian economy: some empirical evidence. *Applied Economics*, 24, 1233-1240.
- 3) Baumol, W. J. 1967. Macroeconomics of Unbalanced Growth: The Anatomy of Urban Crisis. *American Economic Review*, LVII, 415-426.
- 4) Baumol, W. J. 2002. Services as leaders and the leader of the services. *Productivity, Innovation and Knowledge in Services*. Edward Elgar.
- 5) Dickey, D. & FULLER, W. 1979. Distribution of the estimators for autoregressive time series with a unit root. *Journal of the American Statistical Association*, 74, 427-431.
- 6) Dutt, A. K. & LEE, K. Y. 1993. The service sector and economic growth: some cross-section evidence. *International Review of Applied Economics*, 7, 311-329.
- 7) Ghani, E. (ed.) 2010. *The Service Revolution in South Asia*, Oxford: Oxford University Press.
- 8) Greene, W. H. 2008. *Econometric Analysis*, Pearson.
- 9) Hartwig, J. 2012. Testing the growth effects of structural change. *Structural Change and Economic Dynamics*, 23, 11-24.
- 10) Jones, C. I. 1995. R&D-based models of economic growth. *Journal of Political Economy*, 103, 759-784.
- 11) Kaldor, N. 1966. *Causes of the Slow Rate of Growth in UK*, Cambridge, Cambridge UP.

- 12) Maroto-Sánchez, A. & CUADRADO-ROURA, J. 2009. Is growth of services an obstacle to productivity growth? A comparative analysis. *Structural Change & Econ. Dynamics*, 20, 254-65.
- 13) Nelson, R. & Phelps, E. 1966. Investment in Humans, Technological Diffusion, and Economic Growth. *American Economic Review*, 56, 69-75.
- 14) O'Mahony, M. & Timmer, M. P. 2009. Output, Input and Productivity Measures at the Industry Level: the EU KLEMS Database. *Economic Journal*, 119, F374-F403.
- 15) Peneder, M. 2003. Industrial structure and aggregate growth. *Structural Change and Economic Dynamics*, 14, 427-448.
- 16) Pugno, M. 2006. The service paradox and endogenous economic growth. *Structural Change and Economic Dynamics*, 17, 99-115.
- 17) Romer, P. 1990. Human capital and growth: theory and evidence. *Carnegie-Rochester Conference Series on Public Policy*, 32, 251-286.
- 18) Silva, E. G. & Teixeira, A. A. C. 2011. Does structure influence growth? A panel data econometric assessment of 'relatively less developed' countries, 1979-2003. *Industrial and Corporate Change*, 20, 433-455.
- 19) Teixeira, A. A. C. 2005. Measuring Aggregate Human capital in Portugal: 1960-2001. *Portuguese Journal of Social Science*, 4, 101-120.

THE COMPARATIVE ADVANTAGES OF BOSNIA AND HERZEGOVINA IN TRADE WITH ITS MOST IMPORTANT TRADING PARTNERS

Snježana BRKIĆ¹

Abstract

Despite criticisms over its indubitable limitations, measurement of comparative advantages is frequently applied in international trade analysis as a useful tool for better understanding of country's production and export structure. Comparative advantages based on relative factor endowments reflect country's performance in its inter-industry trade on bilateral, regional or multilateral level and thus indicate its rating in international trade. The aim of the paper is to identify comparative advantages of Bosnia and Herzegovina (BiH) by industries in its trade with the most important trade partners. The analysis focuses on both the patterns and variations in BiH comparative advantages within the five-year time frame (2008-2012), seeking to answer the following questions: What are main characteristics of BiH export structure? In which product groups does BiH have comparative advantages when trading with its most important partners from the European Union and the Western Balkans? Have there been any changes in BiH inter-industry specialization and trade in the observed period? The overall assumption is that the analysis will contribute to determining the level of country's performance in various trade relations.

Key words: export structure, revealed comparative advantages, Bosnia and Herzegovina, main trading partners

INTRODUCTION

The paper focuses the analysis of the most important bilateral trade flows of Bosnia and Herzegovina (BiH) at the sectoral level, with a particular reference to the revealed comparative advantages (RCA), which should contribute to the insight into the country's trade specialization patterns over the past few years.

The main goals of the research include determining the characteristics of the export structure, and identifying industries with BiH comparative advantages in the trade with its most significant trade partners. The research seeks to provide answers to the following questions: What is the BiH export structure in the selected markets? Does, and in which industries BiH have prominent comparative advantages when trading with its most significant partners? Are there any similarities between BiH trade patterns in the trade with given countries? Have there been any changes in BiH inter-industrial specialization and trade over the past few years?

Besides the simpler trade indicators that reflect trade trends and structure, the research, in order to gain more thorough results, used different measures of the revealed comparative advantages: Balassa index of revealed comparative advantages adjusted to application in bilateral trade, index of relative export/import coverage and the net-export index. The indices were calculated based on trade data by the Agency for Statistics of BiH, at the annual level for the period 2008-2012², classified according to

¹ Snježana Brkić, Ph.D., Assistant Professor, School of Economics and Business University of Sarajevo, Trg oslobođenja 1, Sarajevo, Bosnia and Herzegovina

² The reason for dealing with this period is the possibility, due to the separation of the past union of Serbia and Montenegro in 2007, to separate trade data for the two countries, i.e. to use this year as the starting point for

the Standard International Trade Classification (SITC rev. 4) at a two-digit aggregate level, which consists of 66 divisions.

Geographical scope of the research is defined according to the criterion of the volume of BiH trade at a bilateral level in a few years period, and the research is therefore focused on five main BiH foreign-trade partners: three European Union member-countries – Germany, Italy and Slovenia, and two countries from the Western Balkans region – Croatia and Serbia.

THEORETICAL BACKGROUND

The purpose of international trade theories is to explain reasons for international trade and key laws existing therein. International trade theories are actually attempting to answer a few basic questions concerning the international trade, primarily those about basis for international trade and its structure – why do countries trade and what do they trade in? Most of these theories – whether traditional or modern ones – thereby inherit a common crucial principle in explaining the foreign-trade impulse – the law of comparative advantages, formulated by David Ricardo almost two centuries ago.

According to David Ricardo, in international trade, products are not exchanged based on the production costs (absolute costs), as was claimed by Adam Smith in the late 18th century, but rather based on the ratios between production costs (relative or comparative costs). Comparative costs in the pre-trade situation determine a country's comparative advantages and the international trade structure. A country has a comparative advantage in a product with lower comparative pre-trade costs compared to another country.

For a long time, Ricardo's model served as a dominant explanation of the overall international trade. Over time, however, the model experienced numerous criticisms because it is static (since it excludes any possibility of change in the production relations in the world and actually tries to explain the commodity structure of trade at a given moment), and a series of unrealistic assumptions³ it was based on. However, the law of comparative advantages itself, which Ricardo put forward as early as in 1817, exceeded the significance of the very theory within which it was created. The basic thesis on the foreign-trade impulse based on the comparative advantages principle has appeared in many theories that followed, both in neoclassical theory (Heckscher-Ohlin theory, opportunity costs theory, etc.), and in modern international trade theory.

Traditional theory sought the explanation of comparative advantages primarily in the differences in relative product costs, i.e. in the factors on the supply side – in the availability of production factors or productivity of their use. As opposed to traditional ones, the modern international trade theory reformulated the comparative advantages law, basing it on the differences in relative prices, rather than on differences in relative costs: In the world of competitive markets, trade will occur and be beneficial whenever the relative prices of individual countries differ in the pre-trade position, i.e. in autarky. Differences in relative prices can arise due to differences on the supply side (cost conditions), due to differences in the demand conditions or due to a combination of the two elements (Kenen, 1994, p. 38). In this way, the comparative advantages principle has been considerably modified compared to the original Ricardo's explanation. At present, more developed forms of Ricardo's law can explain part of international trade – the so-called inter-industry trade.⁴

tracking BiH trade with Serbia as one of main trade partners separately from Montenegro, since the volume of trading with the latter country is small.

³ In explaining his hypothesis, Ricardo construed an international trade model based on a few simplified and abstract assumptions: 2x2x1 model dimensions, labour theory of value, free trade, perfect competition, full employment, constant returns, homogenous labour, perfect labour mobility within the country and its immobility between countries, fixed technology different across countries, zero transport costs, identical consumer tastes.

⁴ Inter-industry trade implies international trade in products that belong to different industries.

Since it is a concept that has been a dominant explanation of the reason for international trade for almost two centuries, and that can even today explain part of international trade, the importance of empirical testing of comparative advantages concept is indubitable. However, the impossibility to measure relative prices in the countries in pre-trading position that the concept is founded on creates difficulties in measuring comparative advantages. On the other hand, since each country in the real world, as opposed to the conditions in a hypothetical world of traditional international trade theory, produces a few kinds of products, a need inevitably arises, besides the need to determine the foreign trade commodity structure, to rank products, i.e. determine the degree of a country's specialization in individual products (Brkić, 2012, p. 169).

To this purpose, as early as in the 1960s a concept was formulated that to a certain degree allows measuring of countries' relative trade performance in individual products and industries by means of determining the trade pattern⁵. The basis for the concept, which is known by the name of the "revealed comparative advantages concept" (RCA) includes the following assumptions: in the background of a country's trade commodity structure there are inevitable differences in relative prices in autarky; in order to determine comparative advantages it is not necessary to determine price or non-price factors that affect them. Although it is obviously questionable from the viewpoint of theoretical foundation, and therefore frequently criticized, the RCA concept is greatly used in the applied international trade analysis.

MEASURING OF REVEALED COMPARATIVE ADVANTAGES

The author of the concept of revealed comparative advantages, and the first (and so far still the most popular) index for their "measurement" is Bela Balassa (1965). The original Balassa's RCA index reflects the relative export structure, and is calculated as a ratio of the share of a given product exports within the country's total exports to the share of the product's world exports in the total world exports (Balassa, 1989)⁶:

$$RCA_{ij}^B = \frac{X_{ij}}{\sum_i X_{ij}} \bigg/ \frac{\sum_j X_{ij}}{\sum_i \sum_j X_{ij}}$$

The described index is also called the "export index of revealed comparative advantages", since all the variables in the formula pertain to exports, and is often labeled as XRCA. Balassa justified founding of the formula exclusively on export as the only relevant variable with the fact that imports are significantly affected by protectionist measures (Lim, 1997). There was a concern that impact of trade policy, through incorporating import variables in the index, would give a "distorted picture" of comparative advantages.

Balassa index values are non-negative and range in the interval from 0 to $+\infty$. The neutral "point" from the comparative advantages viewpoint is the index value of 1. For values $RCA^B > 1$, the country has a comparative advantage in the given product, while for the value of $0 \leq RCA^B < 1$, the country has a

⁵ "Comparative advantage underlies economists' explanations for the observed pattern of inter-industry trade. In theoretical models, comparative advantage is expressed in terms of relative prices evaluated in the absence of trade. Since these are not observed, in practice we measure comparative advantage indirectly. Revealed comparative advantage indices (RCA) use the trade pattern to identify the sectors in which an economy has a comparative advantage, by comparing the country of interests' trade profile with the world average." (Mikić, Gilbert, 2009, p. 72)

⁶ RCA_{ij}^B – Balassa index of revealed comparative advantages of country j in product/industry i;

comparative disadvantage in the given product. The higher the index value, the stronger the advantage in the given product, and vice versa.

Balassa index allows estimates of export capability of a country's individual industries by ranking and comparing relative shares of different industries' exports within the country (cross-sector comparison), by ranking and comparing relative shares of different countries' exports at a sectoral level (cross-country comparison), and by revealing changes in the relative shares over time. (Sanidas, Shin, 2010)

Balassa index is typically used for determining comparative advantages at a global level. In order to be able to focus on a specific market (a given country or country group), it is necessary to make certain modifications in the formula for calculating the index. The bilateral RCA index (RCA_{ijk}^B) or, as called by certain authors (Seymen, Gümüstekin, 2012), "Sectoral-Bilateral Trade Intensity in Exports" (SBTX), shows which sectors of the observed country relatively export most in bilateral trade with its trade partner. The index is expressed by the following formula⁷:

$$RCA_{ijk}^B = \frac{\frac{X_{jk}}{\sum_i X_{ijk}}}{\frac{X_{ij}}{\sum_i X_{ij}}}$$

In this case as well, the value of the index lower than 1 will indicate comparative disadvantage, though this time in market k , while the index value higher than 1 will indicate comparative advantage in market k .

The original Balassa index is the most frequently used index of the revealed comparative advantages, although it suffers both of theoretical foundation and empirical distribution weaknesses. In order to eliminate Balassa index's weaknesses and achieve various research goals, the original index has been modified in different ways, and a number of alternative indices of revealed comparative advantages have been developed additionally. According to the variables included in the formula, RCA indices can be classified into three groups: export-based indices (X), import-based indices (M), and indices based on net-trade (X-M). (De Benedictis, Tamberi, 2001) The fairly frequently used, simpler RCA indices include: net-export index, index of relative export/import coverage, Lafay index, Michaely index, etc.

The application of net-export index, due to its theoretical foundation and the fact that it takes into account the ratio between exports and imports rather than only exports, is considered more appropriate than the use of the original RCA index. The net-export index for a given industry is very similar to Balassa index of inter-industry specialization⁸. It is also called the index of relative trade balance, since it is calculated as the foreign-trade balance (exports less imports) in a given industry as fraction of total trade within a given industry (exports plus imports). (Brkić, 2010).

$$NX_{ij} = \frac{(X_{ij} - M_{ij})}{(X_{ij} + M_{ij})}$$

⁷ RCA_{ijk}^B – revealed comparative advantage of a country j in product i in trade with country k ;

⁸ The difference is in that Balassa index uses the absolute value of difference between exports and imports in its numerator, and consequently the index cannot have negative values.

The index values range within the interval [-1; 1]. A positive index value reflects the country's comparative advantage in a given product, while the negative index sign means that the country has comparative disadvantage.

The index allows unbiased comparisons across time, countries and sectors. However, the net-export index has some weaknesses, which are reflected in the impact of the product's import protection and demand for intermediate products on the index values. (Balassa, 1989, p. 81)

The index of relative export/import coverage, although created for other purposes, in some studies has the role of an indicator of a country's inter-industry specialization, by providing information on the revealed comparative advantages. The index is calculated by comparing the ratio of exports and imports of sector i of country j to the ratio between the total exports and imports of country j :

$$REIC_{ij} = \frac{\frac{X_{ij}}{M_{ij}}}{\frac{\sum_i X_{ij}}{\sum_i M_{ij}}}$$

In case of non-existence of a certain industry imports, simultaneous with the existence of exports, it becomes mathematically impossible to calculate this index and it becomes useless for measuring revealed comparative advantages.

Lafay index (1992) is also based on import and export value, and is particularly suitable for countries whose exchange is of prevalently intra-industry type. The index value higher than zero indicates an industry's comparative advantage.

$$LFI_i = \left(\frac{x_i - m_i}{x_i + m_i} - \frac{\sum_i (x_i - m_i)}{\sum_i (x_i + m_i)} \right) \frac{x_i + m_i}{\sum_i (x_i + m_i)} * 100$$

Michael Michaely (1962) construed the so-called index of dissimilarity for a country, with the aim of measuring the overall dissimilarity in the commodity composition of trade. Modified Michaely's index can be used as a measure of international trade specialization at a sectoral level (Laursen, 1998):

$$MI_{ij} = \frac{X_{ij}}{\sum_i X_{ij}} - \frac{M_{ij}}{\sum_i M_{ij}}$$

The index can have values in the interval [-1; 1]. A positive index value indicates the country's specialization in a given sector.

None of the above described indices, same as other indices of revealed comparative advantages that were not mentioned here, is perfect; each of them has its advantages and shortcomings that should be known for the indices to be properly applied. Therefore, studies frequently use simultaneously two or more indices that complement each other. Despite their shortcomings, it cannot be denied that these indices can serve as a useful tool in the analysis of a given country's trade performance.

BILATERAL TRADE PATTERNS OF BIH WITH ITS MAIN FOREIGN PARTNERS

Trends and Structure of BiH Merchandise Trade

For a few years already, BiH has been registering particularly significant merchandise trade with two groups of countries – the group of the Western Balkans (WB) countries with which BiH has liberalized trade ever since 2003⁹, and the European Union, with which BiH started the accession process in 2008 in the status of a potential candidate country and is increasingly liberalized its trade. In the 2008-2012 period, BiH achieved about 91% of its exports, and about 74% of its imports in these two groups' markets, viewed in total. Out of these figures, the Western Balkans accounts for an average of about 35% of BiH merchandise exports and 27% of BiH imports, while the EU accounts for an average of about 56% of BiH exports and 47% of BiH imports.¹⁰

Viewed at the bilateral level, BiH actually conducts most of its merchandise trade with five countries; the most significant BiH trade partners are three EU member-states – Germany, Italy and Slovenia, and two countries of the region – Croatia and Serbia. These five countries account for an average of about 64% BiH merchandise exports and 52% of its merchandise imports. Croatia is the most significant trade partner for BiH, with an average share of 15.8% in BiH exports, and 15.9% share in its imports. It is followed by Germany, with an average export share of 14.8% and import share of 11.1%, then by Serbia with an average share of 12.3% in BiH exports and 10.1% share in its imports, by Italy with 12.2% share in BiH exports and 9.3% share in its imports, and by Slovenia, who has the average shares of 8.6% and 5.7% respectively.¹¹ These countries' shares in BiH exports were fairly stable over the observed period, except that Serbia's export share significantly decreased in 2012. The value of imports from these countries permanently exceeded the value of exports, due to which BiH trade balance with the observed countries was negative every year.¹²

Since the trade commodity structure, particularly in exports, reflects to an extent a country's trade performance, the paper presents results of the analysis of BiH export commodity structure as well.

The main BiH export product groups to the German market were almost identical in every year of the observed period, although the ranking of individual groups in this list partly changed: 82, 84, 69, 28, 67, 74, 85, 24¹³. The first three product groups, i.e. 82-Furniture and parts thereof; 84-Wearing apparel; and 69-Manufactures of metals n.e.c. taken together, participated in BiH exports to the German market with an average of 53.5%, with the highest share of products of SITC division 82, which, in the given period, ranged from a minimum of 24.1% to a maximum of 34.4%.

As for the Italian market, BiH mostly exported products from the following SITC divisions: 85, 24, 68, 69, 84, 52, 74, 65, 67. The total share of four product groups that constantly appeared on the "top 5" list in BiH exports to Italian market averagely amounted to about 54%. These are SITC divisions 85-Footwear, whose individual share in exports to Italy was the highest, ranging from 25.0% to 30.3%; 68-Non-ferrous metals, 24-Cork and wood; and 69-Manufactures of metals, n.e.c.

⁹ In the period 2003-2006, intra-regional trade was conducted based on a network of bilateral free trade agreements signed within the Stability Pact, and since 2007 it has been conducted based on the Central European Free Trade Agreement (CEFTA2006), which established a regional free trade zone consisting of the Western Balkans countries and Moldavia.

¹⁰ Author's calculation based on data by the Agency of Statistics of BiH.

¹¹ Author's calculation based on data by the Agency of Statistics of BiH.

¹² According to studies by Ministry of Foreign Trade and Economic Relations of BiH (2011, 2012, 2013), trade deficits decreased to a degree, i.e. export/import coverage increased. Export/import coverage is the greatest in the trade with Slovenia – it ranges in an interval from 76 to 85%, followed by Germany – with a 70-76% interval, Italy – 66-71%, Serbia – 62-68%, and Croatia – 52-55%.

¹³ Detailed structure and explanatory notes of the Standard International Trade Classification Rev. 4 available at <http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=28>

In case of Slovenia, BiH mostly exported products from the following SITC divisions: 71, 77, 24, 28, 67, 69, 74. The total share of four product groups that appeared among the five export drivers every year – 71-Power generating machinery and equipment; 28-Metalliferous ores and metal scrap; 77-Electrical machinery, apparatus and appliances, and 24-Cork and wood – amounted to an average of 43.8%, and group 71 prevailed, with an average share of about 20%.

With respect to Croatian market, exports mostly included products from SITC divisions 68, 69, 67, 35, 33, 24, 82, 66, 02, 64. Market share of five main export groups, taken together, amounted to 50.9% over the last three years; these are groups 68-Non-ferrous metals; 35-Electric current; 33-Petroleum and petroleum products; 69-Manufactures of metals, n.e.c.; and 67-Iron and steel. Group 68 stood out in terms of market share – about 18% on average.

Product groups that constantly appeared every year on the “top 10” list by their share in BiH exports to Serbian market were: 67, 32, 24, 35, 33, 69, 64 and 28. The “top 5” list, which includes products whose market shares together amounted to 56.1% on average for the observed period, includes groups 32-Coal, coke and briquettes (the dominant group with the individual average share in exports of 17.1%); 33-Petroleum and petroleum products; 35-Electric current; 67-Iron and steel; and 24-Cork and wood.

Three common product groups appear in BiH exports to all five markets over the observed period, as follows: 69-Manufactures of metals, n.e.c.; 67-Iron and steel; and 24-Cork and wood. Similarity is also revealed in the commodity structure of BiH exports to German and Italian markets – six out of ten most significant product groups are common (69, 67, 24, 85, 84, 74), and in the export commodity structure in the trade with Croatia and Serbia – again, six out of ten main export product groups are common (69, 67, 24, 63, 35, 33).

Bilateral Revealed Comparative Advantages of BiH

Sectoral - Bilateral RCA Index for BiH

Application of the RCA index based only on exports (henceforward: SBTX) revealed comparative advantages of BiH in a significantly small number of industries compared to the number of industries with comparative disadvantages. The greatest number of industries with comparative advantages was registered in the trade with Serbia – in about 30 industries on average, which is almost half of the total number of industries which registered bilateral trade, then in the trade with Croatia – about 26 industries on average, followed by Italy and Slovenia – with an average of about 21, (1/3 of the total number of industries). The smallest number of industries with comparative advantages was registered in the trade with Germany – an average of 12 (only about 1/5 of the total number of industries). The number of product groups with comparative advantages of BiH in its trade with each of the countries did not change significantly over the entire observed period.

In the trade with Germany, about nine industries appeared every year among the industries with the revealed comparative advantages: 29, 63, 69, 73, 74, 78, 79, 82, 84. Out of the listed industries, the highest average SBTX indices appear in the following industries: 82-Furniture and parts thereof (SBTX=3.67), whose share in BiH exports to Germany averages about 32%; then 84-Wearing apparel (SBTX=3.13), with the 12% average share in exports; 79-Other transport equipment (SBTX=2.47, with the average export share of about 1.8%); and 73-Metalworking machinery (SBTX=2.26, with the average export share of about 1%).

Table 1. Number of SITC Divisions with Comparative Advantage/Disadvantage of BiH, SBTX Index, 2008-2012

	Germany		Italy		Slovenia		Croatia		Serbia	
Year	CA	CD	CA	CD	CA	CD	CA	CD	CA	CD
2008	13	51(26)	19	45(26)	21	43(17)	28	36(8)	31	33(8)
2009	15	51(26)	23	43(30)	21	45(16)	25	41(10)	31	35(8)
2010	14	51(26)	21	44(26)	20	45(15)	23	42(12)	27	38(7)
2011	11	54(23)	22	43(26)	24	41(13)	28	37(9)	28	37(8)
2012	10	54(23)	19	46(25)	21	44(11)	24	41(12)	34	31(6)
Average	12.6	52.2	20.8	44.2	21.4	43.6	25.6	39.4	30.2	34.8

Source: Author's own calculation based on data by Agency for Statistics of BiH.

Legend: CA – number of SITC divisions with comparative advantage of BiH, $SBTX > 1$; CD – number of SITC divisions with comparative disadvantage of BiH, $0 \leq SBTX < 1$; numbers in parenthesis refer to SITC divisions with the lowest SBTX ($0 \leq SBTX < 0.10$);

If we compare annual comparative advantages patterns of BiH in its trade with Italy, a prominent similarity among them is obvious – 18 industries with comparative advantages constantly appear over most of the observed period: 06, 09, 21, 24, 26, 51, 52, 53, 55, 65, 68, 69, 72, 74, 83, 84, 85, 87. The most prominent comparative advantages are revealed by product groups 51-Organic chemicals (4.79), though with a small share in exports of only 1.39 on average; 85-Footwear (4.74), with the highest average share in exports of 27.3%; 65-Textile yarn, fabrics and related products (4.15) with export share of about 4%; 26-Textile fibres and their wastes (3.86); 83-Travel goods (3.69); 55-Essential oils and perfume materials; toilet, polishing and cleaning preparations (3.45); and 53-Dyeing, tanning and colouring materials (3.29)¹⁴.

In the Slovenian market, the revealed comparative advantages of BiH over most of the observed period constantly appeared in the following 15 industries: 21, 22, 24, 25, 28, 63, 71, 72, 74, 76, 77, 78, 87, 88, 97.¹⁵ Groups with the highest RCA indices over the entire observed period include: 71-Power generating machinery and equipment ($SBTX=7.79$; share in exports of about 21%); 88-Photographic apparatus; watches and clocks (7.79); 87-Scientific and controlling instruments (4.7); 72-Machinery specialized for particular industries (4.35); 76-Telecommunication apparatus (4.30); and 77-Electrical machinery, apparatus and appliances (3.38).¹⁶ The highest share in exports is revealed by group 71 (about 21%), then 77 (9.7%), and 72 (4.66%), while in other groups it is about 1% or far lower.

In the Croatian market, the following 17 industries with comparative advantages of BiH appeared most frequently over the observed period: 01, 02, 03, 04, 07, 09, 11, 25, 27, 42, 53, 57, 58, 62, 64, 66, 68. The most prominent comparative advantages can be observed in industries 11-Beverages (average $SBTX=4.19$, average export share 2.0%); 66-Non-metallic mineral manufactures (3.49; export share 4.2%); 02-Dairy products and eggs (3.48); 42-Fixed vegetable fats and oils (3.47); and 25-Pulp and waste paper (3.02). None of the listed industries is among the most significant ones by its export share.

When analyzed by years, the most similar patterns of comparative advantages of BiH are revealed in the trade with Serbia – every year, the same 25 industries appear among the industries with revealed comparative advantages in BiH trade with this country: 00, 01, 03, 05, 07, 08, 09, 12, 22, 24, 25, 27, 32, 33, 34, 35, 54, 57, 58, 59, 62, 64, 66, 67, 75. The highest RCA indices are registered in industries 22-Oil seeds and oleaginous fruits (6.23); 08-Feeding stuff for animals (not including unmilled cereals) (5.36); 32-Coal, coke and briquettes (5.10); 03-Fish and preparations (3.09); 34-Gas, natural and manufactured (2.73). Among the listed industries, SITC division 32 has the greatest significance

¹⁴ The average export share of industries 26, 83, 53 is lower than 0.5%, while for industry 55 it amounts to about 1%.

¹⁵ These are industries that showed comparative advantages over four or all the five year of the observed period.

¹⁶ Numbers in parentheses refer to the average SBTX index values for the entire period (2008-2012).

for exports (17% on average), while other industries' average shares in exports range only from 0.07 to 1.38%.

If we compare patterns of the comparative advantages of BiH in its trade with all the five countries, the common denominator can be found only when comparing two by two, rather than all the five patterns (for example, between patterns in trade with Germany and Slovenia, Italy and Slovenia etc.). Prominent similarity is especially found between patterns of comparative advantages of BiH in its trade with Croatia and Serbia – there are ten identical groups among those that, as groups with comparative advantages frequently appear over the entire observed period; these are SITC divisions 01, 03, 07, 09, 25, 57, 58, 62, 64, 66.

Relative Trade Balance Index for BiH

Since the traditional RCA concept reflects only a country's export capacity at the sectoral level, determining comparative advantages using indices based on two variables – exports and imports, such as index of relative export/import coverage and index of relative trade balance (net export index) should contribute to the creation of a more complete picture of sectoral bilateral trade performance of BiH. Results of the research that used the two described indices revealed almost complete identity¹⁷; therefore, the further analysis will present and interpret only the results obtained using one of them. We opted for the interpretation of the results obtained using the relative trade balance index (RTB) due to a shortcoming of the relative export/import coverage index, which does not allow the calculation of comparative advantage in a situation when there are some exports but no imports of a product – it may happen that certain groups have a high value of the relative trade balance index, while the relative export/import coverage in the same groups cannot be calculated at all.¹⁸

Results of the research using the RTB index that takes into account both exports and imports within the same industry and thus reflects an economy's trade performance both in the foreign and domestic market reflect the following:

Table 2. Number of SITC Divisions with Comparative Advantage/Disadvantage of BiH, RTB Index, 2008-2012

	Germany		Italy		Slovenia		Croatia		Serbia	
Year	CA	CD	CA	CD	CA	CD	CA	CD	CA	CD
2008	10	53(11)	9	54(13)	16	46(9)	14	50(3)	12	52(3)
2009	12	53(11)	14	49(11)	19	45(8)	16	47(4)	13	50(2)
2010	16	48(9)	14	49(12)	19	46(6)	15	49(4)	11	53(1)
2011	14	50(12)	12	51(7)	23	41(7)	16	48(2)	11	52(1)
2012	16	49(9)	12	50(9)	22	42(6)	15	48(2)	11	53(3)
Average	13.6	50.6	12.2	50.6	19.8	44	15.2	48.4	11.6	52

Source: Author's own calculation based on data by Agency for Statistics of BiH.

Legend: CA – number of SITC divisions with comparative advantage of BiH, $RTB \geq 0$; CD – number of SITC divisions with comparative disadvantage of BiH, $RTB < 0$; numbers in parenthesis refer to SITC divisions with the lowest RTB ($RTB = -1$);

The greatest number of industries with comparative advantages of BiH was found in its trade with Slovenia – about 20 on average, and the smallest in its trade with Serbia – about 11. Besides, the number of industries with comparative advantages increased with all the countries by the end of the

¹⁷ Results obtained using the index of relative export/import coverage and index of relative trade balance are almost identical in terms of ranking products by comparative advantages/disadvantages, rather than in terms of identical index values.

¹⁸ In this research, such a case arise in BiH trade with Germany in product groups 96 and 21 in 2009 and 2010, in trade with Italy in group 97 in 2010, in trade with Slovenia in group 12 in 2009 and group 35 in 2010, in trade with Croatia in group 93 in 2011, and in trade with Serbia in group 93 in 2010 and 2012.

period compared to its beginning, except in the trade with Serbia. Compared to the results obtained using the SBTX index, some differences can be observed, particularly in case of the pattern of comparative advantages in trade with Croatia and Serbia. Actually, the average number of industries with comparative advantages in the RTB index is considerably smaller with Serbia (as much as three times smaller), Croatia and Italy than the number of industries with comparative advantages according to the SBTX index, while in case of Germany and Slovenia results are almost identical.

In the trade with Germany, the average number of groups with positive values of RTB index averagely amounts to the level of 14. Besides, nine groups appear over four or all the five years: 05, 24, 28, 42, 52, 69, 82, 84, 85. Prominent comparative advantages were found in industries 28-Metalliferous ores and metal scrap; 24-Cork and wood; 82-Furniture and parts thereof; and 84-Wearing apparel. Congruence with results obtained using the SBTX index was observed only in industries 69, 82, 85.

The crosscut by years showed that in the trade with Italy over the observed period the number of product groups with revealed comparative advantages first increased from 9 to 14, then decreased again – to 12, and remained at that level. Besides, nine groups were present over most of the observed period: 21, 24, 28, 51, 52, 53, 68, 84, 85, while three more groups – 32, 82 and 83 constantly appeared over three years. Furthermore, nine out of twelve listed groups are also encountered in the results obtained using SBTX: 21, 24, 51, 52, 53, 68, 83, 84, 85. Prominent comparative advantages (highest RTB indices) were observed in industries 24-Cork and wood; 21-Hides, skins and fur skins, raw; 28-Metalliferous ores and metal scrap; and 52-Inorganic chemicals.

In the trade with Slovenia, the number of product groups with comparative advantages increased from 16 in 2008 to the level of 23, or 22 by the end of the analyzed period. Out of this number, 14 product groups constantly appeared over most of the observed period: 07, 22, 24, 25, 27, 28, 32, 35, 42, 71, 72, 78, 84, 85. Six groups from this list also appear in the list of industries with comparative advantages according to SBTX (22, 24, 25, 28, 71, 72, 78). Prominent comparative advantages were observed in groups 28-Metalliferous ores and metal scrap; 22-Oil seeds and oleaginous fruits; 24-Cork and wood; and 35-Electric current.

Positive values of RTB index in the trade with Croatia were mostly observed in the following groups (a total of 13): 05, 24, 25, 27, 28, 32, 42, 64, 67, 68, 69, 82, 84. The most prominent comparative advantages among them were registered by groups: 32-Coal, coke and briquettes; 25-Pulp and waste paper; 67-Iron and steel; 68-Non-ferrous metals; 82-Furniture and parts thereof. Identity with the comparative advantages pattern according to the SBTX index is encountered in five groups: 25, 27, 42, 64, 68.

In the trade with Serbia, comparative advantages over most of the observed period were revealed in nine industries: 03, 24, 25, 27, 28, 32, 33, 35, 67, and 93 (over three years). Identity with the comparative advantages pattern according to SBTX was observed in eight groups: 03, 24, 25, 27, 32, 33, 35, 67. The highest RTB index values were registered in industries 32-Coal, coke and briquettes; 25-Pulp and waste paper; and 24-Cork and wood.

Common groups with the revealed comparative advantages according to the RTB index that were present over the entire period in all the five markets are 24 and 28; in four out of the five markets these are 32 and 84; while groups: 25, 27, 42, 82, and 85 appeared in three markets. These are mostly traditional – resource-intensive and labor-intensive industries and products – such as metalliferous ores and metal scrap, coal and coke, cork and wood, pulp, crude fertilizers and minerals, furniture, wearing apparel and footwear. Comparative advantages patterns are mostly similar between BiH trade with Croatia and Slovenia (10 identical product groups), then Croatia and Germany (8 groups), followed by Croatia and Italy, Croatia and Serbia, and Germany and Slovenia (7 groups).

CONCLUSION

Following the overall assumption that measurement of revealed comparative advantages reflects a country's trade specialization and contributes to assessing the country's performance in its inter-industry trade, the paper has focused on analysis of patterns and variations of BiH comparative advantages and export commodity structure in its most important international markets (Germany, Italy, Slovenia, Croatia and Serbia) over the most recent five-year period.

The research findings have revealed a high geographical and commodity concentration of exports, i.e. the country's prominent dependence on the few observed markets (which account for an average of 2/3 of BiH exports) and a few product groups (whose total share exceeds 50% exports to each of the markets). The export core remained fairly stable in all the markets over the observed period, though it mostly consisted of the products of traditional (extractive or labor-intensive) industries, lower added value – wood and wood manufactures, coal, iron and steel, non-ferrous metals, manufactures of metals, footwear and wearing apparel.

The revealed comparative advantages of BiH in its bilateral trade with selected countries, measured using RCA index based only on export variables differ, to an extent, from the results obtained using the RCA index that take into account both exports and imports (relative trade balance index). Differences in patterns arise due to industries which imports exceed exports.

In general, comparative advantages of BiH were identified in relatively few industries in the trade with all the main trade partners – the number of industries with comparative advantages is far smaller (from two to four times, depending on the country and the index used) than the number of industries with comparative disadvantages. Viewed by countries, the use of different indices yielded different results in terms of the number of groups with comparative advantages in the trade with three out of the five analyzed countries – in case of Italy and Croatia, the number of groups with comparative advantages is twice as small if the RTB index is used compared to the number obtained using the SBTX index, with respect to Serbia it is as much as four times smaller, while in cases of Germany and Slovenia the use of both indices yielded similar results. Some industries actually lost their comparative advantage due to the negative value of net-exports.

The research findings indicate the comparative advantages of BiH mainly in traditional, resource-based or labor-intensive product groups, and comparative disadvantages in agriculture, food industry and technology-intensive product groups. Observation of product groups – export drivers and product groups in which Bosnia and Herzegovina has the greatest comparative advantages in its trade with the observed countries, the conclusion was reached that these are mainly semi-manufactured products and low value-added products, such as cork and wood, metalliferous ores and metal scrap, iron and steel, non-ferrous metals, pulp and waste paper, fixed vegetable fats and oils, manufactures of metals, wearing apparel, footwear, etc.

The analysis of comparative advantages by years provides no evidence of any significant changes in BiH inter-industry specialization and trade in the observed period. Comparison of comparative advantage patterns by years for each country individually reveals a great deal of identity, which leads to the conclusion on fairly stable patterns of comparative advantages of BiH in each of the observed markets.

Mutual comparison of the most frequent product groups with comparative advantages in the trade with five main partners revealed prominent identity of the patterns of comparative advantages of BiH between its trade with Croatia and trade with Serbia, regardless of the RCA index used. Patterns of comparative advantages calculated using the RTB index reveal significant mutual identity in the trade with four out of five partners; there is little congruence of patterns of comparative advantages between BiH trade with Serbia and its trade with the other partners, except for Croatia. Similarities between

comparative advantage patterns calculated using SBTX are relatively smaller at the group level, except in BiH trade with Croatia and Serbia.

Research results have fully answered the main starting questions: The export commodity structure and pattern of BiH comparative advantages in the trade with its main trade partners did not significantly change over the five-year period, wherein the products – export drivers - and comparative advantages in all the selected markets are revealed in a smaller number of industries of mostly traditional type. The research also allowed additional insights into BiH trade pattern, being of a particular significance for economic policy makers in the context of intra-regional trade and future BiH accession to the European Union, and the country's presence in its most significant trade partners' markets in new circumstances. However, the research findings allow for a general conclusion that BiH performance is rather unfavorable almost in all country's most important bilateral trade relations.

LITERATURE

- 1) Agency for Statistics of BiH (2013). Statistical Database (available only on request)
- 2) Balassa, B. (1965), Trade Liberalisation and 'Revealed' Comparative Advantage. *The Manchester school of economic and social studies*, 33, pp. 99-123
- 3) Balassa, B. (1989). *Comparative Advantage, Trade Policy and Economic Development*. Hertfordshire: Harvester Wheatsheaf
- 4) Brkić, S. (2012). *Intra-Industry Trade: Theoretical and Empirical Aspects (Intra-industrijska trgovina: Teorijski i empirijski aspekti)*. Monograph. Sarajevo: School of Economics and Business
- 5) Brkić, S. (2010). *Theoretical Models and Empirical Aspects of Intra-Industry Trade: Case Study of Bosnia and Herzegovina (Teorijski modeli i empirijski aspekti intra-industrijske trgovine: Primjer Bosne i Hercegovine)*. Ph.D. Thesis. Sarajevo: School of Economics and Business
- 6) De Benedictis, L., Tamberi M. (2001). A Note on the Balassa Index of Revealed Comparative Advantage. Università Politecnica delle Marche (I), Dipartimento di Economia, *Working Papers* 01/2002 (available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=289602; last access on 26/09/2013)
- 7) Kenen, P. (1994). *The International Economy*. Third Edition. Cambridge: Cambridge University Press
- 8) Lafay, G. (1992) The Measurement of Revealed Comparative Advantages. U: Dagenais, M. G. & P. A. Muet, eds. (1992). *International Trade Modeling*. London: Chapman and Hall, pp. 209-34.
- 9) Laursen, K. (1998). Revealed Comparative Advantage and the Alternatives as Measures of International Specialisation. *Danish Research Unit for Industrial Dynamics Working Paper* No. 98-30
- 10) Lim, Kang-Taeg (1997). Analysis of North Korea's Foreign Trade by Revealed Comparative Advantages. *Journal of Economic Development*, Volume 22, Number 2
- 11) Michaely, M. (1962). *Concentration in International Trade*. Amsterdam: North-Holland
- 12) Mikić, M., Gilbert J. (2009). *Trade Statistics in Policymaking: A Handbook of Commonly Used Trade Indices and Indicators*. Revised Edition. UN ESCAP (available at <http://www.unescap.org/tid/publication/tipub2559.pdf>; last access on 23/09/2013)
- 13) Ministry of Foreign Trade and Economic Relations of BiH (2011). *Analysis of Foreign Trade of Bosnia and Herzegovina for 2010 (Analiza vanjskotrgovinske razmjene Bosne i Hercegovine za 2010. godinu)*. Sarajevo: MOFTER (MVTEO) (http://www.mvteo.gov.ba/izvjestaji_publikacije/izvjestaji/ANALIZA%20.pdf; last access on 23/09/2013)
- 14) Ministry of Foreign Trade and Economic Relations of BiH (2012). *Analysis of Foreign Trade of Bosnia and Herzegovina for 2011 (Analiza vanjskotrgovinske razmjene Bosne i Hercegovine za 2011. godinu)*. Sarajevo: MOFTER (MVTEO)

- (http://www.mvteo.gov.ba/linkovi/ANALIZA_O_VTR_ZA_2012_BOS.pdf; last access on 23/09/2013)
- 15) Ministry of Foreign Trade and Economic Relations of BiH (2013). *Analysis of Foreign Trade of Bosnia and Herzegovina for 2012 (Analiza vanjskotrgovinske razmjene Bosne i Hercegovine za 2012. godinu)*. Sarajevo: MOFTER (MVTEO) (http://www.mvteo.gov.ba/linkovi/ANALIZA_O_VTR_ZA_2012_BOS.pdf; last access on 23/09/2013)
 - 16) Sanidas, E., Shin, Y. (2010). Comparison of Revealed Comparative Advantage Indices with Application to Trade Tendencies of East Asian Countries. In: *Department of Economics, Seoul National University*, pp. 1-57 (available at [http://www.akes.or.kr/eng/papers\(2010\)/24.full.pdf](http://www.akes.or.kr/eng/papers(2010)/24.full.pdf); last access on 16/10/2013)
 - 17) Seymen, D., Gümüstekin B. (2012). R&D Intensive Goods Trade and Competitiveness of Turkey in the European Union Market. *Turkish Economic Association Discussion Paper 2012/24* (available at <http://www.tek.org.tr>; last access on 15/09/2013)
 - 18) United Nations Statistics Division. Standard International Trade Classification, Rev. 4: Detailed structure and explanatory notes (available at <http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=28>; last access on 31/10/2013)
 - 19) Utkulu, U., Seymen D. (2004). Revealed Comparative Advantage and Competitiveness: Evidence for Turkey vis-à-vis the EU/15. European Trade Study Group 6th Annual Conference ETSG 2004, Nottingham

7.

ENVIRONMENT, DEVELOPMENT AND SUSTAINABILITY



NATURAL RESOURCES AND THEIR IMPACT ON THE DEVELOPMENT OF SERBIA¹

Božo DRAŠKOVIĆ²
Jelena MINOVIĆ³

Abstract

The paper describes in detail the characteristics and significance of three Special Nature Reserve (SNR) in Serbia: Zasavica, Uvac and Stari Begej – Carska Bara. In particular, it is emphasized the natural resources of each of the reserves, as well as their importance and significance in the development of Serbia. For the purposes of this research, it was carried out surveys of the population and visitors in all three areas of the SNR. The subject of our research, protected natural resources and values, and their impact on the development of Serbia were observed in terms of the relationship of economy and ecology. The principal aim was to identify the value attitudes of the population and visitors in relation to the protection and special values that are located within protected natural areas. The paper presents the results of the comparative analysis of the population and visitors surveys for these three SNR. Our results pointed out the key problems faced by the SNR in Serbia during the conservation of the natural resources values, their protection, management, and projection of their future. The key investigative findings of our study are related to the fact that natural resources, located within the three reserves, are so important, that it «cannot be expressed in money», that the states needs to fund the reserve survival, and finally that privatisation or sale of any of these SNRs should not be carried out.

Key words: Natural Resources, Zasavica, Uvac, Stari Begej - Carska Bara, Value of Natural Resources.

INTRODUCTION

One of the most important questions of economic theory refers to the problem of the theory of value. Thus, the classical economic theory (Ricardo, 1817, and Marx, 1867) in the focus of their attention and explanation posed questions on production costs and the labour theory of value. By classical economic theory, the value is built from factors of production: natural resources, labour and capital creation. In contrast, the neoclassical school of economics (Marshall, 1890, and Pareto, 1896) commence at the premises that nothing material, or substantial there is in the notion of value, but the emphasis is placed on the subjective aspects of the producers and consumers behaviour on the market. The value is simply derived from the individual's subjective attitude towards the subject, attributing it a value that is measured and expresses in money. In fact, the value is determined by the expression «willingness to pay» (Drašković, 2013).

¹ This paper is a part of research projects No. 47009 (*European integrations and social and economic changes in Serbian economy on the way to the EU*), and No. 179015 (*Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements*), financed by the Ministry of Science and Technological Development of the Republic of Serbia. The paper is a result of a the research realized within the project „*Economic aspects of costs and benefits of the environmental policy in the Republic of Serbia*“, financed by the Environmental Fund of the Republic of Serbia.

² Božo Drašković, PhD, Full Professor at the Institute of Economic Sciences, Belgrade.

³ Jelena Minović, PhD, Research Fellow at the Institute of Economic Sciences, Belgrade.

However, the natural resources, except continuous, are significantly rare, so it opens up the issue of values, valuation and price of these resources, especially land, forests, clean water and air. The question of natural capital and goods valuation is still an open area to search for satisfactory answers. The methodological approach of values and valuation is limited by the understanding of the core of natural resources value. The very object valuation represents the accumulation of renewable or non-renewable, and continuous resources or goods given by the nature.

From the economic point of view, natural resources are analysed from the standpoint of their rarity and obtained a mark in the form of monetary value in terms of their scarcity and the possibility of using it for the production of exchangeable goods and services. Primarily, this access to resources is referred to resources such as land, forests, water, minerals, as well as some parts of local flora and fauna, which have become objects of market transactions (Dražković, 2013).

Protected areas of natural resources are complex forms of protection or special treatment of individual natural resources and space. Forms of protection are grouped in: national parks, restricted natural reserves, special reserves nature reserves, monuments of nature, protected habitats, nature parks and landscapes of exceptional characteristics (Dražković, 2013)

This paper is focused to selection of special nature reserves (SNR) like Zasavica, Uvac and Stari Begej – Carska Bara. Hereby it is presented a description of specific characteristics of each nature reserve. Our approach to the research was of economic, ecological, and partly of sociological point of view. Thus, the subject of protected natural resources and values, and their impact on the development of Serbia were assessed in terms of the relationship of economics and ecology. In order to perform this research there were conducted surveys of the population and visitors in relation to the protection and special values located within protected natural areas. Additionally, we presented the comparative results obtained by the analysis of population attitudes, both from the region and visitors of the selected reserves related to key resources, values, capital, and management. It is presented a detailed view of the challenges and advantages in sense of the development of each of the three selected SNR.

The structure of this paper is as follows: 1. Introduction, 2. Description of Characteristics and Significance of Special Nature Reserves, 3. Methodology of Research, 4. Results and Discussion, 5. Benefits versus Challenges for the Development of the Special Nature Reserves, and 6. Conclusion.

DESCRIPTION OF CHARACTERISTICS AND SIGNIFICANCE OF SPECIAL NATURE RESERVES

Special Nature Reserve Zasavica extends to an area comprising the municipalities of Sremska Mitrovica and Bogatić, surrounded by villages: Crna Bara, Banovo Polje, Ravnje, Radenković, Zasavica I and II, Salaš Noćajski, Noćaj and Mačvanska Mitrovica (SNR Zasavica, 2012, and Drašković, 2013).

This territory was placed under special protection by regulations on protection of the areas of Zasavica from 1999. The reserve is a natural resource of the first category, having a great importance for the Republic of Serbia. The river Zasavica represents a key natural resource comprising reserve area. The area has characteristics of continental climate. The area of Zasavica combined the two types of vegetation. One is wetland, and the other steppe (SNR Zasavica, 2012, and Drašković, 2013).

Zasavica is a special natural value, which owns more than 800 plant species. The most important and most valuable plant on the reservation is *Aldrovanda* which is Zasavica only habitat in Serbia. Based on a number of researches of the waters of Zasavica, it was observed diversity of fish population. The special value of the reserves represents the presence of globally threatened species of the fish *Umbra krameri* for which the water of Zasavica is one of the two remaining habitats in Serbia. The most specific and most valuable bird in the reserves is ferruginous duck, a globally endangered species on

the planet. In addition to the immediate natural values and resources, within the reserve have been developed actions related to the maintenance and breeding of rare and endangered indigenous species. The reserve breed the old type of pig bred – Mangalitza, the old types of cattle – Podolian ox, and Balkan donkey (SNR Zasavica, 2012, and Drašković, 2013).

Uvac, the Special Nature Reserve covers an area of Western Serbia, that is, the parts of the territory of the municipalities of Nova Varoš, Sjenica, Prijepolje, and Ivanjica. Inside the reserve and its surroundings borders a number of villages, and the largest are Radoinja, Lopiže Gornje and Donje, Komarani, Akmadžici, Ursule and Uvac (Nature Reserve Uvac, 2007, and Drašković, 2013).

The reserve is defined as a natural resource of great importance. The main objective was to protect the habitat of Griffon vulture as an endangered species. The reserve has natural values, primary water and forest resources, and environmental wholes of special values. The reserve comprise numerous and spacious cave habitats with specific inadequately explores fauna. Moreover, this area is characterized by extremely attractive, peculiar, and distinctive elements with strong relief ornaments of limestone cliffs, and gorges of river valleys. Special geographical unit represent a whole series of strangulated meanders of the river Uvac near villages Molitve and Radoinje. The reserve contains three large and morphogenetic, paleontological, hydrological and biological extremely interesting caves (Ušačka, Tubića, and Baždarska) (Nature Reserve Uvac, 2007, and Drašković, 2013).

The essential natural resources of the reserves Uvac are as follows: waters of lakes of Uvac, streams, sources and wells, groundwater; *land* – pastures and meadows, smaller pieces of arable land, and orchards; *forests* – coniferous and deciduous; *wildlife* – game birds and wild game, *fishes* – about 20 species of which are two-thirds of indigenous origin. Reserve Uvac's flora comprises over 500 species of higher plants, among which a greater number are rare, endemic, medicinal, or edible herbaceous and woody plants. Forest area consists of the communities of pure deciduous and coniferous, and mixed forests.

The reserve presents the well-preserved fragments of tall stands of beech, spruce, and fir, as well as pure stands of spruce. The reserve was established as an area for the protection of Griffon vulture (*Gyps fulvus*) population, which is one of the most significant representatives of the bird fauna in Serbia. Griffon vulture is a bird of Mediterranean origin, and it represents in nature, one of the important factors in the food chain and purification of nature by preventing the spread of infectious diseases (Nature Reserve Uvac, 2007, and Drašković, 2013).

The area of Special Nature Reserve Stari Begej – Carska Bara is located in central Banat in AP Vojvodina, municipality of the city of Zrenjanin. Nature reserve comprises the territory between the mouths of the river Begej in Tisa. The reserve extends to areas of cadastral municipalities of Belo Blato, Knićanin, Lukino Selo, Stajićevo, and Perlez (Republic Agency for Spatial Planning, 2009, and Drašković, 2013).

Special Nature Reserve Stari Begej – Carska Bara is defined as natural resource of great importance. Special Nature Reserve is also included in the list of wetlands of international importance. The habitats include ponds, meadows, and willow and poplar forests, on following locations: Carska Bara, Tiganjica, Perleska Bara, and fishponds of Ečka. This area is an essential habitat for birds that nest there, the ones that spend the winter, and those, which pass by that area. Geomorphologic diversity of the territory consists of loess plateau, loess terrace, and alluvial plain. The area is rich resource of surface and groundwater in the formation of which affect the rivers Danube, Tisa, Stari Begej, Plovni Begej, as well as ponds and lakes formed as fishponds. The territory of Carska Bara combined two types of vegetation, one, wetlands and water lands, and the other heath land with fragments of gentle salt marsh spaces (Republic Agency for Spatial Planning, 2009, and Drašković, 2013).

The research results indicate that the Reserve flora line up 500 plant taxa and over 55 species of aquatic macrophytes. Reserve vegetation consists of aquatic macrophytes, wetland vegetation, tall

forests vegetation, meadows, and steppe pastures. Reserve fauna is diverse and comprises entomofauna (dragonflies), ihtiosuna, consisting of 24 species of fish. In the year 2000, the area was declared of international importance for birds. Concerning birds, for the whole region the typical are herons, cormorants, storks, geese and ducks, birds of prey gulls, cuckoos, swallows, starlings, and crows. Reserve inhabits mammals which way of life is subjected by the natural environment of water habitats, fens, and riparian forests (Republic Agency for Spatial Planning, 2009, and Drašković, 2013).

METHODOLOGY OF RESEARCH

Our research was carried out with a combination of methods and techniques of interviews and surveys. Performed were extensive surveys of population living adjacent to, and within special protected areas of SNR: Zasavica, Uvac and Stari Begej – Carska Bara. The technique of data collection (surveys) was realized based on pre-prepared questionnaire interviews, while trained interviewers conducted an immediate, individual interview with the persons interviewed. The procedure was developed on a way that the interviewer read the questions and registered answers.

The content of questions in the interview scheme was designed in order to give to respondent the ability to answer within the pre-prepared range of possible answers. It was envisaged the option that the interviewed person gave another response provided outside the range of answers. The concept of the questionnaire was structured to represent a combination of closed and open answers. The interview gave opportunity to the respondent to respond to specific questions with multiple-choice options ranked by a particular priority of value or importance. (Drašković, 2013).

Concerning the RSP Zasavica, a sample survey from the year 2012 is 0.94% of the population, due to the fact that the population census from 2011 was 10.986, while the survey included 103 respondents. Pool environment was conducted in the first half of the 2012 in SNR Uvac on a sample of 103 adult age population. The population of the surveyed villages is 1639, and the sample of respondents comprises 6.28% of all residents of the village. Pool for the SNR Stari Begej – Carska Bara was carried out during the spring of 2012 on 104 respondents. The selected sample for conducting the survey and the survey – interview of the residents and visitors was completely random.

The other surveys technique was conducted in the same reserves, but on the other participant population. Reserve visitors were interviewed. The standard survey technique was performed. Printed questionnaires were placed in specific locations visited by tourists. Surveyed persons by free will had option, without the presence of interviewer, to answer the questions. The content of questions in the survey for visitors partly consisted of the ones from the survey – interview, conducted over the population living in and nearby the reserve.

Surveys or interviews, gave the visitors and residents the opportunity to present their specific quantitative and valuable qualifications in relation to the protected area, but also about the content of the survey or questionnaire. Survey or interview offered the option of being anonymous in the sense of expression, without noting any personal data of surveyed persons. The interview was individual, and lasted on average about 30 minutes per person interviewed (Drašković, 2013).

The use of survey methods and interviews represent a useful combination of research techniques and methods. Economic researches and partly some research in the field of ecology should rely on techniques and methods such as survey and interview. These techniques are available as methods for collecting reliable scientific information relating to subjective views, opinions and attitudes of value on different social and economic facts and factors. Nevertheless, their range and reliability have certain limitations. The limitations lie primarily in the complexity of the survey content, the selected

sample and the impact of pooling errors, which should be kept to the lowest possible level (Šušnjić, 1977, 1999).

Data processing, statistical analysis and numerical expression of the results were carried out by using SPSS software support.

RESULTS AND DISCUSSION

This chapter presents a comparative analysis of the results of a survey conducted for three representatives SNR: Zasavica, Uvac and Stari Begej – Carska Bara. A comparative overview of the results obtained by surveys among population living within or in the immediate environment of the SNR indicated a high correlation of obtained results with respect to some key aspects, the value of natural resources, their protection, management and projection of their future.

Results of the surveys carried out among the population in areas of SNR Zasavica, Uvac and Carska Bara are sorted in tables 1, 2, 3 and 4, while the results of the surveys taken among visitors of the three listed SNR are sorted in tables 5 and 6.

In connection with the question on whether they have, suffer or not any damage from the existence of the reserve, a relatively low percentage of respondents expressed to suffer any damage. The highest percentage of respondents pleaded to have damage from the reserve Zasavica, about 14.56% of them, and lowest number considered to have no harm from the reserve Carska Bara (see Table 1). Concerning SNR Zasavica, the perception of harm is mostly linked to the reintroduction of beavers, for Uvac these are wild animals, and Carska Bara, bird cormorant and flooding areas.

Table 1. Answers to Questions - Whether or not the respondents had any damages and benefits from SNR, and the Maximum amount of damages, expressed in cash.

<i>Damages and benefits that the respondents have from SNR</i>				<i>Max. amount of damage expressed in cash</i>
SNR	YES, damage exists	NO Damage exists	Interviewee Benefits (%)	Amount of Damage (RSD)
Zasavica	14.56%	85.44%	Rural tourism 27.8%	20.000
Uvac	7.8%	92.2%	Rural tourism 52.4%	10.000
Carska Bara	5.8%	94.2%	Rural tourism 55%	20.000

Source: Authors calculations, and Drašković (2013).

Over 85% of Zasavica respondents, and over 90% of Uvac, and Carska Bara, believe that they do not suffer any damage from the reserves. When it comes to the perception of benefits that they have or could have from the reserve, respondents have opted the benefits in the economic and not in ecological sense. The lowest percentages, only 27.8% of Zasavica residents, and residents surrounding Zasavica, have a standpoint of its usefulness, one that is related to the rural or eco-tourism. In this case, 85.44% of the respondents feel that there is no damage, but at the same time feel that they don't have a significant benefit from the reserve. As for reserves Uvac, and Carska Bara, there is a high (92.2% and 94.2%) perception that damages do not exist, and at the same time residents see a chance to, indirectly, in economic terms, use the reserves' resources through the development of rural and eco-tourism (Table 1).

When the respondents declared themselves on a specific quantification of the amount of damages they suffer from the reserve annually, the results were that the maximum damage quantified amounts to RSD 20,000. The least damage is suffered by the Uvac's reserve neighbouring residents, i.e., only 10,000 RSD (Table 1).

When the respondents expressed the eco-system value in cash, the results that prevailed were that the natural resources found within reserve are very large and complex and «cannot be expressed in cash». Such view was taken from the surveyed neighbouring residents of Carska Bara reserve. They believe that the reserve is worth more than 5 million euros (see Table 2).

Table 2. Answers to Questions - Can SNR are expressed in cash, and How much would they pay if they were given an opportunity to buy SNR.

<i>Money Value SNR</i>		<i>If they had an opportunity, they would buy SNR</i>	
SNR	Description	Would pay an amount of (%)	Would not pay anything (%)
Zasavica	Cannot be expressed in cash 65.7%	Over 5 million € and more 42.7%	11,5%
Uvac	Cannot be expressed in cash 88.3%	Over 5 million € and more 62.1%	10.7%
Carska Bara	It is worth 5 million € and more 81.7%	Not more than 4 million € 53.9%	1,9% without an answer

Source: Authors calculations, and Drašković (2013).

When the respondents are brought into a position to evaluate the reserve resources as a whole, assuming that they are the buyers of the reserve, the approach as to defining the value changes. Now, it becomes more accurate, not defined as an infinite size, hence «cannot be expressed in cash», and it is quantified in specific amounts. The respondents from the surrounding reserve Zasavica, and Uvac find that the value of the reserve is over 5 million euros, and respondents from the Carska Bara surrounding find that the value does not exceed more than 4 million euros. The point of view of 11.5% surveyed, is that they wouldn't pay any price for the purchase of Zasavica reserve, and in the case of Uvac reserve, that percentage is 10.7% (Table 2).

The point of view as to whether or not the government should or should not finance the sustainability and survival of the special reserve, majority of the respondents believe that the government should finance the survival of the reserve. In case of Zasavica 84.5% and in case of Uvac 99% of those surveyed.

A high percentage, 98.1% of Carska Bara surrounding residents surveyed, feels that the government should financially participate. 15.5% of those surveyed residents feel that the government should not finance the survival of Zasavica reserve, 1% that of Uvac residents surveyed, and 1.9% that of Carska Bara residents surveyed (see Table 3).

Awareness of 40% respondents believe that it is necessary that penalties should be high enough not only to discourage the behaviour of those who destroy natural resources and valuables, but also be high enough to secure the recovery of the resources. In case of Zasavica and Uvac, 4.9% of surveyed residents feel it is not necessary to have penalties for destroying natural resources, or in case of Stari Begej - Carska Bara 2.1% (Table 3).

Table 3. Answers to Questions - Should the government finance the survival and sustainability of SNR, and according to the respondent's opinion, How high should the penalty be for destroying SNR.

<i>The government should finance the survival and sustainability of SNR</i>			<i>Degree of penalty for destroying SNR's valuables</i>	
SNR	YES	NO	It should exist	It should not exist
Zasavica	84.5%	15.5%	Two times and more of the property value 41.7%	4.9%
Uvac	99%	1%	Ten times and more of the property value 54.4%	4.9%
Carska Bara	98.1%	1.9%	Ten times and more of the property value 45.4%	2.1%

Source: Authors calculations, and Drašković (2013).

Rating on the manner of reserve management⁴ in terms of «good» or «bad» management, provides the following indicators. Zasavica is considered well managed by 46.5% of respondents, and bad by 34%. In case of Uvac 75.7% respondents considered it to have good management, and 15.5% bad management. 29.4% of respondents feel that Carska Bara is managed well, and 44.1% that it is managed badly (see Table 4). It is possible to conclude, that the poorest score data is given to Carska Bara, from the fact that it is *de facto*, in an economic conflict of interest with the management of fisheries and management of protected marsh area, that is adjacent to the fisheries. A smaller conflict of interest is present in cases of Zasavica and Uvac reserves management (Drašković, 2013).

Table 4. Answers to Questions - How to manage SNR, and Should SNR be sold (privatized).

<i>How to manage SNR</i>			<i>SNR should be sold (privatized)</i>	
Reserve	Good	Bad	YES	NO
Zasavica	46.6%	34%	11.7%	86.4%
Uvac	75.7%	15.5%	1.9%	93.2%
Carska Bara	29.4%	44.1%	9.6%	88.5%

Source: Authors calculations, and Drašković (2013).

There is a high correlation in responses from different areas, i.e., surrounding, related to privatization of special natural resources. For the sale or privatization of reserves, 11.7% respondents answered affirmatively, 1.9% for the sale of Zasavica, 93.2% from Uvac's reserve surrounding and 88.5% from the Carska Bara's reserve surrounding (Table 4).

Views on the values of natural reserves represent a major factor that encouraged visitors to come to the nature protected areas. Given that the analysed reserves have different dominant nature values and resources, different data is obtained from the visitors' view. Zasavica and Carska Bara are located in the plain area and their key resources are water, forest, landscape, and rare bird species.

The intact nature is highly ranked (94%) and the rare species, like griffon vulture (72%) are the most highly ranked by the visitors of Uvac reserve. Space arrangement was valued by only 22%. Evaluation of space arrangement is referred to the results of investments into the access to nature areas. Visitors believe that the values of rare animal species (50%) and intact nature (11%) are values which Carska Bara possesses. The space arrangement, as a value, is determined by (39%) of the surveyed visitors. In the case of Zasavica reserve, 65% of the respondents valued the rare animal species, such as beaver,

⁴ SNR Zasavica is managed by a social, NGO – organization “Association Gorani” from Sremska Mitrovica. Uvac reserve has a specialized management established by the government as a Trade Enterprise, and reserve Stari Begej – Carska Bara, is managed by a private capital association, fishery Ečka (Drašković, 2013).

thereafter some native animal species such as mangalitza, Prairie ox, Balkan donkey, sheep, and thereafter the intact nature 58% followed by arrangement of space 46% (see Table 5).

Table 5. Answers to Questions – Which nature values are the most important in SNR, and Can the values be expressed in cash?

<i>Which nature values are the most important in SNR</i>				<i>Value of SNR in cash</i>
SNR	Rate animal species	Intact nature	Arrangement of space	It cannot be expressed in cash
Zasavica	65%	58%	46%	71%
Uvac	72%	94%	22%	92.4%
Carska Bara	50%	11%	39%	88.89%

Source: Authors calculations, and Drašković (2013).

The viewpoint of the respondents-visitors, regarding the evaluation of reserves and expressing it in monetary terms, corresponds to the views of those respondents from the reserves' surrounding. Majority of the respondents – reserve visitors have such values that «cannot be expressed in cash», 71% of Zasavica visitors, 92.4% of Uvac visitors, and 88.89% of Carska Bara visitors (see Table 5).

