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Original Scientific Paper

QUALITY OF INSTITUTION AND ECONOMIC GROWTH OF THE COUNTRIES OF THE EUROPEAN UNION AND THE WESTERN BALKANS

UDC 330.35(4-672EU:497)

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Abstract. *The paper analyzes the intensity of the influence of the quality of institutions according to the data from the World Bank's specialized Worldwide Governance Indicators database on the growth of gross domestic product per capita of 33 countries of Europe through linear and exponential regression analysis for the period from 1996 to 2016. The observed European countries are divided into three groups: 15 European Union member states in 1995; 13 EU member states from 2004, 2007 and 2013, as well as five countries of the Western Balkans that negotiate or have the status of a candidate for EU membership, in the period from 1996 to 2016. The results of the research have shown that the quality of the institutions had a very positive impact on the economic growth of the observed countries of Europe. According to statistics, positive interdependence is the most significant among the Western Balkan countries. The conclusion is that these countries have to pay special attention to the development of institutions in the process of joining the European Union.*

Key words: *institutions; economic growth; European countries, EU15, EU13, countries of the Western Balkans*

JEL Classification: O43

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1. INTRODUCTION

The key issue concerning economic growth and development is why some countries are significantly poorer than others. Although there are many different explanations of this phenomenon, it can be noted that economic science is still far from having a generally accepted explanation of the key drivers of long-term economic growth (Acemoglu, Johnson & Robinson, 2005).

The most important traditional theories of economic growth did not take into account the importance of institutions in the initiation of economic dynamics (Cvetanović & Mladenović, 2015, p. 71; Cvetanović, Kostic & Milačić, 2016). Neoclassical models of economic growth did not take into consideration the significance of institutions in generating economic growth at all (Acemoglu et al, 2004). In short, in the neoclassical approach, the institutions are marginalized, and the causes of economic growth are sought exclusively among production factors (land, labor, physical capital).

Institutions represent the rules of the game in society, that is, the constraints created by people, which design complex interactions of economic actors in complex processes of creating and exchanging new values (North, 1994, p. 360). The study of economic growth involving institutions has begun with the emergence and affirmation of the theory of endogenous growth since the beginning of the last decade of the previous century. Because of this, institutions create an environment in which the economic activities of individuals and businesses take place.

Bearing in mind the fact that the institutions act with varying intensity on the economic growth of countries of different levels of economic development, the subject of research in this paper is determined in terms of understanding the impact of the quality of institutions on the economic growth of the countries of the European Union and the Western Balkans that are in the stages of accession to this regional economic organization.

The aim of the paper is to create a model of the impact of the component vector (different indicators of institution development) of institutions on economic growth of three groups of selected European countries at different levels of economic development.

The composition of the work is structured in the following way: After the introduction, Section 2 gives an overview of the relevant literature in this area, while section 3 presents the theoretical framework for assessing the quality of institutions based on WGI (The Worldwide Governance Indicators) methodology of the World Bank (WGI project , n.d.) to quantify their impact on the economic growth of the observed countries, the sources of data used in the work are cited, and the paper also provides a more detailed overview of the applied research methodology. The results achieved by the applied model and their discussion are stated in section 4, and in section 5 the conclusion and implications for policy makers as well as for institution-building policies are presented.

2. REVIEW OF LITERATURE

Literature primarily points to a positive correlation between the level of institutional development as aggregate size and economic growth. However, the quality of institutions does not have similar effect on economic growth neither in different

countries, nor at different levels of development of individual economies. This presumably positive contribution of institutions can therefore be seen as an effect of the set of various component indicators of institutional development. In addition, there is the influence of so-called "soft" factors, such as the perception of the institution by the individual, the prevailing social norms and rules, and the broader cultural profile of the particular community we are observing. Very often institutions of very similar characteristics produce different outcomes in some national economies (Alonso & Garcimartín, 2013).

A growing interest in researching the quality of institutions as a factor of economic growth was initiated by Barro (1991), which included measures of political stability as an assessment of the quality of institutions in the cross-country analysis of long-term growth. Barro observed 98 countries in the period from 1960 to 1985, using the average GDP growth rate as the dependent variable during that period, while as independent variables he took the initial GDP, the initial average number of years of schooling, public spending, market distortions and existing investments. The results of the survey confirmed the existence of a positive link between political stability and economic growth. His research is significant because of the fact that he designed a model of econometric model which was then slightly changed by other researchers. The specificity of that work lies in the fact that he used objective measures as an indicator of the quality of institutions - the number of revolutions and assassinations.

Mauro (1995) used three indicators of the quality of institutions: (1) corruption, (2) the efficiency index of the administration, and (3) the political stability index, and established a positive and statistically significant relationship between these indicators with investments and economic growth.

Knack and Keefer (1995) constructed the quality index of institutions that included "government corruption", "rule of law", "risk of expropriation", "quality of bureaucracy" and "non-recognition of contracts". In their research, the improvement of the index for one standard deviation (12 points on a scale of 50) increases the average annual growth rate of GDP per capita by 1.2 percentage points. In particular, they pointed to the fact that the improvement of the protection of property rights has worked to increase the size of investments and the efficiency of the use of resources.

A large number of authors have concentrated on the relationship of democracy and growth. Tavares and Wacziarg (2001) have found that democracy increases the accumulation of human capital, but it reduces the investment in physical capital, so the overall impact on growth is moderately negative.

According to the findings so far, the institutions are a very important determinant of investments, sustainable development, transition processes and economic turbulences of national and regional economies, and more and more of the global economies (Rodrik, 2008; Van den Berg, 2016; North, 1994). Empirical research shows a big, real and potential role of institutions which becomes obvious in evident and very important differences in the rate of capital accumulation, education, available human resources, variations in productivity of labor, which in the end cause enormous differences in the income of the population of individual regions (where the term region can be observed in a very broad sense). It is quite unquestionable that, for example, the rule of law, political stability and low level of corruption positively affect economic growth (Haggard &

Tiede, 2011; Rodrik, Subramanian & Trebbi, 2004). Also, a large number of analysts are exploring the driving potential of the private ownership institution as the key cornerstone of modern liberal capitalism to long-term sustainable economic growth (Acemoglu, Johnson & Robinson, 2005; De Haan & Sturm, 2000).

Alonso and Garcimartin (2013) have looked at the role of the stage of economic development of a particular economy in determining the character and intensity of the effects of institutional development. In the work they detect a certain positive spiral effect when the achieved economic development determines the qualitative change of institutions, which further promote further economic growth. Nawaz (2014), as well as Valeriani and Peluso (2011), also found in their researches that the intensity of the influence of institutions on economic growth is, to a large extent, the function of the economic development phase in which the observed country is located. Their conclusion is that institutions are developing better in developed countries than in developing countries.

3. METHODOLOGY

The work is based on:

- Measuring the quality of institutions - according to data from the World Bank's specialized database World Bank Governance Indicators (WGI),
- determining the degree of influence of the quality of institutions on economic growth,
- answering the question that refers to how much and how the degree of development of institutions affects economic development

Institutions are represented by the indicators of the Worldwide Governance Indicators in six dimensions (Figure 1).

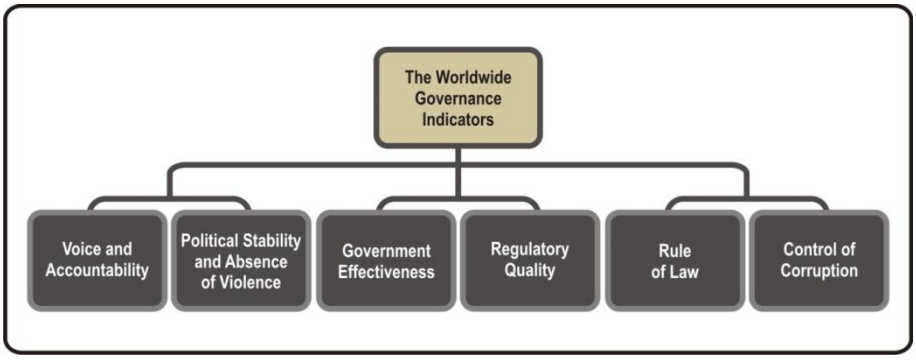

Fig. 1 Six dimensions of WGI
Source: (WGI project).

WGI is a tool developed by the World Bank to monitor aggregate and individual indicators of the achieved level of state administration institutions and covers more than 200 countries in the period from 1996 to 2016. These aggregate indicators combine the

views of a large number of businesses, individuals and professionals surveyed in industrial and developing countries. They are based on over 30 individual sources of data produced by various research institutes, think tanks, non-governmental organizations, international organizations and private companies.

State planning and administration represent the broadest framework of a society in which both social and economic activities take place. State administration is broadly defined by the tradition and institutions that are exercising authority in the country. This includes a process by which governments are elected, supervised and replaced, and also the government's ability to formulate and implement effectively sound policies and respect for citizens and the state for all institutions that regulate economic and social interactions between them.

The influence of institutional quality on the economic growth of selected European countries measured by the size of gross domestic product per capita is quantified by means of a single correlation and regression analysis. The survey covers the period from 1996 to 2016.

The following two hypotheses are set:

H1 - Quality level of institutions has a positive impact on economic growth.

H2 - Significance and intensity of positive impact of institution quality is inversely proportional to the achieved level of GDP pc of the observed country groups.

In order to test H1 and H2, the appropriate regression model (linear and exponential regression) for the time series in the period from 1996 to 2016 was constructed, where the value of WGI - Institution was taken as an independent variable (the average value of all 6 defined indicators of the quality of institutions shown in Fig. 1). It is a composite indicator because it represents the aggregated value of the corresponding indicators that describe the state of the Institutions. The movement of economic growth, as dependent variables, is monitored by the size of Gross domestic product per capita in current US dollars. The degree of interdependence of institutional quality and economic growth, GDP per capita (in US $), was examined through a single regression and correlation analysis using (1) linear and (2) exponential functional dependencies. The WGI model of impact on GDP per capita based on formulas 1 and 2 was made:

$$\text{Linear model: } Yt = a + bXt \quad (1)$$

$$\text{Exponential model: } Yt = a*ebXt \quad (2)$$

where:

a, b - constants of the linear / exponential model;

x - independent (exogenous) variable (WGI);

y - dependent (endogenous) variable (GDP per capita);

t -years of data.

4. Results of the Research and Their Outcome

EU countries are divided into two groups: a) EU15 countries and b) the remaining 13 EU countries. The EU15 group consists of: a) founding members (France, Germany, Italy, Belgium, the Netherlands, Luxembourg, countries that became members of the EU

in the first enlargement in 1973 (UK, Denmark, Ireland), countries that became members of the EU in another enlargement in 1981 (Greece), countries that became members of the EU in the third enlargement in 1986 (Spain, Portugal) and countries that became members of the EU in the fourth enlargement in 1995 (Austria, Finland, Sweden). EU15 are the most economically developed countries in Europe.

The group of the remaining 13 EU countries consists of: a) countries that became members of the EU in the fifth enlargement of the EU in 2004 (Hungary, Slovak Republic, Poland, Latvia, Cyprus, Lithuania, Czech Republic, Slovenia, Estonia, Malta); countries that joined the EU in the sixth enlargement in 2010 (Bulgaria and Romania) and the country that became a member in the seventh enlargement in 2013 (Croatia).

Two countries from five Western Balkan countries are negotiating membership (Montenegro and Serbia), two are candidates (Albania and North Macedonia), while Bosnia and Herzegovina is a potential candidate for EU membership.

Table 1 Average GDP values of pc analyzed groups of countries in the observed period

Year	West Balkan	EU13	EU15
1996	3,846	9,674	22,599
1998	4,486	10,830	24,911
2000	5,102	12,165	28,390
2002	5,744	14,002	30,813
2003	6,041	14,856	31,433
2004	6,628	15,996	33,112
2005	7,216	17,203	34,364
2006	8,512	19,004	37,500
2007	9,515	20,991	39,676
2008	10,678	22,683	41,011
2009	10,716	21,779	39,647
2010	11,194	22,674	40,848
2011	11,832	24,044	42,393
2012	11,904	24,704	42,845
2013	12,537	25,716	44,299
2014	12,987	26,759	45,619
2015	13,349	27,593	47,532
2016	14,160	28,732	48,502

Source: World Development Indicators. (n.d.)

Figure 2 illustrates the differences in the average GDP pc of the three observed groups of countries in the period from 1996 to 2016.

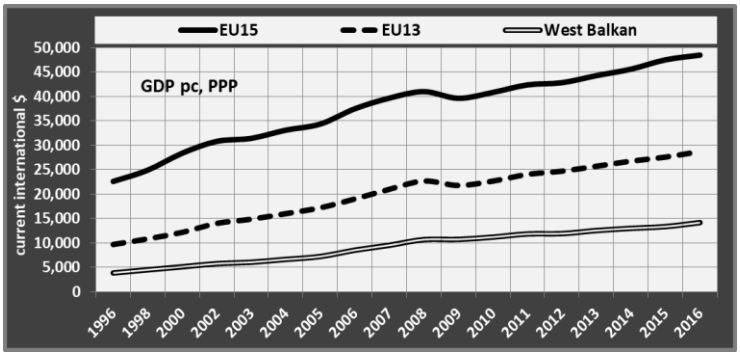

Fig. 2 Movement of average GDP pc in the observed period
Source: World Development Indicators. (n.d.)

According to the results of the conducted regression analysis presented in Tables 2 and 3, two models of linear and exponential form were obtained

Table 2 Summary linear correlation statistics for the three observed groups of countries

Variables	(1) EU15	(2) EU13	(3) Z. Balkan
	GDPpc as *Dependent variable: **y***		
WGIAverge as x	552.2***	452.5***	291.3***
	(87.87)	(42.23)	(23.99)
Constant	-11,081	-12,941***	-3,109***
	(7,780)	(3,098)	(1,057)
Observations	270	234	88
R-squared	0.128	0.331	0.632
Adjusted R-squared	0.125	0.328	0.627
F Statistic (df = 1; 268/232/86)	39.48	114.81	147.41

*** p<0.01, ** p<0.05, * p<0.1;Standard errors in parentheses

Table 3 Summarized statistics of exponential correlation for the three observed groups of countries

Variables	(1) EU15	(2) EU13	(3) Z. Balkan
	Ln(GDPpc) as *Dependent variable: **y***		
WGIAverge as x	0.0132***	0.0269***	0.0346***
	(0.00198)	(0.00244)	(0.00298)
Constant	9.315***	7.856***	7.584***
	(0.176)	(0.179)	(0.131)
Observations	270	234	88
R-squared	0.141	0.344	0.611
Adjusted R-squared	0.138	0.341	0.606
F Statistic (df = 1; 268/232/86)	44.03	121.71	134.81

*** p<0.01, ** p<0.05, * p<0.1;Standard errors in parentheses

Graphic interpretation of the linear and exponential regression model of the influence of institution and economic growth is shown in Figures 3, 4 and 5.

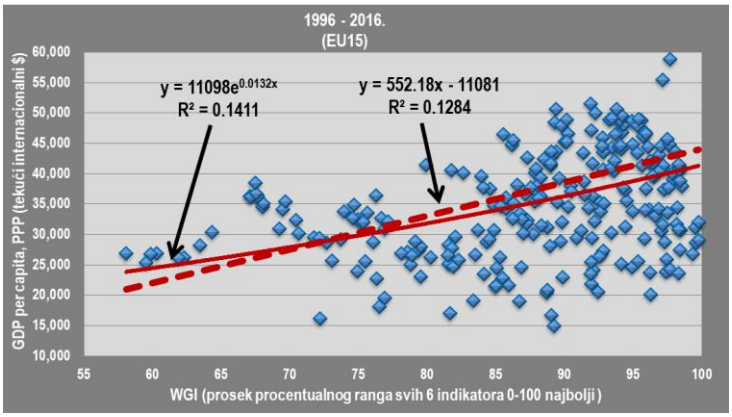

Fig. 3 The dependence of GDP per capita on the degree of development of the Institution (WGI) for the EU15 countries

By the analysis of the relationship shown in Figure 2 (for EU 15), the Pearson coefficient of correlation R = 0.358 for linear, or R = 0.376 was determined, which is more than the limit for the number of degrees of freedom n = 268 and the significance level p <0.01.

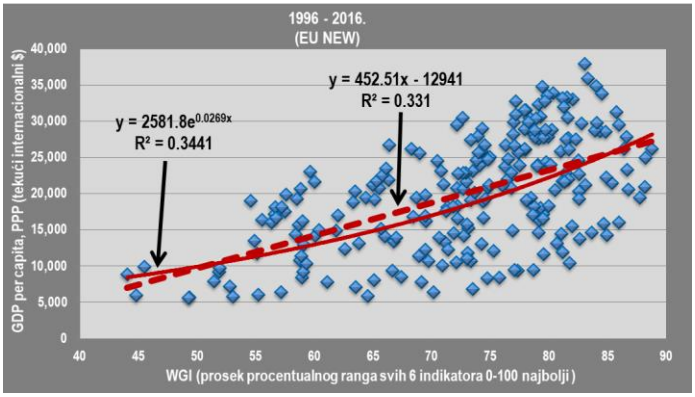

Fig. 4 Dependence of GDP per capita on the level of institution building (WGI) for the EU13 countries

The analysis of the relationship shown in Figure 4 (for EU 13) determined the Pearson correlation coefficient R = 0.575 for linear or R = 0.587, which is more than the limit for the number of degrees of freedom n = 232 and the significance level p <0.01.

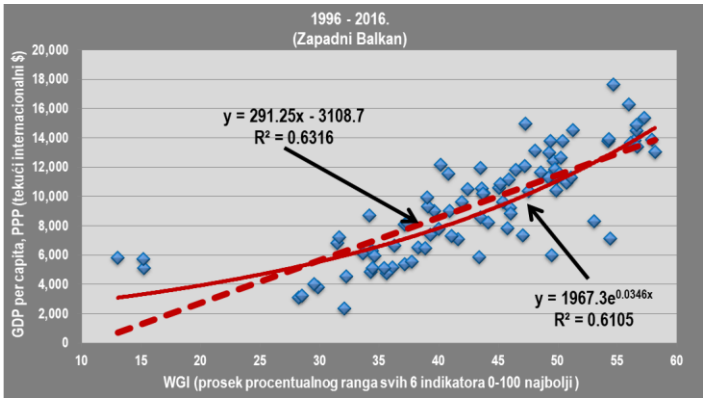

Fig. 5 The dependence of GDP per capita on the level of institution building (WGI) for the countries of the Western Balkans

The analysis of the relationship shown in Figure 4 (for the five countries of the Western Balkans) determined the value of the Pearson correlation coefficient R = 0.795 for linear, i.e. R = 0.781 for the exponential, which is more than the limit for the number of degrees of freedom n = 86 and the level of significance p <0.01.

It is shown that both applied regression models give approximately the same degree of interdependence of the observed variables for all three groups of analyzed European countries. We are of the opinion that the potential of the relationship between the observed variables Institution and GDP pc evidently exists, and that it is particularly evident in the countries of the Western Balkans.

The obtained results indicate:

The change of the achieved level of institution development in the period from 1996 to 2016 had a statistically significant impact on the economic growth measured at the level of GDP pc of all three groups of countries observed, EU15, EU13 and the Western Balkan countries (p <0.01). By this the hypothesis H1 is confirmed.

A comparative analysis of the results obtained at the level of the three observed groups of countries in Europe shows that:

(1) For the EU15 countries, there is a statistical significance of the positive impact of the quality of institutions on economic growth in both applied correlation models (Adjusted R2 = 0.125 in linear, or 0.138 in the exponential correlation model). It is considered that according to the assumed model, the variations of the independent variable WGI explain about 13% of the total variations in the economic growth of the EU15, under the assumption of the unchanged values of other explanatory variables.

(2) For the EU13 group, there is even more pronounced statistical significance of the positive impact of the development of institutions on economic growth, and also in both of the applied correlation models (Adjusted R2 = 0.328 in the linear model, and 0.341 in the exponential correlation model). This implies that the assumed model in the EU13 explains about 33% of variations in economic growth (assuming unchanged values of other explanatory variables).

(3) For the group of Western Balkan countries, there is statistically the most evident significance of the positive impact of institutional development on economic growth,

which is reflected in the value of Adjusted R-squared of as much as 0.626 in linear and 0.606 in the exponential correlation model (partially, this implies that variations of the variable Institutions explain about 60% of the total variations in the economic growth of the countries of the Western Balkans in the period from 1996 to 2016, assuming unchanged values of other explanatory variables);

(4) The intensities of the impact of the quality of institutions on economic growth vary both among the group of countries and the correlation function in the model. The linear model shows stronger intensities of the positive influence of the development of institutions, which is proportional to the achieved GDP pc of the observed groups of countries (the intensity of the impact of the independent variable on the dependent for the EU15 is 552.2, the EU13 is 452.5, and the Western Balkans is 291.3). In the case of the exponential model the situation is different. The intensities of the positive influence of the development of institutions are inversely proportional to the achieved level of GDP pc of the observed groups of countries. (The intensity of the impact of an independent variable on the dependent for the EU15 is 0.0132; for the EU13 it is 0.0269 and 0.0346 for the Western Balkan countries).

(5) It is noted that for the group of Western Balkan countries, the linear regression model better describes the nature of the influence of institutional development on economic growth (Adjusted R-squared 0.627 for a linear model is greater than 0.606 in the exponential model), while in EU13 (Adjusted R -squared 0.341 for the exponential model in relation to the 0.328 for the linear model), and especially the EU15 (Adjusted R-squared 0.138 in the exponential model with respect to 0.125 for the linear model), the exponential model shows slightly better results.

5. CONCLUSION

The results of the survey of the set regression models on the observed sample of European countries confirmed the validity of the hypothesis H1. Also, the potential of H2 hypothesis about the nature of the influence of the independent variable x (institution development) on the dependent variable y (GDP per capita) has been confirmed. Based on the obtained values in the applied regression models (linear and exponential), the conclusion is that the dominant and approximately linear influence of the quality of institutions on economic growth can be expected at a stage in which the economic growth is based on the efficiency-driven stage to which they belong and Institutions (the case of the Western Balkan countries), while after the end of this phase (in the whole case of the EU15 and partly the case of the remaining EU13 countries), the significance of the impact of Institutions is significantly decreasing. In simple terms and in line with H2 hypothesis, countries at lower levels of economic development can achieve a more significant benefit by speeding up the quality of institutions.

In order to better understand the impact of institutional development on the economic growth of countries, further research could go towards testing, which takes into account the impact of the achieved level of individual indicators of the composite indicator WGI on economic growth quantified by the GDP per capita indicator. All this implies the imperative that the economic growth of the countries of the Western Balkans must still largely be based on the accelerated construction of efficient institutions. The basic message is that these countries need to improve their own institutional reform

strategies as well as to work on the development of institutions. This undoubtedly represents a necessary condition for their further sustainable economic development.

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KVALITET INSTITUCIJA I EKONOMSKI RAST ZEMALJA EVROPSKE UNIJE I ZAPADNOG BALKANA

U radu je ispitavan intenzitet uticaja kvaliteta institucija prema podacima iz specijalizovane baze Svetske banke Worldwide Governance Indicators na rast bruto domaćeg proizvoda per capita 33 zemlje Evrope putem linearne i eksponencijalne regresione analize za vremenski period 1996-2016. Sagledavane zemlje Evrope su razvrstane u tri grupe: 15 zemalja članica Evropske unije zaključno sa 1995. godinom; 13 zemalja EU članica iz 2004, 2007. i 2013. godine, kao i pet zemalja Zapadnog Balkana koje pregovaraju ili imaju status kandidata za članstvo u EU, u periodu 1996-2016. Rezultati istraživanja su pokazali da je kvalitet institucija imao izrazito pozitivan uticaj na ekonomski rast sagledavanih zemalja Evrope. Pozitivna međuzavisnost je statistički najizraženija kod grupacije zemalja Zapadnog Balkana. Zaključak je da ove zemlje moraju u procesu pridruživanja Evropskoj uniji posebnu pažnju posvetiti razvoju institucija.

Ključne reči: *institucije, ekonomski rast, evropske zemlje, EU15, EU13, zemlje Zapadnog Balkana*

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UNDERWRITING PERFORMANCE SHOCKS IN THE NON-LIFE NIGERIAN INSURANCE INDUSTRY AND MACROECONOMIC RISKS: A VECTOR AUTO REGRESSIVE APPROACH

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Abstract. *Insurance company's performance can be stymied by internal and external risks. Industry reports show 23 companies out of the 55 operating companies (about 42%) in Nigeria recorded net operating losses in 2015. Macroeconomic risks are external and may be quite significant in providing an (un)favourable environment for performance of the industry particularly in a developing economy like Nigeria. Reflecting on the contribution of insurance to the Nigerian economy which shows an abysmally low penetration, averaging below one percent of GDP when compared to African peers such as South Africa at 13% and Kenya above two percent; it is of essence to investigate how these risks affect its performance which by implication could adversely affect insurance penetration. Dynamic least square regression technique was employed to study the dynamics of macroeconomic risks (GDP, inflation rate, and interest rate) on underwriting performance over the period 1981-2015. Weighed against theoretical underpinnings and other studies particularly in western economies, the study has evidence that interest and inflation rate shock adversely underwriting performance. Also, real GDP does not have positive shock on premium growth and loss ratio. Monetary policy should address inflation, and interest rates if the underwriting performance shocks in the non-life sector are to be mitigated in Nigeria. In the long term, government should focus on how to improve income per capita and reduce income inequality and dependency ratio so as to connect insurance consumption to real GDP growth.*

Key words: *Macroeconomic risks, Underwriting Performance shocks, profitability*

JEL Classification: E44, G22

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INTRODUCTION

Financial performance of insurance companies is difficult to understand in view of the provisions for solvency and intangible nature of the output (Berger, Cummins & Weiss, 1997). These difficulties are predicated on their performance being stymied significantly by competition, internal and external risks (Ayele, 2012). The internal risks are company's specific factors and external riss are macroeconomic factors. The importance of macroeconomic risks is rooted in strategic financial management reasoning which attributes their factors as the leading indicators for setting business strategies because it affects all industries but in different ways (Brigham & Ehrhardt, 2014). This can be reflected in underwriting shocks which may have arisen from consumption shocks that make the series of performance to be non-stationary at level (Lee, Hsu & Lee, 2010).

Market failure can thus be precipitated in a turbulent economy. Nigeria's economy is ranked as one of the most volatile in the 1960-2000 periods (World Bank, 2003). In 2015, industry reports show 23 companies out of the 55 operating companies (about 42%) in Nigeria recorded losses (Nweke, 2017). However, on aggregate underwriting premium had grown from N234.1 million in 1981 to 187.4 billion in 2013 (Nigeria Insurance Association, (NIA), 2011; 2013; 2015 and CBN statistical bulletin, 2015). The non-life sector also known as general insurance contributed more to insurance penetration in Nigeria in terms of the volume of business done. It accounted for 82.4% in 2004 moving up to 84.3% in 2007 but precipitously declining from 2008 after the insurance and pension reforms to 69.98% in 2013 (NIA, 2014). Since, Nigeria has been described as an attractive business destination, it is therefore important for the insurance industry which according to; Outreville, 1990; Ward & Zurbruegg, 2000; Brainard, & Schwartz,, 2008; Outreville 2013, contributes significantly to economic growth vide financial intermediation and strengthening of risk taking ability (Charumathi, 2012) to understand underwriting or consumption shocks.

From micro-economic theory, profitability of an industry influences growth through competitive models (Pervan, Arneric & Curak, 2013). Also, intense competition can influence performance negatively (Chidambaran, Pugel & Saunders, 1997; Kaplan & Celik, 2008; Goddard, Liu, Molyneux & Wilson, 2011). Whittington (1980) cited in Hardwick & Adams (2002) stated that "higher profits provides the means (greater availability of finance through retained profits or capital market) and the incentive (a high rate of return) from investments." Lee (2014) buttressed this opinion on the persuasion that stakeholders' interests are stimulated on perceived profitability; or in other economic measures like pricing (Chidambaran, Pugel & Saunders, 1997). Insurance business competes by growing premiums (Kozak, 2011); and reducing loss propensity while ensuring asset growth through investment activities (Shiu, 2004). These activities could receive shocks from macroeconomic risks such as inflation and interest rates, and changes in GDP (Pervan & Pavic, 2010; Kozak, 2011). Thus, in conformance to the foregoing, performance shocks in the industry arising from macroeconomic risks must be understood, particularly in a turbulent economy like Nigeria. In Figure one, 1981-2013, claims were almost stable; premium grew slowly and moved more rapidly following recapitalization in 2005; but asset growth was rather explosive significantly after the recapitalization, but then what was the role of macroeconomics risks.