Regarding the amount of penalty that should be paid for destruction of natural resources and reserve goods, most respondents-visitors believe that the penalty should be ten times higher in comparison to the individual retail value of that particular natural resource. 49% of Zasavica, 61% Uvac, and 44.4% Stari Begej - Carska Bara (see Table 6).

A very small number of visitors believe that there should be no penalty for destruction of natural resources 1-2% (Table 6). This is far less than the viewpoint of the population in the region Zasavica and Uvac, where 4.9% of the respondents felt that there should be no penalty. Visitors have more stringent criteria for the protection of natural resources, as compared to the residents in the region.

Most of the respondents-visitors expressed their readiness to participate in financing the survival of valuables, in the protected areas. This view was expressed by 68% in Zasavica, even 80% in Uvac and only 50% in Carska Bara. No interest was shown for participation in financing the reserves, 29% Zasavica respondents, 12.4% Uvac visitors and 44.5% Carska Bara visitors (Table 6). It is interesting that Uvac reserve enjoys the highest affection by visitors, regarding the protection of natural resources and goods. We assume that the expressed willingness to financially participate, regardless of which reserve is in question, would be, by far, modest when it would come to the actual giving of money for the needs of the reserve.

Table 6. Answers to Questions - The Amount of penalty for destroying of goods in SNR, Would the visitors be prepared to participate in financing the survival of SNR, and Should it be sold (privatised).

<i>Amount of penalty for destroying goods in SNR</i>			<i>Readiness to participate in financing the survival of SNR</i>		<i>Should it be sold (privatized) SNR</i>	
SNR	It should exist	It should not exist	YES	NO	YES	NO
Zasavica	Ten times and more than the value of the asset 49%	2%	68%	29%	8.4%	66.4%
Uvac	Ten times and more than the value of the asset 61%	1%	80%	12.4%	3.8%	81%
Carska Bara	Ten times more than the value of the asset 44,4%	0%	50%	44.45%	0%	77.78%

Source: Authors calculations, and Drašković (2013).

Majority believe that nature reserves should not be sold, 66.4% in respect to Zasavica, 81% in respect to Uvac, and 77.78% in respect to Carska Bara. 8.4% visitors who were interviewed believe that Zasavica should be sold, while 11.7% residents interviewed were from the surrounding area. In case of Uvac, 3.8% visitors – respondents feel that the nature reserve should be sold, while that option was presented only by 1.9% by the residents from the surrounding area. In case of Carska Bara, an affirmative answer was given, as for the sale of the same; any respondent-visitor did not give answer, while 9.6% of respondent-residents from the surrounding area were for that option. There is a high degree of consensus among visitors and residents from the surrounding reserve, one which is related to the assumed possibility of privatization or sale of nature reserve. Representative data concerning visitors' views on Carska Bara, was small (see Table 6).

Future research could develop in the direction of modelling, the so-called “prey-predator” model, in literature known as Lotka (1925) – Volterra (1926) model, for all three SNR. “Prey-predator” models originate from biology where the predators are foxes and preys are rabbits and, initially, were considered a rabbit population under the onslaughts of foxes. Consequently, in ecological sense, the predator can be a pollutant, while the prey would be natural wealth. Similarly, in the paper by Drašković and Minović (2012), predators on the Serbian market, were large companies in retail trade, while the prey represented small shops in this industry. Thus, although the authors Drašković and Minović (2012); Minović et al. (2013) and their numeric simulations of the proposed models, used examples in economics and finances, at the same time, this kind of “prey-predator” model is used in ecology, physics, computer science, demography and sociology. Therefore, the development of “prey-predator” model for all three special nature reserves, would clearly identify, in each reserve, on one hand, the predator population, and on the other, prey population. In this manner the insight of the intensity of mutual interaction, and preciseness of benefits and damages from the same, SNR could be assessed.

BENEFITS VERSUS CHALLENGES FOR THE DEVELOPMENT OF SPECIAL NATURE RESERVES

For the development of all three considered SNR, Zasavica, Uvac, and Carska Bara, economic activity of tourism is important. Also, for all three SNR, in addition to the special nature values, resources and the environment, which these reserves possess, such as proximity to transportation infrastructure, also applies. All three reserves are close to the main roads that connect different towns in Serbia. Within the reserves Zasavica, and Carska Bara tourist services are provided: tour of the reserve by a tour boat, photo safari by a rowing boat, walking through health trails, bird watching, and bike rental, while inside the reserve Uvac travel services are primarily confined to the tourist boat tour of the reserve, and observing the colony of griffon vulture and caves (SNR Zasavica, 2012, Republic Agency for Spatial Planning, 2009, Nature Reserve Uvac, 2007).

Problems from the standpoint of reserve Zasavica development are those that apply to some cultural practices in agriculture within protected areas of Zasavica, which affect the increase of pollution of water and soil, due to the use of mineral fertilizers, as well as, the use of plant protection products. A similar problem is present in Carska Bara reserve, because the protection from municipal and industrial pollution of this reserve is on a low level, due to the fact that industrial capacity in agriculture does not have a system for water treatment. The same problem arises in the case of municipal waste from the settlements, which are in the surrounding protected areas. Water quality in Zasavica is classified in category I and II, while in Carska Bara in II and III class, with a tendency to further deterioration, due to the effects of the mineral fertilizers used in its surrounding. Protection from the municipal pollution of Zasavica area is relatively on a low level, as the communal capacity does not have the system for water treatment (SNR Zasavica, 2012, and the Republic Agency for Spatial Planning, 2009).

For the development of rural tourism of Uvac reserve, promising investments are necessary for adapting rural households for tourist services, also needed are marketing investments in order to bring information closer to the potential visitors, such as are the special values of Uvac reserve. The limiting factor for the rapid development of tourism services is that there are obstacles in the activation of the Visitor's centre, which was built in the dam Kokin Brod (Nature Reserve Uvac, 2007, and Drašković, 2013). Close to Zasavica reserve is Sirmium, that is a historical, archaeological site of great value, as well as, a historical monument from the time of first Serbian Uprising in 1804 and 1813 (SNR Zasavica, 2012, and Drašković, 2013). In order to sustain and improve the nature values of Carska Bara reserve in the future, it is necessary to invest in the environment protection. The necessary investment should be in air protection by ensuring the gasification of the village, organizing waste collection and recycling, as well as, sanitation of the existing dumps, forming a green area along the roadside. The water protection would improve by developing separate sewer systems in the settlements, improvement of wastewater treatment, improvement of flood protection by setting up sanitary protection space, and by reducing the use of fertilizers and pesticides. The mentioned procedures would, at the same time, contribute to the improvement and protection of land (Republic Agency for Spatial Planning, 2009, and Drašković, 2013).

CONCLUSION

This paper presents specific characteristics and key values of goods for the three special nature reserves Zasavica, Uvac and Stari Begej-Carska Bara. The protected nature resources and their valuables, and influence on the development of Serbia, are observed in terms of the relationship between economy and ecology. The presented methodology used, includes the population and visitors survey on all three locations of special nature reserves. The results of our research were to identify the value judgments of the population and visitors that are within the protected nature areas. Our results obtained from the research of the three SNR surrounding population viewpoints, indicates that the majority of the population does not suffer any damage from the reserves. When it comes to the perception of the benefits that respondents have or could have, the results of both types of surveyed population and visitors, indicates the prevailing approach of the respondents when expressing the value of eco-systems in cash, and i.e., that the natural resources found within the three reserves, are very big and complex that it *"cannot be expressed in money"*. Consequently, the awareness of respondents (residents and visitors) is that it is necessary for penalties to be high enough, not only to discourage the behaviour of those who destroy natural resources and valuables, but also to be high enough so to provide the resource recovery, and is the viewpoint of over 40% of the respondents in Zasavica, and over 50% in Uvac. The results of our research indicate that the majority of respondents of all three SNR's population believe that the government should fund the survival of the reserves. Furthermore, most visitors and residents, from the surrounding of all three reserves, believe that privatization or sale of the nature reserves should not be performed.

The future research could be focused in three directions. The first being creation of a common model by which all three special nature reserves operate. That is, from the model it would be possible to see what connects these three SNR, and what are dominating points of divergence. The second direction could define the sustainable development of these three SNR, through inclusion of external costs, similar to Minović and Drašković (2012)⁵. The third direction would involve modelling the so-called «prey-predator» model, for all three SNR, similar as in the paper by Drašković and Minović (2012)⁶.

⁵ These authors, through the numeric simulation, showed the unsustainable economic and environmental development in the framework of the assumptions for the Serbian data.

⁶ These authors have made a "predator-prey" model for the retail market in Serbia.

LITERATURE

- 1) Drašković, B. (2013). *Upravljanje resursima zaštićenih područja u Srbiji*, Publishers: Institute of Economic Sciences, Belgrade and Belgrade Banking Academy, Faculty of Banking, Insurance and Finance, Belgrade.
- 2) Drašković, B., Minović J. (2012). "PARETO'S RETAIL TRADE TURNOVER DISTRIBUTION", *TTEM - Technics Technologies Education Management Journal*, 7(2): 706-715.
- 3) Lotka, A.J. (1925). *Elements of Physical Biology*, Williams & Wilkins Company, Baltimore, USA.
- 4) Marshall, A. (1890). *Principles of Economics*, London: Macmillan.
- 5) Marx, K. (1867). *Das Kapital, Kritik der politischen Ökonomie*, Publisher: Verlag von Otto Meisner, Germany.
- 6) Minović, J., Drašković B. (2012). "Gross Domestic Product and External Costs: The Case of Sustainable Management in Serbia". *Econophysics, Sociophysics & Other Multidisciplinary Sciences Journal (ESOMSJ)*, 2(2): 17-21.
- 7) Minović, J., Radović-Marković M., Drašković B. (2013). "Financial Engineering Education: The Case Study of Financial Modelling Using Games". *The International Journal of Engineering Education*, Special Issue: Human Computer Interaction in Engineering Education, 29(3): 634–643.
- 8) Nature Reserve Uvac. (2007). „Specijalni rezervat prirode „Uvac“, *Plan upravljanja 2008-2012 godina*“, Nova Varoš.
- 9) Pareto, V. (1896). *Cours d'Economie Politique*. Droz, Geneva.
- 10) Republic Agency for Spatial Planning. (2009). „Prostorni plan područja posebne namene specijalnog rezervata prirode Stari Begej – Carska bara“, Autonomna pokrajina Vojvodina, Autonomous Province of Vojvodina, *Province Secretariat for Architecture, Planning and Building, Public Enterprise Planning Institute of Vojvodina* - Novi Sad.
- 11) Ricardo, D. (1817). *On the Principles of Political Economy and Taxation*, London: John Murray, Albemarle-Street, England.
- 12) SNR Zasavica. (2012). „Specijalni rezervat prirode Zasavica, *Plan upravljanja 2012-2022 godina*“.
- 13) Šušnjić, Đ. (1977). „Kritika sociološkog metoda“, Gradina, Niš, pp. 215-237.
- 14) Šušnjić, Đ. (1999). *Metodologija*, Čigoja, Belgrade.
- 15) Volterra, V. (1926). "Fluctuations in the abundance of species considered mathematically," *Nature* 118: 558–60.

NEW TECHNOLOGIES: ONE OF THE KEY STRATEGIC FACTORS OF THE SERBIAN CORPORATE GOVERNANCE PRACTICE HARMONISATION WITH EU REQUIREMENTS¹

Predrag DEDEIĆ²
Zvonko BRNJAS³

Abstract

New technologies have been changing the world for centuries. Innovations have been the strongest tool for development and recovery of world economy. Today information is the most valuable asset and global markets and global companies are depending on relevant data and information security. Tech-intelligent processes are fundamental for the European corporate governance environment. The stability of corporate governance as a system with the prime aim to protect investors and take care of stakeholders linked to public companies is based on quality of information and relevant access. When corporate governance is good, then also the process of collecting and disseminating information is good as well. This paper presents the potentials of information technology to be used for better corporate governance and to help Serbian companies to position themselves on European capital markets. Public company as well as of capital markets can be controlled in more efficient way by using IT. Shareholders rights and activities, board of directors` duties and responsibilities, settling of disputes, disclosure and transparency, stakeholders` protection and other important issues in corporate governance can be provided and organized in a better way. This paper mostly deals with tree main segments of corporate governance policy: protection of shareholders rights, effective board of directors and efficient resolution of disputes. Proper use of technology and right policies and procedures for information security can help public company to improve the efficiency of corporate governance by supporting diligence, restrict abuse and reduce corruption and bribery. Destructive nature of any dispute arising within or out of company has potential to spoil reputation of company and the trust of investors. On the other hand, the dispute, can be solved and even be a tool for better relationship between parties in a dispute in the future. If discovered at the early beginning, the dispute can be handled effectively by mediation. There, information technology and communication can be of great help.

Key words: Corporate Governance, Information Technology. Shareholders, Board of Directors, Mediation

INTRODUCTION

Information and communication technologies are an important cohesive factor in developing global economy and binding up capital markets. Corporate governance as a foundation stone of these markets has its place in the process of creation of new capital flows. Financial instrument markets are connected in their existence with relevant information and their dissemination, so that information technologies contribute to the efficiency of their organization and functioning.

¹ This paper is a part of research projects No. 47009 (*European integrations and social and economic changes in Serbian economy on the way to the EU*), and No. 179015 (*Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements*), financed by the Ministry of Science and Technological Development of the Republic of Serbia.

² Predrag Dedeic, Associate Professor, Belgrade banking Academy, Belgrade, Serbia

³ Zvonko Brnjias, Full Professor, Belgrade banking Academy, Belgrade, Serbia

Keeping and processing relevant information, an easy access to important data by an endless number of beneficiaries in real time and effective transfer of information to all interested persons, are the characteristics which new technologies bring about and make them a factor of cohesion.

If Serbia follows this way than has to be aware that the European Union has already applied new technologies in a great deal in many areas including corporate governance (E-Europe). It is logical that the process of integrating capital market into the European system has to be founded on harmonization of infrastructure with the existing standards. Also adjusting of the behaviour of shareholders and directors concerning IT application is imperative. If public companies wish to protect themselves from competition and provide an effective approach to external capital proper use of IT is of utmost importance. Global markets involve many new disputes and cross-borders disputes are the most complicated among them. State system for dispute resolution is not useful in a such situations so effective out- of-court system is needed. When provided in a cheap, quick, non-formal and out of public way with help of internet and other similar tools it can be a good protector of investors, consumers and other stakeholders.

CORPORATE GOVERNANCE AND TECHNOLOGICAL DEVELOPMENT

Numerous problems arise on the capital market regarding application of new technologies. A part of the problem refers to the very trade of securities during electronic transfer where numerous issues arise (identity, irrevocability, trust and integrity of the document, etc)⁴. Another problem addresses the relations within joint stock companies whose shares are on the stock exchange. The third group of problems refers to relations among relevant entities on the capital market. The fourth group of problems treats destructive elements on the capital market which in certain segments tend to limit its development, while in some other segments they tend to act illegally and abuse technological innovations. Problems do not end by such listing.

Corporate governance has not been well developed in Serbia, nor is the capital market. Reasons for that are numerous. In this paper we would highlight the current situation, reasons which caused such situation and future perspectives, starting from a hypothesis that application of modern technologies, especially information technologies, can contribute greatly to faster changes in terms of improving corporate governance and effective functioning of the capital market and protection of investors. Technological changes have to entail inner organisation of the company whose shares are traded on the capital market (internal aspect) as well as other external component systems of corporate governance, which are present on the capital market and make a very complex function of monitoring (primary markets by prospectus⁵, secondary markets by loyal and competent intermediaries and by efficient market for corporate control⁶).

REGULATING THE ISSUE

Regulations in Serbia support application of technological innovations in economic activities. Company law, Code of corporate governance of the Serbian Chamber of Commerce (the Code), Code of corporate governance of the Belgrade Stock Exchange, regulations on the capital market, tax and other regulations relevant for structure and processes of corporate governance, contain numerous terms which, in order to improve management of public companies and appropriate monitoring mechanism present on the capital market (activities of the Commission for Securities, Central registry,

⁴ Gururajan R, Ryle A, Hafeez-Baig A.(2004), Legal and Regulatory Issues of Implementation of Electronic Signatures, p. 3-6. <http://conf.isi.qut.edu.au/auscert/proceedings/2004/gururajan04legal.pdf>

⁵ Must be taken into account that Prospectus does not only refer to the issuing of new securities but to offering of the existing securities, too. (Suggested changes in the law on securities).

⁶ Hopt J. K. (2007) Modern Company and Capital Market Problems: Improving European Corporate Governance After Enron, <http://ssrn.com/abstract=356102>, p. 487

intermediaries, analysts, rating agencies, etc) direct entities towards more intensive use of information technology and other similar means of information transfer.

It has to be concluded that application considerably lags behind the quality of the envisaged solutions. It is evident that a significant effort is required so as to implement technological information in internal structure of public companies as well as in a network of synergy effects of all participants on the capital market.

Good Bill on e-commerce creates safe legal atmosphere as an incentive to development of e-commerce in Serbia. It should respond to challenges of the increasing e-commerce on the Internet and offer safe solutions for e-commerce in domestic and international operations. Adequate regulations in this field are important for Serbian integration in the informatics society. Law can provide a set of legal rules which regulate the terms and conditions of information society services rendering, define the obligations of information spreading to the users, determine the idea of commercial message, determines the rules in terms of signing contract in electronic form, define the responsibility of person who offers services of the information society and set the system of monitoring over these rules.

In e-commerce the law should regulate the process in which various kinds of information and communication technology are used in business operations among the business entities, information providers, civil administration and consumers enhancing transparency and control of business transactions. Application of new technologies should reduce administration and costs, provide effective storing and keeping of information and easier and cheaper operational activity. This approach will improve the relationship between company and its creditors, distributors, consumers and other stakeholders. Safety and privacy are the two very important aspects of e-business.

E-commerce is so called three-tier architectures (web client/server middleware) which increase the problem of safety and privacy of the data provided by the participants in the transaction⁷. New technologies contribute to increasing competitiveness and improving interactive communication. Beside legal rules which determine the very process of e-commerce, there is a whole range of other legal issues such as: regulations regarding electronic signature, protection of intellectual property (the Internet as «the world's biggest copy machine»⁸), protection of privacy of the data, etc. In international transactions there is a whole range of issues in terms of conflict of law.

Secrecy of the data, as an important challenge for corporate governance also in developed countries, has been legally protected in Serbia by the Law on protection of the personal data recently. These regulations determine the conditions for collection and processing of the personal data, human rights and protection of rights of the persons whose data are being collected, etc. Having in mind the international potential of new technologies, it is worth mentioning that the data can be taken out of the Republic of Serbia without special limitations and brought into the member state of the Convention on protection of persons in automatic processing of personal data of the Council of Europe. Also, in order to provide more effective control of the system for protection of privacy of the data, the authority of the Commissioner for Information of Public Importance and Personal Data Protection has been introduced as an independent state authority. Unfortunately, low level of respect of such an important field has been evident in practice.

In 2004 the Law on electronic signature was passed in Serbia. It created a legal basis for functioning of electronic and qualified electronic signature. This law regulates the use of e-signature in legal operations and other legal activities and in business. It regulates rights and responsibilities regarding electronic certificates. Also, it refers to communication among state authorities, among authorities and beneficiaries, provision and developing of decisions in e-form in administrative, court and other procedure at state authorities.

⁷ Nasir M A (2003), Legal Issues Involved in E-Commerce, p. 9. http://www.acm.org/ubiquity/views/v4i49_nasir.html

⁸ «Its the World's Biggest Copy Machine, « PC Week, January 27, 1997.

Monitoring over the implementation of this Law and the work of certification bodies has been envisaged. It should be kept in mind that no significant move has been done so far in terms of implementation of the system.

More complex enterprise, in comparison to passing regulations, is the creation of trust in reliability of electronic transactions. Apart from legal rules which regulate the use of electronic signature and establishment of trust among the participants, the important part of the problem lies in liberalisation in telecommunication sector⁹. We should be realistic enough in our expectations, for a legal rule would be effective if it is supported in real life. Here, it means the state in technology and the degree of development of the very market and civil administration (Creation of legal framework for development of information and communication market).

CURRENT SITUATION IN SERBIA AND FUTURE PROSPECTS

Weaknesses of Serbian economy and capital market have been numerous and evident for more decades. Often they have been a result of a lack of strategic orientation. At this moment there are two important assumptions. First, it can be assumed that there is a clear goal in terms of future development. Stabilisation and Association Agreement as a basic document towards EU membership after it has been signed with the European Union clearly directed further development (provided that terms and conditions of this agreement are fulfilled and the process of accession is successfully ended). According to that, the main activities of the state are directed towards fulfillment of clearly defined political, economic and legal conditions, which essentially change the state and society and adjust it to the EU standards. Another assumption is that the process of change could be faster if adequate new technologies were applied.

Activities regarding adjusting of the legal system, by their nature, are reflected to functioning of the capital market and management of public companies. In order to understand the complexity of the current situation on the capital market and corporate sector in Serbia, we have to look back at some facts from the recent history and identify key reasons for insufficient development of corporate governance and capital market.

Continuity of stock exchange operations in Serbia was interrupted by forced termination of operations on the Belgrade stock exchange after the World War II, because that «temple of capitalist economy» was not suitable for socialist state. In the late 1980s Serbia opened doors to market economy again and revived the activities on the Belgrade stock exchange. Process of transition, technological advances and integration of capital markets in Europe in the 90s went round Serbia. Economic sanctions imposed by the UN which lasted for almost a decade and climaxed in bombing of Serbia, left destroyed economy, high rate of unemployment, grey economy, high level of corruption and organised crime, unfair privatisation, lost trust in banks and capital market and other negative traits in Serbian society. That was a fundament on which market economy should have been built, including the most sensitive financial sector. Establishment of legal and institutional framework of market economy and democratic society started in the year 2000. The speed of these changes is conditioned by the degree of implementation of contemporary technologies and standardization. Technical and technological solutions offer possibility for market opening to a wider pool of investors.

Currently, characteristics of Serbian capital market refer to a narrow space for full affirmation of corporate governance and expansion in implementation of new technologies in the process of strengthening business activities on organised market. Since capital market is very sensitive to situation in economy, many analysts emphasize a variety of structural issues such as: inconsistent legal system, weak judiciary system (not independent enough) and undeveloped mechanism of Alternative

⁹ Dempsey J. (2002) Legal Regulations of the Electronic Signature in the Developing Countries (<http://www.e-trgovina.co.yu/pravo/gipi.html>)

Dispute Resolution, irresponsible and unprofessional management, disrespect of law, non-transparent business activities, destructive influence of corruption and organised crime, undeveloped capital market and undeveloped practice of public companies takeover, etc.

Research made by International Financial Corporation (IFC)¹⁰ show that corporate sector in Serbia has the following characteristics: concentrated ownership, connections between ownership and control, huge holding structure, active process of re-organisation, lack of strong, active and independent bodies. Such ownership structure shows that corporate power is in hands of a single shareholder or a smaller group of shareholders (insider domination), while in practice it is evident that there are frequent abuses of such power on the account of minority shareholders and that mechanisms of control do not provide effective protection of the investors. That is one of the main reasons why there is a small number of companies (three on A list and one on B list) on the organised market in Serbia (there is only one organiser, the Belgrade stock exchange) which comprises stock exchange operations and over the counter market. The relationship between the ownership and control, being the key issue in all public companies, is a very specific. Direct interference of a majority owner in managerial activities is predominant, thus resulting in weak structure of responsibilities and control, as well as weaker demand for implementation of advanced technological solutions for better information transfer and communication. Stronger activities of the market and the competition would bring about changes. The main abuse in business transactions (mostly through interrelated persons) is caused by low quality (not enough or too much information) and non-transparent information system. Technological solutions which are envisaged by the Code of corporate governance of the Serbian Chamber of Commerce are directed towards diminishing abuses in terms of transferring relevant information. Also they can give their contribution to more transparent insight into complex ownership and business structures which affect business prospects of a particular public company (improvement of quality of consolidated accounting). Technologies can help in re-organising such huge holding structures in order to adjust them to changes which Serbian economy has been exposed to.

Decades of socialist economy followed by economic isolation caused the lack of regulations which derives from business operations and adequate judiciary practice. On the other hand, regulations have been overwritten from the countries in the region and the attempt to apply them in the economy which lags behind causes numerous problems. The role of supervisory bodies is not defined, the role of commissions of the board of directors and secretaries of the public company is not clear, and that indeed is a basis for a more effective communication. Serious problems have arisen, but first steps towards their resolution have been taken.

Improvement of corporate governance in Serbia went through the reform of company law (which was hard for there was nothing legal rules could rely on due to the lack of business and judiciary practice resulting from the economic paralysis caused by economic sanctions), which was not complete. That reflected in criticizing business structures for being abstract, unclear and inapplicable (however critics could be addressed to business entities for not using dispositions of such rules and putting effort in building up appropriate autonomous regulations and applying information technologies). The report of the EU Commission for the year 2008 [2] emphasizes the need to improve solutions of the company law so it was the reason for adoption of new legislation concerning company law and capital markets. The same report points out insufficient degree of development of information systems, which refers to a problem of wider use of information technologies and lack of more serious pressure in terms of mandatory use of information technologies (it remains at a recommendation level).

In treating the issue of corporate governance, our law as well as the Code of corporate governance, starts from solutions incorporated in the OECD Principles of Corporate Governance and recommendations given by the EU Senior expert group. Adoption of all uniform models of documents (e.g. electronic model of power of attorney, etc.) is a condition for harmonisation with the regulations and practice of the EU countries and at the same time with capital markets of the member countries

¹⁰ Corporate Governance (2011) IFC, Belgrade, p. 21-22

and companies which do business on these markets. Our law adopts directions of development of the EU law in terms of new instruments of corporate governance (independent general managers, cumulative voting, protection of minority shareholders, etc.) and application of new technologies both in functioning of the state authorities and business entities, especially public companies (assembly of the shareholders or video-conferences of the board of directors, public relations via web page and other ways of application of modern technologies in order to provide effective and more transparent business operations.

The biggest step forward in building up corporate governance in legal terms was made by the Code. With the help of legal rules, recommendations ('apply and explain') and suggestions, the Code tries to establish basis for creating better practice. Instructions and recommendations for efficient application of information technologies occupy a significant place within the Code rules.

When institutional framework is concerned, there is a minimum of necessary institutions (Securities Commission, commercial courts, market organisers, brokerages, banks, Central registry, etc) but their activities are not connected enough. Technological binding in the same information system would contribute to better functioning of each particular institution and their cooperation.

The need for improving corporate governance is evident and Serbia must act in a timely manner through company law (internal corporate governance) and capital market law (external corporate governance) reform.

SHAREHOLDERS RIGHTS AND INFORMATION TECHNOLOGIES

Impact on Shareholders Position

New technologies should help public companies to be successful in a long run by providing more efficient functioning of corporate governance by encouraging shareholders to effectively use their rights¹¹. Separating ownership from the function of management and control and its diversification (great number of shareholders), respecting and executing rights of the shareholders becomes one of the most important issues of corporate governance and the foundation stone of the investment process.¹²

It should be kept in mind that the shareholders are not homogeneous group and among them conflicts of interest arise (in relation minority-majority, institutional and non-institutional, domestic and foreign, shareholders employed with a company and those who are not, etc). Protection of shareholders' rights goes between the rules which are cogent in nature and those which are dispositional, that is between regulations and self-regulations. Good protection of shareholders' rights entail legal and organisational instruments of incentive and monitoring in order to achieve the desired behaviour of all participants. Application of information technology can contribute significantly to more effective protection of both basic rights of the shareholders and higher level of more complex managerial enterprises.

Minimum shareholders' rights assume that there is a method of safe registering of ownership, and then secure transfer of shares. A typical example of effective application of new technologies in Serbia is the establishment of the Central registry for securities, custody and clearing. With the assistance of modern technologies, this considerably improved previous state in which there were huge abuses (especially in subscribing shares in the process of privatisation). That provided efficient functioning of financial market in Serbia.

¹¹ Nathan R. (1996) Corporate Governance at the Speed of Light, p. 1 (<http://www.catalaw.com/logic/doc/rn-corp.gov.html>).

¹² Kim K. Nofsinger R.J (2007), Corporate Governance, Pearson, p. 3.

Central registry keeps unique evidence on owners of all securities (and other financial instruments) which are issued on the territory of the Republic of Serbia and the rights of the third parties over these securities. The Registry represents a clearing house which is engaged in clearing and balancing of assets and liabilities in securities and money (rolling settlement). In order to become a member of the Central registry it is necessary to pay 40 000 Euro on the account of the guarantee fund, and the members are as follows: brokerage companies, accredited banks, custody banks, fund management companies and foreign legal entities that are engaged in clearing and balancing, market organisers, the Republic of Serbia and the National bank of Serbia. Central registry communicates with its members via e-communication through sending SWIFT messages. Technical procedures for work and electronic exchange of the data between the Central registry and its members are defined in the User manual of the Central registry. Central registry undertakes its business operations according to international principles and rules accepted by the international organisations to which it belongs¹³.

Transferring the function of management from the shareholders to the members of management brings about the need to give a shareholder right to elect and replace the management. The right of the shareholder to be paid dividend, which is the main engine of the capital market, should not be ignored, for the final purpose of investment in the company is represented by the participation of the investor/shareholder in the profit of the company.

On-line Communication

Application of information technology can contribute to more effective realisation of the basic rights of the shareholders thus contributing to finding solutions for the issue of «rational apathy of shareholders».

New technologies can significantly contribute to effective shareholders assembly, material distribution, accepting agenda, discussing and exercising voting power of all shareholders (particularly important for cross-border shareholders).

The Internet and other technologies provide opportunity for everyday interactive communication between the public company and the shareholders¹⁴. That is a big step forward in terms of surpassing traditional ways in which shareholders meet once a year. (more often only in case of emergency assembly), rarely exchange opinions among each other, analyse financial reports once or several times a year depending on the law-abiding obligation to submit financial reports.

Public companies in Serbia must publicise a lot of information about its financial condition and business transactions as well as many information which are of utmost importance for investors and are required by Capital Markets Law to be publicly revealed. Serbian company law has imposed an obligation on public company to use internet and other electronic instruments for effective communication with shareholders.

Interactive communication through on-line forums on the Internet provides instantaneous access of great number of shareholders and an opportunity to find answers on questions they are concerned with in a more effective way. Members of management can also be involved in the exchange of information and attitudes and give suggestions for which they can easily find out if they can obtain support or not. New technologies provide on-line dispute resolution which may arise among the shareholders, or with the management, and especially conflict resolution procedure. Also, this on-line method can be used in the voting procedure. Advantages of on-line communication, voting, access to information and judiciary activities lie in the fact that all shareholders are in an equal position, and entail all

¹³ ANNA, CEECSDA, ISSA, ECSDA and EACH

¹⁴ Nathan R. (1996) Corporate Governance at the Speed of Light, p. 1 (<http://www.catalaw.com/logic/doc/rn-corp.gov.html>).

shareholders no matter whether they are cross-border or employed with the same public company. Technologies bring extraordinary possibilities to corporate governance providing considerable growth in information liquidity, increase capability of the shareholders to actively participate in the process of making strategic decisions thus protecting their own interests more effectively. At the same time, competition has been created among companies to provide better forms of communication with investors, improving their chances in access to capital markets which are founded on information.¹⁵ In order to provide effective exercising of rights of the shareholders to participate in the work of the assembly, take part in discussions, give suggestions, ask questions and get answers, a certain technical and technological connection is required between the shareholders and the public company. The Code gives recommendation to public companies to provide contact details on the Internet page of the company.

The obligation to inform and communicate with the shareholders, especially where there are a huge number of shareholders, exposes public company to huge expenses. The use of new technologies can reduce these costs in a great deal, for it is possible to send piles of documents important for assembly sessions and decision making to an endless number of e-mail addresses (financial reports, auditor's report, supervisory board report, board of directors report regarding business operations of the company, as well as reports on corporate governance).

Instruction containing explanation on the rights of shareholders and the way in which these rights can be exercised should be clearly visible on the web page of the company (should be placed on a special part of the web page separate from business information about the company). The web page of the company should contain information on the time and venue of the shareholders assembly. It is necessary to establish additional systems of communication in order to encourage shareholders in terms of cost benefit.

Sessions are summoned by sending notice in writing to shareholders, which provides opportunity for e-mails and mobile communication. However, one should be aware of a low level of information culture development so that at this stage communication cannot be reduced to the Internet or e-communication but it should be followed by traditional communication. The notice given to the shareholders (including the members of the board, the external auditor, etc) can be sent effectively, cheaply and automatically to all shareholders via e-mail.

The Code offers an interesting solution which requires the public company to provide participation of the presidents of the commissions for appointments, fees and auditing via implementation of modern means of communication (teleconferencing and other audio and visual communications).

The Internet technology provides opportunities for the investors to find out about the rights of any kind and class of shares prior to purchasing shares, and particularly about the existing voting rights, as well as voting rights which are given by shares publicly offered.

Custody banks provide specific ways of protecting the rights of the shareholders. Here technological opportunities help in establishing full communication not only between custody bank and shareholders but between the shareholders themselves, thus reducing the risk of being uninformed, i.e. so called «the prisoner's dilemma». The same situation can be applied to any person which is the owner of the account of shares on his/her behalf and on the account of the legitimate owner.

The code allows the public company which has no more than ten shareholders to hold phone assemblies (no physical presence required). In order to organise such session, the public company should have on its disposal appropriate technical capacities which enable communication among the shareholders (i.e. their representatives). Rules for voting in absence should be applied.

¹⁵ Lefebvre R. (2008) Corporate Governance in Canada's Capital Markets, p. 5.

New Voting Procedure and the role of institutional investors

The application of information and other technologies is very important in voting in absence. It is necessary that a company provides, at its own expense, technical possibility to its shareholders or their representatives (teleconferencing and other audio-visual communication equipment) to participate in the work of assembly and vote without being physically present there. Persons who participate in this way in the work of the assembly are considered to be present in the assembly. It is crucially important to check the identity of the persons who vote in absence.

Instruction for voting in absence should be placed on the Internet page of the public company. Voting in writing is also one of the important possibilities of exercising the shareholders' rights. Instruction should be given on the Internet page (especially important in checking out identity of the voters) thus providing effective insight in the procedure. Application of the Internet technology would make withdrawal of votes given in writing very efficient.

Public company should provide on its Internet page relevant information and instructions on voting via power of attorney. Power of attorney could be given in a special form enabling shareholders to give it in electronic way.

Public company should remove any obstacle in order to provide easier and simpler participation of the shareholders with the residence abroad, in the work of the assembly. Modern technologies provide the same opportunity to this group of shareholders. It is good if the board of directors establishes a special commission for protection of such shareholders and provides on-line communication with that category of shareholders. This procedure should be governed by rules and such rules should be announced to the investors.

Voting should be organised with the assistance of technology which provides clear identification of the voters (if voting is not secret), scope of their voting right and safe way of votes counting which guarantees correctness. When there is a huge number of voters and huge number of shares with voting power it is necessary to adjust voting lists to computer processing in order to provide efficiency, speed and correctness.

Technology can play a significant role in the process of separating voting procedure in essentially separate issues (e.g. it is necessary to separate decisions on salaries, dividends, approving board of directors' report, report of an external auditor, supervisory body report, etc).

The company should have commission for voting (one minority shareholder representative member) and it is important that public company puts a report on its Internet page on the work of that commission after each session (including explanation given by the member who has not wanted to sign the report).

Development of investment and pension funds has led to strengthening of institutional shareholders. Their main duty is to act in the best possible interest on behalf of their investors which brings them in a bit controversial position: on the one hand they have obligations towards their investors (diversification of risk and maximisation of returns) and on the other they have obligations towards company in which they possess shares.

Institutional shareholders have to decide in a transparent way whether they would exercise their shareholders rights. If they estimate that it is useful to exercise their shareholders rights then institutional shareholders actively influence management in the public company. Their pressure on management encourages growth of the scope and quality of relevant information offered to the shareholders. That procedure is directed towards independent and non-executive members of the board of directors.

On the other hand, the Code of corporate governance imposes obligation to institutional shareholders to publish their policy of exercising voting right on their Internet page at least once a year. Also, they should publish report on whether they have voted in the assembly every three months and if so, they should announce how they voted.

The board of directors in the public company is obliged to publish explanation given by the institutional shareholders on the company's web page regarding the way they voted on each issue in terms of evaluating corporate governance, and especially in situations in which they do not agree with the activities of the company.

Investment shareholders make indirect pressure on public company by prescribing certain standards of reporting which company has to fulfil as a pre-condition for their investments¹⁶. Such pressure is made by stock exchanges as well, securities analysts, rating agencies and specialised journals. This resulted in the need for direct communication between the public company and information beneficiaries. Control by the shareholders could be enhanced by serious liability (actions against directors and auditors) and special investigation (do detect misconduct).¹⁷

BOARD OF DIRECTORS AND ITS COMMITTEES IN IT WORLD

Tech savvy approach

Board of directors is a fundamental pillar of internal corporate governance system. In tech intelligent approach in creating structure and processes in public company, from directors is expected to devote enough time and diligence to information and communication technology. The complex relationships within the board (independent and dependent directors, executives and non-executive, employed or unemployed directors etc) as well as between directors and shareholders, is not easy to balance. Conflicts of interests can arise everywhere. Principal agent problem, as one of the fundamental issues in corporate governance, can be treated much more effectively by application of advanced information and communication technologies. That system can provide a better communication, allow for the ease of oversight of organization risk management and help in minimizing the risk linked to different conflict of interests.

The board of directors is centrally positioned in corporate governance system. It is responsible for directing, definition of strategies, company's business priorities and control. Efficient and safe functioning of IT system is an important board's activity.

There are many critical information and communication technology issues important for board members activity and responsibility. The most important thing in application of new information and communication technology is to use it properly to support the board activity. The board must organize information system in accordance with the whole business strategy of a company and take a good oversight over the use of IT. It is not an easy task because a lot of knowledge is needed to understand the quality of particular IT.¹⁸ There are many risks linked to that application and board is responsible for it, especially CIO (Chief Information Officer).

Board of directors, elected by shareholders' assembly, acts in line with company's interests, shareholders' rights; supervises work of general managers and other executive board members and

¹⁶Nathan R. (1996) Corporate Governance at the Speed of Light, p. 1.

¹⁷ Hopt J. K. (2007) Modern Company and Capital Market Problems: Improving European Corporate Governance After Enron, <http://ssrn.com/abstract=356102>, p. 486

¹⁸ See The Tech Intelligent Board, Priorities for Tech Savvy Directors as they oversee IT Risks and Strategy, S survey conducted by Delloite Touche Tohmatsu in conjunction with Corporate Board Member , (guide have been taken from corpgov.delloite.com on 1st September 2013.

monitors financial control system. It should be efficient, professional and independent. According to Serbian company law there are two governing systems on disposal to shareholders of a public company to apply. Both of them are similar to European practice: one tier and two tier.

New technologies may help this Board's work become more efficient aiming at protection of public company's interests and long-term shareholders' interest. This is achieved by numerous technical solutions allowing for a high level of continued communication and data disclosure, storing and automatic processing of information, as well as its transfer.

IT has found its place in every segment of corporate governance concerning board practice, both in control process and incentives and penalties mechanisms implementation. Responsibility of board members is a pillar of good corporate governance. They sign and guarantee for financial reports. A study conducted in Canada shows that: companies with good corporate governance have a strong sense of commitment and a 'culture of compliance', and board members have a strong sense of independence, diligence, competence and ethics. Technologies can stimulate development of such characteristics.

Integrity of board members and trust of investors in their work, as well as quality of oversight play an essential role in economic life. Corporate governance should support a more efficient resource usage (particularly of ITs that generate changes) and control of costs, risks and harmonisation. Administrative system (single, double, mixed) defines IT communication and control system (connection with executive board and internal control).

Talking about place and role of board in corporate governance system, one should have in mind that this body's make-up is not homogeneous. It is particularly dangerous if a member (non-executive and independent as a rule) is cut off from information. This is where IT come to the scene and become prominent through transparent and efficient data disclosure system. Intranet communication board is an example of good practice.

Good corporate governance has to provide directions for executive bodies in charge of running daily company's business. This operational advantage provides a high level of company's resources control. Comprehensive informing has its full sense when it aims at prevention of personal interests in the first place and outflow of company's resources and at shareholders' damage. Well-established information system and clearly defined responsibilities of the board within the system are a guarantee of a higher level of responsibilities towards shareholders when performing their assigned duties. This system enables a company guide executive bodies to perform their tasks in good faith and company's interest. This implies a high level of information and good communication system among shareholders and executive and boards of directors. The board is responsible of taking care of harmonisation system functioning between behaviour and legal, i.e. contractual responsibilities, as well as of information system security. Improved protection of stakeholders' interests is an important part of this strategy by efficient information and active role in corporate governance process.

Owner is detached from management function, which is a characteristic of public companies and soft spots and implies appointment of experts in charge of achieving company's set objectives. Efficient control of their work, primarily of business financial results, is a principal agent. Protection process is initiated by selection of adequate persons. New technologies can be applied here. Concretely speaking, they may search databases (on line head hunting), or be used for e-learning, professional education and development, personnel retaining (full information and motivation), etc.

Public company has to have a general manager (this is board's presidents by the law unless someone else is appointed), who is always executive board's president and company's representative. It is not good for corporate governance to have a same person as board's president and general manager (executive board's president). Concrete solution has in any case influence on information system structure, both within the executive board and between board of directors and executive boards.

General Manager is, at interior level, in charge of calling executive board's sessions and chairing them. He/she is also responsible for all activities and minutes taking. He/she is accountable to board. Public company has to have an executive board responsible for implementation of board's decisions. The most sensitive issues, board deal with, are entrusted to expert commissions. There are following commissions in line with Serbian regulations: commissions for appointments, reimbursement commission and auditing commission. Growing importance of IT underlines the need for a public company's commission in charge of them.

Chief Information Officer (CIO) and Control Bodies

Risk management is one of the most important components of corporate governance and a key challenge for the board members. Their duty is to inform shareholders, and investment-related public on risks a company is exposed to, as well as on a strategy to reveal, master and control them. Risks in modern business operations, particularly for public companies come from all directions. Application of Internet and other advanced technologies is one of risk sources, but, at the same time, one of efficient tools to remove them. Risk management related to new technologies (IT Risk Management), no matter whether they come from natural occurrences or events (earthquakes, fires or man-made ones), requires knowledge of IT and their importance for concrete company's business operations. Such a situation imposes need for a CIO within a company, a special manager in charge of information system protection and application strategy. Beside a director, who is chief executive body (Chief Executive Officer/CEO) and a financial director (Chief Financial Officer/CFO), a modern public company should employ Chief Information Officer/CIO). His/her task is to create and implement IT risk management strategy (security and disaster recovery)¹⁹.

This strategy covers numerous fields depending on application of technologies on them: harmonisation with regulations, data and privacy protection, data transfer, financial statements, disclosure of frauds, intellectual property protection, etc. Aiming at efficient IT risk management and budgeting, CIO's strategy had to comprise the following as the most important:

1. Business Continuity Planning/Disaster Recovery Planning
2. Information Security and Data Integrity
3. Sourcing and Outsourcing
4. Performance Measurement
5. Regulatory Non-compliance
6. IT Strategy and Spends
7. IT Management Infrastructure

Public company needs to have a body dealing with control function; this is an optional choice between a supervisory board (elected by the stakeholders' assembly) or internal auditor, i.e. board of auditors (elected by the board among independent members of board or assembly if they are not sufficient). Concrete options dictate communication systems. Internal body reports to the assembly, and preferably to AB and external auditor.

Company's secretary is a mandatory body. He/she should ensure governance is in accordance with procedures. He/she is responsible for Book of Stakeholders. He/she prepares stakeholders and AB's sessions. Minutes taking and keeping, as well as of other documents in line with the Law. He/she organises work and follows implementation of decision taken by the assembly, supervisory board and board of directors. His/her role to enable and follow communication and data disclosure systems and update Internet pages is a very significant one.

¹⁹ Chandiramani R. S (2008) Information technology and corporate governance (<http://www.expresscomputeronline.com>)

Internet Boards as a Challenge for Managers

Numerous Internet forums and chat rooms have become a spot where a great number of people from all over the world exchange information. Places specialised in corporate and investment-related topics offer real-time data on companies and their activities. These data might have influence on securities prices movement in the capital market. The problem may arise if they are incorrect and presented with an objective of gaining illegally and unfairly certain profit or inflict damage to another capital market participant.

The board should have adequate strategy for efficient usage of such information boards available to investment-related public, as well as for fighting against possible attacks. This activity should be a part of overall risk management system's strategy caused by application of new technologies²⁰. Intranet also enables all employees and other stakeholders express their stands. Independent board's members are to have a particularly significant position within this system.

People of unknown identity, as a rule, stand behind the provided information. They are sometime people closely related to the company (behind 'nicks') owning authentic information. They try to blow the whistle and hence point at illegalities and unethical behaviour within a concrete company. The information is sometimes true to life and sometimes biased, trying to inflict damage to a company, in competition's or one's own interest.

The fact is that more and more dissatisfied employees (or former employees) use such spots to express their opinions and criticisms. They sometimes tend to put false statements based on rumours and not facts. Most laws in developed countries (as well as in Serbia) protect employees' right to talk and present data related to illegalities in business operations, particularly facts referring corruption. Such spots are ideal since people are anonymous and hence free to talk. This information is good for capital market efficiency that should react in an adequate way. However, this freedom of speech is occasionally abused and becomes an instrument to hurt other people's rights. Information manipulation is a serious threat to capital market. This huge destructive potential of every public place, in which information is exchanged, requires that companies should seriously face the issue. These processes management should be a part of overall risk management system caused by new technologies. Securities commission should approach this issue in the same way. Its basic function is control over capital market participants and taking care of its efficient and legal functioning.

Securities analysts also acknowledge importance of such Internet spots for exchange of information. Their experience and knowledge helps them recognise those with good quality information among anonymous persons. Ignorant investors could be easily manipulated and hence threat for them is much greater (made to either sell or buy securities).

Such spots and information flow have positive influence on capital market as a source of data on illegal and unethical conduct within a company and might point at initial difficulties public company is facing. Comments at such spots described Enron's crash (Yahoo! Enron message board). The other side of the story says that numerous examples prove there are many ill intentions when giving statement on certain companies, i.e. desire to achieve certain financial profit. There is a great number of 'pump and dump' activities at those online discussion forums, and dump, unfounded attacks on company's reputation, presentation of insider info by employees, etc. A growing number of legal actions has been undertaken to prevent such cases.²¹

²⁰ Carson J, Felton J. (2003) New technology issues for corporate governance: internet message boards p.1. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=920100

²¹ Carson J, Felton J. (2003) New technology issues for corporate governance: internet message boards p.187-188. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=920100

MEDIATION OF CORPORATE GOVERNANCE DISPUTES IN A TECH-SMART WAY

Disputes linked to corporate governance are numerous and if neglected can harm public company. Twenty percent, out of all disputes company law related, settled by International Chamber of Commerce, were disputes concerning corporate governance.²² Corporate governance disputes mostly involve shareholders and board members. Misunderstandings between shareholders, between shareholders and directors, or between company and outsider stakeholders, disputes always can be very dangerous for public company, its reputation on capital markets and its long term success. Most of disputes with civil nature can be solved out of court and a lot of them can be mediated properly. Mediation can be used not only to resolve conflict situations, but also as a tool to manage the different relationships.²³ For Serbia alternative dispute resolution models are new as well as corporate governance is. Mediation is recently regulated by law²⁴ and practice is still “under construction” but awareness of it is rising among participants in capital markets arena. Disputes related to corporate governance structure and processes are good for application of negotiation and mediation. It is because in corporate governance all is about distribution of power and balance of interests. The same is with process of mediation. There are many approaches in mediation but it is obvious that is not possible to mediate between two parties in a dispute, without taking into consideration power and interests of them both.

Alternative dispute resolution models, including mediation have come into practice as an alternative to, public, not enough efficient and costly, court system. Disputes concerning corporate governance have to be solved at the early beginning, without complicated procedure and huge costs. That has to be done very quickly and the issue has to stay away from the public because investment community is very sensitive to negative publicity. In EU those method of settling disputes are more and more popular²⁵ and on line possibilities, cheap and efficient are on disposal to parties in dispute. FIN NET is on line available network of centers for mediation in different countries and it will be described later.

If there is a dispute between shareholders and directors than it has to be solved through mediation (court procedure is always available as the last resort, during the process of mediation or later²⁶). In the same time there is a possibility that mediation can result with minimizing the level of dispute or even with win-win solution. Mediation is not bounded by legal requirements and the proposal for settling a dispute can be based on different issues (business relation and other). In mediation parties can explore that specific feeling of justice and fair play so important for any human being. Mediator as neutral independent person, expert in subject of dispute can be the one leading them to solution acceptable for both of them.

But one has to be aware that in a group of many potential conflicts linked to corporate governance phenomenon, cross border disputes as a result of globalised market, are among the most complicated for settling. Those disputes will rise progressively with the rise of number of relationships and transactions between citizens of Serbia and EU. So, the analyses of the efficiency of alternative disputes resolution through internet communication, will start with the assumption that what is good for the most complicated disputes would probably be good for other disputes as well. Advanced information and communication technologies can provide a lot of solutions to that complex situation. Arguments for that conclusion can be extracted from many real situations in European practice where

²² Runesson M.E. Guy L. M. Mediating Corporate Governance Conflicts and Disputes, IFC, Global Corporate Governance Forum, Focus 4, p. 5.

²³ Runesson M.E. Guy L. M. Mediating Corporate Governance Conflicts and Disputes, IFC, Global Corporate Governance Forum, Focus 4, p. 7.

²⁴ Law on Mediation Official gazette 18/2005.

²⁵ See EU Regulation 524/2013, regulating on line *consumer dispute resolution*.

²⁶ Good thing is that mediation is not available only before the court process but during the procedure also.

cross-borders disputes are numerous as result of internal market and free movements of goods and services. One of them taken from FIN-NET consumer guide will be presented as a good example.

“You are buying shares via your foreign online broker. The formulation of your order appears to be wrong, and you modify it before confirming it. Later you discover that the first, wrongly formulated order has also been executed on the market even though you did not confirm it. You try to contact your broker by phone in order to cancel the first, non-confirmed execution. Your broker is not available, but a colleague of his promises to take care of the cancellation. There is, however, no cancellation and you are liable to pay for both executions”

The question rising from this case is where a complaint would be sent. It reveals the complexity of the situation and the need for efficient instruments for resolution of cross-border disputes. FIN-NET is the cooperation network between registered, independent and reputable national alternative dispute resolution bodies for financial services. This network covers European Economic Area by providing guidance for consumers who consider making a cross-border complaint. Members of FIN-NET have the obligation to handle cross-border complaints, according to its rules and with the same diligence as they care domestic complaints and taking into account the Commission Recommendation 98/257/EC on principles put on those who are in charge for settlement of consumer disputes (out-of-court procedures)²⁷ That process must be in accordance with some common standards: transparency, necessary information, adversarial procedure, legality etc.

Out-of-court complaint procedure, concerning financial service, exists in Serbia, like in many countries which are members of the European Economic Area. National Bank of Serbia provides mediation service when financial conflicts arise between financial organization and consumer.

CONCLUSION

New technologies change the world and remove barriers on capital markets integrating it. That process uncovers a whole range of issues among which legal ones can be found as well. State courts and judiciary system, being traditionally conservative areas, resist to these changes more than those who offer services of alternative dispute resolution. On the other hand, the life dynamics which depends on technological changes requires proper adjusting.

As a result of law facing the dynamics of economic development and harmonization with EU law, legal rules have been created which regulate electronic communication, data bases and their protection, electronic communication and trade, electronic governance, application of IT in many corporate governance activities, etc.

The main issue which IT specialists, investors, lawyers and directors have to deal with is the application of IT in capital market, public companies and judiciary as well as regulation of relations which are caused by new technologies. Application mainly refers to storing, keeping, selecting, processing and distribution of information. Not much has been done in valuation and rational resolution of complex legal and business issues.

Capital market is a space homogenous enough and it would be very useful to unite it in legal and IT sense. Corporate governance as a pillar of that market must be tech smart as well. It would entail on-line communication and exchange of electronic documents among all participants on the market (the Commission, intermediaries, courts, analysts, etc) as well as the data base available via Internet which would contain relevant regulations, judiciary and arbitration practice, e-education, etc. It would mean creation of 'an intelligent' system which would help in obtaining legally relevant information. It would be the space in which double, non-harmonised and contradicted regulations would be cleared away. It

²⁷ Financial Dispute Resolution Network, ec.europa.eu/internal_market/fin-net/how-en.htm, September 2013.

would enable shareholders to use and protect their rights through advanced technology tools. Board members in 21st century must be tech-intelligent to perform their duties properly. Also they must be skilful in negotiation and mediation to prevent from conflict or if rise to settle it efficiently and out of public. Mediation has to be the starting point in solving disputes in company and with outsiders, taking into consideration all three dimensions of problem: emotional, commercial and legal. Better corporate governance in public company means better oversight and fewer disputes.

Regulations in corporate governance in Serbia follow the regulations of the developed countries. An important segment of that process is the intention to incorporate adequate use of the Internet and other information technologies in the system, thus providing faster development. Of course, one should be aware of certain systemic technical and technological limitations of Serbian economy and civil administration.

New technologies can help Serbia in the process of EU integration. Moreover, their application has become an imperative for the development. For Serbia they mean faster exit from the crisis of the capital market and undeveloped corporate sector. Being left behind the technological process would lead to new isolation. If Serbia took over contractual responsibilities to harmonize its legal, economic, political and other systems, then it is logical that we should follow such trend in application of new technologies.

COMPLIANCE OF BIODIVERSITY CONSERVATION POLICY IN REPUBLIC OF SERBIA WITH EU COUNTRIES

Brankica TODORVIĆ¹

Abstract

There are three levels of diversity in Republic of Serbia genetic, species and ecosystem diversity, where high mountainous and mountainous area is one of the six centers of European biodiversity. The need of protection, conservation and enhancement of biological, geological and landscape diversity has been imposed in the country, as a signatory of the Convention on Biological Diversity, which resulted in protected natural resources being grouped into protected areas, protected species and mobile protected natural documents. The paperwork identifies and analyzes the aspects of environmental protection and ecosystem diversity related to protected areas and protected species, which are in accordance with the EU provisions: 1. existence of normative procedures such as laws and regulations at the national level; 2. types of ecological networks which should be set up before accession to the European Union and 3. financial forms of support to biodiversity conservation.

Results of the analysis should indicate the need for more comprehensive inclusion of all actors of economic life into the politics of biodiversity conservation, especially of protected areas and protected species, because it is an obligation for accession to the European Union, the existence of environmental programs and plans, quality standards and management systems in the field of environmental protection.

Key words: *biodiversity, protected natural resources, financial forms, EU*

INTRODUCTION

RS signatories of the Convention on Biological Diversity (CBD) based on which has the sovereign right to dispose of their resources and biodiversity, but also the obligation to ensure the protection of biological diversity and sustainable use of biodiversity components.

The Republic of Serbia makes only 2.1% of the landmass of Europe, but the biological diversity of different groups of living organisms is very high. On the territory of the Republic of Serbia is: 39% of the vascular flora of Europe, 51% of the fish fauna of Europe, 49% of reptiles and amphibian fauna of Europe, 74% of the bird fauna of Europe and 67 % of the mammal fauna of Europe (Biodiversity Strategy , pg. 6).

A high level of environmental protection is one of the fundamental objectives contained in the Agreements with the EU principles together with sustainable development and the integration of environmental considerations in all policies. In the area of biodiversity relevant agencies and lessen in the RS are trying to comply with the order state to join the EU and the EU's decision to halve the loss of biodiversity in their territories and to preserve areas that have strong geological, biological, ecosystem and/or landscape diversity (protected areas of common interest) taking into account the normative procedure, the existence of ecological networks and sources of funding in the area of biodiversity.

¹ High School of Economics, teacher of economic group of subjects Trg Svetog Save no.6, 31000 Uzice

REGULATIONS ON BIODIVERSITY IN RS

Serbia's obligations as a signatory of the Convention on Biological Diversity are to develop (or adapt the existing) national strategies, plans or programs for the conservation and sustainable use of biological diversity so that they contain the measures defined in the Convention. The international legal framework for biodiversity conservation make the EU strategies: EU Sustainable Development Strategy, The EU Strategy on the sustainable use of natural resources and the EU Strategy on Biodiversity.

Table 1. Rules on biodiversity in RS

Legislation in the field of biodiversity
The Constitution (1)
Laws (15)
Regulations (23)
Rules (10)
Programs (4), Strategies (7) and Action plans

The regulations governing this area in RS :

- 1) The Constitution Republic of Serbia ("Official Gazette of RS", no. 98/06),
- 2) Laws : Law on Environment Protection ("Official Gazette of RS", no. 135/ 04, 36 /09 , 36/09-other 72/09-other Law), Law on Nature Protection ("Official Gazette of RS" no. 36/09 and 88/10) and Law on Environmental Protection Fund ("Official Gazette of RS", no.72/09 and 101/11). In addition to the Law on Environmental Protection and Nature Protection Act, other relevant legislation in the field of biodiversity include the Law on Strategic Environmental Impact Assessment ("Official Gazette of RS" no. 135/04 and 88/10), Law on National Parks ("Official Gazette of the RS", no. 39/93, 44/93, 53/93, 67/93, 48/94, 101/05 and 36/09 - other law), Law the conservation and sustainable use of fish resources ("Official Gazette of RS", no. 36/09), Law on Spatial Plan of the Republic of Serbia since 2010 to 2020 ("Official Gazette of RS", no. 88/10) and others.

The laws that regulate biodiversity especially in the field of the use and the protection of forest, hunting, fishing and genetic resources for food and agriculture are: Food Safety Law ("Official Gazette of RS", no. 41/09), Law on Agriculture and Rural Development ("Official Gazette of RS", no. 41/09), Law on Livestock ("Official Gazette of RS", no. 41/09), Law on the Protection of plant Breeders' Rights ("Official Gazette of RS", no. 41/09), Law on Genetically modified Organisms ("Official Gazette of RS ", no. 41/09) , Law the Animal Welfare Act ("Official Gazette of RS" no. 41/09), Law on Forests ("Official Gazette of RS ", no. 30/10) and Hunting Law ("Official Gazette of RS", no.18/10).

- 3) Regulations: Regulation on types of pollutants, criteria for calculating compensation for polluting the environment and taxpayers, the amount and method of compensation payment ("Official Gazette of RS", no. 113/05 and 6/07), Decree on Criteria and criteria for return, release and decrease in payment for environmental protection ("Official Gazette of RS" , no. 113/05), Decree on determining the activities the performance of which affects the environment ("Official Gazette of RS", no. 109/09), Regulation the criteria for determining the compensation for the protection and improvement of the environment and the highest amount of compensation ("Official Gazette of RS", no. 111/09), Decree on the keeping of information system environment, methodology, structure, common grounds, categories and levels data collection, as well as the content of information that is regularly and be sure to inform the public ("Official Gazette of RS ", no.112/09) , Decree on allocation and use funds to subsidize the protected areas of national interest in 2011 ("Official Gazette of RS", no. 14/11), Decree amending the Decree on Controlling the use and trade of wild flora and fauna ("Official Gazette of RS", no. 31/05 , 45/05 - corr ., 22/07 38 /08 and 9/10), Decree on detailed criteria, method of calculation and process payments for the use of protected areas, 2010, the

Regulation on the Protection of the General nature Reserve " Danilova kosa" ("Official Gazette of RS", no. 20/08), General Regulation on the Protection of nature Reserve "Bukovo" ("Official Gazette of RS", no. 104/07) , the Regulation on the protection of a special nature reserve "Bagremara" ("Official Gazette of RS", no.12/07), the Regulation on the protection of a special nature reserve "Ludaško jezero" ("Official Gazette of RS", no. 30/07), the Regulation on the protection of outstanding landscapes "Vlasina" ("Official Gazette of RS", no. 30/06), Regulation on the Protection of Special Nature Reserve "Uvac" ("Official Gazette of RS", no. 25/06), the Regulation on the Protection of nature "Slapovi Sopotnice" ("Official Gazette of RS", no. 110/05), Decree on amending the Regulation on the Protection of special Nature Reserve "Stari Bečej-Carska Bara" ("Official Gazette of the Republic of Serbia", no. 86/05), Decree on the Protection of nature "Stopica pećina" ("Official Gazette of the Republic of Serbia", no. 75/05), the Regulation on the protection of a special nature reserve "Kraljevac" ("Official Gazette of RS", no. 14/09), the Regulation on the Protection of nature Reserve "Prokop" ("Official Gazette of RS", no. 93/08), Decree amending the Decree on the Protection of outstanding landscapes "Sargan-Mokra Gora" ("Official Gazette of RS", no. 81/08), Decree on the Protection of nature Park "Stara Planina" ("Official Gazette of RS", no. 23/09), Decree on the Protection of nature "Ripaljka" ("Official Gazette of RS", no.26/09) and the Regulation on the Protection of nature "Prebreza" ("Official Gazette of RS", no. 37/09).

- 4) Regulations: Regulations on the type of equipment and the content and layout of labels of the Inspector for Environmental Protection ("Official Gazette of RS", no.: 35/05, 23/06, 7/07 , 64/07 and 94/08), Ordinance on the form of official inspector's environmental Protection ("Official Gazette of RS", no. 35/05), Regulation on the categorization of protected areas ("Official Gazette of RS", no. 30/92), Ordinance on the labeling of protected areas ("Official Gazette of RS", no. 30/92 , 24/94, 17/96), Ordinance on the register of protected areas ("Official Gazette of RS", no. 30/92), Ordinance on the appearance of the sign of nature, procedure and conditions for its use ("Official Gazette of RS", no. 84/09), Ordinance on form identification cards the guard of the protected areas ("Official Gazette of RS", no. 84/09), Ordinance on the conditions to be met by control of protected areas ("Official Gazette of RS", no. 85/09), Regulation on the transboundary movement and trade of protected species ("Official Gazette of RS", no. 99/09) and the Regulation on the declaration and protection of strictly protected and protected wild species of plants , animals and fungi ("Official Gazette of RS", no. 5/10).
- 5) Programs and strategies: strategic framework for biodiversity protection is defined by the policy document Biodiversity Strategy RS for the 2011.-2018. (Ministry of Environment and Spatial Planning, Belgrade, 2011) and the commitment of the Government to join the EU, through the National environmental programs and the National Strategy for approximation environment for the RS and the sector strategies (agriculture, forestry, etc.). The most important strategic documents: the National Strategy of Serbia for entering Serbia and Montenegro to the European Union, National Sustainable Development Strategy for the period 2009-2017. ("Official Gazette of RS", no. 57/08), the National Environmental Protection ("Official Gazette of RS", no. 12/10), the National Strategy for Sustainable Use of Natural Resources (under construction), Agricultural Development Strategy of Serbia ("Official Gazette of RS", no. 78/05), the National Rural Development Programme 2011-2013., the Forestry Development Strategy of the Republic of Serbia ("RS Official Gazette", no. 59/06) and the Development and improvement of the livestock production in the Republic of Serbia for the period 2008 -2012.
- 6) There are the following strategic documents: the Action Plan for Conservation of Wetlands in the Republic of Serbia, the Action plans for protection and conservation of the brown bear (*Ursus arctos*), wolf (*Canis lupus*) and lynx (*Lynx lynx*), Action Plan for management of the species in the fishery waters of Republic of Serbia (2005) and the Action Plan for invasive species the territory of the Republic Serbia (2007).

ECOLOGICAL NETWORKS IN THE FUNCTION OF BIODIVERSITY CONSERVATION AS A CONDITION OF ACCESSION TO THE EU

RS obligation is to establish a network to the issue of the environmental accession to the EU, primarily at the national level, and the establishment of ecological network Natura 2000, Emerald Network and the Pan-European Ecological Network. The goal of these networks is the existence of long-term conservation of ecosystems, habitats and species at the European level. Decree on establishing the ecological network is a national ecological network as "a unified system of functionally related and semi-natural landscape units that establish and restore ecological functions for the conservation of biological diversity and to ensure appropriate conditions for sustainable use of space and resources at the national and regional level" ("Official Gazette of RS", no. 102/10).

Regulations of the Council of Europe on the ecological network are: Resolution No. 3 (1996) on the establishment of the Pan-European Ecological Network, Resolution No. 4 (1996) on endangered natural habitats, Resolution No. 6 (1998) of the species requiring specific habitat conservation measures.

Resolution 4 and 6 are the basis for the identification of the Emerald Network (ASCIs) including the EU Habitats Directive and the birds Directive. Natura 2000 is a network of areas that obliges each Member State of the European Union that in its territory provide adequate conservation status of endangered species and habitats that are found in the annexes of the Birds Directive and the Habitats Directive, which in practice means the proper management of these areas (Biodiversity Strategy, pg.20).

Emerald ecological network is made up of Areas of Special Conservation Interest (Special Areas of Conservation Importance - ASCI), that is natural areas and habitats that are of special national and international importance in terms of biodiversity conservation. For Emerald ecological network in Serbia 61 areas are planned and treated. That are especially important for the protection and conservation of wildlife species and their habitats. More than 30 experts and technical staff of the Institute for Nature Conservation of Serbia took part in the project as well as the Faculty of Biology, University of Belgrade, the Natural History Museum in Belgrade, the Provincial Secretariat for Environmental Protection and Sustainable Development of Vojvodina and the Ministry of Environment and Spatial Planning.

Peen network predicts the existence of the central zones, which would make up the Natura 2000 and Emerald sites, then a corridor linking the central zone and allow migration and dispersal of species, as well as transitional zones and restoration areas , with a lesser degree of protection that the central zone (Biodiversity Strategy, pg. 20).

In the Republic of Serbia several international non-governmental organizations are active dealing with the protection of nature and biodiversity, among them the most important is World Wide Fund for Nature (WWF), and among the regional organizations in the Republic is the Regional Environmental Center for Central and Eastern Europe (REC).

FINANCIAL AID FORMS OF BIODIVERSITY CONSERVATION

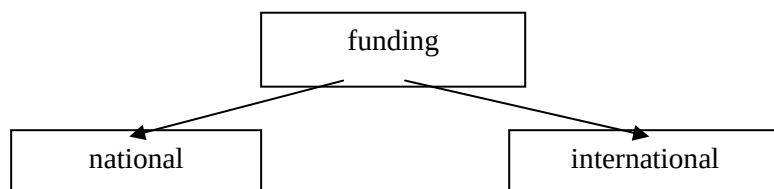
The level of environmental investment in Serbia is low , as in the period 2001- 2005 was about 0.3% of GDP. Based on the Sustainable Development Strategy the goal is to achieve the level of contributions to the protection of the environment from 1.5% of GDP in 2014, while the target amount of the allocations for environmental protection is of 2.5% of GDP in 2017.

The sources of financing environmental protection in Serbia include:

- 1) funds from the national budget to be allocated by ministries, institutions and special purpose funds and local government budgets and

- 2) the funds that come through a number of bilateral and multilateral agreements. The most significant international funds were pre-accession funds of the EU.

Figure 1. Distribution of funding in RS



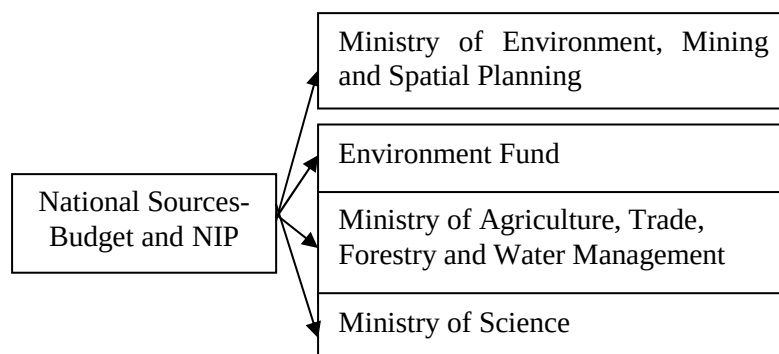
1) National funding sources

As the Ministry of Environment, Mining and Spatial Planning in charge of protected areas at the national level, it is engaged in financing activities in the protected areas, which contribute to a high utilization of resources for the protection and enhancement of biodiversity in natural areas.

Activities that are financed through these projects include marking and trail maintenance, rehabilitation of degraded areas, the development of information systems, the construction of resorts, monitoring, reintroduction programs and in general improve the situation in the protected areas, development of applied projects in the field of biodiversity primarily within protected areas goods, and the development of individual action plans for the protection of endangered species and the development of Red books and Red lists of endangered plant and animal species (Biodiversity Strategy, pg.36). The Ministry in 2007 for the protected areas set aside about € 2.5 million, in 2008 this amount was about € one million euros, while in 2009 it is allocated a total of about € 1.3 million. The establishment of the Environmental protection activities and conservation of biodiversity and geodiversity and encourage sustainable use of natural resources begin to fund in an organized manner, in addition to the regular budget allocations for the relevant institutions. From the total amount in 2008 of about € 1.5 billion, about € 20 million has been set aside for conservation and sustainable use of biodiversity, which is only 1.3% of total assets. In 2009 the total budget for all the activities was about rsd 2 billion.

Ministry of Agriculture, Trade, Forestry and Water Management provides financial assistance to the protected areas for certain activities related to afforestation, improvement of habitat, the production of seeds and seedlings, nurseries, construction of forest roads for reforestation and fire protection, as well as research projects. In 2009 the budget for these activities was about rsd 450 million. This Ministry is also funding the work of the Expert Council for Biosafety and with funds help preserve indigenous plant varieties and animal breeds (Biodiversity Strategy, pg.36).

Figure 2. National sources of financing biodiversity in RS



Ministry of Science through a competition fund the basic, technological and innovation projects in different fields of science and therefore the research related to the protection of biodiversity and biosafety. Financial support for projects in the field of environmental protection in 2008 from the National Investment Plan (NIP) was RSD 455 million. Out of these, 6 projects of regional landfills was set aside about 60% of total assets.

In 2012, the amount of subsidy allocated to protected natural areas is rsd 146,550,000.00, which were awarded to 31 projects. The largest amount of subsidies received projects: co-financing of the protected natural areas of national interest governed by "Srbija šume" (rsd 43 million) and co-management program of the Nature Park "Sargan – Mokra Gora" (rsd 22 million).

2) International sources of financing

IPA is a unique financial instrument for pre-accession assistance for the budget period 2007 to 2013. Instrument for Pre-Accession Assistance-IPA was established by the European Council regulation no. 1085/2006 of 17 July 2006. The financial value of IPA in the six-year period (2007-2013) amounted to € 11.468 billion. This instrument is designed to support candidate countries for EU membership, as well as potential candidate countries. Serbia as a potential candidate for EU membership, there are, at present, the first two IPA components: support to transition, institution and cross-border cooperation . In 2009 Serbia used the IPA funds for development projects up to approximately € 190 million.

Planned measures of the Rural Development Programme concerning the preservation of traditional breeds should be financed through IPARD funds from 2011, in the amount of € 937,500 per year (compared to € 600,000 in 2007), which would support 1,000 farmers farms, or between 4,000 and 10,000 endangered native breeds.

A significant contribution to the conservation of plant genetic resources was achieved by the participation of the Republic of Serbia in the Regional Network for Plant Genetic Resources of South-East Europe (SEEDNet) funded by the Swedish International Development Cooperation. In addition to IPA, Serbia funding support to projects in the field of environmental protection is provided through grants, loans, international assistance and funds from instruments, funds and programs of the United Nations and international organizations of the Global Environment Facility (GEF), the World Bank, the European Bank for Reconstruction and development, UNDP, the United States Agency for International Development, German Technical cooperation, and others (Biodiversity Strategy, pg.37). EU regional policy is the EU instrument that is used when there are more normative in terms of environmental protection . This policy should link regional policy with other EU policies, objectives and initiatives of regional policy.

CONCLUSION

The analysis in this paper shows that there are many legislative procedures in the area of biodiversity and environmental protection in accordance with EU regulations. What is important in the future is to continue working on the development of action plans, and report on the implementation of national programs. It is necessary to harmonize spatial plans and the Law on Planning and Construction with the needs of the protected areas in order to adequately plan the landscape and integrated landscape planning and ecological networks at all levels. In addition to legislative procedures, it is necessary to work further on the administration and organization of ecological networks established with adequate sources of financial assistance. Insufficient level of investment in the environment and conservation of biodiversity imposes a need for closer integration of economic actors of economic life to the holders of environmental policy in order to increase the share of investment to a rate of 2.5%. In terms of fulfilling the requirements of environmental protection and biodiversity in the EU, Serbia is on a good way.

LITERATURE

- 1) Biodiversity Strategy of the Republic of Serbia for the period 2011 – 2018. Belgrade,(2011).Ministry of Environment and Spatial Planning, <http://www.cbd.int/doc/world/rs/rs-nbsap-01-en.pdf>
- 2) European Commission, (2006). Communication of the Commission „Halting the loss of Biodiversity in 2010 – and beyond. Sustaining ecosystem services for human well-being”
- 3) Konvencija o biološkoj raznovrsnosti, (1992). Earth Summit in Rio de Janeiro, <http://www.cbd.int/convention/text/>
- 4) Mijović, A. i dr. (2012). Biodiverzitet Srbije: stanje i perspektive, Zavod za zaštitu prirode Srbije, Beograd
- 5) Mišković, D. Carić, M. Babović, J. (2011). Some aspects of environmental policy in European Union, University of Business Academy in Novi Sad, Faculty of economics and engineering management, Ekonomija: teorija i praksa, vol. 4, iss. 1, pp. 76-86.
- 6) Smiljić, S. (2008).State and perspective of biodiversity in Serbia, University of Novi Sad, Faculty of Economy, Anali Ekonomskog fakulteta u Subotici, iss. 20, pp. 39-46.
- 7) Strategija regionalnog razvoja RS za period od 2007.do 2012.godine, 2007. http://www.srbija.gov.rs/vesti/dokumenti_sekcija.php?id=45678
- 8) Strategic Plan for Biodiversity 2011-2020, including Aichi Biodiversity Targets 2010, Nagoya, <http://www.cbd.int/sp/>
- 9) The Cartagena Protocol on Biosafety to the Convention on Biological Diversity, 2000. <http://bch.cbd.int/protocol/background/>
- 10) The Nagoya Protocol on Access and Benefit-sharing, 2010. Nagoya, <http://www.cbd.int/abs/>
- 11) Uredba o ekološkoj mreži („Službeni glasnik RS”,broj 102/10)
- 12) <http://www.mis.org.rs/vss/pages/sr/ekoloski-programi/natura-2000/emerald-mreza/emerald-mreza-u-srbiji.php>
- 13) <http://www.mprpp.gov.rs/dokumenti/>
- 14) <http://biodiverzitet-chm.rs/propisi/zakoni/>

SUSTAINABILITY IN MARKETING, PRODUCTION AND CONSUMER BEHAVIOUR IN SERBIA¹

Zoran ČAJKA²
Larisa JOVANOVIĆ³

Abstract

The objectives in the present paper are manifold. They are to emphasize the significance of sustainable marketing in the business activities of domestic companies which pursue their environment protection action plan; to evaluate the responsibility of the companies to sustainability, to highlight marketing, distribution and production issues of domestic companies, and to evaluate the sustainable consumer behaviour in Serbia. The authors have analysed the factors which influence the decision of domestic consumers to effect purchase of sustainable products. Companies which consider environmental issues in their business should gain a competitive advantage on both home and foreign markets. New sustainable standards and concerned consumers will demand accountability from companies in their green marketing and management efforts. Serbian companies should more readily adapt themselves to numerous and unpredictable challenges in dynamic and volatile international markets. The research has shown that consumers in Serbia have not expressed sufficient amounts of interest in sustainable products in comparison to consumers in developed countries. Several factors contribute to this trend: price, inadequacy of relevant information and education.

Key words: environmental protection, sustainable product, sustainable marketing, sustainable production, consumer behaviour, Serbia

INTRODUCTION

In the few last decades, manufacturers and consumers have become more environmentally conscious than ever before. Many environmental groups and organizations are formed, and they emphasize the importance of environmental protection for the survival of mankind. Various media also warn the public that we are witnesses to the drastic deterioration of the environment quality. Governments of many countries in the world introduce legislation to define the ecological behaviour of organizations. It is obvious that environmental consumer behaviour affects global markets, and that means that consumers are concerned about the influence which production and consumption have on the environment. Besides legislative changes, many companies begin to realize and understand the influential power of markets and changes in the behaviour of consumers towards sustainable products and services. A negative attitude of consumers has become noticeable towards products and companies which do not observe sustainable standards. A great number of consumers are oriented towards sustainable products. Various researches in the field of consumer behaviour have shown that this group of consumers is fast growing and determined to buy sustainable products. This is especially true in advanced economies [5].

¹ This study is part of the project No III 47009 (European integrations and social and economic changes in Serbian economy on the way to the EU) which is supported by the Ministry of Education, Science and Technological Development of Republic of Serbia in the period 2011-2014.

² Doc.dr Zoran Čajka, Faculty of Economics, Finance and Administration – FEFA, Belgrade, Serbia, E-mail: zcajka@fefaa.edu.rs

³ Prof.dr Larisa Jovanović, ALFA University, Faculty of Trade and Banking, Belgrade, Serbia, E-mail: larisa.jovanovic@alfa.edu.rs

Fast-growing economies and their adverse consequences to the environment affect consumer behaviour. If present growth rates of global economies continue, we will soon be faced with serious degradation of ecosystems. Thus, it is of vital importance to work at sustainable consumption and to raise awareness of sustainable consumption. Consumers are aware that their buying has considerable influence on environmental protection. Companies are also aware of it, and they constantly engage themselves in product innovations. Sustainable products give an opportunity to the company to secure a competitive advantage in the market. These products also give the chance to the company to develop a close relationship with customers. Every side should gain in such a relationship: company, buyers, and ecosystems. Companies should know what their potential buyers want to buy, and in this way companies create adequate sustainable strategies which would differentiate them from their competitors [3].

The frequent mention of ecological products in various media has raised awareness of environmental protection and ecological products among domestic consumers. Sustainable products typically represent durable non-toxic, recyclable materials with minimal packaging [8]. There are no completely sustainable products because they consume energy, resources, create by-products, emit gases during their production, transport to the warehouse, and retail outlets, and then during their use, and final disposal at the end of their life cycle. Sustainable products are relative, and they exert less negative influence on the environment than traditional or conventional products.

The interdependence between global environmental protection and global economy is becoming more obvious and more definite. Marketing cannot be separated from the environmental protection. The role of marketing in sustainable development has become of great importance. Many domestic companies are becoming aware of the ecological imperative to which marketing must respond in the very near future. In actuality, researches of this kind are becoming of primary importance in our conditions. Management of domestic companies is aware of the importance of the quality of raw materials which will be used in production processes. The effect of consumption on human life and the biosphere has also become of importance to the management. Sustainable development needs sustainable marketing. Serbian companies must define the concept of green sustainable marketing. The implementation of the strategies of sustainable marketing represents an important segment in business activities, both in home and foreign markets. Companies which export their products or services should use adequate standards which are widely applied in modern green sustainable marketing.

The goal of our research is to determine to what extent domestic companies pursue their sustainable management action plan, and how sustainability of production and environmentally friendly products influence the behaviour of consumers during purchase.

RESEARCH METHODOLOGY

Consumer behaviour raises a host of intriguing questions that cover a wide range of issues and that cut across many social science disciplines:

- What drives the green consumer? What are the values, motives, desires, and needs behind green consumer behaviour? What emotions and feelings are connected with green shopping?
- Does green consumer behaviour carry an ethical and religious dimension?
- What knowledge and understanding of environmental issues is held by green consumers? How does learning occur regarding green consumption?
- Does the green consumer have a distinctive socio-demographic profile? Is the occurrence of green consumer behaviour related to age, gender, income, political views, etc.?
- Is green consumer behaviour an expression of a specific lifestyle choice?
- Is green consumer behaviour part of a counterculture by the cultural climate in which it takes place? How far is green consumer behaviour developing a cultural impact of its own? [10]

These questions touch upon various issues examined by different academic disciplines such as psychology, economics, philosophy, sociology, ethic etc. No single study can hope to answer all of the above-mentioned questions. The survey on **consumer behaviour** was conducted in the retail park Aviv (Shopping Centre Pancevo) in August 2013. We have prepared 3 Questionnaires with a total of 10 questions (*Questionnaire 1*: Sustainable Product: 4 questions; *Questionnaire 2*: Price of Sustainable Products: 2 questions; *Questionnaire 3*: Recycling and Quality: 4 questions). Yes and No answer questions were prepared (close ended questions). The questions measured awareness of the sustainability of purchasers, their knowledge ability of sustainable products and readiness to pay more for sustainable products. The questionnaires also contained general information, such as gender, age, and education. The authors have interviewed 90 persons who showed willingness to provide answers to questions. Out of 90 persons, 38 were males and 52 females, all between the ages of 19 and 68. As for level of education, the greatest number of respondents was people who finished secondary schools (43%), students (29%) and people with higher education (13%). Fifteen percent of respondents were unwilling to provide information about the level of their education.

In the study of **consumer behaviour** toward sustainable products, we have defined **three objectives**:

- Do domestic consumers show an interest in sustainable products?
- Are there any factors which influence the decision to buy?
- Are consumers willing to pay more for eco-friendly products?

In the study of **sustainable production, marketing and distribution**, we have defined **three objectives**: to emphasize the significance of sustainable marketing in the business activities of domestic companies which pursue their green management action plan; to evaluate the responsibility of the companies to sustainability, and to highlight marketing, distribution and production issues of domestic companies.

Two thirds of the interviewed companies responded to our questionnaire (48 companies). In order to test the stated objectives, a sample of 75 small and medium-sized enterprises was identified in various domestic business journals and magazines. One third of them were unready to participate in the project. Forty eight companies took part in our research. Ten companies were engaged in the home trade, 29 were export companies and 9 companies were engaged both in export and home trade. We have distributed 4 questionnaires with a set of questions in them (Company Data, Responsibility of the Company to Sustainability, Marketing and Distribution, Production and Use of Raw Materials).

We have used the following statistical methods:

- Descriptive statistics for description of data
- Frequency distribution
- Chi-squared test

We have used Excel programme in the data analyses. The analyses were done with the probability of 95% ($p \leq 0,05$). The analysed data and results were shown in tables.

The use of Chi-squared test for questions 1, 2, 4 and 5

(Responsibility of the Company to Sustainability):

Realised frequencies

2	4	4	12	26	48
1	2	6	10	29	48
1	5	4	11	27	48
3	5	6	13	21	48
7	16	20	46	103	192

Expected frequencies

1.75	4	5	11.5	25.75
1.75	4	5	11.5	25.75
1.75	4	5	11.5	25.75
1.75	4	5	11.5	25.75

$p\text{-value} = 0.932433$

On the level of importance of 5%, we can state that statistically there is no significant difference between grade points for the analysed questions.

The use of Chi-squared test for questions 2, 7, 8 and 10

(Marketing and Distribution):*Realised frequencies*

4	4	2	10	28	48
5	1	2	7	33	48
10	5	5	10	18	48
20	7	4	7	10	48
39	17	13	34	89	192

Expected frequencies

9.75	4.25	3.25	8.5	22.25
9.75	4.25	3.25	8.5	22.25
9.75	4.25	3.25	8.5	22.25
9.75	4.25	3.25	8.5	22.25

$p\text{-value} = 0.000139$

On the level of importance of 5%, we can state that statistically there is a significant difference between grade points for the analysed questions.

The use of Chi-squared test for questions 2, 4, 7 and 8

(Production and Raw Materials):*Realised frequencies*

7	5	6	10	20	48
3	4	4	10	27	48
25	9	6	4	4	48
14	6	7	4	10	48
48	24	23	28	61	192

Expected frequencies

12.25	6	5.75	7	15.25
12.25	6	5.75	7	15.25
12.25	6	5.75	7	15.25
12.25	6	5.75	7	15.25

$p\text{-value} = 7.02\text{E-}07$

On the level of importance of 5%, we can state that statistically there is no significant difference between grade points for the analysed questions.

RESEARCH RESULTS AND DISCUSSION

On the basis of the analysed information on the **responsibility of the company to sustainability**, we have obtained the following results:

Table 1. Responsibility of the Company to Sustainability

General Strategy of Our Company	Grade Point				
	1	2	3	4	5
The policy of ecology is a part of our business activities	4%	9%	8%	25%	54%
We control all production phases which correspond to ecological standards	2%	4%	13%	21%	60%
We use modern technologies in our production	2%	8%	8%	19%	63%
We take care of waste disposal which builds up in production	2%	11%	8%	23%	56%
We have an adequate strategy which is based on ecological standards in production	6%	10%	13%	27%	44%
We run an ecology department or sector in our company	42%	21%	8%	17%	12%
We train and educate personnel in ecological issues	52%	12%	13%	6%	17%

In Table 1 (Responsibility of the Company to Sustainability) we can see that the policy of environmental protection, as a part of business activities, amounts to 54%. Control of production phases which correspond to ecological standards is at the highest level in this questionnaire (60%). Waste disposal which builds up during production has also a high percentage (56%). Only 12% of the contacted companies run an ecology department or sector. As far as education and training in ecological issues is concerned, our analyses show that 17% is an inadequate percentage.

To achieve a competitive advantage by using the principles of green marketing, there is a need for a strategy which will enable the company to transform investments in ecology into sources of competitive advantage. Companies should use Strategy of eco-efficiency if they want to reduce the costs and the environmental impact of organizational processes. Many companies, which use the strategy of eco-efficiency, constantly strive to increase productivity and to lower the environmental impact on the organization. This strategy can significantly decrease total costs in production [9].

On the basis of the analysed information on the **marketing and distribution of products**, we have obtained the very important results. Table 2 (Marketing and Distribution) confirms the fact that slightly more than 60% of the contacted companies analyse the potential of sustainable green market. About 60% of the companies analyse competitive products. There is a great difference between foreign buyers who are willing to pay a premium for green products (71%) and domestic buyers who are willing to pay a premium for green products (21%). Eco-label is used by 69% of the contacted companies.

An important aspect of marketing strategy, which a socially responsible company employs, is communication with public concerning products or services. If the company is successful in providing information, consumers of green products will decide to buy offered products. The key element is the way in which the company signals an ecological message to potential market. One of the ways to do it is advertising, which many domestic companies adhere to, although theory confirms that the use of advertising as the only mode of promotional activity can create a sense of incredulity in the honesty of the company to advertise its products. In literature, this is known as "greenwashing".

Table 2. Marketing and Distribution

Marketing and distribution	Grade Point				
	1	2	3	4	5
We analyse the potential green market	4%	4%	12%	17%	63%
We inform customers about the production of our green products	8%	8%	4%	21%	59%
We analyse competitive green products	8%	11%	6%	19%	56%
We use information obtained on the market and adapt them to our production	11%	4%	4%	21%	60%
We adapt prices of our products to decisions made with respect to ecological issues	10%	2%	10%	13%	65%
We communicate with public with respect to ecological issues of our products	6%	6%	8%	19%	61%
We use eco-labels on our products	10%	2%	4%	15%	69%
We choose distributors who take care of ecological distribution criteria	21%	10%	10%	21%	38%
Foreign buyers are willing to pay a premium for green products	8%	4%	4%	13%	71%
Domestic buyers are willing to pay a premium for green products	42%	14%	8%	15%	21%

More than 60% of domestic companies communicate with public with respect to ecological issues. Companies should adopt a more forceful approach together with advertising. This approach embraces the use of and emphasis on the mission statement of the company which explicitly defines ecological processes used by the company. By this, the company defines its corporate identity. Unfortunately, ecological factors are not mentioned in the mission statement of many domestic companies, and that means that these companies are not doing business according to sustainable principles.

Domestic companies inform consumers about the production of green products (59%). Companies which produce and distribute their ecological products have a problem to inform their consumers, especially when the company offers its green product at a higher price. If the product possesses significant ecological attributes and if the stated attributes are invisible, even after the product has been consumed, it is up to the consumer to believe that here a green product is in question. In literature, this is called "credence goods". Here, we have a phenomenon known as "asymmetric information" [1]. Because of the presence of asymmetric information and the absence of the mechanism which will convey this information, the company will find difficulties to set up a higher price for its green product. This situation is known almost everywhere in the world. One of the ways to reveal hidden information is eco-labels. Serbian companies use eco-labels or seals on their products (69%). The labels indicate overall environmental preferability of a product within a particular product category based on life cycle considerations. To encourage the use of environmentally compatible products by consumers, it would be extremely helpful to have available labels (symbols) that instantly differentiate good products from the sea of offerings currently available in most product categories.

The experience has shown that eco-labels, which are appearing in growing numbers in our country, contribute to the creation of confidence that the consumers get while doing shopping of green products. Eco-labelled products find their way easily through distribution channels. It would be interesting to conduct research into the aspects of identification of green products on the part of consumers. Domestic consumers should be more aware of eco-labels which allow them to evaluate the quality of the product.

Unfortunately, a great majority of consumers believe that green marketing refers only to the promotion or advertising of products which possess eco-friendly characteristics. The expressions, such as phosphate-free, recycling, refilling, etc., are some of the things which consumers connect with green marketing. Generally speaking, green marketing represents a much broader concept which can be applied to various types of goods (durables, industrial goods, services, etc.). Domestic consumers are not fully acquainted with the elements of ecological marketing. Although Serbian companies claim

that they communicate with public with respect to green products (61%) and their production (59%), domestic consumers are not fully aware of the benefits of green products [4].

Domestic manufacturers of green products often use public relations and publicity in their communication with consumers. The main reason for this kind of communication is that companies find it as an easier and cheaper way to secure credibility with consumers. Third-party attestations to the veracity of the product environmental claims will be more favourably accepted by consumers. In our research, we have discovered that the main way of communication with consumers is a combination of mass advertising and third-party reports made by various organizations. This could be summed up in the following maxim: *Advertising is paid for, publicity is prayed for.*

According to our research, more than 20% of the interviewed companies claimed that domestic consumers were ready to pay a premium for green products. The percentage is much higher with foreign buyers (more than 70%). The production of sustainable products is not cheap. Thus, we have higher prices for this kind of products. Domestic consumers should be convinced of the benefits of green products in order to pay a premium price for it. In times of financial and economic crisis, cheaper traditional products find their way to consumers more easily.

On the basis of the analysed information about the **production and use of raw materials**, the following research results have been obtained:

Table 3. Production and Use of Raw Materials

Production and Use of Raw Materials	Grade Point				
	1	2	3	4	5
We use ecological criteria in the choice of suppliers of raw materials	4%	8%	8%	34%	46%
We use ecological packaging for our products	15%	10%	12%	21%	42%
We take care of ecological standards in production	8%	6%	8%	19%	59%
We are engaged in reduction of environmental pollution on a consistent basis	6%	9%	8%	21%	56%
We are engaged in water, materials and energy use reduction in our production on a consistent basis	2%	2%	10%	24%	62%
We recycle and reuse materials in production	52%	19%	13%	8%	8%
We strive for a use of renewable resources	29%	12%	15%	23%	21%

In Table 3, we can see that companies are continuously engaged in water, materials and energy use reduction in their production (62%), but only 8% of the interviewed companies are engaged in recycling and reuse of materials in their production. The use of renewable resources amounts to 21%.

The choice of appropriate suppliers of raw materials certainly represents an important factor for the future production of green products. Cooperation and coordination among members in a chain of distributors and final consumers are indispensable. Domestic companies should use the possibility of buying raw materials not only on home market, but also on foreign markets. Green supply chain management is fast becoming a growing concept in many countries of the world.

About 20% of the interviewed companies replied that they strove for the use of renewable resources. However, there is a difference between current plans and wishes. It is obvious that our country uses renewable resources of energy, but there is an unsatisfactory infrastructure for the use of renewable resources. There is also inadequate legislation in this field and insufficient funds ready to be invested in these technologies.

A high percentage of the companies in our research claimed that they were engaged in water, materials and energy use reduction in production on a consistent basis (62%). It is known that energy is expensive and cost reduction is necessary at all levels of operations.

More than half of the interviewed companies were engaged in the reduction of environmental pollution (56%). The quality of our environment certainly depends on industrial activity. Our country needs sophisticated technologies, modern production facilities, energy efficiency, rational use of raw materials and lower levels of waste generation. We also need incentives for clean and sustainable production. Many laws have already been passed in conformity with EU legislation. New strategies and incentives should be defined and implemented with the aim of reducing industrial pollution.

As far as ecological standards in production are concerned, 59% of the interviewed companies stated that they observed it in their production. The companies, which have defined and implemented ISO 14000 standards in their business operations, are doing business in an environmentally responsible manner. Our certified export companies certainly stand good chances to enter competitive foreign markets and gain a foothold in them.

According to an analysis presented in the Serbian Chamber of Commerce, about 40% of Serbian companies act in compliance with EU ecological [7]. The results of this analysis show that there is room to further improve the application of national legislation in the field of energy efficiency, waste, water, air and noise treatment.

We have not investigated the reason why companies have decided to operate in an environmentally responsible manner. Nevertheless, this question has become of great importance in our conditions.

Going green is viewed as a rational strategic choice. This is also an answer to an increased public pressure on companies to accept clear ethical responsibility in business operations.

On the basis of the analysed information on the **sustainable consumer behaviour**, we have obtained the following results (Tables 4, 5, and 6 show data relating to the **sustainable consumer behaviour**):

Table 4. Questionnaire 1: Sustainable Product

No.	QUESTION	YES	NO	YES%	NO%
P.1	Have you ever heard about the sustainable product?	79	11	87.78	12.22
P.2	Do you think that there is enough amount of information about sustainable products?	15	75	16.67	83.33
P.3	Is your decision to purchase a product influenced by the information about sustainability?	9	81	10.00	90.00
P.4	Are you aware that by purchasing sustainable products you contribute to the environmental protection?	21	69	23.33	76.67

Table 5. Questionnaire 2: Price of Sustainable Products

No.	QUESTION	YES	NO	YES%	NO%
P.1	Do you agree that the price for a sustainable product should be higher?	34	56	37.78	62.22
P.2	Are you willing to pay more for sustainable products?	16	74	17.78	82.22

Table 6. Questionnaire 3: Recycling and Quality of Sustainable Products

No.	QUESTION	YES	NO	YES%	NO%
P.1	Do you, before you make a purchase, think that it is possible to recycle the product or its	10	80	11.11	88.89
P.2	If the product is labelled eco-friendly, will this	12	78	13.33	86.67

	information change your purchasing decision?				
P.3	Do you believe in the quality of sustainable products?	69	21	76.67	23.33
P.4	Have you purchased or are you planning to purchase a sustainable product?	19	71	21.11	78.89

Asked if they have ever heard about the sustainable product, 79 people answered affirmatively (88%), while 11 people did not have the slightest idea of the existence of sustainable products (12%). A high percentage of respondents stated that, in Serbia, there is no sufficient amount of information about sustainable products (83%), and that the consumers should know more about the benefits of such products. The relevant information about eco-friendly products does not affect the purchasing decision of consumers (90%). Domestic consumers are not aware that, by purchasing sustainable products, they contribute to the environmental protection (77%).

The Questionnaire 2 contained two questions on the price of sustainable products. Asked if they agreed that the price for the sustainable product should be higher, 34 respondents answered affirmatively (38%), while 56 provided the negative answer (62%). The second question referred to readiness to pay more for the sustainable product. Seventy-four respondents were unready to do it (82%), while only 16 respondents answered affirmatively (18%). We should take into account the indisputable fact, that the current purchasing power in Serbia is rather low, and that the price is the most important factor in making a purchasing decision.

The Questionnaire 3 contained 4 questions concerning recycling and quality of sustainable products. According to the obtained results, 80 respondents do not consider the fact that the product and its package are designed to be recycled (89%). Domestic consumers are not sufficiently aware of the importance of recycling. Producers, the media and government institutions should be more actively engaged in raising awareness of the issues of recycling in Serbia. Education is also necessary in this respect. However, a great majority of respondents stated that they had a firm belief in the quality of sustainable products (77%). Seventy-eight respondents provided a negative answer (87%) to the question regarding the labelling of sustainable products and their decision to purchase the product. A very small percentage of respondents purchased or contemplated to purchasing an eco-friendly product (21%). A distinct lack of information about sustainable products contributed to this.

Consumer behaviour is at the heart of marketing activities. Consumers' purchasing behaviour will determine the success or failure of new products or services that are marketed on the basis of their sustainability performance [2]. The field of consumer behaviour seeks to understand, explain and predict the behaviour of consumers. Many of these models have been used to try to explain how and why consumers do or do not incorporate sustainability issues into their purchasing behaviour [6]. Based on extensive research, it was concluded that there were some difficulties in trying to define sustainable consumer behaviour. This is affected by individual differences, types of purchase, and behaviour during the purchase.

Sustainable marketing should be made on the basis of environmental management. The introduction of the ISO 9001, ISO 140001, ISO 22000, OHSAS 18000 and EMAS system requires a lot of effort and financial investment [7]. Environmental labelling of certified products is evidence of sustainability pursued by the marketing company.

This present research shows that domestic consumers heard of the sustainable products, but they lacked sufficient information about such products. Consumers should be better acquainted with sustainable products. In times of economic and financial crisis and lower purchasing power, it is unrealistic to expect of an average Serbian consumer to pay more for the sustainable product. Domestic consumers should be more aware of environmental protection. Consumers should know that, by purchasing a sustainable product, they may contribute to the clean environment and safe ecosystems. One of the most important aspects of sustainable marketing is the need for further

education in the long term advantages of sustainable products. The government should do more to educate the public about the benefits of sustainable products. The research also shows that domestic consumers lack an interest in such product in comparison to their counterparts in advanced countries. Several factors contribute to this unfavourable condition, such as price, inadequacy of relevant information and education. The price is the most decisive factor when deciding to make a purchase.

CONCLUSION

In this paper, we have confirmed that the corporate environmental practice is fast becoming an important factor in business activities, and sustainable companies recognize all advantages of successful presence on domestic and international markets. Domestic green-oriented companies, which distribute their products to many different markets, look into the possibility of increasing their sales volumes. A high quality product is a guarantee that a company will keep an image of a reliable supplier, and it will secure a long-standing presence on the market. In our country, there are still not many green companies, but they are striving to understand that their competitive advantage lies at the cutting-edge of the green shift.

Consumer behaviour is influenced by many factors. Manufacturers need to work to better know their customers and their habits. Domestic consumers, although aware of the existence of sustainable products, should do more to educate themselves regarding the benefits of sustainable products. Price of the sustainable product is the most important factor when considering a purchase. For sustainable producers, it is very important to understand the behaviour of their consumers in the complete process of consumption. In this way, producers can work on effective marketing mix strategies which can be employed to meet the needs and wants of potential consumers. The orientation of domestic companies towards sustainable marketing can gain a competitive advantage on the market.

Sustainable marketing is not only the promotion of products and services with sustainable attributes and labelling, but it defines a broader concept that includes activities such as modification of products or services, changes in production processes and in the packaging of the product.

Although a very small number of respondents took part in this research, it can be stated that the obtained results reflect the average preferences of domestic consumer of sustainable products.

In order to develop a more comprehensive understanding of consumer behaviour towards sustainability, it is necessary to have a balanced understanding of all phases of the process of consumption. For a company, it is important to keep conducting research on market and consumer. The company must understand the nature, motivation, and the behaviour of their customers in order to make a detailed and precise analysis of the target market.

Raising environmental awareness of citizens through the dissemination of information on standards of quality and safety of health products is the task of mass media.

LITERATURE

- 1) Arnold, C. (2009) *"Ethical Marketing and the New Consumer"*, John Wiley and Sons, Ltd.
- 2) Belz, M. F. & Peattie, K. (2010) *"Sustainability Marketing: A Global Perspective"*, Chichester: A John Wiley and Sons, Ltd, p.76.
- 3) Čajka, Z. (2013) *"Ecological Marketing in the Strategies of Export-oriented Companies in Serbia"*, doctoral dissertation, Faculty of Economics, Finance and Administration - FEFA, Belgrade, pp. 1-339.
- 4) Čajka, Z., Jovanović, L. (2013) "Aspects of Sustainable Marketing of Small and Medium Enterprises in Serbia", *Ecologica*, 20, No.71, pp. 393-399.

-
- 5) Čajka, Z., Jovanović, L. (2013) "The Importance of Modern Green Marketing Management in Business Activities", *Ecologica*, 20, No.71, pp 505-511.
 - 6) Jackson, T. (2004) *"Motivating Sustainable Consumption: A Review of Evidence on Consumer Behaviour and Behavioural Change"*, Guildford: Centre for Environmental Strategy, University of Surrey.
 - 7) Jovanović, L., Pešić-Mikulec, D., Pavlović, I. (2012) "Granski standardi kvaliteta i bezbednosti u prehrambenoj industriji i primarnoj proizvodnji", *Ecologica*, Beograd.
 - 8) Ottman, J. (1998) *"Green Marketing: Opportunity for Innovation"*, Second Edition, J. Ottman Consulting Inc. New York.
 - 9) Ryan, C. (2005) "Eco-efficiency and Industrial Ecology", *Journal of Industrial Ecology*, 9 (4), 2005, ISSN 1530-9290.
 - 10) Wagner, A.S. (2003) *"Understanding Green Consumer Behaviour: A Qualitative Cognitive Approach"*, London: Routledge.

ENVIRONMENTAL AND ENERGY TAX REFORM IN THE EU¹

Olja MUNITLAK IVANOVIĆ²
Mirjana GOLUŠIN³

Abstract

The subject of the analysis is determination of energy tax revenue in the countries members in the EU, and monitoring of revenues generated through energy taxes. Environmental taxes can be collected in forms of energy taxes, transport taxes, pollution taxes and resource taxes. The role of energy taxes is to internalize external costs and to encourage potential polluters to change their behavior. Although they have limited fiscal significance, energy taxes contribute to total public revenue in a country. On the basis of the presented data in this paper, it is obvious that revenues collected by energy taxes are not negligible and it is measured in tens of millions of Euros. Monitoring of flow of revenues made by collecting these taxes proves that revenues have downward trend since the beginning of the crisis, since 2008, and only two EU countries members did not have negative values. EU has growth of the energy tax revenue in the period 2005-2008, of: 2,19% in 2006 in relation to 2005; growth of 3,28% in 2007 in relation to 2006 that is 2,45% in 2008 in relation to 2007. On one hand, collection of energy taxes provides country with revenues; however there is a possibility of jeopardizing position of domestic business entities in the future. It is the fact that market position of industries that pay energy taxes is unfavorable because the prices of their products are increased by the taxes.

Keywords: energy taxes; environmental tax reform; European Union

INTRODUCTION

Contemporary development of European countries is, apart from economic and financial problems (first and second economic crisis wave) burdened by ecological problems and high requirements imposed by ecological standards. Therefore, the role of the state and economic integrations, such as European Union, is to give answers to the question how to coordinate economic development without jeopardizing the environment. Active role of the state in ecological instrument implementation for the purpose of protecting environment is crucial, since the market solutions do not give the best results (Steinbach et al, 2009).

Sustainable development as a concept consists of four mutually related and conditioned subsystems: economic, ecological, social and institutional. Application of those instruments which are simultaneously support all subsystems is encouraged. The authors intend to show that energy taxes is an economic instrument which entirely supports the principles of sustainable development and has impact on balanced improvement of all four subsystems. For application of any fiscal instrument, including energy taxes, it is necessary to have consistent legal regulations, which can be provided only by the state. The state relies on direct regulations which provide certain amount of pollution: if the environment pollution is banned above a defined level, that is, if the pollution is regulated by sanctions, then the maximal level of pollution is known in advance. Institutional aspects of sustainable

¹ This study is a part of the project Interdisciplinary Research No. III 47009 - *European integrations and social and economic changes in Serbian economy on the way to the EU* and Basic Research No.179015 - *Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements*, which is supported by the Ministry of Science and Technological Development of the Republic of Serbia in the period 2011-2014.

² Educons University, Vojvode Putnika 87, Sremska Kamenica, 21208, SERBIA, mirjanagolusin@sbb.rs

³ Educons University, Vojvode Putnika 87, Sremska Kamenica, 21208, SERBIA, oljaivanovic@eunet.rs

development are established in the end, only after ecological, economic and social subsystems have been developed. Since the existence of the state regulation is necessary for the application of energy taxes, it is obvious that energy taxes have substantial share in establishing and application of the institutional component of sustainable development (Taylor and Turner, 2012).

The idea of implementing special instrument of tax system which would be in the function of preserving environment originated from Arthur Pigou, theoretic of welfare economic. In 1918 Pigou explained that energy taxes introduction with the need to internalize external costs, which are made as a consequence of nature devastation. External cost is made outside the market, in the situation when economic situation of a certain business entity is influenced, positively or negatively, by other entity activities (Coase, 1960). Energy taxes are capable to correct market limitations and imperfections incurred by externalities.

Frequently markets are not in position to effectively allocate resources. These are the cases when external effects are created. There are several solutions to the elimination of such consequences. According to the OECD division, there are following instruments (OECD, Executive EAP, 1999): compensations and taxes for emissions, users' compensations and taxes, compensation for products, performance and indemnification guarantee.

Since public good and transaction costs aggravate finding efficient solutions, there are limitations in exclusive application of certain measures (Barde, 1999). In practice, right to adequate environment under contemporary conditions is carried out by a combination of one of these instruments (Gasparatos, 2011):

1. Energy taxes and penalties,
2. Subsidies for pollution reduction,
3. Transferable permits and
4. State regulation.

Each of these instruments has its characteristics, different effects on resource allocation, different treatment of ecological expenses and specific redistribution effect. All this proves that energy taxes support not only institutional subsystem but also economic and ecological subsystems. The authors pay special attention to energy taxes, revenues made from collection of such taxation and trends of revenues made from energy taxes.

ENERGY TAXES AS AN ECONOMIC INSTRUMENT OF ENVIRONMENT PROTECTION

The OECD countries' legal regulations make strict distinction between expressions „environmental (including energy) taxes“ and „ecological compensation“ in terms of allocation of the financial means collected by compensations and taxations. For the state, both instruments bring revenues, but the revenues are allocated differently. *Ecological compensation* is related to the cases when the dominant part of revenue is intended for covering costs and environment protection (e.g. financial means are collected through funds for protection of certain resources). *Environmental tax* is centralized revenue which is not primarily intended for environment protection, but it increases local and state revenues. This is in support of the fact that this instrument is a part of economic subsystem of sustainable development (Golušin and Munitlak Ivanović, 2009). Energy tax is relatively new tax form, which for tax base takes physical unit of the substance which has harmful effect on the environment (Munitlak Ivanović and Golušin, 2011).

On one hand, energy taxes include taxes directly imposed on goods which have impact on increasing of environment pollution, that is, have impact on scarce natural resources due to the degree of their pollution, and on the other hand, different compensations and similar fiscal duties (e.g. registration taxes, taxes for not compiling with ecological standards and regulations). Environmental taxes

influence limitation of ecological harmful products consumption. It reduces harmful emissions up to the level which is considered to be „sustainable“ (Pirvu and Clipici, 2010). According to the Rio Declaration on Environment and Development (1992), environmental taxes need to be: efficient in terms of ecology – to achieve goals of environment protection at the least price, efficient in terms of economy – to interfere as least as possible in resources allocation in the market simple in terms of taxation and administration, „cheap taxation“ and neutral in comparison to competition terms and free trade (Thun et al, 2012).

ENVIRONMENTAL TAXES REFORM IN EU COUNTRIES

Environmental taxes reform is a process of implementation of environmental taxes parallel with abolishing ecologically harmful subsidies (Golušin et al, 2011). The essence of environmental taxes reform is the intention to reduce pressure on natural environment by encouraging industrial producers to implement new and more efficient technologies from the point of view of energy and resources consumption. On the other hand, consumers are encouraged to use more often goods produced in „ecological friendly“ way, which supports sustainable development concept and do less harm to the environment.

Fiscal duties (environmental taxes) are incorporated into the products' and activities' prices, and force producers and consumers to take into consideration cost of polluting environment when making economic decisions. This is a simultaneous and combined application of two principles: „producers pays“ and/or „consumer pays“. Since the environmental taxes are incorporated into the selling price, the cost of taxation in the end pays the consumer and essentially in the end taxation will be paid by the end user. Thus it means that this is a final application of the principle „consumer pays“.

In the early 1990s, the process of environmental taxes started in EU articles. Ecological tax reform „green tax reform“ was first implemented in Sweden (1990), then in Denmark (1993), Spain (1995), Netherlands (1996), Great Britain (1996), Finland (1997), Italy (1999), Germany (1999), France (1999) and Austria (1999). Environmental taxes reform, „green tax reforms“ is enforced in one or a combination of the following ways: reduction or abolishing subsidies to production with ecologically harmful externalities, taxation imposing taxes on potentially dangerous substances to for the environment, restructuring of the existing taxation system according to the criteria of environment protection, and implementation of new forms of environmental taxes (Golušin at all, 2012).

There are several divisions of environmental taxes depending on what is taken as the basis of the division. In EU most frequent division of environmental taxes is the one based on the subject of taxation:

Energy taxes: refer to energy sources used for transportation and households needs. The most significant taxed energy resources are gasoline and diesel, that is natural gas, fuel oil, electrical energy, coal, and all products which cause negative externalities and which are not ecologically acceptable. These are, in fact, taxes on products which create pollution either at the moment of their production or at the moment of their consumption. The main advantage of energy taxes is the fact that it is becoming a form of the existing consumption taxation (value added tax, excise tax and other forms of general taxes on sales). For that reason, this form of taxation is more efficient and it has lower administration costs which makes its enforcement cheaper and simpler (Yu and He, 2012).

Transport taxes: refer to the ownership of motor vehicles. Taxes on transportation equipment and services related to transport are also included in this fiscal instrument. This tax can refer to the import of transportation means or selling of equipment and can be calculated annually though road tax. This kind of taxation includes taxes on gasoline, diesel and other fuels used in transportation.

Pollution taxes: refer to taxes on measured or estimated emissions of gas and harmful materials into water or air, managing of solid waste or noise pollution. The exception is tax on CO₂ which is included in Energy taxes (Jia, 2012). This kind of taxation is based on measuring harmful emission and estimation of quality and quantity of released polluting material. In terms of ecology, it is most efficient to directly tax the source of harmful emission. However, in most cases harmful emissions are hard to measure precisely.

Resource taxes: refer to exploitation of water, forests and mineral resources. Taxes on oil and gas extraction are excluded from this tax since they are meant to be calculated through the cost of consumption and do not have influence in the same way other types of ecological taxes do.

RESEARCH

The subject of the analysis is determination of environmental tax revenue in the countries members in the EU, and monitoring of revenues generated through environmental taxes. The analysis was carried out for two more countries, Iceland and Norway, which are not EU members but are in Europe and belong to the group of developed countries. Environmental taxes can correct imperfections of the market mechanism caused by externalities. Enforcement of environmental taxes (and penalties) generates double dividend since it increases fiscal incomes, and the country has possibility to reduce dependency on other taxes. As it was stated several times, this taxation stimulates ecologically acceptable production and generates budget revenue.

Table I. shows Environmental tax revenue in millions of Euros, in all EU countries members, Iceland and Norway in the period 2005-2010. On the basis of this table, Table II. was calculated and it monitors Environmental tax revenue trends in percentages year after year in each country individually. Numerical data in the Table II. were calculated as chain indices, where the level of Environmental tax revenue in millions of Euros from one year is related to the values of the same indicator in the previous year, for each country individually, on the basis of Eurostat data.

DISCUSSION

Generally, European Union has growth of the environmental tax revenue in the period 2005-2008, of: 2,19% in 2006 in relation to 2005; growth of 3,28% in 2007 in relation to 2006 that is 2,45% in 2008 in relation to 2007. Since 2008 the revenue in EU generated through environmental taxes has a downward trend. Tax revenues generated through environmental taxes in 2009 is decreased by 2,16% in relation to 2008 and in 2010 decreased by 3,50% in relation to 2009. Table I. indicates that level of tax revenue in the EU generated in this way in 2010 (286.602,86 mil EUR) is almost identical to the values in 2006 (286.896,74 mil EUR) and it is reduced in comparison to the same power unit in 2007 (296.304,06 mil EUR). Thus, the highest revenue was generated in 2008 at the time of the beginning of the first crisis wave.

Table 1. Environmental and energy tax revenue in millions of EUR

Geo/time	2005	2006	2007	2008	2009	2010
European Union (27 countries)	280.737,3	286.896,74	296.304,06	303.564,96	296.996,98	286.602,86
Belgium	6.845,1	7.083,6	6.846,8	6.989,6	6.790,6	6.874,1
Bulgaria	648,38	695,02	767,26	1.033,64	1.218,89	1.060,5
Czech Rep.	2.332,74	2.699,36	2.939,03	3.184,7	3.627,66	3.418,01
Denmark	11.058,33	12.400,02	13.497,55	13.317,34	13.329,06	10.662,62
Germany	56.031	55.159	55.732	54.205	54.538	54.164
Estonia	203,46	254,58	293,42	353,11	379,25	413
Ireland	3.740	4.090,19	4.417,35	4.678,42	4.506,83	3.781,2
Greece	3.993	4.081	4.196	4.627	4.561	4.611
Spain	16.857	17.630	18.396	19.124	17.840	17.163
France	38.683	38.550	39.660	39.828	40.061	39.927
Italy	38.281,06	38.928,3	40.064,48	40.028,54	38.130,84	39.864,54
Cyprus	506,97	481,34	483,34	535,22	542,3	490,1
Latvia	288,92	344,57	383,16	437,27	451,17	429,33
Lithuania	492,39	481,91	433,77	507,97	533,95	543,22
Luxembourg	838,89	892,65	891,93	953,8	986,15	931,4
Hungary	2.249,15	2.417,32	2.530,74	2.797,81	2.853,33	2.436,09
Malta	138,21	158,21	171,98	205,34	200,51	194,89
Netherlands	18.952	20.267	21.772	21.726	23.140	22.764
Austria	6.350,18	6.445,72	6.401,79	6.621,73	6.795,09	6.658,16
Poland	5.281,02	6.487,79	7.493,08	8.359,52	9.486,9	7.944,34
Portugal	4.478,84	4.557,71	4.603,88	4.783,4	4.406,32	4.202,98
Romania	1.447,82	1.604,49	1.900,11	2.564,75	2.486,23	2.213,99
Slovenia	899,87	919,83	934,31	1.038,43	1.119,53	1.260,83
Slovakia	849,81	919,48	1.014,53	1.161,84	1.317,32	1.225,48
Finland	4.924	4.861	4.993	4.934	4.992	4.553
Sweden	8.154,39	8.445,47	8.648,32	8.856,76	8.934,3	8.212,71
United Kingdom	46.211,77	46.041,18	46.838,23	50.711,77	43.768,75	40.603,37
Iceland	284,27	365,91	332,1	355,03	181,08	134,85
Norway	6.802,39	7.410,24	8.279,5	8.535,85	8.148,46	7.370,71

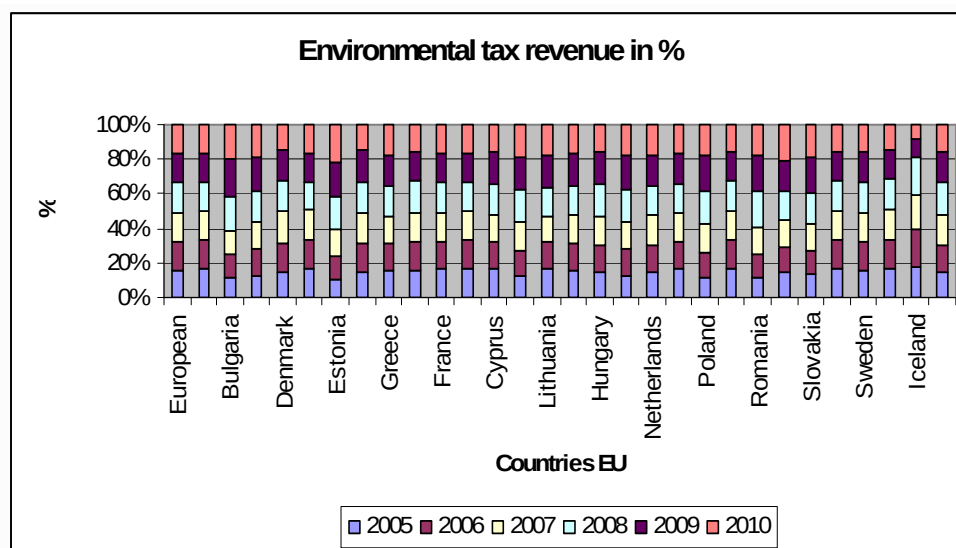
Source: Eurostat Statistical Books, last update: 28.07.2011.

When each country is considered individually, the highest environmental taxes revenue has Germany, followed by United Kingdom and France. Territorially smaller countries have substantially reduced revenues of ecological taxes: Malta, Iceland and Cyprus. It must be noted the fact that Iceland is not EU member and Malta and Cyprus become members in 2004. Unlike them, Germany and France are countries founders joined by the UK in 1973. This is surely one of the reasons for such different results in enforcement of environmental taxes. If we consider for comparison the year of 2008, when the level of generated revenue from environmental taxes was highest in Malta for the considered period (205,34 mil EUR) that is approximately 264 times less (54.205 mil EUR) then the taxation generated in Germany the same year. The territory of Germany is bigger than Malta, but not 264 times! Of course, the size of the country and the number of inhabitants have impact on the level of consumption of product and services for which environmental taxes is calculated, however the

dominant role has the government regulation in that field and perhaps even significant is – economic power of the countries. The best example for that is the case of Slovenia which in the same year, 2008, generated (1.038,43 mil EUR), five times more environmental taxes than Iceland, and it is not five times bigger than Iceland and it does not have five times more inhabitants.

On the bases of Eurostat data shown in Table I, graph I was made which shows that there was reduction in revenues on environmental taxes in all countries members in 2010 in relation to the previous years.

Figure 1. Environmental and energy tax revenue in % per EU country in the period 2005-2010



Data in the Table II were obtained on the basis of data presented in Table I and formula for the calculation of chain indices:

$$RG = \frac{ETR - N}{ETR - (N - 1)} \cdot 100$$

Where:

RG - Revenue growth in the current year

ETR - Environmental and energy tax revenue

N – year

The highest index (revenue growth on the basis of environmental taxes) was noted in 2007, while negative values are noted in 2009 and 2010. Most countries have that trend. The countries which have positive index values in 2010 in relation to the previous year are: Belgium (1,23%), Estonia (8,90%), Greece (1,10%), Italy (4,55%), Lithuania (1,74%) and Slovenia – (as high as 12,62%). Opposite to them, the most intense reduction of the index of Environmental tax revenue have Iceland (-25,53%), Denmark (-20,00%) and Ireland (-16,10%).

The best index values were noted in 2007 in relation to 2006. Most countries note positive revenue growth in that period. The highest index value in that period have Romania (18,42%), then Poland (15,50%) and Estonia (15,26%). These data can be explained with the fact that that was the period of accession of new countries to the EU, Estonia and Poland were integrated in 2004 and Romania in 2007. Accession to the EU means adapting to higher and stricter ecological and other standards.

High index values in 2008 in relation to 2007 were obvious. The highest revenue growth in that period had Bulgaria (34,72%) followed by Estonia (20,34%), Malta (19,40%), Lithuania (17,11%), Slovakia (14,52%), Latvia (14,12%), the countries which became EU members in the last two most numerous enlargements in 2004 and 2007.

The year of 2009 in relation to 2008 is the beginning of growth values fall of Environmental tax revenue in millions of EUR and in percentage. That trend is characteristic for the average for the whole EU since it has index decrease of -2,16%. It is interesting to note that one of the most developed economies – United Kingdom has drastic index fall of -13,69% and two other strong economies Germany (0,61%) and France (0,59%) have slight increase less than 1%. That is the year when effects of financial and economic crisis represented in this way are noted.

Downward trend of fiscal revenues becomes clearer in 2010 in relation to 2009, since the crisis continues. Out of 27 EU members, as many as 21 countries note negative revenue growth. The highest revenue reduction is noted in Denmark (-20,00%) followed by Poland (-16,26%), Ireland (-16,10%), Hungary (-14,62%), etc. The least revenue reduction was made by France (-0,33%). Unlike most members, six countries made growth: Slovenia (12,62%), Estonia (8,90%), Italy (4,55%), Lithuania (1,74%), Belgium (1,23%) and Greece (1,10%).

It is necessary to emphasize two EU members, Estonia and Slovenia, who in the considered period did not note negative revenue growth. Both countries were integrated in EU in 2004.

Figure 2. Overview in percentages of Environmental and energy tax revenue trends in EU member states in period 2005-2010.

GEO/TIME	Revenue growth 2006-2005	Revenue growth 2007-2006	Revenue growth 2008-2007	Revenue growth 2009-2008	Revenue growth 2010-2009
EU (27 countries)	2,19%	3,28%	2,45%	-2,16%	-3,50%
Belgium	3,48%	-3,34%	2,09%	-2,85%	1,23%
Bulgaria	7,19%	10,39%	34,72%	17,92%	-12,99%
Czech Republic	15,72%	8,88%	8,36%	13,91%	-5,78%
Denmark	12,13%	8,85%	-1,34%	0,09%	-20,00%
Germany	-1,56%	1,04%	-2,74%	0,61%	-0,69%
Estonia	25,13%	15,26%	20,34%	7,40%	8,90%
Ireland	9,36%	8,00%	5,91%	-3,67%	-16,10%
Greece	2,20%	2,82%	10,27%	-1,43%	1,10%
Spain	4,59%	4,34%	3,96%	-6,71%	-3,79%
France	-0,34%	2,88%	0,42%	0,59%	-0,33%
Italy	1,69%	2,92%	-0,09%	-4,74%	4,55%
Cyprus	-5,06%	0,42%	10,73%	1,32%	-9,63%
Latvia	19,26%	11,20%	14,12%	3,18%	-4,84%
Lithuania	-2,13%	-9,99%	17,11%	5,11%	1,74%
Luxembourg	6,41%	-0,08%	6,94%	3,39%	-5,55%
Hungary	7,48%	4,69%	10,55%	1,98%	-14,62%
Malta	14,47%	8,70%	19,40%	-2,35%	-2,80%
Netherlands	6,94%	7,43%	-0,21%	6,51%	-1,62%
Austria	1,50%	-0,68%	3,44%	2,62%	-2,02%
Poland	22,85%	15,50%	11,56%	13,49%	-16,26%

Portugal	1,76%	1,01%	3,90%	-7,88%	-4,61%
Romania	10,82%	18,42%	34,98%	-3,06%	-10,95%
Slovenia	2,22%	1,57%	11,14%	7,81%	12,62%
Slovakia	8,20%	10,34%	14,52%	13,38%	-6,97%
Finland	-1,28%	2,72%	-1,18%	1,18%	-8,79%
Sweden	3,57%	2,40%	2,41%	0,88%	-8,08%
United Kingdom	-0,37%	1,73%	8,27%	-13,69%	-7,23%
Iceland	28,72%	-9,24%	6,90%	-49,00%	-25,53%
Norway	8,94%	11,73%	3,10%	-4,54%	-9,54%

One of the macroeconomic effects of collecting ecological taxes is competitiveness effect. Implementation of ecological taxes can have negative implementation on competitive position of polluters. Such companies bear two types of costs. The first group is costs related to using technology and devices for pollution reduction. As a rule they are more expensive than the traditional equipment. The other group of costs relate to paying taxes on emissions. Due to this, such companies are at risk of losing competitive position and at risk of being brought to an unfavorable position in comparison to similar companies whose production is not burdened with paying ecological taxes.

In order to mitigate these effects of environmental taxes reform, it is necessary to solve national and regional ecological problems among countries so that the sustainable development is achieved. Such an approach prevails in the Rio Declaration on Environment and Development, which emphasizes that in order to solve the problem of environment devastation it is necessary to prevent relocation of business activities which cause environment degradation to another country. This supports the claim that environmental taxes are definitely significant part of social subsystem of the sustainable development concept.

CONCLUSIONS

Regardless of the fact that there are differences between terms „ecological taxes“ and „ecological compensations“, both instruments bring revenues for the country. The difference is that the money collected by ecological compensation is reinvested into environment protection, and ecological taxes is not primarily intended for environment protection, but it increases local and state revenues. Environmental taxes introduced through ecological tax reform, is relatively new form of taxation, whose tax base is material unit which makes negative impact to the environment.

The advantage of environmental taxes is the fact that it influences the limitation on consumption of ecologically harmful products; it reduces harmful emission to the level which is considered to be acceptable. For this revenue to be economically and ecologically acceptable, the countries need to provide environment protection at the lowest possible costs, to make as few changes as possible to resource allocation in the market, to be simple for implementation, to be economically justifiable and acceptable but not to interfere in free trade at the same time.

Finally, ecological taxes will be directly or indirectly paid by the final buyer. For that reason, environmental taxes can have regressive effect, since it affects citizens whose incomes are reduced. Still, the main goal of the environmental taxes reform is to contribute to preserve of the environment and achievement of sustainable development with introduction of fiscal instrument. Environmental taxes reform places clear accent on transferring taxation burden from activities which need to be encouraged to activities which need to be dissimulated. Introduction of environmental taxes needs to be followed by reducing other taxed so that the total taxes remain same. It can be concluded that environmental taxes is entirely in accordance with the concept of sustainable development because it supports this concept and it is included in economic, ecological, social and institutional subsystem of this concept.

LITERATURE

- 1) A. C. PIGOU, *The Economics Welfare*, MacMilan, London, UK, 1918.
- 2) D. PIRVU AND E. CLIPICI, Perspectives of the Environmental Taxes Evolution in the European Union, *The Romanian Economic Journal*, 38, 147-161, 2010.
- 3) GASPARATOS, A., STROMBERG, P., TAKEUCHI, K., 2011, Biofuels, ecosystem services and human wellbeing: Putting biofuels in the ecosystem services narrative. *Agriculture, Ecosystems and Environment*, 142, 111–128, 2009.
- 4) J. P. BARDE, Green tax reforms in OECD Countries: on overview, *Journal of Business Administration and Policy Analysis*, 2, 145-156, 1999.
- 5) LIHONG YU AND YUAN HE, Energy consumption, industrial structure, and economic growth patterns in China: A study based on provincial data, *Journal of Renewable and Sustainable Energy* 4, 2012.
- 6) M. GOLUŠIN AND O. MUNITLAK IVANOVIĆ, Definition, characteristics and state of the indicators of sustainable development in countries of Southeastern Europe, *Agriculture, Ecosystems and Environment*, 130, Issue 1-2, 67-74, 2009.
- 7) M. GOLUŠIN, O. MUNITLAK IVANOVIĆ, L. JOVANOVIĆ, AND S. DOMAZET, Determination of ecological-economic degree of development in Countries of SE Europe - weight coefficients technique, *Problems of Sustainable Development*, 1, 87-93, 2011.
- 8) M. GOLUŠIN, O. MUNITLAK IVANOVIĆ, S. DOMAZET, S. DODIĆ, AND D. VUČUROVIĆ, D, Assessment of the effectiveness of policy implementation for sustainable energy development in South East Europe, *Journal of Renewable and Sustainable Energy*, 3, 2011.
- 9) N. STEINBACH, V. PALM, M. CEDERLUND, A. GEORGESCU AND J. HAAS, J., Environmental taxes, 14th Meeting of the London Group on Environmental Accounting Canberra, Discussion Paper LG/14/18, London, UK, 2009.
- 10) NAY HTUN, YI JIANG, DEVINDER MAHAJAN, DIRK MESSNER, AND RICHARD TEMPLER, Preface to Special Topic: Low-Carbon Society for a Green Economy, *Journal of Renewable and Sustainable Energy* 4, 2012.
- 11) O. MUNITLAK IVANOVIĆ AND M. GOLUŠIN, Kyoto protocol implementation in Serbia as precognition of sustainable energy and economic development, *Energy Policy*, 39, Issue 5, 2800-2807, 2011.
- 12) OECD, Executive EAP, Survey on the Use of Economic Instruments for Pollution Control and Natural Resources Management, EAP Task Force, 1999.
- 13) P. CRAIG TAYLOR AND JOHN A. TURNER, Editorial. Renewable energy incentives, *Journal of Renewable and Sustainable Energy* 4, 2012.
- 14) R. H. COASE, The Problem of Social Cost, *Journal of Law and Economics*. 3, 1-44, 1960.