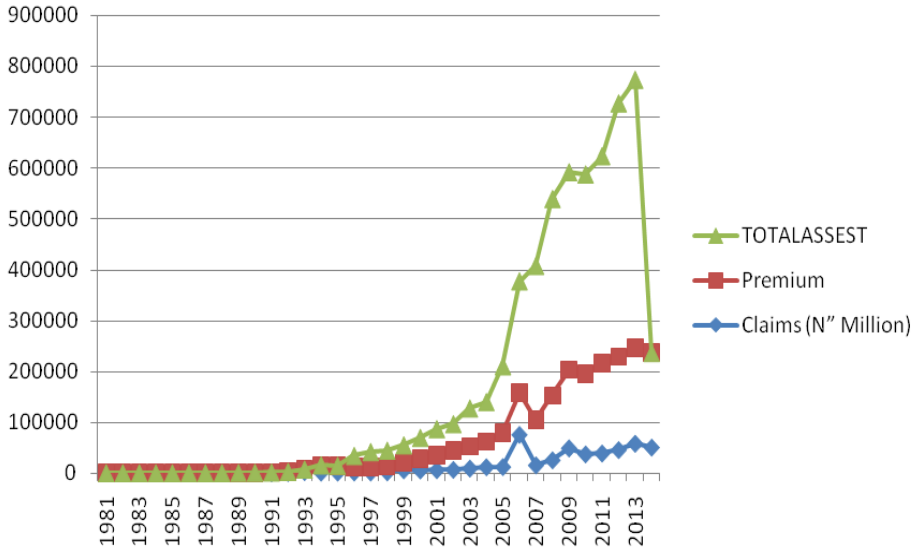

Fig. 1 Trend graph of claims, premium and total assest 1981-2014 of the Nigeria Insurance Industry obtained from CBN statistical bulletin (2015)
Source: Author's Graphical Estimation

While many previous studies had focused on profitability and performance in manufacturing (see Ito & Fukao, 2010; Seelanatha, 2011) and banking mainly in advance economies (Williams, 2003; Athanasoglous Brissimis,& Delis. 2008; Vejzagic & Zarafat, 2014), there were few emerging studies on the structure of performance in the insurance sector. Most of the researchers combined internal and external factors in their works but this paper adds to deeper understanding of performance shocks of double digit inflation rate, high interest rate with different exchange rate regimes in a fast growing African economy. The study hypothesizes that macroeconomic risks significantly introduce shocks to the underwriting performance of non-life Nigerian insurers measured by growth of premiums and loss ratio. Understanding how macroeconomic risks affect performance in a turbulent economy will improve the knowledge base of investors and policy makers and reduce the fears of policyholders about the industry and in particular the existence of possible underwriting cycles (Doherty & Garven, 1995).

1. Conceptual Framework and Empirical Literature

The understanding of external risks' (referred to as environmental factors in strategic management) influence on industries is important in strategic financial management because they provide the leading indicators for setting business strategies (Levy, 2002; Brigham & Ehrhardt, 2014). Indeed, business cycles can be initiated by macroeconomic risks (inflation, interest and GDP growth rates) and a whole industry may experience performance shocks precedent to it (Weiss, 2007). Shocks are major underwriting losses or gains in underwriting performance (Shuford, 2004). The way it affects insurance

industry reflects in swings in losses or premium growth (underwriting performance indicators) (Doherty & Garven, 1995); and had formed a pigeon which has piqued insurance researchers (Weiss, 2007). In recent times, the interest of researchers has been more tuned to the insurance sector as the role of insurance expands within the economic space and the claim that it is less exposed to systemic risk when compared with banks (Baluch, Mutenga & Parsons, 2011). Extensive studies have also been carried out on determinants of profitability as a financial performance in the insurance sector but more on internal than external factors. The studies on the link with macroeconomic factors focused more on causal relationship between economic growth and insurance development (Ward & Zurbruegg, 2000; Brainard, 2008; Han, Li, Moshirian & Tian, 2010); Chang & Lee, 2012; Outreville 2012); with lesser attention to how external factors affect performance or profitability of insurers.

The researches on the relationship between profitability and firm specific factors both in the life and non-life sectors had mixed outcomes. In Pakistan and India, an inverse relationship between loss ratio and profitability was detected (Malik, 2011). Choi (2010) in US confirmed size, leverage, reinsurance and liquidity are relevant to profitability.

The others investigated both firm specific factors and macroeconomic variables in a single model with no clear definitive findings. Cheng and Huang (2001) cited in Lee (2014) established the existence of relationship between macroeconomic factors performance of insurers. Shiu (2004) did a panel analysis on the UK non-life companies 1986-1999 and found liquidity, underwriting profits, unexpected inflation and interest rate were significant determinants of performance. Similarly, Curak, Pepur, and Poposki, (2011) investigated determinants of profitability of composite companies in Croatia in a six-year period and reported that size, underwriting profit, inflation and equity returns were significant to return on equity. Datu (2016) in the Philippines found a negative relationship between inflation and profitability. Suffice to say that there were lesser investigations strictly looking at how macroeconomic factors affect profitability in the non-life insurance sector.

Performance had been measured more in the studies as discussed earlier by return on assets or return on equity as indicators of profitability (Cheng and Huang (2001) cited in Lee, 2014; Datu, 2016). In Kohers and Greene (1977), performance was measured by risk-adjusted return. Along the same line Fairley (1979); Cummins (1991) determined performance from underwriting return which combined premium and loss expenses.

Although, studies carried out in these advanced economies also suggested the existence of underwriting cycles during which cash-flow underwriting occurs to stabilize underwriting shocks (Weiss, 2007). These findings give some insights that research is necessary to understand the extent to which macroeconomic factors constitute risks or shocks to underwriting performance. This is crucial to the Nigerian turbulent economic environment where insurance penetration is one of the worst in the world. Researches on the Nigerian frontier were fixated on single variables relationship with profitability and only tangential to underwriting performance. The few studies on insurance profitability were by Agiobenebo and Ezirim (2002) who investigated the impact of financial intermediation on profitability of insurance companies in Nigeria and established a positive link; Ahmed (2016) also found that size influences the profitability of Nigerian insurers. This study fills the gap in the investigation of performance in the insurance industry related to premium growth and changes in losses that could arise from external shocks.

1.1. Theoretical Framing of Performance in the Non –Life Sector and Macroeconomic Risks

Theoretically, Fischer's 1971 seminal model links nominal interest to be a function of expected inflation rate. Implying inflation and interest rate changes should impact economic functions in the same direction. The relationship of inflation and interest rates to performance is indicated in the theoretical estimation of insurance premium. This is computed from discounted losses plus expenses and profit (referred to as risk charge) functionally expressed in (Doherty & Garven, 1995; Weiss 2007) as:

$$\frac{El(I_{c,}I) + Expenses(T_t) + \Pr ofit}{1+r} \tag{1}$$

Where P is premium, EL is expected losses, I_c is claims inflation, I is expected inflation, r is interest rate and T_t is the technology. The model reveals the fundamental principle of insurance operations (Tosetti, Behar, Fromenteau & Menart (2001) and also shows the relationship between premium, expected losses, interest rate, inflation and profitability for the insurance business model. Based on this insurance concept, pricing of premium is positively related to inflation and inversely related to interest rate. This is also demonstrated by Fairley (1979) in the Capital Asset Pricing Model for insurance where underwriting return or premium was shown to have inverse relationship to interest rate (see Cummins, 1991 for financial models on insurance). But in a rate- tariff non-life insurance regime like Nigeria, discounting is irrelevant; and the behavior of customers to both variables might be unclear (Shiu, 2004).

Interest Rate Risk

Interest rate risk occurs due to changes in the interest rate (Shiu, 2004). The interest rate impacts the non-life sector in three ways: first, it affects the abilities of insurance companies to undertake cash flow underwriting as postulated in underwriting cycle theory. This suggests mixed outcomes, such that when interest rates are high, insurance companies undercut prices which gradually may result in higher risk taking and consequently result in higher loss ratios. Secondly, it correlates positively with the level of investment yield (Wen & Born, 2005); using increased investment income to subsidize underwriting (D'Arcy, 1988; Wen & Born, 2005; Weiss, 2007) can in the opposite direction result in increased premium and hence lower loss ratios. Thirdly, given the timing difference differential between the receipt of premium and payment of claims, a positive relationship is expected between interest rate and loss ratios as well as premium growth rate (Myers & Cohn, 1987; Cummins, 1991). Shiu (2004) discussed this relationship in terms of duration of assets and liabilities producing different outcomes on performance of insurance companies. Altogether, the underwriting and investment strategies might determine how interest rate impacts loss ratios- that is, losses might increase at a faster rate than premiums or otherwise. Thus the shocks to underwriting performance of insurers from interest is not clearly defined but needs investigation and seems specific to each business environment (Shiu, 2004).

Inflation Risk

The theoretical foundation of inflation is on the occurrence of 'rise in the general level of prices' accompanied by dire consequences such as decline in purchasing power (Algrim and D'Arcy, 2012). Since Fisher's (1971) theory predicts a positive relationship between nominal interest rate and inflation rate, it is expected that average investment yield of insurance companies will increase in a double digit inflation like Nigeria. However, inflation has another but countervailing influence in insurance business because losses depend on how much influence it has on claims amount inflation and its frequency (Shiu, 2004); and on the other hand consumption of insurance (Ma &Pope, 2003). The aggregate effect will depend on how much cash-flow underwriting is used to improve consumption of insurance due to drop in purchasing power. Several studies also found an inverse relationship between inflation and performance (Pervan & Pavic, 2010).

Gross Domestic Product (GDP)

Premium growth implies a continuous increase in demand for insurance and positive performance of the insurance industry (Outreville, 1990; 2012). Shocks are fluctuations that are adverse to the profitability/performance and indeed ability to innovate underwriting strategies (Bates & Atkins, 2007). Previous researches on demand for insurance have consistently established theoretically that a growing economy will boost insurance demand (Outreville, 1990; Brown, Chung & Frees, 2000; Ma & Pope, 2003; Liedtke, 2007; Outreville, 2012). On this premise, positive changes in GDP are expected to have positive shocks that are stable in the long run on performance of insurance companies, and vice visa (Pervan & Pavic, 2010). As earlier said, previous researches were more oriented towards examining the influence of insurance on economy but have theoretically also implied that a growing economy will boost insurance demand. Implicitly, the relationship with loss ratios depends on underwriting strategy but is expectedly inverse and positive for premium growth.

2. Materials and Methods

Annual data on claims, gross premium, inflation rate, interest rate and GDP was obtained from CBN statistical bulletin (CBN, 2015). Additional data on insurance industry 2011-2014 was obtained from Nigeria Insurance Association (2015). Specifically, the model followed Jawadi, Bruneau & Sghaier, (2009), who used the annual data of five most developed insurance markets: the UK, the USA, Canada, Japan and France for non-linear cointegration study between premiums and financial markets in different years. Since the study investigated performance shocks, VAR was considered an efficient technique in line with previous studies on volatility.

Model Specification

This study follows the methodological approach of Chen and Hamwi (2000), however with distinct modification. Given that y is a column vector, which includes premium growth rate, loss ratio (claims divided by premium), inflation, interest rate, and GDP growth rate. If all these variables are I (1), I defines the following stationary Vector Autoregressive VAR (1) specifications.

$$y_t = lor_t, \text{int}_t, \text{inf}_t, gdp_t \tag{2}$$

Or

$$y_t = pgr_t, \text{int}_t, \text{inf}_t, gdp_t \tag{3}$$

$$y_t = \theta(L)z_t; z_t \sim VWN(0, \sum_t \tag{4}$$

For equation three to be stable, $\theta(L) = 1 - \theta_1 L < 1$ That is, the sum of all the roots in the VAR polynomial are in absolute term less than 1. If the system is stable, we can calculate the response of each of the variables included in y to the structural shocks as follows.

Restate equation 3 as

$$y_t = \left(\frac{1}{1-\theta_1(L)}\right) Z_t \tag{5}$$

Extend equation 4 to an infinitely moving average of the following form.

$$\text{y}_\text{t} = \theta(L)^0 Z_t + \theta(L)^1 Z_{t-1} + \theta(L)^2 Z_{t-2} \tag{6}$$

Re-represent equation 5 to have

$$\text{y}_\text{t} = Z_t + \theta Z_{t-1} + \theta^2 Z_{t-2} \tag{7}$$

State a reduced form of equation 7 as

$$\text{Ay}_\text{t} = Z_t \tag{8}$$

$$\text{y}_\text{t} = A^{-1} Z_t \tag{9}$$

Let $B = A^{-1}$ to have

$$\text{y}_\text{t} = Bz_t + \theta Bz_{t-1} + \theta^2 Bz_{t-2} \tag{10}$$

To compute the response of each of the variables included in y is to differentiate equation 9 each successive time horizon (j=0,1,2…). That is:

$$\frac{\partial \text{y}_{\text{t+j}}}{\partial \text{z}_\text{t}} = \theta^j B \tag{11}$$

$$\frac{\partial \text{y}_\text{t}}{\partial \text{z}_\text{t}} = B \quad \text{in period zero} \tag{12}$$

In period one ahead

$$\frac{\partial \text{y}_{\text{t+1}}}{\partial \text{z}_\text{t}} = \theta B \tag{13}$$

In period two ahead

$$\frac{\partial \text{y}_{\text{t+2}}}{\partial \text{z}_\text{t}} = \theta^2 B \tag{14}$$

It continues until it gets to the last period of the horizon. Note that if the system is stable, the shocks would disappear and become zero.

3. RESULTS

Prior to estimation, I attempted to check the level of integration using break point unit root test under Augmented Dickey Fuller (ADF) method. Noting the presence of trend, I de-trended by taking the log of each series of interest. Table one reports the unit root test results on loss ratio (LLR), premium growth rate (LPMR), economic growth rate (LGR), inflation (LINF), and interest (LINTR). Stationarity tests were conducted on the transformed data.

Table 1 Unit Root Test Results

Descriptor	ADF-Stat	5% Critical Value	P-Value
LINF	-5.77	-4.44	<0.01
LGR	-4.88	-4.44	0.01
LINTR	-5.08	-4.44	<0.01
LLR	-6.22	-4.44	<0.01
LPMR	-6.04	-4.44	<0.01

Source: Author's Summarization from E-view Window 10

The ADF statistics in absolute terms appear asymptotically larger than the critical value at 5 percent, and all the corresponding p values are very small, approximately less than 1 percent. In this context, the null of a unit root exhibiting the variables is refuted. By implication, all the variables of interest are I(0) and employing a VAR technique is appropriate. Thus, tables 2 and 3 give the estimated results. However, while table 2 is based on the relation between loss ratio and selected macroeconomic variables, table 3 is on the relation between premium growth rate and macroeconomic factors.

Table 2 Loss Ratio-Macroeconomic Variable Relation in Vector Autoregressive Exogenous (VARX) Framework

Regressor	Coefficient	Std Error	T-value	P-value
LLR(1)	-0.448746	0.198386	-2.261986	0.0266
LLR(2)	-0.167022	0.174765	-0.955695	0.3423
LLR(3)	-0.025823	0.176156	-0.146594	0.8838
LGR(1)	0.003389	0.076294	0.044426	0.9647
LGR(2)	0.148393	0.071423	2.077652	0.0411
LGR(3)	0.117209	0.079814	1.468527	0.1461
LINF(1)	-0.078751	0.127373	-0.618272	0.5382
LINF(2)	0.001926	0.127094	0.015155	0.9879
LLNF(3)	-0.185062	0.118014	-1.568139	0.1210
LINTR(1)	-0.183392	0.384732	-0.476674	0.6350
LINTR(2)	-0.312161	0.397127	-0.786047	0.4343
LINTR(3)	-0.113307	0.368815	-0.307220	0.7595
LPMR	1.841904	0.901517	2.043116	0.0445

Source: Author's Summarization from E-view Window 10

The results in table 2 are highly sublime with four findings. Firstly, premium growth rate is significantly positively related to loss ratio. To be precise, a 1 percent increase in premium growth rate increases loss ratio by 1.84 units, implying that loss is increasing at a slower rate as premium increases. Secondly, economic growth rate at different lags influences loss ratio positively particularly at lag two. Conversely and thirdly, historical loss ratios are negatively related to current loss ratio and also, fourthly inflation and interest rate are inverse determinants of loss ratio except in lag 2. The study established here that an increase in interest rate and inflation induces a decline in loss ratio. That is, premium increases at a faster rate than claims; at any time inflation and interest rates rise or claim rarely increases while premium grows particularly if there is cash-flow underwriting. However, it can be deduced from the first and second findings that due to the differential time between premium and claim payment; claims inflation may later rise and outpace premium growth

Table 3-Premium Growth Rate-Macroeconomic Variable Relation in VARX Framework

Regressor	Coefficient	Std Error	T-value	P-value
LPMR(1)	0.446809	0.220572	2.025701	0.0463
LPMR(2)	0.157281	0.225426	0.697707	0.4875
LPMR(3)	0.037354	0.222799	0.167662	0.8673
LGR(1)	-0.004232	0.015079	-0.28036	0.7838
LGR(2)	0.010742	0.018147	0.591955	0.5556
LGR(3)	-0.011871	0.014638	-0.810925	0.4204
LINF(1)	-0.002635	0.025214	-0.104334	0.9172
LINF(2)	-0.023127	0.025208	-0.917270	0.3619
LLNF(3)	0.020945	0.024184	0.866094	0.3892
LINTR(1)	0.008411	0.076949	0.109312	0.9132
LINTR(2)	-0.019963	0.081085	-0.246133	0.8062
LINTR(3)	-0.006831	0.071822	-0.095092	0.9245
LLR	0.068373	0.042031	1.626633	0.1081

Source: Author's Summarization from E-view Window 10

It is structurally important to find that premium growth rate has positive impact on loss ratio, just as loss ratio influences premium growth rate positively; that is, underwriting performance is consistently making losses grow at faster pace than premium. It is also discovered that previous premium growth rates are negatively connected to current growth rate of premium. With exemption to lag 2 in the case of GDP growth rate, lags 3 and 1 negatively influence premium growth rate. Inflation rate adversely affects premium growth rate while interest rate also negatively influences premium growth rate at lags 2 and 3; although they are not significant. This simply means that there is sufficient evidence to support that macroeconomic factors in Nigeria are risks or shocks to premium growth rate and indeed underwriting performance of the insurance industry. This adds another theoretical concept that premium will not grow at the same rate with economic growth and could even be inverse. Now the central issues are to address how loss ratio and premium growth rate individually respond to the shocks of the macroeconomic variables. The impulse response function graph is drafted to explain this issue; the graphs are presented in figures 2 and 3.

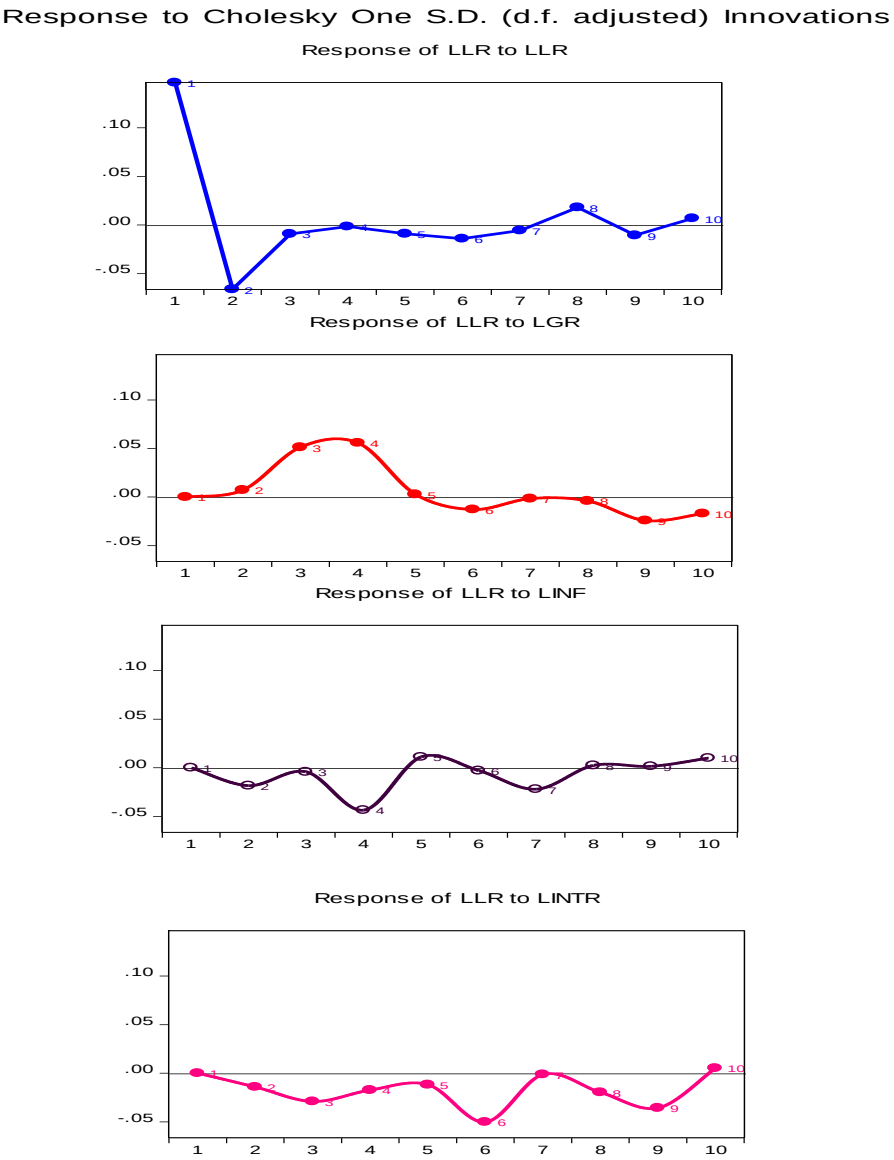

Fig. 2 Response of Loss Ratio to Macroeconomic Shocks
Source: Author's Assessment

From figure two, the response of loss ratio to its own shocks is initially very high; it declines immediately, and rises again. However, it does not prolong for a long time. Hence, loss ratio does not respond to its shocks for a long period before coming to rest. The response of loss ratio to the shocks of GDP growth rate rises in the short run and falls in the long run to the negative region. There are few cases it comes to rest; but it however continues to infinity. The response of loss ratio to inflation initially falls into the negative

region, dwindling over time, and then prolong but rarely getting into the positive region perpetually. In addition, the response of loss ratio to interest rate falls initially into negative, but it does not persist for a long time. Implicitly, loss ratio responds negatively to shocks from inflation and interest rate. But GDP growth shows short run positive shock to loss ratio. This corroborates the findings under the VARX framework.

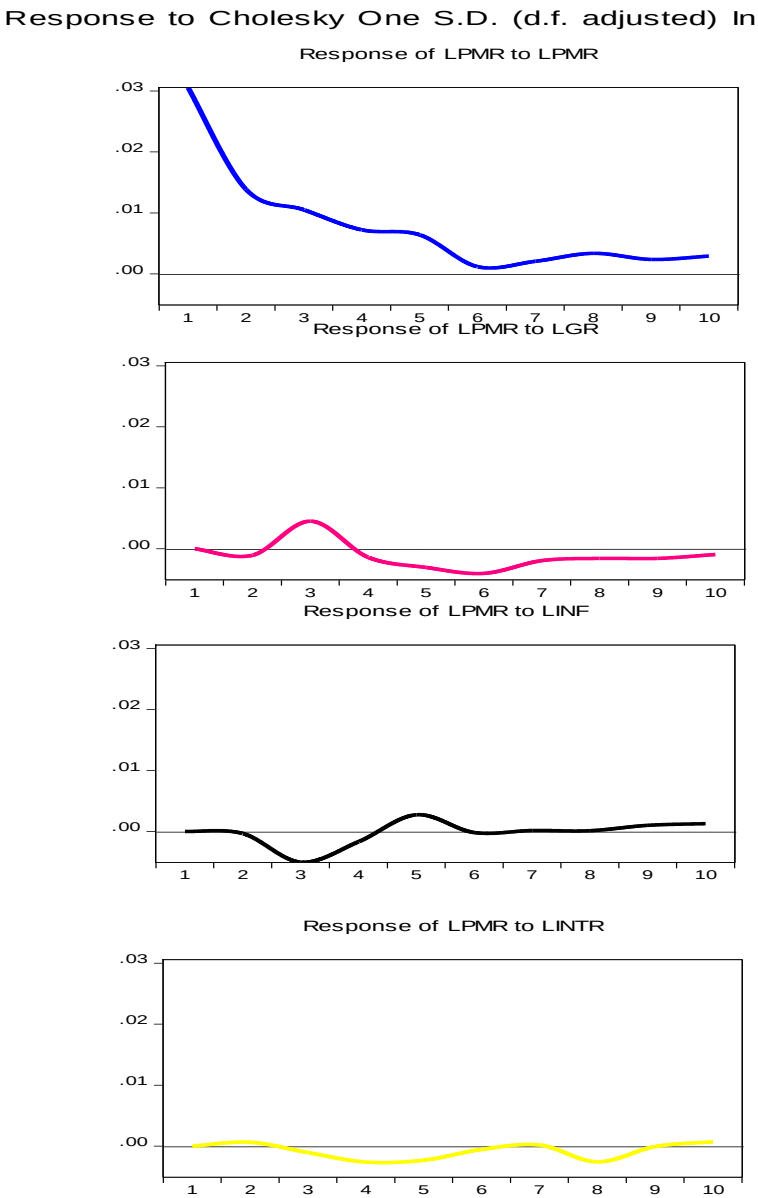

Fig. 3 Response of Premium Growth Rate to Macroeconomic Shocks
Source: Authors Estimation

As shown in figure 3 above, the response of premium growth rate to its shocks rises at first but falls immediately after. In fact, it falls persistently over time without coming to rest. For the shocks of economic growth rate, premium growth rate initially had negative response, and after a while it became positive, later it becomes negative again, and prolongs perpetually. So also, the response of premium growth rate was negative to the shocks of inflation continues indefinitely. This means premium growth rate responded to the shocks or changes in inflation for a long time negatively. Indeed, the response does not come to rest. To the contrary, the response of premium growth rate to the shocks of interest rate fails to persist for a long time, because it comes to rest abruptly. Therefore, premium growth rate responds to interest rate shocks for a short time.

CONCLUSION AND RECOMMENDATIONS

The empirical literature reviewed showed mixed results on the relationship between premium growth rate and loss ratio as underwriting performance indicators and macroeconomic factors. In Jawadi, Bruneau & Sghaier, (2009), only the French insurance industry had strong linkage between interest rate and premium growth, the US industry showed mean reversion between the two variables while in Japan, they only had significance with stock market returns. This was explained by the regulations and habits of the insurers in investment practices. For this study, loss ratio and premium growth rates are used as underwriting performance variables. It is interesting to find out that inflation and interest rates are negatively related to loss ratio which implies that premium grows faster than claims inflation and possibly there is value adjustment in insurance consumption in times of inflation with concomitant increase in claims. On interest rates, it suggests possibility of cash flow underwriting may occur through rate-cutting and high risk taking in periods of high interest rate resulting in higher volume of premium. Furthermore, rates are regulated in the non-life sector in Nigeria, therefore systematic price discounting is less relevant and unethical rate-cutting may be quite prevalent in times of high interest rate giving a positive shock to loss ratio.