THE COST OF ADAPTATION FOR CLIMATE CHANGE: FUTURE SEA LEVEL ESTIMATION

Leonid V. SOROKIN¹
Gérard MONDELLO²

Abstract

During the pre-industrial period a variation of Earth Global Surface Air Temperature of 1 °C induced a change of the Global Mean Sea Level of 24.79 m (SL<0), while in modern times this rise is around - 7.5 m (SL>0). Under the global warming period the rising rate of the World Ocean average level will slow down by 3.3 times corresponding to a simultaneously increases of the worldwide surface air temperature rate of 3.3 times. Now, the Earth Global Surface Air Temperature is 0.8 °C higher than the pre-industrial level. This will lead to a rise by 6 meters of the Sea-level. The EU Strategy on adaptation to climate change assumes that the global warming must be limited to below 2 °C above pre-industrial level. Hence, within some ages this will lead to a rise of the Sea-level of 15 meters (e.g. 15 times greater than for the A1B scenario, with the Sea-level rise up to 1 meter). Considering the future conditions, the EU Strategy on adaptation to climate change does not assume rapid climate changes that will significantly increase the economic losses due to the rise of the Sea Level.

Key words: economic losses, climate change, global warming, paleoclimate, glacial cycles, Sea-level.

INTRODUCTION

Since the midst of past Century, a deep global climate change accompanies the expanding industrialization of our economies. The speed of this change amplified in the beginning of the 2000's and it is associated with an increasing number of meteorological extreme events: floods, droughts, typhoons, hurricanes, dust storms and forest fires, intense low and high temperatures. In the present time the Global Surface Air Temperature (GSAT) exceeds by 0.8 °C [4] the temperature that prevailed in the era before the industrial development. In Europe, from 2002 to 2011, it increased by 1.3 °C [9] mainly due to the industrial development, and this temperature is 1,625 times higher than in the whole planet. Furthermore, one can observe a rise of the sea level at the World level. Global warming and greenhouse effect both associate with this increase.

From an economic viewpoint, it appears that the existing infrastructures (harbors, localization of roads, cities, airports, etc.) are weakening face to such quick and deep climate changes. Consequently, in a near future, populations have to expect expending huge financial resources to adapt and to modernize these infrastructures to these new climatic conditions. For instance, annual damages due to climate change are already estimated at 250 billions Euros in the middle of this century (2050) [4]. In response to these climatic hazards, the European Union is developing a global strategy for adaptation to climate change [1, 2]. For this reason, this study main objective is to analyze the economic effectiveness of the adaptation scenarios to climate change in the EU. In accordance with the parameters laid down in the EU strategy on adaptation to climate change, our work supplies the assessment of steady state, around, which tends the Global Surface Air Temperature and the Global Mean Sea Level (GMSL).

¹ L.V. Sorokin, PhD, Corresponding Member of the Russian Academy of Natural Sciences, Associate Professor, Peoples' Friendship University of Russia, Miklukho-Maklaya str., 6, Moscow, Russia, 117198.

² Gérard Mondello, University of Nice Sophia Antipolis, CREDECO, GREDEG, UMR 7321, CNRS. 250, rue Albert Einstein - 06560 Valbonne Sophia Antipolis- France. Tel.: + 33-4-93954327-fax:+ 33-4-93653798, gerard.mondello@gredege.cnrs.fr

ADAPTATION TO CLIMATE CHANGE

Within the framework of its adaptation strategy to climate change [2, page 5], the EU adopted the upper limit of 2 °C (UNFCCC, Cancun, 2010) as an allowable increase concerning the average air temperature of the planet. This decision aims at compulsorily reduce the most serious risks from climate change. Among these last ones, two of them represent the greatest danger on the magnitude of the economic damage: floods and changes in global sea level. Brown et al., (2011) [3] have made a thorough analysis of economic losses caused by climate change for the European Union and they assessed the effectiveness of measures to adapt to climate change. For the scenario A1B, under appropriate conditions of high and medium greenhouse gas emissions, Brown's analysis [3] carried out a rise in global sea level by one meter. The EU strategic framework has amended data [3] to take into account the socio-economic factors [2, 7, 8, 10]. The annual costs of climate change have been assessed for three intervals of time 20th, 50th and 80th years of the century, this, in the absence of countermeasures. Respectively, tables 1 and 2, show the analytical data corresponding to economic damages for the socio economic factors [3] due to floods and the rise of the global sea level. To illustrate the effectiveness of measures for adaptation to climate change (scenario A1B, 1 m) we calculate the uncompensated part of the annual damages which will have to be held with the relevant costs of adaptation (Tables 1, 2).

Table 1. Losses from climate change caused by floods, A1B scenario

The annual cost of climate change (per year)	2020	2050	2080
Economic damages (billion euro) [2]	20	46	98
Price adaptation (billion euro) [2]	1.7	3.4	7.9
Reduction of losses (billion euro) [2]	8	19	50
Uncompensated damages (billion euro)	12	27	48

Source: An EU Strategy on adaptation to climate change. Impact Assessment Part 2. 16/04/2013 - SWD (2013) 132. [2, page 11-13]

Table 2. Losses from climate change caused by rising sea levels, A1B scenario

The annual cost of climate change (per year)	2020	2050	2080
Economic damages (billion euro) [2]	5	11	25
Price adaptation (billion euro) [2]	1	1.5	1.6
Reduction of losses (billion euro) [2]	3	9	23
Uncompensated damages (billion euro)	2	2	2

Sources: An EU Strategy on adaptation to climate change. Impact Assessment Part 2. 16/04/2013 - SWD (2013) 132. [2, page 11-13]

Losses from climate change [2, 3] caused by floods (Tab. 1.) and the Sea-level rise (Tab. 2.) presented in graphs 1 and 2.

From graphs 1 and 2, it is obvious that the adaptation process can compensate a rise in global sea level by 1 meter (scenario A1B), corresponding to half of flood damage and most of the damage from rising sea levels.

However, the economic choice that the public regulator is facing with translates as: What is better? Either expending billions in adaptation policies to stabilize the situation to an increase of the sea level higher to one meter, or, rather considering that such costs are already useless. This involves the necessity to finance the building of new infrastructures suitable to new climatic conditions.

Figure. 1. Losses from climate change caused by floods, A1B scenario

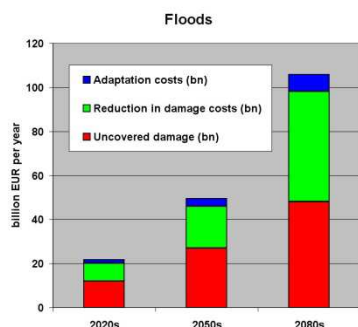
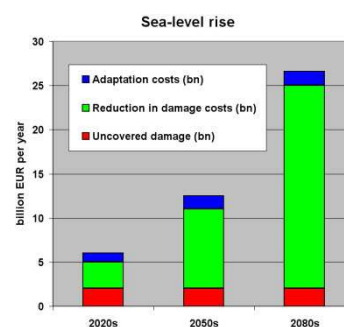


Figure. 2. Losses from climate change caused by rising sea levels, A1B scenario



A SEMI-EMPIRICAL APPROACH

Everything looks good until the sea level rise is limited to one meter. However, the situation could change when admitting the idea that the rise of the global sea level could be up to higher grades. Hence, Hansen (2007) [5] proposed to use an exponential growth model that considers the global sea level that doubles in 10 years. This design is consistent with the forecast that the level will rise to a 5 meters level in 2100. Modern researches in the climatology field require the construction of very sophisticated mathematical models. This leads to numerical solution using supercomputers. Computational experiment induces large errors and cannot fully describe the observed processes.

However, in some cases simplified models demonstrate their highly predictive value. Hence, a semi-empirical approach [12] proposed by Rahmstorf S. (2007) showed good concordance with the observed 50 years of ocean level. In our opinion, it is necessary to develop a simple and intuitive method for determining the boundaries of sustainable working of the systems, the variations of their parameters and reaching the stationary states. This paper proposes a quantitative assessment of future changes in Global Mean Sea Level for long-term change (from thousand years up to the millennium) in Global Surface Air Temperature of the Earth by 2 °C.

RECONSTRUCTION OF PALEOCLIMATE

To define the parameters of the models of future climate, we can use the Earth's paleoclimate (Zachos et al., 2001 [15]; Zachos et al., 2008 [16]; Hansen et al., 2008 [6]). Climatic conditions similar to the currently observed occurred during the Pleistocene: 124, 327, 405, 952 thousand years before present time (kyr BP); 1.07 and 1.23 million years before present time (Myr BP). At the times indicated the ocean level was slightly above the pre-industrial sea-level (PISL = 0). The near future seemed comfortable, but led to dramatic consequences. The Global Surface Air Temperature has grown and the earth's climate became warmer, and the Global Mean Sea Level continued to rise. However, after a few millennia it began to plummet, which marked the beginning of the next glacial period.

Paleoclimate reconstruction of Hansen et al. (2008) [6] was produced on the basis of the oxygen isotope concentration $\delta^{18}\text{O}$ (Zachos et al., 2008) [16]. Concentration of stable oxygen isotopes ^{18}O and ^{16}O in the conglomerate of global ocean sediment cores depends on deep ocean temperature, and the total weight of ice on the planet. Model Hansen et al. (2008) [6] is built on communication $\delta^{18}\text{O}$ Global Deep Ocean Temperature (GDOT) – Tdo (°C), see equation (1, 2) and the Global Mean Sea Level (GMSL) – SL (m), see equation (3, 4). Equation (5) relates the Global Deep Ocean Temperature – Tdo (°C) with an average temperature at the surface of the planet (Global Surface Air Temperature) – Ts (°C). Equations (1-5) are taken from the work of Hansen et al., (2013) [7].

$$Tdo(^{\circ}C) = 5 - 8(\delta^{18}O - 1.75)/3 \quad (\text{for } \delta^{18}O < 3.25) \quad (1)$$

$$Tdo(^{\circ}C) = 1 - 4.4(\delta^{18}O - 3.25)/3 \quad (\text{for } \delta^{18}O > 3.25) \quad (2)$$

$$SL(m) = 60 - 40(\delta^{18}O - 1.75) \quad (\text{for } \delta^{18}O < 3.25) \quad (3)$$

$$SL(m) = -120(\delta^{18}O - 3.25)/1.65 \quad (\text{for } \delta^{18}O > 3.25) \quad (4)$$

$$Ts(^{\circ}C) = 2 \times Tdo + 12.25^{\circ}C \quad (5)$$

A detailed analysis of the data and the reconstruction of paleoclimate ocean level on the basis of the concentration of oxygen-18 isotope in deep ocean sediments are presented in the work of Hansen, J. E., and Mki. Sato (2011) [8].

REGRESSION ANALYSIS OF THE PLEISTOCENE PALEOCLIMATE DATA

We can estimate the parameters of the model for the future of Earth's climate using the data concentration $\delta^{18}O$ (Zachos et al., (2008) [16] in the Pleistocene period (from 16 kyr BP to 1.8 Myr BP) and as reconstruction Hansen, J., M. Sato, G. Russell, and P. Kharecha (2013) [7].

Figure 3 shows a graph of the level of the World Ocean during the Pleistocene (from 16 kyr BP to 1.8 Myr BP), calculated according to the measurement of the concentration of oxygen isotopes in sediments $\delta^{18}O$ Ocean (equation 3, 4).

The blue color in figures 3, 4, 5 shows the level of the oceans (GMSL < PISL) in the era before industrial development (pre-industrial sea-level – PISL), and in red observed excess levels of the oceans border (GMSL > PISL). The transition from $\delta^{18}O=3.25$ (equation 6) the "zero" mark Sea-level (ZSL = 0 = PISL) is carried out by the formula (4). This point corresponds to the level of the world ocean in the late Holocene and is close to the level before the industrial development of our time.

$$SL(m) = 0 \quad (\text{for } \delta^{18}O = 3.25) \quad (6)$$

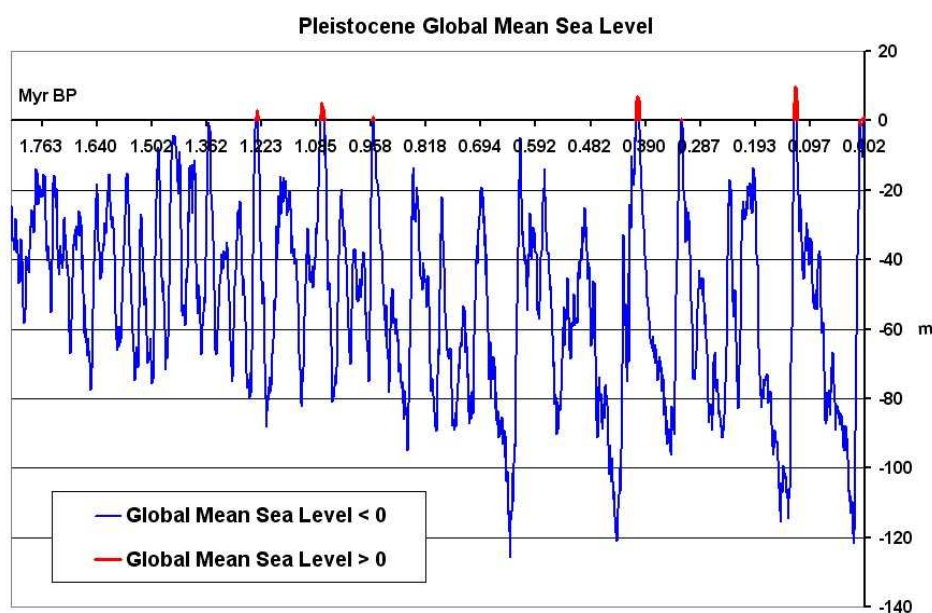


Figure. 3. Changes in Global Mean Sea Level during the last 1.8 million years (based on the content of the isotope oxygen-18 in deep ocean sediments). The data source: Makiko Sato & James Hansen.

Updating the Climate Science. What Path is the Real World Following? Columbia University Earth Institute. <http://www.columbia.edu/~mhs119/>

We are interested in dependence on the temperature level of the world ocean deep water. Write down the equation (1, 2) as a function of the Tdo and make their substitution in equations (3, 4).

$$\delta^{18}\text{O} = (\text{Tdo} - 9.666)/(-2.666) \quad (\text{for } \delta^{18}\text{O} < 3.25) \quad (7)$$

$$\delta^{18}\text{O} = (\text{Tdo} - 5.766)/(-1.466) \quad (\text{for } \delta^{18}\text{O} > 3.25) \quad (8)$$

Get the equation (9, 10):

$$\text{SL(m)} = 15 \times \text{Tdo} - 15 \quad (\text{for } \text{SL} > 0) \quad (9)$$

$$\text{SL(m)} = 49.587 \times \text{Tdo} - 49.587 \quad (\text{for } \text{SL} < 0) \quad (10)$$

For the transition from the regression equations (9, 10) linking the sea level (SL) with a temperature of deep waters (Tdo) in the ocean to equations depending on the average air temperature (Ts) at the planet, we look up (11).

$$\text{Tdo}(\text{°C}) = (\text{Ts}(\text{°C}) - 12.25\text{°C})/2 \quad (11)$$

$$\text{SL(m)} = 7.5 \times \text{Ts} - 106.875 \quad (\text{for } \text{SL} > 0) \quad (12)$$

$$\text{SL(m)} = 24.793 \times \text{Ts} - 353.306 \quad (\text{for } \text{SL} < 0) \quad (13)$$

Figure. 4. linear regression equation (9, 10) connect the level of the World Ocean (SL) with the global ocean temperature-depth (Tdo) for the Pleistocene period

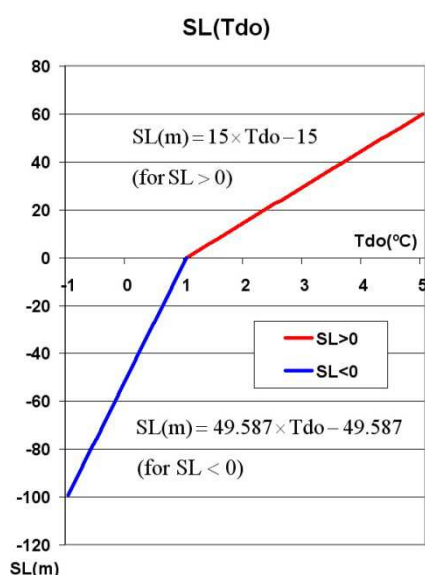
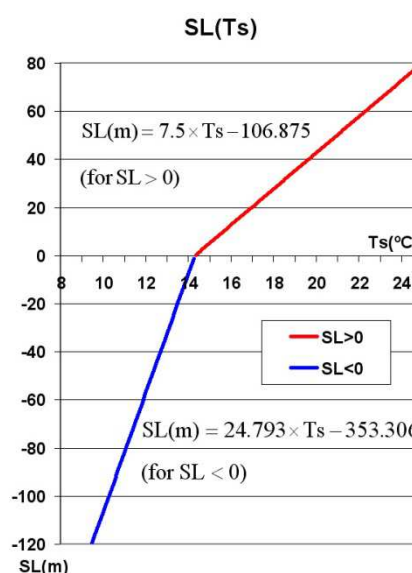


Figure. 5. linear regression equation (12, 13) global sea level link (SL) with an average temperature of air at the surface of the planet (Ts) for the Pleistocene period



Figures 4 and 5 illustrate well the shift corresponding to the regression function when the ocean level is zero (SL = 0). The inflection point passes between 1940 and 1950. The linear regression equations (12, 13) show the relationship between the variation of average air temperature at the surface (Ts) of

the planet and the corresponding changes in sea level (fig. 5). The current position is close to zero ($SL = 0$) and exceed the level of the world ocean in the era before industrial development at $GMSL=0.2$ m value of the average global air temperature near the surface of the planet over to industrial by $GSAT=0.8$ °C (An EU Strategy on adaptation to climate change, 2013) [2].

RESULTS

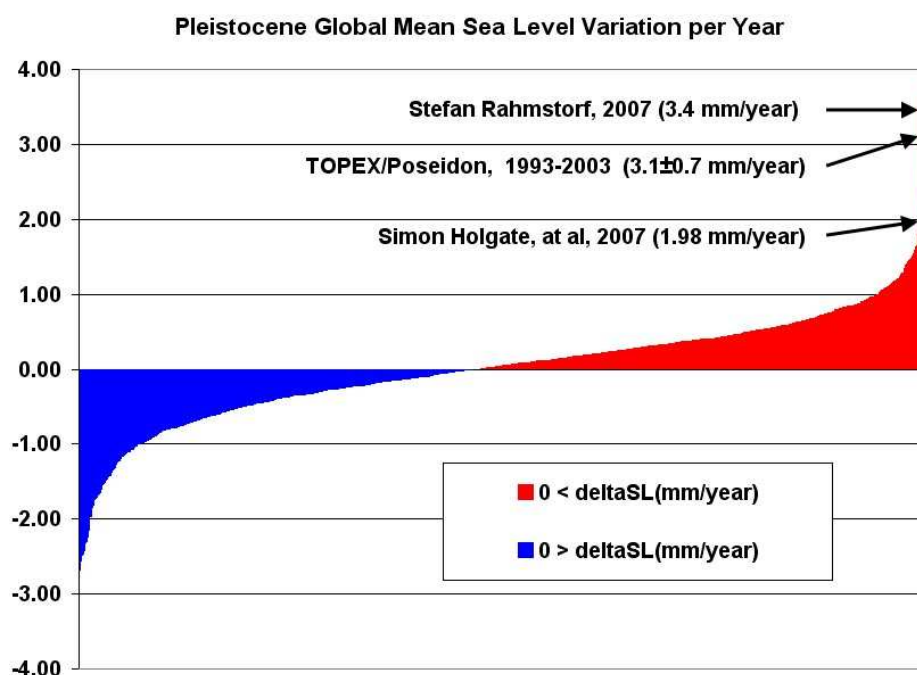
From the sea level at point zero ($SL = 0$), there are only two ways moving towards either the cooling or the warming of Earth. Equation (13) shows a downward trend in the level of the oceans to 24.79 m decrease in average temperature by one degree Celsius. This is the cold climate scenario or the onset of the next ice age. Equation (12) shows the trend of sea level rise at 7.5 m with an increase in the average temperature of one degree Celsius which corresponds to the scenario of global warming of the Earth's climate. Suppose that the world is entering an era of global warming. We get two pieces of news: the good one is that for the scenario of the Earth global warming, the rate of change in sea level over the long term slows down in 3.3 times which looks optimistic. The bad news is that the slowing rise in sea level would have to pay a higher rate of growth of the average temperature of the Earth, respectively, 3.3 times.

In accordance with the IPCC (2007)'s concept [10], the projected rate of increase of the oceans to 2100, should reach 29 cm (average range 20-43 cm, full range of 18-59 cm, for a variety of scenarios). In the case of a 59 cm rise in the sea level, it will be necessary to keep the Earth's average temperature by 0.13 °C higher than in the era before the industrial development that means 10 times lower than the current value of 0.8 °C [4].

Adopted at the moment, the short-term (up to 2100) EU's concept of adaption to global warming associates to a rise of one meter of the global sea level a temperature increase of 2 °C [2]. If we assume that humanity will not be able to stop the rise in the Earth average temperature and, then will reach the milestone of 2 °C, this fact leads in the long term to the inevitable increase in global sea level by 15 meters in accordance with equation (12). Such offensive from oceans will be disastrous for humanity and will flood most of the infrastructures, industrial and agricultural facilities. Implementing the EU's program and preparing infrastructures to a forecasted global sea level rise of 1 m (12) involves limiting the average increase of Earth's air temperature to a 0.133 °C level. However, at this moment of the time; the average temperature on the planet increased at 0.8 °C [4], which already should lead to global sea level rise of 6 m (12).

In present time, the growth rate of global sea level has reached one of the maximum values for the entire Pleistocene period: 3.4 mm / year (Stefan Rahmstorf, 2007) [12] 3.1 mm / yr (Nerem et al., 2006) [11]; 3.1 ± 0.7 mm / year (TOPEX / Poseidon, 1993-2003) [14] 1.98 mm / year (Simon Holgate, et al., 2007) [13]. Figure 6 clearly shows that our civilization has reached a maximum value of the growth rate of global sea level all over paleoclimatic records of the Pleistocene period (values in mm / year numerically correspond to m / millennium).

Figure 6. Annual increase in Global Mean Sea level in the Pleistocene period in comparison with the present growth rate (mm / year = m / millennium)



METHODS

In this paper we used the machine for linear regression analysis of paleoclimatic data and extrapolation of the results to date. The large depth of the sample (1.8 million years) will demonstrate that the observed nowadays climate change has repeatedly occurred in the past.

Dependence of the global sea level on the concentration of oxygen isotopes in sediments $\delta^{18}O$ Ocean can be expressed by the linear regression equation (3, 4), and the temperature of the deep water in the ocean by the equations (1, 2). Another regression equation (5) relates the average temperature of the air on the planet with a temperature of deep water in the ocean. However, despite the fact that these regression equations are linear, they express extreme climatic nonlinear transient processes in the ocean and the atmosphere. The explanation lies in the fact that the regression equations (1-5) does not describe the transient and steady state of the Earth's climate system to which it seeks a sufficiently large relaxation time (from a few hundred to thousands of years). Thus, this applied approach gives an estimate of the upper bound of the sea level rise because of a fixed air temperature change on overall planet in the long run. The definition of the boundaries for the stationary state of the climate system in response to the fixed change of meteorological parameters allows verifying this hypothesis to assess the future damages and the effectiveness of the economic strategies for adaptation to this climate change.

CONCLUSION

If Earth's average temperature increase to 2 °C above prior the industrial era, this will lead to an inevitable increase in global sea level by 15 meters. That means that the score obtained by the authors is greater than 15 times the maximum rising oceans of 1 m allowed by the climate change scenario A1B. However, the EU's adaptation strategy to climate change does not accept such a development of

events that could lead to a sharp increase in economic losses from rising sea levels. Currently, we can observe big discrepancies between the factual climate change and the planned measures to adapt to it. The current scenarios propose to invest in infrastructures that will be flooded without conditions. In this area, protected from flooding, are not funded properly, and their infrastructure is not adapted to the upcoming relocation. Under these circumstances, it is necessary to create an infrastructure in areas with an elevation of 15 m or above the level before the industrial era. How fast such catastrophic changes in the Earth's climate can occur? If Hansen (2007) [5] is right and if the rise of sea levels continue to double every 10 years, the level of sea for the 2120 year can be expected to rise to 20 meters compared to the industrial era level.

The highest level of Pleistocene period sea-level rise was 9.8 m above the level before the industrial era. It means that we can fall in the next glacial period faster than reach the limit to below 2°C above pre-industrial level and corresponding for it sea-level increase of 15 m. In the millennium time scale the Global Warming and the Sea-level rise will provoke the next glacial period that starts with fast temperature falling down and the 7.5 m sea-level declining per 1 °C (equation 12) up to "zero" Sea-level and after that forcing to 24.79 m per 1 °C (equation 13). The new infrastructure should be adopted both for 2 °C higher temperatures as for the extreme low temperatures of the future glacial period.

LITERATURE

- 1) An EU Strategy on adaptation to climate change. 16/04/2013 - COM (2013) 216., http://ec.europa.eu/clima/policies/adaptation/what/docs/com_2013_216_en.pdf
- 2) An EU Strategy on adaptation to climate change. Impact Assessment Part 2. 16/04/2013 - SWD (2013) 132., http://ec.europa.eu/clima/policies/adaptation/what/docs/swd_2013_132_2_en.pdf
- 3) Brown, S., Nicholls, R., Vafeidis, A., Hinkel, J. and Watkiss P. (2011) Sea-Level Rise on Coastal Zones in the EU and the Costs and Benefits of Adaptation: Summary of Sector Results from the ClimateCost project, funded by the European Community's Seventh Framework Programme.
- 4) EEA report N°12/2012. Climate change, impacts and vulnerability in Europe 2012.
- 5) Hansen, J.E., 2007: Scientific reticence and sea level rise. *Environ. Res. Lett.*, **2**, 024002 (6 pp.)
- 6) Hansen, J., M. Sato, P. Kharecha, D. Beerling, R. Berner, V. Masson-Delmotte, M. Pagani, M. Raymo, D.L. Royer, and J.C. Zachos, 2008: Target atmospheric CO₂: where should humanity aim? *Open Atmos. Sci. J.*, **2**, 217-231.
- 7) Hansen, J., M. Sato, G. Russell, and P. Kharecha, 2013: Climate sensitivity, sea level, and atmospheric CO₂, submitted to *Phil. Trans. Roy. Soc.*
- 8) Hansen, J. E., and Mki. Sato, 2011: Paleoclimate implications for human-made climate change. In *Climate Change: Inferences from Paleoclimate and Regional Aspects*. Berger, André; Mesinger, Fedor; Sijacki, Djordje (Eds.) Springer, 2012, 270 pp., <http://www.springer.com/environment/global+change+-+climate+change/book/978-3-7091-0972-4>
- 9) Intergovernmental Panel on Climate (2012) Chapter 3: Changes in Climate Extremes and their Impacts on the Natural Physical Environment in Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation.
- 10) IPCC, 2007: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment. Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 996 pp., (ISBN 978 0521 88009-1 Hardback; 978 0521 70596-7 Paperback).
- 11) Nerem, R.S., Leuliette, E. & Casanave, A. 2006 Present-day sea-level change: a review. *C.R. Geoscience* **338**, 1077-1083.
- 12) Rahmstorf, S., 2007: A semi-empirical approach to projecting future sea-level rise, *Science*, 315, 368-370.
- 13) Simon Holgate, Svetlana Jevrejeva, Philip Woodworth, and Simon Brewer. Comment on "A Semi-Empirical Approach to Projecting Future Sea-Level Rise". *Science* 28 September 2007:

-
- 1866., <http://www.sciencemag.org/content/317/5846/1866.2.full.pdf>
- 14) TOPEX/Poseidon – sealevel.jpl.nasa.gov/missions/topex/
 - 15) Zachos, J., Pagani, M., Sloan, L., Thomas, E., & Billups, K. 2001 Trends, rhythms, and aberrations in global climate 65 Ma to present. *Science* **292**, 686-693.
 - 16) Zachos, J.C., Dickens, G.R. & Zeebe, R.E. 2008 An Early Cenozoic perspective on greenhouse warming and carbon-cycle dynamics. *Nature* **451**, 279-283.

PRIVATE SECTOR DEVELOPMENT IN SERBIA AND COMPARISON WITH THE EU MEMBER STATES¹

Aleksandra BRANKOVIĆ²

Abstract

This work aims to analyse the environment for the private sector development in Serbia. Since the relaunch of transitional reforms in 2001, building up the business environment which is conducive for the private sector growth has been one of the priorities of economic policy. Based on data from the World Bank's "Doing Business" publications, we can conclude that although improvement in the overall quality of the business environment in Serbia has been achieved, it has not been sustained, and several problematic issues maintain to be bottlenecks for more substantial progress. Serbia is lagging behind the EU average, and, in order to catch up, further increases in efficiency and reductions of overall costs of various administrative procedures are required.

Key words: business environment, entrepreneurship, Serbia.

INTRODUCTION

Despite the fact that since 2000 onwards many reforms have been undertaken in order to establish a business environment conducive to the performance of the private sector, the private sector in Serbia is not sufficiently developed. The EBRD [2010, p. 4] estimated that private sector contributed to the creation of only around 60% of Serbia's GDP in 2010, while more recent Labour Force Survey data show that only slightly above 50% of workers were employed in the private sector [Statistical Office of Serbia, 2012, p. 28].

Some of the issues that impede faster development of the private sector have been identified, addressed and resolved by the Serbian government over the years. In doing so, the government has been widely assisted by international organizations – the organizations within the World Bank group, EBRD, OECD Investment Compact – as well as by the European Commission and some of the EU Member States. They offer advice and recommendations, and also technical and financial assistance.

However, many challenges still lie ahead. Some barriers seem to be particularly persistent (e.g. obtaining construction permits). Even though some of these problematic issues have been dealt with, the design and/or implementation of corresponding measures have obviously not been adequate, as these areas remain to constrain the operations of businesses entities.

One must note that although activities and measures undertaken in order to develop the business friendly environment refer to the economy in general, they are of crucial importance for the performance of the private sector. This is mainly due to the fact that privately-owned companies, and particularly small and medium sized companies and entrepreneurs (SMEs), are dominant in the

¹ This paper is part of research projects: 47009 (European integrations and social and economic changes in Serbian economy on the way to the EU) and 179015 (Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements), financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

² Aleksandra Branković, M.A., Research Associate, Institute of Economic Sciences, Belgrade, Serbia. E-mail: aleksandra.brankovic@ien.bg.ac.rs.

structure of the total number of companies in Serbia, and even more dominant in the total number of new establishments³.

According to the research conducted by the World Bank staff, the environment in which business entities conduct their activities is to a large extent influenced by business regulations and the institutions that are to enforce them⁴. In that regard, the World Bank has developed a methodology for measuring the quality of the business environment, which is essentially based on measuring business regulations. The series of “Doing Business” publications has become the most comprehensive and one of the most relevant sources for measuring quality of the business environment across the globe.

In the first part of this work the general direction and outcome of the reforms aimed at the private sector development is analysed. After that, an assessment of the level and dynamics of the quality of the business environment in Serbia is conducted, based on data from various “Doing Business” publications. In addition to that, Serbia’s position relative to the European Union has been examined. Finally, a summary of the main conclusions is presented.

OVERVIEW

The private sector development has been on top of the economic policy agenda throughout the 2000s in Serbia. The 2001 World Bank study [World Bank, 2001] stated that the enterprise sector was in a very poor condition, and that it was dominated by inefficient and indebted state-owned and socially-owned enterprises. On the other hand, SMEs, which dominated in the structure of private enterprises, were said to be “small and severely constrained by over regulation and an uneven playing field tilted towards the larger socially-owned companies” [World Bank, 2001, p. 4]. In order to stimulate the growth of the private sector, urgent reforms were advised to be undertaken, which included three areas: privatization of socially-owned enterprises, liberalisation of the business environment, focused on the enhancement of bureaucratic efficiency, and modification of the legal framework, to align it with the European standards.

Reforms in all of these areas were indeed undertaken, but with an uneven scope and limited success. The bottom line is that the importance of the private sector did increase, but it can be argued whether more could have been accomplished. Nowadays privately-owned enterprises prevail in the structure of GDP and employment, but their shares are not significantly higher than the shares of the public sector. According to the EBRD’s estimates, in 2001 the share of the private sector in GDP amounted to roughly 40%⁵ [EBRD, 2002, p. 20], whereas in 2010 it stood at around 60% [EBRD, 2010, p. 4]. The share of the private sector in the number of employed workers also increased over time, and it was in 2007 that for the first time it exceeded 50% [Statistical Office of Serbia, 2007, p. 102]. However, Ognjenović and Branković [2012, pp. 383] argue that the growth in the private sector employment has not been sufficient, given that “a significant number of socially- and state-owned enterprises are already privatized or closed down”. The occurrence of the global economic crisis in 2008 led to a decrease in the number of workers employed in the private sector, so that the corresponding share maintained to remain just slightly over 50% throughout the 2010-2012 period.

The issue of the private sector development in Serbia is as important today as it was a decade ago. The order of priorities may have somewhat changed (for example, majority of socially-owned enterprises has already been privatised), but the task of improving the business environment to become conducive

³ Due to the lack of publicly available data, it is not possible to provide data on the number and/or share of privately owned business entities in Serbia. However, available data on SMEs, which are predominantly in private ownership, show that the share of SMEs in the total number of companies in the non-financial sector in 2011 amounted to 99.8%. Source: [Ministry of Finance and Economy, 2012, p. 16].

⁴ For example, Djankov, et al. [2006] find that the relationship between more business-friendly regulations and the economic growth is strong, and consistently significant in various specifications of standard growth models.

⁵ The 2001 estimate relates to the Federal Republic of Yugoslavia.

to the development of the private sector remains to be among the top priorities. For example, in the latest economic memorandum for Serbia the World Bank [2011, p. 2] states that “the number one task of the authorities now is to accelerate reforms to create an environment that is highly conducive to export-led growth in the private sector”. In order to “unlock potential growth”, another international financial organization, the International Monetary Fund [2013, p. 13], suggests that it is urgent to conduct labour market, regulatory and public enterprise reforms. In essence, these are regulatory reforms, focused on stimulating job creation in the private sector, simplification and transparency of bureaucratic procedures, and restructuring of the public enterprises that are crowding out the private sector.

ENVIRONMENT FOR THE PRIVATE SECTOR DEVELOPMENT IN SERBIA

In this section data from various issues of the World Bank’s “Doing Business” publication have been used, in order to assess the state and dynamics of the business environment in Serbia.⁶

According to the latest edition of the “Doing Business” publication [World Bank, 2013b], when the overall quality of the business environment is considered Serbia is positioned in the middle among the 189 observed economies, i.e. it is ranked as the 93rd economy. Among the *Ease of doing business* index’s individual components, Serbia’s relative position is best concerning the *Getting credit* indicators set, where it is positioned at the 42nd place, whereas Serbia is worst concerning the *Dealing with construction permits* indicators set, since it is positioned among the bottom eight economies.

In comparison to the year before the relative position of Serbia has deteriorated, since in the “Doing Business 2013” publication it was ranked as the 86th among 185 economies. In the case of all indicators sets the relative position has worsened too, except in the case of *Resolving insolvency*, where a slight improvement in Serbia’s relative position has been recorded.

Perhaps a more convenient way of measuring changes over time, as well as a country’s position in relation to other economies, is a *distance-to-frontier* measure, which was developed in order to complement “Doing Business” rankings. *Distance-to-frontier* measures the distance between the country’s achievement and the best performance for each of the indicators in absolute terms, and is normalized to 0-100 range [World Bank 2013a, pp. 155-158]. Due to that, *distance-to-frontier* measure is not affected by the changes in the number of observed economies over time. While in the case of original “Doing business” rankings 1 stands for the best performing economy, and as the rank grows the relative position of an economy worsens, in the case of the *distance-to-frontier* measure the opposite is true, i.e. 100 refers to the best and 0 to the worst performance.

Distance-to-frontier measures for Serbia are presented in Table 1. Since the overall indicator is somewhat above 60, this can be interpreted as if the quality of the business environment in Serbia is somewhere in the middle, but slightly leaning towards the best performers rather than towards the worst performing economies. This is also true for 7 out of the total of 10 indicators sets, for which the *distance-to-frontier* measure takes values above 50. According to this measure, Serbia is closest to the best-achievers in the case of *starting a business* indicators set. On the contrary, it is most distant from the top performing economies in relation to *resolving insolvency* indicators set. Other two indicators sets where Serbia’s *distance-to-frontier* measure takes values lower than 50 are *dealing with construction permits* and *paying taxes*.

⁶ When interpreting results one should keep in mind that the years that are denoted in the “Doing Business” publications are not the years to which the underlying data correspond to. For example, “Doing business 2014” publication was published in 2013, and data the indicators are based upon are accurate as of June 1st 2013, except for data on taxes, which refer to 2012. For further explanation of the methodology refer to World Bank [2013a].

Table 1. *Distance-to-frontier measure for Serbia*

	DB 2014	Change in relation to DB 2006
Overall without electricity	61	9
Overall with electricity	62	2 ^{*)}
Starting a Business	88	12
Dealing with Construction Permits	47	14
Registering Property	77	16
Getting Credit	75	13
Protecting Investors	53	0
Paying Taxes	47	-1
Trading Across Borders	71	23
Enforcing Contracts	56	-2
Resolving Insolvency	31	9
Getting Electricity	76	1 ^{*)}

Note: ^{*)} the change refers to “Doing Business 2010” publication, when the *Getting electricity* indicators set was first introduced.

Source of data: <http://www.doingbusiness.org/data/distance-to-frontier> (retrieved on November 5th, 2013).

Although the *distance-to-frontier* measure was introduced in the “Doing Business 2012” publication, recalculated data for most of the indicators sets can be tracked back to DB 2006⁷. Changes in DB 2014 in relation to DB 2006 are presented in Table 1. One can note that the overall *distance-to-frontier* measure, as well as measures for most of the individual indicators sets, are positive, which means that over time the indicators of the quality of the business environment in Serbia have improved. This change, however, has been fairly modest. The biggest improvement has been achieved in the case of the *trading across border* indicators set. On the other hand, in the case of three indicators sets (*protecting investors*, *paying taxes* and *enforcing contracts*) no substantial changes, or even slight deteriorations, have occurred during the observed period. These are areas in which Serbia is a half way towards the best performers, which means there is a plenty of room for improvement, but, even if some measures have been undertaken, they obviously yielded no results.

It would also be interesting to track the pace of changes in the quality of the business environment over time. One way to do that is to see how the number of individual indicators sets that record improvement, deterioration or no change in regard to the *distance-to-frontier* measure changes each year. Overview of such changes is presented in Table 2. One can note that as of DB 2007 the number of indicators sets for which no change occurred is higher than the number of those that recorded improvement. Also, a total of 8 deteriorations related to individual indicators sets happened over the observed period. Which is even more problematic, two of such deteriorations occurred in the latest edition of the report (DB 2014), while at the same time only one improvement in relation to the previous year was recorded. This means that the track of improvements in the quality of the business environment in Serbia has not been sustained, and that over the previous couple of years it can be even regarded as ambiguous.

⁷ For three indicators sets *distance-to-frontier* measures are available as of DB 2004, which is the first in the series of “Doing Business” publications: *starting a business*, *enforcing contracts* and *resolving insolvency*. On the other hand, data on *getting electricity* are available as of DB 2010.

Table 2. Annual changes in the number of indicators sets that recorded improvement, deterioration on no change in relation to the distance-to-frontier measure ^{*)}

Year	Number of indicators sets			
	Total	Change in relation to the previous year		
		Improvement	Deterioration	No change
DB2005	5 ^{**)}	1	1	1
DB2006	9	4	0	1
DB2007	9	4	0	5
DB2008	9	3	0	6
DB2009	9	3	1	5
DB2010	10	4	0	5
DB2011	10	4	0	6
DB2012	10	2	2	6
DB2013	10	4	0	6
DB2014	10	1	2	7

Notes: ^{*)} Changes smaller than 0.5 points have been regarded as "No change".

^{**)} two new indicators sets were introduced in relation to the previous edition.

Source of data: <http://www.doingbusiness.org/data/distance-to-frontier> (retrieved on November 5th, 2013).

In Table 3 changes related to individual indicators sets are presented. The most sustained track of improvements is accomplished in the cases of 4 indicators sets where no deterioration in relation to the previous year occurred during the observed period. These include *trading across borders*, *starting a business*, *registering property* and *getting credit*. In the case of another 4 indicators sets tracks of improvements were accompanied by deteriorations. The worst records exist in the case of *enforcing contracts* and *paying taxes* indicators sets, where the number of deteriorations recorded over time has been the same or higher than the number of improvements. There are also two indicators sets where no changes whatsoever have occurred – *protecting investors* and *getting electricity*.

Table 3. Annual changes in the distance-to-frontier measure for individual indicators sets during the period DB2005-DB2014 ^{*)}

Indicators set	Improvement	Deterioration	No change	Number of observed years
Starting a Business	4	0	6	10
Dealing with Construction Permits	6	1	1	8
Registering Property	3	0	6	9
Getting Credit	3	0	6	9
Protecting Investors	0	0	8	8
Paying Taxes	1	1	6	8
Trading Across Borders	6	0	2	8
Enforcing Contracts	1	2	7	10
Resolving Insolvency	6	2	2	10
Getting Electricity	0	0	4	4

Note: ^{*)} Changes smaller than 0.5 points have been regarded as "No change".

Source of data: <http://www.doingbusiness.org/data/distance-to-frontier> (retrieved on November 5th, 2013).

A more comprehensive insight into the changes that did or did not occur related to the quality of the business environment can be provided by analysing changes in the values of individual indicators. These data are presented in Table 4. As far as the *starting a business* indicators set, in which Serbia is best positioned, is concerned, all indicators recorded substantial improvements over time, which

means that procedures for registering new businesses became substantially simplified and less time- and money-consuming. As for the *trading across borders* indicators, in which Serbia's relative position was most upgraded (although it remains to be weak), this was due to a substantial improvement in the efficiency of the required procedures, since time needed to complete the procedures decreased although their number remained the same. Similar administrative efficiency improvements occurred in the case of the *registering property* indicators. *Getting credit* is another indicators set in which Serbia is relatively well positioned, and which witnessed improvements over time, mainly due to the operation of the private registry of credits by the Association of Serbian Banks.

Another group of indicators are those in which none or no substantial changes happened over time, and these include *getting electricity*, *protecting investors* and *paying taxes* indicators. As for the former, there is room for improvements, especially regarding the amount of time and money required to gain an operational connection to the grid. Regarding the *protecting investors* indicators set, we can conclude that in all areas that measure the strength of minority shareholders' protection there is room for substantial improvements, especially those related to the shareholders' ability to sue directors for misconduct. *Paying taxes* is another area in which substantial reforms are necessary in order to make administrative procedures much more efficient, but they have not been undertaken yet.

The remaining indicators sets encompass those in which not only that Serbia's relative position is not satisfactory, but also occasional deteriorations have occurred. Almost all of the underlying indicators refer to time-consuming and costly administrative procedures that are necessary to be made much more efficient in order to become conducive for the operation of the private sector. In the case of *dealing with construction permits*, almost nothing has been done regarding the number of procedures, and especially time required to complete them; improvements that have been recorded refer mainly to the procedures becoming cheaper in relative term. Thus, the issue of construction permits remains to be among the biggest problems of the private investors in Serbia. *Enforcing contracts* is another major bottleneck, because judicial resolution of disputes requires a lot of time and financial resources. *Resolving insolvency* indicates the costs (in time and money) the creditor faces in order to recover his claim. Indicators for Serbia are quite unsatisfactory, especially those related to the overall costs of enforcing the procedure, and the recovery rate.

Table 4. Values of "Doing Business" indicators for Serbia, 2014 edition⁸

Indicators set	Indicator	Value	Change ^{*)}
Starting a Business	Procedures (No.)	6 (DB2004:12)	+
	Time (days)	11.5 (DB2004:56)	+
	Cost (% of income p.c.)	7.2 % (DB2004:15.9)	+
	Paid-in min. capital (% of income p.c.)	0 % (DB2004:113.4)	+
Dealing w Construct. Permits	Procedures (No.)	18 (DB2006:19)	+
	Time (days)	269 (DB2006:205)	-
	Cost (% of income p.c.)	1433.5% (DB2006:3896)	+
Regist.	Procedures (No.)	6 (DB2005:6)	No change

⁸ In most cases measurable indicators are used to assess the relative position of a country. Often the number of procedures is taken into account, as well as the total amount of time and money required to complete these procedures. In order to measure the ease of *getting credit* and the strength of *protecting investors*, indices have been developed. In the case of the *getting credit* indicators set there are two indices: *strength of legal rights index* measures the degree of protection of creditors through collateral and bankruptcy laws, while the *depth of credit information index* measures the scope and accessibility of credit information. *Protecting investors* set is focused on the protection of the minority shareholders' rights, and is measured by several indices: *extent of disclosure* refers to the transparency of related-party transactions, *extent of director liability index* measures the accountability of a director to minority shareholders, while the ease of the shareholders to sue a directors for misconduct is measured by the appropriate index. Source of information on methodology: World Bank [2013a].

Property	Time (days)		11 (DB2005:111)	+
	Cost (% of income p.c.)		2.8% (DB2005:5.5)	+
Getting Credit	Strength of legal rights		7 (0-10 scale) (DB2005:6)	+
	Depth of credit information		5 (0-6 scale) (DB2005:0)	+
	Public registry coverage		0% of adults (DB2005:0)	No change
	Private registry coverage		100% of adults (DB2005:0)	+
Protecting Investors	Extent of disclosure		7 (0-10 scale) (DB2006:7)	No change
	Extent of director liability		6 (0-10 scale) (DB2006:6)	No change
	Ease of shareholders suits		3 (0-10 scale) (DB2006:3)	No change
	Strength of investor protection		5.3 (0-10 scale) (DB2006:5.3)	No change
Paying Taxes	Payments (per year)		66 (DB2006:66)	No change
	Time (hours per year)		279 (DB2006:279)	No change
Trading Across Borders	Docum. to export	(No.)	6 (DB2006:6)	No change
	Docum. to import		7 (DB2006:7)	
	Time to export	(days)	12 (DB2006:33)	+
	Time to import		15 (DB2006:46)	
	Cost to export	(USD per container)	1455 (DB2006:1240)	-
	Cost to import		1760 (DB2006:1540)	
Enforcing Contracts	Time (days)		635 days (DB2004:1028)	+
	Cost (% of claim)		34% of claim (DB2004:33.4)	No change
	Procedures (No.)		36 (DB2004:39)	+
Resolving Insolvency	Time (years)		2 (DB2004:2.7)	+
	Cost (% of estate)		20% (DB2004:23)	+
	Recovery rate		29% (DB2004:20.5)	+
Getting Electricity	Procedures (No.)		4 (DB2010:4)	No change
	Time (days)		131 (DB2010:131)	No change
	Cost (% of income p.c.)		505.6% (DB2010:591)	+

Note: *) refers to a change in the DB 2014 value of the corresponding indicator in relation to the earliest available year. Both values are given in the previous column.

Source of data: <http://www.doingbusiness.org/Custom-Query/serbia> (retrieved on November 5th, 2013).

COMPARISON WITH THE EUROPEAN UNION MEMBER STATES

One of the important drivers of the improvement in the business environment quality has been the process of the EU accession. According to Penev and Marušić [2012], in the Western Balkan countries more systematic legislative reforms started with the initiation of the EU accession processes. However, they also point out that the implementation of new legislation is lagging behind, since serious institutional reforms are required.

Having in mind that the accession process to the EU has been initiated, and that in the foreseeable future Serbia will become a Member State of this association, it is worthwhile considering the extent of the gap in certain indicators of the quality of business environment between Serbia and the EU. For that purpose the World Bank's "Doing Business" database is once more engaged⁹.

In Table 5 the latest rankings of Serbia and the European Union are presented. Among all the observed economies the EU would be positioned at the 40th place, which cannot be regarded as exceptionally well¹⁰; however, it is substantially better than the 93rd position of Serbia. Even when individual

⁹ The European Union is not ranked in the original "Doing Business" publication, but only its member states; however, a special regional report on the EU is available [World Bank, 2013c], containing average EU values for all the observed indicators, measured as averages of individual Members States' scores.

¹⁰ One must keep in mind that the EU's overall position is based on non-weighted averages of its Member States' scores for each of the indicators. Because of that, when a small Member State (e.g. Malta or Luxembourg) has an exceptionally low score for some indicator, it has the same influence on the overall EU score as an exceptionally good score of a large Member State.

indicators sets are considered the overall EU position is not among the top performing economies. The EU as a whole is best positioned regarding the *trading across borders* and *resolving insolvency* indicators sets, while its position is worst when *getting electricity* and *dealing with construction permits* indicators sets are taken into account. This is due to the fact that the EU Member States' policies and regulations may substantially differ, so that scores for each of the indicators vary across individual Member States. As a consequence, the EU Member States are spread from the 5th (Denmark) to the 103rd (Malta) position when the overall *ease of doing business* index is considered.

Table 5. Rankings of Serbia and the EU Member States in the "Doing Business 2014" report

Indicators set	Serbia	EU			Gap ^{*)}		
		Average	Best achiever	Worst achiever	EU average	EU best	EU worst
Ease of doing business	93	40	5 DK	103 MT	-53	-88	+10
Starting a Business	45	70	11 LT	161 MT	+25	-34	+116
Dealing with Construction Permits	182	74	8 DK	163 MT	-108	-174	-19
Registering Property	44	63	6 LT	180 BE	+19	-38	+136
Getting Credit	42	56	1 UK	180 MT	+14	-41	+138
Protecting Investors	80	66	6 IE	128 LU	-14	-74	+48
Paying Taxes	161	63	6 IE	138 IT	-98	-155	-23
Trading Across Borders	98	36	6 SE	108 SK	-62	-92	+10
Enforcing Contracts	116	45	1 LU	122 MT	-71	-115	+6
Resolving Insolvency	103	37	3 FI	99 RO	-66	-100	-4
Getting Electricity	85	74	3 DE	174 RO	-11	-82	+89

Note: *) Positive(negative) sign indicates that Serbia is better(worse) ranked than the corresponding EU Member State or EU average.

Abbreviations: BE Belgium, DE Germany, DK Denmark, FI Finland, IE Ireland, IT Italy, LT Lithuania, LU Luxembourg, MT Malta, RO Romania, SE Sweden, SK Slovakia, UK United Kingdom.

Source of data: World Bank [2013b; 2013c].

It is interesting to note that there exist three indicators sets in which Serbia is ranked better than the EU average. These include the areas of *starting a business*, *registering property* and *getting a credit*. This is also, to a large extent, consequence of low-performers within the EU. When *starting a business* is considered, all EU's individual indicators are, on average, better or comparable to the ones in Serbia; however, an exceptionally bad performance of a few countries (especially Malta) led to that the overall EU ranking is lower than for Serbia. Ten Member States have better position than Serbia (Lithuania is at the top position among them), and in the case of almost all of them fewer procedures and less time is required in order to register a new business entity. The EU Member States that are at the bottom end are those in which it takes a lot of time (up to 40 days) to complete the process and/or the number of procedures is high (in the case of Malta 11). *Registering property* is, on average, easier to finish in Serbia than in the EU, primarily because it is less time consuming. Although there are EU Member States in which it takes only 1 document (Sweden) or 1 day (Portugal) to register a property, it is not the general rule, so in a number of countries it takes around a month or longer to complete this process¹¹. Although an EU Member State (United Kingdom) is the top performing economy in the world when *getting credit* indicators set is considered, the Serbia's position is better than the EU

¹¹ For example, in Sweden only 1 procedure exists in order to register the property, but it takes, on average, 28 days to complete it.

average. This is due to the fact that there exists a registry with a 100% coverage of adults and firms' credit history, which is not the case in many EU Member States¹².

On the other side, there also exist three indicators sets for which Serbia is ranked worse than the EU's worst performing Member States. Two of these areas are those in which the gap between Serbia and the EU is the widest. *Dealing with construction permits* is particularly troublesome in Serbia, and its position relative to the EU is worst. This is due to the fact that it takes more documents, substantially more time and is extremely more expansive (in relative terms) than the EU average. Although in a number of EU Member States it takes comparable or even more time to complete the procedures, the total cost is substantially lower than in the case of Serbia. For example, in Serbia the total cost is more than 14 times higher than income per capita, while the worst indicator for an EU Member State (Ireland) stands at around 4.5 average incomes. *Paying taxes* is an area in which the gap between Serbia and the worst performing EU Member State (Italy) is the widest. This is mainly because the number of payments in Serbia is extremely higher than in the EU, but also because it is more time consuming. To illustrate the extent of the gap, in Serbia the annual number of payments stands at 66, while in the EU it is ranged between 4 (Sweden) and 39 (Romania), and the average value is 12. In *resolving insolvency* Serbia is also ranked worse than the EU Member State with the lowest score. Time required to complete the recovery of the claim is comparable to the EU average, but the total cost of the procedure, as well as the end recovery rate, stand at comparable terms with the worst indicators for individual Member States, so that they are much worse than the EU average.

The two areas in which Serbia is closest to the EU's average position (though it is lagging behind it) refer to *getting electricity* and *protecting investors*. Serbia's values for individual indicators are comparable to the EU average, with the two exceptions. The first one refers to the low score related to the ability of minority shareholders to sue directors for misconduct, while the second is related to the high costs of obtaining a permanent electricity connection. In both instances Serbia's score is the same as in the case of the worst performing EU Member States.

In the case of the remaining two indicators sets, *trading across borders* and *enforcing contract*, the common pattern is that the number of procedures in Serbia is somewhat higher than the EU average, while the total required costs are substantially higher, and comparable to or worse than in the worst performing EU Member States.

CONCLUDING REMARKS

The importance of the development of the businesses environment that is conducive to the private sector growth in Serbia has been one of the top priorities of economic policy since the relaunch of transitional reforms in 2001. These reforms have yielded some results, so that the private sector shares in both GDP and the number of employed workers have increased over 50%. However, they are still not much larger than the shares of the public sector. This was, in part, due to the occurrence of the global economic crisis in 2008, which had a particularly severe impact on the performance of private enterprises.

The quality of the business environment was analysed using the World Bank's "Doing Business" data, according to which the overall position of Serbia is somewhere in the middle among all the observed economies. This means that the overall business environment in Serbia has not been particularly inciting to the development of the private sector. On top of the facts that are pointed out in the World Bank's publication itself, several conclusions should be mentioned. Since the "Doing business" dataset was first introduced, the overall quality of the business environment in Serbia has improved. However,

¹² According to the "Doing Business" database, in only seven EU countries there exists a 100% coverage, either by the public registry or the private bureau. These are Germany, Italy, Slovenia, Ireland, United Kingdom, Sweden and Portugal.

due to the fact that in the case of several of the overall index's components occasional deteriorations did occur, the above mentioned improvements in the overall quality of the business environment in Serbia cannot be regarded as sustained. A particular matter of concern is that a minor or no progress was achieved in the areas in which Serbia performs worst in relation to other economies. Comparison with the European Union reveals that, on average, Serbia's administrative procedures are less efficient (number of procedures is higher and/or they require more time to complete) and more expensive (in relative terms).

LITERATURE

- 1) Djankov, S., McLiesh, C., Ramalho, R.M. 2006. "Regulation and growth". *Economics Letters* 92(3): 395–401.
- 2) EBRD. 2002. *Transition Report 2002: Agriculture and Rural Transition*. London: European Bank for Reconstruction and Development.
- 3) EBRD. 2010. *Transition Report 2010: Recovery and Reform*. London: European Bank for Reconstruction and Development.
- 4) International Monetary Fund. 2013. "Republic of Serbia: 2013 Article IV Consultation". *IMF Country Report* No. 13/206.
- 5) Ministry of Finance and Economy of Serbia, et al. (2012). *Report on Small and Medium-Sized Enterprises and Entrepreneurship for 2011*. Belgrade: Ministry of Finance and Economy of Serbia, et al.
- 6) Ognjenović, K., Branković, A. 2012. "Job Creation and Employment in a Time of Crisis". In J.S. Andrade, C.N.M. Simões, I. Stošić, D. Erić, H. Hanić, Eds., *Managing Structural Changes: Trends and Requirements*. Coimbra: Faculty of Economics of the University of Coimbra. pp. 375-396.
- 7) Penev, S., Marušić, A. 2012. "Importance of the EU Integration Process for the Improvement of the Legal Environment in Western Balkan Countries". In P. Teixeira, A. P. Duarte, S. Redžepagić, D. Erić, S. Andrejević, Eds., *European Integration Process in Western Balkan Countries*. Coimbra: Faculty of Economics of the University of Coimbra. pp. 529-544.
- 8) Statistical Office of Serbia. 2013. *Labour Force Survey 2012*. Bulletin No. 564. Retrieved from <http://www.stat.gov.rs>.
- 9) World Bank. 2001. "Federal Republic of Yugoslavia - Breaking with the Past: The Path to Stability and Growth". *World Bank Other Operational Studies* 15720. Washington, DC: The World Bank.
- 10) World Bank. 2013a. *Doing business 2014*. Washington, DC: The World Bank.
- 11) World Bank. 2013b. *Doing business 2014: Economy Profile - Serbia*. Washington, DC: The World Bank.
- 12) World Bank. 2013c. *Doing business 2014: Regional Profile - European Union*. Washington, DC: The World Bank.

INTERNET SOURCES

- 1) World Bank's "Doing Business" website, containing various databases and publications: <http://www.doingbusiness.org>

ANALYSIS OF THE DEVELOPMENT OF SMALL AND MEDIUM ENTERPRISES IN THE AGRO-FOOD SYSTEM OF SERBIA¹

Olivera PANTIĆ²
Dragan FILIMONVIĆ³

Abstract

The importance of agriculture to the national economy and economic stability of Serbia is great considering the fact that it makes a substantial part of the Gross domestic product. At the same time, the abundance of natural resources in Serbia, favorable geographic and climatic conditions and skilled labor force are resources which can make the local agriculture more competitive in the global market. The sector of small and medium enterprises (SMEs) stands out as an important factor in the economic growth and development of the countries in transition. Due to its numerous advantages over the large enterprises, such enterprises can accelerate the process of transition, increase the investment rate and reduce unemployment rate which is usually very high in the developing countries. Economic development of our country is based to a certain extent on the development of the SME sector which has a particularly important role in the agribusiness sector. This paper aims to provide an analysis of the SME sector in Serbia with the special focus on the agro-food system and its characteristics in the agriculture and food industry. Strengthening this sector will mean better business conditions in the Serbian economy, and the measures taken within economic and agricultural policies should be aimed at fostering innovation and competitiveness of small and medium enterprises.

Keywords: *Small and Medium Enterprises, Agriculture, Agro-food System, Economic Development*

INTRODUCTION

In order to achieve the progress in the economy and improve the well-being of all its participants the size of an enterprise does not play a crucial role. The optimal combination of small, medium and large enterprises that can meet the social and economic goals of a country is a crucial issue of almost every national economy. Large enterprises in economies with high rates of growth are often dependent on input given by suppliers who are often organized as the small and medium enterprises. Due to its characteristics they are opting for the activities which can lead to the economies of scale and high profits, while SME sector mainly supply them with the products characterized by the lower level of processing and certain specific features.

The development of the strong and competitive SME sector has an important role in the transition of our country. When looking at the cases of the developed countries that have successfully completed the transition reforms and the necessity of a competitive SME sector during the process of their implementation, this sector should be the backbone of the future economic development of Serbia. Taking into account the current circumstances in the domestic economy and a tendency to increase exports in order to achieve macroeconomic stability and better economic performances, different ways

¹This paper is a part of the research projects under codes 179015 (Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements) and 31005 (Modern biotechnological approach to solving problem of drought in agriculture of Serbia), funded by the Ministry of Education, Science and Technological Development of Republic of Serbia

² MSc, Research Associate, Institute of Economic Sciences, Belgrade

³ Economist, Junior Research, Institute of Economic Sciences, Belgrade

should be considered in achieving goals through the promotion of the sectors with the greatest chance of success.

One of the most important segments of the Serbian economy is the agro-food system which makes the basis for the development of other complementary systems and their activities. The availability of natural resources, favorable geographic location and the quality of human resources together with an adequately designed strategy for agriculture and rural development make the agro-food system a basic factor in the economic development of Serbia and the basis of food security of the population (Cerančić and Maletić, 2005). In the agro-food system interconnections among producers are important because the quality of a finished product and its success in the market depends on timely communication between suppliers and producers, as well as the timely and efficient distribution of products. The farmers engaged in crop farming, vegetable farming, fruit growing and cattle farming are often organized as small businesses or entrepreneurial entities. Using the raw materials obtained from the exploitation of land, raising of different species of animals and seeding crops on arable lands, they supply the large processors who want to meet the needs of consumers for the food products of higher added value. Large food industries can be supplied by the primary agricultural products, although it is possible for them to use as inputs, intermediate products resulting from processing of raw materials, carried out in the small agricultural enterprises.

THE IMPORTANCE OF SME SECTOR IN THE ECONOMIC DEVELOPMENT OF SERBIA

From the perspective of economic development, all business entities are not making equal contribution when it comes to the creation of GDP. Regardless of the type of organization and ownership, some business entities produce higher quality products and services and generate much of the GDP, while others are more competitive in foreign markets and their business is primarily directed to the demand abroad. The importance of a particular business segment for growth and development is reflected in its share in GDP, but also in the contribution to the improvement of other macroeconomic indicators. In 2011 the share of SMEs and entrepreneurs in GDP was about 33%, in the overall employment 45.1%, reached 46.5% in exports and 52.7% in imports. Micro, small, medium enterprises along with entrepreneurs generate 61.7% of foreign trade deficit of Serbia which makes a share of 51.7% of total investments (SMEE Report for the year 2011, 2012). Foreign trade activity of micro, small and medium enterprises is high, but in the coming years should be improved because it affects the amount of the balance of payments with foreign countries. If a bargaining position of the domestic sector improves and a period of collecting receivables and liabilities due becomes balanced, the possibility of financing manufacture through a loan will be higher and therefore better prospects for improving product portfolio or services will emerge along with boosting competitiveness.

At the beginning of the 21st century Serbia has experienced the major political changes, as in almost all sectors of the economy and the reform caused a shift to the newer and more modern way of doing business. Economic reforms were aimed at strengthening the competitiveness of domestic firms and industries which are relevant for doing business in the international markets. Starting production of strategic products that would be exported to foreign markets, not only that would lead to GDP growth, but also to the reduction in trade deficit, increase in employment and standard of living. In the period between 2007 and 2012 the economic climate in Serbia has changed. Setting up representative offices of large global companies changed the investors' perception of quality and conditions of doing business and several of them invested in the construction of its manufacturing plants in Serbia. This has enabled the employment of a number of people who have lost their jobs due to the restructuring of companies previously state-owned. Moreover, their importance for the local economy is reflected in the creation of new small enterprises and entrepreneurial entities that have seen their chance in cooperation with major multinational companies. According to the Business Registers Agency, in 2011, 7,130 new companies were established which is 7.8% of the total number of small, medium and large business entities in Serbia (Ivković et al, 2012). They opened 15,547 new jobs which were

performed by 1.5% of total employees. In 2010 a slight decrease in entrepreneurial entities was recorded - 9,469, while in 2006 this number was slightly higher-11,536. A similar situation can be seen in setting up of trade and handicraft shops, and in 2010 35,036 new shops were established, which is about ten thousand less than in 2006 (Ivković et al, 2012).

Analysis of the development dynamics seen in the small and medium-sized enterprises from 2007 to 2012 shows that this segment of the economy is becoming increasingly important for the implementation of transition reforms. Owing to the high degree of innovation performed by owners and managers of these companies they are the driving force of the domestic economy, they are willing to transform and accept trends and changes and they can enhance the revitalization of the economy and are one of the most important factors in the development and straightening of the national economy. Key Performance Indicators of SMEs that are commonly used are the number of companies, the number of workers they employ and the amount of annual turnover (Paunović, 2010). Based on the above the conclusions about the characteristics of the development of the SME sector are being drawn, about the progress or regression of certain industries, productivity, costs and other.

Table 1. The number of companies in the SME sector in Serbia in the period from 2007 to 2012

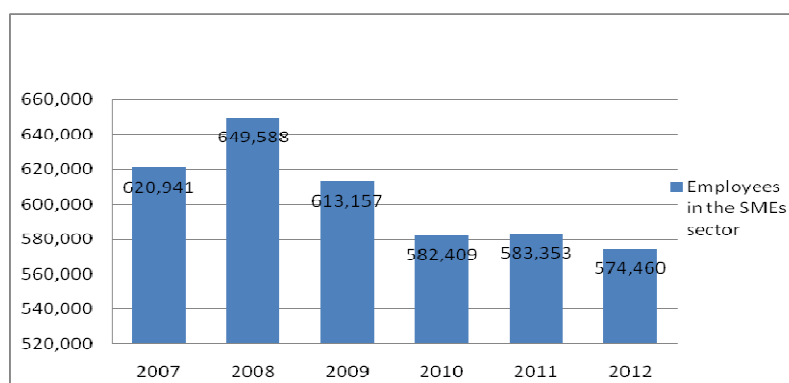
The Republic of Serbia						
	2007	2008	2009	2010	2011	2012
Micro	71,065	75,540	76,243	77,989	78,890	79,189
Small	9,874	10,415	9,873	9,614	9,656	9,699
Medium	2,572	2,675	2,470	2,257	2,218	2,142
Total of SMEs	83,511	8,630	88,586	89,860	90,764	91,030

Source: Independent author's analysis based on the available data in the Statistical Office of the Republic of Serbia (SORS)

Of all the enterprises in the non-financial sector in Serbia in 2007 (84,109 in total), SMEs made 99%, or 83,511 enterprises (SORS Working paper No.61, 2008). A few years later, in 2010 the total number of small, medium and large enterprises grew to 90,364. Out of this number, the SME sector included 89,860 legal entities and a share of 99% in the total number of enterprises (SORS no.77 Working Paper, 2011). Number of entities recorded a slight increase in the coming years and in 2012 91,536 entities were registered, out of which the majority belonged to the SME sector comprised of 91,030 enterprises (Working Paper No. SORS.82, 2013). 506 entities fell under the category of large business entities. Small, medium and large enterprises in Serbia looked at from the territorial point of view, show the great differences in numbers by regions. During 2012, 23,860 enterprises operated in Vojvodina, of which 131 were classified as the large enterprises, while the remaining 23,729 belonged to the SME sector. In 2012, a total of 39,645 enterprises operated on the territory of Belgrade. The share of SME sector was 99.5% in overall number while 0.5% or 200 enterprises were classified as large business entities.

Based on Table 1 a steady increase in the number of enterprises in the SME sector has been seen, except in 2009 when there was a decline in this indicator. The cause can be found in the effects of the global economic crisis that has affected a large number of national economies around the world and has worsened macroeconomic business environment. The number of micro-enterprises was constantly growing and in 2012 reached the number of 79,189. The situation was different with the small and medium-sized enterprises whose number grew consecutively except in 2009 when a slight decline was noted

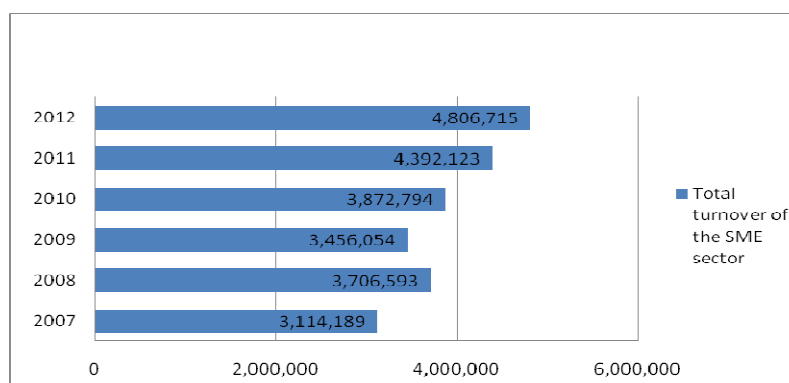
Figure 1. Trends in the number of employees in the SME sector in the period between 2007 and 2012.



Source: Independent author's treatment of the available data RSO

Employment, as an important indicator of economic activity that affects the quality of standard of living, survival of the company in the market, attracting foreign direct investment and enhance the competitiveness of domestic products abroad. SME sector employs many workers, so in 2007 in this segment of industry there were 620,941 employees (about 63%) of 995,375. During 2010 in the SME sector were 582,409 employees (about 58%) of the total of 995,375, its number was lower in 2012 with 574,460 employees (about 57%) working in this sector of the economy. The graph shows that the number of employees in the period fluctuated, with the largest increase in employment recorded in 2007 and 2008, which can be justified by improving business conditions. They were analyzed by the World Bank that measured the relevant indicators and published them in the report "Doing Business" for that year. Since 2009 a decrease in the number of employees is noted in this sector. Micro enterprises are pointed towards the growth of employment in the years of crisis when other categories generally dismiss the workers. One possible reason for this is self-employment of workers who lost their jobs in the companies and started their own business.

Figure 2. Total turnover of the SME sector in the period 2007-2012, RSD mill.



Source: Independent author's analysis based on the available data in the Statistical Office of the Republic of Serbia (SORS)

One of the indicators showing the business performance of an enterprise, also used for the classification into categories of small, medium or large enterprises, is the total turnover during the year. In 2007 all the enterprises operating in the non-financial sector of the Serbian economy generated turnover of RSD 5,079,482 million. Out of this amount SME sector generated RSD 3,114,189 million or 61.31% of total turnover, while large enterprises reached 38.69% or 1,965,293 million turnover. The total turnover of SME sector in 2010 was higher than in 2009 and amounted to RSD 3,872,794 million which is about 61% of the total turnover of the non-financial sector amounting RSD 6,355,195 million. Micro enterprises achieved RSD 1,074,186 million. (27.73%), small

enterprises RSD 1,396,636 million (36.06%) and medium-sized enterprises RSD 1,401,972 (36.02%). Large-scale businesses generated RSD 2,482,401 million which is slightly more than RSD 2,078,312 million in 2009. In 2012 enterprises had a total turnover of RSD 7,818,180 million, of which RSD 3,011,466 was generated in large enterprises while RSD 4,806,714 was generated in the SME sector. The total turnover in the SME sector during the observed period generally increased, except in 2009 when a decline was recorded. The graph above shows that the initial turnover of RSD 3,872,794 in non-financial part of the SME sector reached the amount of RSD 4,806,715 million, which is higher than in the beginning of the period. This indicator would probably be higher if there is a more favorable macroeconomic environment, the conditions for exports easier and domestic sector more competitive. Also, one of the obstacles for the increase in turnover and the gap between payment of liabilities and recovery of receivables which makes the present financing conditions difficult, slows the production process, affects the output and in such a way the sales volume and turnover.

Sectoral distribution of SMEs is specific. During the observed period certain economic activities with most micro, small and medium enterprises have been identified. At the beginning of the period in the economic sectors such as wholesale and retail, processing industry, real estate and construction, had the highest number of SMEs, the highest number of workers and the highest turnover. In 2012 the situation was somewhat different. Most SMEs operated in economic sectors such as wholesale and retail and repair of motor vehicles, processing industry and construction. A noticeable increase was seen in the number of enterprises in the professional, scientific, innovation and technical activities, which is in line with the current demands of the market and continuous business innovations.

SPECIFIC FEATURES OF THE DEVELOPMENT OF SME SECTOR IN THE AGRO-FOOD SYSTEM

Agriculture has long been seen as the primary production that includes growing different species of plants and livestock farming. Such view has been retained in some economies, even today, despite the changes that have transformed traditional agriculture in line with modern trends based on consumers tastes. Countries with different levels of economic development look at such activities in a different way, hence the term agriculture can be viewed from different perspectives (Zakić and Stojanovic, 2008). While some experts believe that agriculture is a way of life because it provides income and livelihood of rural household members, other advocates of the modern approach to agriculture, which is the complex relationship between the number of activities that are mutually integrated horizontally and vertically.

In the 21st century agricultural production cannot be viewed separately from other activities in the area of food production and distribution (Ceranić and Maletić, 2005). Between the food producer and end consumer, there is a number of business activities involved in making products with the highest level of processing to meet the needs of the modern customer. Each activity is equally important, a good quality of work in all phases of the product life cycle affects the perception of customers about the product and its positioning in the market. The food industry is an important element of the agricultural sector as it deals with the processing of raw materials of agricultural origin and their placement on the market. For the development of agriculture is not enough to improve business conditions for primary agricultural producers, but also for the companies engaged in production of processed food products because together they make Agro-food system.

Agro-food system shows some business-related characteristics when compared to other sectors of the economy partially due to the complex dependency relationship between primary producers and processors of agricultural raw materials in the food industry (Ceranić and Maletić, 2005). Primary farmers cultivate the soil, sow fields and arable lands by the crops that will be most used in the food industry for the production of finished products designed for end consumers in the market. A small part can be used as intermediate products or for the purpose of animal nutrition. For this area of the economy can be said that it is highly dependent on climatic factors and weather conditions that

significantly affect the realization of production and financial plans and deviations from them. Bad weather conditions are sometimes inevitable, and the high uncertainty of such occurrence influences the reluctance of the producers to respond at the right time and to keep the losses that may occur to a minimum in case of drought, floods, hail, etc. Crops in the fields, fruits and vegetables will give satisfactory yields which will affect the volume of industrial food production. Smaller amounts of available raw materials may compromise the production of basic foodstuffs. Processors of primary agricultural products resort to imports so as not to deviate much from the planned production due to poor plentiful years. They compensate domestic raw materials with the foreign, which also worsens the trade balance that is very disrupted and unbalanced in the transition countries. The majority of economic experts agree that the carriers of economic growth are small and medium-sized enterprises, and due to its characteristics they favor the development of one of its segment - agro-food system. Enterprises of different sizes make the offer of agro-food products. Small and medium-sized enterprises have a different position in the market when compared to the large enterprises as they face problems and difficulties that are more difficult to resolve taking in account their capacity. For them is difficult to obtain financial resources for investment due to slow capital turnover, but also the risk of failure cannot be compensated by diversification of the product range. The big companies can produce several different products, sometimes in different categories so a drop in the demand for one product can be compensated by the increase in a demand for other product. This is not the case in SMEs because they do not have the capacity for a wide range of products and opt for those that have the highest probability of success with consumers.

Companies that choose to be engaged in agricultural activity should develop a strategy to define a range of products, the volume and method of production. Entrepreneurs and small enterprises often enter the market with products that are under-represented or have inadequate offer. Frequently it is about specific categories of goods for which there is a likelihood of success with the consumers. In order to achieve successful results in the market ruled by intense competition and where "the big eat the small players" marketing activities play an important role. Large companies usually have a well established image and position in the market, and can meet the needs of the customers by offering various promotional activities which help them to improve the sales. They are in a better position in comparison with SMEs because they exist longer on the market and enjoy a certain degree of confidence and security so the quality of their products is not brought into question.

Owners of small and medium-sized enterprises based on information received from the market independently decide on the species of plants or animals they will farm, inputs suppliers, hiring workers to work in the fields or farms and on the amount of output per annum. Due to the characteristics of agricultural production in most cases short-term plans are adopted, while the medium-term plans are generally associated with the development of the enterprise and its classification into superior categories.

Small and medium-sized enterprises in the agro-food system can choose one of the possible strategies available to them (Ceranić and Maletić, 2009):

- continue production and sales of old products in the current market,
- introduce existing products in the new markets, including export markets,
- start selling a new range of products in the existing market,
- introduce new products in new markets, including export.

Which of these strategies will be chosen depends on many factors: the potential of the local market, the characteristics and needs of customers, degree of competition, willingness of producers to bear a risk of failure, the available financial resources and other factors.

Conditions in the domestic agriculture are far from desired. The low level of utilization of food processing industry capacity is a consequence of advantages of foreign producers which number is increasing in our market but also due to the insufficient domestic supply and the low interests of

producers regarding innovations of their product range. Production structure is sub-optimal and funds available to owner are scarce. The poor condition of the food industry is also reflected negatively on the primary agricultural production which produces inputs for manufacturing. In countries that have gone through a transition with similar economic performances, the SME sector have proven to be the main driver of growth and employment growth. Considering that the natural potential of agribusiness in Serbia is great and predominantly under-utilized, a possible solution would be encouraging the development of the small and medium-sized enterprises by implementing economic policy measures and institutional reforms to facilitate business.

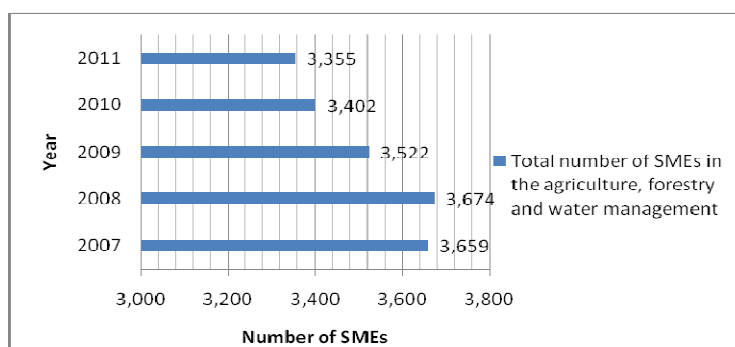
STATISTICS OF SMES IN THE AGRO-FOOD SYSTEM IN SERBIA

One indicator that shows the competitiveness of the sector and its importance in the economic development is the volume of foreign trade activities. Information on the participation of certain industries and legal entities in total exports and imports can indicate the quality of the products or services that are traded, an inadequate or insufficient supply of certain products or its competitiveness abroad. The SME sector has achieved a significant share in foreign trade activities. Small businesses dominate in the exports made by SMEs in 2011 47.2% in agriculture, forestry, fishing, processing industry and mining. Small enterprises in the SME sector are the largest importers, with a share of 38.3% (Report on SMEs in 2011, 2012). In terms of sectors, the surplus in foreign trade in the SME sector has been achieved in agriculture, forestry and fishery, which implies its importance for economic growth and development.

Considering the increasing number of consumers and their diverse needs, as well as the effort to adapt the work to the recommendations and standards of the Statistical Office of the Republic of Serbia in the analysis of companies according to their size in 2010 introduced changes that are specific in comparison to the previous year (SORS Working Paper no.77, 2011). First of all, during the data processing a new territorial division of the country was applied, and instead two territories: Central Serbia and Vojvodina, starting from this year data collection has been performed for 6 regions excluding Kosovo and Metohija. New classification of the activities was also applied, therefore and among other things, the fishery sector (considered as independent sector by 2010) was incorporated to the agriculture and forestry.

Due to the above changes the statistics for 2010 are not strictly comparable with the data on the SME sector and economic activities in the previous years. Therefore, this section will show only data that can be used for making comparisons in the SME sector during the period. Indicators of development of SMEs have not been changed so the data on the number of enterprises by size, number of employees and turnover are treated in a same way as before.

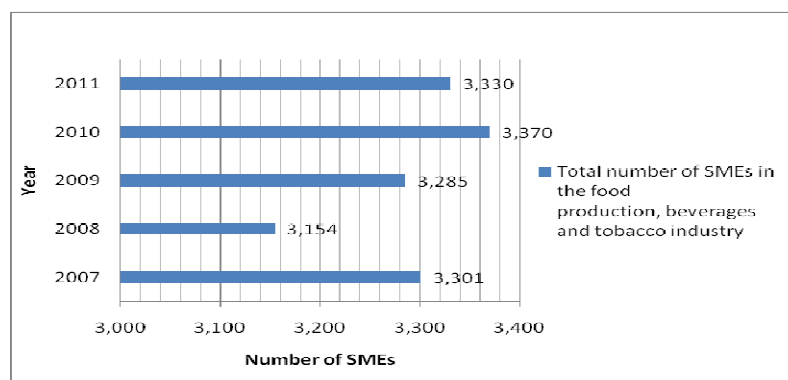
Figure 3. Total number of SMEs in the agriculture, forestry and water management in Serbia in the period from 2007 to 2011.



Source: Independent author's analysis based on the available data in the Statistical Office of the Republic of Serbia (SORS)

Figure 3 shows the number of SMEs in one segment of the agro-food system. Considering the period from 2007 to 2011 the increase of number of companies in this sector can be noted in the early years of the given period. The effects of the global economic crisis left a negative effect on the sector and the number of companies decreased slightly in 2009. The number of companies operating in this sector, classified as micro, small and medium, in 2011 was 3,370 which means 300 companies less than at the beginning of the period.

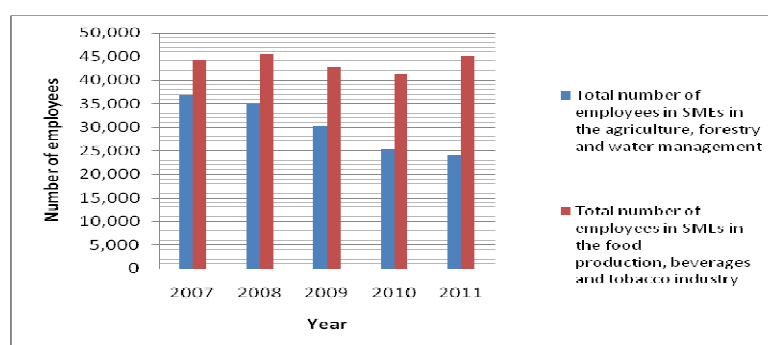
Figure 4. Total number of SMEs in the food production, beverages and tobacco industry in the period from 2007 to 2011



Source: Independent author's analysis based on the available data in the Statistical Office of the Republic of Serbia (SORS)

A significant sector in agro-food system is the production of food products that belong to the processing industry. The graph above shows the trend in the number of SMEs in this industry. In 2010 it was recorded that 3,402 companies were classified as small and medium enterprises doing business in agriculture, forestry and fishery. In 2001 their number dropped to 3,355.

Figure 5. Employed in the agro-food system in Serbia in the period from 2007 to 2011



Source: Independent author's analysis based on the available data in the Statistical Office of the Republic of Serbia (SORS)

The number of employees in the SME sector of agro-food system during this period manifests significant fluctuations (Working Paper No. 61 SORS). Since 2007 the number of employees has gradually declined in agriculture, forestry and water management, while in the segment of food products, beverages and tobacco there is no growth or downward trend and already a number of factors affecting them. The majority of small businesses in 2011 were operated in the sector of food products, 492 in total. There were 199 medium-sized enterprises, while 43 large enterprises were engaged in the activity of processing of agricultural raw materials and intermediate products for the end consumers.

Success of SMEs in agribusiness depends on several important factors: the productivity of employees, the capacity of the company to manage cash flow, innovations, managerial competence of the owners-managers and locations of the firm's business facilities (Buttercup et al, 2006). Optimal strategy should balance each of these factors because their synergy would make results that will be visible in the long run. Workforce productivity can be improved through training, gaining broader knowledge in a particular area, or by using more sophisticated instruments for work. In addition to the conditions in the workplace, the business climate that prevails within the company, willingness to cooperate and teamwork among employees can also have a positive impact on the productivity of employees. Cash flow management in agribusiness is a complex process since the capital turnover ratio is low and it is necessary to hire additional funds to fulfill the obligations towards input suppliers on time. When a positive financial result is achieved at the end of the year the funds for future production and its expansion should be provided.

CONCLUSION

Given the current state of the economy in our country and its future prospects, the subject of this paper is small and medium-sized enterprises in the agro-food system. During the transition years when major reforms are taking place in terms of economic and social policy, one of the factors that affects economic development, primarily through the partial absorption of workers who lose their jobs, but also by adapting to the trends prevailing with the modern consumers, is the SME sector. Having in mind that Serbia is rich in natural resources, has a favorable geographical position and climatic conditions, the chances for developing this sector within agriculture and agro-food industries are great. When all the existing possibilities are considered, in order to move towards the economic progress, the strategy that will represent a specific program is necessary and such program should be followed in the coming years.

Small and medium-sized enterprises in the agro-food system have been created primarily by the entrepreneurial incentives of individuals or groups in order to produce agricultural products and process them into the food products. Changes in the political and economic aspects during the transition years are caused by the growth of small businesses due to the privatization process, instead increasing the number of large corporate systems that were previously thought to be the main drivers of the economy and macroeconomic growth.

In the period from 2007 to 2012 there was an increase in the number of SMEs from 83,511 to 91,030 entities. However, in the agribusiness a drop was recorded in the number of business entities within this category. The main reasons can be sought in the detailed and expensive administration, lack of funds and the absence of adequate agricultural policy that would lead this sector towards the progress, prosperity and competitiveness. In the same period there was a growth of total employment in the SME sector, but not in agricultural enterprises. New generations are increasingly leaving their hometowns and villages moving to the cities trying to make progress and achieve a greater potential for career development. If there were a better institutional support to the rural population and those who have the capability for agriculture activity, the situation would be quite different, standard of living would be higher, products more competitive and employment rate greater.

In recent years the state has taken steps to overcome barriers to the development of SMEs and entrepreneurship. These are aimed at raising awareness of the importance of this category of business, with particular emphasis on agriculture as an important factor of economic development. Agricultural measures, institutional reforms and reduction in public levies are necessary in order to achieve results including a strong financial sector that will serve as the backbone in the implementation of the projects and activities that will give good results. The level of foreign direct investments has not been at a high level, but continuation of the policy that grants numerous benefits and privileges, the number of

investments will increase, employment will rise and overall macroeconomic performance can make Serbia a country in which is advisable and profitable to invest and do business.

LITERATURE

- 1) Ceranić S., Maletić R. (2009), *Results so far in achieving the policy development of SMEs in agribusiness*, Agriculture and rural areas of Serbia, Theme Collection, Serbian Association of Agricultural Economists, Belgrade, p.171-188.
- 2) Ceranić S., Maletić R. (2009), *Small and medium enterprises as development factor of agribusiness in Republic of Serbia*, Applied studies in agribusiness and commerce- ABSTRACT Agroinform publishing house Budapest, 2009.
- 3) Ceranić S., Maletić R. (2005), *Development of small and medium-sized enterprises in the agribusiness in Serbia*, Family farms in Serbia under transformation, Monograph, Institute for Agro economics-Faculty of Agriculture, Belgrade, p.265-285.
- 4) Ivković, D., Čukanović-Karavidić M., S. Vujičić (2012), *Small and Medium sized enterprises as a factor of Serbian economy*, Economic analyses, vol.45, page 31-45
- 5) Ljutić B., Osborn D., Schneeberger K. (2006), *Agricultural finance and micro and macro concepts*, MBA press, Belgrade.
- 6) Paunović B. (2007), *Economics of Enterprise - Enterprise, Environment and Investment*, Center for publishing, Faculty of Economics, Belgrade
- 7) *Working Paper SORS "Enterprises by size, 2007, No. 61, The Statistical Office of the Republic of Serbia*, Belgrade 2008.
- 8) *Working Paper SORS "Enterprises by size, 2008" No.66*, Statistical Office of the Republic of Serbia, Belgrade, 2009
- 9) *Working Paper SORS "Enterprises by size of 2009", No.71*, Institute for Statistics, Belgrade 2010.
- 10) *Working Paper SORS "Enterprises by size of 2010," No.77*, Statistical Office, Belgrade 2011th
- 11) *Working Paper SORS "Enterprises by size of 2011," No.80* Statistical Office, Belgrade 2012th
- 12) *Working Paper SORS "Enterprises by size of 2012," No.82* Statistical Office, Belgrade 2013th
- 13) Zakić Z., Stojanović Ž., (2008), *Agricultural economics*, Centre for publishing, Faculty of Economics, Belgrade.

8.

LABOUR MARKET AND INNOVATION



EMPLOYMENT AND THE FUNCTIONING OF THE LABOUR MARKET IN SERBIA¹

Kosovka OGNJENović²

Abstract

This paper deals with the analysis of the functioning of the labour market in Serbia. The overall situation in the Serbian labour market is deteriorating. However, if the two sub-periods are observed, before and after the recent economic crisis, it can be noticed that some improvements occurred immediately before the crisis. The first improvement that came about was the unemployment decline, and after that the level of employment increased. This in particular affected women, which further led to the narrowing of the employment gender gap. Unfortunately, these improvements were only short-lived. During the post crisis period the situation aggravated, as manifested by a convergence between the employment and unemployment rates of women, whereas the economic activity of women dropped to only half of the female workforce. Similar patterns are also characteristic of both young and older workers. The rates of employment of these two subsamples of the workforce have been at the lowest levels achieved in the last couple of years in Serbia. The increasing levels of unemployment disturb the sectoral distribution of employment. This, jointly with the skill and occupational mismatches, contributes to the further deepening of the structural unemployment. All of these indicate an increasing malfunctioning of the Serbian labour market.

Key words: Employment, labour market functioning, Serbia.

INTRODUCTION

Well-functioning labour markets are characterized by high participation rates and low unemployment rates, while employment opportunities are available even for depressed labour categories, such as women, young and older workers, and the process of finding a decent job is shorter. Bearing in mind that the rates of participation and employment are on a permanent decline and that the unemployment level has considerably deteriorated, the Serbian labour market can be characterized as the labour market with an increasing malfunctioning. In addition, the unemployment levels of women, as well as young and older workers, have risen during the economic crisis, but these negative tendencies have continued in the post crisis period too. There are several research papers that have recently examined the functioning of the labour market in the EU countries (Koske 2009; Lasinio & Vallanti 2012), but there is still a research gap in specialized analyses for the transition countries.

In this paper the analysis of the key indicators of the functioning of the labour market in Serbia is conducted. In addition, starting with the assumption that structural change may considerably affect the labour market, especially during the periods of economic crisis, the indicators of structural imbalance (Jackman and Roper 1987; Lilien 1982) for the Serbian labour market are calculated and analysed. The results show that the structural imbalance among industrial sectors has significantly increased since 2010 as a result of the sharp decline in the aggregate employment. The indices of occupational

¹ This paper is part of research projects: 47009 (*European integrations and social and economic changes in Serbian economy on the way to the EU*) and 179015 (*Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements*), financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

² Kosovka Ognjenović, MSc, Institute of Economic Sciences, 12 Zmaj Jovina, 11000 Belgrade, Serbia. E-mail: kosovka.ognjenovic@ien.bg.ac.rs.

and skill mismatches indicate an increasing instability that occurred due to the decreasing number of job opportunities. Similar results are found for Central and South Eastern European countries (non-EU members). Namely, it is estimated that the effect of structural change, observed through the reallocation of jobs out of the less productive agricultural sector into the high value added manufacturing and services sectors, is much slower than before the economic crisis (International Labour Organization 2013). Some applications of the theoretical concept of matching function, based on job vacancies available in the labour market, are provided by Pissarides (2011).

This paper is organized as follows. The next section provides a brief analysis of the characteristics of the Serbian labour market and shows some comparison with the EU. After that the policies on the labour market in Serbia are analysed. The central part of this paper is devoted to the analysis of the functioning of the labour market in Serbia, whereas the final section provides some general conclusions.

CHARACTERISTICS OF THE LABOUR MARKET

The labour market in Serbia substantially differs from those of the EU, but it is not too much different than in the Western Balkan countries or in the former transition countries of Central and Eastern Europe. The common feature of all these labour markets is low employment and economic activity of the workforce. In addition, some unfavourable developments in the labour market are characteristics of certain labour categories, such as women and young and older workers. In order to harmonize the local labour market development with the EU employment policy, the Serbian government adopted the National employment strategy for the period from 2011 to 2020 (Government of Serbia 2011). However, the instruments for the implementation of this strategy are rather weak and the measures of the success of implemented policies in the Serbian labour market still diverge from those prescribed by the employment policies of the Europe 2020 strategy (Ognjenović & Branković 2012b).

Table 1. Participation rates by educational attainment, in percentage (population from 15 to 64 years)

Year	Serbia			EU-28			EU-15		
	ISCED 0-2	ISCED 3-4	ISCED 5-6	ISCED 0-2	ISCED 3-4	ISCED 5-6	ISCED 0-2	ISCED 3-4	ISCED 5-6
2002	---	---	---	53.5	75.2	86.7	56.7	75.8	86.8
2003	---	---	---	53.9	75.0	86.8	57.3	75.9	86.8
2004	47.9	72.9	84.0	53.6	75.1	86.9	57.2	76.1	87.0
2005	46.2	71.8	83.2	53.9	75.2	86.9	57.5	76.6	86.9
2006	44.7	69.9	82.4	54.2	75.4	87.1	57.9	77.2	87.1
2007	44.4	69.2	81.6	54.4	75.3	87.2	57.9	77.3	87.2
2008	45.3	67.3	82.1	54.2	75.3	87.0	57.7	77.2	87.1
2009	42.7	65.5	78.7	54.0	75.2	87.1	57.3	77.1	87.1
2010	38.8	64.1	79.6	53.7	75.0	87.0	56.9	76.9	87.1
2011	39.3	64.0	80.1	54.3	75.0	86.8	57.8	76.8	87.0
2012	40.3	64.0	80.2	54.7	75.2	87.1	58.1	77.0	87.3

Source: LFS data of the National Bureau of Statistics of Serbia and of Eurostat.

When we look at Table 1 above, we can see a persistent declining trend in the participation rates for all the observed educational levels over the period 2004-2012 in the Serbian labour market. In contrast, in EU-28 the participation rates of those with less than primary, primary and lower secondary education

(ISCED 0-2 levels) slowly increased from 2002 to 2012, whilst the rates of those with secondary and post-secondary non-tertiary education (ISCED 3-4 levels) remained stable over the same period. An upward trend is recorded for those with the tertiary education (ISCED 5-6 level). The similar development is characteristic of the EU-15 labour market on average. The tendency in the Serbian labour market can be partly explained by the decreasing rates of female participation in the workforce and by the delayed entrance to the labour market of young cohorts due to pursuing education.

The participation rates of the working age population in Serbia declined by more than six percentage points in total as well as by gender in 2012 compared with 2004. However, the decline was even sharper in the female subpopulation reaching almost seven percentage points. There is also no evidence on the narrowing of the gender gap observed through the difference between the participation rates of men and women. The male participation rate is around 17 percentage points greater than that of women. In addition, no significant changes are noticed throughout the age distribution for both male and female participants as reported in Table 2 below.

Table 2. Participation rates in Serbia by age and gender, in percentage (population from 15 to 64 years)

	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	15-64
Total											
2004	17.6	54.8	78.2	89.2	86.7	88.8	82.4	71.9	51.2	28.6	66.4
2008	14.7	49.0	74.3	84.1	88.0	84.5	80.1	71.2	50.6	25.9	62.7
2012	10.7	46.1	77.1	84.6	86.3	83.3	80.7	70.7	51.3	24.0	60.1
Male											
2004	20.5	59.7	86.8	95.5	93.4	94.3	90.1	82.8	69.8	40.1	75.1
2008	17.7	56.6	82.2	91.7	94.8	91.5	87.2	80.1	65.8	37.9	71.2
2012	14.5	55.9	82.2	91.9	92.3	89.4	87.0	81.2	65.7	37.2	68.8
Female											
2004	14.7	50.1	69.5	82.6	80.5	83.0	74.7	61.5	33.8	18.5	57.9
2008	11.5	41.2	65.4	76.7	81.4	77.9	73.7	62.6	36.3	15.9	54.4
2012	6.5	35.2	70.6	77.0	80.5	77.3	74.9	60.8	37.8	11.7	51.2

Source: LFS data of the National Bureau of Statistics, Bulletin, various issues.

Retrieved from: <http://www.stat.gov.rs>.

The employment rate for the working age population in Serbia followed a similar pattern as the measure of economic activity of the total population over the period 2004-2012. While, in general, the employment rates of the total workforce as well as of the male workforce were stable until the occurrence of the economic crisis, the employment rate of women slightly increased. This increase appeared across all the age groups except at the very bottom and top tails of the age distribution. The lower decline in the female employment rate induced the narrowing of the employment gender gap in 2012. But still the difference between the two employment rates is above 14 percentage points as shown in Table 3, which classifies women into the vulnerable group of the labour market participants.

*Table 3. Employment rates in Serbia by age and gender, in percentage
(population from 15 to 64 years)*

	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	15-64
Total											
2004	7.3	30.1	56.9	72.5	72.2	75.7	71.2	62.9	45.6	27.0	53.4
2008	8.4	32.8	57.3	71.8	77.9	75.4	71.1	64.5	46.3	24.7	53.7
2012	3.8	23.8	49.9	61.0	68.3	67.4	64.5	57.0	41.7	20.7	45.3
Male											
2004	9.3	33.7	68.8	82.9	81.5	85.2	81.4	73.3	61.4	37.3	63.1
2008	10.9	40.3	64.4	80.9	86.3	84.8	79.8	73.0	60.1	35.5	62.3
2012	5.7	30.7	55.6	68.1	75.6	73.3	69.9	65.2	52.7	31.2	52.4
Female											
2004	5.3	26.6	45.1	61.6	63.5	65.7	60.9	52.9	30.9	18.0	44.0
2008	5.7	25.2	49.2	62.8	69.8	66.5	63.4	56.3	33.3	15.8	45.3
2012	1.8	16.0	42.7	53.7	61.1	61.5	59.5	49.2	31.4	11.1	38.1

Source: LFS data of the National Bureau of Statistics, Bulletin, various issues.

Retrieved from: <http://www.stat.gov.rs>.

The unemployment rates followed the decreasing trend from 2004 to 2008 for both men and women for the total workforce and across all the age groups, as shown by figures reported in Table 4 below. However, the trend has switched as of the beginning of the economic crisis, indicating the rising level of unemployment. The unemployment rate of men increased faster than that of women, showing a difference in the range of the 2012 and 2004 unemployment rates of 8 and 1.5 percentage points for men and women, respectively.

In summary, it can be concluded that both men and women experienced significantly deteriorated positions in the labour market due to its malfunction. However, the difference in the employment rates between men and women indicates the weaknesses of the Serbian labour market in terms of the available employment opportunities for the latter.

Table 4. Unemployment rates in Serbia by age and gender, in percentage (population from 15 to 64 years)

	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	15-64
Total											
2004	58.6	45.1	27.2	18.7	16.7	14.7	13.6	12.6	10.9	5.6	19.5
2008	42.9	33.0	23.0	14.7	11.5	10.8	11.2	9.4	8.4	4.5	14.4
2012	64.1	48.4	35.3	27.9	20.9	19.1	20.0	19.4	18.7	13.5	24.6
Male											
2004	54.6	43.5	20.8	13.2	12.7	9.6	9.7	11.5	11.9	6.9	15.9
2008	38.1	28.8	21.7	11.8	9.0	7.3	8.4	8.9	8.6	6.4	12.6
2012	60.5	45.0	32.4	26.0	18.1	18.0	19.6	19.7	19.8	16.2	23.9
Female											
2004	64.1	46.9	35.1	25.5	21.1	20.8	18.4	14.0	8.8	3.0	24.1
2008	50.7	38.9	24.8	18.1	14.3	14.6	14.0	10.1	8.2	0.9	16.7
2012	72.9	54.5	39.5	30.3	24.1	20.4	20.5	19.0	16.9	5.8	25.6

Source: LFS data of the National Bureau of Statistics, Bulletin, various issues.

Retrieved from: <http://www.stat.gov.rs>.

LABOUR MARKET POLICIES

The Serbian government adopted the labour market policies, passive and active ones, in order to foster well-functioning of the labour market under the conditions of rising unemployment, especially of the youth and women, the appearance of work surpluses over the course of privatization and restructuring, rising labour market dualism and gender differentials, etc. Serious reforms of the labour market started as of 2001 when the first Labour law, which was intended to support the overall process of transition reforms, was put into the force. The amendments introduced by the 2005 Labour law were assessed as less desired for an economy and the labour market in restructuring (OECD 2008; World Bank 2006). The major changes introduced by this law were related to the provisions about temporary employment and collective dismissals. These institutes, in particular, determine the level of rigidity of the labour market.

The overall level of the strictness of the Serbian labour market, as measured by the OECD index of the employment protection legislation, ranged between 0 and 6, accounted for 2.4 (OECD 2008: 57). When the permanent and temporary jobs are observed, the largest source of this strictness occurs because of temporary employment (2.9) rather than permanent employment (2.2). However, the level of protection with respect to the collective dismissals is pretty high (2.9), which is the level comparable with some former transition countries, for instance with Slovenia, but still, it is below the OECD average (3.0) and the levels for most of the European OECD countries (Ognjenović & Branković 2012a: 385). The share of temporary contracts in Serbia ranges from 11 to 14 percent (National Bureau of Statistics 2013).

There are examples of the transition countries that show that the decreasing rigidity of the labour market can be induced by such structural reforms that lead to the improvement of the functioning of the labour market. Koske (2009) elaborated that in the case of Slovenia young people are more affected by the effects of the employment protection legislation because of a prevalence of temporary contracts among the new entrance to the labour market. The author argued that temporary contracts may have twofold effects; to be the link towards the permanent contracts, on one hand, but also they can induce moving of young people between temporary jobs and unemployment, on the other hand. Not only in the transition country economies, but also in the case of developed industrialized economies of the EU, stringent employment protection legislation may prevent against the faster reallocation of workers and jobs across sectors. Lasinio & Vallanti (2012) showed that relaxation of the employment protection legislation improved the functioning of the labour market, observed through both the unemployment and participation levels. However, the price of increased flexibility in using temporary contracts was the decline in labour productivity that diverged from the trend common to other OECD countries. With the score of 1.9 the strictness of the Italian labour market is ranked as one of the lowest among the European OECD countries.

Passive labour market policies are much more important for the functioning of the Serbian labour market than active ones, which is the case in most of the transition countries. This conclusion does not result from the effects of the policies, but it comes from the distribution of total expenditures that are envisaged for passive and active labour market policies. Namely, since their introduction by the Law on employment and unemployment insurance in 2003 (Official Gazette no. 71/03, 84/04 and 36/09, 88/10) the share of expenditures for active labour market policies ranged from 0.03 to over 0.11 percent of the gross domestic product. However, the expenditures for passive labour market policies have totalled between 0.90 and above one percent of the gross domestic product (Gligorov et al.: 55). The largest portion of the passive labour market policies is related to the payment of the unemployment benefits. However, the share of the unemployment benefits recipients is low and accounted for around 8 percent on average (National Employment Service 2013). An upward trend in the number of participants in additional education and training programs on the labour market is present in the last couple of years in Serbia. Moreover, in 2012 nine thousand recipients were entitled to use this active labour market policy measure. The net effects of training programs on the labour

market, such as basic computer literacy trainings and advanced IT trainings, were among the lowest (Ognjenović 2007).

FUNCTIONING OF THE LABOUR MARKET

Bearing in mind that young and older workers are disproportionally affected by the recent economic crisis, in the following analysis we will observe the distributions of unemployment and employment rates for the three labour categories in terms of their age. The first category includes young workers aged 15 to 24 years, followed by those of 25 to 49 years of age, and the third category includes workers from 50 to 64 years of age. Several authors argued that the unemployment and employment rates are the most common measures of the functioning of the labour market (Jensen 1989; Koske 2009; Lasinio & Vallanti 2012), so that in this section the movements of these two indicators will be first analysed. The figures recorded for the Serbian labour market are compared with the corresponding figures provided by the European Commission and Eurostat for the harmonized averages for the EU-28 and EU-15 countries.

Table 5. Distribution of unemployment rates by age and gender, in percentage (population from 15 to 64 years)

	2004			2008			2012		
	Serbia	EU-28	EU-15	Serbia	EU-28	EU-15	Serbia	EU-28	EU-15
<i>15-24 years</i>									
Women	50.5	18.7	16.2	41.3	15.6	15.2	57.0	22.1	21.3
Men	46.1	18.7	15.8	31.0	15.6	15.6	47.9	23.5	23.1
Total	48.1	18.7	16.0	35.2	15.6	15.4	51.1	22.9	22.2
<i>25-49 years</i>									
Women	23.9	9.4	8.6	16.7	7.0	7.2	26.0	10.3	10.5
Men	13.1	7.6	6.7	11.6	5.7	5.8	22.6	9.6	9.9
Total	18.0	8.4	7.5	14.0	6.3	6.4	24.1	9.9	10.2
<i>50-64 years</i>									
Women	11.3	7.2	6.9	8.5	5.3	5.4	16.8	7.0	6.9
Men	11.0	7.1	6.4	8.4	5.1	5.1	19.0	7.8	7.8
Total	11.1	7.1	6.6	8.4	5.2	5.2	18.1	7.4	7.4

Source: LFS data of the National Bureau of Statistics of Serbia and of Eurostat.

For young people in Serbia the recorded unemployment rate is almost three times higher than for their counterparts in EU-28 and EU-15 in 2012, showing an increasing malfunctioning of the labour market during the post crisis period. As Table 5 above shows, some improvements in the development of the youth unemployment rate were present during the period before the occurrence of the crisis. This general pattern was characteristic of the workers who belong to the group of middle age workers, as well as of older workers. Common for both the Serbian and the EU labour market is the rising trend of the unemployment rates throughout all the age categories of workers, as well as by gender. Furthermore, it should be pointed out that in the group of 15-24 years of age the unemployment rate between men and women is diverging faster, thus deepening the unemployment gender gap, whilst in the group of 25-49 years of age the difference in the unemployment rates between men and women is much lower. The unemployment rate of women of the age 50-64 years is even lower than that of men of the same age, because the greater portion of the female workforce in this age group is inactive.

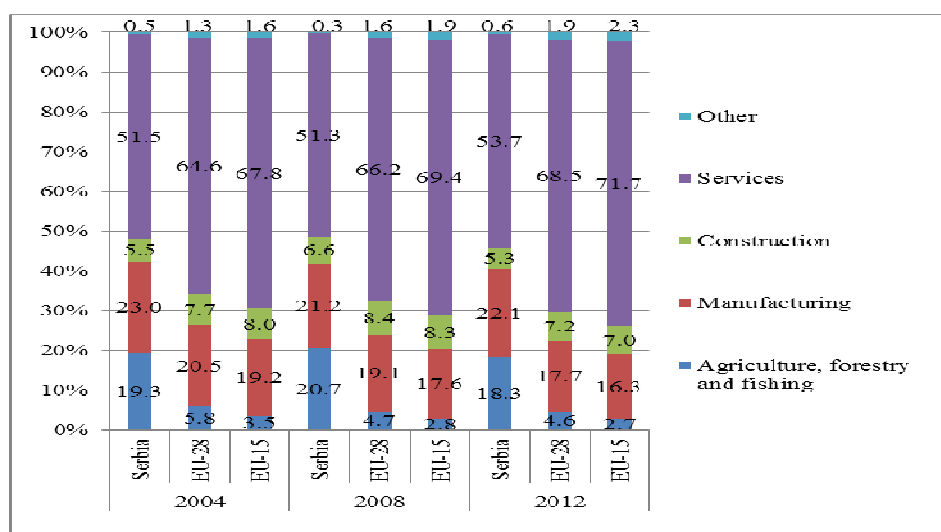
Table 6. Distribution of employment rates by age and gender, in percentage (population from 15 to 64 years)

	2004			2008			2012		
	Serbia	EU-28	EU-15	Serbia	EU-28	EU-15	Serbia	EU-28	EU-15
<i>15-24 years</i>									
Women	16.5	32.7	36.6	15.9	34.3	38.1	9.4	30.7	33.9
Men	22.0	38.5	42.4	26.0	40.3	43.4	19.1	34.7	37.0
Total	19.2	35.6	39.5	21.1	37.3	40.8	14.5	32.8	35.5
<i>25-49 years</i>									
Women	59.3	69.6	69.7	62.5	72.8	72.7	56.4	71.4	71.4
Men	79.9	85.6	87.0	78.9	87.5	88.0	68.4	83.4	83.5
Total	69.6	77.6	78.4	70.6	80.2	80.4	62.5	77.4	77.5
<i>50-64 years</i>									
Women	36.5	42.6	43.9	37.0	47.9	49.5	29.8	51.7	53.7
Men	60.4	61.0	63.1	59.1	65.3	66.6	49.3	65.5	67.2
Total	48.0	51.6	53.3	47.6	56.4	57.9	39.2	58.4	60.3

Source: LFS data of the National Bureau of Statistics of Serbia and of Eurostat.

Table 6 above illustrates a sharp decline in the employment rate of the youth in Serbia in 2012 compared with 2008 and 2004. The youth employment rates in EU-28 and EU-15 are as much as two times higher than in Serbia in 2012. At the same time, the employment rate of the middle age workforce exceeds three quarters of the total workforce, and in the latest age group three fifths of the total workforce are employed. However, with the exception of young workers, for all other labour categories in EU-28 and EU-15, the rising employment rates are recorded over the period 2004-2012. Unfortunately, this is not the case in Serbia. This means that the EU labour market was not so vulnerable during the post crisis period and that the labour market policy measures were properly planned and implemented when older and experienced workers are observed, but still rising unemployment of the youth is common for both the Serbian and the EU labour market.

Figure 1. Structure of employment by economic sectors, in percentage
(population from 15 to 64 years)

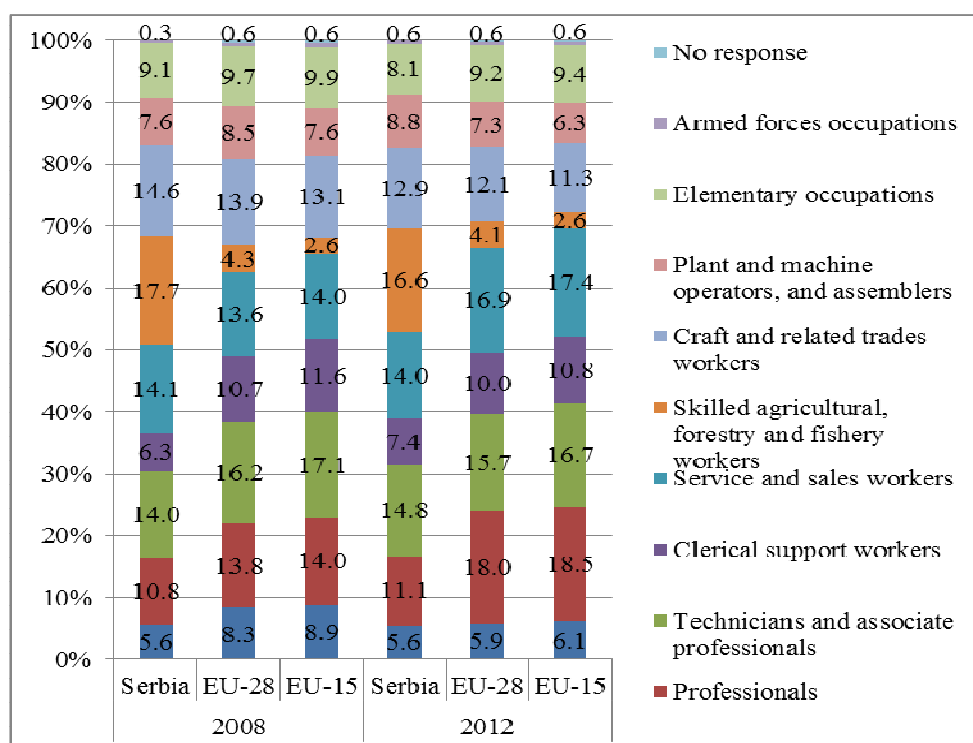


Source: LFS data of the National Bureau of Statistics of Serbia and of Eurostat.

The sector of agriculture, forestry and fishing absorbs almost one fifth of the workforce in Serbia, which is substantially larger percentage than in the EU on average. The importance of agriculture as an employer even increased during the period of the economic crisis because many jobs were lost in manufacturing and business services sectors. In comparison to EU-28 and EU-15 the economic sectors of construction and services are depressed, whilst the share of employees in manufacturing is slightly above the EU average as depicted by Fig. 1.

The distribution of the aggregate employment by economic sectors corresponds to the distribution of the employed persons by occupational groups as shown in Fig. 2. If the structure of employment, alongside the complexity of occupational groups, is observed, it can be noticed that elementary occupations together with low-skilled and skilled professional occupations comprise almost half of the employed in Serbia. The situation is different in the EU. These occupations cover around one third of the employment distribution in EU-28 or even less than 30 percent in EU-15. The tendency, noticed in the Serbian labour market in the last couple of years, points to the rising share of occupational groups that gather skilled and high-skilled professionals.

Figure 2. Structure of the employed persons by occupational groups, in percentage (population from 15 to 64 years)



Source: LFS data of the National Bureau of Statistics of Serbia and of Eurostat.

As it was already elaborated, the Serbian labour market recently recorded a substantial deterioration in terms of employment and unemployment. In order to show to what extent the total unemployment is contributed to by structural imbalance, observed through the industrial distribution of the employed and through the skill and occupational distribution of the unemployed, two indices are used. The first one, proposed by Jackman and Roper (1987), represents a measure of the structural unemployment, and the other one shows the level of cyclical unemployment as defined by Lilien (1982). The Jackman and Roper index is obtained as an absolute difference between the sectoral share of the total unemployment and its share of total job vacancies weighted by one half (Jackman and Roper: 11). The index constructed by Lilien is much simpler and for its calculation one only needs data on sectoral employment growth rates over the observed period (Lilien 1982: 787). The data on the number of the unemployed and job vacancies across the occupational and skill groups that are used for construction

of the first index come from the National Employment Service (2012). The LFS data for 2012 and for other observed years are provided by the National Bureau of Statistics (2013) and are used for construction of the second index. The indices are calculated for the period 2004-2012. Despite the fact that the Serbian labour market suffers from the structural unemployment, it seems to be reasonable to combine the measures of structural and cyclical unemployment, because over the observed period the episodes of transitional recession are combined with the influence of the global economic crisis.

Fig. 3 depicts the Lilien index of structural imbalance and percentage changes in the unemployment and employment rates for the period 2004-2012. One may recognize three patterns of behaviour of these measures that are related to the functioning of the Serbian labour market. The first pattern was characteristic of the period of high but diminishing rates of economic growth, which was followed by decreasing rates of employment and increasing rates of unemployment. Many jobs were then lost due to privatization and restructuring, but also some improvements of business environment triggered the rising incidence of the real sector. This induced the change in the pattern of unemployment and employment rates; moreover the economic growth rate lifted as well. The economic crisis then showed to what extent the Serbian labour market is fragile. The unemployment tremendously increased, whilst the employment declined to its historical minimum.

Furthermore, over the period 2004-2012 the index of structural imbalance slowly declined and remained stable until the occurrence of the economic crisis (Fig. 3). As Jackman and Roper (1987) stated the economic sectors that experienced the significant variability in the employment growth rates show the larger portion of workers in the “wrong” sectors which have to be moved out of these sectors in order to achieve sectoral balance. Accordingly, the sectoral imbalance will increase in the times of recession due to sectoral sensitivity to cyclical fluctuations. Indeed, the Lilien index constructed for the Serbian labour market jumped to higher level after the crisis and remained at this new equilibrium level. The two main factors are responsible for this, changes in the composition of demand for labour, on one hand, and the declined number of job opportunities, on the other hand. Three economic sectors, manufacturing, agriculture, and wholesale and retail trade, due to their high shares in the total employment, may induce significant fluctuations in the aggregate demand for labour.

Figure 3. Indices of structural imbalance and changes of employment and unemployment rates, in percentage points (population from 15 to 64 years)



Source: LFS data of the National Bureau of Statistics and Public employment service. Retrieved from: <http://www.stat.gov.rs>; <http://www.nsz.gov.rs>. Author's calculation.

All three measures of structural imbalance, observed either through occupational and skill mismatches or through the variability of employment growth rates across the economic sectors, followed a similar pattern over the observed period (see Table 7 below). Structural imbalance among industrial sectors has significantly increased as of 2010, which coincided with the sharp decline in the total employment. It can be noticed that occupational mismatch indices are more instable over the years 2010-2012. These instabilities occurred due mainly to the severe decline in job vacancies, especially in the manufacturing industry, since 2010.

There are two possible explanations for recorded instability in mismatch indices. The first obvious reason arises due to the crisis and the decline in job opportunities that was caused by the local economy developments. The other possible reason of instability in mismatch indices may be because the 2009 Law on employment and unemployment insurance abolished the provision that obliged the employers to record every job vacancy at the National employment service (Gligorov et al. 2011: 33). Also, the positive matter induced by changes of the law is the fact that more realistic needs of those employers who decided to record job vacancies are available. It is obvious that, according to the recent data, there is still no reliable source of job opportunities that would combine figures provided by different sources. An additional reason for structural imbalance over the period 2010-2012 is the artificial demand for different labour categories in terms of their skills and occupations. Namely, the government intended to positively discriminate certain labour categories, such as young people, through active labour market policy measures. The wage subsidies were provided to those employers who were obliged to employ job seekers who were eligible for these active labour market policy measures.

Table 7. Measures of structural imbalance

Year	Indices of structural imbalance		
	Skill ¹	Occupational ²	Industrial ³
2004	0.12	0.28	4.36
2005	0.10	0.28	4.24
2006	0.10	0.30	4.21
2007	0.09	0.29	4.22
2008	0.09	0.30	4.21
2009	0.09	0.31	4.25
2010	0.11	0.21	5.09
2011	0.12	0.57	5.16
2012	0.18	0.14	5.11

Notes: Indices (1) and (2) are calculated following the Jackman and Roper (1987) approach, while the index (3) represents the Lilien (1982) measure of sectoral change.

Source: Public employment service. Retrieved from: <http://www.nsz.gov.rs>. Author's calculation.

The Serbian labour market has recovering very slowly during the post crisis period (Ognjenović & Branković 2012a). Furthermore, the actual demand for labour is on the decrease and changes in the potential demand observed through the pattern of behaviour of the companies are not encouraging (Ognjenović 2013; Ognjenović & Branković 2013).

CONCLUSIONS

This paper deals with the analysis of the functioning of the labour market in Serbia over two sub-periods. The first sub-period covers the years 2004-2008 and includes the initial effects of the global economic crisis, whilst the second sub-period encompasses the years 2009-2012, indicating the behaviour of the labour market immediately after the crisis and during the post-crisis period. Bearing

in mind that well-functioning labour markets are characterized by high participation rates and low unemployment rates, while employment opportunities are available even for depressed labour categories, such as women, young and older workers, and that the process of finding a decent job is shorter, we can conclude that the Serbian labour market does not function well.

The participation rates of the working age population in Serbia have consistently declined during the observed period. More specifically, the participation rates declined by more than six percentage points in total, as well as observed by gender in 2012 compared with 2004. Thus, the participation rates respectively were 66.4 and 60.1 percent in 2004 and 2012. This decline was even sharper in the female subpopulation reaching almost seven percentage points. However, some improvements occurred in the aggregate level of unemployment immediately before the crisis. Namely, the unemployment rates followed the decreasing trend from 2004 to 2008 for the total workforce as well as for men and women. The sharp and persistent increase in the aggregate level of unemployment has been the characteristic of the post crisis period, so that, in general, the unemployment rate increased from 19.5% in 2004 to 24.6% in 2012 for the whole working age population. In particular, young people and older workers are more affected by these unfavourable developments in the labour market. After the recorded decrease in the level of youth unemployment up to 2008, the youth unemployment rate tremendously increased, exceeding the unemployment rate of the same population in the EU almost three times. Similarly, the unemployment rate of older workers in Serbia exceeds the unemployment rate of the same cohort in the EU more than two times. In general, the employment rates of the total workforce as well as of the male workforce were stable until the occurrence of the economic crisis, whereas the employment rate of women slightly increased. The recorded employment rates for the total workforce in 2004 and 2012 were 53.4 and 45.3 percent, respectively. The lower decline in the female employment rate induced the narrowing of the employment gender gap in 2012, but still the employment level of women in Serbia is at a very low level, because less than two fifths of the female workforce is employed.

LITERATURE

- 1) European Commission, *Eurostat: Statistics Database*. Retrieved from: http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database
- 2) Gligorov, V., Ognjenović, K. & Vidovic, H. (2011), *Assessment of the Labour Market in Serbia*. Vienna: wiiw Research Report No. 371. Retrieved from: <http://wiiw.ac.at/assessment-of-the-labour-market-in-serbia-p-2348.html>
- 3) Government of Serbia (2011), *National Employment Strategy for the Period 2011-2020*. Official Gazette No. 31/11. Retrieved from: <http://www.minrzs.gov.rs/sektor-za-zaposljavanje.php>
- 4) International Labour Organization (2013), *Global Employment Trends 2013: Recovering from a Second Jobs Dip*. Geneva (Switzerland): ILO. Retrieved from: http://www.ilo.org/global/research/global-reports/global-employment-trends/2013/WCMS_202326/lang--nl/index.htm
- 5) Jensen, H. (1989), "Employment and unemployment policies and the functioning of the labour market in a comparative perspective". *Acta Sociologica*, 32(4): 405-417.
- 6) Jackman, R. & Roper, S. (1987), "Structural Unemployment". *Oxford Bulletin of Economics and Statistics*, 49 (1): 9-36.
- 7) Koske, I. (2009), "Improving the functioning of the Slovenian labour market". *OECD Economics Department Working Papers*, No. 719. OECD: OECD Publishing. Retrieved from: <http://dx.doi.org/10.1787/221857425110>
- 8) Lasinio, C.J. & Vallanti, G. (2012), "Reforms, labour market functioning and productivity dynamics: a sectoral analysis for Italy". Department of the Treasury, Ministry of the Economy and of Finance Working Papers No. 10. Retrieved from SSRN: <http://ssrn.com/abstract=1818854> or <http://dx.doi.org/10.2139/ssrn.1818854>
- 9) Lilien, D. M. (1982), "Sectoral Shifts and Cyclical Unemployment". *Journal of Political Economy*, 90 (41): 777-793.

- 10) Law on employment and unemployment insurance. *Official Gazette* no. 71/03, 84/04 and 36/09, 88/10. Retrieved from: http://www.paragraf.rs/propisi/zakon_o_zaposljavanju_i_osiguranju_za_slucaj_nezaposlenosti.html
- 11) National Bureau of Statistics (2013). *Labour Force Survey 2012*. Bulletin No. 564. Retrieved from: <http://www.stat.gov.rs>
- 12) National Employment Service (2013), *Business Report for 2012*. Belgrade: NSZ. Retrieved from: http://www.nsz.gov.rs/live/dokumenti/izve_taj_i_program_rada_nsz.cid4040
- 13) OECD (2008), *Reviews of Labour Market and Social Policies, Serbia: A Labour Market in Transition*. Paris: OECD Publishing.
- 14) Ognjenović, K. (2013), "How structural changes affect enterprises' expectations about employment in Serbia?". *Forthcoming in Economic Analysis*, 46 (3-4).
- 15) Ognjenović, K. (2007), The use of propensity score-matching methods in evaluation of active labour market programs in Serbia. *Economic Annals*, 52 (172): 21-54.
- 16) Ognjenović, K. & Branković, A. (2013), Employment change and business prospects in Serbia. *Industry*, 41(3): 67-84.
- 17) Ognjenović, K., & Branković, A. (2012a), "Job creation and employment in a time of crisis". In J.S. Andrade *et al.* (eds.), *Managing Structural Changes: Trends and Requirements* (pp. 375-396). Coimbra (Portugal): Faculty of Economics of the University of Coimbra.
- 18) Ognjenović, K. & Branković, A. (2012b), "Employment policy in the Western Balkan countries and their perspectives in the process of European integration". In P. Teixeira *et al.* (eds.) *European Integration Process in Western Balkan Countries* (pp. 389-415). Coimbra (Portugal): Faculty of Economics of the University of Coimbra.
- 19) Pissarides, C. (2011), "Equilibrium in the labor market with search frictions". *American Economic Review*, 101(2): 1092-1105.
- 20) World Bank (2006), *Serbia: Labor Market Assessment*. Washington D.C.: The World Bank, Report No. 36576-YU. Retrieved from: <http://documents.worldbank.org/curated/en/2006/09/7151675/serbia-labor-market-assessment>

SELF-EMPLOYMENT OF YOUNG PEOPLE: STUDY ON POTENTIAL ENTREPRENEURS IN SERBIA

Azra HANIĆ¹
Ljubiša STAMATOVIĆ²
Milan STAMATOVIĆ³

Abstract

Entrepreneurship, as an important segment of sustainable development of the economic system, became the basic factor of unemployment rate reduction in Serbia. During its short period of development it achieved considerable results. For example, in Serbia, there are approximately 90 000 enterprises which offer their key contribution to employment. Meanwhile, all these initial results, compared with transitional needs of economy and high unemployment rate, may be taken as initial results only with rather modest results. Especially young people, as well as beginners in business, are faced with insurmountable problems and obstacles when starting their business. This paper examines the orientation of the young toward entrepreneurship in the conditions of extraordinary unfavourable economic environment and economic crisis.

Key words: entrepreneurship, small enterprises, self-employment, young men, legislative

INTRODUCTION

During the recent period of time in Serbia, a country with exceptionally unfavourable heritage, considerable efforts are being made in order to create contemporary market economy with the aim to achieve, as quickly and efficiently as possible, economically developed countries. In this context, the critical assumption is independent entrepreneurship which becomes the most important segment. Systematic solution of the current problems in Serbian economy, under the control of the government, would mean in practice a clear and powerful trend of increasing number of small enterprises, then increasing their economic efficiency and effectiveness, as well as opening of new jobs for reducing the considerable unemployment rate in this country. Contemporary theories of market economy point out to these factors, as well as to practical experience of some smaller countries which, in this way have replaced the poverty with successful development.

Among all the production factors in Serbia, labour market is least developed, very specific and complex. The labour market in Serbia is specific because Serbia, like all the republics of the former Yugoslavia, had passed through the period of socialist self-government where the workers had been assigned with managerial function resulting in a whole set of other rights. Social, and especially state enterprises, had both business and social function. At the moment of employment, the employed would get a right to the decision on residential solution and also, other numerous benefits resulting from the employment itself, most frequently regardless of the results of his/her work and regardless of the business results of the enterprise. Security of job during the whole work period („Once employed, employed for ever") was practically guaranteed in spite of the fact that it is disastrous for efficiency of an economy. After the deep and long-lasting crisis by the beginning of the 90-is of the last century, the

¹ Azra Hanić, Assistant, Belgrad banking Academy - Faculty for Banking, Insurance and Finance, University Union, Belgrade, Serbia.

² Ljubiša Stamatović, Master student, Belgrad banking Academy - Faculty for Banking, Insurance and Finance, University Union, Belgrade, Serbia

³ Milan Stamatović, Professor, Metropolitan University, Belgrade, Serbia

situation on the market has now become still worse and the young became one of the most vulnerable groups.

SURVEY OF LITERATURE

In literature (Faria, Cuestas, Mourelle, 2008; Parker, 2004) entrepreneurship and self-employment are generally seen as the basic forces of the contemporary economic growth, as the fundamental task influencing to the highest possible extent on unemployment reduction, what is widely accepted by the policy-makers and officials – decision-makers all over the world. Herbig et al. (1994) assert that newly formed small enterprises meant a fly-wheel of the economic growth of the 1980-is, contributing to the opening of new jobs during that decade. According to Audretsch (2001), there exists evidence that Medium and Small Enterprises are an important source of employment, growth and innovations. For example, net employment rate during the period from 1990 to 1995 was higher among the smaller enterprises than among the bigger ones. Carree and Thurik (2003) mention two connected phenomena from 1980-is and 1990-is: renovation of small business and revitalisation of entrepreneurship, as well as the moment and self-employment when the economic activities passed from the big to small companies during the 1970-is and 1980-is. As the above mentioned authors state, many earlier formed big enterprises began to cede its place to the smaller ones – new successors of the more active character. Audretsch and Thurik (2001) mark this phenomenon as fundamental change from the command to undertaking economy.

Although such positive image is dominating through the Literature, relations between entrepreneurship and employment are very complex. While some of the studies offer the opinion that non-employment leads to increasing entrepreneurship activity (Reynolds, Miller and Makai, 1995, Evans and Leighton, 1990), other studies come to the opposite effect – that non-employment reduces entrepreneurship activity. (Jovanović 1982, Audretsch and Firtch, 1994). Thurik et al (2007) assert that the effects of entrepreneurship and self-employment are long-term and as such, they do not offer quick results. Authors propose to the officials struggling for new jobs and non-employment reduction and making their decisions to this effect, to be more focussed on more innovative and more developed entrepreneurship than to simply encourage non-employed to become entrepreneurs. Encouraging the policy-makers and decision-makers on the state level to promote entrepreneurship should take place simultaneously with encouraging economic growth.