However, there is strong evidence that premium growth rate is adversely affected by inflation rate for long periods but less significantly to shocks from interest rates. This could arise from sharp reduction in purchasing power while possible cash flow underwriting is really non-existent in periods of high interest rate; more so that pricing is fixed by tariff. It is of note that premium growth is not influenced by real economic growth which is fundamental departure to most studies. This underscores the low insurance penetration in the Nigerian non-life sector despite economic growth in the prevailing period. Previous premium has no influence on future performance

The overall implication is that the industry competes more on premium rate –cutting during periods of high interest income while loss distributions respond less to inflationary shocks through claims inflation. Altogether, this suggests poor underwriting strategies during these periods because insurance consumption is shocked by inflation risk and less affected by interest rate suggesting weak investment strategies. Also, it is quite revealing and surprising that historical premium growth rate had no shocking influence on future growth rate unlike other developed economies (Jawadi, Bruneau & Sghaier, 2009) which may also attest to poor salesmanship and underwriting strategy. Much more surprising is

that GDP growth rate does not influence premium growth rate as found in research. This may be attributable to possible non-transmission of economic growth to income of the people. This calls for greater research for developing economies.

The Nigeria insurance industry has huge growth potentials but is subject to performance shocks from macroeconomic risks that veer away from theoretical underpinnings as evidenced in this study. In consequence, the policy makers should consider that the performance of the insurance sector to grow premiums and reduce loss ratios depends on the active management of interest and inflation rates since they adversely affect the underwriting performance. Very surprisingly, real GDP growth rate has not influenced the growth and performance of the industry. The government has to devise an economic blueprint to increase the level of per capita income, reduce dependency ratio and income inequality to connect GDP growth to the insurance industry. The regulators should consider rate deregulation in the non-life sector to enable proper pricing which may possibly incentivize increased demand of insurance through competitive underwriting strategy. Nigerian insurance companies should proactively develop products that can compete on managing claims using innovative underwriting strategy since loss ratio and premium growth are quite vulnerable to macroeconomic shocks in Nigeria.

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UTICAJ NAGLIH PROMENA NA POSLOVANJE OSIGURAVAJUĆIH DRUŠTAVA IZ SEKTORA NEŽIVOTNOG OSIGURANJA U NIGERIJI I MAKROEKONOMSKI RIZICI – VEKTORSKI AUTOREGRESIONI PRISTUP

Poslovanje osiguravajućeg društva može biti otežano internim i eksternim rizicima. Izveštaji pokazuju da su 23 od 55 kompanija koje posluju u Nigeriji (oko 42%) zabeležile neto operativne gubitke u 2015. godini. Makroekonomski rizici su eksterni i mogu biti veoma značajni u obezbeđivanju (ne)povoljnog okruženja za razvoj industrije, posebno u ekonomija kao što je Nigerija. Kada se ima u vidu doprinos osiguranja nigerijskoj ekonomiji, koje pokazuje neuobičajeno nisku penetraciju, prosečno ispod jednog procenta BDP-a, u poređenju sa afričkim državama kao što su Južnoafrička republika sa 13% i Kenija iznad dva procenta; od suštinske je važnosti istražiti kako ovi rizici mogu uticati na prodor osiguranja. Dinamička regresija najmanjih kvadrata je korišćena za proučavanje dinamike makroekonomskih rizika (BDP, stopa inflacije i kamatne stope) na rezultate poslovanja osiguravajućih društava u periodu 1981-2015. U odnosu na teorijske osnove i druge studije naročito u zapadnim

ekonomijama, studija ima dokaze da nagle promene u stopi kamate i inflacije negativno utiču na poslovanje osiguravajućeg društva. Takođe, realni BDP nema pozitivan uticaj na rast premija i racio šteta. Monetarna politika bi trebalo da se bavi inflacijom i kamatnim stopama kako bi se u Nigeriji ublažili šokovi u poslovanju osiguravajućih društava u sektoru neživotnog osiguranja. Dugoročno, vlada bi trebalo da se fokusira na povećanje dohotka po glavi stanovnika i smanjenje nejednakosti dohotka i racia zavisnosti kako bi se potrošnja osiguranja povezala sa realnim rastom BDP-a.

Ključne reči: *Makroekonomski rizici, nagle promene u osiguranju, profitabilnost*

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Review Paper

DOMESTIC AND FOREIGN FINANCING SOURCES IMPACT ON THE ECONOMIC DEVELOPMENT OF THE REPUBLIC OF SERBIA

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Abstract. *The aim of the paper is to analyze the effects of selected sources of financing on the economic development of the Republic of Serbia in the period from 2012 to 2016 on the basis of systematized statistical data. First, the theoretical framework of domestic and foreign sources of financing and the impacts of these sources on economic development are presented from the perspective of contemporary theory. This is followed by the analysis of the impact of domestic sources of financing (domestic savings, state and private sector) on the economic development of the Republic of Serbia. Finally, the paper examines the relevance of foreign direct investment (FDI) for encouraging restructuring, competitiveness, growth, and development of the economy of the Republic of Serbia.*

Keywords*: domestic sources, foreign sources, FDI, GDP, economic development*

JEL Classification: F21, P45, R42

INTRODUCTION

Economic development includes a series of quantitatively rather different, socio-economic changes characteristic of the continuous transformation of the economy and society. In a nutshell, economic development includes changes in the volume of production and complex transformations in the composition and structure of the economy (Cvetanović, 2005, p. 8). In addition to the growth in the volume of national production, economic development includes complex structural, institutional, organizational and technological

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changes in the economy, which enable the increased production to be achieved on the national or foreign markets.

Financing economic development is a central issue in the financial system of all countries. The development of the financial system and the establishment of appropriate financial mechanisms are necessary for the effective engagement of domestic and foreign sources of financing and their allocation to profitable projects driving the economic development. The analysis of the sources of economic development financing in the Republic of Serbia should be considered in the context of the financial position of certain institutional economic sectors. The main institutional sectors in each national economy, including that of the Republic of Serbia, are 1) the household sector, 2) the government sector, 3) the business sector and 4) the foreign sector.

1. THE IMPACT OF DOMESTIC AND FOREIGN SOURCES OF FINANCING ON ECONOMIC DEVELOPMENT - THEORETICAL FRAMEWORKS

Domestic savings, as a key source of economic development financing, are voluntary refraining from spending in the present to increase consumption in the future. Walt Rostow points out that the key condition for certain national economies to overcome the state of underdevelopment is the savings rate between 10 and 15 percent (Rostow, 1963). Due to the significant role of profit in shaping the business sector savings and thus the overall national savings, some economists emphasize that profit plays a key role in financing economic development. Because of this role, profits are often subject to justifiable disputes (Lewis, 1966, pp. 120-121). As a rule, industrialized countries base their development on investments resulting from domestic savings. On the contrary, in most developing countries, the biggest problem of financing economic development is insufficient domestic savings. The result are too low investments in production capital that are necessary for the rapid economic development of developing countries (Samuelson & Nordhaus, 1992, p. 698).

Today all countries have open economies, to a greater or lesser extent. Therefore, when considering the financing of economic development, it is necessary to analyze not only domestic but also foreign sources of financing. Foreign capital, as an additional source of financing, is imposed in underdeveloped economies as a condition of changing their structure and adapting to the world market requirements (Todorović, 1998, pp. 15-16). Arnold and Javorick have proven that foreign ownership leads to a significant improvement in the productivity of purchased companies (Arnold & Javorcik, 2009, pp. 42-53).

Based on an analysis of the functioning of the Central and Eastern Europe economies, which have had a significant inflow of FDI from the early 1990s, Hagemeyer and Tyrowicz concluded that foreign companies in these countries showed superior performances compared to domestic companies (Hagemeyer & Tyrowicz, 2012, pp. 195-233). Moura and Forte point out that governments play a key role in creating conditions for the positive effects of FDIs or reducing their negative effects on the economic growth and development of recipient countries (Moura & Forte, 2010). In the case of a lack of domestic sources of financing, FDIs are the most desirable source of financing economic development.

2. Domestic Sources of Financing Economic Development in the Republic of Serbia

Domestic accumulation is a key factor in economic development. In the history of national economies development, there is almost no case of development without relying on own accumulation. The Republic of Serbia is among the countries with very low domestic accumulation. Nevertheless, household savings, as well as public and private sector savings, significantly affect its economic development.

2.1. Household Savings as a Source of Financing the Economic Development of the Republic of Serbia

Domestic savings are the most important source of investment financing in almost all countries. The level of domestic savings differs in developed countries, developing countries and countries in transition. In developed countries, domestic savings are covered by real accumulation (production of commodities), whose structure is most often dominated by products of high technological performances. These countries have a network of developed financial institutions and currencies that are mostly convertible. Developing countries and countries in transition are characterized by extremely low domestic savings, which is not covered by real accumulation, due to the inflation effect. Domestic currencies are generally not convertible, while the financial market is underdeveloped. This is also the situation in the Republic of Serbia. This is indicated by the changes in the structure and dynamics of the savings of its population in the period from 2006 to 2016 presented in Table 1. Household savings were steadily increasing in the observed period, both in dinar and foreign currency deposits. Unfortunately, high savings were not used adequately for investments, but for cash loans.

Table 1 Savings of the Republic of Serbia population (in RSD 000 000) in the period 2006 to 2016

Year	Dinar savings			Foreign currency savings			Total savings
	Short-term	Long-term	Total	Short-term	Long-term	Total	
2006	6,909	642	7,551	241,207	46,454	260,661	268,212
2007	9,688	1,078	10,766	326,557	55,044	381,601	392,367
2008	9,729	846	10,575	363,529	51,041	414,570	425,145
2009	11,612	787	12,400	500,586	65,591	566,177	578,577
2010	9,658	3,702	13,360	614,314	117,755	732,066	745,428
2011	16,351	3,004	19,355	570,836	204,802	775,637	794,992
2012	16,257	1,374	17,630	731,381	178,469	909,849	927,479
2013	30,867	2,804	33,672	740,639	193,201	933,840	967,512
2014	34,424	3,634	38,058	777,830	220,471	998,302	1,036,359
2015	34,521	10,843	45,364	700,668	313,603	1,014,271	1,059,635
2016	143,115	7,251	50,366	861,426	209,529	1,070,955	1,121,321

Source: NBS (april 2017). *Statistički bilten*, Beograd: NBS, p. 59.

The data given in Table 2 show that in the period from 2012 to 2016, the Republic of Serbia achieved the average GDP growth of 0.7 percent, which is close to the average level of the eurozone countries (Table 2), and out of all the bordering countries, it topped

only Croatia. The economic growth of the Republic of Serbia amounted to 2.8 percent in 2016 and was lower than the economic growth of Albania, Bulgaria, Croatia, and Romania. Also, the economic activity in the countries of the region accelerated in the period from 2015 to 2016 compared to the period from 2012 to 2014.

Table 2 GDP growth in the Republic of Serbia, the countries of the region, the EU and the eurozone in the period 2012 to 2016

Country	2012	2013	2014	2015	2016	Average growth in the period from 2012 to 2016
Republic of Serbia	**-1.0**	2.6	**-1.8**	0.8	**2.8**	**0.7**
Albania	1.4	1.1	1.8	2.6	3.5	2.1
B&H	-0.9	2.4	1.1	3.0	2.0	1.5
Bulgaria	0.0	0.9	1.3	3.6	3.4	1.8
Croatia	-2.2	-1.1	-0.5	1.6	2.9	0.1
Hungary	-1.6	2.1	4.0	3.1	2.0	1.9
FYR Macedonia	-0.5	2.9	3.6	3.8	2.4	2.4
Montenegro	-2.7	2.9	1.8	3.4	2.5	1.6
Romania	0.6	3.5	3.1	3.9	4.8	3.2
EU	-0.5	0.2	1.7	2.2	1.9	1.1
Eurozone	-0.9	-0.3	1.2	2.0	1.8	**0.8**

Source: worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=BA-BG-HR-HU-MK-ME-RO-EU&view=chart

In order to make up for historical lagging behind the European countries, the Republic of Serbia needs to achieve an average annual GDP growth of 4 to 5 percent over the longer term. One of the key conditions for such growth is to increase the *share of investments in GDP* from the current level of 18 to 19 percent to around 25 percent. Another important condition is *to increase domestic savings*, which would generate sufficient funds to finance investments. During the 1990s, when savings in the Republic of Serbia were particularly low due to the sanctions, there was a decrease in production. The problem of disinvestment and capital reduction from 40 to 45 percent was also reported. The lack of savings and investments particularly hit the industry, the activity in which there should be strong technical progress and where, without new investments, technology quickly becomes obsolete.

The experience of a large number of countries shows that it is necessary to allocate from 15 to 17 percent of the GDP value each year to compensate for the capital consumption (as a result of its use or flow of time) and maintain production and consumption at the same level in the future. When during the 1950s and 1960s Yugoslavia achieved high economic growth rates, savings and investments accounted for over 30 percent of GDP. In some Asian countries with high economic growth rates, savings account for between 30 and 40 percent of their GDP. In terms of the amount of savings, China particularly stands out with nearly 50% of GDP saved or invested in the domestic economy but also in the economies of many countries around the world, (Arsić, et al., 2017, p. 5).

Gross domestic savings in the Republic of Serbia amounted to 10.7 percent of GDP in 2016, which is significantly higher than in the previous years of the observed period (Table 3). Unfortunately, this amount of gross domestic saving was not enough to finance the investments necessary for maintaining a constant level of production.

Table 3 Selected economic indicators of the Republic of Serbia in the period 2006 to 2016

Year	GDP in bln. $	Growth of GDP in %	Gross investments in bln. $, current prices	Gross investment, % of GDP	FDI share in gross investments in %	Gross domestic saving in bln. $, current prices	Gross domestic saving, % of GDP
2006	30.6	4.9	7.7	25.0	55.6	1.4	4.7
2007	40.3	5.9	11.7	29.1	37.7	1.9	4.8
2008	49.3	5.4	14.9	30.3	27.1	2.6	5.3
2009	42.6	-3.1	8.3	19.4	35.4	1.5	3.5
2010	39.5	0.6	7.3	18.5	23.2	1.4	3.5
2011	46.5	1.4	9.3	20.1	52.8	2.2	4.7
2012	40.7	-1.0	8.6	21.0	14.9	1.8	4.3
2013	45.5	2.6	8.0	17.6	25.6	3.2	6.9
2014	44.2	-1.8	7.7	17.5	25.9	2.9	6.6
2015	37.2	0.8	7.0	18.8	36.2	3.4	9.1
2016	37.7	2.8	6.8	18.1	30.4	4.0	10.7

Source: worldbank.org/indicator/NE.GDI.TOTL.ZS?locations=RS

In the same year, the share of gross domestic saving in the countries of the region ranged from 1.5% to 29.4% of GDP (Chart 1). The Republic of Serbia surpassed only Albania and Montenegro.

Numerous theoretical and empirical studies show that in the long run, it is necessary to dominantly finance a country's investments from own funds. This means that the Republic of Serbia needs to increase domestic investment funds from about 10 percent (current level) to around 25 percent of GDP. The experience of Bulgaria, Romania, and Macedonia shows that this is possible. These countries are at a similar level of development and invest almost a quarter of GDP in investments.

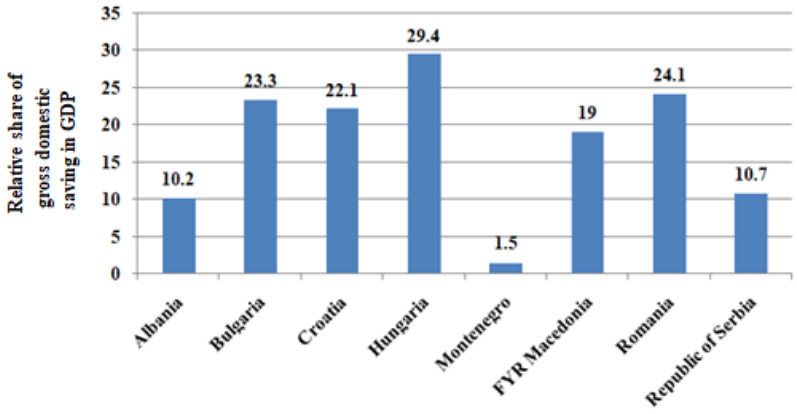

Chart 1 The share of gross domestic saving in GDP (in percent) in the Republic of Serbia and the countries of the region in 2016
Source: worldbank.org/indicator/NY.GDS.TOTL.ZS

Total investments in fixed funds, which are the direct determinant of the economic growth in the Republic of Serbia, are relatively low. Their share in the Republic of Serbia GDP in the period from 2006 to 2016 was, on average, less than 20% (Table 4).

Table 4 Investments of the Republic of Serbia in fixed funds in the period 2006 to 2016

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total investments in fixed funds (in mill. euros)	457.4	594.7	684.2	566.2	570.1	626.7	758.7	668.4	652.0	715.5	748.5
Share of total investments in fixed funds (as % of GDP)	22.3	25.3	24.9	19.7	18.6	18.4	21.2	17.2	16.7	17.7	17.8

Source: Ministarstvo finansija Republike Srbije (februar 2017). Bilten javnih finansija, 150. Beograd: Ministarstvo finansija, pp. 18-19.

2.2. Public Sector as a Source of Financing the Economic Development of the Republic of Serbia

One of the important sources of financing economic development is public savings. There are two main sources of public savings: 1) budget surplus and 2) savings of public enterprises. A state can invest the surplus in the so-called "state cash register" (budget surplus) on the capital market annually thus improving the efficiency of the allocation of investment funds, but also the dynamics of economic growth and development. Neither high deficit nor high surplus is good, especially in less developed countries. A surplus in the budget means that the state has taken more money from the citizens and the economy through taxes than it had to. The state can increase the surplus by increasing public revenues. The growth of public revenues can be achieved by raising the existing tax rates or expanding the tax base. Additional taxes can increase public savings, but their effect may be far more pronounced on reducing private savings. It all depends on whether the marginal propensity to save is higher in the state or in the private sector. If the marginal propensity to save is higher in the private sector, it follows that the increase in taxes leading to the growth in public savings would lead to a more pronounced decrease in private and total national savings. Public enterprises generally operate less successfully than private enterprises, so their savings are very modest (Cvetanović, Mladenović, 2015, pp. 241-242).

Public sector investments in the Republic of Serbia can be divided into 1) public investments and 2) investments of public and state enterprises. Public investments positively affect GDP and represent the highest quality form of public spending (most stimulating to GDP growth). They stimulate economic growth not only in the short term, but also in the medium term, as they improve the quality of the country's infrastructure (Petrović, Brčerević, & Minić, 2017, p. 13).

The data in the following table indicate the continued growth of the Republic of Serbia budget deficit in the period from 2006 to 2014, except in 2007, when the budget was in surplus. In 2015 and 2016, there was a sharp decrease in the budget deficit resulting from the implementation of fiscal consolidation measures.

Table 5 Public finances of the Republic of Serbia

Year	Budget revenues	Budget expenses	Budget surplus-deficit
2006	494,139.2	522,861.3	-28,722.1
2007	579,454.2	578,818.6	**635.6**
2008	651,272.8	698,771.1	-47,498.3
2009	655,995.0	748,640.0	-92,645.0
2010	712,225.1	815,148.5	-102,923.4
2011	744,761.2	880,567.2	-135,806.0
2012	788,505.0	1,001,630.5	-213,125.5
2013	812,080.7	1,012,997.9	-200,917.2
2014	881,083.3	1,127,944.7	-246,861.4
2015	947,837.8	1,062,758.7	-114,920.9
2016	1,041,920.5	1,049,867.6	-7,947.1

Source: Ministarstvo finansija Republike Srbije (februar 2017). Bilten javnih finansija, 150. pp. 55-56.

Despite the fact that the increase in public investments is a country's best anti-recession policy, in the period from 2013 to 2015 their share in the Republic of Serbia GDP averaged about 2.5 percent, which is about 44 percent less than the average of the countries of Central and Eastern Europe. In 2016, public investments in the Republic of Serbia increased to 3.3 percent of GDP, but they are still below the average of the Central and Eastern European countries and countries of the region. In the coming years, the Republic of Serbia should increase the share of public investments from 2016 (3.3 percent of GDP) by about 1-1.5 percent of GDP to approach the average of the countries of Central and Eastern Europe and the countries of the region. If public investments reached the level of 5 percent of GDP and were maintained at that level in the period from 5 to 10 years, the state of public infrastructure in the Republic of Serbia would be improved appreciably.

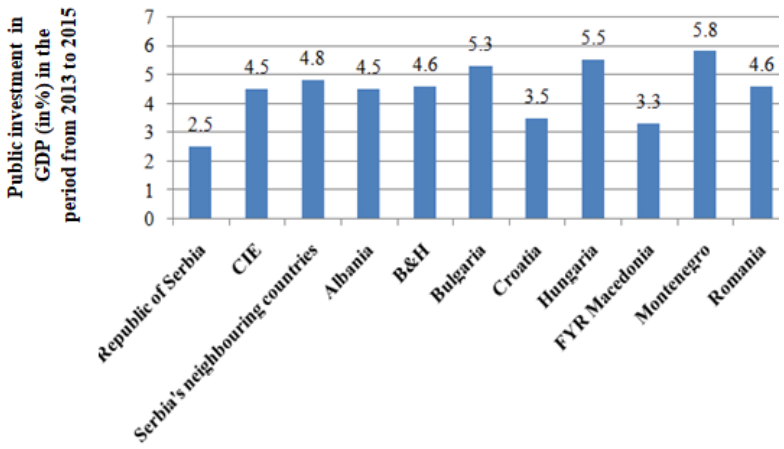

Chart 2 Relative share of public investments in GDP in the period 2013-2015 in the Republic of Serbia, countries of Central and Eastern Europe and countries of the region
Source: Petrović, P., Brčerević, D., Minić, S. (2017). Fiskalna konsolidacija i prilivni rast u Srbiji 2015-2017 - plan, održavanje i pokretači. Beograd: Fiskalni savet Republike Srbije, p. 14.

Long-term mismanagement of public and state-owned enterprises led to them creating large losses and debts, instead of stimulating economic growth and accelerating economic development through their profit-making investments. A bad example in terms of investment is EPS - the largest public enterprise in the Republic of Serbia. By 2015, this enterprise invested significantly less than the amount of depreciation, which was insufficient for it to maintain its business. Such a practice has also led to a slowdown in economic growth in the coming years.

Table 6 Investments and depreciation of EPS in the period 2013-2016 (in 000,000 RSD)

	2013	2014	2015	2016
Investments	17,556	24,210	25,184	49,901
Depreciation	37,354	38,775	39,592	44,390
Investment gap (Investments - Depreciation)	**-19,798**	**-14,564**	**-14,408**	**5,511**

Source: The table was created by the authors based on: EPS (2016). Finansijski izveštaj od 2013 do 2016. Beograd: EPS

The results of the 2016 financial statement show that EPS' investments were greater than depreciation by about 11 percent, while in 2015 they were by about 36 percent lower than depreciation. In 2016, investments were about 50% higher than in 2015, indicating that production capacity could increase, which would lead to a reduction in imports of electricity and therefore in foreign trade deficit. The estimates of experts in this field indicate that at least 1% of GDP is a lack of investment in the Republic of Serbia due to unsuccessful operations and insufficient investment of public and state enterprises (Petrović, Brčerević, & Minić, 2017).

Because of this, very important levers for increasing investments and accelerating economic growth and development in the Republic of Serbia include: 1) urgent public enterprise reform, and 2) resolving the fate of failed public enterprises through privatization or bankruptcy. By increasing public investments, reforming public enterprises and privatizing state-owned enterprises could increase the share of total investments in the Republic of Serbia from current 18 percent to 20-21 percent of GDP. This would be a significant step towards bringing the share of total investments in the Republic of Serbia closer to the desired level of 25 percent of GDP (Petrović, Brčerević, & Minić, 2017, p. 15).

However, it is desirable for most investments to be generated by the private sector. Domestic and foreign private entrepreneurs on one part and the state on the other should invest over 20 percent and 4 to 5 percent of GDP, respectively. "Government investment is now about 3% of GDP, while domestic investment is 10% of GDP and, together with foreign investment, accounts for around 15% of GDP" (Milovanović, Radisavljević, Đukić, 2018, p. 37-38). It is evident that government and private investments in the Republic of Serbia are now insufficient to achieve a high rate of economic growth. Increasing private investments to around 15 percent of GDP, as well as increasing investments in infrastructure, are key to accelerating the economic growth of the Republic of Serbia.

2.3. The Role of Private Sector in Financing the Economic Development of the Republic of Serbia

The main source for long-term financing of investments in the world, and so in the Republic of Serbia, is domestic private savings. The role of the state is very important for encouraging private investments and it is reduced primarily to the improvement of the investment environment, which in the Republic of Serbia, despite significant improvements, has been assessed by the relevant international institutions as insufficiently competitive. Thus, on the *Doing Business* list of the World Bank for 2017 including 190 economies, the Republic of Serbia economy was ranked 47th, which is quite an improvement compared to the previous few years (http://www.doingbusiness.org/~/media/WBG/DoingBusiness/Documents/Annual-Reports/English/DB17-Report.pdf).

The list of the World Economic Forum, which is more comprehensive than the World Bank's list, shows that the Republic of Serbia was ranked 78th out of 137 countries for the 2017/2018 period and improved its position by 12 places compared to the 2016/2017 report, when it was ranked 90th out of 138 ranked countries (http://www3.weforum.org/docs/GCR2017-2018/05FullReport/TheGlobalCompetitivenessReport2017%E2%80%932018.pdf).

By the corruption perceptions index of Transparency International, the Republic of Serbia was found in the 72nd position in 2016 (https://www.transparency.org/news/feature/corruption_perceptions_index_2016). It follows that in all observed lists, the Republic of Serbia is poorly ranked in terms of the efficiency of institutions and the commodity market, financial market development, business sophistication, legal protection of proprietary rights, the fulfillment of contracts, the efficiency of issuing court rulings and the perception of corruption.

Poor economic environment affects the low investment of domestic, small and medium-sized enterprises and entrepreneurs to the greatest extent, while foreign and large domestic enterprises find it easier to invest in the Republic of Serbia. Favoring foreign investment capital and marginalizing potential domestic sources of financing have influenced the level of their investments. In the myriad of approved subsidies, 75% of the value is assigned to foreign investors, although domestic ones are more numerous individually, but with far smaller amounts. Due to this type of ignoring, some of the biggest Serbian entrepreneurs are investing excess capital in neighboring countries. For example, Delta Holding, which generated around 10 percent of GDP from 2009 to 2010, is now investing actively in Slovenia, the Republic of Srpska, Bulgaria, and Albania. MK Group is investing its capital in Slovenia and Montenegro and announcing withdrawal from the Republic of Serbia. Vuk Hamović, the co-owner of the EFT Group, which generates almost 98 percent of its revenues in the EU and the region, has invested a large sum of money in the Stanari Thermal Power Plant in the Republic of Srpska. Branislav Grujić, the co-owner of PSP Farman, has moved almost all of his business from the Republic of Serbia to places around the world (Brkić, 2017, p. 30). In order for entrepreneurs to be stimulated and have more benefits from investments, the Republic of Serbia must adopt an entrepreneurship development strategy that will direct and accelerate the development of entrepreneurship through legislation.

3. FOREIGN SECTOR AS A SOURCE OF FINANCING THE ECONOMIC DEVELOPMENT OF THE REPUBLIC OF SERBIA

Foreign sector (all entities from economic or social life coming from other countries) generates two types of sources of financing for the economic development of the Republic of Serbia: 1) private and 2) public.

Due to the low level of *per capita* income and low savings rates, developing countries are unable to provide the necessary funds to finance domestic savings investments. Therefore, they are forced to obtain part of the funds necessary for financing economic development from foreign sources. Funds engaged from abroad can be an adequate supplement to domestic savings and a driving force for exiting the so-called vicious circle of underdevelopment.

The key issue in analyzing the purposefulness of engaging foreign savings to finance economic development is the efficiency of using someone else's resources. In case of failed investments, not only will the income to repay foreign savings not be generated, but a loss will be created that absorbs part of the domestic savings for its coverage. Therefore, financing failed investments by engaging foreign savings leads to problems in repayment of debts and to a reduction in the rate of economic growth (Cvetanović, Mladenović, 2015, p. 268).

Even when domestic savings are sufficient to finance economic development, foreign savings are not absolutely unnecessary. In the event that the observed country does not dispose of enough foreign funds, this deficit will condition the slowdown in economic growth, so that part of the domestic savings will be unused as well. Therefore, foreign capital not only stimulates domestic savings if insufficient, but also allows the import of goods necessary for economic growth and development (Cvetanović & Mladenović, 2015, p. 268).