Although there were many papers on the topic of the connection between entrepreneurship and economic growth, there are still authors who propose to be cautious in this matter. The authors like Parker (2001) point out that the entrepreneurship economy is shining by positive light and that there is a strong imperative that those who make decisions about entrepreneurship should encourage it as well. The author concludes that small enterprises must not be considered in any sense superior to big enterprises, since most of small enterprises are not innovative, do not contribute to the increased level of employment and does not play any role in progressive practice of employment. He proposes much more cautious access in entrepreneurial economy, since the concept is nearer to a myth than to reality. Beck and Demirgüç-Kunt (2004) point out that while comparisons at the state level do not offer any proof that medium and small enterprises influence on economic growth or that they reduce poverty, regressions at the state level offer the reasonable evidence that efficient business environment leads to the growth.

Edmiston (2007) deems that small business cannot be the source of new work places, especially when speaking of well-paid jobs which are stable and which offer good benefits. There is no clear evidence that small enterprises are more efficient in innovations, as well. Yet, small companies create most of jobs and are innovators of crucial importance, and the efforts to stimulate opening new and growth of small enterprises are probably justified in most cases. One of the ways how to shape small and medium enterprises and their economic growth, to change the nature of innovation system and to prepare medium and small enterprises to encounter with challenges of the so-called „knowledge

economy” is also the cooperation of medium and small enterprises with the institutions of the university education (Johnston et al., 2008).

Small business cannot be spared of negative effect of the global crisis. While analysing the situation in Turkey, Önis and Güven (2010) state that the crisis of the period 2008 to - 2009 has totally broken those in the worst position. The major part of this damage has been made to small and medium enterprises (SME), affecting most seriously non-qualified and semi-qualified labour force. In fact, recent research of the World Bank showed that Turkish companies have got the highest rate of exit from the market in the East Europe, what gives rise to the greatest reduction of the number of permanently employed in the region. As per Son et al. (2010), by the beginning of 2008, economic shocks had harmful effects on the Vietnam population. Specific measures have been undertaken for suppressing inflation and, to a certain extent, they achieved positive results, but they caused also numerous problems to small and medium enterprises in sense of the exchange rate and high interest rates, what led to the loss of incomes and employment in rural areas.

Kitching et al. (2009) have studied the effect of the crisis on small business in Great Britain. According to these authors it can be expected that a great number of small enterprises has been affected by the restriction credit policy with its influence on investments and working capital. Meanwhile, the research proved that the vulgarized fact should be rejected and that is: all small businesses will be indispensably affected during the crisis period. Businesses, even the small ones, are frequently up to secure in difficult conditions their survival and, possibly, for some of them even better results. In addition, companies became adapted due to innovations of products to the longer work time and increased sale and less often to the specific financial actions, including repeated negotiations about prices with the suppliers.

UNEMPLOYMENT AND SELF-EMPLOYMENT IN SERBIA

During the recent period of time in Serbia, a country with exceptionally unfavourable heritage, considerable efforts are being made in order to create contemporary market economy with the aim to achieve economically developed countries as quickly and efficiently as possible. In this context, the critical assumption is independent entrepreneurship which becomes the most important segment. Systematic solution of the current problems in economy under the government control would practically mean a powerful trend of increasing number of small enterprises since 2000, then increasing their economic efficiency and effectiveness, as well as opening of new jobs accordingly. As according to the Ministry of Economy and Regional Development, the SME sector in Serbia include 99,8% companies; it participate in employment with 66,7%, in GDP with 33% and with 50,5% in the export of Serbian economy during 2011.

For Serbia, as for the most of the countries with obligatory primary and secondary school education, very low employment rate is characteristic for the period of education. But, inactivity of the labour force has extended to the age of 25 and through this period parents continue to financially help young people regardless of whether they are students or not. The rate of activity for both sexes is approximately the same - up to the age of 54 years, and then it quickly decreases, since a large number of the employed withdraw from the labour market for retiring. The trend is approximately the same for men and women, and differences in accordance with the legal requirements for retiring men and women have been noticed, as well.

Table 1. Unemployment rate in Serbia in the period 2000-2010.

Year	Total unemployment rate
2000	12,1
2001	12,2
2002	13,3
2003	14,6
2004	18,5
2005	20,8
2006	20,9
2007	18,1
2008	13,6
2009	16,1
2010	19,2

Even before the crisis, unemployment was the characteristic of the Serbian economy. Serbia is a country which did not finalized the process of economic transition. Among numerous restrictions which are the characteristic of the economic environment of Serbia are also: technological and economic underdevelopment, underdeveloped economic infrastructure, high foreign-trade deficit, significant lack of solvency, as well as short-term and long-term funds for financing of production, export long-lasting investment programmes, unsuitable age structure and qualified labour force drain, etc. According to Labus and Milošević (2009), the basic structural disturbances of the Serbian economy are: deindustrialization of Serbian economy and growing dominance of non-commercial goods production sector, monetary economy, balance incompatibility between assets and liabilities of banks and companies bringing the system risk from negative exchange rate differences, existing of a gap in resources, more goods and services are being expended than produced what has reflection on the balance of payment deficit and financing of the gap in resources and foreign indebtedness. As according to the National Bank of Serbia, at the end of the second quarter of 2011, the total foreign debt of Serbia amounted 74,8% of GDP.

Unemployment rate in Serbia increased from 13,6 to 19,2% in the period from 2008 to 2010. During 2010, there were 568 723 unemployed, what is for 123,341 more than during 2008, but this number is the consequence of the world economic crisis and structural problems of the Serbian market. The research of small and medium enterprises made by Serbia (Agency for Development of Small and Medium Enterprises and Entrepreneurship, 2010), shows that the influence of economic crisis was the most prominent related with lower demand of products/services on the local market, impossibility to collect demands and repay loans.

Compared with other countries in transition, Serbia was not so successful regarding opening new businesses and new work places. Participation in self-employment outside the agricultural sector is about 5% in Serbia, while more than 10% is in Slovenia, Hungary, Poland and Check Republic, and about 14% in the countries of OECD and EU (Brkanović et al, 2007).

In the two past years observed, number of enterprises in Serbia stagnated, and the number of employed reduced. In the Table 2 (based on the data of the Institute for Statistics of the Republic of Serbia 2011a, 2010), companies are classified according to the criterion "number of employed" as micro (1 to 9 employed), small (10 to 49 employed), medium (50 to 249 employed) and big ones (with more than 250 employed). It can be noticed that compared with the previous year, the number of employed per company is less per each of these categories.

According to the Global Entrepreneurship Monitor (GEM) database, index of the Total Entrepreneurship Activity - TEA index (indicator of early phase of entrepreneurship process),

measuring the number of active entrepreneurs on a hundred adult persons, was still lower in Serbia during 2009, as compared with 2008 and 2007 (there are still no data for 2010). This is a sign of aggravating the entrepreneurship climate from the beginning of the world economic crisis. The Table 3. shows the indicators of entrepreneurship activities in Serbia in the period from 2007 to 2009 on basis of the GEM database.

According to the NEA data (2010), unemployment rate among the young from 15 to 24 years-old in October 2010 raised to 46,1% and is considerably higher than the unemployment rate in the same period in Serbia when it was 20%. For young people it is characteristic that they work within the underground economy zone and they also accept to be employed under the conditions of the lower level of education.

Table 2. Number of companies and employed in Serbia during 2009. and 2010.

	2009				
	Total	Micro	Small	Medium	Big
NUMBER OF COMPANIES	89115	76243	9873	2470	529
NUMBER OF EMPLOYED	1048908	153074	200954	259129	435731
NUMBER OF EMPLOYED PER COMPANY	12,89	2,01	20,35	104,91	823,69
	2010				
	Total	Micro	Small	Medium	Big
NUMBER OF COMPANIES	90364	77989	9614	2257	504
NUMBER OF EMPLOYED	995375	153264	194450	234695	412966
NUMBER OF EMPLOYED PER COMPANY	11,01	1,96	20,22	103,98	819,38

In the years after 2000 Serbia has been trying to give an important role to self-employment and small business in the context of increasing the number of employed in the late transition of economy compared with other countries of East Europe. In Serbia there appeared a rather wide range of institutions: public, private and semi-private, as well as the projects financed by the state local authorities and international donors who are in some way involved in the support to entrepreneurship.

Table 3. Indicators of entrepreneurship activities in Serbia in period 2007 – 2009

Year	New entrepreneurship rate	New business ownership rate	New Selfemployment	Existing business ownership rate
2007	4,7	4	8,6	5,3
2008	4	3,6	7,6	9,3
2009	2,2	2,8	4,9	10,1

The basic structure of the net consist of: regional agencies for small and medium enterprises which have been transformed into the Regional Development Agencies (on the national level, the key factor being the National Agency for Regional Development) and business centres of the National Service for Employment. Support to entrepreneurship is a complex undertaking and, among others, includes also entrepreneurship services (information, legal and financial consulting, in the area of innovations and inventions), training of beginners in business, professional assistance in finding out credit lines, supervision and monitoring, financial support and others. Meanwhile, although the government rather promotes small business and self-employment, researches conducted in Serbia show that many factors still prevent development of entrepreneurship, and among them are inefficient state bureaucracy, instable political situation, corruption, tax laws, access to finances, infrastructure, etc. (Trbović, 2009).

On the global list of competitiveness issued by the World Economic Forum, Serbia occupied 85th place in the period from 2008-2009, 93rd place in the period 2009-2010, (WEF 2009) and 96th place in the period 2010-2011. The following are stated as the most problematical factors hampering development of business in Serbia: corruption, inefficient state bureaucracy, political instability, access to finances and tax policy (WEF 2010). Bureaucratic obstacles and excessive administration are harmful to entrepreneurship and small business, pushing them to the underground zone of activity, and increasing the corruption in this way.

It is very difficult for the potential entrepreneurs in Serbia to get the initial capital in a bank. Banks in general lend money to companies running their business longer than three years and having powerful guarantees. Practically, only one bank offers commercial loan for starting business (with interest of 17,5 to 24% with repayment term of 60 months). For assisting to the beginners in business, the state introduced in 2007 a programme of credit for starting business with a repayment term of five years, grace period of one year and low interest rates. Till 2010, in this way, nine billion Dinars were launched from the Serbian budget, 6,625 new enterprises were opened and 20,000 people employed (Dukić, 2010). For 2011, a billion Dinars was planned for this purpose (Development Fund, 2011).

One of the most important questions for the young, potential entrepreneurs and for self-employment is to be adequately informed. Better exchange of information and harmonization of activities of all stakeholders contribute to better understanding of problems and results. Although a whole network of institutions has been established, both public and private ones enabling, compared with the preceding situation, better flow of information among all the stakeholders, there are still enough space, for improving it. In this sense, we can mention a system of economic chambers as a big insufficiently used potential. According to Popović and Savić (2005), regional economic chambers offer support to potential entrepreneurs in sense of information, brochures and similar, but there still remains a lot to be done before these institutions prove themselves with their full capacity in their role. Also, the local government in many municipalities is not sufficiently included in this process. There still exists a lack of awareness in some fields (that it is their business; economy is considered as something that is decided at the central level) technical knowledge and initiative (energy, motivation).

METHODOLOGY

Based on such situation and accessible literature, the following hypotheses have been put:

General Hypothesis:

H_0 – Unfavourable situation and inaccessibility of capital have negative effect on potential entrepreneurs and create resistance in decision-making connected with starting independent business. Unfavourable situation is the situation of economic crisis, unfavourable atmosphere on the market, as well as internal obstacles and limitations.

Secondary Hypotheses:

H_1 – Male examinees, as different from the female ones, are more decisive regarding the issue of starting the own business.

H_2 – State inadequately stimulates development of small business.

H_3 – Potential entrepreneurs are insufficiently informed.

H_4 – Average number of employed in new businesses will rise from 3 to 5 unemployed.

The research was done among the students of the final study year of the Faculty for Management in Novi Sad. The questionnaire was divided to a group of 400 examinees, by the method of random sample. The authors assumed the examinees had acquired „entrepreneurship qualifications” during the education at the said Faculty, so the examinees’ group was deemed to be „potential entrepreneurs”. There were 253 male and 147 female examinees in the sample of total 400 examined.

The hypotheses have been tested by means of χ^2 tests – tests of independent characteristics so as to come to the conclusion whether H_1 , H_2 and H_3 depend on specific characteristics. Applying the corresponding test, i.e. χ^2 test – the test of independent characteristics with probability of 95%, it was confirmed if there were any differences regarding the attitudes. Contingent tables were worked out first, in order that theoretical possibilities could be calculated.

ANALYSIS AND DISCUSSION

General hypothesis:

H_0 – Unfavourable situation and inaccessibility of capital have negative effect on potential entrepreneurs create resistance in decision-making on starting independent business.

Question no. 1: Do you mean that Serbia makes adequate efforts for assisting potential entrepreneurs to overcome restrictions regarding the capital?

Initial data: Number of rows $m=2$, Number of columns $k=3$.

Table 4. Contingent table for Question no. 1

Sex of Examinees	YES	NO	I don't know	Total
Male	2	248	3	253
Female	3	143	1	147
Total	5	391	4	400

Value of the Table with the risk or error $\alpha=5\%$ (since probability is 95%) and number of freedom degree $r=2$ meaning:

$$\chi^2_{(\alpha;r)} = \chi^2_{(0,05;2)} = 5.991$$

Answer: Regarding that $\chi_0^2 = 1.4056419 < \chi^2_{(0,05;2)} = 5.991$ hypothesis H_0 was confirmed. In other words, there is no difference in the opinion on characteristics, and the risk of error is 5%.

Table 5. Frequencies and χ^2 for Question no. 1

Empiric frequencies (f_{ij})	Theoretical frequencies (f_{ij}^t)	$\chi_0^2 = \frac{(f_{ij} - f_{ij}^t)^2}{f_{ij}^t}$
2	3.1625	0.4273221
248	247.3075	0.0019391
3	2.53	0.0873122
3	1.8375	0.7354591
143	143.6925	0.0033373
1	1.47	0.1502721
400	400	1.405642

Value of the Table with the risk of error $\alpha = 5\%$ (since probability is 95%) and number of freedom degree $r=1$ meaning:

$$\chi_{(\alpha;r)}^2 = \chi_{(0,05;1)}^2 = 3,841$$

Answer: Regarding that $\chi_1^2 = 17.766535350 > \chi_{(0,05;1)}^2 = 3,841$ hypothesis for H_1 has not been confirmed. More than 95% of women wish to start a new business, while 79% of male examinees was ready to open the own company. The percentage explains the fact that female examinees are more decisive regarding the matter of starting their own business.

Secondary hypothesis

H_1 – Male examinees, as different from female ones, are more decisive regarding the matter of opening the own business.

Question no. 2: Would I tackle my own entrepreneurship in the near future?

Table 6. Contingent table for Question no. 2

Sex of examinees	Yes	No	Total
Male	202	51	253
Female	140	7	147
Total	342	58	400

Value of the Table with the risk of error $\alpha = 5\%$ (since probability is 95%) and number of freedom degree $r=1$ meaning:

$$\chi_{(\alpha;r)}^2 = \chi_{(0,05;1)}^2 = 3,841$$

Table 7. Additional table for Calculations for Question no. 2

Empiric frequencies (f_{ij})	Theoretical frequencies (f_{ij}^t)	$\chi_1^2 = \frac{(f_{ij} - f_{ij}^t)^2}{f_{ij}^t}$
202	216.31	0.946678840
51	36.69	5.581251022
140	125.69	1.629215530
7	21.31	9.609389958
400	400	17.766535350

Answer: Regarding that $\chi_1^2 = 17.766535350 > \chi_{(0,05;1)}^2 = 3,841$ hypothesis H_1 has not been confirmed.

More than 95% of women wish to start a new business, while 79% of male examinees was ready to open their company. The percentage explains the fact that female examinees are more decisive regarding the matter of starting the own business.

H_2 – The State does not adequately stimulate development of small business

Question no. 3: Do you mean that Serbia adequately stimulates potential entrepreneurs?

Table 8. Contingent table for question no. 3

Sex of examinees	Yes	No	I don't know	Total
Male	2	248	3	253
Female	3	143	1	147
Total	5	391	4	400

Value of the Table with the risk of error is $\alpha = 5\%$ (since probability is 95%) and number of freedom degree $r=2$ meaning:

$$\chi_{(\alpha;r)}^2 = \chi_{(0,05;2)}^2 = 5.991$$

Answer: Regarding that $\chi_2^2 = 1.4056419 < \chi_{(0,05;2)}^2 = 5.991$ hypothesis H_2 is confirmed. There is no difference in the attitudes on characteristics, with the risk of error of 5%.

Confirmation of this hypothesis is devastating for the state, since the educated young people are at the beginning of their work career, and the state has not created conditions for sustainable development of entrepreneurship. Leaving of educated and young men for the world education centres and foreign companies was most dramatic during the 1990-is, when approximately 300 000 experts left Serbia searching for business and better and safe life. After a shorter calm after the changes of the 5th October, when a very small number of experts returned to the country, leaving continues further on. Every year, abt. 4000 young men leave the country after acquiring university degree.

Table 9. Additional table for calculations for Question no. 3

Empiric frequencies (f_{ij})	Theoretical frequencies (f_{ij}^t)	$\chi^2 = \frac{(f_{ij} - f_{ij}^t)^2}{f_{ij}^t}$
2	3.1625	0.4273221
248	247.3075	0.0019391
3	2.53	0.0873122
3	1.8375	0.7354591
143	143.6925	0.0033373
1	1.47	0.1502721
400	400	1.405642

H₃ – Potential entrepreneurs are inadequately informed

Question no. 4: Do you deem yourself well-informed on starting a new business?

Table 10. Contingent table for Question no. 4

Sex of Examinees	Yes, fully informed	Partially informed	Not informed	Total
Male	2	198	53	253
Female	5	126	16	147
Total	7	324	69	400

Value of the table with risk of error $\alpha = 5\%$ (since probability is 95%) and number of the freedom degree $r = 2$ meaning:

$$\chi^2_{(\alpha;r)} = \chi^2_{(0,05;2)} = 5.991$$

Table 11. Additional table for calculations for Question no. 4

Empiric Frequencies (f_{ij})	Theoretical Frequencies (f_{ij}^t)	$\chi^2 = \frac{(f_{ij} - f_{ij}^t)^2}{f_{ij}^t}$
2	4.4275	1.3309443
198	204.93	0.2343478
53	43.6425	2.0063654
5	2.5725	2.2906729
126	119.07	0.4033333
16	25.3575	3.4531324
400	400	9.718796

Answer: Regarding that $\chi^2 = 9.718796 > \chi^2_{(0,05;2)} = 5.991$ hypothesis H₃ is *not confirmed*. In other words, there is a small difference in attitudes about characteristics, with the risk of error of 5%. More than 89% women and 79% men examined deem themselves informed (partially or fully) about opening their own business. The percentage shows that women examinees are more informed on starting the own business.

We wish to emphasise that all of them should build a good personal system of information. It is indispensable to follow up all relevant changes in the sphere of banking, trade of goods, equipment and real estates, in the field of institutional regulations and everything else that can help us to get chances for employment.

H₄ – Average employment in newly opened enterprises would rise from 3 to 5 unemployed.

Question: How many people would you employ if you open the own enterprise?

Answers given by the examinees are stated in the Table 12.

Table 12. Employment in newly opened enterprises

Number of Employees	Frequency	Male (%)	Female (%)	Average employment
One	308	79%	74%	$1 \cdot 308 = 308$
From 2 to 5	89	20%	25%	$3,5 \cdot 89 = 311,5$
More than 5	3	1%	1%	$6 \cdot 3 = 18$

When entrepreneurs start with the own business, at the beginning they would like to have one employed. Such opinion is shared by approx. 80% examinees (79% male and 74% female). More than 20% male examinees and 25% female ones would employ from 2 to 5, while 1% of male and 1% of female examinees would employ more than 5 workers.

Analysing the statistically processed data from this research, presented in this paper in the form of Tables and division on male and female examinees, we come to the following specific conclusions:

The basic hypothesis H₀ has been confirmed and we can say that unfavourable economic situation and administrative obstacles have negative influence on potential entrepreneurs and create resistance at decision-making to start with the own business.

Potential entrepreneurs, both male and female, (regardless of characteristics) have preferences in entrepreneurship. The percentage shows that female entrepreneurs are more decisive and prepared to prove themselves through entrepreneurship undertakings, rejecting so the hypothesis H₁. It is important to mention that the state should actively stimulate the field of women's entrepreneurship.

Having in mind also the processed data, we conclude that the examinees deem that Serbia inadequately stimulates development of small business, confirming so the hypothesis H₂.

Male and female examinees deem that potential entrepreneurs are not adequately informed. Percentages (89% female: 79% male) point out that, in this matter, female examinees are more informed as compared with male ones. There is statistically considerable difference in frequency of the examinees' answers and therefore, the Hypothesis H₃ has not been confirmed. This fact gives weight to the conclusion which has already been brought regarding the female population which is inclined toward the entrepreneurship.

According to the answers given to the question about the average number of people which will be employed by the examinees or $\frac{308 + 311,5 + 18}{400} = 1,59375$ we can conclude that the average number

of people they are willing to employ in their enterprise is higher than one, more precisely two workers/employed. The Hypothesis H₄ has not been confirmed.

CONCLUSION

In small business, Serbia should be directed toward settling the problem of high unemployment. Self-employment through starting a small business is one of the ways to find solution for this problem. By analysing the data obtained in the research it can be concluded that a large number of men and women – potential entrepreneurs, is interested in starting the own business, but the unfavourable situation and financial obstacles make impossible realization of such undertakings.

The research was conducted on a group of educated young men, ready to undertake changes. The success of the reform process in Serbia depends to the high extent on creation of new and better job positions. Employment is the primary source of individuals, necessary for contribution to the economic development of the society and participation in benefits which are consequences of such development. Besides that, political support to the process of sustainable reforms is unstable in societies with high unemployment rate where too many people have no chance to be productive on labour market.

LITERATURE

- 1) Agencija za razvoj malih i srednjih preduzeća i preduzetništva Republike Srbije (2009): Situacija, potrebe i problemi malih i srednjih preduzeća i preduzetništva (na srpskom), Beograd.
- 2) Audretsch, D.B. (2001): The Dynamic Role of Small Firms: Evidence from the U.S., Washington DC: World Bank, 2001.
- 3) Audretsch, D.B., Thurik, A.R. (2001): What is new about the new economy: sources of growth in the managed and entrepreneurial economies. In: industrial and corporate change. 10,1, 267-315. Beck, T., Demirgüç-Kunt A. (2004): SMEs, Growth, and Poverty: Do Pro-SME Policies Work?, in: The World Bank Public Policy for the Private Sector. Washington DC: World Bank Note, 268.
- 4) Brkanović, I., Lalović, M., Lakić, A./Tilger S. (2007): Mikro-finansijska podrška preduzetnicima – početnicima u Srbiji (na srpskom), Beograd: Centar za razvoj preduzetničkog društva.
- 5) Carree, M.A./Thurik, A.R. (2003): The Impact of Entrepreneurship on Economic Growth, in: Acs, Z. J./Audretsch D. B. (eds): Handbook of Entrepreneurship Research, Boston: Kluwer Academic Publishers.
- 6) Dukić, M. (2010): Krediti za započinjanje biznisa i samozapošljavanje: Vetar u jedra (na srpskom), u: Business & Finances, 64, mart 2010.
- 7) Edmiston, K. (2007): The Role of Small and Large Business in Economic Development. Federal Reserve Bank of Kansas City Economic Review, 92, 2, 73-97.
- 8) Faria, J.R./Cuestas, J.C./Mourelle, E. (2008): Entrepreneurship and Unemployment: a nonlinear bidirectional causality? Nottingham Trent University Discussion papers in economics, No. 2008/6: 1-33.
- 9) Herbig, P., Golden, J., Dunphy, S. (1994): The Relationship of Structure to Entrepreneurial and Innovation Success. in: Marketing Intelligence & Planning, 12, 9, 37-48.
- 10) Johnston, L., Hamilton, E., Zhang, J. (2008). Learning through Engaging with Higher Education Institutions. in: International Small Business Journal, 26, 6, 651-660.
- 11) Jovanovic, B. (1982): Selekcija i evolucija u industriji: Econometrica, 50, 649:670.
- 12) Parker, R. (2001): The Myth of the Entrepreneurial Economy, in: Work, Employment & Society, 15, 2, 373-384.
- 13) Parker, S. (2004): The Economics of Self-Employment and Entrepreneurship, Cambridge: Cambridge University Press.
- 14) Reynolds, P., Miller, B., Maki, W.R. (1995): Explaining Regional Variation in Business Births and Deaths: U.S. 1986-1988. in: Small Business Economy, 7, 5, 389-707.
- 15) Son, D.K., Binh, V.T., Quang, H.V. (2010): The global financial crisis and agricultural development: Vietnam. in: Bauer A., Thant, M. (eds.) Poverty and Sustainable Development in Asia: Impacts and Responses to the Global Economic Crisis. Manila: Asian Development Bank.

- 16) Zavod za statistiku Republike Srbije (2011): Osnovni skupovi stanovništva starosti od 15 godina i više, Beograd.
- 17) Zavod za statistiku Republike Srbije (2011a): Kompanije u Republici Srbiji po veličini u 2010 (na srpskom), Beograd.
- 18) Thurik, R., Carre, M., Stel, van A., Audretsch, D.B. (2008): Does self-employment reduce unemployment? in: Journal of Business Venturing, 23,6, 673-686.
- 19) Trbović, A. (2009): Pristupanje Srbije Evropskoj Uniji kroz prizmu kompetencije malih i srednjih preduzeća, u: Trbović, A., Crnobrnja, M. (Eds.) Efekti integracije Srbije u Evropsku Uniju (na srpskom) FEFA: Beograd, 189-206.
- 20) World Bank (2009): Financing Global Development 2009: Chart with a plan for global recovery, Washington.
- 21) The World Economic Forum (2010): The Global Competitiveness Report 2010-2011, Geneva.

RETHINKING MANAGEMENT EDUCATION IN SERBIA FOR THE NEW LABOUR MARKET

Olja ARSENIJEVIĆ¹
Ljiljana LJ. BULATOVIĆ²
Goran BULATOVIĆ³

Abstract

Standard form of organizing education in Serbia does not meet the criteria of contemporary business communication and successful actions. Main objection to current educational system is its inadequate orientation towards real needs of economic sector. Educational programmes on universities do not contribute to developing the staff that would adapt and respond to all the requirements of modern business in contemporary conditions. Starting from the assumption that strategic development and competitiveness of a particular state depends on the quality of its human resources, it is important to consider the importance of educational system in Serbia and investments in education quality improvement, through the prism of the attitudes of managers and private and public companies. The objective of this study was to determine the attitudes and opinions of managers in companies in Vojvodina regarding the required knowledge and skills for the job of a manager, the manner and quality of studying, the way in which curricula should be formed.

Key words: competitiveness, knowledge-based economy, education for management.

INTRODUCTION

Quality of both formal and informal education is one of the foundations of development of human resources competitiveness. Increase of significance of education is related to increasingly complex and networked world economy. Therefore, in 21st century, there is a growing need for well-educated workers.

Joining EU sets the requirements for building educational system before Serbia, which would provide highly professional and competent labour, which can compete with employees from other countries, EU members. In the following few years, Serbia needs to reorient on industries and jobs based on knowledge, as well as economic growth based on innovations.

In March 2000, European Council has adopted Lisbon's goals, which represent the general objective of EU: "... EU should become the most competitive and dynamic economy in the world based on knowledge, capable of sustainable and economic growth, better jobs and higher social cohesion."

In achieving this goal, the Education Council that consists of ministers of education of member countries have adopted the Report on concrete future goals of educational systems which was in March 2001, under the name Stockholm conclusions, accepted by European Council in Stockholm. (OECD, 2001. The Well-being of Nations)

This report represent a framework approach to the policy of national education for member states based on three goals: **Improvement of quality and productivity of education and improvement system in European Union, Providing the entire population continuous availability of learning,**

¹ Olja Arsenijević, Phd, Associate Provesor, Faculty of Management, Sremski Karlovci

² Ljiljana Lj. Bulatović, MSC, Teacher of skills, Faculty of Management, Sremski Karlovci

³ Goran Bulatović, Phd, Associate Provesor, Faculty of Management, Sremski Karlovci

Opening the system of education and improvement of EU, as the rest of the world does it. (Savet za obrazovanje, "Radni program", mart. 2002., <http://ue.eu.int/pressData/misc/69810.pdf>)

METHODOLOGICAL APPROACH

Subject, goals, tasks and hypothesis of the paper

The set subject of research requires the analysis of the **goal**:

- **examine the attitudes of managers regarding the necessary knowledge for the work of manager.**

Therefore, the following research **tasks** are set: **Examine the following in management of the companies:** 1. Knowledge, skills and abilities that a managers should possess , 2. What should the management students learn , 3. What should the plans and programmes for educating the managers look like , 4. Evaluation of the cooperation of the company with universities

Based on the above-mentioned, we set the **hypotheses** of research:

- Tacit knowledge is those that defines knowledge worker and explicit knowledge is only a tool for the acquisition of tacit knowledge through appropriate conversions.
- Necessary precondition of innovativeness of organization is identification and development of tacit knowledge of employees.
- Enterprise is not taken as an organization that fosters the learning of all its members and it constantly transforms itself.
- there is a significant statistical difference between the attitudes of managers of public, joint stock and private companies.

Variables of research

By the review of literature and some previous studies, variables of our research are divided into: independent (plans and programmes of work, methods of the implementation of teaching, attitudes of managers regarding the knowledge required for a job), and dependent (applicability of knowledge in organizations).

Research sample

Research has included the following companies: NIS Naftagas, Novi Sad, NIS, Oil refinery Novi Sad, NIS, Oil refinery Pančevo, NIS, General services, HIP Petrohemija JSC Pančevo, Azotara, Pančevo, Žitopromet JSC Šid, Luki komerc Ltd Pećinci, Kožara JSC Ruma, Andrijašević Ltd Ruma, Anoxsoft Ltd Subotica, Fenix International Ltd Subotica, M.A.T. Ltd Bačka Palanka, DDOR Novi Sad, JKP SPC "Vojvodina", Novi Sad, JKP "Gradsko zelenilo", Novi Sad, Rotor Ltd Novi Sad, Aleksandar Ltd Novi Sad.

Methods, techniques and instruments of research

Techniques and instruments were chosen within descriptive research method, which is appropriate to the subject and goal of research. In addition to this, analytic-synthetic and statistical method (X^2 test) were applied.

From research techniques in the process of data collection, we have applied: interview, survey and scaling.

Instruments that was used consisted of:

- questionnaire by which the attitudes of managers regarding the knowledge required for the job of a manager were examined.

The sample of managers-respondents in companies

Studying the attitudes and opinions of managers in companies in Vojvodina regarding the required knowledge and skills for the job of a manager, the manner and quality of studying, they way in which curricula should be formed and regarding the own company, was done on the sample of 320 managers. Sample included managers of public and private companies of different managerial level, so that observation of problems would be as better and objective as possible. Research was carried out at the end of September and beginning of October 2012.

Managers have filled in the questionnaire in their companies and the sample was appropriate.

Questionnaire consists of 4 sets of questions. The first set contains 18 questions by which attitudes of managers on **knowledge, skills and abilities** that a manager should own are examined.(Arsenijević, O. Ristić, D. Bubulj, M. 2010)

With the claim that „manager should plan“, 100% of respondents agree.

Table 1. Manager should plan

statement	number	percent
Not at all	0	0
Mostly no		0
Mostly yes	75	23
Entirely yes	245	77

100% of managers examined claim that a manager should possess organizational skills, as well as knowledge and skills to organize the work.

Table 2. Manager should organize

statement	number	percent
Not at all	0	0
Mostly no	0	0
Mostly yes	14	4
Entirely yes	306	96

Table 3. Managers should maintain personnel policy

statement	number	percent
Not at all	0	0
Mostly no	0	0
Mostly yes	75	23
Entirely yes	245	77

Tabela 4. Manager should lead

statement	number	percent
Not at all	0	0
Mostly no	0	0
Mostly yes	0	0
Entirely yes	320	100

Table 5. Manager should control

statement	number	percent
Not at all	0	0
Mostly no	0	0
Mostly yes	273	85
Entirely yes	47	15

100% of respondents believe that manager should also maintain the personnel policy of a company, as well as to lead and control. We conclude, according to the analysis of these few questions that the examined managers believe that modern educated manager should be the person with knowledge, skills and abilities from different fields of business.

After the analysis of answers to previous five questions, we can conclude that faculties of management are facing with a very difficult task to answer to such requirements of employers. Since the majority of claims refer to practically applicable knowledge, answers obtained from respondents confirm our additional hypothesis set at the beginning of the research: tacit knowledge is the one that defines knowledge worker, and explicit knowledge is only an additional tool for acquiring tacit knowledge through appropriate conversions. Having in mind that 100% of respondents have replied that manager should respect client's wish, we believe that all the respondents are aware of the new market paradigm – production for known buyer.

Table 6. Manager should respect client's wish

statement	number	percent
Not at all	0	0
Mostly no	0	0
Mostly yes	0	0
Entirely yes	320	100

Table 7. Manager should make decisions analytically

statement	number	percent
Not at all	0	0
Mostly no	0	0
Mostly yes	275	86
Entirely yes	45	14

Table 8. Manager should use multi-functional teams that are oriented towards buyer's needs

statement	number	percent
Not at all	0	0
Mostly no	0	0
Mostly yes	0	0
Entirely yes	320	100

In addition, 100% of respondents confirm that manager should make decisions analytically, as well as that it should use multi-functional teams that are oriented on buyer's needs. We conclude that very high awareness of the needs of teamwork is present in case of respondents in multi-functional teams, as well as the necessity of various skills and knowledge for doing business in the market, which also confirms the hypothesis that tacit knowledge is the one that defines knowledge worker and explicit knowledge is only an additional tool for acquiring tacit knowledge through appropriate conversions.

Table 9. Manager should bring structural and organizational barriers for the purpose of acceleration and quality of the work process

statement	number	percent
Not at all	5	2
Mostly no	172	54
Mostly yes	126	39
Entirely yes	17	5

However, when it is asked from a manager to lead a company by bringing down the barriers of organizational structure, distribution of answers is somewhat different. Namely, only 44% of respondents agree with this claim, while 56% of them are not ready to lead without a strong organizational structure. Therefore, structure is something that provides managers a secure and easy leading, so the transition on a new paradigm of leading requires a different form of education and acquisition of particular knowledge and skills, as well as the change of attitudes regarding the way of doing business for economy based on knowledge.

Table 10. Manager should encourage frequent, informal communications out of traditional borders

statement	number	percent
Not at all	5	2
Mostly no	76	24
Mostly yes	207	64
Entirely yes	32	10

This means that our companies are still based on postulates of classical industrial age and that our managers are not yet aware of the revolution which occurs in business and production in the world, as well as the need and necessity to move to a new way of doing business.

Big number of respondents, 74,69%, believe that manager should encourage more frequent, informal communications out of traditional borders. Such a distribution of responses is slightly in collision with responses to the previous question. However, it points to positive progress, even in building organizational climate and culture.

Table 11. Manager should create close relations with buyers developing performances and loyalty

statement	number	percent
Not at all	6	2
Mostly no	0	0
Mostly yes	236	74
Entirely yes	78	24

Table 12. Manager should know the buyers of products

statement	number	percent
Not at all	6	2
Mostly no	0	0
Mostly yes	236	74
Entirely yes	78	24

Road to success in business leads through satisfying desires of buyers, starting from what the product should be like, which characteristics it should own, within what period it should be produced and in which way it should be delivered to the buyer, to the price of the product and payment manner, terms of servicing... Of course, this means that buyer should be known in advance. From the responses of 98% of managers, it can be seen that this is precisely how they perceive the relations with customers.

Table 13. Manager should enable the teams to develop power of knowledge in organization

statement	number	percent
Not at all	55	17
Mostly no	123	39
Mostly yes	122	38
Entirely yes	20	6

Table 14. Manager should encourage innovations

statement	number	percent
Not at all	16	14
Mostly no	138	43
Mostly yes	121	38
Entirely yes	15	5

From distribution of answers to these two questions, it is obvious that managers of our companies still do not understand the necessity of learning in the workplace. This confirms the hypothesis that enterprise is taken as an organization that fosters learning of all its members and it constantly transforms itself.

Table 15. Manager should authorize

statement	number	percent
Not at all	65	20
Mostly no	137	43
Mostly yes	106	33
Entirely yes	12	4

Delegation of authorizations is still slippery slope when it comes to our managers. From distribution of answers to the question „whether a manager should authorize“– 37% yes, 63% no – it is clear that the respondents believe that authorizing shouldn't be done and that they can do the best themselves. Although quite the opposite could be concluded from the issue on authorizations, answers to the question „whether managers should respect and appreciate his time and the time of other people“ show a positive attitude in 98% of cases. It means that management students certainly, according to managers' opinion, should learn to manage time.

Table 16. Manager should respect and appreciate his time and the time of other people

statement	number	percent
Not at all	0	0
Mostly no	6	3
Mostly yes	212	66
Entirely yes	102	32

That „manager should be very well familiar with products themselves“ claim 65,32% respondents. It means that managers shouldn't only lead, but also know the entire work process in an organization.

Table 17. Manager should be very well familiar with products themselves

statement	number	percent
Not at all	12	4
Mostly no	99	31
Mostly yes	109	34
Entirely yes	100	31

In order to determine „which skills and qualifications are required for performing managerial job“, we have offered 9 options to managers. Here are the answers:

Table 18. Skills and qualifications required for performing a job of a manager statement number percent

Reading, writing and arithmetic skills	20	6,25
Technical skills	18	5,26
Communication skills	42	13,12
Ability to learn	20	6,25
Teamwork	38	11,9
Ability of self-management	13	4,1
Defining the problems and solving them	40	12,5
Analyticity	17	5,31
Ethics	12	3,75

The most important thing to managers are communication skills, ability to define problem and solve it, teamwork, reading and writing, technical skills, analyticity, ability of self management, ethics. Attitudes of American managers that were reached by the research was done by Michigan Business School are almost identical: experiences of the real world, development of leadership, communication, human resource management, business ethics.

The second set of questions required from managers to answer **what the students of management should learn**. This set contains 7 questions. After graphical display of answers, we give also the comment and analysis.

Table 19. Students at the faculty should develop their skills to cope with different life situations

statement	number	percent
Not at all	0	0
Mostly no	0	0
Mostly yes	236	74
Entirely yes	84	26

To the statement „students at faculty should develop their skills of coping with different life situations“, 100% of respondents have given a positive answer. Management students have, however,

replied, even 66,67%, that they do not develop it at all at their faculties. As we have mentioned when analyzing plans and programmes of the faculty on which the research was carried out, **number of lectures and exercises is the same**. We have observed, also, that **only on two faculties**, out of five, **students' practice is obligatory**, where they can primarily master the skills of coping with different business situations. Having in mind that employers consider this to be an important thing, it is up to faculties to find ways to develop the skills of coping with different life, and thus business situations with their students.

Table 20. Students should learn at the faculty how to communicate with other people in a proper and polite manner

statement	number	percent
Not at all	0	0
Mostly no	0	0
Mostly yes	79	25
Entirely yes	241	75

Answers to the question „students should learn to communicate with other people in a proper manner“ are 100% positive. Answers of students are distributed in such a way that they favour positive claims. The biggest number, even 73,33% , of teachers claim that students mostly learn how to communicate. Such a high percentage of positive answers to the second question is a fact that of five faculties examined, four study communications. At the Faculty of Management, course study Media, communication is studied all four years. Therefore, we stress once again that taking into account that communication and language are essential elements of the process of establishing, development and maintaining contacts among people which comes from the need of common actions, including the exchange of information, creation of the strategy of interpersonal relations, acceptance and understanding of another person, and that they are the subjects that deal with any aspect of communication, they should become central in training for management.

Table 21. Students should learn at faculty how to cooperate with other people in the team

statement	number	percent
Not at all	0	0
Mostly no	15	5
Mostly yes	130	41
Entirely yes	175	54

Research results show that 95% of managers included in our research consider teamwork necessary for business. 70% of teachers at this faculty teach students basic team skills. Research results show that 57% of students at this faculty learn basic team skills. 33% of respondents, however, do not have the chance to be trained for teamwork. If we take into consideration the fact that research was carried out at five faculties that educate future managers, such a result is unsatisfactory. Future managers, who have not acquired basic team skills during their studying, they will not be able to fit into contemporary flows of business. Almost all managers examined agree with the statement that students at the faculty should learn to solve problems and make decisions.

Table 22. Students at faculty should learn how to solve problems

statement	number	percent
Not at all	0	0
Mostly no	22	1
Mostly yes	176	55
Entirely yes	142	44

From the answers of interviewed teachers, identically as from the answers of students to the same question, we can conclude that faculties that educate future managers do not include training for problem-solving. Namely, only 40% of teachers, which is by 7% less than in case of student population, believe that problem-solving is learned at faculty. 60% of teachers believe that the students do not have any opportunities to master this skill at the faculty.

Table 23. Students learn to make decisions at the faculty

statement	number	percent
Not at all	0	0
Mostly no	2	2
Mostly yes	132	42
Entirely yes	183	57

For making decisions, it is necessary to observe and analyze the problem, and from previous answers we have concluded that problem-solving is not studied, so negative answers to this questions are not a surprise. Namely, only 33% of teachers believe that students have an opportunity to learn how to make decisions. Those are the teachers from those faculties where students through their four-year training go through an experience in development of the project and work on professional practice. A fact that 67% of teachers believe that their students do not have a chance to learn how to make a decision is quite worrying. Managers who were included by the research entirely agree with the statement that students during studying should be given an opportunity to apply knowledge, skills and abilities from management through teamwork on projects. 77% of teachers examined, however, believe that their students do not have the chance or possibility to apply knowledge, skills and abilities from the field of management . Through teamwork on projects. The smaller number of 23% belongs to a group of teachers from the Faculty of Entrepreneurial Management and Faculty of Management, where students work on projects together with their teachers. This question also confirms main hypothesis and in accordance with it, the additional are set too.

Table 24. During their studies, students should have an opportunity to apply knowledge, skills and abilities from the field of management through teamwork

statement	number	percent
Not at all	0	0
Mostly no	0	0
Mostly yes	126	39
Entirely yes	194	61

In the last question of this set, it was asked from the managers to rank the most important educational fields during studies that are important for the job of a manager. The answers are presented in the following table.

Table 25. The most important educational fields during studies that are important for performing the job of a manager

The most important educational fields during studies that are important for performing the job of a manager.	Rank
economy	5
law	11
language and communication	1
entrepreneurship	4
ethics	6
culture of life	7

The most important educational fields during studies that are important for performing the job of a manager.	Rank
mathematics and statistics	7
socio-political system	9
informatics	10
public relations	2
leadership	12
management and leadership	3

Third set of questions offered to managers refers to **plans and programmes of education for management**. It contains 5 questions. Firstly, introductory question of this set should give us an answer to the question to what extent the managers are satisfied by the existing education systems for management.

Table 26. Education system for management satisfies the needs of enterprise

statement	number	percent
Not at all	18	6
Mostly no	79	25
Mostly yes	217	67
Entirely yes	6	2

67% of respondents are mostly satisfied, 2 % entirely satisfied, 25% mostly not satisfied and 6% are not satisfied with education for management at all. This means that faculties of management should form curricula for the subjects in conversation with employers and thus, to the general satisfaction, improve the performance of country's economy.

Table 27. The best model of creating the curriculum is through the vision of faculty's management

statement	number	percent
Not at all	7	2
Mostly no	213	67
Mostly yes	78	24
Entirely yes	22	7

We were surprised by opinion of almost 70% examined managers that curricula should be created through the vision of faculty's management. However, distribution to the following questions has cleared such an attitude to some extent. Namely, about 50% of respondents believe that comparison to other similar educational institutions should be included in creation of curricula, and everybody believe that it should be done in meet planning with economy and its needs.

Table 28. The best model of creating curricula is through comparing it with other similar educational institutions

statement	number	percent
Not at all	36	11
Mostly no	131	42
Mostly yes	126	39
Entirely yes	27	8

Table 29. The best model of creating curriculum through adapting to the existing teaching staff

statement	number	percent
Not at all	17	5
Mostly no	262	82
Mostly yes	41	13
Entirely yes	0	0

Table 30. The best model of creating curricula is through meet planning with economy and its needs

statement	number	percent
Not at all	7	2
Mostly no	213	67
Mostly yes	78	24
Entirely yes	22	7

Combination in these three ways, according to managers' opinion, would provide the best model of curricula. The fourth set of questions refers to the **evaluation of the enterprises of respondents**. It consists of 6 questions by which we examine the cooperation of the company with the university in different fields.

Table 31. Does your company cooperate with university in development of new products

statement	number	percent
Not at all	40	12
Mostly no	264	82
Mostly yes	16	5
Entirely yes	0	0

Table 32. Does your company cooperate with university in providing practice and practical, real problems for training of students

statement	number	percent
Not at all	75	23
Mostly no	115	36
Mostly yes	123	39
Entirely yes	7	2

Table 33. Does your company cooperate with university in improvement of the existing products

statement	number	percent
Not at all	47	15
Mostly no	266	83
Mostly yes	7	2
Entirely yes	0	0

Table 34. Does your company cooperate with university in the improvement of the existing business processes

statement	number	percent
Not at all	30	9
Mostly no	284	89
Mostly yes	6	2
Entirely yes	0	0

Table 35. Does your company cooperate with university in development of new business processes

statement	number	percent
Not at all	0	0
Mostly no	320	100
Mostly yes	0	0
Entirely yes	0	0

Table 36. Does your company cooperate with university in programmes of informal education (training) of your employees

statement	number	percent
Not at all	7	2
Mostly no	170	53
Mostly yes	136	43
Entirely yes	7	2

Table 37. Does your company cooperate with university in discovering new ways for increasing the satisfaction level of your buyers

statement	number	percent
Not at all	16	5
Mostly no	296	92
Mostly yes	2	1
Entirely yes	6	2

Answers to the questions that refer to cooperation of respondent's company and university are entirely devastating. There is no cooperation almost in all fields, except very little, some 2%, for providing the practice to students and programmes of informal education of employees, and negligible 0.63% for new ways of increasing the satisfaction level of buyers.

X² ANALYSIS

For comparison of the attitudes of company's managers included in our research, we have used **X² analysis**. This analysis will point to Possible differences in attitudes of compared categories, their mutual dependence, as well as degree of agreement, i.e. disagreement with certain claim. Simultaneously, it will enable us to confirm all hypothesis with high confidence. Analysis of the set of questions that refers to **knowledge, skills and abilities which a manager should possess** and **evaluation of respondent's enterprise**. We have crossed the answers of managers of public, joint stock and private companies in which the research was carried out.

Very high significance level points to different attitudes of managers regarding the bringing down of structural and organizational barriers for the purpose of accelerating and quality of the work process. Namely, the difference between managers of public companies, who agree with our statement in high percentage, even 79%, and two other groups of respondents, who disagree (public – 77%, joint stock – 57%, as well as 21% of the managers of private companies (coefficient of contingency is significantly)). Therefore, we can conclude that managers of private companies are by far more aware of the need for changes in business and internal communication, while managers of public companies still do not have a developed awareness on the necessity of changing business paradigm.

Table 38. The manager must destroy the structural and organizational barriers to speed and quality of the work process

	Not at all	Mostly no	Mostly yes	Entirely yes	Total
Md	5	108	25	2	140
Mad	0	57	38	5	100
Mp	0	7	63	10	80
	5	172	126	17	320

Table Fo

	Not at all	Mostly no	Mostly yes	Entirely yes	Total
Md	2,19	75,25	55,13	7,44	140,00
Mad	1,56	53,75	39,38	5,31	100
Mp	1,25	43,00	31,50	4,25	80
	5,00	172,00	126,00	17,00	320

Table Ft

	fo-ft	(fo-ft) ²	(fo-ft) ² /ft
Md1	2,81	7,91	3,616071
Mad1	-1,56	2,44	1,5625
Mp1	-1,25	1,56	1,25
Md2	32,75	1072,56	14,25332
Mad2	3,25	10,56	0,196512
Mp2	-36,00	1296,00	30,13953
Md3	-30,13	907,52	16,46287
Mad3	-1,38	1,89	0,048016
Mp3	31,50	992,25	31,5
Md4	-5,44	29,57	3,975315
Mad4	-0,31	0,10	0,018382
Mp4	5,75	33,06	7,779412
			103,0225

Table X²

$X^2=03,0225$; $df = 6$; $p = 0,01$; $X^2_k = 16,812$; $C = 0,49$; $C_{max} = 0,70$

As the structure is something that enables secure and easy leadership to managers, and transition to a new paradigm of leadership requires a different form of education and acquisition of particular knowledge and skills, as well as change of attitudes regarding the way of doing business for the economy based on knowledge, we conclude that our economy is based on postulates of classical industrial age and that our managers are not yet aware of the revolution that occurs in the world in the field of business and production, as well as of the need and necessity to move to the new way of doing business.

Structure limits and prevents innovativeness in work, so, even by this question, having in mind the significant coefficient of contingency, we confirm our hypotheses:

Tacit knowledge is the knowledge that defines knowledge worker and explicit knowledge is only additional tool for acquiring tacit knowledge through appropriate conversions. Necessary precondition of innovativeness of an organization is identification and development of tacit knowledge of employees. The company is not taken as an organization that encourages the learning of all its members and it constantly transforms. There is a statistically significant difference between the

attitudes of the managers of public, joint stock and private companies where the research was carried out.

Table 39. Managers need to enable teams to develop the power of knowledge in the organization

	Not at all	Mostly no	Mostly yes	Entirely yes	Total
Md	23	88	27	2	140
Mad	3	48	45	4	100
Mp	4	12	50	14	80
	30	148	122	20	320

Table Fo

	Not at all	Mostly no	Mostly yes	Entirely yes	Total
Md	13,13	64,75	53,38	8,75	140,00
Mad	9,38	46,25	38,13	6,25	100
Mp	7,50	37,00	30,50	5,00	80
	30,00	148,00	122,00	20,00	320

Table Ft

	fo-ft	(fo-ft) ²	(fo-ft) ² /ft
Md1	9,88	97,52	7,429762
Mad1	-6,38	40,64	4,335
Mp1	-3,50	12,25	1,633333
Md2	23,25	540,56	8,348456
Mad2	1,75	3,06	0,066216
Mp2	-25,00	625,00	16,89189
Md3	-26,38	695,64	13,03308
Mad3	6,88	47,27	1,239754
Mp3	19,50	380,25	12,46721
Md4	-6,75	45,56	5,207143
Mad4	-2,25	5,06	0,81
Mp4	9,00	81,00	16,2
Table X ²			71,46185

$X^2 = 71,46185$; $df = 6$; $p = 0,01$; $X^2_k = 16,812$; $C = 0,42$; $C_{max} = 0,70$

From the analysis implemented, it is obvious that managers of private companies have different attitudes than the other two groups of respondents. Managers of our joint stock and public companies still do not understand the need for learning in the workplace, as well as 20% of managers in private companies. Therefore, significance level is so high, but there still is a connection, because coefficient of contingency is 0.42, i.e., high. *This confirms the hypothesis that the company is not taken as an organization that encourages the learning of all its members and constantly transforms itself.*

We observe exceptionally high significance level, as well as coefficient of contingency. Examined managers of private companies do not agree with our statement in 95%, managers in joint stock companies in 14%, and managers of private companies in 47%. This means that of the total number of respondents, even 57% do not agree with the statement that manager should encourage the innovations. *Therefore, we can conclude that we have once again confirmed our hypothesis that the company is taken as an organization that encourages the learning of its members and constantly transforms itself.*

Table 40. Managers should encourage innovation

	Not at all	Mostly no	Mostly yes	Entirely yes	Total
Md	28	105	7	0	140
Mad	6	7	84	3	100
Mp	11	26	30	13	80
	45	138	121	16	320

Table Fo

	Not at all	Mostly no	Mostly yes	Entirely yes	Total
Md	19,69	60,38	52,94	7,00	140,00
Mad	14,06	43,13	37,81	5,00	100
Mp	11,25	34,50	30,25	4,00	80
	45,00	138,00	121,00	16,00	320

Table Ft

	fo-ft	(fo-ft) ²	(fo-ft) ² /ft
Md1	8,31	69,10	3,509722
Mad1	-8,06	65,00	4,6225
Mp1	-0,25	0,06	0,005556
Md2	44,63	1991,39	32,9837
Mad2	-36,13	1305,02	30,26123
Mp2	-8,50	72,25	2,094203
Md3	-45,94	2110,25	39,86312
Mad3	46,19	2133,29	56,41746
Mp3	-0,25	0,06	0,002066
Md4	-7,00	49,00	7
Mad4	-2,00	4,00	0,8
Mp4	9,00	81,00	20,25
Table X ²			177,5596

$X^2 = 177,5596$; $df = 6$; $p = 0,01$; $X^2_k = 16,812$; $C = 0,59$; $C_{max} = 0,70$

CONCLUSION

Due to rapid obsolescence of knowledge and skills and due to general impact of globalization and rapid economic changes in environment, Serbia needs to be aware of the significance of investing in quality of educational system, especially higher education system. Improvement of education quality will have to result by the increase of market competitiveness of business subjects and national economy as a whole.

It is important to have in mind that competitive advantages are based precisely on the need of adopting the concept of lifelong education in behaviour of market participants, both on individual level and the level of organization.

Therefore, condition sine qua non for further development and increase of competitiveness of Serbian economy and its subjects is quite certainly the acceptance of contemporary concept of lifelong education, which is applied for a long time and confirmed in the economies of west European countries.

We can conclude that lifelong education is not a short-lived fashion hit, but it is the manner and style of living in modern, exceptionally turbulent and changeable conditions of life and work – it is a new paradigm of fight for survival.

LITERATURE

- 1) Arsenijević, O. Bulatović, Lj. Bulatović, G. (2010) The Future of Managers' Education in Serbia, International Tehnology, Education and Development Conference, Valencie, Spain, ISBN: 978-84-613-5538-9
- 2) Arsenijević, O. Ristić, D. Bubulj, M. (2010) „ Self evaluation as a tool for managing developing changes in education for management – an experience“, International Tehnology, Education and Development Conference, Valencie, Spain, ISBN: 978-84-613-5538-9
- 3) Hall, R., «The Value of Education: Evidence from Around the Globe» in E.P. Lazear. Education in the Twenty-first Century. Stanford: The Hoover Institution, pp. 25-40, 2002.
- 4) OECD, The Well-being of Nations: The Role of Human and Social Capital. Paris, OECD, 2001.
- 5) Savet za obrazovanje, “Radni program”, mart. 2002. <http://ue.eu.int/pressData/misc/69810.pdf>
World Bank, 1998. <http://www.worldbank.org/wdr/wdr/wdr98/ch02.pdf>

DEVELOPMENT IN KNOWLEDGE BASED ECONOMIES

Adnan ROVČANIN¹
Adna MATARADŽIJA²
Amra MATARADŽIJA³

Abstract

Knowledge management is becoming one of the basic prerequisites for creating sustainable competitive advantage of organizations in an effective and efficient manner. Knowledge management encompasses three components of the company, namely: people, their everyday business processes and information technologies used to capture, move and transform data, information and knowledge.

While exploring new profitable opportunities to replace existing services which emphasizes the possibility of exploitation of new ones, the fact is that knowledge management is a response to real social and economic trends: globalization, omnipresent computerization and centralized view of knowledge that an organization has.

In this paper there are explained business intelligence tools such as: data warehouse, data mining and OLAP technologies, and their basic characteristics. Using these tools, the company achieved a number of benefits in business, such as increasing revenue, increasing profit, improving customer satisfaction, cost savings and increased market share.

In today's business operating systems are constantly overwhelm large amounts of data and information from external and internal sources. Business intelligence is a term that encompasses a set of methodologies and software tools that allows the use of data from various data warehouses and its transformation into information needed for decision making. Modern information technology has enabled the storage of large amounts of data, and creating new knowledge.

Key words: Knowledge Management, Business Intelligence, Data Warehouse, Data mining, Online Analytical Processing

INTRODUCTION

The first part is based on knowledge as a primary economic resource of business entities 21st centuries, the most important resource of the organization. Knowledge becomes a corporate asset, without which it is impossible to achieve success. There are several types and forms of knowledge, and most important division is the aspect of knowledge management strategy, the division of knowledge in explicit and implicit. Knowledge management is becoming one of the basic prerequisites for creating sustainable competitive advantage of organizations in an effective and efficient manner. Knowledge management encompasses three components of the company, namely: people, their everyday business processes and information technologies used to capture, move and transform data, information and knowledge.

¹ Professor at School of Economics and Business, University of Sarajevo, Bosnia and Herzegovina, adnan.rovcenin@efsa.unsa.ba

² Student Tutor at School of Economics and Business, University of Sarajevo, Bosnia and Herzegovina, adna.mataradzija@gmail.com

³ Student Tutor at School of Economics and Business, University of Sarajevo, Bosnia and Herzegovina, amra.mataradzija@gmail.com

The second section presents the basic characteristics of the concept of business intelligence that increasingly occupies an important place in business. Business Intelligence (BI) is a term that encompasses a set of methodologies (Data Warehousing, Data Mining, OLAP) tools and software that makes use of data from various Data Warehouse and their transformation into information needed for decision making. The remainder of this paper presents the basic tools of business intelligence, including: Data Warehouse, Data Mining and OLAP technologies.

The intention of this paper is to emphasize and try to show the advantage of using modern management tools that are studied and developed by contemporary economic and information science, specifically in this case to show the advantage brought by the acceptance of the concept and practical application of business intelligence tools.

KNOWLEDGE MANAGEMENT

One of the main division contains five types of knowledge, namely (Zack 1999):

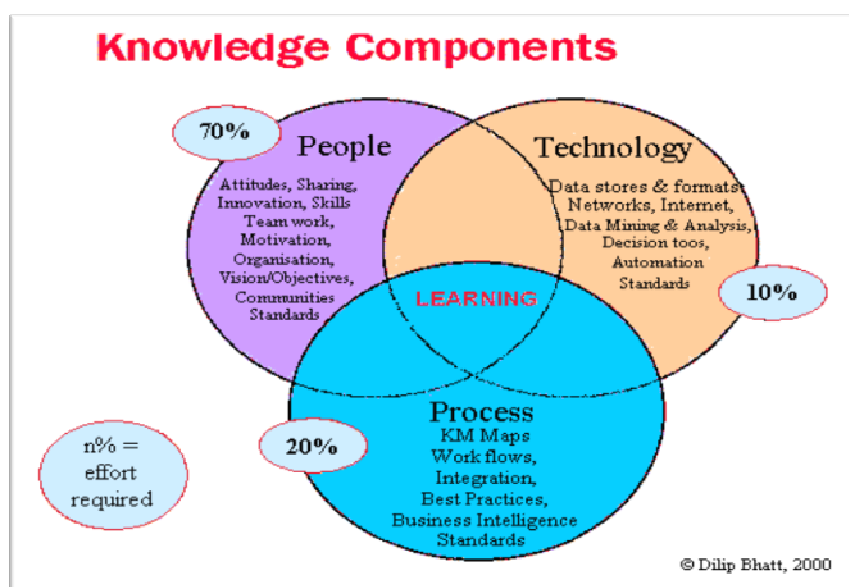
- verbally - to know something about someone or something (know-what),
- procedural - know-how,
- causal - know-why,
- conditional - know-when,
- relation - know-who, know-where.

These types of knowledge can be understood as a key component of knowledge which is important from the aspect of the development of managerial competence.

Knowledge management (KM) is a concept now widely known and practiced in many organizations, it is useful to look back in history on this "old", but also a new concept and see how the parts of the area developed. Knowledge management, as well as each system, has its value in the past and in the present, that combination with new ideas "that are already known to everyone," gives the possibility of a new view on things to people who use it. While exploring new profitable opportunities to replace existing services which emphasizes the possibility of exploitation of new ones, the fact is that knowledge management is a response to real social and economic trends: globalization, omnipresent computerization and centralized view of knowledge that an organization has. This situation of global proportions results in a question to organization: "What knows?", "Who knows?" and "What does not know and should know?". Knowledge management is a business philosophy and continuous process in organizations that looks on knowledge and innovation as their strategic weapons. Knowledge management consists of various methods and procedures which ensure that the objectives of the organization achieved through effective knowledge creation, communication and sharing of knowledge, its collection, storage and reuse. Effective knowledge management is impossible without an appropriate corporate culture, and it is supported by IT tools.

The goal of knowledge management is to provide the latest knowledge and pass on to people who make decisions. This means to ensure that the necessary knowledge is available to the right people at the right time and that it is used to improve business efficiency. Knowledge management is the organizational aspects, processes and information technologies used for collecting, creating and distributing knowledge that is necessary to organization to fulfill its mission, i.e. to achieve strategic and business objectives. Knowledge management encompasses three components of the company, namely: people, their everyday business processes and information technologies used to capture, move and transform data, information and knowledge.

Figure 1. Components of knowledge management



Modern approach to knowledge management

Knowledge management is one of the basic prerequisites for creating sustainable competitive advantage of organizations in an effective and efficient manner. First of all knowledge management should answer the question of how to create knowledge in the organization and how knowledge management and organizational learning affect the operations of the organization and its success. Knowledge management is a process that helps organizations to identify, select, organize and communicate relevant information and expertise necessary for activities such as problem solving, dynamic learning, strategic planning and decision making.

Modern approach to knowledge management recognizes three categories between which there is certain distinction. Organization's ability to learn, accumulate knowledge from experience and applies it as a continuous process, represents the essence of knowledge management. In modern terms of business, success of the organization, in the context of knowledge management, is primarily dependent on:

- Substantial organization's ability to understand the economic and technological changes to the permanent adaptation of running a business and building competitive advantages in accordance with them.
- The ability of the organization to create, build and strengthen the connection between strategy and organization environment in a way that corresponds to the strategy of anticipatory changes in the environment.
- The ability of the organization to create a proper business design that integrates the organizational structure and information system with the strategic commitment of the organization.
- The ability of the organization to implement formulated business strategy and promptly execute the operational plans.
- The ability of continuous learning through monitoring performance and changes in the environment.

THE IMPORTANCE OF KNOWLEDGE MANAGEMENT

Knowledge creates new value only when it is used as a resource operations. Knowledge is the most important resource of business, but challenges like how to collect it, share it and use it to enhance the value of the company are somewhat more complex. Successful implementation of knowledge management strategies, in the opinion of many experts, should start at the top of the organization and by changing the organizational culture. Companies use different strategies to solve the problem of knowledge management, such as sharing knowledge, leveraging people, measurement of knowledge, creating new knowledge, stimulating formation of organizational culture and climate...

Knowledge of the company helps in the understanding of what is really good, it can connect and focus energy, resources and efforts within the organization. The companies are developing different knowledge management strategies, depending on whether they were oriented at low costs, product innovation or satisfaction of consumer needs. For beginning, company must identify business competencies which it will be able to use effectively.

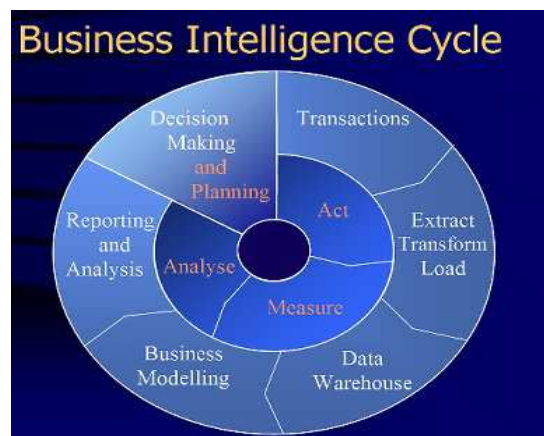
BUSINESS INTELLIGENCE

The term of Business Intelligence

Business Intelligence (BI) is a term that has become critical for operations of any company. If people who make important business decisions have the right information, then they become much more efficient. Projects of introducing Business Intelligence succeed due to very clear, and achievable goals, business culture that is willing to accept changes, leadership of company that boasts visionary and resourceful employees who are able to utilize all the benefits which derive from them.

The term of Business Intelligence includes all information which refer to the history, current status and future projections of the organization. The term Business Intelligence includes technology for data integration, data quality assessment, data warehousing, data management, content analysis and more.

Figure 2. Cycle of business intelligence



Business intelligence is the process of collecting the available internal and external relevant data and its conversion into useful information to help enterprise users make better business decisions.

Business Intelligence (BI) is a term that encompasses a set of methodologies (Data Warehousing, Data Mining, OLAP) and software tools that makes use of data from various Data Warehouse and their transformation into information needed for decision making.

Business intelligence system is a system that stores information and knowledge about competitors, customers, suppliers and processes of an organization. It allows a business negotiation and numerically reasoned approach to customers and business partners, quality operational planning, monitoring the behavior of our competitors, the observation of individual market segments and predict future events. Also, through a business intelligence system we better understand customers and business partners, and we recognize what motivates them to certain behaviors.

BI improves the traditional way of reporting the following characteristics:

- Interactivity - when during the analysis we find new issues, then we can get almost instant response to manipulation of the data;
- Hierarchical organization (as with most business structures) - gives us a summary overview of the data at the highest level, but it also provides 'drill down' to the details when necessary;
- Multidimensionality - analyze the data collected through different views of creation and use of multi-dimensional BI cubes.

The concept of business intelligence based on the following fundamental ideas:

- The intention of the concept of business intelligence is not to create large amounts of information, but only generate better, more quality information necessary for making business decisions.
- This is exactly the property business intelligence that gives it the power to stimulate and create positive change in the environment which is created and applied.
- Business Intelligence gives users only the information they need, but because of timely and presented in a way that suits them.
- Apply to be working properly, the concept of business intelligence will reduce the amount of information which people are exposed to the organization, increasing both the quality of that information.

The benefits of business intelligence applications

There are five basic categories of potential benefits of applying business intelligence to operational business intelligence:

- 1) increase revenues,
- 2) increasing income (profit),
- 3) improving customer satisfaction,
- 4) savings and
- 5) increase market share.

Increasing revenues could be the result:

- finding or creating new markets and so-called market niche,
- effective suggestive selling,
- quickly identify new market opportunities,
- faster emergence in the market.

Increasing profit may be due to:

- more effective targeted marketing advertising,
- early identification of adverse market movements,
- discover that products do not give the expected results,
- identification of internal weaknesses and shortcomings,
- efficient management of the sale.

Improving customer satisfaction on the basis of:

- better understanding of the needs, wishes and preferences of customers,

- better linking the needs, wishes and preferences of customers with features and characteristics of products,
- offer similar products that could meet the needs of clients,
- a range of benefits (discounts, rewards, privileges), loyal customers,
- a faster resolution of complaints of clients,
- improved service after sale.

The savings can be achieved or increase:

- better input and output logistics,
- reducing the amount of waste and unsold goods,
- less return goods purchased by customers,
- reducing the number of requests for specific types of non-standard business reports.
- Increasing market share can be achieved by:
- offering merchandise that better meets the needs of consumers,
- increasing the number of customers attracted by the company from competitors.

BUSINESS INTELLIGENCE TOOLS

Data Warehouse

Business intelligence is derived from data generated during the normal course of business organization. Specifically, how much of these data, that arise in different places and because the information is entered into the system through different devices and channels, to them in the computer memory should be organized in an appropriate manner. Data warehousing is an important concept of effective decision support systems, which brings the idea of finding an active and offering information managers, required in the decision process.

In 1992. in seeking an appropriate solution for organizing data that will be used to create business intelligence, William H. Inmon presented concept and definition of the set of data warehouse, according to which it is the "form of database which are inherent characteristics of the following four:

- 1) orientation of objects (functional areas)
- 2) invariance of the content
- 3) integration
- 4) attachment with time (time determinism). "

Subject orientation means that the data is organized around subject or functional areas (e.g. sales) and not about operational applications (such as orders). Content invariance means that data are stored in a data warehouse usually do not change. Integration means that the data are consistent, that is to appear in a consistent way. Connection with time means that the warehouse stores historical data.

A data warehouse can be defined as a large, single, integrated, adaptive, flexible and secure storage of data based on information provided by infrastructural software applications in the organization and which contains the user-oriented, integrated, time variant, persistent, multivariate set of relevant, consistent information, easily accessible and subject to analysis and manipulation for the purpose of supporting decision-making process in managing the organization and its processes. Developing a data warehouse is based on different relational platforms with special emphasis on the optimal size and speed of work performed by the data. It is known that companies base their business decisions on a variety of data derived from external and internal sources, and you need to store, organize.

DATA MINING

The term could be explained as a process of finding useful information or knowledge, or knowledge discovery from large volumes of data. Mining is improving decision making on strategic-level business by providing insight into the "hidden" information business intelligence (BI) methodology. Mining can also discover relationships, logic, accuracy, and generally any kind of structure in data. Mining involves organizing data bases clearing to gain access to knowledge and the acquisition of the same on the basis of existing data bases. The development of technology, computers, the Internet contributes significantly easier to organize your data, but that they would become useful, it is their transformation into information and knowledge.

Data mining is the process of sorting, grouping and organizing large amounts of data and extracting relevant information. This is a collection of methods, tools and procedures in order to define laws analysis imperceptible relationships between the data using sophisticated statistical, regression and econometric procedures. Search database reveals a new matrix of customer behavior and competition, enabling proactive decision-making based on knowledge.

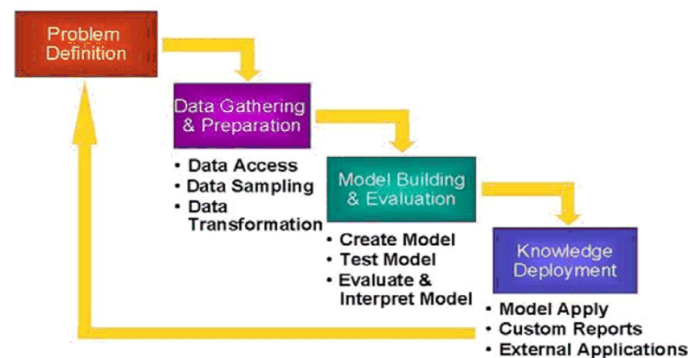
Data mining process is inextricably linked to computers. With the help of special software, a computer systems analyze data from different angles, find a hypothesis, experiment with them and learn from previous experiences. One must always bear in mind that the software tool that is still necessary presence of human experts who will give the last word. But in the first stage of processing computer systems are irreplaceable because of its speed and lack of prejudice. Unlike humans, who would let an obvious connection between the two data missed because it is beyond the scope of his expectations, such a computer error may not occur. Also, a man may be victim of preconditioning previous experience, which can be both positively and negatively, but in any case impossible to avoid.

Example:

One extremely interesting example will illustrate this claim. Supermarket chain in America, using Oracle software to analyze data, found that men who have bought diapers on Thursdays and Saturdays, and usually buy a package of beer. Deeper analysis revealed that these customers are performed weekly shopping on Saturdays. Thursdays have just bought a few products, and beer were purchased in order to be found for the coming weekend. Thanks to this information, the supermarket chain has increased its revenue by making the case about beer moved closer to the shelf with the diapers. Also, Thursdays and Saturdays are beer and diapers sold at full price, with no special discount. It is clear that every human expert relationships between men, diapers, beer and certain days of the week missed, but not impartial logic of computers.

Techniques from data mining can be applied in many business applications and thus respond to different issues in business. Below is a list of business problems can be solved using data mining.

- Churn analysis: Which customers will likely face competition?
- Cross-selling: often asks a question that marketing is selling: what products customers are buying?
- Fraud Detection: Detection of attempted insurance fraud when paying with large amounts is a very useful thing.
- Risk management: Detection of attempted fraud for billing insurance or granting of loans to large amounts is a very useful thing. (Seen from the point of the B&H guarantors pay for those loans which guarantee that they will go back in time. In these cases, the bank did not properly evaluate the creditworthiness of a client.)
- Customer segmentation: (a division of customers) Who are our customers?
- Targeted Ads: How many times have we come to a web site and at that point the message on the banner shows, commercials ... the field which we prefer.
- Sales Forecasting: What are item specific sales forecasts for the next week, month or year.

Figure3. Data mining process

OLAP (ONLINE ANALYTICAL PROCESSING)

The full name of this group of products derived from English words On-Line Analytical Processing, which is commonly translated as "on-line analytical processing". According to "The OLAP Report Glossary," an acronym OLAP category involves applications and technology for collecting, managing, processing and presentation multidimensional data for analysis for management purposes.

The characteristic of OLAP tools is a high speed operation, which enables its users, mostly professionals and managers to query and get answers in the shortest time possible, practically at the moment, which is not the case with other SW tools. As a rule, are modeled so that the largest number of responses received within 5 seconds, for easy analysis of no more than seconds, and in more complex cases, sometimes it takes more than 30 seconds. A further characteristic of these tools is the ability to analyze a large number of dimensions, where in practice the number of quality tools and OLAP analyzes, demanding moves to 10 or even more dimensions. Because it goes beyond the cognitive capabilities of the average man can say that these tools allow the expansion of human intelligence.

Range of options that include OLAP tools is very broad, ranging from a simple search through the budget to sophisticated analysis such as time series and complex modeling. Thus they comprise a complete sequence of data that begins, continues and ends with business intelligence. The figure shows the typical OLAP architecture consisting of an OLAP server is located between the user and warehouses, or data store with an online connection. OLAP technology is effectively used in data warehouses for the current analysis and it provides quick answers to complex analytical questions. Its multidimensional data model quickly access data and landscaped mediate them through a simple graphical display. Reply to inquire about past business analysts and provides the possibility of establishing further details. OLAP systems quickly and reliably support the ongoing analysis of business operations.

Original data for the OLAP are OLTP (Online Transactional Processing) databases that are commonly found in data warehouses. OLAP databases contain two types of data: measures, which represent numerical values, quantities and averages that you use to make business decisions based on information and dimensions, which represent the categories that you use to organize these measures. OLAP databases help in organizing the data using a large number of levels of detail, using the same ones, you know categories for data analysis.

WHERE TO USE BUSINESS INTELLIGENCE

Analysis and customer profiling

The key determinant of any information system is the quality of information. Analysis of clients not only requires good quality information, but it requires a lot from many sources. This information must be integrated and stored in appropriate storage of data in a way that allows for standard reporting and ad hoc analysis. They form the basis for segmentation and they will apply the methods and techniques of data mining. With a well-structured information, you will find answers to questions such as, for example, the following:

- Are new attracted clients more profitable than existing ones?
- What is the best value for their customers during the life cycle?
- Are clients younger than 30 years of profitable?
- Are women more profitable customers than men?
- Does it increase sales? If so, how?
- Official statistics claim that increasing savings. Does it impact on the company's spending patterns observed?

BI systems should be viewed primarily as a tool for identifying customer needs and desires, and as a tool for customizing products and services with respect to a bank customer population.

Example analyzes of clients:

Information needed for the analysis of clients typically arrive via the main "contact points" of clients and companies (for example, services provided to clients, the World Wide Web, ATMs), principal of revenue (physical outlets, commercial Web sites, order entry system) and from external sources (demographic data, data on lifestyle, data on households).

Before you can start any analysis, it is essential that the company knows what information available, what is quality, what is their level of integration and how the information is "clean." Only with such knowledge, the company will be able to build a functional data warehouse. Here we have deliberately used the word "functional" and not "completely" or "complete", because during the implementation of any decision support system - and that means a business intelligence system - constantly discovering and adding new information sources, the existing purified and new information being added, so that it actually never and cannot speak of complete or comprehensive data warehouse. Also, it is necessary to constantly assess the relevance of old information in light of current business and market demand.

Key information is often associated with analysis of previous clients include the review of services provided to clients, the history of marketing activities that are exposed to clients and demographic character of the data and information on lifestyle and behavior of clients. So many sources of information should be integrated in order to create a complete picture of each client. When integrated, customer information will reflect all sales transactions conducted by the client, the income that is generated by the company, an overview of all services provided to each client, clients' demographic characteristics and essential features of their lifestyle, so that on this basis can be accessed by typing behavior of clients and their ranking according to profitability and developing their model of assessment (Scoring) for the purpose of predicting their future behavior.

By maintaining a complete historical review of the revenue generated by the company of each client, which is pushing the cost and frequency of purchase and sale had transactions will be possible:

- determine the profitability of customers
- evaluate how customers accept different forms of marketing activities
- determine the number and type of product that is best selling
- measure client retention rate and degree of their loyalty to the company

- able to offer customers self-service through Web sites for companies that are interested.

ABN Amro banking on-line knowledge management

By making a large amount of information available to the company for employees, that they can search and locate the way they want or need, it should be easy. But in the case of ABN Amro branch North America, or in the case of ABN Bank in the Netherlands this is not the case. ABN Amro is the eighth largest bank in Europe, and 17 largest bank in the world, with more than 110 000 employees and 3,500 offices worldwide. ABN Amro New York Regional Office, is responsible for the codification of banking operational procedures for all banking departments in New York. Procedures are published as a series of reports containing the spiral binding. Refresh this procedure is very time-consuming and expensive, because each new document must be printed and manually replaced the spiral binding.

Isaac Kirzner, Senior Vice President, ABN Bank, for information management, found the solution in order to create an easily searchable online version of each document. Using management product, called Folio, employees are able to easily search and find what they wanted. Software is crawled every word in every document and pulling each occurrence of the word, so that users did not have to flip through the entire document. Because every word is indexed, employees are able to search the directory, the name of or on any other category they wanted. Eventually, newsletters, newspaper articles, banking documents and other documents have become available electronically. Kirzner's got a job as a project. In the course of the problem started, because no one answered the use Folia. Kirzner and his team concluded that the problem is not that the Folio is difficult to use, but the reason for this lies in the culture and custom, how perceptions of documents, etc. The team decided to change its approach to encouraging employees to locate information that was available to them. Kirzner was not satisfied with this approach, so he began to make marketing a product, its value, etc.

CONCLUSION

Finally, we conclude that the importance of effective knowledge management and business intelligence concepts are very large. In the modern knowledge economy is considered the most important resource of businesses, and the basis for building competitive advantage.

Knowledge management is not a term that defines only the learning process, but more strategic use of knowledge in order to achieve higher levels of customer satisfaction and a better market position. Long-term effect is that each individual in the organization continually learns, enjoys his job and becoming an increasingly valuable to your organization. The importance of understanding the concept of business intelligence to create new knowledge and application of tools for this purpose developed computer technology today has a greater meaning. Information and communication technology to create the infrastructure needed to manage business knowledge and prerequisites for the creation of a learning organization. Business intelligence enables business negotiation and reasoned approach to quantify customers and business partners, both operational planning, monitoring the behavior of our competitors, the observation of individual market segments and predict future events.

In this paper there are explained business intelligence tools such as: data warehouse, data mining and OLAP technologies, and their basic characteristics. Using these tools, the company achieved a number of benefits in business, such as increasing revenue, increasing profit, improving customer satisfaction, cost savings and increased market share. Modern information technology has enabled the storage of large amounts of data, and creating new knowledge. By applying the concepts and tools with the help of business intelligence (BI Tools) enables business users access to a vast amount of complex data.

LITERATURE

- 1) A. Sunje, S. Softic, (2011), *Ponasanje u organizaciji*, zbirka materijala.
- 2) E. Cizmic, A. Trgo, (2010), *Savremeni menadzerski koncepti*, Sarajevo.
- 3) P. Jovanovic, D. Petrovic, (2007), *Savremeni trendovi u razvoju menadzmenta*, Beograd.
- 4) V. Ceric, M. Varga, (2004), *Informacijska tehnologija u poslovanju*, Zagreb.
- 5) Z. Hadziahmetovic, S. Softic, Dz. Kulovic, (2008), *Organizacija-teorije, strukture, ponasanje*, Sarajevo.
- 6) Z. Panian, G. Klepac, (2003), *Poslovna inteligencija*, Zagreb.

THE POTENTIAL OF THE E-BUSINESS AND SPECIALIZED INTERNET SERVICES IN TERMS OF REDUCING THE LEVEL OF UNEMPLOYMENT IN SERBIA

Vladimir SIMOVIĆ¹

Abstract

Internet may be used in various ways when it comes to finding an employment online. The fact that the Internet is used by around 2.4 billion people worldwide is very significant in terms of conducting a business online, thus creating a great employment opportunities for many job seekers. The business usage of Internet in Serbia is underdeveloped, but with the proper action plan the results can be significantly improved in the near future. This paper points out the potential of the Internet in terms of employment as well as the key reasons of the insufficient business use of the Internet in Serbia.

Keywords: *employment over Internet, e-commerce, Internet business usage in Serbia*

INTRODUCTION

According to the statistics of the National Employment Service in Serbia the level of unemployment in this country is around 25%. This fact represents serious structural problem which needs to be solved in a serious and responsible manner.

Many different measures need to be undertaken in the future in order to increase the level of employment in Serbia. Among other things, one segment must not be neglected when it comes to solving the problem of unemployment. That segment is Internet and the potential of this new media in regards of employment.

The aim of this paper is to point on the potential of the Internet and specialized Internet services which may, when used properly, significantly reduce the problem of unemployment in Serbia in the future. At this moment, this problem is not given significant attention considering its potential. Many things needs to be done in order to exploit all the possibilities Internet has to offer in regards to employment among which the rising of awareness, further development of infrastructure, development of the adequate payment options and further improvements of the system of formal education are the crucial.

This paper represents brief overview of the potential of the Internet and specialized Internet services in terms of employment as well as the problems associated with an underdeveloped business usage of Internet in Serbia.

KEY FACTS ABOUT THE INTERNET

The Internet (also called cyberspace, the information superhighway or simply the Net) is a global network of computers that can exchange information back and forth. Among the capabilities of the Internet are the World Wide Web, which can provide information (text, photographs, sound) on any

¹ PhD, Assistant Professor, Institute of Economic Sciences, Belgrade, Serbia

This paper is a part of research projects numbers III47009 (*European integrations and social and economic changes in Serbian economy on the way to the EU*) and OI179015 (*Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements*), financed by the Ministry of Science and Technological Development of the Republic of Serbia.

subject imaginable, electronic mail (e-mail), information retrieval, bulletin boards, newsgroups, or mailing lists, and electronic commerce (US Department of State, 2011).

The fact which is usually known to many people is that the Internet was formed as the project of the US Army during the 60s. Primary purpose of the Internet was to enable communication infrastructure which would continue its operations even in the case of the nuclear war.

The academic institution were among the first who recognized the true potential of the Internet in regards to communication and collaboration. The commercial use of the Internet started in the late 80s and the early 90s of the 20th century. This period is also considered as the time when the modern electronic business was established and also the e-commerce, and many other services as its integral parts. This is the period when many of today's Internet giants such as eBay, PayPal, Google and many others were founded.

In those times the possibilities of conducting a business over Internet were limited. The fact that led to the revolution in business usage of the Internet is that thanks to its popularity and increasing number of users worldwide the huge virtual market was formed. Latest statistical data of the Internet World Stats shows that more than one third of the world's population use Internet (approximately 2.4 billion of people).

Naturally, the increasing number of users that use Internet for conducting everyday activities attracted a large number of existing and new companies willing to expand their business activities in global terms. Consequently, the large number of companies were forced to modify their business models in order to adjust those models to the new business environment. The Internet itself led to the creation of totally new business models which were unthinkable few decades before. Who would possibly think that the companies would be able to organize their business activities on a 24/7 model, that the company can organize its presence on a global market from one location, that companies could hire workforce from all round the world without the need of a physical presence, etc.

The last element is one of the possible solutions for solving the problems of unemployment in Serbia but this element as well as all others will be carefully examined in another section of this paper.

Figure 1. Number of Internet users worldwide

WORLD INTERNET USAGE AND POPULATION STATISTICS June 30, 2012						
World Regions	Population (2012 Est.)	Internet Users Dec. 31, 2000	Internet Users Latest Data	Penetration (% Population)	Growth 2000-2012	Users % of Table
Africa	1,073,380,925	4,514,400	167,335,676	15.6 %	3,606.7 %	7.0 %
Asia	3,922,066,987	114,304,000	1,076,681,059	27.5 %	841.9 %	44.8 %
Europe	820,918,446	105,096,093	518,512,109	63.2 %	393.4 %	21.5 %
Middle East	223,608,203	3,284,800	90,000,455	40.2 %	2,639.9 %	3.7 %
North America	348,280,154	108,096,800	273,785,413	78.6 %	153.3 %	11.4 %
Latin America / Caribbean	593,688,638	18,068,919	254,915,745	42.9 %	1,310.8 %	10.6 %
Oceania / Australia	35,903,569	7,620,480	24,287,919	67.6 %	218.7 %	1.0 %
WORLD TOTAL	7,017,846,922	360,985,492	2,405,518,376	34.3 %	566.4 %	100.0 %

Source: Internet World Stats

As it is shown on Figure 1. at this moment, approximately 2.4 billion of people worldwide use Internet which is around one third of the total population on planet Earth. This fact points out that this is a huge virtual market which could be successfully used for conducting a business or finding an employment in just a few clicks.

Every online business needs a website. One of the major distinctions made in website classification is the level of functionality inherent in the site:

- An informational website does little more than provide information about the business and its products and services. For many brick-and-mortar businesses, an informational website is perfectly satisfactory. The major purpose is to have a presence on the Web.
- Interactive website. A website that provides opportunities for the customers and the business to communicate and share information. An interactive website will strongly encourage feedback by including contact e-mail addresses; providing feedback forms, wikis, and blogs; and promoting completion of online surveys.
- At a higher level of interactivity are attractors—website features that attract and interact with site visitors. Attractors such as games, puzzles, prize giveaways, contests, and electronic postcards (e-cards) encourage customers to find the website, visit again, and recommend the site to their friends.
- A transactional website sells products and services. These websites typically include information and interactivity features but also have sell-side features, such as e-shopping cart, a product catalog, a shipping calculation, and the ability to accept credit cards to complete the sale.
- A collaborative website is a site that allows business partners to collaborate (i.e., it includes many supportive tools. B2B exchanges may also provide collaboration capabilities.
- A social-oriented website is a site that provides users online tools for communication and sharing information on common interests. It empowers consumers to utilize their productive and leisure time around the converged media experience, within a social context of participation (Ariguzo et al. 2006)

THE POTENTIAL OF THE INTERNET IN TERMS OF EMPLOYMENT

The Internet may be used in different ways in terms of finding an employment online. There are many stories on people who successfully started their own business online or managed to find a good employment using Internet.

Besides many legitimate ways and offerings for online jobs, there are many scams related to job offerings over Internet so that users must be extremely alert while considering some of those offerings.

According to a survey released by SBC Internet Services, 82 percent of college graduates will use the Internet to search for job openings or information on careers, and 66 percent will actually e-mail a résumé to prospective employers. The Internet is a valuable recruiting tool, especially for reaching prospective employees in their twenties and thirties (HR Focus, 2000).

As stated in OECD study, there is the continuing growth of ICT specialists as a share of the total labour force (OECD, 2009).

In general, the ways for finding an employment online can be systematized in the following way:

- E-commerce jobs
- Jobs related to social networks
- Professional blogger jobs
- Domain brokerage jobs
- Researching jobs
- Virtual assistant jobs

The potential of e-commerce in terms of employment

E-commerce is often defined as the process of selling, buying, transferring or exchanging products, services or information by means of computer networks e.g. Internet. The reasons of enormous popularity of the e-commerce in modern world are numerous and diverse:

- **Global reach:** Compared to traditional commerce, e-commerce enables global presence for the company organised in a simple manner. It is extremely simple to organize and administrate global online business from one location.
- **Significantly lower costs:** The fact that online business is organized and administrated from one location reduces the rent costs as well as the costs of additional sales force thus reducing the total costs of conducting a business.
- **Competitiveness:** Lower costs of conducting an online business enables lower prices of products and services offered by online trader compared to classic competition.
- **Organizing business activities on a 24/7 model:** Compared to classic competitors limited by the working hours, online trade can easily operate 24 hours a day, 7 days a week, with no limitations.
- **Convenience:** Looking from the perspective of an end buyer it is far more convenient to conduct shopping online using tools for an easy search and prices comparison than in the classic (offline) shop.

E-commerce can be partial and complete. If an Internet entrepreneur is selling physical goods and is using Internet shop as the selling channel, than it is a partial e-commerce. On the other side, if the goods are in digital form (e.g. information, games, books) and are distributed by means of Internet shop, than it is a complete e-commerce.

Depending on the participants in the trading process there are several different models of e-commerce:

Business to Business model (B2B) in which one business is selling goods to the other businesses. The representative of this model of e-commerce is the service called Alibaba (www.alibaba.com).

Business to Consumer model (B2C) in which one business is selling goods to the end consumers. The representative of this model of e-commerce is the service called Amazon (www.amazon.com)

Consumer to Consumer model (C2C) is the model which is usually conducted by means of online auctions. The services which are specialized for this model of e-commerce are gathering sellers and buyers which are placing their bids for the goods offered. The representative of this model of e-commerce is a service called eBay (www.ebay.com)

In business practices, besides aforementioned models there are many other derived models such as B2B2C, C2B2C and similar models.

There are two forms of the electronic shops:

1. The shops which are actually the extension of the shops which operate in offline mode. The representative of this type of shops is Maxi. (www.maxi.rs)
2. The shops which are exclusively operating in virtual environment. The representative of this type of shops is service called Sve za kucu (www.svezakucu.rs)

Significant part of the electronic commerce are various services specialized in delivering different types of e-services. Some of those services are as follows:

- FX services such as Forex (www.forex.com)
- Online labour market Freelancer (www.freelancer.com)
- Online booking services such as Booking (www.booking.com)

Business models in use by individuals and companies are changing on a daily basis and there are new hybrid models constantly evolving. Depending on the level of innovativity of those models some of them are facing market success and the others are not.

In general, the e-commerce has great potential in terms of employment. The statistical data shows that in Europe around 40% of the total trade is conducted online while in the USA this percent is over 70%. The total turnover in e-commerce in 2012. in the European Union was estimated on 300 billions of euros. On average, every inhabitant of the European Union is spending online around 860 euros per annum. Those data show that there is a great potential in e-commerce when it comes to starting an own Internet business or finding an employment with some of the established Internet businesses.

One of the significant aspects of the e-commerce is mobile e-commerce which is developing fast in accordance with the advances in mobile technologies. The Internet marketing research firm comScore reports that 35 percent of the roughly 80 million smartphone subscribers in the United States, or 28 million people, already have made purchases on their cell phones (ABI research, 2010).

Jobs related to the social networks

The social networks play a significant role in the life of the modern man. They have become the way people are socializing, learning, amusing and even applying for the jobs. The most popular of them (Facebook, Twitter, LinkedIn, YouTube ..) have a multimillion users base thus creating a huge virtual marketing which is, naturally, attracting companies of all sizes to take a part on this market.

Figure 2. Various social networks on Internet



As of January 2009, social network Facebook registered more than 175 million active users. To put this number in perspective, this is only slightly less than the population of Brazil (190 million) and over twice the population of Germany (80 million) (Kaplan et al. 2010). Today, this data are even more favourable for the Facebook.

According to the study by the Nielsen Company, 53% of adults who use social networks follow particular brands and four in five active Internet users visit blogs and other social platforms. It also reveals that social media for business is predicted to take up a significant amount of digital media budgets for SMEs by the end of 2014 (Hiscox, 2013).

Having in mind the significance of the social networks the companies of all sizes are trying to use the potential of this market, using the social networks for promoting their business activities, advertising, creating brand awareness, selling goods and services, etc. Also, modern customers are using social networks to inform themselves on the products and services of the certain company. The results of some studies are suggesting that the companies which are actively participating on the social networks achieve better business results especially when it comes to the sales for about 20 to 40%, then the companies which are not active on this segment.

The direct consequence of this orientation by the companies is the increased need for the skilled individuals who are able to effectively organize and manage aforementioned activities. The consultants for the social media are helping the companies to develop their brand. The corpus of their activities include leaving the posts related to the company, interaction with followers of the company pages, managing posts and commentaries of the followers, replying the customers posts etc.

Recent surveys have indicated 26% of hiring managers have used internet search engines to research prospective employees, while 12% say they have used social networking sites (Witham, 2007).

Professional blogger jobs

The blog represents personalized web page or a web diary. There are many different types of the blogs. Blogs may be operated by an individual, but also there is a significant increase in the number of the company blogs in the past few years.

The sole purpose of the blog is to gather people with similar interests thus creating a specific type of the virtual community in which visitors of the blog are sending their comments on the posts published on the blog and interacting with each other and with the author of the blog.

The main question about the blog is how it can be used in increasing the level of employment. As for many other web locations, the key presumption for the blog to be successful is to be visited. In order to be visited, the subject of the blog as well as the content of the postings on the blog needs to be interested to the certain group of people, blog followers. When the author of the blog has the blog which is frequently visited by many visitors then the possibilities for making the profit are practically unlimited (e.g. commercials).

On the other side, the person may be engaged by the owners of the company blog or even personal blog in order to write posts which are to be published on the blog.

Domain brokerage jobs

The domain is a distinct subset of the Internet with addresses sharing a common suffix or under the control of a particular organization or individual. There are two general types of domains:

1. Top level domains such as /com .net .gov. biz .edu
2. Country code domains such as .rs .us .uk .ro

Having in mind the fact that in online world key words are very important in terms of good positioning in search engine organic results, domain brokerage jobs evolve as a very interesting option for finding a self employment online.

There are individuals who are specialized in registering domains for as little as 5 USD and reselling them when they become popular and interesting for some Internet business owners. The key presumption for this type of business is the skill to recognize key words of the domain names which are to become popular in the future. Some domain brokers even conduct Search Engine Optimization techniques and other Internet marketing techniques in order to increase the user base and eventually the value of the domain for the prospective buyer.

Researching jobs

The fact that we live in a world overloaded with information and that information are available from many different sources enabled the category of researching jobs over Internet to become very popular

in the recent years.. The companies from all around the world are having the need to carefully research as many information as possible on their customers, competitors, market, etc.

Very often these companies recruit individuals over Internet who are willing to spend their time and efforts in order to search for information from different sources and to systematize those information in some previously defined format. The examples of this type of jobs are numerous and may include research on information of the potential market, comparison of prices on different markets, research on business strategies in use by competitors, etc.

Virtual assistant jobs

As stated earlier, the rise of the Internet led to the creation of the new business models in many companies. As a result, among other things, the new forms of organization were formed known as the virtual organizations. One of the main characteristics of this type of organization is flexibility and their potential to hire workforce from all around the world over the Internet. Besides virtual companies, a growing number of traditional companies are hiring workforce known as virtual assistants. The overall conclusion is that this market is in constant growth.

According to some studies in Netherlands, around 20% of active population is conducting their business activities from their home. It is expected that the rising trend of virtual assistant jobs will, continue to grow in the future.

Figure 3. An example of the Internet service specialized in employment



Depending on their skills and qualifications the employees from all around the world have the opportunity to apply for the jobs offered by many international companies via Internet. One of the most popular service of this type of engagement over Internet is Frelancer (www.freelancer.com).

This service gathers companies in search for workforce on one side, and job seekers willing to work on different projects over Internet on the other side.

BUSINESS USAGE OF THE INTERNET IN SERBIA - PROBLEMS AND PERSPECTIVES

Although the number of Internet users in Serbia is relatively high (around 55.9% of the total population) the fact is that the business usage of the Internet as well as the usage of the Internet as a tool for finding an employment is underdeveloped in this country.

Still, there are some positive trends when it comes to the growth of Internet usage for business purposes. Statistical data shows that in 2012. around 600.000 people in Serbia have used Internet for some kind of electronic commerce: hotels booking, plane tickets, insurance policies, cosmetics, hardware, etc.

The average inhabitant of Serbia is spending online around 60 euros per annum which is significantly lower than in the European Union.

The enterprises in Serbia are having an Internet access in 94% of cases but only 23.3% of them are conducting some form of e-commerce. According to the data of RNIDS in 2012. there were 64.000 registered .rs domains.

The data shows that the average Internet user in Serbia is spending five hours a day online and that around 64% of Internet users in Serbia have conducted some sort of electronic transaction online. Also, the users between 25 and 29 years old are most active when it comes to conducting online electronic transactions. The estimated value of online advertising market in Serbia in 2012. is between 15 and 20 million of euros which is significantly higher than in the past.

All of the mentioned arguments are suggesting that the e-commerce in Serbia is slowly developing but still there are many obstacles in this process.

The pioneers of the electronic commerce in Serbia are facing many obstacles among which regulatory issues are dominant. The legislative acts regulating the area of the electronic commerce are in the process of harmonization with the European laws.

Also, one of the major obstacles of further development of e-commerce in Serbia are inadequate payment options which would enable domestic traders to efficiently sell their goods and services on a domestic market as well as overseas. The fact that PayPal recently commenced its operations in Serbia could significantly push forward the development of e-commerce in Serbia in a years to come.

In general, the factors which disable the expansion of e-business and consequently the employment based on new technologies are as follows:

1. Factors related to inadequate payment options
2. The lack of awareness on the potential of the Internet
3. Inadequate system of formal education providing the students with uncompetitive knowledge on the modern labour market

Factors related to inadequate payment options

One of the obstacles in further development of e-commerce and business usage of the Internet in Serbia is also the fact that, until now, there is not adequate payment option available for the Internet entrepreneurs in this country.

The fact that PayPal started its business operations on this market means a lot in regards to the development of e-commerce and other forms of e-business, but the limitations of the aforementioned service are also restricting the Serbian entrepreneurs to conduct serious business online. Namely, the PayPal account holders in Serbia, for now, can only pay for goods and services online, but can not receive payments for the goods and services sold online. This circumstance seriously restricts the possibilities to conduct a business online. The representatives of the PayPal are announcing that soon this option will be available to the Serbian account holders as for the holders of PayPal accounts in many other countries. The fact that PayPal is fully operable in Serbia is very important due to great popularity and wide spread of this service among many users around the world.

Until PayPal spreads its offer to aforementioned service, the people in Serbia who wish to do business online are using alternative, and no so popular methods to do so. One of the online payment methods in use by Serbian Internet business owners is Skrill (former Moneybookers). This payment option enables sending and receiving payments from abroad but is not very popular as PayPal is with Internet users.

The usage of payment cards for conducting online payments is underdeveloped in Serbia due to absence of adequate payment processing services which would enable domestic business owners to receive payments by payment cards made by the customers. On the other side, Internet users in Serbia are using payment cards for online payments with foreign services accepting payment cards. The most popular type of the payment cards for online payments in Serbia, due to security reasons, are prepaid payment cards.

Besides the services mentioned earlier, there are some domestic payment options designed for online payments in Serbian online market. Some examples of such a services are QVoucher and PlatiMo service.

The lack of awareness on the potential of the Internet

The lack of awareness among Serbian population on the potentials of starting own business over Internet or finding an employment using specialized Internet services is also a significant factor. Although, according to relevant statistics, significant part of the Serbian population is using Internet, the fact is that people usually use it for amusing purposes, for informative purposes or for education. Generally, people, and especially young population, is not informed enough on the business potential of the Internet.

The main reason for this is the absence of the organized campaign in different media aiming to inform the people in Serbia on the potential of the Internet. Also, the problem lies in inadequate system of formal education which is not informative enough when it comes to this subject.

Even when the person is aware of the potential of starting an own business online or using the Internet as a tool for finding an employment, very often the problem is the lack of knowledge and necessary information. For example, when a person wishes to start own Internet company he/she is not informed enough about all the necessary steps that need to be undertaken in that process. People often believe that good business idea is all that it takes to run a successful online business, but that is only one piece of the puzzle. The necessary steps are as follows:

1. Business plan. This crucial element of the business success is often neglected by the potential Internet entrepreneur. A business plan is a written document that identifies a company's goals and outlines how the company intends to achieve those goals and at what cost. It includes both strategic elements (e.g., mission statement, business model, value proposition, and competitive positioning statement) and operational elements (e.g., operations plan, financial statements) of how a new business intends to do business. The fact is that the good business plan should serve for applying for the funds with the financial institutions as well as with some government agencies, but it also represents the key element in planning the future activities of the Internet business.
2. Registration of the company with Serbian Business Registers Agency. The problem, potential Internet entrepreneurs are facing is the necessary documentation that needs to be filed during the process of registration. Internet company is being registered as any other company so that in this stage the help of the professional accountant is more than welcomed.
3. Domain registration and hosting. In order for the Internet company to start operating, this is the crucial step. The adequate domain should be registered and the hosting should be paid for. This can easily be done with the Internet service provider.
4. The construction of the e-commerce web site. In this phase, Internet entrepreneur has two choices. E-commerce web site can be constructed by the owner of the Internet company if he/she poses necessary skills or it can be outsourced to the skilled individuals or businesses.
5. Internet marketing. What is the use of the best product/service in the world when nobody has ever heard of it. The point of Internet marketing is to inform potential customers on the services or goods the Internet company is offering. There are many Internet techniques in use

by today companies ut some of the crucial are Search Engine Optimisation, paid advertisements, email marketing, viral marketing, etc.

6. The selection of the payment option. When the company is selling online, the selection of the adequate payment option is a sine qua non. Payment cards are still dominant payment option on the Internet but in the past years new payment options evolved making the payment online more convenient and secure and in some cases even cheaper than the payment cards. Among them, especially significant are P2P systems and the PayPal as the main representative of this category of payment systems (Simovic et al. 2009).
7. The selection of the distribution channels. The selection of the distribution channels is preconditioned by the nature of the goods sold online. If the goods are in digital form then the distribution is conducted using Internet. In the case of the physical goods distribution can be organized through personal distribution channels or by using the distribution channels of the courier services.

This was one example of the problems which are potential Internet entrepreneurs facing when even thinking of starting an own Internet company in Serbia. The overall conclusion is that in the future special attention should be paid to informing wide audience on the potential of the Internet and also on the obstacles in the process of establishing an Internet company. Mass media as well as presentations, workshops and system of formal education must be used in promoting the aforementioned activities.

Inadequate system of formal education providing the students with uncompetitive knowledge on the modern labour market

One of the significant structural problems in Serbia when it comes to formal education are inadequate skills and knowledge the students are acquiring during their formal education making them uncompetitive on the modern labour market. Frequently, formal education programs are out of date and not specialized enough resulting in graduates who are not prepared for the demands of the modern labour market. For example, simple analysis of the job listings on the aforementioned service Freelancer or similar Internet services could significantly contribute to the improvement of the formal education programmes on the Serbian universities.

As a direct consequence of this fact, the programmes of informal education in the form of courses and workshops are flourishing in Serbia in the past few decades. These programmes are much better harmonized with the real needs of the modern companies and work positions. The problem is that often they are not recognized and accepted as the programmes of the formal education by the employers in Serbia.

CONCLUSION

Serbia is having a great problem with the unemployment which needs to be solved in the coming years. Many different measures can be taken in order to achieve that goal, but the potential of the Internet in that process must not be neglected.

This paper presented some chosen options for finding an employment over Internet. It is expected that the choice of options for finding an employment online will continue to grow in the future. Having in mind the current trend in the developed countries in terms of conducting business activities from home over Internet and the fact that this trend will continue to grow, it is realistic to expect that Internet will have more and more significant role in terms of employment in the future.

Currently, there are several problems connected with the insufficiently developed business usage of the Internet in Serbia. First of all, people are unaware that they can use Internet to conduct business online and that they can participate and compete on the global labour market shoulder to shoulder with

the workforce from all around the world. On the other side, for those who wish to start online business there are many legislative and infrastructural problems associated with that activity. Last but not the least important, Serbian system of formal education is not competitive enough in terms of the demands of the modern labour market. All of the issues mentioned above must be solved in the responsible manner in the coming years if the proper results are to be achieved in this segment.

LITERATURE

- 1) ABI Research (2010) "Mobile Commerce Sales Explode in United States: Will Top \$3.4 Billion in 2010." Press release, December 17, 2010.
- 2) Kaplan, M. Haenlein, Users of the world, unite! The challenges and opportunities of Social Media, *Business Horizons*, vol. 53, issue 1. pp.59-68, 2010.
- 3) Ariguzo, G. C., E. G. Mallach, and D. S. White. "The First Decade of E-Commerce." *International Journal of Business Information Systems*, 1, no. 3 (2006).
- 4) How Businesses Use Social Media Infographic, Hiscox Limited
[HTTP://WWW.HISCOX.CO.UK/BUSINESS-INSURANCE/TIPS-AND-
INFORMATION/HOW-BUSINESSES-USE-SOCIAL-MEDIA/](http://www.hiscox.co.uk/business-insurance/tips-and-information/how-businesses-use-social-media/)
- 5) Accessed: 01. October 2013.
- 6) "Online Recruiting: What Works, What Doesn't," *HR Focus* 77 (March 2000): 1
- 7) The impact of the crisis on ICT and ICT-related employment, OECD Report, 2009.
- 8) T. Witham, "The Web as a Reference Tool." *Credit Union Management* Feb. 2007: 40.
- 9) US Department of State, Using the Internet in the job search,
- 10) <http://www.state.gov/documents/organization/2094.pdf>
- 11) Accessed: 12. October 2013.
- 12) V.Simovic, Osnovni teorijski modeli P2P sistema plaćanja, *Časopis za informacione tehnologije i multimedijalne sisteme Info M*, vol.8, br.32, 2009

Simonida VUKADINOVIĆ²
Miroslava FILIPOVIĆ³

Abstract

As an important part and one of the main vehicles of employment development in any economy, youth employment (age 15-24) is intrinsically connected to the labour market. According to the United Nations World Population Prospects: The 2010 Revision, there are over 1.2 billion young people (age 15-24). As never before, about 90% of young people live in developing countries. Youth unemployment is not a new phenomenon but has been accentuated by the global jobs crisis. This crisis may not be a mere deterioration related to slow growth or uncertain recovery, but a trend with a more critical dimension if current policies continue. In 2012, the youth unemployment rate in the EU-27 more than doubled as compared to the overall unemployment rate. At the rate of 22.8 %, more than 1/5 of young persons in the labour force was not employed, but looking and available for a job. In the Euro area, the youth unemployment rate was even higher, standing at 23.1 %. The youth unemployment was higher than the rate among those aged 25-74 in all member states. As youth (un)employment certainly draws an important line of future economic development of a country, the main purpose of this paper is to shed more light on the current situation of youth (un)employment in the Western Balkans, especially in Serbia. According to the 2020 Serbian Youth Employment Targets, there is an optimistic scenario for the youth. The youth unemployment rate of 50,9% in 2012 should decline to 24,1% in 2020.

Key words: labour market, employment rate, EU Strategy 2020, youth unemployment, Republic of Serbia.

INTRODUCTION

The problem of youth (un)employment is included in national and global development agendas. The youth employment challenge has its own dimension and countries worldwide regardless of their stage of socio-economic development. are facing it. The underlying issues (Coenjaerts etc, 2009) include: a large number of young people entering the labour markets every year, lack of employment opportunities in particular in poor economies and post-conflict countries, and a low quality of education and training without proper links to labour markets.

According to ILO, 2011 global youth unemployment rate was 12.7%. ILO 2012 Global Employment Trends report (Manpower Group, 2012) states that the global adult unemployment rate was only 4.8% in 2012. While the adult rate has already begun to decline from its 2008-2009 peak, youth unemployment has fallen only marginally, by 0.1 percent. ILO estimates that youth unemployment represents nearly 40% of total unemployment on the world scale.

1 This paper is a part of research projects No. 47009 (*European integrations and social and economic changes in Serbian economy on the way to the EU*) and 179015 (*Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements*), financed by the Ministry of Science and Technological Development of The Republic of Serbia.

2 Simonida Vukadinović, M.Sc. Economics, PHD student, Teaching Assistant, Junior Research Fellow, Educons University, Sremska Kamenica.

3 Dr Miroslava Filipović, Associate Professor, Faculty of Business in Service, Educons University, Sremska Kamenica.

Though not researched extensively, one may find various factors contributing to youth unemployment, such as:

- A lack of information, networks and connections among youth, especially youth from families lacking significant social capital.
- A lack of skills relevant on workplace.
- A lack of experience and credentials that is seen as a risk for employers in making hiring commitments.
- A lack of available jobs suited to entry-level skills.

In the EU as in other countries, high youth unemployment rates reflect difficulties faced by young people in finding jobs. But, this does not necessarily mean that the group of unemployed persons aged between 15 and 24 is large, as many young people are studying full-time and are therefore neither working nor looking for a job (so they are not part of the labour force which is used as the denominator for calculating the unemployment rate). For this reason, youth unemployment ratios are calculated as well, according to a somewhat different concept: the unemployment ratio is calculated as the share of unemployed for the whole population.

Table 1. Global unemployment and unemployment rate, youth (15-24), adult (25+)

Year	2007	2008	2009	2010	2011	2012p	2013p
Youth unemployment rate	11.5	11.7	12.7	12.5	12.3	12.4	12.6
Adult unemployment rate	4	4.1	4.6	4.5	4.5	4.5	4.6

Source: Global Employment Trends for Youth 2013: A generation at risk / International Labour Office – Geneva: ILO, 2013, p. 79. [10 Sept 2013]

Developing countries (World Bank, 2007) are facing challenges absorbing youth into education and labour markets. Consequently, they are not benefiting from the innovation and productivity or “youth dividend” that young people can contribute to their societies.

The International Labour Organization has its sectors and programmes focused on youth and they operate through a global network of technical teams at its headquarters in Geneva and in more than 60 offices around the world. It provides assistance to developing countries in implementing coherent and coordinated interventions in this respect. Such an integrated approach combines macro-economic policies and targeted measures which address labour demand and supply, as well as the quantity and quality of employment. The ILO Youth Employment Programme (YEP) is especially designed to meet such needs.

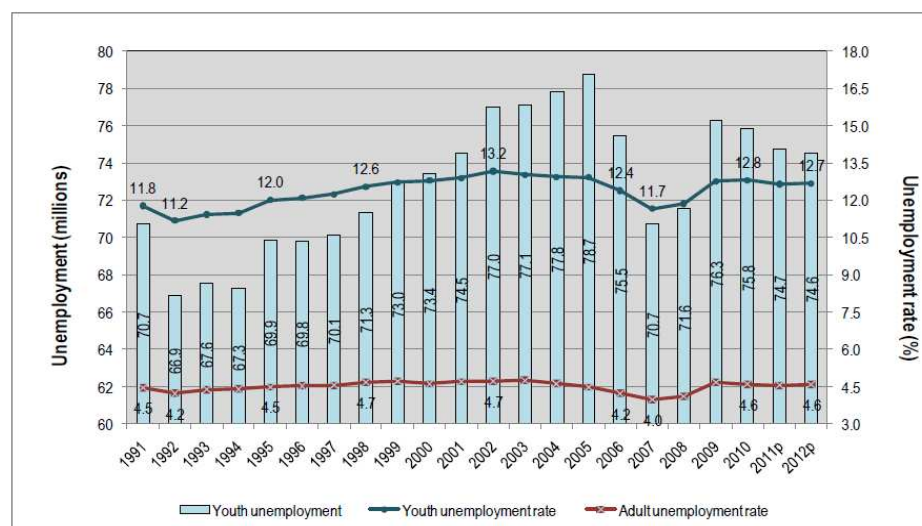
Modernization of technology (and the consequential economic growth) and globalization has impacted youth unemployment in the world. Fast growing countries like India and China are developing rapidly both in terms of economic development as well as population. Fast growing economies provide vast opportunities for services and for entrepreneurs to set up small enterprises in different fields. According to Management Study Guide, there are abundant opportunities for individual enterprises in IT services, financial services, travel and tourism, food, supply chain, health care services and many more fields. However, despite fast economies’ growth and plenty of new services fields opening up, there is almost no impetus for the rise of youth entrepreneurship.

YOUTH UNEMPLOYMENT IN THE WORLD

In the period from 1980 to 2000, a 10% increase in the youth population in the developing and transition countries led to a 6% increase in youth unemployment (ILO, 2012, 9-10). Similarly, the developed economies also need productive engagement of young people to sustain the economic

development and balance the effect of their aging labour force. What is increasingly urgent, for the world at large, is turning youth employment into a tool for promoting development. Putting youth employment among top priorities is not only a question of fulfilling young people's aspirations for better life but also a necessity if the well-being of entire societies is to be maximized.

Figure1: Global youth and adult unemployment rates and youth unemployment, 1991-2012
Global youth and adult unemployment rates and youth unemployment, 1991-2012



p = projection

Source: ILO: *Trends econometric models: A review of the methodology* (Geneva, 2011).

From 2000 to 2011, the number of employed young people increased by 16 million, which is a positive development. However, the total youth population increased at an even quicker pace, which led to a decline in the share of employed youth in both the *total labour force* (from 52.9 to 48.7%), and the *total youth population* (from 46.2 to 42.6 percent). The global financial crisis was another major blow to young people, more so than to adults, since youth unemployment rates have proven more sensitive to economic shocks. In the developing world, high youth unemployment represents a lost potential for national economic transformation, and high numbers of economically frustrated youth may contribute to social instability. According to ILO (2013, p. 79), developing regions with markedly high youth unemployment rates include North Africa (26.6%), the Middle East (24.0%), and Southeast Europe/Former CIS states (22.6%). In the period from 2007 to 2011, global youth unemployment increased from 11.5% to 12.3%.

Table 2. Labour market situation and outlook

Year		2009	2010	2011	2012p	2013p	2014p	2015p	2016p	2017p
Unemployment rate %	Total	8,4	8,8	8,4	8,6	8,7	8,6	8,4	8,2	8,0
	Youth	17,4	18,1	17,6	17,9	17,7	17,3	16,8	16,3	15,9
	Adult	7,1	7,5	7,2	7,3	7,5	7,5	7,3	7,2	7,0
Employment growth (% p.a.)	Total	-2,2	-0,2	0,4	0,3	0,2	0,4	0,5	0,5	0,5
	Youth	-7,6	-4,1	-1,1	-0,9	-0,3	-0,1	0,0	-0,1	-0,3
	Adult	-1,5	0,3	0,6	0,4	0,3	0,5	0,6	0,6	0,6

Source: *Global employment trends 2013: Recovering from a second jobs dip* / International Labour Office. Geneva: ILO, 2013, p.45. [20 Sept 2013]

What is upsetting is the prediction that youth employment growth will stop declining only in 2015 (0% growth), followed by relatively lower decline in the following years, at least in comparison to more significant decline in 2009 and 2010.

YOUTH UNEMPLOYMENT IN THE EUROPEAN UNION

As in the rest of the world, the EU youth unemployment rate is generally much higher than unemployment rates for total population and other age strata. At the end of 2008, the EU-27 youth unemployment rate was twice as high as the rate for total population, while the lowest level (18.1%) was recorded in the first quarter of 2008. The economic crisis seems to have hit the young more than other age groups. In the beginning of 2009, the gap between the youth and the total unemployment rates has started to increase, so that at the end of 2012 the youth unemployment rate was 2.6 times the total rate. The EU-27 youth unemployment rate was systematically higher than in the Euro area (EA-17) in the period 2000 to mid-2007. Since then to the third quarter 2010, these two rates have been very close. Afterwards the indicator has moved more sharply in the EA-17 than in the EU-27, first downwards, until the mid-2011, then upwards until the end of 2012.

From 2007 to 2012, 20 million young people (under 25 years) benefited from the ESF through training or mentoring. In some countries (DE, FR, HU), young people account for 40% or more of all participants.

The European Commission (EC) proposed measures to help Member States specifically tackle youth unemployment and social exclusion, at the end of 2012. The measures (Youth Employment Package) included the recommendation to launch a *Youth Guarantee* in every country, according to which Member States should ensure that all young people up to age 25 receive a good quality offer of employment, continued education, an apprenticeship or a traineeship within four months of leaving formal education or becoming unemployed. The EC is now urging every Member State to put in place a Youth Guarantee scheme. For many Member States, this will require structural reforms including the development of Vocational Education and Training systems. Significant EU financial support can help - most notably from the European Social Fund. But to make the Youth Guarantee a reality, Member States need to give priority to youth employment measures in their national budgets.

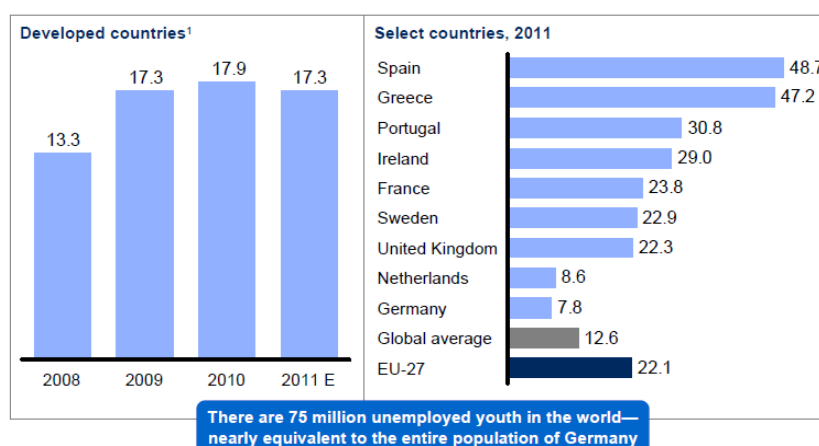
In February 2013, The European Council agreed to create a dedicated *Youth Employment Initiative* (YEI) to be supported by €3 billion from the European Social Fund and €3 billion from the EU budget. This will target individual young people not-in-employment, their education or training (NEETs) and amplify the support provided by the European Social Fund for the implementation of the Youth Guarantee.

In the last four years, the overall employment rates for young people fell three times as much as for adults. The gap between the countries with the highest and the lowest jobless rates for young people remains extremely high. In March 2013, there was a gap of 51.5 percentage points between the Member States with the lowest rate of youth unemployment (Austria and Germany – both 7.6%) and the one with the highest rate - Greece (59.1% in January 2013). Greece is followed by Spain (55.9%), Italy (38.4%) and Portugal (38.3%). Such conditions are perceived as clearly unacceptable and this is why the EC has been taking more direct actions to support youth employment.

The priority is to accelerate the implementation of the Youth Guarantee scheme. The EC is proposing that €6 billion of the Youth Employment Initiative should be frontloaded so that this money is committed in 2014 and 2015 rather than over the seven year period of the MFF. Member States need to bring forward their youth employment programs in the autumn. Simultaneously, the EC will develop a number of EU-level tools to help Member States, such as the EU Alliance for Apprenticeships, the coalition for digital employment, EURES and the 'your first EURES job' initiative, and extension of support to firms in recruiting young people. All these measures need to be

taken in close coordination with social partners and relevant stakeholders. ILO has estimated the cost of setting up Youth Guarantees in the Euro zone at €21 billion per year. The European Foundation for Living and Working Conditions has estimated the current economic loss in the EU of having 7.5 million young people out of work or education or training at over €150 billion in terms of benefits paid out and lost output. The EC is currently piloting a new system to help young people seize the job opportunities advertised on EURES, while helping SMEs to recruit young job-seekers from across Europe. *'Your first EURES Job'* helps young people in finding jobs in other Member States by providing financial support for language courses and other training needs, travel expenses and integration programmes in the case of recruitment by an SME. The 'Your First EURES Job' pilot will help to place around 5.000 people in six participating Member States and will be extended in 2013 to cover apprenticeship and traineeship placements.

Figure 2. Youth unemployment rate %



1 North America + EU.

SOURCE: ILO Global Employment Trends for Youth, August 2010 and 2011 update; Eurostat; McKinsey Global Institute

Table 3. Youth unemployment figures, 2010-2012Q4 (%)

	2010	2011	2012	2012Q4
EU-27	21,1	21,4	22,8	23,2
Euro area	20,9	20,8	23,0	23,7
Belgium	22,4	18,7	19,8	22,0
Bulgaria	21,8	25,0	28,1	28,4
Czech Republic	18,3	18,1	19,5	19,3
Denmark	14,0	14,2	14,1	14,2
Germany	9,9	8,6	8,1	7,9
Estonia	32,9	22,3	20,9	19,3
Ireland	27,6	29,1	30,4	29,4
Greece	32,9	44,4	55,3	57,9
Spain	41,6	46,4	53,2	55,2
France	23,6	22,8	24,3	25,4
Italy	27,8	29,1	35,3	36,9
Cyprus	16,6	22,4	27,8	31,8
Latvia	37,2	31,0	28,4	24,7
Lithuania	35,3	32,2	26,4	24,2
Luxembourg	15,8	16,4	18,1	18,5
Hungary	26,6	26,1	28,1	28,8
Malta	13,1	13,8	14,2	14,5
Netherlands	8,7	7,6	9,5	9,8
Austria	8,8	8,3	8,7	8,7

	2010	2011	2012	2012Q4
Poland	23,7	25,8	26,5	27,5
Portugal	27,7e	30,1	37,7	38,4
Romania	22,1	23,7	22,7	22,2
Slovenia	14,7	15,7	20,6	23,2
Slovakia	33,9	33,5	34,0	35,1
Finland	21,4	20,1	19,0	19,3
Sweden	24,8	22,8	23,7	24,1
UK	19,6	21,1	21,0	20,7

Source: http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Unemployment_statistics [19 Sept 2013]

In the fourth quarter of 2012, the EU youth unemployment rate was 23.2%. At the member state level, the highest youth unemployment rate was in Greece (57.9%), then Spain (55.2%) and Portugal (38.4%). The lowest rates were in Germany (7.9%), Austria (8.7%) and the Netherlands (9.8%).

Eurostat estimates that 5.5 million young persons (under 25) were unemployed in the EU-27, of whom 3.5 million were in the Euro area⁴. Compared with June 2012, youth unemployment decreased by 43.000 in the EU-27 and increased by 43.000 in the Euro area. In June 2013, the youth unemployment rate was 23.2% in the EU-27 and 23.9% in the euro area, compared with 22.8% and 23.0% respectively in June 2012. In June 2013 the lowest rates were recorded in Germany (7.5%), Austria (9.3%), the Netherlands (11.0%) and Malta (11.2%), and again the highest in Greece (58.7% April 2013) and Spain (56.1%).

From 2014 to 2020, the Commission has proposed a minimum share of 25% for the ESF in the cohesion policy budget as it is critical to provide substantial funding for the targets set. The ESF will have a crucial role to play in the new financial period from 2014 in supporting young people, implementing the Youth Guarantee and addressing the related country-specific recommendations as part of the European Semester.

As illustrated, the youth employment, being one of crucial vehicle of economic development, is a priority for the Commission but it must be clear there are no universal solutions – the Member States we have to act urgently to put into practice the combination of measures which have been agreed upon with those specifically tailored for particular environments and conditions.

YOUTH UNEMPLOYMENT IN THE WESTERN BALKANS

Approximately 20 years of socio-economic transformation have profoundly changed the Western Balkan subregion⁵. The current generation of young people in the subregion is facing new challenges and opportunities⁶. Compared to their parents, young people today are confronted with a labour market that is organized along the market economy principles. The conflicts that devastated the region throughout the 1990s are now behind them. Globalization has changed the world economy. Trade liberalization and intensified competition, rapid technological change and new organization of work have all impacted the economies of the Western Balkans (ILO, 2008).

⁴ http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Unemployment_statistics [14.09.2013]

⁵ The regional grouping “Western Balkans” includes: Albania, Bosnia and Herzegovina, Croatia, the Former Yugoslav Republic of Macedonia (FYR Macedonia), Montenegro, Serbia. ILO research also examines the situation of the youth labour market in Kosovo as a territory administered by the United Nations pursuant to United Nations Security Council Resolution No. 1244.

⁶ In line with international statistics and indicators, “young people” or “young workers” are those aged between 15 and 24. Some countries in the subregion have already expanded the definition to include the 25-29 cohort. Adult workers are accordingly considered to be those aged between 25 and 64 years.

The global crisis has many negative effects on the Western Balkans, particularly in the context of their European future. “First, preoccupied with the economic troubles, the EU put the enlargement agenda to the backseat. Second, fighting the crisis is draining the Balkan governments’ resources and attention away from the necessary accession reforms and advocacy efforts. Third, as the EU is devising a new regime of economic governance, it will undoubtedly put more emphasis on the candidates’ economic and financial policies.” (Lessenski, 6)

Nevertheless, the challenge facing young people remains similar to that of their parents 20 years ago: how to participate in their communities and society at large with decent and productive jobs through which they can realize their full potential and achieve their aspirations.

The integration of young people into the labour markets in the Western Balkan subregion has become a pressing issue. In parts of the subregion, the youth unemployment rates are well above 50 %, counting among the highest in the world. These alarmingly high rates show increasing numbers of young men and women trapped in the informal economy or insecure work. Over 40% of young workers hold temporary positions, while it is estimated that approximately 44 % of them are engaged in informal employment with no employment contract or social security coverage. Furthermore, there is a rising number of young workers who have become discouraged in searching for job but who are available and willing to work.

Interventions have been developed throughout the subregion to address the youth employment challenge. They mostly rely on programmes to curb unemployment in urban areas and usually target highly-educated young people. However, fewer resources have been devoted to designing and implementing policies to improve employment prospects of all young persons or to measures targeting social exclusion of young workers.

The issue of youth employment in the Western Balkans was discussed at the Subregional Tripartite Meeting of Experts on Decent Employment for Young People, organized jointly by ILO and the Ministry of Labour, Family and Social Affairs of Slovenia (Ljubljana, December 2007). During the meeting, experts from the Western Balkans and Slovenia shared national experiences and good practice, as well as identified priority areas for future actions to be taken by governments, as well as employers’ and workers’ organizations. The problem of youth employment was among the priorities of the Slovenian Presidency of the European Union, which included the advancement of the European Union’s strategy “Growth and Jobs”, as well as bringing a new focus on the Western Balkans and particular attention paid to improving employment prospects of young people.

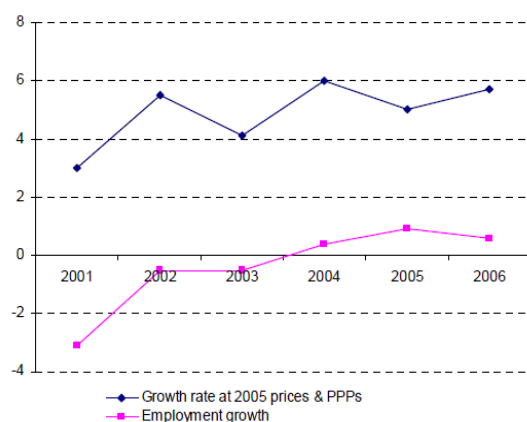
In recent years ILO has devoted increasing resources and attention to youth employment in the context of decent work promotion. The follow-up to a resolution concerning youth employment adopted at the 2005 International Labour Conference and the Conclusions of the Seventh European Regional Meeting (Budapest, 2005) comprised inter alia the development of a technical assistance programme for youth employment in the Western Balkans. This programme combines research and technical cooperation. The research is designed to improve knowledge of youth labour markets, while the technical cooperation includes the provision of technical assistance and advisory services on youth employment policies and programmes as part of Decent Work Country Programmes. Technical cooperation projects on youth employment are currently being carried out in Albania and Serbia, as well as in Kosovo. The projects are funded by the Governments of Italy and Spain.

In view of the close relationship between aggregate labour demand and youth employment prospects, we first give an overview of recent developments in the overall labour market in the Western Balkan countries illustrating both the common trends and national differences.

Next figure shows that the trend in employment growth did not completely follow the growth rate trend. For instance, the growth peaked in 2002 and 2004 but the corresponding employment growth rate was actually negative (2002) or below 1%. Only in 2005, the employment growth rate rose above 1%.

Figure 3. Trends in annual GDP and employment growth in the Western Balkans (2001-2006)

Figure 1: Trends in annual GDP and employment growth in the Western Balkans (2001 – 2006)



Source: ILO calculations based on UNECE database

Source: <http://www.ilo.org/public/english/region/eurpro/geneva/download/events/ministers2008/youth-west-balkan.pdf> pg. 4. [22 Sept 2013]

Data for the Western Balkans show that the subregion experienced the same path of jobless growth as the countries of Central and south-eastern Europe (CSEE) over the same period, at least with regard to jobs in the formal economy. During the period 2004-06, Croatia and the FYR Macedonia achieved an overall employment growth rate that was higher than the overall average for the Western Balkans (1.1% and 1.6%, respectively). Although the Serbian economy performed above the average for the subregion, with a growth rate of 6.8 %, its employment rate hardly moved upwards (-0.2 %). The employment rates in Kosovo and Bosnia and Herzegovina are extremely low (29% and 35 %, respectively), but are close to the EU average in Albania (59.4 percent). However, women's employment rates are a particular cause of concern as they are on average 20 % lower than those of men.