The following table gives an overview of foreign sources of financing of the Republic of Serbia in the period from 2007 to 2016. It is evident that the FDIs in 2011 reached a record of 3.3 billion euros. They represent a significant contribution to the expansion of investment activities in the Republic of Serbia. The inflow of portfolio investments in 2013 amounted to 1.9 billion euros. In the period from 2014 to 2016, there was a significant decrease in portfolio investments, and in 2015 and 2016 their inflow even had a negative balance.

Table 6 Overview of foreign sources of financing in the Republic of Serbia in the period from 2007 to 2016 (in EUR 000,000)

Type of foreign sources	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Net FDI	2,528	2,486	2,068	1,133	3,320	753	1,298	1,236	1,804	1,861
Net portfolio investments	678	-91	-49	67	1,600	1,676	1,883	369	**-289**	**-916**
Other investments	2,884	2,516	2,626	-549	197	-214	-855	-1,703	-141	-448
In total:	6,090	4,911	4,645	651	5,117	2,215	2,326	-98	1,374	497

Note: Net outflow (-), net inflow (+)

Source: Ministarstvo finansija Republike Srbije (april 2017). Bilten javnih finansija, 152. Beograd: Ministarstvo finansija, p. 28; Statistika platnog bilansa Republike Srbije 2007-2016. Available at: www.nbs.rs/internet/cirilica/80/platni_bilans.html

Based on the analysis of the total volume of FDIs in the five largest sectors/industries in the period from 2010 to 2016, it can be concluded that on average 52.4% of FDIs were

realized in the service sector/industry. Most of the FDIs were used for the purchase of assets of private, state-owned and social enterprises and banks in the process of tender and auction privatization. In 2007 and 2008, the greatest investments were recorded in the *Financial intermediation* (about 40 percent of investments), and in the first half of 2009 in industries such as ore exploitation and stone exploitation. Analyzing the FDI inflows into the service sector/industry, we may observe a trend of significant reduction from 2010 to 2016 - from 61.4 percent in 2010 to 41.3 percent in 2016. There is also a noticeable increase in FDI in the processing industry and construction, from 38.6 percent in 2010 to 58.7 percent in 2016 (Table 7).

Table 7 Structure of FDI inflows to the Republic of Serbia by sectors/industries in the period from 2010 to 2016 (in 000.000 euros and percent)

Sector/industry	2010.	2011.	2012.	2013.	2014.	2015.	2016.	Average
Processing industry	329,0	631,0	521,0	679,0	535,0	721,0	712,0	590,0
Financial intermediation [2]	424,0	840,0	291,0	141,0	358,0	484,0	423,0	423,0
Wholesale and retail	133,0	1.019,0	194,0	300,0	225,0	208,0	188,0	324,0
Construction	35,0	92,0	19,0	67,0	163,0	264,0	259,0	129,0
Traffic, storage and communications	21,0	66,0	17,0	71,0	-9,0	68,0	73,0	44,0
Total five largest sectors / industries	942,0	2.648,0	1.042,0	1.258,0	1.272,0	1.745,0	1.655,0	1.510,0
Total FDI inflow	1.278,0	3.544,0	1.009,0	1.548,0	1.500,0	2.114,0	2.080,0	1.868,0
Share in total net inflow of FDI	73,7	74,7	103,0	81,3	84,8	82,5	79,6	80,8

Source: Statistika platnog bilansa, strana direktna ulaganja, neto obaveze, po delatnostima, 2010-2016. Available at: www.nbs.rs/internet/cirilica/80/platni_bilans.html

By observing the average share of the service sector and the average share of the manufacturing sector in the cumulative average of the five largest sectors, we may note that service sectors account for 52.4 percent while manufacturing sectors account for 47.6 percent. The data in Table 7 show that service sectors/industries (*Financial intermediation, Wholesale and retail, Transport, storage and communications*) have the largest share in GDP creation while manufacturing sectors (*Processing industry and Construction*) show significant progress in the creation of GDP.

The Republic of Serbia has not built the systemic capacity for economic growth yet, as the reforms were implemented in one step forward, two steps back. In the political, social and especially economic systems, there are serious built-in inhibitors of economic growth. The estimates by the World Bank, the IMF, the European Commission, and rating companies indicate which reforms the Republic of Serbia has to implement to create key preconditions for further growth of its economy.

Table 8 shows the percentage share of net FDI in GDP in the ten selected countries. "In the period from 2013 to 2015, the relative share of net FDI in GDP in the Republic of Serbia was low, compared to most of the countries observed. The reasons are the

[2] The **Industry** which by the *Classification of Activities* belongs to the *sector* "Financial and insurance activities" and "Financial services, except insurance and pension funds".

following: unstable political situation, frequent elections, government reconstruction, and high budget deficit and public debt. All this gave investors an indication of an unstable environment. During 2015 and 2016, there was a slight increase in the relative share of net FDI in GDP" (Milovanović, Radisavljević, Đukić, 2018, p. 39), which points to a positive prospect for future GDP growth and increase in the export potential of the Republic of Serbia.

Table 8 Relative share of net FDI in GDP in selected countries

	2012	2013	2014	2015	2016	Average in the period from 2012 to 2016
Albania	7.5	9.8	8.7	8.7	9.2	**8.8**
B&H	2.3	1.7	2.8	1.8	1.6	**2.0**
Bulgaria	3.3	3.6	3.6	5.5	2.4	**3.7**
Montenegro	15.2	10.0	10.8	17.4	5.4	**11.8**
Czech Republic	4.5	3.5	3.9	0.9	3.4	**3.2**
Croatia	2.6	1.6	6.9	0.3	1.9	**2.7**
Macedonia	3.5	3.7	0.5	3.0	5.3	**3.2**
Hungary	8.3	-2.8	9.3	-4.4	-7.3	**0.6**
Republic of Slovakia	1.9	1.0	-0.4	1.3	4.0	**1.6**
Republic of Serbia	**2.4**	**3.8**	**3.7**	**5.4**	**5.5**	**4.2**
Average	**5.2**	**3.6**	**5.0**	**3.1**	**3.1**	**4.2**

Source: Milovanović, Radisavljević, Đukić, 2018, p. 40.

If we look at the average share of net FDI in GDP for selected countries by years, we will see that it peaked in 2012 (5.2 percent). In 2013, this share dropped to 3.6 percent to grow again in 2014 to 5 percent. In 2015 and 2016, the share of net FDI in GDP again dropped to 3.1 percent, while the aggregate average for the share of net FDI in GDP for selected countries was 4.2 percent (Table 8).

Although the Republic of Serbia has accomplished a solid result in the FDIs inflow so far, the fact is that they have not significantly contributed to stopping the deindustrialization process. It turned out that FDIs were crucial for the transfer of new technologies and productivity growth, which resulted in higher quality and higher export volumes. The export of the Republic of Serbia, primarily the export of products from newly established companies, "has increased significantly to countries from which large FDI inflows came, such as Italy and Germany" (Milovanović, Radisavljević, Đukić, 2018, p. 38).

FDIs had a significant impact on the exports of the countries of Central and Eastern Europe as well as their integration into the world economy and the transfer of modern technology. During the initial transition phase, the largest cumulative inflow of FDI was recorded in countries such as the Czech Republic, Hungary, Slovakia, and Poland. It is the FDI that came to these countries that affected the restructuring, i.e. the reorientation of production from low-level finished products such as clothing and furniture to automotive and IT components for further production (Nikolić, 2017, p. 134).

In the Republic of Serbia, since the global economic crisis, the focus has shifted to implementing FDIs in the processing industry. Tax incentives for the employment of new workers and the free infrastructure necessary for the operation of companies in the form

of technological parks have been granted. “It is encouraging that the share of FDI in industry in recent years was almost two fifths on average, which is twice the average for the first decade of the 21st century” (Milovanović, Radisavljević, Đukić, 2018, p. 39).

It is encouraging that the share of FDIs in the industry in recent years has on average been almost two fifths, which is twice the average for the first decade of the 21st century.

The practice so far has shown that FDIs positively affect economic development only if the recipient country has a complementary industry, as the impact of multinational companies, as the largest FDI generators, on economic development is mainly made through cooperation with local producers. If a foreign company comes, with another foreign company as the supplier, and a third foreign company as the distributor, then there is no real effect on the economic development of the host country. The development effects of FDIs are only possible when there is a connection with local businesses and when there is a "spillover effect" of technology and knowledge (Nikolić, 2017, p. 134).

Economists point out that an established annual FDI inflow of at least 1.6 billion euros is required for stable and long-term growth of the economy of the Republic of Serbia. In order to achieve this, the Republic of Serbia must create a motivating and predictable business environment entailing a normal situation where investors come from the world, motivated to work well and earn.

Over the past two decades, there have often been controversies about the impact of state subsidies on attracting FDIs to the Republic of Serbia. Previous experience has shown that most of the poor countries used state subsidies in their development. It is logical that the Republic of Serbia too must give subsidies so as not to be removed from the investment map and that these subsidies must bring foreign investors that will provide more jobs, better wages, higher exports, higher production and better filling of the state budget.

A country that relies heavily on subsidies clearly shows that it is trying to make up the weaknesses that exist in its economic environment. It is true that some investors will come for subsidies. However, more investors would come if conditions for investment were better, if the state functioned better, and if there were financial discipline and highly educated workforce. Then we could talk about attracting better quality FDIs. For if a company comes only for incentives, then it means that it is not among the best-ranked ones. Interesting are IBM data in the *Global Location Trends* - 2016 Annual Report, according to which the Republic of Serbia is a good place to invest in, but that assessment would be much more convincing when certain companies invest without taking state subsidies.

CONCLUSION

Developed countries have a favorable savings structure as their domestic currency is convertible and there is no difference between savings in domestic and savings in foreign currencies. In developed countries, monetary savings are covered by real accumulation. In these countries, household savings is the main source of economic development. Unlike developed countries, developing countries are characterized by extremely low savings, where cash savings are not covered by real accumulation. Household savings in these countries are insufficient to finance their economic development.

By analyzing the impact of domestic and foreign sources of financing on the economic development of the Republic of Serbia, we have come to the conclusion that domestic

sources of financing are more desirable than foreign ones. If it wants to count on high growth rates, the Republic of Serbia has to increase domestic savings in the coming period in order to increase total investments from around 18 percent of GDP to 25 percent of GDP. In order to accelerate economic growth, it is necessary to increase domestic private investment from the current 10 percent to 15 percent of GDP; remove administrative barriers to domestic investors and treat them equally with other investors; continue to build the infrastructure. The economic development of the Republic of Serbia would be even more intense if domestic investors were given the chance to invest and get incentives just like foreign investors.

The results show that both public and private investments in the Republic of Serbia are significantly less than they should be. If it wants to achieve high economic growth rates, the Republic of Serbia needs to increase public investments from the current 3-3.5 percent to 4-5 percent of GDP.

Due to a deficiency in domestic accumulation, the Republic of Serbia needs foreign capital in the form of FDIs. FDIs now reach around 5 percent of GDP, which is a solid result. Higher FDI inflows could lead to the repatriation of profits and balance of payments issues.

The state needs to improve macroeconomic stability so that enterprises can borrow under favorable conditions and generate high profits, from which they could invest in their development. For the lasting stability of the economy, it is crucial to eliminate great fiscal and foreign trade deficits as they can lead to a debt crisis. When they feel the hint of the debt crisis, entrepreneurs usually postpone or permanently give up on investments. Under such conditions, they are aware of the fact that they cannot count on state support and that they can lose capital and go bankrupt.

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UTICAJ DOMAĆIH I STRANIH IZVORA FINANSIRANJA NA PRIVREDNI RAZVOJ REPUBLIKE SRBIJE

Cilj rada je da se na bazi sistematizovanih statistickih podataka analiziraju uticaji odabranih izvora finansiranja na privredni razvoj Republike Srbije u periodu od 2012. do 2016. godine. Najpre se, iz ugla savremene teorije, prezentuju teorijski okviru domaćih i stranih izvora finansiranja i uticaji ovih izvora na privredni razvoj. Sledi analiza uticaja domaćih izvora finansiranja (domaća štednja, državni i privatni sektor) na privredni razvoj Republike Srbije. Na kraju se analizira relevantnost stranih direktnih investicija (SDI) za podsticanje restrukturiranja, konkurentnosti, rasta i razvoj privrede Republike Srbije.

Ključne reči: *domaći izvori, strani izvori, SDI, BDP, privredni razvoj*

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Original Scientific Paper

ANALYSIS OF VARIATIONS IN PROFITABILITY AND INDEBTEDNESS OF AGRICULTURAL COMPANIES IN AP VOJVODINA

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Abstract. *The measurement of agricultural companies in terms of profitability and indebtedness enables a real determination of the role and position of these companies in the agricultural sector in AP Vojvodina. The aim of the paper is to show the presence or absence of significant difference in the performance level of agricultural companies from the aspect of profitability and indebtedness. Agricultural companies in AP Vojvodina were more profitable and more indebted in the period before 2013 compared to the period after 2013. The results show that there is a significant difference in profitability level of agricultural companies in AP Vojvodina between the period before 2013 and after 2013. Using the MANOVA test, significant values for return on assets (ROA), return on equity (ROE) and net income per employee have been identified. On the other hand, results reflect there is no significant difference in the indebtedness level of agricultural companies in AP Vojvodina between the period before 2013 and after 2013.*

Key words: *agricultural companies, performance, profitability, indebtedness, MANOVA*

JEL Classification: C13, Q14

1. INTRODUCTION - THEORETICAL BACKGROUND

Agriculture can be qualified as a specific sector which represents an essential segment in implementing the strategic vision of the Serbian economic development (Petrović-Ranđelović et al. 2010). Agriculture in the Republic of Serbia has economic, social and political relevance and has a significant share in making the gross domestic product (Daku et al. 2005). It employs a large number of people (Kuzman et al. 2017).

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The field of agriculture and the continuity and stability of agricultural production have an immeasurable relevance on the development of the entire economy (Pjanić et al. 2018). Mijić et al. (2016) emphasize the agro-economy sector as the bearer of economic development in Serbia. The specificity of business in the agricultural sector is reflected in the seasonal character of activity, the slow capital turnover and high production costs (Jakšić et al. 2011).

Due to the natural prerequisites for growth and development of agricultural production, agricultural companies in AP Vojvodina, besides satisfying domestic needs, also carry out business activity through the export of their products. The market conditions, economic crisis, the relatively low consumer power of population impose a constant need for analysis and improvement of business performance of agricultural companies in order to ensure their survival and development on the market (Kalaš et al. 2017). The importance of the agricultural sector in AP Vojvodina is manifested in the fact that this region includes 35% of the agricultural area of the Republic of Serbia (Andrašić et al. 2018).

Successful economic business, as well as permanent profit creation, is a requirement of long-term sustainability of agricultural companies (Jakšić et al. 2016). Profitability shows the earning power and business success of a company (Kimmel et al. 2012). Asiri (2015) and Vučković (2016) determined ROA and ROE as the most important factors of profitability. Jakšić et al. (2016) analyzed the profitability of milk production companies and milk processing companies in Serbia for the 2010-2013 period. Using the MANOVA test, they identified that there are no significant changes in the level of profitability during the observed period. On the other hand, indebtedness can have a positive or negative effect on company success in terms of profitability. Namely, company indebtedness indicates the structure of property resources and their safety from the aspect of financial (in)dependence (Mirović et al. 2018). It means that a higher share of own resources makes a wider space and greater financial dependence. However, indebtedness at an optimum level can have a positive influence on company performance. Companies need to balance the ratio of profitability and indebtedness and establish an effective nexus between these indicators. In the case of greater indebtedness, Račić et al. (2011) noticed that companies are forced to decrease financial leverage that causes a considerable fall in profitability.

The subject of research is the performance of agricultural companies in AP Vojvodina from 2006 to 2015. The paper includes four segments. The first segment shows theoretical background and similar research about variance analysis of key performance such as profitability, liquidity and indebtedness. After that, there is a trend analysis of the observed indicators of profitability and indebtedness in the ten year period which enables identification of their mean values and standard deviations. The fourth segment of the paper focuses on the multivariate analysis of variance with the aim to determine a potential significance in the profitability and indebtedness level of agricultural companies.

2. Descriptive Analysis of Profitability and Indebtedness

This segment of the paper reflects the trend of profitability indicators such as return on assets, return on equity, revenue per employee and net income per employee as well as liabilities capital ratio and interest coverage coefficient for the ten year period 2006-2015.

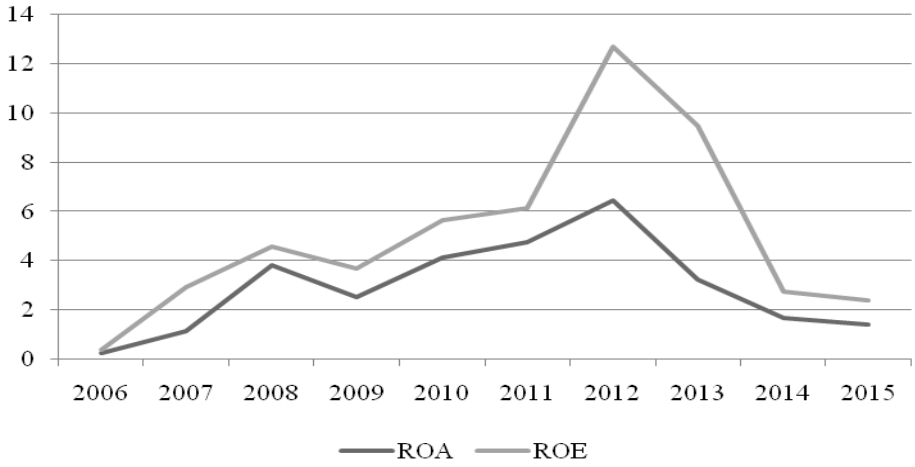

Fig. 1 Profitability of agricultural companies in AP Vojvodina
Source: Author's calculation

Based on Figure 1, the analysis of return on assets (ROA) and return on equity (ROE) shows an increase from 2006 to 2012 while the observed indicators decreased after that period. Agricultural companies recorded the highest value of ROA (6.47%) and ROE (12.7%) in 2012, while the lowest level of profitability was in 2006 when their values were under 0.5%.

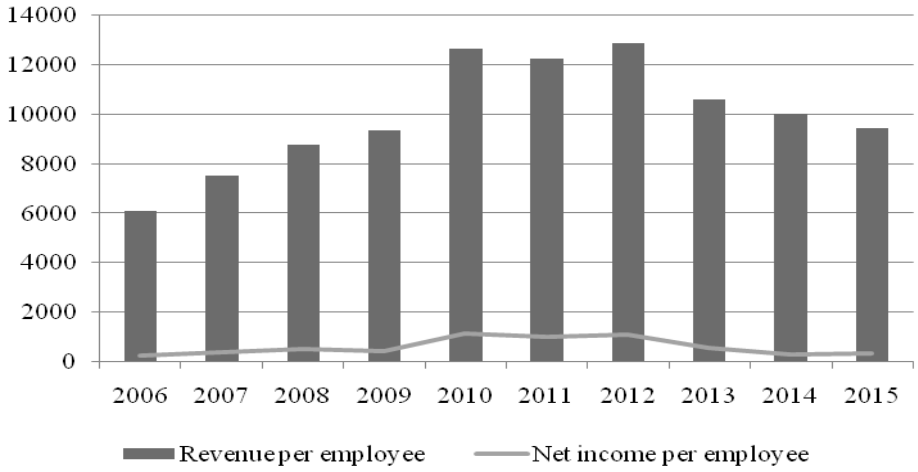

Fig. 2 Revenue and net income per employee of agricultural companies in AP Vojvodina
Source: Author's calculation

Figure 2 shows the value of revenue and net income per employee of agricultural companies in AP Vojvodina from 2006 to 2015.

There is an increased tendency of revenue per employee and net income per employee from 2006 to 2013 and after that, this indicator declined to the end of the observed period. The highest values of these indicators were recorded in 2013 (revenue per employee) and 2010 (net income per employee). On the other hand, the minimum values of revenue per employee and net income per employee were recorded at the beginning of the analyzed period.

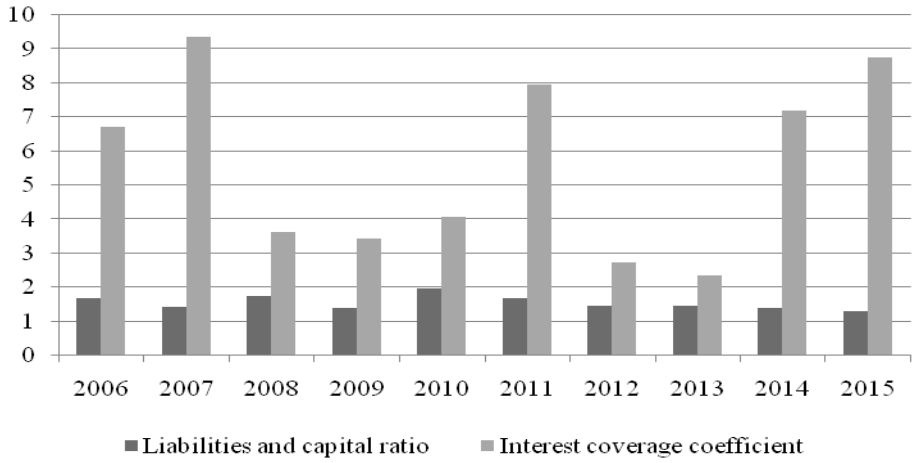

Fig. 3 Indebtedness of agricultural companies in AP Vojvodina
Source: Author's calculation

After profitability analysis of agricultural companies in AP Vojvodina, Figure 3 shows their indebtedness from the aspect of liabilities and capital ratio and interest coverage coefficient. At the beginning of the analyzed period, indicators show increase until 2008, while their values were lower in 2009. After that, the maximum value of liabilities and capital ratio (1.98) was recorded, while in 2011 interest coverage coefficient had the greatest value of 7.97. Looking at the last three years, the average values of these indicators were 1.39 and 6.1, where agricultural companies achieved less indebtedness in the last year compared to the previous year. It means the declined value of liabilities and capital ratio and increased value of interest coverage coefficient of these companies in the analyzed period.

3. METHODOLOGY

The aim of this paper is to find out a potentially significant difference in the profitability and indebtedness level of agricultural companies in AP Vojvodina. The authors used return on assets, return on equity, revenue per employee and net income per employee as main profitability indicators, as well as liabilities and capital ratio and interest coverage coefficient in terms of indebtedness.

Table 1 Review of observed variables

Variable	Notation	Calculation	Unit
Return on assets	ROA	Net income/Total assets	%
Return on equity	ROE	Net income/Capital	%
Revenue per employee	IPE	Sales revenue/Number of employees	%
Net income per employee	NRPE	Net income/Number of employees	%
Liabilities and capital ratio	LCR	Total liabilities/Capital	%
Interest coverage coefficient	ICC	Operating income/Interest expense	%

Source: Authors

The analysis of variation in the performance of agricultural companies should indicate if there are significant fluctuations in profitability and indebtedness level that the companies achieved in the observed period. Considering that more than one indicator describe profitability and indebtedness and to investigate the difference over the period, research includes a multivariate analysis of variance or variance analysis with more factors.

4. RESULTS

This segment provides descriptive information for the observed variables, as well as a multivariate analysis of variance in order to identify a potentially significant difference in profitability and indebtedness level of agricultural companies.

Table 2 Descriptive statistics of profitability

Variable	Period	Mean value	Standard deviation
ROA	Before 2013	0,052	0,120
	After 2013	0,026	0,064
	Total	0,039	0,097
ROE	Before 2013	0,110	0,138
	After 2013	0,062	0,071
	Total	0,086	0,113
Revenue per employee	Before 2013	12.646,050	21.972,565
	After 2013	10.220,640	9.155,874
	Total	11.452,90	16.937,281
Net income per employee	Before 2013	1.076,84	2.741,611
	After 2013	445,62	1.357,285
	Total	766.32	2.192.330

Source: Author's calculation

The results of profitability in the period before and after 2013 indicate that agricultural companies achieved better performance before 2013. For example, the average ROA was 5.2% in the first period while in the period after 2013 it was 2.6%. Similarly, agricultural companies reached a higher level of ROE before 2013, when it was 11%, while after 2013, the value of this indicator declined to 6.2%. Mean values of ROA and ROE are 3.9% and 8.6% where the standard deviation is higher at the second indicator which implies a greater

difference between the minimum and the maximum value of ROE. Further, revenue and net income per employee was higher before 2013, whereas these variables decreased in the next period by 2,425,410 RSD and 631,22 RSD.

Table 3 Multivariate analysis results - profitability

	Effect	Value	F	Hypothesis df	Error df	Sig.
Period	Pillai's Trace	0.057	3.659	4.000	243.000	0.006
	Wilks' Lambda	0.943	3.659	4.000	243.000	0.006
	Hotelling's Trace	0.060	3.659	4.000	243.000	0.006
	Roy's Largest Root	0.060	3.659	4.000	243.000	0.006

Source: Author's calculation

Considering that obtained value of Pillai's Trace 0.006 is lower than 0.05, it can be concluded that there is a significant difference in the profitability level of agricultural companies in AP Vojvodina between the periods before and after 2013.

Table 4 Test of between-subject effects for profitability

Source	Profitability	Type III Sum of Squares	df	F	Sig.
Period	ROA	0.043	1	4.522	0.034
	ROE	0.144	1	11.677	0.001
	Revenue per employee	364,627,045.838	1	1.272	0.260
	Net income per employee	24,696,670.321	1	5.226	0.023

Source: Author's calculation

The obtained significance results for ROA, ROE and net income per employee are less than 0.05 which means that there is a significant difference in these indicators realized by agricultural companies in AP Vojvodina in the period before and after 2013. On the other hand, variations of income per employee are not significant in the analyzed period. As a cause of the resulting changes in the profitability level, it can also be requested in external factors or changes in the legal regulations and criteria for the classification of companies by size starting from 2013. This significantly influenced the change in company size and transition of a certain number of companies from the category of large to medium-sized companies as well as medium-sized to small companies. The decrease in the number of large and medium-sized companies also involves spilling activity and success of this companies group into a group of micro and small agricultural companies.

Table 5 Descriptive statistics of indebtedness

Variable	Period	Mean value	Standard deviation
Liabilities and capital ratio	Before 2013	1.83	2.899
	After 2013	1.45	2.012
	Total	1.64	2.502
Interest coverage coefficient	Before 2013	5.360	26.278
	After 2013	9.498	42.059
	Total	7.404	34.965

Source: Author's calculation

The results of indebtedness in the period before and after 2013 show that agricultural companies had a higher value of liabilities and capital ratio before 2013. The mean value of this indicator was 1.83 which is higher by 0.38 compared to the period after 2013. On the other hand, average interest coverage coefficient was 9.498 after 2013 which is higher by 4.138 compared to the period before 2013. Standard deviation is higher at interest coverage coefficient which means there is a greater difference between the minimum and the maximum value of this indicator.

Table 6 Multivariate analysis results - indebtedness

	Effect	Value	F	Hypothesis df	Error df	Sig.
Period	Pillai's Trace	0.008	1.013	2.000	246.000	0.365
	Wilks' Lambda	0.992	1.013	2.000	246.000	0.365
	Hotelling's Trace	0.008	1.013	2.000	246.000	0.365
	Roy's Largest Root	0.008	1.013	2.000	246.000	0.365

Source: Author's calculation

Bearing in mind that obtained value of Pillai's Trace 0.365 is higher than 0.05, it can be noticed that there is no significant difference in the indebtedness level of agricultural companies in AP Vojvodina between the periods before and after 2013.

Table 7 Test of between-subject effects for indebtedness

Source	Debt	Type III Sum of Squares	Df	F	Sig.
Period	Liabilities and capital ratio	8.681	1	1.390	0.240
	Interest coverage coefficient	1,065.991	1	0.871	0.351

Source: Author's calculation

The results in Table 7 show that significance level of liabilities and capital ratio and interest coverage coefficient is above 0.05 which implies that there are no significant differences in the indebtedness level of agricultural companies in AP Vojvodina in the period before and after 2013.