Most of the research on the labour markets in the Western Balkans conclude that these markets lack dynamic dimension but feature long-term unemployment which is very persistent. "Structural changes that occurred during the transition have led to high rates of structural unemployment and a mismatch between the skillssupplied in the labour market and the ones demanded by the emerging sectors." (Mojsoska-Blazevski, 17)

Table 4. Key indicators of the youth labour market disaggregated by sex, 2006, (%)

Country	Labour Force participation rate			Employment-to-population ratio			Unemployment rate			Inactivity rate		
	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women
Albania	36.6	41.5	32.1	31.9	33.5	28.6	12.8	14.4	11.0	63.4	58.5	67.9
Bosnia and Herzegovina	33.4	40.1	26.3	12.5	15.7	9.1	62.3	60.2	65.7	66.6	59.9	73.7
Croatia	35.9	39.9	31.6	25.5	29.1	21.8	28.9	27.2	31.1	64.1	60.1	68.4
FYR Macedonia	35.8	42.0	29.3	14.4	17.2	11.4	59.7	59.0	61.0	64.2	58.0	70.7
Montenegro	35.0	41.2	28.6	14.2	16.3	11.9	59.5	60.4	58.2	65.0	58.8	71.4
Serbia	35.8	40.8	30.6	18.7	22.5	14.8	47.7	44.9	51.7	64.2	59.2	69.4

Country	Labour Force participation rate			Employment-to-population ratio			Unemployment rate			Inactivity rate		
	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women
Kosovo	56.9	62.8	51.5	28.7	28.0	29.6	49.5	52.8	45.7	43.1	37.2	48.5
Western Balkans	38.5	44.0	32.9	20.8	23.2	18.2	45.8	45.6	46.3	61.5	56.0	67.1
EU-CSEE*	33.3	37.4	29.0	27.2	31.0	23.3	18.1	n.a	n.a	66.7	62.6	71.0
EU 27	44.1	47.4	40.6	36.4	39.4	33.4	17.3	17.0	17.7	55.9	52.6	59.4

Key: * EU-Central and South Eastern Europe

Source: ILO, 2008, p.7.

A population with a significant share of young people can be both an asset and a challenge. In the long term, a relatively young population is a potential for economic growth. In the short term, it may increase pressure on the labour market if insufficient jobs are available for the increasing numbers of young people leaving school.

The overall youth employment rate (youth employment-to-population ratio) in the Western Balkans was 20.8 % in 2006 (23.2 % for young men and 18.2 for young women). Despite robust economic growth, the youth employment rate in the subregion fell by over 2% between 2001 and 2006. Such a low youth employment rate indicates that the economy is unable to create enough jobs in the formal economy. The rate for the subregion compares unfavourably with that of the EU, as well as with the worldwide figure for 2005 (47.3 %). Only in Croatia did the youth employment rate increase (by almost 2 %) over that period. The gain was quite substantial for young men, but was more modest for young women (24 and 7 %, respectively). The biggest fall (nearly 5 %) was in Albania. Data on youth employment disaggregated by national origin or data for refugees and internally displaced persons is largely unavailable in the subregion.

Nearly 68% of young workers in the Western Balkans are engaged in wage_employment. The percentage of self-employed young workers is half the rate for adult workers (10.9% compared with 20%), with young Bosnians being the most entrepreneurial in the region. The rate of young men in self-employment (13.2%) is almost double that of young women (7.3 %). As in other regions of the world, young persons prefer to acquire their skills and work experience through salaried work before entering self-employment. The number of young persons engaged in family work is more than three times the rate for adults (21.6 compared with 6 %). This suggests that young persons are more prone to underemployment than adults. In this respect, Albania has the highest rate in the Western Balkans with over 57% of young workers being engaged in family work. The private sector accounts for almost 84 % of young persons who are in wage employment, which is 20% higher than the rate for adults in the subregion. In the Western Balkans youth unemployment remains a daunting challenge.

Almost 46% of young people in the subregion labour force were unemployed between 2005 and 2006 (the rate was 45.6% for young men and 46.3% for young women). In comparison, the rate for the EU-27 in 2006 was 17.3%, while the worldwide rate was 13.5% in 2005. With rates of around 50%, most of the Western Balkans countries and Kosovo have the highest rates of youth unemployment in the world, with teenagers being at a greater disadvantage than young adults (56 compared with 43 %, respectively).

The disadvantage of young workers in relation to adults is such that there are 2.4 unemployed young persons for every unemployed adult. Over the past five years, youth unemployment in the subregion has increased by 5%. Croatia is the only country in the subregion that has succeeded in significantly reducing the youth unemployment rate over that period (a reduction of 12.2 %).

The share of unemployed youth in the total youth population (the youth unemployment ratio) is another indicator of the disadvantage of young workers in terms of unemployment. Together with the employment and inactivity rates, it gives a picture of the distribution of youth by activity status. The average youth unemployment ratio for the region is 17.5%. The highest ratio (28.2%) is in Kosovo, followed by FYR Macedonia (21.5%), while the ratios are lowest in Albania (5.5%) and Croatia (10.3%).

Table 5. Serbia-Main general and Youth labour market indicators 2008-2010

Years	Rate	Apr-08	Apr-09	Apr-10
15-24	Employment rate	21.00	16.80	15.10
	Unemployment rate	32.70	40.70	46.40
	Activity rate	31.10	28.30	28.20
15-64	Employment rate	54.00	50.80	47.20
	Unemployment rate	14.00	16.40	20.10
	Activity rate	62.80	60.80	59.10
15-24/15-64	Employment rate	0.39	0.33	0.32
	Unemployment rate	2.34	2.48	2.31
	Activity rate	0.50	0.47	0.48

Source: Arandarenko, p. 10.

Unemployment of young people aged 15-24 in Serbia is almost at a dramatical level (50.9%) and is well above the overall unemployment rate of 26.1% (National Action Employment Plan Serbia, 5). The youth unemployment rate in April 2012 decreased by 1 percentage point compared to November 2011 (51.9%). However, despite the reduction in the unemployment rate, data show that every second young person in Serbia is unemployed.

According to the current employment policy in Serbia, increasing youth employment is among its priorities and the policy should "...encourage of employment, the development of social entrepreneurship and social inclusion of persons with low employability and the needs of vulnerable groups of the unemployed, especially the young, redundancies (elderly) people in rural areas." (National Action Employment Plan Serbia, 7). It is planned to have a more active role of the National Employment Bureau, which should react promptly to a young person's registration with the bureau, assess the person's level of employability, determine the individual employment plan measures needed to increase the employability, offer counseling, internships, training, subsidies, support the development of youth entrepreneurship, etc.

CONCLUSION

The world is facing a worsening youth employment crisis: young people are three times more likely to be unemployed than adults and almost 73 million of young persons worldwide are looking for work. The youth unemployment, its causes and consequences, has not been extensively researched. Despite political declarations in many countries that young persons should get more opportunities to work and contrary to certain partial measures, a comprehensive approach to tackling this issue can be found in a few countries, including recent EU initiatives. Some of the questions related to the future research but also to policy makers in the Western Balkans are: What is the future of world economy if one of the

priorities on the global level as well as on the national one is not young people as vehicles of economic development? How will countries on the crossroad make their economies competitive on the global scale without young people on labour market?

How will educational and scientific institutions overcome the gap between vocations and needs of the labour market? How can the Western Balkan subregion make itself a manufacturing region again? Where is our future without young persons in the economy?

With the rates of 50%, most of the Western Balkans countries and Kosovo in 2006 had the highest rates of youth unemployment in the world. Serbia and other countries in the region are facing a severe economic and social challenge to deal with extremely high unemployment rates among youth. Although such a trend has been evident for a number of years, only a few partial and temporary programmes have been implemented so far. The case of the “First Chance” programme implemented in some Serbian cities is an illustrative example in that respect. Even when such measures were implemented, they had not been created not even discussed with other social partners, like academia, schools, employers’ or workers’ organizations, student unions, non-governmental groups, etc.

LITERATURE

- 1) Arandarenko M. (2011) *European Employment Observatory EEO Review: Youth Employment Measures 2010 Serbia*. European Commission, Directorate-General for Employment, Social Affairs and Inclusion, Unit C1, Luxembourg: European Union
- 2) Coenjaerts, C., Ernst, C., Fortuny, M. Rei, D. and M. Pilgrim (2009), *Youth employment, Promoting pro-poor growth: Employment*. OECD.
- 3) European Commission (2013), *Employment, Social Affairs & Inclusion: EU measures to tackle youth unemployment*. <http://ec.europa.eu/social/main.jsp?catId=1036>
- 4) International Labour Office (2013), *Global Employment Trends for Youth 2013: A generation at risk* ILO, Geneva. http://ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_212423.pdf
- 5) International Labour Office (2011), *Trends econometric models: A Review of methodology*. ILO, Geneva.
- 6) International Labour Office, (2013), *Global employment trends 2013: Recovering from a second jobs dip*. ILO, Geneva. http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_202326.pdf
- 7) Government of Serbia (2013), *National Action Employment Plan: Serbia*. Belgrade. <http://www.minrzs.gov.rs/doc/zaposljavanje/NAPZ%202013.pdf>
- 8) International Labour Organization (2012), *The Youth Employment Crisis: Time For Action*. ILO, Geneva.
- 9) International Labour Organization (2008), *Young people and their transition to decent work in the Western Balkans*. ILO, Geneva. <http://www.ilo.org/public/english/region/eurpro/geneva/download/events/ministers2008/youth-west-balkan.pdf> pg.1-13.
- 10) Lessenski, M. (2010) *How Are the Balkans Weathering the Storm Of the Economic Crisis: Comparing the Implications Across Countries in the Regional and European Context*, in: *The Western Balkans: Between The Economic Crisis and The European Perspective*, Institute for Regional and International Studies, Sofia.
- 11) Manalika, J., Lund, S. (2012) *Help wanted: The future of work in advanced economies*, McKinsey Global Institute Discussion Paper..
- 12) Manpower Group (2012) *Youth unemployment challenge and solutions*. Milwaukee, WI.
- 13) [Mojsoska-Blazevski, N. (2012) *Challenges to successful employment policy in the region: Towards more jobs, quality labourforce and greater competitiveness*. *Western Balkans Investment Framework Discussion Paper*, IFI Coordination Office, Belgium.

-
- 14) World Bank (2007) *World Development Report 2007: Development and the next generation*. Washington, DC.
 - 15) Internet sources:
 - 16) http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Unemployment_statistics
 - 17) <http://www.ilo.org/global/meetings-and-events/events/youth-day/lang--en/index.htm>
 - 18) http://www.ilo.org/employment/areas/youth-employment/WCMS_192889/lang--en/index.htm
 - 19) <http://www.managementstudyguide.com/youth-unemployment-and-causes.htm>

THE ROLE OF INFORMATION TECHNOLOGY IN KNOWLEDGE MANAGEMENT PROCESS

Slavoljub MILOVANOVIC¹

Abstract

In order to be successful in today unstable, competitive business environment, an organization should try to develop new products and services with better quality, to response faster on market changes and to better satisfy consumers needs. It becomes apparently that eventual bottleneck in achieving the aims is not only ineffective use of workforce and capital, but inability of the organization to effectively manage knowledge of its employees. Knowledge management more and more is becoming challenge for modern organizations and various information technologies (IT) can be used to support process of knowledge management. Knowledge management IT includes applications, tools and technics supporting collaboration, teamwork, cooperation and communication of employees. With effective process of knowledge management supported by IT, organizations can improve business practices, deliver innovative products and services and gain competitive advantage. Aim of this paper is to explain role of IT in today knowledge based economy and process of knowledge management.

Key words: Knowledge management process, information technologies, knowledge-based economy

INTRODUCTION

Knowledge-based economy is defined as economy which is directly based on the creation, diffusion and use of knowledge and information. Another feature of the economy is implementation of IT in process of creation, diffusion and use of knowledge and information. Term knowledge-based economy is close connected to term information society which is result of growing codification of knowledge supported by IT and its transfer through digital networks. Effective knowledge and technology diffusion are becoming key factor of success for every economy. The knowledge-based economy has implications on employment and the role of governments in the development and maintenance of national digital networks (ICT infrastructure) and the knowledge base. (Foray 2004)

On the other side, if we consider an organization there are four main interactive activities related to knowledge management process. First activity is acquiring and creation of knowledge. Acquiring of knowledge refers to action of internalization of existing information while creation of knowledge describes act of new knowledge generation. Second activity is representation and storage of knowledge with aim of presenting of knowledge in appropriate form and its storing in knowledge bases. Third activity is knowledge distribution that represents act of dissemination of knowledge across organization. Fourth activity in knowledge management process is application of knowledge and it represents demonstration of gained knowledge. (Wickramasinghe, Lubitz 2007)

Many information technologies can be used in the knowledge management process. Some of them are emerged in last few years, so organizations have to track turbulent technological trends in order to avoid disadvantages in application of contemporary information technologies for knowledge management. Although IT can assist in the knowledge management process, it can not initiate this process without interaction with people who provides context needed for relevant generation of

¹ Slavoljub, PhD, Professor, Faculty of Economics, University of Nis, Serbia

knowledge and tries to give meaning to real business events. Therefore, except IT, human and social components are crucial in creation and transmission of knowledge. (Palanisamy 2008, 100-120.)

Basic aim of the paper is to analyse role of IT in knowledge-based economy and knowledge management process of an organization. In order to accomplish the specified aim, paper is structured in six sections. In the next section we explain concept of knowledge-based economy and role of IT in the economy. Third section is dedicated to various types of knowledge and the role of IT in codification of these types of knowledge. The phases of knowledge management process in organizations are subject of fourth section while fifth section gives brief review of various information technologies which can be used in this process. Final section is dedicated to concluding remarks on the role of IT in knowledge-based economy and knowledge management process.

THE ROLE OF KNOWLEDGE AND IT IN CONTEMPORARY ECONOMY

Researchers and policy makers attempt to understand the role of knowledge and technology in driving productivity and economic growth. In that sense, key elements are investments in research and development, education and training. Knowledge investments, knowledge distribution through formal and informal networks are vital for economic growth. Explicit knowledge can be codified and transferred through computer networks but there is tacit knowledge which can not be easily codified. This knowledge includes the skills to use and adapt codified knowledge, with emphasis to continuous learning by individuals and organizations. In the knowledge-based economy, innovation is guided by the interaction of knowledge producers and users in the exchange of both explicit and tacit knowledge. Every country tries to establish national innovation systems, which is made of the relationships between industry, government and education and research institutions in the development of science and technology (King 2007).

Therefore knowledge-based economy is result of full recognition of the role of knowledge and information technology in economic growth. Knowledge is embodied in human beings (human capital of any country or organization) and in knowledge base supported by contemporary information technologies. Developed economies are more strongly dependent on the creation, transfer, diffusion and use of knowledge. Output and employment are expanding fastest in high-technology industries, such as computer industry, electronic industry, telecommunication industry etc.

The high-technology industries and knowledge-intensive service sectors, such as education, communications and information, are growing very fast. It is estimated (OECD 1996) that more than 50 per cent of Gross Domestic Product (GDP) in the major OECD economies is now knowledge-based. This is reason that investment is directed to high-technology goods and services, particularly information and communications technologies.

Computers and the other hardware devices are the fastest-growing component of tangible investment, but there is intangible investments in research and development (R&D), the training of employees, computer software and technical expertise. Although the manufacturing sector is losing jobs in developed countries, employment is growing in high-technology, science-based sectors such as computer industry, telecommunication industry, health, pharmaceutical industry. These jobs are highly skilled with higher wages than those in manufacturing sectors such as textile, chemical, food industries etc. Knowledge-based jobs in service sectors are also growing. Knowledge workers are defined as employees who are not directly engaged in production of physical products but in production of information and knowledge. These employees are computer engineers, programmers, lawyers, marketing specialists etc. The use of new information technologies contributes to productivity improvement and to increase of the "skills base" of the employees in both manufacturing and service sectors. The use of IT is also reason that knowledge work is more paid than manual work.

Explained trends are leading to revision of economic theories and production function. Classical production function encompasses labor, capital, materials and energy, but knowledge and technology have not direct impact on production. However, contemporary economic theories include knowledge more directly in production functions. In fact, investments in knowledge and IT can increase the productive capacity of the other factors of production and these knowledge investments increase returns so they are the key to long-term economic growth.

Incorporating knowledge into standard economic production functions is not an easy task. Some basic economic principles, such as scarcity of resources are not matter. Knowledge and information resources tend to be abundant but scarceness is related to the ability to use them in productive ways. Also, knowledge can not be easily transformed into the object of standard economic transactions such as selling and buying. Buying of knowledge and information is difficult because information about the characteristics of what is sold is asymmetrically distributed between the seller and the buyer. Some kinds of knowledge can be easily reproduced and distributed at low cost to a great number of users but the other kinds of knowledge can not be transferred from one organization to another or between individuals without establishing complicated links in form of network or without investing substantial resources in the codification and conversion of knowledge into information (van Bommel 2005).

THE ROLE OF IT IN KNOWLEDGE CODIFICATION

In order to better understand the role of knowledge and IT in economy and role of IT in knowledge management process of organization, we should make distinctions between different kinds of knowledge which are important in the knowledge-based economy: know-what, know-why, knowhow and know-who. Knowledge has a much broader meaning than information. Information is narrow term in comparison to knowledge because represents “*know-what*” and “*know-why*” elements of knowledge. These elements and the types of knowledge are similar to market commodities or economic resources which can be incorporated into economic production functions. Other types of knowledge (particularly know-how and know-who) are more tacit or implicit knowledge and are more difficult to articulate, codify and measure (McCall, Arnold, Sutton 2008).

Know-what type of knowledge is knowledge about “*facts*”. This knowledge is close to ordinary information that can be broken down into bits. In some complex domains, experts must have a lot of this kind of knowledge in order to do their jobs. Experts and professionals of law and medicine belong to this category.

Know-why is scientific knowledge that refers to the principles and laws of nature. This kind of knowledge is created and used in most industries for technological development and product and process improvement. Research laboratories and universities are specialized organisations where creation and reproduction of know-why type of knowledge is usually organised. In order to get access to this kind of knowledge, businesses have to interact with these organisations. Forms of the interaction could be recruiting scientifically-trained professionals or direct provision of this knowledge through contacts and joint activities.

Know-how knowledge is skill or the ability to do some tasks and activities. Marketing manager forecasting market prospects for a new product or a human resources manager selecting and training employees have to possess and use this kind of knowledge. Skilled employee operating complicated machine is another example for use of this type of knowledge. This kind of knowledge is usually developed in several organizations connected in some type of network designed specially for this knowledge development an use. Purpose of industrial networks creation is just fulfillment of the need of firms connected to the networks in sharing and combining elements of know-how knowledge.

Know-who type of knowledge includes information about who knows what and who knows how to do what. In order to get access to experts and use their knowledge efficiently an organization must create

special social relationships. In contemporary economies skills are widely dispersed because of a high level of division of labor among organisations and experts. In these economies, creation of special social relationships is very important. For the contemporary manager and firm, it is important to use this kind of knowledge in response to the turbulent and changeable environment. The know-who kind of knowledge is internal to the organisation to a higher degree than any other kind of knowledge.

Management of the four kinds of knowledge is very complicated and acquiring these management skills can be achieved through different channels. Know-what and know-why kind of knowledge can be acquired through reading books, attending lectures and accessing databases. However, the other two kinds of knowledge can be obtained primarily through practical exercises and experience. Know-how knowledge could be acquired when apprentice follows a master who is represent authority to learner (apprentice). Know-who type of knowledge is acquired in social practice and sometimes in specific educational environments. It also can be acquired in everyday interactions with customers, suppliers and independent institutes. Some organizations engage in fundamental research to acquire access to networks of researchers and academic experts vital for their innovative capability. Main characteristic of know-who kind of knowledge is that it is socially embedded which cannot easily be transferred through formal information channels. (Schwartz 2006)

The development of information technology is actually a response to the need for management of the know-what and know-why types of knowledge. Information technology and communications infrastructures gives applications and tools which can be used in process of codifying certain types of knowledge. All knowledge which can be codified and transformed to information can now be transferred over long distances with very limited costs by use of these infrastructures. This contemporary trend of codification of some components of knowledge leads to the information society where a majority of workers will soon create, manage and distribute information or codified knowledge.

The IT revolution has intensified the move towards knowledge codification. Balance between codified (explicit) and tacit (implicit) knowledge is altered in the knowledge repository of the economy. Codified knowledge is increasing its share in this repository while tacit or implicit knowledge is decreasing. Today digital networks connect a huge number of public and private information sources, including digitized books, scientific journals, libraries of working papers, images, video clips, sound and voice recordings, graphical displays as well as electronic mail. These information resources, connected through various communications networks, represent the components of an emerging, universally accessible digital library. (Coakes 2003)

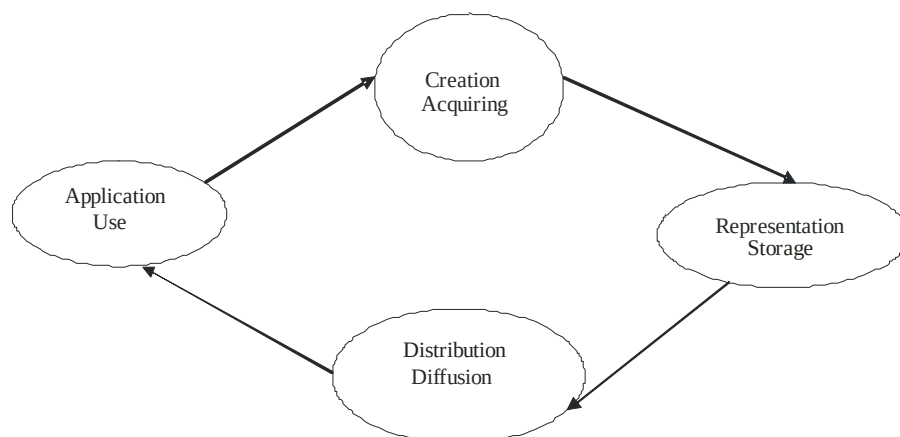
This trend of knowledge codification influences on features of knowledge so that knowledge is becoming a commodity. Also there are the other influences of that trend directed to market transactions, and distribution of knowledge. In fact, market transactions are facilitated by codification so distribution of knowledge is accelerated. Beside this, additional investments to acquire further knowledge is reduced by creating links between fields and areas of competence. These developments have positive implications for economic growth because of an acceleration of the rate of growth of accessible knowledge. On the other side, increased change in the knowledge repository implies higher rates of knowledge obsolescence, that makes challenge for decision makers to develop the economy's adjustment abilities. While information technologies are accelerating the codification of knowledge and contributing to growth of the knowledge-based economy, they have implications for the labor force and decision makers on organizational and country level.

KNOWLEDGE MANAGEMENT PROCESS

As we mentioned in introduction section, knowledge management process in organizations consists of following phases: 1. acquiring and creation\generation of knowledge, 2. representation and storage of knowledge, 3. distribution and diffusion of knowledge and 4. application and use of knowledge. This

process can be viewed as closed cycle that is shown on figure 1. (Deng-Neng, Ting-Peng, Binshan 2010, 11-22)

Figure 1. Process (cycle) of knowledge management



Presented knowledge management process suggests that acquiring of knowledge is starting point of all activities of an organization. When the organization obtains some level of existing knowledge, it uses this knowledge for creation of new knowledge. The organization also can distribute existing knowledge to certain members of organization. After distribution of knowledge it should be in useful form in order to be used in appropriate organizational and business context. When the knowledge is used, received results can lead to additional information which can be used in a new process of knowledge creation. In the next paragraphs these activities are explained in more details.

1. Acquiring and creation\generation of knowledge. Acquiring of knowledge is starting point of knowledge management process. This activity represents adoption of existing knowledge through processes such as knowledge transfer, knowledge sharing, observation, interaction, self-research, self-study. The activity of knowledge acquiring provides that knowledge base, needed for intelligent problem solution, be continuously updated and enables recognition of importance of information for solving current problems. If we view acquiring of knowledge on that way, this activity is similar to act of learning. Creation or generation of knowledge which can be viewed as subset of knowledge acquiring deals with gaining of new knowledge from previous or existing knowledge. When individuals acquired existing knowledge, this knowledge is then used as base for creation of new knowledge. This new organizational knowledge is generated through process of knowledge acquiring. This new organizational knowledge can be in form of innovation, business process improvement, new product design, market intelligence or strategic directions for the future.

In contrast to acquiring of knowledge, activity of knowledge creation is focused only to generation of new knowledge. Knowledge creation can be presented through a spiral of knowledge which is made by knowledge transfer between members of an organization. The spiral of knowledge refers to tacit and explicit knowledge. Tacit or implicit knowledge is personal knowledge specific for particular context and it is difficult to formalize and transfer it. It includes cognitive modeling such as creation of mental models and technical knowledge that is concrete and related to skills and subjective insight.

In comparison to tacit knowledge, explicit or codified knowledge is appropriate for technological and computer manipulation, it can be transferred in formal, systematic language expressed in symbols, words and/or numbers. Tacit knowledge is based on experience and it is hard to transfer it. It means that tacit knowledge is learned implicitly through personal interpretation and information processing based on believes, opinions, experience, emotions and the all aspects of human consciousness. Tacit

knowledge as main component of knowledge creation is imperative for functioning process of knowledge generation. In a process of internalization, explicit knowledge is converted to tacit knowledge through experienced learning. Experienced learning includes use of sense in interpretation of signals from environment and creation of individual meaning of knowledge as response to the presented reality. Creation of knowledge is central activity in knowledge management process of an organization. With reciprocal relationship to application of knowledge, it is essential activity in innovative process of every organization. Based mainly on conversion of tacit knowledge, creation of knowledge as well as acquiring of knowledge, is human activity relied on sociological and psychological factors. Therefore IT is not main tool on which creation of knowledge is based. IT can be only subsidiary tool in creation and acquiring of knowledge. (Tiwana 2006)

2. Representation and storage of knowledge. In order that knowledge is used efficiently and effectively in organization, it has to be represented and stored. On many ways, representation of knowledge is close related to creation of knowledge. However, it is possible to represent only explicit knowledge in data bases and knowledge bases. Therefore, tacit knowledge which is created must be first transformed to explicit knowledge through process of codification before it is represented. While storage of specific knowledge is important by itself, it is essential also to develop cartography which shows where particular type of knowledge is stored. There are IT and tools that facilitate process of knowledge mapping. (Sullivan 2005, 134-140)

3. Distribution and diffusion of knowledge. Distribution of knowledge is second central activity in knowledge management process. In literature which deals with knowledge management and its organizational components, more attention is paid to acquiring, creation and application of knowledge. Although it is important for organizations to acquire existing knowledge and to create new knowledge, distribution of knowledge is important as well. Namely in order that knowledge to be used for gaining competitive advantage, it must be made useful or it must be distributed through organization to individuals responsible for tasks such as innovation, design of new products/processes etc.

The activity of knowledge distribution is in interaction with every other activity of knowledge management in order to optimize and complete structure of knowledge management process in an organization. Similar to two previously described activities, distribution of knowledge is process mainly directed to people, though IT plays main role in facilitation of knowledge distribution in organization. Knowledge distribution is social and technical activity organized through interaction between organizational culture and technology.

Social processes such as organizational procedures, hierarchical structure and social networks influence on participants of interactions in organization: they can directly enable or prevent process of knowledge distribution in organization. Technological support to knowledge distribution is taking place with aid of information technologies such as electronic mail, groupware, electronic bulletin boards, intranet, electronic forums, teleconferences, videoconferences, Web 2.0 tools etc. These technologies are designed to support interaction, but if members of an organization are not encouraged to communicate through individual motivation or through good design of organizational culture, the interaction will be limited and process of knowledge distribution will not give full effects. Regardless that IT has central role in process of knowledge distribution, social processes in organization are catalysts of knowledge diffusion through its internal channels. Success of knowledge distribution in an organization is directly connected with organizational culture which serves as framework for interaction.

4. Application and use of knowledge. Application or use of knowledge is the last activity in knowledge management process and primarily is directed to use and manipulation of knowledge that is acquired and created in organization. The great part of literature which treats knowledge management deals with application of knowledge in organization. Knowledge application is focused to mode of knowledge use so that value and good competitive position are created for organization. Knowledge application is contextual and perceptive in nature. In order to use knowledge, an individual

has to understand basic context in which operate. This knowledge is used for creation of acceptable response to perceived real situation.

Without business and organizational context, computers which possess and receive knowledge in form of input from users can not be fully engaged in process of knowledge application by now. Computers and the other information technologies lack ability of context creation and situation perception because that ability is based on experience and interpretation of external environment. Evaluation of external environment and perception of reality come from potentially unlimited number of input combination which are based on social, historical, psychological and cultural factors. Presently computers are best used in process of knowledge application as tools that assist in human operations in effective decision making.

IT FOR SUPPORT TO PROCESS OF KNOWLEDGE MANAGEMENT

Information technologies for knowledge management encompass applications, tools and technics of collaboration and issues related to teamwork, cooperation and group dynamics as well. Organizations more and more reveal potential of knowledge management that results in unlocking and effective use of information and knowledge resources (tacit and explicit). Doing so organizations improve business practices and processes, develop innovative products and services and gain competitive advantage. Internet technologies provides needed connectivity and interoperability offering inexpensive, standardized, verified and compatible infrastructure such as intranet. However development of intranet as base for communication in an organization is still not adequate condition for improvement of knowledge management. Organizations have to develop and optimize internal information resources in order to exploit its potential. Then they have to use external sources of knowledge including joint venture partners, strategic alliances and universities in order to improve or increase their capacities. Finally an organization has to obtain to all participants of its value chain framework for comprehension and participation in operations of the organization in order to improve these operations and potentials for profit growth.

IT for knowledge management supports organizations to improve knowledge creation and to encourage its multiplication and diffusion through the organizations. These information technologies enable collection, coordination and distribution of information and knowledge so that team members can effectively collaborate in achieving of common goals. Many information technologies for support to knowledge management such as workflow, teleconference tools, electronic meeting tools are implemented in intranet and extranet environments of many organizations in developed countries. Only through creation of knowledge networks (inside and between organizations), organizations can eliminate spatial and time barriers between distributed groups, improve quality and productivity and gain competitiveness on global market which is continuously extending. (Sheng-Tun, Fu-Ching 2009, 53-65).

When main IT and tools for knowledge management are analysed, we should focus on its influences and technological potentials. It is useful to think on main information technologies for knowledge management in context of its social role in an organization so that these technologies facilitate knowledge sharing and socialization (generation of organizational knowledge), conversion of information to knowledge through easier access, internalization and learning (supported with appropriate working environment and culture), conversion of tacit knowledge into explicit knowledge or information for efficient and systematic storage, retrieval, sharing and use of knowledge.

Second useful approach which should be considered is to group information technologies according activities consisting phases in knowledge management. According this criterion, information technologies for knowledge management can be grouped in two categories: IT for storage and codification of knowledge and IT for sharing and distribution of knowledge. Such a conceptualization of IT emphasizes its basic technical possibilities.

IT for storage and codification of knowledge. There are various tools which can be used for storage and codification of knowledge such as databases and various systems of artificial intelligence including expert systems, neural networks, fuzzy logic, genetic algorithms and intelligent or software agents. Special databases called data warehouses are developed (DW) for effective analysis of data. DW is database with report generation, query and data mining tools. It stores current and hystorical data extracted from various operational information systems of an organization and consolidated for management reporting and analysis. Frequently used technics for discovery and derive knowledge from database are data mining technics. Contemporary business decision making requires modern artificial intelligence technologies. This field of artificial intelligence use is called business intelligence and more and more researchers and managers use business intelligence tools in prediction of business and financial trend. One of basic aims of business intelligence is to transform data to information and then in knowledge. (Binner, Kendall, Chen 2004)

IT for sharing and distribution of knowledge. Computer networks provide effective media for communication and knowledge development. Internet and intranet are used as a basic infrastructure for knowledge management. Intranets became primary IT infrastructure in many organizations in last decade. Intranet is platform based on internet principles and technologies available only to members of some organization/community. Intranet can obtain platform for secure information management systems in organizations. These systems support people organized in virtual teams and they can collaborate without geographical and time limitations. Although internet platform has open access, intranet is limited on members of an organization/community through multilayered security control. The same platform can be extended to external users (dealers, registered customers, on-line members etc.) with limited access. In that context, extended intranet is called extranet. The extranet can be significant platform for knowledge generation and sharing in building relationships with business partners and improving quality and effectivity of customer service/support.

Systems and tools which are used for sharing and distribution of knowledge are following: electronic mail, group collaboration systems, groupware, intranet, extranet and internet tools, document management systems. In addition there are geographical information systems encompassing digitized maps integrated with power computers and software which allows adding and manipulation of various types of demographic and corporative data on maps. Also help desk technologies, office tools such as text processing, desktop and web publishing can be used for sharing and distribution of knowledge. Computer Supported Collaborative Work (CSCW) refers to issues of joint knowledge development and includes following knowledge management technologies: Group Decision Support System (GDSS), groupware and contemporary Web 2.0 technologies and tools that allow users to generate and share online information or knowledge they have created (wikis, blog, social networking tools, content hosting services, podcasting etc.) (Halawi, McCarthy, Aronson 2008, 121-135)

Appropriate CSCW environments are intranets and extranets based on web standards and internet protocols which will replace or supplement proprietary software products such as Lotus Notes. Integration of all these systems with improved decision support systems and on-line real time systems assists organizations to better study customers needs and to develop business strategies according to the needs. Such a holistic view to various tools and technologies is very useful when employees in an organization try to discover knowledge which is hidden in transactional and analytical databases.

CONCLUSION

Contemporary economies and societies are based on growing codification of knowledge supported by IT and its transfer through digital networks. Effective knowledge and technology diffusion are becoming key factor of success for every economy and society. We should make distinctions between different kinds of knowledge which are important in the knowledge-based economy: know-what, know-why, know-how and know-who. The IT revolution has intensified the move towards codification of explicit knowledge which belongs to know-what and know-why type of knowledge.

Codification of tacit knowledge which belongs to know-how and know-who type of knowledge is more difficult task. However balance between codified (explicit) and tacit (implicit) knowledge is altered in the knowledge repository of the economy. Today digital networks connect a huge number of public and private information sources (digitized books, scientific journals, images, video clips etc.) and contribute to increasing share of codified knowledge in the knowledge repository.

If we consider an organization there are four main interactive activities related to knowledge management process and creation of knowledge repository in the organization . First activity is acquiring and creation of knowledge. Second activity is representation and storage of knowledge with aim of presenting of knowledge in appropriate form and its storing in knowledge bases. Third activity is knowledge distribution that represents act of dissemination of knowledge accross the organization. Fourth activity in knowledge management process is application of knowledge and it represents demonstration of gained knowledge. Many information technologies can be used in the knowledge management process. For example, there are various tools which can be used for storage and codification of knowledge such as data warehouses and systems of artificial intelligence including expert systems, neural networks, fuzzy logic, genetic algorithms and intelligent agents. Computer networks provide effective media for communication, sharing and distribution of knowledge. Internet and intranet are used as a basic infrastructure for these activities. Computer supported collaborative work based on the networks assists in knowledge sharing and distribution through group decision support systems, groupware and contemporary Web 2.0 technologies.

LITERATURE

- 1) Binner, J.M., Kendall, G., Chen, S. (2004) *Applications of Artificial Intelligence in Finance and Economics*, Elsevier Ltd., Amsterdam.
- 2) Coakes, E. (2003) *Knowledge Management: Current Issues and Challenges*. Idea Group Publishing, Hershey.
- 3) Deng-Neng, C., Ting-Peng, L., Binshan, L. (2010) An Ecological Model for Organizational Knowledge Management. *Journal of Computer Information Systems* 50(3): 11-22.
- 4) Foray, D. (2004) *Economics of Knowledge*. Massachusetts Institute of Technology, Boston.
- 5) Halawi, L. A., McCarthy, R. V., Aronson, J. E. (2008) An Empirical Investigation of Knowledge Management Systems' Success. *Journal of Computer Information Systems* 48(2): 121-135.
- 6) King, W. R (2007) IT Strategy and Innovation: Recent Innovations in Knowledge Management. *Information Systems Management* 24(1): 91-93.
- 7) McCall, H., Arnold, V., Sutton, S. G. (2008) Use of Knowledge Management Systems and the Impact on the Acquisition of Explicit Knowledge. *Journal of Information Systems* 22(2): 77-101.
- 8) OECD (1996) *The Knowledge-based Economy*. Organisation for Economic Co-operation and Development. Paris 1996. Available on <http://www.oecd.org/science/sci-tech/1913021.pdf> (31.10.2013).
- 9) Palanisamy, R. (2008) Organizational Culture and Knowledge Management in ERP Implementation: An Empirical Study. *Journal of Computer Information Systems* 48(2): 100-120.
- 10) Schwartz, D. (2006) *Encyclopedia of Knowledge Management*. Idea Group Inc., Hershey.
- 11) Sheng-Tun, L., Fu-Ching, T. (2009) Concept-guided Query Expansion for Knowledge Management With Semi-automatic Knowledge Capturing. *Journal of Computer Information Systems* 49(4): 53-65.
- 12) Sullivan, K. (2005) Leveraging Knowledge Management Technologies to Manage Intellectual Capital. *Creating the Discipline of Knowledge Management - The Latest in University Research*, Michael Stankosky (ed.), Elsevier Butterworth-Heinemann, Burlington, 134-140.
- 13) Tiwana, A. (2006) *The Knowledge Management Toolkit - Practical Techniques for Building a Knowledge Management System*. Prentice-Hall Inc., New Jersey.
- 14) van Bommel, P. (2005) *Transformation of Knowledge, Information and Data - Theory and Applications*. Idea Group Inc. Hershey.
- 15) Wickramasinghe, N., von Lubitz, D. (2007) *Knowledge-based Enterprise - Theories and Fundamentals*, Idea Group Inc., Hershey.

MEDIA CORPORATISM AND PR REVOLUTION¹

Zoran JEVTović²
Zoran ARACKI³

Abstract

In modern society, institutions of mass communication take over the role of social paradigm constructing, performing, apart from informative also certain economic, cultural, security, psychological and propaganda functions and tasks. Modern capitalism from entrepreneurila is transformed into corporate whereas citizen democracy by forcing imposed PR images, instead of being in the service of the people turned into the means of elite serving. Media ownership is concentrated into the hands of fewer individuals, information production is directed to sophisticated propaganda patterns and strategies, profit more and more influences the content character, while corporate industry of consciousness is used for consumer interests of the richest and most powerful.

Global economic crisis, especially in transition societies is used as a screen of media companies harsh competition which, fascinated by profit virus decreases the criteria values and ethic standards. The paradox is more obvious: the number of media all over the planet every day rises but the number of influential media is becoming less and less! The power is transformed into authority which, using global media empires performs the product selling, changing the media character itself. Libertarian concept is quietly integrated into corporative, whereas the interests of capital are represented as general.

Key words: capitalism, corporatism, PR. Crisis, domination, new model

INTRODUCTION

Modern society has been changing in all segments of life, someplace loudly and noticeably and someplace quietly and covertly. Profit obsession is shaking the foundations of classical democracy whereas technology and corporatism is conquering the last oasis of critical opinion and freedoms. Information transferred to individuals by digital media allows much greater accessibility, speed and amount of data than earlier before, but at the same time it changes the nature of social conventions, safety, policy, culture and publicity. Internet has developed complex network community nature together with the rise of knowledge production and services, goods and intellectual property piracy and also first of all the crisis of traditional information industry, press and radio. Modern person reads less and watches more; believes more and doubts less; is silent more and interpersonally communicates less. Consciousness is lost into stretched marketing-mass media networks, while capital has been gradually buying public sphere turning media into idea packing factories and values surrogacy. Classical media forms have been transforming, entertainment and rating is in foreground while the audience is becoming the goods to be delivered on the powerful advertisers addresses.

Radical mass media industry transformation virus has long ago overtaken the whole of the world, and journalism is on one of the most serious turning points in its history. The society ability to plan,

¹ This paper is within projects No.179008 performed by University of Belgrade, Faculty of Political Science and University of Nis, Faculty of Philosophy and No. 179074 performed by University of Nis, Institute for Sociological Research of the Faculty of Philosophy financed by Ministry of Education and Science of Republic of Serbia.

² PhD, University in Nis, Faculty of Philosophy

³ PhD, University in Nis, Faculty of Philosophy

produce, manufacture, control, store or distribute public information to others reveals its political and safety power. Deliberative democracy model⁴ is founded on permeability of public sphere channels and directly depends on choice, type and format of information, discourse and data selection, which gives contextual form to communication space and time. The rules are imposed by global media or in hierarchy superior representatives of public interest (politicians, political parties, institutions, global media, institutions, lobbies, civilian society actors and other agents), but unequal distribution of economic and political power is adequately reflected to the scope and quality of media influence. Cultural models, national identity, political and philosophical paradigms, social conflicts and life styles are redefined in according to new geopolitical patterns, while information knowledge becomes the most important capital, especially among young⁵. Satellite communication, mobile phones, computers of undreamed technical possibilities, miniature cameras and digital appliances are some of the new revolution badges. Instead of muscles it is brain increasingly required, instead of raw power – intellectual capital!

Lately, civilization has been measured by the time before internet and after it, communication content and limits will never be the same, just as the audience. According to European Commission data, today 98% of households have the access to television, which more than 208 minutes daily spend in front of the TV screens⁶ and if you add to it some twenty minutes for listening to the radio, 15 minutes for reading newspapers or 165 reserved for internet and social networks, one will realize that XXI century person is increasingly involved into communication network. Seducing by symbols becomes the governing elite aim, whereas public and media managing develops new theories, techniques and models. The truth is formed in front of TV cameras, microphones or in digitized studios, whereas audience convinced that the watched recordings are not lying, slowly and disappointed realize that more often becomes the victim of journalistic fraud⁷. The truth order is based on imposing of symbolic representations, “new kind of spiritual violence as a social challenge, whereas magnetic field of the event in the public space makes public information, ways of their presentation and manipulation”.⁸

The traditional viewpoint that journalists are the guardians of democracy in digital society seems anachronistic, ethic rules, activities and techniques are destroyed in the context of existential survival drama, while the picture of public is created by professional PR teams, services and agencies helped by camouflaged power centers. In this wording we want to point to how the number of centers which by communication manage the world dramatically decrease, partly due to obvious crisis of classical media and also due to possessive wish of corporate elite for unconscionably increase of its capital under cover of open market. Science as a practice of knowledge is increasingly at odds with reality,

⁴ The Jürgen Habermas term which implies the model where the political decisions are given by the processes of negotiation, agreement and persuasion. (Habermas, 2007) The authors in this area recognize the importance of communication function paradigm as a kind of media power and particularly of the new social and cultural capital.

⁵ Due to greater accessibility of broadband wireless internet and networks for data transfer, only during this year it is expected to sell 391 million of computers and 803 millions of smart phones, Their users in 74% will be persons younger than 30. (Date of South Korean company experts “LG Electronics”, *Politika*, January 10th, 2013).

⁶ EC (2012). Fourth report from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions on the application of Directive 89/552/EEC “Television without Frontiers” , COM (2012)778 final, Brussels, 1.1. 2012.

⁷ Austrian boulevard most circulated journal, Vienna “*Kronen zeitung*” in the text about Bashar Al- Assad troops offensive, from destroyed Syrian city Aleppo, at the end of 2012, published the picture of a woman with the luggage in her hand, escorted by a man with a baby in his hands. The graphic designers of this journal changed the background by inserting the picture of destroyed buildings from 170 kilometers far city of Homs, and when they were criticized for that they adduced to “beauty” the snapshot, as also Reuters did in 2007 when broadcasted the photo of bombed Beirut, on which the smoke clouds above the ruins were the product of setting in Photo-shop!

⁸ Jevtovic,Z.:” Terrorism and the mass media transformation of religion in the global order”, *Politics and Religion*, No.1., Belgrade, 2007, pgs 99-100

because after communism departure the crisis of capitalism is more evident, whereas there is no new paradigm yet.

LIBERAL MEDIA INDUSTRY TURNOVER

The communication ways with citizens definitely determine the character of the authority and forms of political behavior. The production and distribution of media contents only few years ago was serious and socially important job, which was also very payable!⁹ After The Second World War 80% of daily papers in USA was of independent ownership, and in 1989 the relation was diametrically different – 80% was owned by corporations. That it is not random here are some more proofs: 20 corporations in 1981 owned about 11 000 magazines, and seven years later the number of owners was one digit number – only three! The profit of media industry is not only in money, because it is, first of all, political, cultural and social institution. It means that information is not ordinary good which brings gain, but also product which should preserve the specific social quality and power. The number of media does not mean the adequate pluralism of opinions! “in USA there is the impressive mass communication network, 1 700 daily papers, 11 000 magazines, 9 000 radio and 1 000 TV stations, 2 500 publishers and 7 film studios. If each of these agents is owned by one person, there would be in total of 25 000 different media views. This impressive number would totally guarantee the wide spectra of political and social ideas... But, there are not 25 000 of different owners in the USA. Today, 50 corporations own the most of media. 50 women and men who lead them may be put into one room. About them, is said figuratively that they make Private Ministry of information and culture” (Bagdikan, 1997:134). In the meantime, the number of important actors became even less: *Mather Jones* magazine published by the end of 2006 that eight media corporations dominated the news market in USA (Disney, AOL – Time Warner, Vicom, General Electric, News Corporation, Yahoo), some claimed that there are fewer.¹⁰

Journalist profession, which serves the citizen interests is turned from altruistic apprehension into ideology of capitalism by liberal concept, that is to money as only measure of success. Corporative professionalism promotes achievement possibilities of business oriented communication spheres, which by combining entertainment and information increase the wealth of prominent clients. The character and kind of ownership of media is changing in direction of unlimited commercialization, putting of PRs forward as an information pivot erases once clearly differentiated lines of deception and truth, while technological progress enables employees to create content in accordance to ordering party interests. Werner A. Meier, University professor in Zurich, member of Euro media research group, concludes that there are surprisingly few academic disputes on changes in media ownership because “undoubtedly media industry plays important role in legitimacy of wealth inequality, power and privileges. When the control of information flow, knowledge, values and pictures are in the hands of those who share power with dominating class, then governing class may determine what to circulate in mass media with the intention to keep structure inequality it profits from.”¹¹ The communication world is dramatically changed, for under the cover of classical media crisis is hidden increasing *political economy* which limits the individual freedom, especially of those who criticize the governing establishment.

Global corporatism at the same time is splitting the space into millions of invisible mass media arenas which are able to produce content for lonely individual, and simultaneously influential and powerful

⁹ In 1986, expert for Wall Street activities Kristofer Showu gave to potential media investors two reasons because of which it is good to buy newspapers, journals, radio and TV stations or publishing companies from books. The first reason is *profitability*. Second is – *influence* (Bagdakian, 1997, pg 11)

¹⁰ American media researcher Shah includes only five companies rightly concluding: “Fewer players, less freedom!” (Shah, 2009)

¹¹ Democracy is in danger, warns the Swiss professor because: “the industry of mass media is the key for creating of important information, knowledge, ideology and propaganda in modern capitalist society. (Meier, 2002:299)

media cherish audience of millions, providing the selective packages of sorted information. Significantly alter the content and meaning of human interaction, because the communication power is directed towards information hungry masses that under the media influence spread the spirit of spending collectivity. It is the culture of new technologies combined with electronic literacy, and no wonder the mass media engineering represent one of most profitable and most influential forms of modern economy.¹²

MODIFIED BUSINESS MODELS

Tradition and media industry do not have much in common; they meet only when their interests get closer. Global journalist brand, Washington Post, at the beginning of August 2013 was sold to Jeff Bezos (49), successful internet-entrepreneur who is at the 11th position on Forbes List.¹³ So, for the first time as of 1877, the paper is owned by the richest people, breaking the tradition of the famous journalist family Graham who owned it for the previous four generations. Economy is pitiless: for the last six years the Washington Post has been losing 40% of operational revenue, partly due to continuous decrease in circulation, partly due to reduced interest of great advertisers. The paper that achieved fame by revealing of Watergate scandal (it resulted in President Richard Nixon resignation), and the truth about Vietnam war ("Pentagon Papers), in competition with internet and new digital platforms has not succeeded to financially manage, regardless of trying with the painful cuts.

Boston Globe newspaper transferred from New York Times Company ownership into the hands of baseball team Boston Red Sox owner, John Henry who has never been into journalism as a business either. Company sold the daily paper for 70 million dollars, which is significantly less than it was paid when purchased in 1993, then it was paid even 1,1billion dollars. The receipt for saving of the press as traditional media has not been found yet, although it cannot be denied that there are numerous measure attempts! The example is Newsweek, which in 2010 tried to save Barry Diller, the owner of *Daily Beast*, engaging the famous editor Tina Braun, educated at Oxford, previously verified in the influential American magazines *Vanity Fair* and *New Yorker*. The idea was to combine the power of internet and quality journalism and thus create new audience thus enabling the paper survival. But in reality, the circulation was still falling down, the number of advertisers was decreasing, so the pressing became unprofitable. The newest owner – "IBT media" is dedicated only to digital releases (*Medical Daily*, *Latin Times* and *Digital Times*) and so there is no space for any expectations in classical printed issues papers experiments!¹⁴

The World Association of Newspapers (WAN) is trying to offer the public a soothing picture, and according to Gutenberg Galaxy statistics there is almost no crisis. In 2012, circulation on global level increased for almost one percent, but deeper analysis of the facts shows the alarming situation. The circulation increase is characteristic for the most populous, and also most uneducated parts of the planet (China, India and other Asia countries),¹⁵ whereas on the west hemisphere the papers are bought less! Asian countries flamingly defend their markets by limiting foreign investments in media to most of 26% of the capital, so big world companies are after loopholes through merging, acquisition and similar forms of joining, estimating that the size of the market in long time will make all the

¹² There are hybrid forms of TV programs in which issues of serious character, such as news or political debates, are mixed with light form of variety type. Information program is based on pronounced tabloid concept where sensational and monstrous is pointed and the research journalism which demands a lot of money and time eliminated from the program.

¹³ The man who has 28 billion dollars has never been in journalism, nor in the press, either. To be honest, he owns Amazon, the greatest virtual shopping malls on the planet, but Washington Post was bought as a personal property, including all the risk of further business.

¹⁴ Previously the Newsweek was owned by the investor Sidney Harman, who bought it from company "Washington Post" only for – one dollar!

¹⁵ Of 100 most sold papers in the world even 70 is from this region.

investments payable.¹⁶ It should be taken into consideration that newspapers in this part of the world are very cheap (two and half rupees – about ten dinars), because the rest of the expenses are covered by advertisers. At the same time, in Europe the income from advertisements in press is in constant decrease; in Ireland by the end of 2010 for 9%, in France 3,7%, Spain 16,2% and in Britain 12%.

In experience the modified business model that combines printed and digital issue, selling and advertisements, based on loyal audience persists in few big papers in America (*New York Times*, *Dallas Morning News*), in England (*Daily Telegraph*, *Daily Mail*), France (*Le Figaro*), Italy (*Corriere della Sera*)....¹⁷ Readers and advertisers started to move from profitable press to non profitable *online* sites. *Online* readers are worth several tens of cents, in comparison to dollars or euro which make press readers. The circulation change, in fact, has had more dramatic and direct influence on total media companies revenue than internet in the last decade.¹⁸

CORPORATISM GLOBAL PROCESSES MASTER

During the time the expenses of advertising become proportional with the time spent on the platforms, but up to now it seems that advertisers move more slower to *online* contents than readers, to whom they have to reach. Data from USA in 2012 show that advertising expenses and time spent on TV is almost the same (43 and 42 %), that newspapers still attract advertisers more (25%) than readers (7%), while for internet the ration is 26:22, and mobile phones 10:1%.¹⁹ The data imply that there will be the greater move of advertisers, especially in the countries where newspapers cover more than 30% expenses by advertising, such as Finland and Germany.

Experience in the last decade when there was careful analysis of the media market moves implies the reliable conclusion that “internet did not kill the printed press, but some internet sites destroyed profitable categories of advertising in the papers, which developed together with them”.²⁰ So, for example, papers in USA revenue decreased the most due to the end of their monopoly status in several advertising categories. Newspapers in Finland, Germany, England and partly USA still make significant revenue since they have great number of readers and continue to attract millions assigned to advertising. In France and Italy newspapers earn much less, because they have less readers. In China, Brazil and India the revenue is increased mostly due to new reader generations that come, and also due to revenue increase from advertising.

The press crisis has been shaking the Gutenberg industry foundations for several years, but according to the new data it is no good for the biggest televisions either. During 2011 televisions all over the world lost 8,5% of audience, but the number of people who watch video-contents on some of the social networks increased (84%). This is for the first time that the number of those who watch TV and those who watch similar contents on computers is equal.²¹ Television network *CNN* only two decades ago was the symbol of media reporting, measure to numerous politicians who in crisis situations made decisions tainted by spinning pictures which vastly arrived from the scene, often in live. When Chinese authorities were suppressing the movement initiated by the students on the square Tiananmen or when in 1991 Americans bombarded Baghdad, cameras of this global TV network were the eyes of

¹⁶ *International Herald Tribune* entered the partnership with domestic *Deccan Chronicle*, an tabloid *Daily Mail* with similar *Mail Today*.

¹⁷ Nielsen R. K. (2012): *Ten Years that Shook the Media World*, University of Oxford and Reuters Institute for the Study of Journalism, page 23.

¹⁸ Van der Wurff R, Picard R. (2008): *Economic Growth and Advertising Expenditures in Different Media in Different Countries*, *Journal of Media Economics*, 21, page 28-52

¹⁹ Sonderman J. (2012): *The One Chart that Should Scare the Hell Out of the Print Media*, May 30th.

²⁰ Quoted according Nielsen R.K. (2012): *Ten Years that Shook the Media World*, University of Oxford and Reuters Institute for the Study of Journalism.

²¹ Survey done in 56 countries based on 28 000 surveyed who completed electronic questionnaire: Source: Nielsen Agency, 2012 July (*Politika*, 10th July, 2012).

the world public; landing in Somalia or civil war in Bosnia and Kosovo and Metohija were followed with reporters in live, just the same as bombarding of Serbia by NATO alliance in 1999. Share increased with blood -shed quantity, the spectacle of horrible destruction haunted the audience, until the death knocked at their door step: 11th September Al- Qaeda attacked New York and Washington! The problem arose at the moment when the factory of screen shots was at a loss of material which would encourage the audience wishes,²² and also with appearance of the new consumer generation of adult on the digital nursery.²³

Corporatism is the shadow of current changes, the true winner of missed ideologies,²⁴ the real master of global processes. In complex capital society the authority spreads charisma on its democracy, hiding that it does not accept any critic of own responsibility for the living standard decrease, galloping unemployment, ecological destruction, economy failures...Key attributes of global media are: favor of transnational capital, corporate capitalism and neoliberal ideology, unfriendly relations toward social democrats, working class and nationalists, undermining of local cultures, support of material value orientation, production of contents promoting violence, immorality, entertainment, social pathology, representative or hybrid reality. From the point of dominant communication paradigm²⁵ the contents in them are not simple reflection of reality. Numerous factors influence that: media nature, journalist job character, information nature, social context, different influences on content, censorship, editorial policy, advertiser relations, society democracy, socio demographic characteristics of audience and similar. The essence of modern political governing is more and more in media prediction, controlling and managing of social crisis, that is their presence and absence in public space!²⁶

Corporative journalism and its logic are disastrous for pluralism development in society, as well as for over needed media freedom. They neglect basic principles of journalism and its control role in society, taking care only on how to make the highest profit for the boss (owner of the media). Applying such practice “ *journalists turn into, at least working force in media houses and are not much different from any other wage laborer who works for some corporation*” (Aracki, 2008: 363-378).

CONCLUDING REMARKS

Global media are the powerful factor of socialization, and also the sources of political power, so the question about media ownership and control over content is becoming crucial. Public media service

²² Famous media colossus has been in obvious crisis: citizens, interested in news turn no television less and less, because the first information source more and more becomes internet. CNN is at the fourth position regarding the 24 hour information program following, and evening share decreased to modest 200 000 watchers? Christiana Amanpour, the star the cable giant was recognizable for, recently has moved to competitive ABC (American Broadcasting Company), famous, Larry King stopped doing his show and left editorial board while editors by redefining of the program try to preserve at least the part of former glow.

²³ Following the political news on internet is in great increase: 1996, 4% of population via network followed such contents, 2004 number increased to 25% and in 2010 to total of 40%. It is determined that younger users (below 35 of age) referred to internet as the basic source of information (Lee Rainie, *Presentation to Personal Democracy Forum*, Pew Internet & American Life Project, May 15, 2010.).

²⁴ “The main power of all Fascism variations between two world wars- there were different manifestations from Mussolini’s original, via Hitler’s National Socialism to Roosevelt’s liberal Fascism – was in corporatism. That phenomenon and the term are very important for the future of democracy and capitalism, because the corporative power will outlive Fascism, mutate in post war societies, secure its position in the cold war which would give significant part of legitimacy for its functioning and to be taken over as society – economic base of significant power in XX century – USA” (Reljic, S.: *Change of Media Character in Modern Capitalism: causes, actors, consequences*, doctoral thesis, Faculty of Philosophy, Belgrade, 2012, pg.105).

²⁵ See in: Bogdanic, A. (1996): *Communication – leading paradigm*, Cigoja, Belgrade

²⁶ Jevtovic, Z., (2008): “Political spectacle and public opinion”, CM, No.7, year III, Faculty of Political science, Belgrade and Protokol, Novi Sad, pg.5.

weakening role²⁷ at the moments of informative markets reconstruction adjusted to capitalist economy, lead to breaking up with traditional comprehension of media as a guardian of public interests. Dramatic changes evolving by convergence²⁸ conditioned the commercial forcing of program formats based on tabloid, sensational concept. Reality show issues, soap operas, quizzes, talk shows and similar programs based on populism, kitsch and cheap amusement are more and more overtaking the dominant position reducing the serious journalism to cultural and social margins, at the same time providing owners of media high profit. Theoreticians are already asking which (and whether) corresponds financing of media enlightenment-education role based on public interest, critical-objective portliness, deconstruction of all negative phenomena at which basis there is man manipulation.²⁹ The public interest protection problem is becoming more delicate in the light of predictions that we will in the future produce more information – in the form that can be preserved and listed – than during the whole of human civilization. That digital tsunami is illustrated by the rate of popular sites: *You Tube* goes up to 18,7 million hours daily, *Wikipedia* 1,4 million articles and *web* generally up to billion pages a day³⁰. Nevertheless, two problems destroy this idyllic picture: transfer from classical to new media is geographically and socially unequal, making problem to access and digital equality; and dynamic of the web that is charged by audience, does not have the potential to expend civil horizon, since centripetal structure focuses attention on several sites – about social network, buying and fantasy - so the real news is marginalized.

Joining the power of super computer, chip integration and all present network communication create different public space, with media merging telepresence of the users.³¹ More and more people at the same time use several media: surf internet, read press and listen to the radio or some music on CD. Multimedia sensibility is based on fast searches, interactivity and criticism, whereby the correctness is not always priority. Journalism loses monopoly in creating opinion, because computer chips with huge accumulation of data processing stimulate network platforms able to “think”, react, use and process other information. Digital technology is not only rough replacement of analog technology, but also creating new way of thinking in organized and firm communication system which is opened and wealthy data reservoir, but only for media educated users! In other words, hungry, disempowered and disappointed masses easily become the media traders gain, who will offering plenty of entertainment, kitsch and manipulateness impose also false opinion on reality and disability to change themselves!

LITERATURE

- 1) Aracki, Z. (2008): *Power of Money and its impact on media pluralism*, Journal, Challenges and achievements of modern sociology of social development, University in Nis, Faculty of Philosophy, Center for Social Research, Nis.
- 2) Bagdikan, B. (1997): *The Media Monopoly*, 5th Edition, XIV - XVI, Beacon Press, Boston.
- 3) Bogdanic, A. (1996): *Communication – leading paradigm*, Cigoja, Belgrade.
- 4) Habermas, J. (2007): *Political Communication in Modern Society*, CM, No.5, Protokol, Novi Sad and Faculty of Political Science, Belgrade.

²⁷ Research report: *Television in Europe: Regulatory, Policy, Independence* (Open Society Institute and EU Monitoring and advocacy program, Budapest, 2005), points to alarming crisis public television identity in Europe where as of 1995 the share is constantly decreases (for about 1% per a year) which is continuing at present.

²⁸ In media practice is more obvious the disappearance of once clear borders between press, film, radio and television, since electronic transmission is able to integrate all forms of communication. Digitalization is not only technological process, but the crucial change in information constructing.

²⁹ Rutovic, Z.,(2013): “ Cultural – value regression of post modern press”, in *Media Dialogues*, Vol. VI, No.16, Research Media Center, Podgorica, pg.100.

³⁰ www.cisco.com/web/about/ac123/ac147/archived_issues/ipj_11-2/112_evolution.html .

³¹ *Telepresenc* - the most modern technology which allows interaction between people, places and events in their business and private lives. Technology and elements design of this system create the feeling of all participants presence although they are at different locatins.

- 5) Jevtovic, Z. (2008): "*Political spectacle and public opinion*", CM, N^o.7, year III. Faculty of Political science, Belgrade and Protokol, Novi Sad.
- 6) Jevtovic, Z. (2007): "*Terrorism and the mass media transformation of religion in the global order*", Politics and Religion, No.1., Belgrade
- 7) Meier, W. A. (2002): *Media Ownership – Does It Matter?* (u: Networking Knowledge for Information Societies: Institutions & Intervention – edited by Robin Manssel, Roham Samarajiva and Amy Mahan, Delfi: Delfi University Press.
- 8) Nielsen R. K. (2012): *Ten Years that Shook the Media World*, University of Oxford and Reuters Institute for the Study of Journalism.
- 9) Reljic, S. (2012): *Change of Media Character in Modern Capitalism: causes, actors, consequences*, doctoral thesis, Faculty of Philosophy, Belgrade.
- 10) Rutovic, Z. (2013): "*Cultural – value regression of post modern press*", in Media Dialogues, Vol. VI, No.16, Research Media Center, Podgorica.
- 11) Shah, A. (2009): *Media Conglomerates, Concentration of Ownership*, Global Issues, www.globalissues.org/article/159/media-conglomerates-mergers-concentration-of-ownership.
- 12) Sonderman J. (2012): *The One Chart that Should Scare the Hell Out of the Print Media*, Reuters Institute for the Study of Journalism, Oxford University .
- 13) Van der Wurff, R, Picard R. (2008): *Economic Growth and Advertising Expenditures in Different Media in Different Countries*, Journal of Media Economics, 21.

CIP - Каталогизација у публикацији
Народна библиотека Србије, Београд

339.923:061.1EU(4)(082)
338:339.137.2(082)
338.124.4(100)(082)
339.5(082)
336(082)
338.1(1-773)(082)

INTERNATIONAL Scientific Conference Economic
Sciences on the Crossroad (2013 ; Belgrade)

Economic Sciences on the Crossroad :
proceedings from the international conference
/ International Scientific Conference on the
Occasion of the 55th Anniversary of the IES,
[4th December], Belgrade, 2013 ; [organized
by the Institute of Economic Sciences
Belgrade] ; editors Ivan Stošić ... [et al.].
- Belgrade : Institute of Economic Sciences,
2013 (Beograd : Čigoja štampa). - XII, 681
str. : graf. prikazi, tabele ; 30 cm

Tiraž 300. - Napomene i bibliografske
reference uz tekst. - Bibliografija uz svaki
rad.

ISBN 978-86-89465-10-5

1. Institute of Economic Sciences
(Belgrade)

a) Европска унија - Придруживање -
Зборници b) Привреда - Конкурентност -
Зборници c) Економска криза - У свету -
Зборници d) Финансијски систем - Зборници
e) Привредни развој - Земље у развоју -
Зборници f) Међународна трговина - Зборници
COBISS.SR-ID 203893004



ISBN 978-86-89465-10-5



9 788689 465105