5. CONCLUSION

In order to test the stability in the level of agricultural companies' performance in AP Vojvodina, the paper has tested potential significant variations in the level of profitability and indebtedness of these companies. Research results show that agricultural companies were more profitable and more indebted in the period before 2013 compared to the period after 2013. Furthermore, it has been determined that there is a significant difference in profitability level of agricultural companies in AP Vojvodina between the period 2013 and after 2013. Precisely, the obtained significance results are identified for ROA, ROE and net income per employee, which values were less than 0.05 which implies that there is a significant difference in these indicators realized by agricultural companies in AP Vojvodina in the analyzed period. Since 2013, there has been a change in the classification

of companies by size which implies a decrease in the number of medium-sized and large companies and increase in the number of micro and small companies. According to this, part of income and result that were achieved by medium-sized and large agricultural companies by 2013 has spilt into income and result of micro and small companies since 2013. On the other hand, the results of the MANOVA show that there is no significant difference in indebtedness of agricultural companies in AP Vojvodina between the period before 2013 and after 2013.

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ANALIZA VARIJACIJA U PROFITABILNOSTI I ZADUŽENOSTI POLJOPRIVREDNIH PREDUZEĆA U AP VOJVODINI

Merenje poljoprivrednih preduzeća u smislu profitabilnosti i zaduženosti omogućava realno utvrđivanje uloge i pozicije ovih preduzeća u poljoprivrednom sektoru AP Vojvodine. Cilj ovog rada je da prikaže prisustvo ili odsustvo značajne razlike u nivou performansi poljoprivrednih preduzeća sa aspekta profitabilnosti i zaduženosti. Poljoprivredna preduzeća u AP Vojvodini bila su profitabilnija i zadužena u periodu pre 2013. godine u odnosu na period nakon 2013. godine. Rezultati pokazuju da postoji značajna razlika u nivou profitaibilnosti poljoprivrednih preduzeća u AP Vojvodini između perioda pre i posle 2013. godine. Koristeći MANOVA test, utvrđena je značajnost kod povrata na imovinu, povrata na kapitala i neto rezultata po zaposlenom. S druge strane, rezultati pokazuju da ne postoji značajna razlika u nivou zaduženosti poljoprivrednih preduzeća u AP Vojvodini između perioda pre i posle 2013. godine.

Ključne reči: *poljoprivredna preduzeća, performanse, profitabilnost, zaduženost, MANOVA*

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Review Paper

INNOVATION AS DRIVER OF MODERN RETAIL

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Abstract. *The main objective of the paper is to point to the importance of innovation for modern retail. It relies on the fact that retail, as well as total trade, is an innovation-intensive economic sector, and that innovation is a critical factor in creating and maintaining a long-term competitive advantage. Using the desk research method, the paper takes a conceptually wide approach to understanding the meaning and proliferation of innovation in retail. Special emphasis is on the development and application of technological innovation. The hypothesis about the importance of innovation for modern retail development is tested using the example of 250 largest retail chains, with a focus on Walmart, as the leading retail chain. Based on this, the main features of the application and importance of leading innovation in retail are particularly highlighted.*

Key words: *retail, innovation, technological innovation, Walmart*

JEL Classification: L81, O30

INTRODUCTION

The view that dominates in the scientific and professional community is that trade, as well as retail, is an innovation-intensive economic sector. This is understandable, given the fact that trade, especially retail, is a highly competitive economic sector, and that, in today's conditions of intense changes, it is not enough to satisfy the customer needs only. Retailers always need to go one step ahead of their customers, using product bundles to overcome customer expectations and wishes. At the same time, modern customers are highly sophisticated, well-informed, and constantly connected to the Internet, well aware of market flows and monitoring the price/quality ratio. Under these circumstances,

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innovation becomes a business imperative for modern retail chains. Therefore, modern retailing is characterized by the broad usage of mobile and contactless technology (Pantano & Priporas, 2016), which exerts additional pressure on retailers to redefine their business schemes. Retail is gradually shifting from the classical to the multi-channel business strategy phase involving the use of multiple channels, such as classic shops, social networks, mobile and web applications, and virtual reality (Ailawadi & Farris, 2017; Grewal et al., 2017). This environment has made shopping more convenient for customers, but also faced retailers with the challenge of effectively managing innovation. Altogether, this has increased research interest in the evolution and application of innovation in trade and retail. It is exactly the aim of this paper to enable a more complete and a fuller understanding of invention and its application in the retail sector, as considerably as the pronounced proliferation of innovation in modern retail. Although authors generally agree that innovation is the application of novel thoughts that stimulate economic performance, this term attracts enormous research attention, with studies largely depending on the innovation context. Based on the above, the paper summarizes the results of previous research related to innovation in retail. Furthermore, it thoroughly analyses technological innovation in retail. The final part of the paper analyses the global power of retail based on innovation. It analyses the trend of sales volume and other key indicators of the 250 world's largest retail chains in the last five years. In the Walmart case, the paper considers the impact of innovation on the development of modern retail. Research and available data show that Walmart has been the world's leading retail chain for almost two decades, and that it is imperative for it to be constantly innovative. Thus, using desk research and the method of description, analysis, and synthesis, the paper tests the hypothesis on the importance and role of innovation in modern retail.

1. Theoretical and Methodological Approach to Studying Innovation

Innovation has been in the focus of interest among numerous researchers for many years. Schumpeter (1912) defines innovation as a set of new ideas that depend on the introduction of new goods, new production methods, new markets, new sources of supply, and new organizations in any economic sector. This definition shows that innovation is a certain entrepreneurial process aimed at allocating available resources to new use.

Further research generally sees innovation as a radical technological change, resulting in radical changes in costs, measured by the intensity of research and development (Solow, 1957; Romer, 1990). The very characteristics and effects of innovation vary in different economic sectors, due to differences in institutional structure, research and development policies, or managerial perceptions of costs or demand for innovation.

Thus, innovation becomes the main driver of national economic well-being, which is why a large number of countries are engaged in the race for a global innovation advantage. In addition, a large number of researchers relate innovation to technological change, while some researchers relate it to research and development activities (Zaltman et al., 1973; Rogers, 1995). However, innovation means much more. In regards to the Organization for Economic Cooperation and Development (OECD) (2010), innovation is the application of a new or highly redefined product (good or service), or process, a new marketing method, or a new business practice organizational method, workplace organization or external relation. The definition emphasizes that innovation must, to a certain extent, contain a

novelty, be it related to an enterprise, market, or the economy as a whole, whereby it is necessary to create a sustainable business concept.

In the context of defining innovation, the definition given by General Electric (EC) (2018) is very useful: "To innovate ... means to challenge and change the status quo in order to improve the customer experience and ensure new forms of value". John Kao (2007) gives a similar definition, saying that innovation is the transformation of the existing into the desired conditions.

Innovation itself has traditionally been observed in a technical context and included the creation of new or improved consumer goods. However, innovation in services, and, therefore, trade and retail, is becoming increasingly important, given that services account for more than 75% of most European economies. For this reason, understanding innovation as a purely scientific and technical product implies a wider context to include the application of information technology, the emergence of new business models, and the creation of a new customer experience or approach to service delivery. This creates the possibility of changing almost all service sectors, from retail, logistics and catering to health care, professional and financial services.

No matter how defined, innovation is very important because it stimulates economic growth, new jobs, improves life quality and national competitiveness. Therefore, innovation is becoming an increasingly important concept in economies characterized by globalization, rapid technological change, customer preferences, dominance of knowledge, and need for quality information. In such conditions, innovation has a direct impact on the economic development of the entire society, so innovation and innovativeness become key competitiveness factors. Therefore, in order for innovation to be successful, it needs to add value, i.e. bring higher benefits in relation to investment in its development. The optimal combination of a well-formulated innovative strategy, system, and business environment is fundamental to the success of any innovation (Afuah, 2003). Knowledge is the prime factor in the development of innovation. At the same time, modern economy increasingly depends on knowledge, information, and specific skills, which increases the share of high-tech knowledge-based products. In such circumstances, the success of innovation depends on various organizational, economic, social, and other forms of knowledge.

Based on the above, the conclusion is that the ability to innovate is unequivocally related to the competitiveness of both individual enterprises and entire economies. In modern business conditions, failure to innovate, especially in developed economies, creates unsuccessful companies, the loss of national export competitiveness, and, finally, structural economic crisis. As Schumpeter (1912) elaborates: "In capitalist reality, it is not competitive price that counts, but competitiveness arising from new goods, new technology, that is what affects not only the profit margin of the enterprise, but also its survival". It is precisely this struggle for innovation advantage that affects the economic survival of enterprises and national economies.

More than ever, economies need innovation to become competitive on a global scale (Dumitrasco, 2018). This is especially noticeable in the case of developing economies, which, without innovation, have difficulty in dealing with low income and low salaries. Their ability to take the lead in process innovation (production automation and higher production with fewer workers) and value chain improvement to develop products and services with a higher new value are particularly critical, which less developed economies cannot do. Furthermore, in order for big economies to succeed they must innovate, not only in new start-up companies, but also in the entire range of small and medium-sized

businesses. In doing so, large economies will be able to reduce their trade deficit and at the same time create better paid jobs. Finally, a healthy trading sector allows economies to avoid high debts arising from trade, which future generations will definitely have to pay by spending less than they produce.

2. GROWING IMPORTANCE OF INNOVATION IN RETAIL

The growing market globalization and the growing trade and retail internationalization have resulted in the increasingly intense competition in the retail and the total trade sector. The means of competing are becoming more and more diverse, where innovation and innovativeness take a significant place. For this reason, there is a need for a more comprehensive understanding of the meaning and proliferation of innovation in retail.

2.1. Meaning and proliferation of innovation in retail

Innovation in services, and, thus, in retail, is less tangible than innovation in production, and, hence, it is more difficult to define and measure it. Although studies offer different approaches to defining retail innovation (Evangelista, 2000; Miozzo & Soete, 2001; Michel et al., 2008), authors generally agree that retail innovation is insufficiently explored and understood (Sokolov Mladenović & Ćuzović, 2017).

Previous research results in the field of trade and retail innovation show that innovation in retail is conditioned by customer behaviour and demands or the expected results (Hristov & Reynolds, 2016). Thus, innovation conditioned by customer behaviour and demands relates to organizational changes in enterprises that have a measurable impact, such as:

- Innovation as a means of variety and maturation (e.g. new supply chain, development of a common product model with suppliers),
- Innovation as part of a strategy (e.g. corporate strategy, innovation).

Innovation conditioned by the result or outcome relates to new products, services, or mode of operation, and can be:

- Innovation in the range of products or services,
- Innovation related to the reformulation or improvement of business practices.

Innovation observed in this way should be incremental and continuous and implemented over a longer period of time. No matter what kind of innovation it is, it should be a futuristic vision translated into an aggregate of realistic activities that will be cooperatively realized. All of this should ultimately lead to growth, operational efficiency, and the improvement of service quality for customers (Pantano et al., 2017). For this purpose, the retail innovation matrix can serve as a useful tool (Figure 1).

	Offer/customer - related	Support - related	Organisation - related
Strategic	e.g. The development of a new "big box" fashion store concept for retail parks e.g. A transition from a 3.000 to a new 12.000 sq. ft. store footprint e.g. Unveiling retail's first carbon neutral eco-store	e.g. The introduction of a new IT suit of business applications for CRM and supply chain management e.g. New distribution centre, fully automated in line with a fast fashion business model of buying in six-week cycles	e.g. External innovation networks linking up venture capital firms with business start-ups working with the retailer on innovation projects e.g. An accelerated NPD initiative providing 52 annual product themes
Operational	e.g. Extending the organic range of products from 300 to 1.000 SKUs e.g. In-store "retrofitting" of car components; satellite navigation, indirect vision mirrors e.g. Developing a new own label portioned coffee capsules system	e.g. Experimenting with electronic shelf-edge labelling, for automatic refreshing of prices throughout the store e.g. New delivery model of route planning optimisation	e.g. The introduction of "corporate merchandising guidelines" to maintain clear brand positioning e.g. "Best welcome initiative" for new employees joining the retailer

Fig. 1 A retail innovation matrix
Source: Hristov & Reynolds, 2016.

The presented retail innovation matrix can serve as a useful tool for retail chains when making innovation planning decisions or for visualizing and assessing a set of innovation activities at different decision levels. Observed in terms of technological innovation, this process is presented in Figure 2.

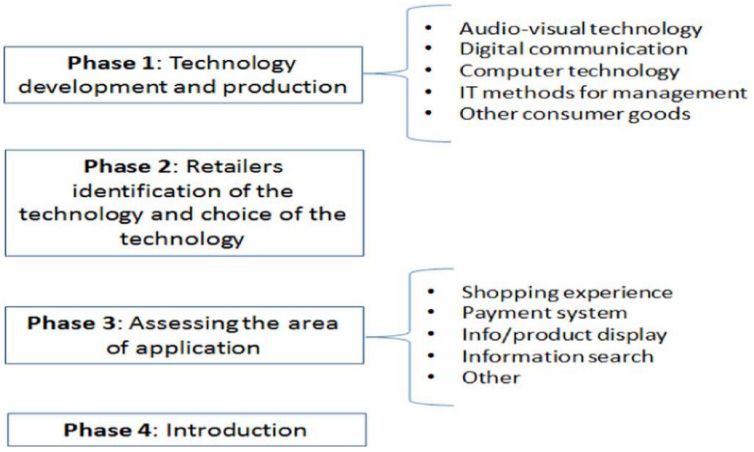

Fig. 2 Innovation introduction process in retailing
Source: Pantano et al., 2017.

However, customers themselves have the final say about the success of retail innovation. Numerous studies on customer acceptance of innovation show that they are willing to accept and use innovative systems if they offer benefits in terms of better shopping experience, higher satisfaction, and, ultimately, loyalty (Kohler et al., 2011; Ku & Tai, 2013; Pantano & Di Pietro, 2012). Table 1 shows the most common types of innovation introduced by retailers, the number of retailers introducing it, the amount of investment, and the type of retailers.

Table 1 Innovation diffusion in retail industry

Technology	Number of adopters	Amount of investment	Typology of adopters
Digital signage	Medium	Medium (mainly in hardware)	Fashion industry (i.e. luxury brands)
Self-service technologies	High	Medium (mainly in hardware)	Groceries and department stores
Mobile apps	High	Low (mainly in software)	Both small-medium retailers and large retailers, both luxury brands and low cost ones, etc.
Ubiquitous stores	Low	Low (mainly in software)	Small and frequently ad-hoc enterprises

Source: Pantano, 2014.

Table 1 shows that different retailers adopt innovation with varying intensity. An analysis of previous studies gives an insight into how different retailers achieve different success with the introduction of innovation (Table 2).

Table 2 Summary of findings from cross-retailer analysis.

Retailers	Innovation	Level of exploitation	Role of innovation
Fashion	Digital signage	Medium	Informative (providing consumers information)
Groceries and (large) department stores	Self-service technology	High	Providing new services for consumers
(Large) department stores	Self-service technology and mobile apps	High	Providing new services for consumers
Ad-hoc new retailers	Ubiquitous computing	Low	Creating new services for consumers, reducing the number of employees, managing data on market trends

Source: Pantano, 2014.

Thus, Table 2 summarizes the analyses of actual diffusion of innovation among different retailers.

2.2. Technological innovation and smart technology in retail

Previous analyses, as well as the actual situation in retail, show that innovation developed and adopted in retail is technology-related. In today's Industry 4.0 development conditions, adopting smart technology in retail is more and more pronounced.

The growing diffusion of information and communication technology has significantly transformed and is still transforming retail and total trade, creating new customer shopping experience. The performance of world's leading retail chains shows that they are already making great use of smart technology (Inman & Nikolova, 2017; Renko & Druzijanic, 2014). Smart technology in retail is an interactive system that provides customer services through a network of smart or intelligent devices that can integrate in real time in order to collect data, communicate, interact, and obtain customer feedback (Roy et al., 2018). Smart technology can be integrated into existing retail systems, presenting products in store windows or aisles and allowing customers to, for example, try out clothes, order products, and also connect with social networks. Thus, smart technology is an outbreak in the application of information and communication technology in retail. Since physical and digital purchasing dimensions are integrated, it creates a unique individual-customer-tailored shopping experience. Moreover, the use of smart technology (smart mobile phones, tablets), that was a trend among younger people, is now widespread among almost all age groups. In this way, customers now have the opportunity to get a service with a high degree of efficiency, resulting in customer expectations of targeted, more sophisticated, and equally efficient services from retailers. On the other hand, retail chains widely accept this concept, and many of them emphasize the notion of smart technology as part of their business mission and vision. At the same time, they are aware of all the opportunities smart technology offers, becoming one of the key goals in the modern retail environment, be it offline or online. Thus, studies predict that investment in smart technology will reach 6,2 billion dollars by the end of 2025, with retail sales taking a significant place.

However, the opportunities smart technology offers are much greater than its introduction or use, so this phenomenon opens up numerous challenges and opportunities for retail chains. It is, therefore, necessary that they evaluate the real value and the changes smart technology brings. Thus, in a recent survey, Anderson and Bolton (2015) highlight the importance of applying smart technology in retail, such as sensors and radio frequency identification (RFID), for the needs of collecting different data. Sensors allow collecting data on the number of customers entering the retail facility, as well as a lot of complex data such as demographic or behavioural data during shopping. According to the survey, the implementation of smart technology in retail requires modification of business activities and processes.

Using smart technology, a retailer develops a partnership with their customers. At the same time, within its sales facilities, this way, it is easier to understand and cover customer intentions and needs, as well as their expectations of smart technology. Building a good shopping experience is an imperative of modern retailers, while, on the other hand, it attracts enormous academic attention.

3. GLOBAL POWER OF INNOVATION-BASED RETAIL

The world's largest retail chains yearly record positive business results. Their business reports, as well as their mission and vision, show that innovation, especially technological, is a business imperative. Reports of 250 largest retail chains, published annually by the consulting firm Deloitte Touche, prove this. The latest report shows the top ten retail chains in the world and their business performance (Table 3).

Table 3 Top 10 retail chains, 2017.

Rank	Name of company	Country of origin	FY2017 Retail revenue (US$)	FY2017 Retail revenue growth	FY2017 Net profit margin	FY2017 Return on assets	FY2012-2017 Retail revenue CAGR	Countries of operation	% Retail revenue from foreign operations
1	Wal-Mart Stores, Inc.	US	500,343	3.0%	2.1%	5.1%	1.3%	29	23.9%
2	Costco Wholesale Corporation	US	129,025	8.7%	2.1%	7.5%	5.4%	12	27.2%
3	The Kroger Co.	US	118,982	3.2%	1.5%	5.1%	4.2%	1	0.0%
4	Amazon.com, Inc.	US	118,573	25.3%	1.7%	2.3%	18.0%	14	36.8%
5	Schwarz Group	Germany	111,766	7.4%	-	-	7.5%	30	58.9%
6	The Home Depot, Inc.	US	100,904	6.7%	8.6%	19.4%	6.2%	4	8.4%
7	Walgreens Boots Alliance, Inc.	US	99,115	2.1%	3.5%	6.2%	6.7%	10	11.9%
8	Aldi Einkauf GmbH & Co. oHG	Germany	98,287	7.7%	-	-	7.2%	18	65.1%
9	CVS Health Corporation	US	79,398	-2.1%	-	-	4.5%	3	0.8%
10	Tesco PLC	UK	73,961	2.8%	1.5%	1.9%	-2.4%	8	20.7%
	Top 10		1,430,353	6.1%	2.0%	5.5%	3.7%	12.9	25.1%
	Top 250		4,530,059	5.7%	2.3%	5.0%	3.3%	9.5	23.6%

Source: Global power of retailing, 2019.

The table above shows that the top ten retailers had 31,6% of the share of revenue in total sales revenue generated by the 250 largest retailers in the world in the fiscal year 2017, which is by 0,9% more than in the previous year (2016). The first three retail chains retained their position in relation to the previous fiscal year, while Amazon improved its position by two places, taking fourth place, with the highest growth in sales revenue (25,3%). Amazon's improved position can also be explained by the trends announced in earlier reports on the development of the largest retail chains. For example, factors such as digital transformation of trade, implementation of smart technology, and the concept of mobile trade, as well as the implementation of multi or omnidirectional channel strategy, are highlighted as the drivers of modern retail. All this points to the fact that innovation is a business imperative of contemporary retail chains, which is the starting hypothesis of this paper.

Generally speaking, in fiscal 2017, 250 retail chains saw a significant increase in sales revenue. In the total amount, sales revenues in 2017 amounted to 4,53 trillion dollars, which is by 2,72% more than in the previous year.

Walmart retained its position as the world's largest retailer, with a sales growth of 3,0% in 2017. Additionally, this company has been in the leading position among retail chains for many years, which is also reflected in retail revenue trends (Figure 3). The question arises as to the secret of Walmart's success and the role of innovation in that process.

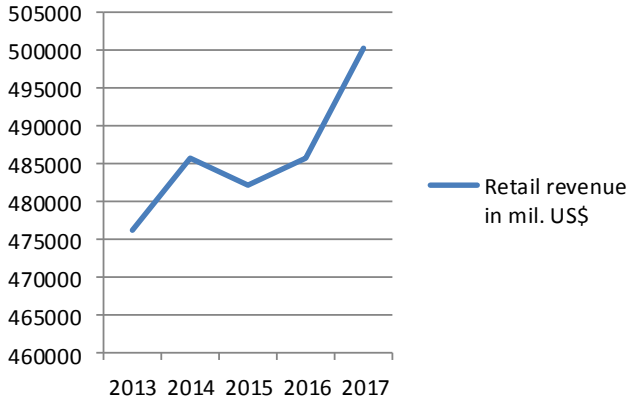

Fig. 3 Walmart's retail revenue, 2013-2017
Source: Authors' calculation based on Walmart Annual Report (2018)

Numerous studies consider Walmart the most innovative retailer in the world. With more than 4700 stores across the United States and many more around the world, Walmart dominates as a classic seller of "brick and mortar". More and more companies focus on digital retail space by investing in significant e-commerce services as well as technological initiatives. Implementation of innovation is visible in all segments of Walmart's business. In connection with this, there is also the official website https://blog.walmart.com/topics/innovation, where one can see the achieved degree of innovation, or different types of innovation that the company applies in its business. Some of them relate to the use of smartphones in order to improve business efficiency, the application of virtual reality in the purchasing process, specific applications simplifying customer shopping experience, and the like. From the use of new mobile applications for customers and employees to robots in stores, Walmart uses technological innovation to outperform competition in the best possible way. It is especially noteworthy that Walmart has intensified its innovation activity over the past two years, since it invested in the development of e-commerce and new technology to increase efficiency and improve working conditions, ultimately leading to higher sales volume and lower operating costs. In this innovation group, the following is worth noting:

1. Upgrading existing mobile applications refers to the improvement of existing applications that customers use to purchase products via smartphones. The new mobile application, in addition to the existing benefits for customers, provides an integrated Walmart retail store map, showing product location and services offered. In this way, the company implements the multi-channel retail strategy.

2. List of products for purchase – This relates to the established customer practice to have a paper list of products before making large purchases. Walmart's mobile application introduces a new list feature that allows users to choose more easily products they plan to

buy. Since the lists are integrated into new store maps, each product can be precisely located in the store.

3. Robots – They are used to fill shelves, find and return lost products and track stock levels, which is the most demanding task in any sales facility. Robots "walk" in sales facilities collecting different information, checking that the price has been updated, and the labels on the shelves are correct. Once a day, robots examine the general commodity departments, thus improving stock management precision, reducing staff fluctuation, and improving user experience. They are currently used in only 50 stores with the plan to use it in a large number of stores.

4. Virtual reality – Besides being used by customers, Walmart has enabled its use to improve employee training programs, creating a video game where simulated experiences are used to accomplish job-related tasks and achieve specific rewards.

5. Automation – It includes the process of unloading goods and sorting them in sales facilities. Currently it is applied in 30 sales facilities, with the plan to apply it as many stores as possible.

The aforementioned types of innovation are only a part of the innovative technology Walmart applies in its business. As its business reports point out, intensive application of innovation makes it easier for it to "fight" the competition. What is visible is the company's leading position in the list of the largest retail chains in the last twenty years and the epithet of the most innovative retailer.

CONCLUSION

Innovation is one of the key factors in creating and maintaining long-term competitive advantages in different economic sectors. Trade, especially retail, is considered an innovation-intensive economic sector. The novelties technological revolution brings have found their place in trade and retail. Innovation in retail refers to changes of the existing into something new and different. In doing so, understanding innovation can be approached from different perspectives, i.e. the multidisciplinary approach to the understanding of innovation is dominant. In line with these facts, the paper first pointed to the fact that the term innovation has always attracted the attention of theoreticians and practitioners, i.e. innovation is a permanent topic. In today's conditions, innovation is not just a research topic, but an integral part of the business strategy. This is especially evident in the case of modern retail, where innovation takes a very important place. In addition, there is noticeable proliferation of innovation and the inescapable role of information-communication and smart technology in retail. The paper placed a special emphasis on technological innovation and the use of smart technology in retail. The hypothesis on the importance of innovation in modern retail was tested using the example of 250 largest retail chains, which year after year show a tendency of growth in operating revenues and other business performance indicators. The subject of the special analysis was Walmart, which has a leading position in the list of the largest retail chains in the last twenty years. Bearing in mind the various types of innovation that this company applies and which were analysed, it can rightly be said that Walmart is the most innovative retailer. Therefore, innovation is *condition sine qua non* in modern retail.

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INOVACIJE KAO POKRETAČI SAVREMENE MALOPRODAJE

Osnovni cilj rada jeste da ukaže na značaj inovacija za savremenu maloprodaju. Polazi se od činjenice da je maloprodaja, kao i ukupna trgovina, inovaciono-intenzivan sektor privrede i da su inovacije kritičan faktor kreiranja i održavanja dugoročne konkurentske prednosti. Metodom kabinetskog istraživanja, u radu se koristi konceptualno širok pristup razumevanju značenja i proliferacije inovacija u maloprodaji. Poseban akcenat stavljen je na razvoj i primenu tehnoloških inovacija. Hipoteza o značaju inovacija za razvoj savremene maloprodaje testira se na primeru 250 najvećih maloprodajnih lanaca, s fokusom na Walmart, vodeći maloprodajni lanac. Na bazi ovoga, posebno su istaknuta glavna obeležja primene i značaja vodećih inovacija u maloprodaji.

Ključne reči: *maloprodaja, inovacije, tehnološke inovacije, Walmart*

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Review Paper

THE KEY ISSUES IN THE TRANSLATION OF THE FINANCIAL STATEMENTS OF MULTINATIONAL COMPANIES

UDC 657.375: 334.726

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Abstract. *Circumstances, which include international trade intensification, development of various forms of business cooperation outside national borders - co-production, transfer of technology, joint ventures, strategic alliances, direct foreign investments, and dynamic changes in the business environment, require the management of a company to change their focus, from a local to a global approach. Multinational companies are business leaders in a global framework. The aim of this paper is to highlight the key challenges that multinational companies face when translating foreign currency transactions and the financial statements of foreign business operations for the purpose of compiling consolidated financial statements. In addition, the paper examines whether the chosen functional currency and the exchange rate can be viewed as instruments of their financial reporting policy.*

Key words: *consolidated financial statements, IFRS, exchange rate, accounting exposure.*

JEL Classification: M41, F23.

INTRODUCTION

One of the initial activities of companies that opt for the strategy of business globalization is the purchase and sale of goods and services in foreign markets, that is, import and export. The circumstance that a significant portion of business transactions takes place in currencies other than the presentation currency has an important influence on accounting and, therefore, the financial statements of the related enterprise. In order to achieve economic unity as the basic prerequisite for the preparation of consolidated financial statements, and thus accurate presentation of the group's financial position and performance,

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it is necessary to perform the translation (re-calculation) of foreign transactions and present them in the reporting (presentation) currency of the parent. This provides an important precondition for the preparation of annual financial statements of individual companies, and in the case of a group of companies, at the same time a preparatory measure for consolidation is being implemented, as a part of activities of consolidated financial statements` preparation. Currency, by itself, can be equated with other goods, which means it has its own price, while the fact that currency prices fluctuate on a daily basis, so that different exchange rates (daily, average weekly or monthly, that is an exchange rate on the Balance Sheet date - the so-called closing exchange rate) can be used during the translation, leads to the conclusion that the choice of the exchange rate is representative of immediate implementation of an assessment policy - which has reflections on all elements of the annual financial report.

However, even a company that is exclusively focused on the national market and business within the national framework is also exposed to the effects of the foreign exchange currency rates. This means that all companies are exposed to the influence of a foreign exchange rate change. It is particularly important for the company's management to be aware of the above said risk and to take appropriate measures to mitigate and manage that risk.

All the above mentioned confirms that the accounting coverage of changes in the exchange rate is a very challenging area since it has important implications on the content and the value of individual elements of the financial statements, financial position and profitability of a company. In order to understand all the complexities of the stated issues, in this paper we are going to point out at events that initiate the creation of transactions in a foreign currency, the specifics of accounting inclusion and the treatment of exchange rate differences, as well as the possibility to choose the functional currency and exchange rate as an integral part of the financial reporting policy.

1. FOREIGN CURRENCY TRANSACTIONS

Foreign currency transaction is a transaction that is disclosed or requires a foreign currency account (calculation), that is, a transaction which can be initiated by the following events (Shahrokh & Saudagaran, 2009):

- Purchase or sale of goods whose prices are denominated in a foreign currency on the basis of which the Statement of financial position contains foreign currency receivables and foreign currency liabilities positions;
- Lending (investing) or borrowing financial assets, thus creating monetary items - receivables and liabilities denominated in a foreign currency;
- Participation in a non-executed contract in a foreign currency, i.e. the contract whose execution has begun, but which on the date of the Statement of financial position is not fully executed, for example, the construction of a property for the needs of an enterprise by a foreign contractor;
- Other events resulting in the acquisition of assets and the settlement of liabilities denominated in a foreign currency.

The accounting coverage of transactions in a foreign currency requires the consideration of the issue of determining or selecting the foreign exchange rate at which transactions expressed in foreign currency will be translated into the reporting (accounting) currency, as well as

defining the manner in which the effects of the change in the foreign exchange rate should be recognized in the financial statements.

The issue of initial recognition of the foreign currency transactions is resolved in accordance with IAS 21 - *The Effects of Changes in Foreign Exchange Rates*, in a way that the translation of income and expenditures items, as well as of the financial position into a reporting exchange rate is performed through the application of the exchange rate valid on the transaction date, that is at the current exchange rate, which has been published by the authorized institution (Central Bank). For practical reasons, the Standard allows the application of a foreign exchange rate that is approximate to the actual exchange rate on the transaction date. Hence, for example, the average weekly or monthly rate is relevant for all the transactions which have occurred during a specific period. However, in conditions of significant exchange rate fluctuations such practice is inappropriate because financial transactions would not be expressed at their fair value.

Different exchange rates can be used for the translation of transactions in foreign currencies - closing exchange rate or exchange rate on the Balance Sheet date, so-called *spot rate* or *spot price* that is an exchange rate on the spot, a future exchange rate, which essentially has the character of a hedging instrument against foreign currency risk, the essence of which is reflected in being based on an exchange contract on a future date. In accordance with IAS 21, monetary items denominated in a foreign currency, such as liabilities to suppliers or receivables denominated in a foreign currency arising from the purchase or sale of goods, liabilities and receivables on advances and loans received or approved in a foreign currency, as well as cash and balance in a bank denominated in the foreign currency, are translated into the reporting currency using the closing exchange rate. Non-monetary items based on a historical basis (purchase price elements, that is cost price) which were paid in a foreign currency during procurement/construction are translated using "the exchange rate on the date of the transaction, whereby no adjustment is made to the amount stated in the financial statements arising from the possible change in the exchange rate in the period from the date of the transaction by the balance sheet date" (Gaffikin et al., 2004).

Expressed through an example, this means that if, during the business year, equipment was purchased from a foreign supplier in the amount of 5000 euro, and at the time of procurement the exchange rate of 1 euro was 120 dinars, followed by the appreciation (strengthening) of the dinar, so that on the Balance Sheet date 1 euro amounted to 118 dinars, no adjustment of the stated amount is made, unless the foreign liability arising from the purchase of equipment has been settled by the Balance Sheet date.

Non-monetary items, which were paid in a foreign currency at the time of acquisition, and were as such recognized at their fair value in the financial reports, are translated into the reporting currency using the exchange rate that was valid at the time when the fair value was determined (Kirk, 2009).

The question of currency selection for measurement of the performance of foreign subsidiaries of the parent entity is closely linked with the previously examined question – the choice of an exchange rate. Hence, there can be a dilemma whether, for example, MNC (multinational company) which was founded in Great Britain should measure the performance of its subsidiaries in the Republic of Serbia in pounds or dinars. Depending on the direction and size of the dinar changes in comparison to the British pound during the reporting period, the results expressed in the two currencies can vary a lot. Thus, for example, it is possible that the business of a subsidiary can be assessed as very profitable

when performance is expressed in dinars, and significantly less profitable when presented in pounds (assuming that the dinar depreciates against the pound).

The two key factors that a company must consider, when choosing the reporting currency, include (Shahrokh & Saudagaran, 2009):

1. The role of the subsidiary in the overall strategy of the group of companies, that is MNC. If the role of the branch is to contribute to the overall profitability of the MNC, then it is appropriate to use the parent company's currency to measure the performance. However, if the role is somewhat different (for example, there is a focus on R&D activities), then it is justifiable to opt for the local currency;

2. Distribution of responsibility for the currency risk management. If the authority for the currency risk management is centralized, then the local currency should be used to measure the performance of a foreign subsidiary. However, if the currency risk management is decentralized, with each subsidiary being autonomous, then it is reasonable to use the currency of the parent company for the purpose of evaluating their performance. The reason for this is in the fact that local subsidiaries cannot be held responsible for the effects of changing exchange rates on their profitability unless they have been assigned an authority of currency risk management. The circumstance that the parent company has authority for this area of responsibility implies that it, as such, bears responsibility for the gains and losses arising from the fluctuation in exchange rates.

2. Concept, Types and Accounting Treatment of Exchange Rate Differences

Enterprises involved in global business are facing the risk of loss due to the effect of exchange rate fluctuations. However, it is important to distinguish between foreign transactions and transactions in a foreign currency, since not all foreign transactions are necessarily denominated in a foreign currency (Shahrokh & Saudagaran, 2009). For example, an American company that exports goods to the Republic of Serbia and sends invoices in dinars has transactions in a foreign currency and faces exposure to the currency risk. On the other hand, a domestic company that purchases such goods does not have transactions in a foreign currency, since the invoice is expressed in the national currency.

It is also important to distinguish between transactional gains and losses from items of gain and loss made during the translation (so-called translation gains and losses) since the transaction's gains and losses affect the enterprise's cash flows. In rare circumstances, foreign receivables will be collected and foreign liabilities will be paid simultaneously with the recognition of the transactions. However, "it is reasonable to expect the existence of a time difference between the date of transaction and the date of payment, and consequently a change in the foreign exchange rate" (Bogićević et al., 2016).

To clarify facts, let us assume that the US company has sold goods to a domestic company, worth of 10 million dinars at a time when the exchange rate was 100 RSD / 1 USD on a six-month short-term loan. In the given case, the amount that the US company will receive depends on the exchange rate during the specified period. If, within a given time frame, the dollar appreciates against the dinar, for example, with the parity of RSD 105 / USD 1, then the US company will receive fewer dollars. On the contrary, if the dinar appreciates on the maturity date (RSD 98 / USD 1), the US company will receive a larger amount of US dollars. Consequently, an exchange rate difference could appear

which can be either positive or negative. The difference arising from reporting the same number of foreign currency units in the reporting currency at different exchange rates, is called *the exchange rate difference*. Therefore, in order for an exchange rate difference to appear, it is necessary for a transaction to be reported in a foreign currency, as well as that the change in the exchange rate occurs. The first scenario described represents a transaction exchange loss for the US company, while the other points to a transaction exchange gain for the US company. Since the invoice is denominated in a foreign currency for the US company – which is the dinar, the US company runs the risk of a fluctuation in the exchange rate. Within the given transaction, the domestic company is not, however, affected by the resulting changes in the foreign exchange rate, due to which its cash flows are fixed by invoice reporting in the national currency. The accounting treatment of transaction exchange profit or loss is unambiguous – it has to be included in the Profit and Loss Statement (P&L Statement) and as such it affects the result of the period in which it was created.

Positive exchange rate differences arise when the enterprise settles its foreign liabilities at an exchange rate lower than the one that was in place on the day when the liability was created, that is according to which the obligation was recognized within the Statement of financial position. Also, positive exchange differences appear when the foreign receivable is liquidated at a rate which is higher that the exchange rate on the day of the transaction, that is - the rate at which the claim was presented in the Statement of financial position, as well as in periods in which the enterprise disposes of foreign assets, while the foreign currency exchange rate increases. On the contrary, negative exchange rate differences occur when there is an increase in the foreign currency exchange rate, whereas the enterprise has some unpaid liabilities in that currency. Such an item is treated as a loss, in accordance with the IAS 21 (paragraphs 28-30), which is presented as a separate item in the Profit and Loss Statement (*Privredni savetnik*, 2004).

According to IAS 21, exchange rate differences arising from the monetary items that, by their nature, represent participation in the equity of a foreign company, are recorded as an integral part of that share (positive exchange differences increase the value of a share, whereas the negative ones contribute to a decrease in its value). Namely, the item whose settlement is not certain in the near future, or whose liquidation has not been planned, is essentially an increase or decrease in the value of a share in a foreign company. This means that those items are not included in the calculation of the net profit or loss of the period but, according to IAS 1 – *Presentation of Financial Statements*, they are expressed as an integral part of the *Statement of changes in equity* (Mirza & Holt, 2011).

3. Financial Statements of Foreign Operations

Domicile companies can operate abroad through their subsidiaries; these are joint ventures or branches. The method used to translate the financial statement of foreign operations is significantly influenced by the manner in which they are financed, as well as by the relationship with the reporting company. Precisely because of that it is important to make a distinction between foreign operations: for example, to distinguish foreign operations which make an integral part of the reporting entity, such as a business unit without a legal subjectivity, from those having a certain level of autonomy in relation to the company which compiles the financial statements. The foreign operations belonging to the first group

represent the expansion of the operations of the reporting entity (parent company), which is if they sell goods imported from the reporting company and at the same time allocate sales revenue, so they have a direct impact on the reporting entity's (parent company's) operational cash flows. In such circumstances, the exchange rate fluctuation between the reporting currency and the currency of the country where the operations were performed affects monetary items of the foreign operations. Hence, the financial statements of such operations are translated as if their transactions were concluded and realized by the reporting company. An analysis of the nature of each item is required for the translation of financial statements (whether an item has a monetary or non-monetary character). Monetary items are comprised of assets and liabilities to be received or paid in a fixed or determinable number of currency units. Non-monetary items are all those items that are not monetary (property, plant, equipment, intangible assets, inventory, etc.). The translation of non-monetary items weighed at historical cost requires the application of the exchange rate on the date of the transaction, while items weighed at fair value should be reported at the exchange rate that was valid when the fair value was determined (Krimpmann, 2015). For the translation of monetary items (funds, long-term receivables or payables, provisions, taxes and other), the closing rate should be applied. For practical reasons, "in conditions of stable exchange rates, the application of average weighted exchange rate for a certain period is allowed" (Mackenzie et al, 2013).

For the purposes of including the financial statements of foreign entity in the parent company's financial statements, in cases where the translation is performed using the current rate method, the following rules are applicable (Kirk, 2009):

- "Monetary assets and liabilities are translated at the closing exchange rate;
- Items of income and expenditure are translated at the exchange rate on the date of the transaction – that is the average weighted exchange rate, while in hyperinflationary conditions they are translated at the closing exchange rate;
- All the exchange differences arising from the translation of the financial statements of a foreign entity are recognized as a part of its own equity, in the Statement of changes in equity, and after being disposed - net investment is recognized as income or expenditures in the Profit and Loss Statement".

The presentation of financial statements of a foreign entity in the reporting currency results in the recognition of exchange rate differences arising from the translations of the above-said items. The circumstance that the differences do not affect the current and future cash flows resulting from the business activities of a foreign entity and of the reporting company, has caused them not to be recognized as income or expenditure of the period, but in accordance with IAS 7 - *Statement of Cash Flows*, to be presented as a separate item of the Cash Flow Statement. After the translation of the foreign entity's financial statements, which assures the comparability of certain elements of the financial statements of the members of the group of enterprises, which otherwise represents a preparatory measure for the consolidation, conventional consolidation procedures are applied, including the elimination of intergroup elements of financial statements (assets, liabilities, equity, etc.) relating to transactions between entities of the group are applied, in accordance with IFRS 10 - *Consolidated Financial Statements*.

In case of reclassification of foreign operations, the translation procedures for a new form are applied from the date of the classification change, therefore, prospectively. Otherwise, reclassification is necessary if there are significant changes in the way of

financing, as well as if the character of business relations between the foreign operations and the reporting entity changes. In case foreign operations which were treated in the previous period as an integral part of the reporting company take on the character of a foreign entity due to the reclassification, for example, because of the fact that a part of the share in a subsidiary or a joint venture was sold, the exchange rate differences arising from the translation of non-monetary assets on the date of reclassification are disclosed as part of equity (International Accounting Standard Board, 2012, IAS 21, par. 48).

Changes in a parent company's share in a subsidiary which do not result in a loss of control must be presented as an element of equity. In case of the loss of control, the recognition of the assets, liabilities and related equity components of the subsidiary ceases. Any resulting gains or losses must be included in the Profit and Loss Statement. Acquiring additional shares in the subsidiary after the acquisition of control is presented as an equity transaction with the owner. The above-said reclassifications actually represent changes in the scope of consolidation which determine the content of the consolidated annual financial report, putting its comparability into question, which requires additional disclosures (Škarić-Jovanović & Radovanović, 1998). Some multinational companies provide voluntary disclosures of the effects of exchange rate's fluctuations on their earnings, that are beyond the requirements of individual IFRSs so that users could better understand the presented – disclosed information (Sorensen et al., 2012).

4. The Choice of the Functional and the Presentation Currency

The functional currency concept as defined in IAS 21 is the currency of the primary economic environment in which the entity operates. As such, a functional currency is the currency in which an entity measures the items of its financial statements, so as to reflect the economic essence of events and circumstances, to provide all the information about the company or the group of companies that is relevant for economic decision-making. It is customary for it to be the currency of the country in which the entity operates, that is, another currency which is very often used or has a rather important influence on the business operations, and all transactions presented in currencies other than the functional currency are to be considered foreign currencies. When it comes to the functional currency, it is necessary to determine whether it is equivalent to the currency of the country in which the entity operates or to another currency, considering that the choice is influenced by factors such as: the specific circumstances in which the business operates, the state of income, the possibility of the occurrence of unusual results, etc. By selecting a functional currency, the yield position (performance) of the branch is significantly affected, and therefore the content of the consolidated financial statements. Companies which have acquired resources in the local market, and sell their products to domestic consumers, denominate all their transactions in a local currency. In this case, the local currency can at the same time be a functional currency. However, this premise is almost inappropriate for a group of companies whose business operations are of a global character, since their cash flows are presented (disclosed) in different currencies, and different currencies can also affect their policy of selling prices and other aspects. Under such circumstances, determining a functional currency can be a very delicate matter. Hence the need for a clear distinction between a functional currency and a presentation currency (Elliott & Elliott, 2005):

- "The presentation (reporting) currency is the currency in which the segment of a business or an enterprise presents its financial statements;
- The functional currency is the currency in which the segment or enterprise measures its financial position and success".

According to IAS 21 (paragraphs 9-11), indicators that may have a decisive influence on the choice of a functional currency, which were shown within a hierarchical structure, include the following (Bakker et al., 2017; Revsine, 1984):

- *Sales market indicators:*
  - the currency that significantly determines the selling price of goods and services;
  - the currency of the country whose competitive forces and regulations primarily influence the sales prices;
- *Costs indicators:* currency that mainly affects labor costs, materials and other resources costs.

A secondary set of indicators to be considered under IAS 21 are as follows (Singh, 2014):

- *Financing indicators*: the currency in which a capital was presented, that is in which debt and equity instruments were issued;
- *Cash Flow indicators*: the currency into which the company converts the cash surpluses.

According to IAS 21 (paragraph 11), it is necessary to consider some additional factors in determining the functional currency of foreign operations and whether their functional currency is the same as that of the reporting entity – parent company (Bakker et al., 2017):

- Whether the foreign operations` activities are performed as an extension of the reporting entity (parent company), rather than performed with a significant degree of autonomy;
- Whether transactions with the reporting entity make for a huge or small portion of the foreign operation's activities;
- Whether cash flows from the foreign operations` activities directly affect the cash flows of the reporting entity – parent company; and whether they are available for a prompt remittance to the reporting entity; and
- Whether cash flows from the foreign operations` activities are sufficient to service the existing and normally expected debt obligations, without funds being made available by the reporting entity – parent company.

If, on the basis of the considered indicators, it is not possible to clearly identify the functional currency, its choice should be based on judgment that involves considering a larger spectrum of factors. In circumstances where these currencies are "different, elements of the financial position and success are initially assessed in a functional currency, and then translated into a presentation (reporting) currency on each reporting date, as follows: assets and liabilities are translated using the final - closing exchange rate, income and expenditure using the valid exchange rates on the dates of transactions", and any exchange rate differences resulting from these conversions are disclosed as a part of the total remaining result (Epstain et al., 2010).

IAS 21 requires the choice of a functional currency that must reflect the substance of transactions, events and circumstances specific to the business operations. Changes in the scope of the business operations and relocation of business operations are typical reasons for the change of the functional currency (Krimpmann, 2015). All items in that case are translated using the exchange rate on the date of the change. Exchange rate differences previously recognised as a part of equity are not recognised in the Profit and Loss Statement until the disposal of the business operations (Kirk, 2009).

Exchange rate fluctuation causes three forms of exposure: economic exposure that encompasses two categories: *operating exposure* that is the economic exposure occurring when the business operations generate a cash flow denominated in a foreign currency, and *transaction exposure* that is an economic exposure created when contractual obligations are denominated in a foreign currency. Finally, the *translation exposure* is an exposure that occurs when translating financial statements (Butler, 2016).

The transaction exposure relates to the period between entering and settling a contract. It is defined as a change in the value of monetary (contractual) cash flows caused by the change in exchange rates. The fact that the transaction exposure impacts on future cash flows and profitability, makes it the most visible exposure to the currency risk (Bhalla, 2014). Transaction exposure depends on current (outstanding) foreign receivables and/or foreign liabilities presented in the Statement of financial position, which will be charged/ settled after the exchange rate changes. Additionaly, its effects are also reflected in the Profit and Loss Statement as an exchange gain or loss, that is, positive or negative exchange rate differences (Bogićević et al., 2016).

From the accounting point of view, which implies the preparation of consolidated financial statements, the most important is the translation exposure, since the financial statements of foreign affiliates, as an integral part of the preparation for the consolidation, have to be translated into a reporting currency of the parent company (Škarić-Jovanović & Radovanović, 1998). The exposure resulting from the translation of the financial statements is also called the *accounting exposure* in the literature, since the value of net assets and the reported profit of the parent company and the group as a whole can be increased or reduced, not as a result of business transactions and the strategies implemented, but due to the exchange rates` fluctuation.

The degree of the accounting exposure when preparing consolidated financial statements can primarily be determined by the share of business operations performed through foreign operations, by the location of foreign subsidiaries, as well as by the applied accounting methods. In order to control the translation exposure, the parent company's management designs gains in all the foreign currencies and determines how the potential changes in the foreign exchange rate of individual currencies can affect not only the amount of the results of individual members of the group, but also the consolidated result and tax liabilities of the group as a whole. More precisely, the appreciation of a foreign currency, in relation to the reporting currency of a parent company will result in an increase in the consolidated result, and vice versa - in the period of depreciation of a foreign currency, the yield position (performance) of the group will be weakened (Madura, 2012).

In order to protect from the translation exposure, the parent company's management can opt for one of the following two strategies: hedging of financial statements. The hedging of the financial position statement is aimed at minimizing the translation exposure through an effort to achieve the equality of assets and liabilities which are denominated in a foreign currency. Thus, for example, the change in the exchange rate that results in an increase in the value of assets in the consolidated statement of financial position simultaneously leads to an increase in liabilities in the same amount; thereby nullifying the effect on the net assets of a group (Wang et al., 2009). The circumstance that positive exchange rate differences are reflected in the Profit and Loss Statement as an integral part of the financial revenues means that their occurrence is not undesirable, and as such they do not require protection measures.

Based on the fact that the amount of the result presented in the consolidated Profit and Loss Statement directly affects the prices of shares and compensation for the management, and that the changes in the parity between the foreign operations` functional currency and the reporting currency of the parent company (parent's presentation currency) affect the amount of numerous items in the consolidated financial report, a question arises as to whether the choice of a functional currency can be viewed in the context of the financial reporting policy. Namely, from the point of view of the users of financial information and the signaling role of the financial information, a management is propelled to put the selection of the currency in the context of the instrument for the realization of the defined goals.

When it comes to choosing a functional currency, it is important to highlight that this is not a matter of a management`s discretion, but is rather, as previously shown, based on professional judgement and taking into account material facts: economic circumstances, events and transactions. Although there is a possibility of changing a functional currency when there are valid reasons for that, IAS 21 requires its consistent application. The newly selected functional currency is applied prospectively, beginning with the date of change. If a company chooses to change the functional currency, as part of its efforts toward achieving the objectives of the financial reporting policy, it is quite unlikely that by doing so it would achieve its long-term desired effects. This is due to the fact that it is almost impossible to predict long-term changes in a currency. Possible increase in the group`s profit, stemming from changes in the functional currency, would not have a significant information value for the investors, since for the purposes of evaluation of an entity permanent components of the result are the most relevant.

The possibility for achieving goals of the financial reporting policy in the domain of presenting higher equity amount and avoiding sharper fluctuations in the result, exists in the domain of choosing the *translation method*, then choosing the *exchange rate*, as well as the *presentation currency*. When it comes to selecting the exchange rate, a parent company`s management can strategically choose the current, historical or average exchange rate, where such options exist, in accordance with the defined goals, affecting a financial position and the group`s profitability (Savić, 2011). When it comes to the translation method, research has shown that the application of a single rate method for translating financial reports of foreign affiliates (applies in case when the local currency is used as the functional currency of a foreign entity, that is when a foreign affiliate is relatively independent in conducting its business operations) implies the application of the *current exchange rate* on the items of the Statement on financial position, except for its own equity, and the application of the *historical exchange rate* for the items of equity. This translation method for the items in the Profit and Loss Statement uses the average exchange rate for the accounting period and at the same time it assures a higher amount of the result presented (business and net gain). On the other hand, the temporal rate method (e.g. historical method) is applied in conditions when the currency of the parent company is used as a functional currency of the subsidiary, which means that the activities of a subsidiary make for a direct extension of the parent company`s business operations. The aforementioned method is based on applying the historical rate for translating assets and liabilities that are measured by historical cost, and current exchange rate for items that are measured by the current cost or a market value. Monetary items are translated using the current exchange rate. This method assures the higher amount of equity, both of the affiliates whose financial reports are being translated, and of entire multinational company (Domanović & Bogićević, 2016). The problem,

however, is contained in the fact that the use of the temporal method increases the volatility of the result presented; also, the disclosed result is significantly lower then in conditions of application of the single rate method. On the other hand, the indicators of financial structure, as well as the indicators of liquidity, are significantly more favorable in case of the use of the temporal method (Dmitrović-Šaponja & Bogićević, 2012). The research results also suggest that foreign currency translation adjustments are significantly value relevant. The temporal method is preffered when compensation is based on stock options, and conversely, when compensation is a function of the reported earnings - managers tend to adopt the current rate method (Pinto, 2002).

The choice of the presentation currency is one of the prerequisites for the financial reports` comparability. This is particularly important for the members of the group which are located in different countries and use different national currencies or when the functional currencies of individual members differ from the parent's reporting currency. The functional currency of the parent company is most often used in practice as the presentation currency. In some jurisdictions, reporting in local currency is required, even when it differs from the functional currency of the parent company. Most often, this is one of the global currencies, which is of particular importance for the needs of acquiring additional capital in the stock exchange. According to IAS 21, however, an entity can present its financial statements in any currency. The change in a reporting currency is seen as a change in the accounting policy and hence it is applied retrospectively. Some of the potential reasons for the change can imply efforts to assure better disclosure of business activities of a multinational company and to improve the comparability of users' results in the global context. Additionally, in case of a change in the parity between the reporting and the functional currency, the parent company`s management may, by choosing or by changing the reporting currency, influence the amounts presented in the consolidated financial statements. The choice of the reporting value can be adjusted in such a way to affect the amount (value) of particular items. Finally, the hedging of financial statements can be viewed as an integral part of the financial reporting policy, since the initiation of certain transactions is consciously planned, in order to balance off receivables and liabilities denominated in a foreign currency. These transactions make for an integral part of the real earnings management, which deliberately shapes the financial structure in the consolidated financial position report. Unless there are adequate instruments against exposure to the currency risk, significant exchange rate fluctuations will result in a volatility of the results, which can leave the impression of a risky venture when it comes to investors and consequently increase the required rate of return (Chang et al., 2013), provided that there is some evidence that income smoothing reduces firm-specific exchange rate exposure.

CONCLUSION

Business operations in a global context bring about numerous challenges. Groups are faced with issues of proper selection of functional and reporting (presentation) currency, as well as of protection against the translation, transaction and economic exposure. Numerous studies prove the relevance of this issue and highlight the effects of the change in exchange rates on the value of the entity. More precisely, by the choice of the exchange rate, projections of their volatility, directing activities and resources into particular

segments whose business is included in the relevant currency, it is possible to influence the amount of the presented result and profit tax, and thus other important performance indicators. In this paper, special attention is paid to the issues of the translation exposure of entities, protection measures and consequential implications on the content of the consolidated financial statements.

Considering the significance of potential effects which may result from the translation of foreign currency transactions and financial reports of foreign subsidiaries, it is possible to use instruments aimed at the targeted design of financial statements, in the aforementioned reporting segment. When it comes to the choice of the functional currency, it cannot be viewed as a segment of the financial reporting policy. The reason lies in the fact that IAS 21 provides numerous guidelines regarding the choice of the functional currency, which is defined by the key transactions, events and circumstances in which the business operates. Therefore, a financial reporting policy can be discussed in the context of the choice of the translation method, currency exchange, where such an option exists, as well as in the context of the presentation currency. Namely, on the basis of the change in parity between a functional and a presentation currency, it is possible to influence the amount of key indicators in the consolidated financial statements. The hedging of financial statements can be observed as a part of a financial reporting policy in order to minimize the accounting exposure through initiating real transactions which will result in balancing the items of foreign receivables and foreign liabilities.

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KLJUČNA PITANJA PREVOĐENJA FINANSIJSKIH IZVEŠTAJA MULTINACIONALNIH KOMPANIJA

Intenziviranje međunarodne trgovine, razvoj različitih oblika poslovne saradnje van nacionalnih granica - koprodukcija, transfer tehnologije, zajednička ulaganja, strategijske alijanse, strane direktne investicije, kao i dinamične promene poslovnog okruženja, zahtevaju da menadžment preduzeća preusmeri poslovno razmišljanje sa lokalnog na globalni pristup. Multinacionalne kompanije predstavljaju nosioce poslovanja u globalnim okvirima. Cilj rada je da ukaže na ključne izazove sa kojima se menadžment multinacionalnih kompanija suočava prilikom prevođenja transakcija u stranoj valuti i finansijskih izveštaja inostranog poslovanja za potrebe sastavljanja konsolidovanih finansijskih izveštaja. Dodatno, u radu se istražuje da li je izbor funkcionalne valute i kursa razmene moguće posmatrati kao instrumente politike finansijskog izveštavanja.

Ključne reči: *konsolidovani finansijski izveštaji, MSFI, kurs razmene, računovodstvena izloženost.*

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Review Paper

INTERSECTORAL LINKAGES AND THEIR CONTRIBUTION TO ECONOMIC GROWTH IN THE REPUBLIC OF SERBIA

UDC 330.35(497.11)

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Abstract. *The high level of interconnection between economic sectors, namely agriculture, manufacturing and the service sector, imposes the need to understand intersectoral structural changes and transfer of resources between sectors in order to perceive their contribution to economic development. Based on the rich information base compiled by data from various national and international statistic sources, intersectoral structural changes in the Republic of Serbia as one of the transition economies are analysed from different aspects. The paper deals primarily with the share of economic sectors in the gross domestic product. Further, it points to the participation of economic sectors in overall employment, but also in international trade. The research goal is to analyze the structural changes in the Serbian economy, identify the direction of resource transfer between sectors, as well as their contribution to the economic development measured by different indicators.*

Key words: *intersectoral linkages, structural changes, economic growth, Republic of Serbia.*

JEL Classification: E01, O11, O40

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1. INTRODUCTION

The economic growth of developed countries is characterized by the reallocation of resources from agriculture to non-agricultural activities, accompanied by further shifts from manufacturing to the service sector.

In general, several important phases of these changes can be distinguished (Adelman, 1999, pp. 103-134). In the first stage of development, a large part of the active workforce is related to agriculture. Along with the progress, there is a movement of the labour force from agriculture to the manufacturing and service sector. The service sector also advances simultaneously with manufacturing due to its multiple interconnection, primarily in the domain of transport, distribution and finance. Therefore, both sectors show an increase in relative importance in relation to agriculture. However, over a certain period of economic development, the participation of manufacturing in the total employment is stabilized, while on the other hand the service sector continues to expand at the expense of the agricultural sector. In the final stage of development, the economy reaches its peak. During this phase, the service sector continues to progress, but now at the expense of manufacturing whose relative significance is decreasing. If the service sector continues to grow and there is no increase in the total active labour force, this increase is possible only with a significant reduction of employment in manufacturing as well (Kenneth et al., 1992, pp. 2).

The economic justification for such long-term movement between sectors can be found both on the supply and demand side. Firstly, the relative importance of agriculture should be considered. On the supply side, a large increase in productivity leading to an increase in agricultural production is a result of a mechanization development, improved transport, greater use of fertilizers and pesticides, as well as the overall advancement of scientific knowledge and techniques of agricultural management. However, productivity growth is not accompanied by a steady increase in demand for agricultural products (Johnston, 1990, pp. 1109-1123). The growth in income per capita usually goes hand in hand with a decrease in the income elasticity for demand of food, which ends up with the creation of surplus products. As a result, there is a decline in agricultural product prices, profitability and farmers' earnings, and the movement of workers from agriculture due to lack of work or inadequate salaries (Kenneth et al., 1992, pp. 5).

On the other hand, an increase in the relative importance of the service sector can be also explained by factors on the supply and demand side (Hayami and Godo, 2005, p. 32). The original explanations focused on the demand side. High income elasticity of demand for services at a high level of income per capita indicates the prosperity of the economy where more revenue is allocated and spent on services. However, only a small part of the employment growth in the service sector can be justified by the demand for services. Interestingly, the rise in some of the services is closely linked to the rising demand for both agricultural and manufacturing products (e.g. travel, entertainment, etc.) (Kenneth et al., 1992, pp. 5).

Certain movements within the economy of the Republic of Serbia (further: Serbia or RS) as one of the transition economies also indicate a change in sectors' relative importance. The structure of the Serbian economy has been constantly evolving in response to ever-changing domestic and international conditions. Serbia has had a period of rapid structural changes with a changing external environment, but also an

internal environment with regards to the changed demographics. While the external environment has special significance in the secondary sector, the main factors of the structural changes in the agricultural sector are internal (although often with an international dimension).

Unlike the agricultural sector, the service sector in Serbia has been unstoppable in the previous period. Also, manufacturing shifted to the production of knowledge-based products in order to put emphasis on design and other value-added components. Computerization and information technology have replaced thousands of office workers who have sought work in other service activities.

In economic theory is widely accepted the existence of interrelation between economic growth and structural changes, whether measured by the employment share of economic sectors or through their participation in the realized domestic or international value (Dietrich, 2009). Therefore, the paper primarily focuses on intersectoral structural changes. After examining the theoretical framework of the concept of structural changes, intersectoral structural changes in the Serbian economy are elaborated from the aspect of sectors' share in gross domestic product, employment and international trade.

2. Theoretical Framework: The Conceptual Basis of Structural Changes in the Economy

Structural changes, their theoretical perception and analysis of the factors that have caused them, have attracted the attention of prominent economists in the past (Krstić et al., 2015, pp. 31-44). However, despite the rich research base in this field, there are certain doubts in the literature regarding interpretation of the concept of structural changes. Namely, the term "structural change" has not always been used in this form bearing in mind that economists dealt with its analysis, but using a different terminology (Quatraro, 2012, pp. 37-38).

Structural changes, analyzed in that period as structural transformations, were one of the main topics in the classical economy. Neoclassical economists have not considered structural changes as an important factor of economic development, but only as the automatic result of market development. While neoclassical economists have not attached great importance to this problem, classical economists have considered structural changes from the perspective of moving labour from agriculture as a traditional activity, to manufacturing and services as modern activities (Memedovic & Lapadre, 2010, p. 4).

One of the most prominent representatives of the classical economy, Adam Smith, emphasized in his work "Wealth of Nations" (1776) that agriculture is mainly specializing in poorer countries, where the nature of tasks being performed determines the division of labour and thus limits production efficiency. On the other hand, richer countries specialize in manufacturing, bearing in mind that manufacturing activities provide the ability to perform a variety of tasks and thereby increase productivity. At the same time, Smith under structural changes implied carrying out production activities within organizations, and not just a sectoral composition of the economic system (Quatraro, 2012, p. 37).

Apart from Adam Smith, also Simon Kuznec (1930), Artur Burns (1934) and Alan Fisher (1939) greatly contributed to the study of structural changes. Important empirical evidence can be found in their works about the rise and fall of certain economic sectors, but above all the manufacturing sector. They also provided an explanation of factors that have led to changes in industrial leadership in different countries. Bearing that in mind, Kuznec considered structural changes to be one of the important factors of development, although it meant only sectoral changes in employment and production. From this perspective, the economic development of countries and regions is strictly defined by performance of the leading sectors (Krstić et al., 2015, pp. 31-44).

Classical economists, primarily Kuznec, Burns and Fischer, have provided an interpretation of structural changes starting from the three-sector model of the economy. In doing so, the economy can be divided into three major economic aggregates: the primary sector that includes agriculture, fishery and forestry; a secondary sector that includes the production of capital and consumption goods through the combination of capital, labour and intermediate goods; and a tertiary sector that involves the provision of various services. The replacement of the contribution of three main sectors to the overall development of the economy represents the backbone of the classical model (Krstić et al., 2015, pp. 31-44).

Kuznec, as one of the initiators of the empirical analysis of structural changes, has laid the foundations of the so-called theory of slowdown in development. The initial assumption of this theory is the uneven growth rates, as well as the interweaving of cross-sectoral and international dimensions. Starting from this, the achieved level of development of each country depends to a great extent and is determined by the dominant sector of the economy. Therefore, a contribution of Kuznets and his theory of slowdown in development is pointing out important structural transformations (changes) of the economy as one of the crucial features of modern economic growth. At the same time, fundamental assumptions of structural changes are a change in the focus of the economy from agriculture to manufacturing and from manufacturing to services, as well as changes in the scale of production units and a shift towards other forms of organization of economic entities other than their own enterprises (Quatraro, 2012, p. 42).

However, other economists who offered some interpretations of structural changes were also distinguished. For instance, according to Robinson and Sirkin, structural changes are a set of changes in production and demand, trade, and the use of factors reflected in the income per capita increase (Ark, 1995, p. 1). Further, Maklup (1963) puts emphasis on the distribution of factors of production between the economic sectors, territories, various products, occupations, etc. and under structural changes he first of all takes into account different arrangements of production activities in the economy (Quatraro, 2012, p. 37).

"Although the concept of structural changes can be defined in different ways, it most often refers to long-term and lasting changes in the sectoral composition of the state or region during the economic development process. More specifically, structural changes are associated with the modification of a relative importance of different sectors over time, measured by their participation in production and employment" (Krstić et al., 2015, pp. 31-44).

The concept of structural changes is difficult to be uniquely defined due to the complexity of the phenomenon. Also, there is a low possibility of finding a universal method of their measurement. However, it is generally accepted that structural changes can be measured by reallocating capital and labour between sectors and regions, depending on the level being analyzed. Changes in the sector, in markets of goods and services, and in the nature of production processes should also be taken into account (Raiser et al., 2003).

Therefore, structural changes can be identified and monitored having in mind different levels. They occur, above all, in the conditions when companies respond to changes in relative input and output prices, but also to challenges arising from the emergence of new technology and knowledge. However, in the case of the same or similar effects of structural changes to all economic actors within the sector, it is considered that they occur at a sectoral level. Structural changes can also be manifested between sectors as well as within them. Nevertheless, the most intense are those that occur at the macroeconomic level, causing changes of varying intensity in all sectors. Consequently, three levels of structural change can be distinguished (Downes & Stoeckel, 2006, p. 12):

1. At the enterprise level - implementation of modern technology, new management methods, modern production practices, response to changes in relative labour costs, capital and other factors of production;
2. At the sector level - certain structures of companies are favourable under the pressure of competition, but changes occur in the operating environment along with the change in input prices;
3. Between sectors - changes in domestic demand, but also in global terms lead to conditional changes in consumption patterns (usually as a result of demographic changes, the application of modern technology, etc.), the change in the comparative advantage of the economic sectors determines the outcome of the market game.

The key to successful adaptation to structural change is adaptability, flexibility and competitiveness (which leads to innovation and adaptation). These characteristics are associated with a high level of productivity, rising revenue and a low inflation rate in the country. For this reason, macroeconomic policy makers seek to maintain a macroeconomic environment with low interest and unemployment rates. A good macroeconomic and microeconomic policy should be strongly mutually complementary (Downes & Stoeckel, 2006, p. 5).

3. Researc Results and Discussion

3.1. The share of economic sectors in the gross domestic product of the Republic of Serbia

Gross domestic product (GDP) in the last fifty years has been the most often used indicator of economic progress of a country and welfare of its population. This indicator shows how efficiently the economy functions by compressing the total value of state economic activities in only one number (Mankiw, 2002, p. 53).

"GDP represents the market value of all finished goods and services produced within a country over a given period of time" (Mankiw, 2001, p. 208). It can be calculated by summarizing the "value of personal consumption expenditure (consumption of households for goods and services), government expenditure (public expenditures for the provision of goods and services for the future) and net exports (difference in value between government exports and imports)" (Mankiw, 2001, p. 208).

According to the degree of development, measured by GDP per capita, national economies can be classified into three groups: factor-driven, efficiency-driven, and innovation-driven (Table 1).

Table 1 Different levels of the economic development

	Level 1: Factor driven	Transition from level 1 to level 2	Level 2: Efficiency driven	Transition from level 2 to level 3	Level 3: Innovation driven
GDP per capita	<2000	2000-2999	3000-8999	9000-17000	>17000
Subindex "Basic factors"	60%	40-60%	40%	20-40%	20%
Subindex "Efficiency factors"	35%	35-50%	50%	50%	50%
Subindex "Innovation and sophistication factors"	5%	5-10%	10%	10-30%	30%

Source: WEF. (2016-2017). Global Competitiveness Report. Geneva: World Economic Forum, p. 38

The economy is driven by factors of production in the first stage of economic development. Countries at this level of development compete with the engagement of the basic factors of production, primarily human and natural resources. Companies base their competitiveness on low prices and sale of mainly basic products, achieving low productivity and low wages.

As the economy becomes more competitive, it increases productivity and earnings of workers. National economies are moving towards a stage of development that is efficiency driven. At this stage, the production process and product quality should be improved since earnings of workers grow, but prices of products cannot be increased. Competitiveness at this level is focused on higher education, efficient financial market and market of goods and services, etc.

Innovation driven economy as the highest level of a country development encourages companies to produce innovative and distinguished products that will contribute to the overall competitiveness. At this stage of development, in addition to the previously mentioned factors of development, the crucial roles in the economy development belong to intangible forms of capital, such as research and development, science, education, innovation, competencies, etc. Hovewer, the outcome of these fields largely depends on sufficient level of investment, proving that the financial capital is still of high importance at this level of economy development (Frane, 2014, pp. 1-2).

Table 2 shows data for gross domestic product of Serbia in RSD, USD, and EUR in the period 2000-2015.

Based on Table 2, GDP per capita of Serbia in 2015 amounted to 5,235 USD representing half of the value in Efficiency driven stage (3000-8999 USD). Accordingly, Serbia has to increase GDP in order to qualify for the transition to a higher stage.

Table 2 GDP of the Republic of Serbia in RSD, EUR, USD, in the period 2000-2015

	Total mil. RSD	Total mil. EUR	Per capita, EUR	Total mil. USD	Per capita, USD
2000	1,989,783.5	25,717.0	3,421.5	23,593.5	3,139.0
2001	2,089,127.7	12,928.5	1,723.0	11,581.1	1,543.4
2002	2,237,785.6	16,213.8	2,161.8	15,277.3	2,037.0
2003	2,336,593.1	17,486.8	2,337.6	19,755.1	2,640.9
2004	2,547,973.3	19,128.0	2,563.0	23,776.4	3,185.8
2005	2,689,141.9	20,407.6	2,742.7	25,361.2	3,408.4
2006	2,821,026.8	23,610.0	3,185.6	29,603.7	3,994.3
2007	2,987,150.3	28,784.6	3,899.5	39,385.4	5,335.6
2008	3,147,461.2	33,417.9	4,546.5	48,856.6	6,647.0
2009	3,049,387.2	29,967.0	4,093.4	41,658.7	5,690.5
2010	3,067,210.2	29,766.3	4,082.0	39,370.4	5,400.0
2011	3,110,196.1	33,423.8	4,619.0	46,463.7	6,421.0
2012	3,078,619.2	31,683.1	4,400.0	40,675.9	5,648.0
2013	3,157,793.1	34,262.9	4,781.0	45,512.1	6,351.0
2014	3,908,469.6	33,186.0	4,672.0	44,143.1	6,190.0
2015	4,043,467.8	33,491.0	4,720.0	37,145.7	5,235.0

Source: Statistical office of the Republic of Serbia (2005-2016). Statistical Yearbook.

In Table 3, the gross value added and gross domestic product of Serbia from 2000 to 2014 are given. Based on the provided information, all occupations in the analysed period achieved a rise in absolute values in dinars. However, the highest increase is recorded in wholesale and retail sale trade, information and communication, and financial activities. The total gross value added of Serbia in 2014 compared to 2000 increased by 37%, while gross domestic product has been increased by 56%.

Table 4 shows the gross domestic product of Serbia, overall and per economic sectors, in absolute and relative values in the period 2000-2014. The share of primary sector in gross value added in the analyzed period is around 10%, the share of secondary sector is around 30%, and the share of tertiary sector is around 60% in gross value added.

Table 3 Gross value added per occupation and gross domestic product of Serbia, in the period 2000-2014, constant price 2010

	2000	2001	2002	2003	2004	2005	2006	2007
Agriculture, forestry and fishing	223,897	262,560	24,460	227,688	271,093	257,961	257,784	237,455
Mining	24,947	19,126	30,479	34,597	35,570	36,075	39,242	36,671
Manufacturing	428,713	387,339	364,526	368,014	381,653	381,491	388,732	425,533
Electricity, gas and steam supply	64,114	64,895	63,808	72,909	77,755	78,702	82,495	86,613
Water supply and waste water management	31,771	28,423	26,601	29,592	29,878	32,163	32,372	33,275
Construction	82,317	73,650	94,209	116,470	131,611	130,504	150,964	151,241
Wholesale and retail trade, repair of motor vehicles	118,037	109,030	132,120	153,236	183,923	251,227	275,581	315,113
Traffic and storage	79,191	84,031	86,908	92,967	101,493	106,350	123,313	137,448
Accomodation and food services	34,993	30,267	28,607	32,415	32,957	36,178	40,991	38,787
Information and communication	54,840	55,318	64,871	74,040	75,572	85,530	97,398	118,189
Financial and insurance activities	39,007	31,950	35,104	37,547	43,375	51,885	67,912	82,070
Real estate	244,580	247,891	252,198	251,607	253,149	268,004	269,579	271,238
Professional, scientific, innovation and technical activities	89,662	61,312	58,976	54,666	69,689	72,644	82,097	95,664
Administrative and support service activities	30,888	23,515	21,574	24,625	22,543	31,715	32,265	33,702
Public administration and mandatory social security	93,211	93,637	96,120	104,565	111,350	111,027	105,566	105,977
Education	81,028	83,212	90,742	100,238	100,752	93,896	8,925	97,152
Health and social protection	164,235	165,002	178,192	164,812	169,413	175,978	156,892	158,930
Art, entertainment and recreation	23,318	18,806	24,231	30,803	36,064	32,362	31,324	29,915
Other service activities	36,245	32,520	38,565	38,274	46,854	48,444	53,431	48,025
Household activities as an employer	/	/	1,166	1,362	1,491	2,151	2,185	3,049
Gross value added (GVA)	1,912,735	1,876,382	1,923,646	2,000,511	2,171,702	2,276,854	2,379,219	2,506,273
Taxes on products	147,686	261,878	354,700	371,379	418,854	450,830	480,273	515,771
Subsidies on products	26,730	30,953	30,271	28,764	34,246	33,173	34,284	32,793
Gross domestic products (GDP)	1,989,784	2,089,128	2,237,786	2,336,593	2,547,973	2,689,142	2,821,027	2,987,150

	2008	2009	2010	2011	2012	2013	2014
Agriculture, forestry and fishing	258,115	245,814	261,510	263,993	218,348	264,004	269,181
Mining	37,896	33,855	39,964	46,237	49,087	49,712	38,116
Manufacturing	439,706	419,839	418,466	426,237	458,870	484,882	474,874
Electricity, gas and steam supply	85,958	91,421	87,245	90,458	88,180	99,638	70,955
Water supply and waste water management	31,046	31,149	35,131	36,638	36,750	36,444	36,888
Construction	171,052	149,069	145,484	154,069	138,927	133,558	131,578
Wholesale and retail trade, repair of motor vehicles	327,182	298,331	289,462	290,567	292,955	297,416	299,518
Traffic and storage	134,762	128,540	137,687	137,323	126,694	136,261	140,031
Accomodation and food services	35,580	35,365	34,540	31,628	35,458	32,588	31,819
Information and communication	129,482	125,571	129,593	132,926	136,597	136,420	131,160
Financial and insurance activities	97,543	100,035	101,894	100,304	92,250	83,509	81,150
Real estate	282,176	283,885	284,579	285,981	288,791	291,778	287,948
Professional, scientific, innovation and technical activities	102,704	91,859	89,343	92,882	95,942	94,535	95,733
Administrative and support service activities	38,973	41,775	44,350	43,507	45,773	43,814	43,803
Public administration and mandatory social security	106,881	111,454	111,198	112,532	117,736	120,492	118,847
Education	102,826	104,851	105,363	106,982	108,776	110,275	111,204
Health and social protection	164,889	166,001	164,644	169,502	169,618	169,977	171,120
Art, entertainment and recreation	30,527	29,824	30,113	27,906	30,130	29,530	29,897
Other service activities	48,722	46,103	44,108	42,578	41,058	39,195	40,243
Household activities as an employer	3,023	2,670	2,692	2,532	2,517	2,531	2,724
Gross value added (GVA)	2,627,770	2,537,137	2,557,364	2,594,783	2,574,024	2,658,472	2,604,582
Taxes on products	554,878	544,112	543,004	549,024	531,759	530,515	526,543
Subsidies on products	34,235	31,869	33,158	33,611	27,497	32,727	32,790
Gross domestic products (GDP)	3,147,461	3,049,387	3,067,210	3,110,196	3,078,619	3,157,793	3,099,964

Source: Statistical office of the Republic of Serbia (2005-2016). Statistical Yearbook.

Table 4 Gross domestic product per economic sectors in Serbia, in the period 2000-2014 (constant price 2010, mil. RSD)

Year	Gross domestic product	Agriculture		Manufacturing		Service sector	
		Mil. RSD	% of total GDP	Mil. RSD	% of total GDP	Mil. RSD	% of total GDP
2000	1,944,993.2	223,896.7	12%	631,862.1	32%	1,089,234.4	56%
2001	1,872,481.1	262,559.7	14%	573,432.7	31%	1,036,488.7	55%
2002	1,933,596.9	244,600.1	13%	579,622.9	30%	1,109,373.9	57%
2003	2,010,427.1	227,687.6	11%	621,582.8	31%	1,161,156.7	58%
2004	2,176,180.5	271,092.8	12%	656,466.0	30%	1,248,621.7	57%
2005	2,284,289.5	257,961.1	11%	658,934.8	29%	1,367,393.6	60%
2006	2,379,372.7	257,784.0	11%	693,804.0	29%	1,427,784.7	60%
2007	2,506,045.2	237,455.2	9%	733,332.8	29%	1,535,257.2	61%
2008	2,629,041.7	258,115.2	10%	765,657.3	29%	1,605,269.2	61%
2009	2,537,409.2	245,813.6	10%	725,332.8	29%	1,566,262.8	62%
2010	2,557,364.2	261,510.4	10%	726,288.7	28%	1,569,565.1	61%
2011	2,594,782.3	263,993.0	10%	753,640.3	29%	1,577,149.0	61%
2012	2,574,454.6	218,348.1	8%	771,813.4	30%	1,584,293.1	62%
2013	2,656,558.9	264,003.6	10%	804,233.8	30%	1,588,321.5	60%
2014	2,604,582.4	269,181.0	10%	752,411.0	29%	1,585,197.0	61%

Source: Statistical office of the Republic of Serbia (2005-2016). Statistical Yearbook.

Based on the previous table, the tertiary sector has increased its relative importance over years measured by its share in GDP, from 56% in 2000 to 61-62% at the end of analyzed period. The primary sector achieved the biggest share in GDP in 2001 (14%) and the smallest in 2012 (8%), while secondary sector showed very small fluctuations in the share of GDP from 32% in 2000 to 28% in 2010.

3.2. The share of economic sectors in the overall employment of the Republic of Serbia

In the last two centuries, drastic changes have been occurring in employment and productivity between the economic sectors. History has shown that economies changed from predominantly agricultural, via manufacturing, to service-focused economies.

The economic development of industrialized countries has led to the transformation of society. In countries striving for industrialization, agriculture has served as a source of resources that can be invested in economic development activities. Among other things, gradually there was a migration of the agricultural population to manufacturing and service sector, and then at a higher level of development from manufacturing into the service sector.

Table 5 shows the movement of overall employment in Serbia in the period from 2002 to 2014, as well as in all economic activities (agriculture, manufacturing, and service activities).

The number of employees in Serbia is in constant decline, from 1.6 million in 2002 to 1.3 million in 2014. Observed by sectors in the analyzed period, the employees in agriculture registered a decline in the share of total employment in Serbia from 4.82% to 2.36%. The relative share of manufacturing in Serbian total employment also drops, from 44.13% in 2002 to 32.23% in 2014. Unlike the primary and secondary sectors,

the participation of the tertiary sector in the overall employment of Serbia increased in the observed period from 52.29% to 65.41%, thus representing a dominant share.

Table 5 Employees per sector in Serbia, in the period 2002-2014

Year	Number of employees	Agriculture		Manufacturing		Service sector	
		Absolute	Relative	Absolute	Relative	Absolute	Relative
2002	1,676,835	80,888	4.82%	739,932	44.13%	856,044	51.05%
2003	1,611,632	74,445	4.62%	694,420	43.09%	842,771	52.29%
2004	1,580,140	70,073	4.43%	650,518	41.17%	859,555	54.40%
2005	1,546,471	65,058	4.21%	624,120	40.36%	857,295	55.44%
2006	1,471,750	59,395	4.04%	578,809	39.33%	833,548	56.64%
2007	1,432,851	55,145	3.85%	543,154	37.91%	834,555	58.24%
2008	1,428,457	49,528	3.47%	522,026	36.54%	856,905	59.99%
2009	1,396,792	46,129	3.30%	486,468	34.83%	864,198	61.87%
2010	1,354,637	37,392	2.76%	459,006	33.88%	858,242	63.36%
2011	1,342,892	34,815	2.59%	449,963	33.51%	858,113	63.90%
2012	1,341,114	33,002	2.46%	443,726	33.09%	864,385	64.45%
2013	1,338,082	33,715	2.44%	438,990	32.81%	866,378	64.75%
2014*	1,323,831	31,288	2.36%	426,670	32.23%	865,871	65.41%

Source: Statistical office of the Republic of Serbia (2005-2016). Statistical Yearbook.

According to the data of the Statistical Office of the RS, employment in Serbia in 2015 amounted to 2.574.200, being higher for 0.6% compared to the previous year. However, registered employment in 2016 amounted to 2.009.784 (Statistical office of the Republic of Serbia, 2017).

Conducted analysis indicates that structural changes in the Serbian economy have contributed to the reduction of agricultural and manufacturing relative importance and increased relative importance of the service sector, measured by their participation in gross domestic product and overall employment.

Salaries of employees in Serbia at the economy and sector level recorded slight fluctuations in their nominal and real values in the previous period. In 2015, the average earnings of employees in Serbia registered a nominal decline of 0.5% and a real fall of 2.4%. However, "the highest increase in wages was recorded in the following sectors: other service activities (nominal growth of 10.1% and real 8.0%), arts, entertainment and recreation (nominal growth of 8.4% and real growth of 6.4 %) and health and social protection (nominal growth of 6.4% and real growth of 4.4%). On the other hand, the largest negative changes were identified in the sectors: agriculture, forestry and fisheries (nominal decline of 10.2% and real growth of 11.9%), mining (nominal decrease of 7.1% and real growth of 8.8%) and manufacturing (nominal decline of 6.8% and real of 8.5%)" (Statistical Office of the RS, 2016, pp. 57-58).

* A new methodology for monitoring registered employment of Serbia is being applied since 2015, combining data from the two official statistical sources. The new definition of registered employment is in line with the standards of the European Union. Also, the methodology of the Labour Force Survey was changed in 2015. The system of grading, increased sample size, continuous research and new method of data collection - CAPI (Computer Assisted Personal Interviewing) have been changed. Accordingly, taking into account the changes in the methodology, the data from 2015 are not included in the analysis.

The average gross and net salaries in Serbia in the period from 2003 to 2015 are given in Table 6 and Table 7.

Table 6 Average gross salaries in Serbia, per occupation, 2003-2015

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Republic of Serbia, total	16,612	20,555	25,140	31,745	38,744	45,674	44,147	47,450	52,733	57,430	60,708	61,426	61,145
Agriculture, forestry and water management	13,129	15,569	20,301	25,951	29,680	37,204	38,421	38,304	43,857	49,948	51,916	51,522	52,435
Agriculture, hunting and services	12,217	14,026	18,195	23,297	26,256	33,615	35,449	36,603	42,703	48,882	50,635	49,712	51,737
Forestry	17,506	23,883	28,790	35,500	41,773	46,854	45,593	47,952	50,969	55,402	58,505	59,253	57,528
Water management	20,479	26,050	34,020	42,238	48,655	55,946	53,683	/	/	/	/	/	/
Fishing	15,378	17,840	24,085	23,724	21,699	29,113	27,147	32,818	34,506	44,102	44,107	48,289	38,819
Mining and quarrying	22,091	26,352	30,745	38,992	48,978	55,835	61,226	69,582	80,605	89,521	96,051	97,900	99,521
Manufacturing	12,996	16,065	20,366	25,830	30,620	36,540	35,166	40,101	45,269	49,236	51,742	53,094	56,471
Production of electricity, gas and water	23,778	29,426	35,590	42,488	53,128	57,886	62,227	61,000	69,909	75,934	79,231	73,156	79,850
Construction	15,175	18,443	22,389	28,219	34,944	42,271	37,897	40,985	45,796	48,159	49,492	51,778	57,023
Wholesale and retail trade, repair	13,704	17,444	22,621	28,926	34,685	42,367	32,746	35,560	39,010	42,598	45,677	45,801	46,969
Hotels and restaurants	11,689	14,037	17,665	21,516	25,844	30,234	24,895	25,851	28,588	31,303	33,044	33,620	36,449
Traffic, storage and connection	20,113	24,561	29,737	36,029	41,568	48,758	51,350	58,090	65,185	72,086	77,563	83,897	86,839
Financial intermediation	34,601	43,870	56,348	70,864	82,041	91,023	94,568	96,920	99,978	105,414	109,470	105,479	107,340
Real estate, renting	20,251	24,730	32,076	37,039	47,154	52,116	46,840	51,326	56,246	61,378	65,571	66,981	68,079
Public administration and social security	22,742	27,207	33,210	40,542	47,728	54,273	55,363	58,330	65,427	71,200	75,098	74,738	67,151
Education	18,243	21,688	27,265	33,166	40,286	48,299	49,958	50,141	53,273	56,906	59,573	59,961	55,860
Health and social work	18,817	23,064	26,792	32,790	42,900	48,864	50,444	50,503	54,691	57,803	60,569	60,359	56,307
Other communal and social services	19,707	24,191	28,846	33,866	38,641	44,281	42,267	41,807	42,846	47,258	50,637	43,371	45,899

Source: Statistical office of the Republic of Serbia (2005-2016). Statistical Yearbook.

Based on Table 6, gross salaries in agriculture in 2003 amounted only to 76% of the average gross salaries in Serbia. With mild oscillations in other analyzed years, in 2014 they make up 85% of average gross salaries in Serbia. Within the primary sector, the lowest gross salaries are recorded in the activities of agriculture, hunting and services, which are at the same time the lowest or one of the lowest gross salaries in comparison to all other activities in Serbia. The largest gross salaries in the whole observed period were recorded within the financial intermediation, which are almost twice than average for Serbia. Observed by sectors, both secondary and tertiary sectors on average achieve higher gross salaries than the national average. However, at the beginning of the analyzed period (2003), the tertiary sector recorded gross salaries for 20% higher than the national average, and the secondary 11%. At the end of the analyzed period, in 2015, a larger difference compared to the national average is recorded in the secondary sector (20%), and smaller in the tertiary (4%).

Table 7 Average gross salaries in Serbia, per occupation, 2003-2015

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Republic of Serbia, total	11,500	14,108	17,443	21,707	27,759	32,746	31,733	34,142	37,976	41,377	43,932	44,530	44,432
Agriculture, forestry and water management	9,076	10,658	13,835	17,683	21,244	26,696	27,582	27,591	31,545	35,970	37,404	37,212	37,908
Agriculture, hunting and services	8,437	9,592	12,396	15,875	18,823	24,179	25,497	26,380	30,733	35,238	36,491	35,934	37,398
Forestry	12,162	16,400	19,619	24,189	29,823	33,488	32,627	34,000	36,558	39,734	42,073	42,653	41,596
Water management	14,177	17,907	23,243	28,778	34,616	39,809	38,275	/	/	/	/	/	/
Fishing	10,659	12,214	16,341	16,137	15,592	20,921	19,569	23,692	24,944	31,838	31,990	35,016	28,145
Mining and quarrying	15,373	18,113	20,989	26,739	34,818	39,729	43,650	49,630	57,436	63,726	68,338	69,660	71,077
Manufacturing	8,990	11,034	13,945	17,710	22,066	26,391	25,539	29,057	32,785	35,748	37,706	38,735	41,148
Production of electricity, gas and water	16,486	20,186	24,369	28,994	37,867	41,222	44,239	43,500	49,893	54,176	64,554	57,873	57,133
Construction	10,472	12,597	15,235	19,195	24,869	30,178	27,175	29,459	32,950	34,713	35,747	37,493	41,744
Wholesale and retail trade, repair	9,474	11,953	15,498	19,863	24,934	30,561	23,757	25,830	28,475	31,078	33,614	33,827	34,606
Hotels and restaurants	7,991	9,498	12,000	14,678	18,614	21,800	18,176	18,899	20,902	22,832	24,362	24,885	26,781
Traffic, storage and connection	13,911	16,854	20,341	24,724	29,821	35,046	36,880	41,676	46,878	51,696	56,674	62,250	64,714
Financial intermediation	24,157	30,347	38,852	48,896	58,951	65,419	67,899	70,045	71,938	76,195	79,168	76,432	77,840
Real estate, renting	14,052	17,028	22,007	25,387	33,888	37,531	33,851	37,041	40,581	44,395	47,675	48,768	50,796
Public administration and social security	15,767	18,673	22,633	27,630	34,055	38,730	39,494	41,675	46,728	50,824	53,826	53,413	48,161
Education	12,574	14,826	18,550	22,583	28,781	34,451	35,666	35,867	38,152	40,764	42,757	43,031	40,217
Health and social work	13,063	15,868	18,328	22,334	30,654	34,878	36,030	36,149	39,220	41,456	43,620	43,445	40,649
Other communal and social services	13,635	16,616	19,693	23,099	27,648	31,674	30,335	30,127	31,749	34,184	44,173	36,990	35,866

Source: Statistical office of the Republic of Serbia (2005-2016). Statistical Yearbook.

On the other hand, Table 7 shows net earnings in all activities in Serbia. The ratio of net salaries is the same as for gross salaries. Therefore, in agriculture only around 80% of average net salaries in Serbia are realized. They also represent the lowest earnings in relation to other activities. Both the secondary and tertiary sector as a whole realize their net earnings at the sector level above the national average. As with gross salaries, at the beginning of the analyzed period, the tertiary sector as a whole has higher average salaries compared to the secondary (20% compared to 11%), while this ratio changes at the end of the analyzed period in favor of the secondary (18% compared to 4%).

3.3. The share of economic sectors in international trade of the Republic of Serbia

Commercial liberalization, both at regional and global level, has created a global environment suitable for the growth and expansion of world trade. New technologies, such as computers, telecommunications and other media, have contributed to the integration of the world market.

As the most traditional form of international business activity, international trade involves the exchange of goods and services across national borders. It allows businesses and distributors to search for goods, services, or parts of products in other countries.

Foreign trade is an important indicator of economic development of the country and it brings many benefits to both exporting and importing countries. While exporting countries earn by exporting surplus of their products, importing countries have access to better products and thus affect the living standard of the population. The main determinants of exports are the presence of entrepreneurial spirit, access to marketing, transport and other services, exchange rate, but also the state trade policy and policies of the exchange rate. On the other hand, imports are mostly influenced by income per capita, prices of imports, exchange rate, public policies related to trade and exchange rate and availability of foreign currencies (Seyoum, 2009, pp. 9-10).

There are numerous reasons in favor of international trade, such as cost efficiency, the use of advanced technology, new production methods, specialization, improvement of living standards, etc. International trade also allows businesses to access resources that are not available in their countries. However, in addition to providing consumers with a wide range of different products, international trade increases revenue and employment. By encouraging the development of agriculture, manufacturing and service sectors, foreign trade offers greater employment opportunities in these sectors. Also, foreign trade stimulates market competition and thus leads to the improvement of production technology, production process and product quality. The ultimate benefit is realized by consumers who receive quality and varied products at affordable prices.

Tables 8 and 9 show the values of Serbian exports and imports in millions of dinars for the period from 2003 to 2015. Therefore, based on the values from the tables, the absolute value of Serbian exports and imports in the observed period is growing both in total and by sectors. In the first half of the analyzed period (from 2003 to 2009), the value of imports is about twice higher than the value of exports, while in the second half of the analyzed period (from 2010 to 2015) the value of exports and imports is approximating. Within the primary sector, agriculture, hunting and services account for almost 95% of foreign trade, while the rest is farming, forestry and fisheries.

In Table 10 relative values of exports and imports in the primary, secondary and tertiary sectors of Serbia are given.

Table 8 The value of Serbian exports, according to the classification of activities, in mill.RSD for the period 2003-2015

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Republic of Serbia, total	158,782	207,035	299,919	428,051	514,866	603,550	559,851	762,974	860,084	990,742	1,244,715	1,307,883	1,453,767
Agriculture, forestry and fishing	4,048	7,671	13,698	20,482	20,864	21,695	36,058	56,646	68,822	85,006	73,685	86,997	102,797
Agriculture, hunting and services	3,787	6,863	12,841	19,436	19,796	21,145	35,775	56,083	68,219	84,425	72,989	85,931	101,288
Growing, exploitation of forests and services	261	633	765	974	974	470	226	480	525	496	569	766	1,201
Fishery	/	175	92	72	94	80	57	83	78	85	127	300	308
Mining	715	1,016	1,467	2,362	3,340	2,670	2,211	3,420	6,688	6,605	7,445	6,986	5,673
Manufacturing industry	94,391	196,229	281,320	400,140	484,217	553,198	493,794	660,551	744,300	856,898	1,113,455	1,178,604	1,312,237
Electricity, gas and water	690	493	2,252	4,836	6,272	20,118	21,611	36,154	34,053	34,510	46,989	27,081	24,823
Information and communication	13,933	/	/	/	2	5,288	5,361	5,461	5,541	6,992	5,727	7,751	7,802
Other service activities	24,726	209	563	92	43	450	603	594	540	623	248	282	330
Unclassified	20,279	1,418	618	138	130	134	172	150	140	109	136	151	104

Source: Statistical office of the Republic of Serbia (2005-2016). Statistical Yearbook.

Table 9 The value of Serbian exports, according to the classification of activities, in mill.RSD for the period 2003-2015

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Republic of Serbia, total	429,503	629,838	702,280	878,227	1,115,746	1,340,088	1,064,271	1,280,676	1,452,140	1,665,009	1,749,932	1,815,996	1,978,653
Agriculture, forestry and fishing	2,588	17,212	18,461	21,831	21,807	27,812	26,489	38,544	42,347	50,764	50,600	55,787	65,853
Agriculture, hunting and services	2,480	14,213	15,294	17,477	17,638	22,758	25,511	37,376	41,209	49,483	49,087	54,017	63,903
Growing, exploitation of forests and services	108	896	815	1,688	2,353	2,637	429	575	491	440	574	710	856
Fishery	/	2,103	2,352	2,666	1,816	2,417	549	593	647	841	939	1,060	1,094
Mining	1,571	82,475	120,245	151,804	140,573	198,848	124,943	168,647	183,357	169,090	190,351	173,482	178,643
Manufacturing industry	147,555	524,291	560,599	698,746	737,152	827,324	690,024	971,646	1,134,224	1,304,507	1,369,241	1,428,782	1,543,860
Electricity, gas and water	/	1,648	562	4,751	10,095	11,515	11,117	18,887	17,264	26,066	23,275	23,467	20,552
Information and communication	154,292	/	/	/	/	/	6	8,145	5,364	5,884	6,787	6,382	6,198
Other service activities	5,880	63	86	74	66	171	39	1,400	75	169	93	107	65
Unclassified	117,617	4,132	2,053	951	206,054	274,417	205,840	73,408	69,509	108,529	109,584	127,985	163,481

Source: Statistical office of the Republic of Serbia (2005-2016). Statistical Yearbook.

Table 10 Share of agriculture, manufacturing and services in Serbian exports and imports, for the period 2003-2015

Year	Agriculture		Manufacturing		Service sector		Nonaligned	
	Export	Import	Export	Import	Export	Import	Export	Import
2003	2.55%	0.60%	60.33%	34.72%	24.35%	37.29%	12.77%	27.38%
2004	3.71%	2.73%	95.51%	96.60%	0.10%	0.01%	0.68%	0.66%
2005	4.57%	2.63%	95.04%	97.03%	0.19%	0.01%	0.21%	0.29%
2006	4.78%	2.49%	95.16%	97.39%	0.02%	0.01%	0.03%	0.11%
2007	4.05%	1.95%	95.91%	79.57%	0.01%	0.01%	0.03%	18.47%
2008	3.59%	2.08%	96.43%	44.43%	0.95%	0.01%	0.02%	20.48%
2009	6.44%	2.49%	92.46%	77.62%	0.07%	0.55%	0.03%	19.34%
2010	7.42%	3.01%	91.76%	90.51%	0.79%	0.75%	0.02%	5.73%
2011	8.00%	2.92%	91.27%	91.92%	0.71%	0.37%	0.02%	4.79%
2012	8.58%	3.05%	90.64%	90.07%	0.77%	0.36%	0.01%	6.52%
2013	5.92%	2.89%	93.83%	90.45%	0.48%	0.39%	0.01%	6.26%
2014	6.65%	3.07%	92.72%	89.52%	0.61%	0.36%	0.01%	7.05%
2015	7.07%	3.33%	92.36%	88.09%	0.56%	0.32%	0.01%	8.26%

Source: Statistical office of the Republic of Serbia (2005-2016). Statistical Yearbook.

The share of agriculture in the total export of Serbia increased from 2.55% in 2003 to 7.07% in 2015 (Table 10). Also, agriculture has slightly increased its share in total imports (3.33% in 2015 compared to 0.60% in 2003). Manufacturing is constantly registering a significant share in exports (on average 90%) and in imports (on average 85%) of Serbia. The service sector, on the other hand, has an extremely low share in total exports and imports throughout the analyzed period. With a relative share in exports and imports of around 1%, the tertiary sector has the least share in Serbian exports and imports compared to primary and secondary sectors.

4. Conclusion

Structural changes can be considered as a result of a process in which economies, both national and global, but also sectors and regions, show their ability to survive in conditions of fierce competition and respond to new market challenges. Structural changes, above all, represent a change in the relative importance of the economic sectors over a certain period of time, measured by their participation in the national product and overall employment. There is a whole set of factors that lead to a change at different levels. Bearing this in mind, there is no single and unique factor that causes structural changes, but they are most often the result of a combination of determinants.

In the long term, structural changes show a strong correlation with changes in the competitiveness of the economy and therefore its development, as well as changes in economic results at the micro and macro level. There is a constant process of economic restructuring as a result of technological and social changes, combined with competitive and comparative advantages, constantly changing the sectoral and spatial dynamics of economic activity in the global economy. The rapid economic development, in general, is driven by structural changes in the economy, as well as structural changes in its

various sectors. These fundamental changes are characterized by shifting resources from primary production, such as agriculture and mining, to manufacturing, and within manufacturing from those based on natural resources to those more sophisticated, more intense in terms of skills and technology, and further towards the tertiary sector.

Intersectoral structural changes in Serbia were examined in the paper on this base. As of the sector's share in the gross domestic product, the tertiary sector accounts for about 60% of GDP in the analyzed period, followed by a secondary sector with around 30% and a primary sector that records the share of around 10%. When it comes to the share of sectors in the overall employment in Serbia, the conducted analysis shows that the dominant share in the total employment has a tertiary sector with over 60%, followed by a secondary sector with over 30% and a primary sector that participates with less than 5% in overall employment. Therefore, it can be concluded based on the results that the tertiary sector has the biggest contribution to the economic growth of Serbia, then secondary sector and the least contribution has the primary sector. However, the share of sectors in the exports and import values indicates slightly different results. Namely, almost all exports and imports in Serbia relate to the secondary sector which participates with about 90%. The primary sector accounts for less than 10% in exports and imports, and the tertiary sector records a negligible share in exports and imports of around 1%.

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MEĐUSEKTORSKE VEZE I NJIHOV DOPRINOS EKONOMSKOM RASTU U REPUBLICI SRBIJI

Visok nivo međusobne povezanosti privrednih sektora, odnosno agrarnog, industrijskog i sektora usluga, ukazuje na potrebu razumevanja međusektorskih strukturnih promena i transfera resursa između sektora, a u cilju sagledavanja njihovog doprinosa ekonomskom razvoju. Međusektorske strukturne promene Republike Srbije, kao jedne od tranzicionih privreda, analiziraju se sa različitih aspekata na osnovu bogate informacione osnove koju čine podaci iz domaćih i međunarodnih statističkih izvora. U radu se, pre svega, sagledava učešće privrednih sektora u bruto domaćem proizvodu. Zatim se ukazuje na udeo privrednih sektora u ukupnoj zaposlenosti, ali i u međunarodnoj trgovini. Cilj istraživanja jeste da se analiziraju strukturne promene u privredi Republike Srbije, identifikuje pravac transfera resursa između sektora, kao i utvrdi njihov doprinos ekonomskom razvoju mereno različitim indikatorima.

Ključne reči: *međusektorske veze, strukturne promene, ekonomski rast, Republika Srbija*.

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Preliminary Communication

HOW HIGH ARE THE PERFORMANCES OF ORGANIZATIONS OPERATING IN SERBIA?

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Abstract. *In the conditions of growing competition on the market, organizations must ensure their sustainability, first of all, by implementing a systemic concept of business conduct in which the management is recognized as a powerful process of achieving high organizational performances. It is a concept that enables the meeting of the needs of consumers on a level different to their target value. In this sense, organizations must be structured in such a way as to fulfill certain conditions and criteria thanks to which sustainably high performance is created, which is, in fact, the goal of this research. Such performance is created as a result of the development of management within key areas of operation – the quality of products and services, production cost, speed to market, and innovating and developing such products and services. Success of such organizations greatly depends on the managers' ability to develop and keep a talented workforce, which is a key factor in high performance development. By mastering change, outstandingly managing and controlling the future, assumptions for achieving business excellence and achieving high performance results are created. To confirm the starting hypothesis, the method of analysis, the method of synthesis and the method of multiple comparison and statistical test are used.*

Key words: *Management, organization, performance, HPO model.*

JEL Classification: M21, M54

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INTRODUCTION

In a complex business environment, numerous organizations operating in Serbia have failed to meet the market requirements and have vanished because they could not cope with growing changes. The primary reason is an outdated business model (Miletić, 2018, p. 69) which does not give them a real possibility to efficiently combine expedience, cost efficiency, product quality and learning, which should result in high performance. Only the organizations that have accepted change in a time of great turmoil and which seek a fast and flexible structure are capable of shaping their business future. Heading such organizations that are based on effective 'inclusion' of all employees in the decision-making process are agile managers who promote and develop a new concept of thinking and acting. It is a non-standardized flexible and virtual business model (Waal, 2006, rev. 2010) based on learning and performance within which every individual is expected to use all of their skills and capacities for the purpose of realizing the organization's goals. Thus, it is evident that teamwork capability and a holistic approach to business conduct are important attributes of a network business model that yields results.

Developed countries have an adequate business environment and a climate suitable for successful operation of high performance organizations (HPO) (Waal, 2012c). Serbia as a country in transition strives to create the right "conditions by promoting creativity and change as a legitimate goal of its organizations so that they could improve competitiveness and raise overall performance to a higher level" (Miletić, 2016, p. 4). In that sense, for the sake of sustainability, it is necessary that the contemporary economic subjects operating in Serbia be organized in a way that enables their growth and development (Miletić, 2017, p. 201) by achieving performance higher than usual.

This means a successful business concept implementation (Lawler, p. 14-15) "as a systematically planned and programmed effort to accept new ideas, innovation and change within the organization" which is nothing new in the Serbian economic practice. It should give a strategic advantage to organizations, making problem solving easier, by increasing productivity (Ničić et. al. 2013, p. 179) and product quality, improving customer service in the option of added value, perfecting communication and cooperation in a way that enables the achievement of high performances.

To implement this model is mostly a choice of the bolder, those who are not afraid of change and who are aware that only a swift reaction to change (Alexopoulos, Tombe, 2012) will secure the survival, development and sustainability of business. Business practice (Roth, 2005; Chalhoub, 2009; Abernathy, 2011) has shown that a total implementation of the high performance organization model positively affects an organization's operation, which goes to show that the correlation goes from the direction of management practice toward organizational performance. Studies published in numerous countries show that there is correlation and interaction (Dent, 2003) between techniques and methods including, first of all, the HPO model which is implemented by organizations, and the accomplished organizational performance – direct and indirect (Maes et. al., 2005), with or without the display of causality. The studies dealt with determining factors and criteria of high performances and the evaluation of the extent to which HPOs are treated through the common influence of the level and duration of operation (Johnson, 2005; Godfrey, 2010; Waal & Meingast, 2011; Keller, 2011). A difference in performance among different organizations (Tadić & Boljević, 2015) is mostly connected with domestic circumstances, the kind of product and service, historical events, "cultural differences, the complexity of industry, even luck" (Parnell et. al. 2012, p.106).

The HPO model, as known by the Anglosaxon busines culture (Waal, 2006) is an invitation to reflection and action, but not a magical solution to all problems that organizations operating in Serbia come across. Prerequisites for strengthening the competitiveness (Miletić & Božilović, 2015, p. 261) of economy must include transformational management, a new way of organization, and the knowledge to create quality competitive strategies and a supporting business environment.

Hence, there is no unique recipe either for success or for creating a successful HPO in Serbia. While designing an HPO, one of the demands placed before the management (Miletić et al., 2017) is the need to successfully implement all of its components. In practice, there are organizations that realize only some of the necessary components (Schermerhorn, Hunt, Osborn, 2004, p. 23-24). Such organizations are not real HPOs. Whether and how far into the future they will work on developing the remaining components of HPOs depends on numerous environmental factors, as well as on the extent to which their management (Zenger et. al., 2002, p. 138) is prepared and capable to work on interconnecting them.

1. Characteristics of High Performance Organizations

In order to survive in a complex environment, contemporary organizations are forced to organize themselves in a different way that should enable them to generate performance at a level significantly higher than before. In difficult economic circumstances, managers tend to choose management models (Parnell et. al., 2012) that will help them to improve their organization's operation with a higher level of security. In that sense, HPO models represent open systems that are influenced by a variable global external organizational environment. As such, their basic mutual characteristics (Waal, 2012a) are those properties that are shared by exceptionally successful organizations and those characteristics that are most widespread and that make them more efficient than other business subjects.

Such organizations are present on the market during a longer period of time, they possess a structure with less organizational levels (Simić, 2005), less hierarchy and greater unit autonomy, highly trained personnel, and agile managers at all levels (Waal, 2013, p. 15). Item organizations are oriented towards products and services with greater added value for consumers. Within such organizations (Lawler, 2005), absolute engagement by all employees is implied, i.e. their incitement to plan, complete and verify their work properly. To become a high performance organization, an organization must meet certain conditions and criteria (Waal, 2012a). As the main characteristics of an HPO, (Waal, 2012b) identifies:

- *Continuous development* means that an "organization has adopted a strategy that clearly sets it apart from other organizations". Within it, processes are continuously being developed, simplified and coordinated. The organization continuously improves its products, processes and services (the core of its competence). Financial and non-financial information is available to organization members via report.
- *Openness and readiness for action* means that organization members spend a significant amount of time communicating, learning and exchanging knowledge, and they are always included in important processes. The leadership welcomes change and allows errors.
- *Management quality* implies strong leadership; it focuses on achieving results. The management has integrity and it enjoys the trust of organization members. It teaches

(trains) organization members how to achieve better results and it is decisive toward those who fail to carry out what is expected and agreed upon.

- *Workforce quality.* An organization has a qualified workforce. The leadership inspires organization members to achieve extraordinary results. Organization member are trained to be resilient and flexible.
- *Long-term orientation* means that an organization keeps high-quality and long-term relations with all interested parties (stakeholders). An organization's goal is to serve the consumers in the best way possible and to grow through the partnership with its suppliers and/or clients.

High performance systems, according to (Vaill, 1996, p. 61), are those organizations that satisfy most of the following criteria:

- they function excellently in relation to known external standards,
- they function impeccably in relation to the assumptions regarding their potential performance level,
- they function superbly compared to their position at an earlier period,
- highly informed experts have judged that, essentially, they act qualitatively better compared to other comparable systems,
- regardless of what they do, they do it with far less resources compared to the resources they presumably need,
- their modus operandi is considered exemplary for the work that they do, so they become a source of ideas and inspiration for others,
- they realize ideas of culture within the framework of their existence at a high level (they demonstrate a high level of 'nobility'),
- they are considered to be the only organizations capable to do whatever they are doing, even when, at a first glance, it seems that what they are doing is not particularly difficult.

Organizations that satisfy most of the abovementioned criteria are considered to possess the basic characteristics of HPOs, with emphasis (Vaill, 1996, p. 63):

- HPOs have clearly defined goals, as well all the elements necessary for their accomplishment. They possess a clear idea regarding the purpose of their own existence and the direction of their operation.
- HPO member engagement regarding goal accomplishment is not superficial. Motivation is always high and specific. What is more significant than the energy level is its focus.
- Teamwork within an HPO is task-oriented. HPO members reveal those operation aspects which demand integrated action and which promote behavior and attitudes that correspond to those demands.
- HPO leadership is strong and clear, although the style could vary within different segments. The style is clearly consistent, reliable and predictable, without any trace of ambivalence.
- An HPO is a prolific source of innovation and new methods in terms of defined tasks and select structural forms.
- An HPO sets clear boundaries between itself and the environment. A significant amount of energy is spent for the preservation of those boundaries, especially by the management. It is clear that an HPO is significantly different from the other entities in the environment regarding its own character, membership, applied methods, time, and space.
- An HPO constantly and uncompromisingly amasses the necessary recourses from the environment and sometimes it represents a source of frustration to certain competitors, especially in a bureaucratic environment.

The case model of an HPO is highly flexible and innovative, and it enables employee development. It is applied in the conditions of a complex and dynamic environment and technology. It receives a special place in new and sophisticated high-tech industries, such as telecommunications, biotechnology, and so on. Performance within the model (Amstrong, 2006) is usually identified in terms of the output, i.e. the achievement of quantitative goals. Of course, performance is not only that which is realized, but also the way in which it is realized and measured (Harbour, 1997). A high level of performance is the result not only of adequate behavior and an effective use of the necessary knowledge but also of skills and competence.

Performance management (Thorpe & Holloway, 2008) is a complex category considering that intellectual resources represent the key determinant of an organization's success in the contemporary environment. Thus, an organization requires a balance between different dimensions of performance assessment. In addition to the primary financial dimension, the non-financial dimension considerably contributes to overall business performance not only to the organization itself but also to the other stakeholders. In that sense, the management faces a difficult choice of contemporary non-financial criteria as strategic managerial tools.

2. RESEARCH METHODOLOGY

This research has been conducted with the purpose of evaluating Serbian organizations' fulfillment of the conditions and criteria in order to determine to what degree those organizations are high performance organizations. The premise is that the application of the HPO managerial practice is based on the output, i.e. on the accomplishment of quantitative goals, as a result of proper behavior and an effective use of the necessary knowledge, skills, and competence. An innovative business model of a high performance organization, based on intellectual capital, has great potential for application in Serbia for achieving business excellence. Thanks to communications technology, this model is designed in such a way that it can be managed in a dramatically different way than ever before. The research was realized as an empirical transverse study (a cross-sectional study). In addition to the basic explicative method, the bibliographic speculative method was used in the setting of the theoretical framework of the paper. The multiple comparisons and statistical test method was used in the processing and interpretation of the results. As a research technique, survey was used in order to collect data and information.

In order to achieve the aim of the research, whether and to what extent organizations operating in Serbia apply the high performance model, i.e. to what extent an organization is an HPO from the aspect of different durations and levels of operation, it was necessary to collect primary data that could be attained through field work, but also with the help of the Internet.

The research was carried out in several phases (compare with: Aaker et al, 2008, p. 52-53): questionnaire composition, selection of a representative sample i.e. selecting the companies that will represent the sample, collecting data by surveying the managers of the selected companies operating in Serbia, a graphical and statistical representation of the research results, and, finally, drawing conclusions and formulating suggestions for achieving business excellence. The research was based on a sample of 136 companies selected from a database run by the Serbian Business Registers Agency. The decisive factor

when selecting the organizations for the sample was the success rate of their business conduct. In the observed sample, the most numerous are the organizations that conduct business on an international market (62), then come the organizations that conduct business on a national market (34), there are 23 organizations that operate regionally, and the organizations who operate only locally number the fewest (17).

The questionnaire for this research was specially structured and it comprised 26 questions related to the characteristics of HPOs that set them apart from other organizations. Data collection was accomplished by asking the respondents (organization managers) to grade (rank) characteristics that they believe determine the performance level of organizations operating in Serbia. A Likert's scale was created, within which it was possible to rank attributes as very significant, both significant and insignificant, and not significant

3. DESCRIPTIVE STATISTICS

Accepted as a necessity and a challenge, in the Serbian business milieu, performance initiates learning a lesson of integration in order to make a certain organization long-lasting time and again. Comparative statistics was used to process the collected data regarding the evaluation and ranking of properties that domestic organizations should acquire in order to become high performance organizations. The surveyed managers were asked to grade actual performance based on the given criteria within the framework of their business conduct with marks from 1 to 5, where 1 is the lowest rating and 5 is the highest one. Performance results are given in Table 1.

Table 2 gives a performance rank based on mean values for each performance.

Based on the results, it is evident that, in the organizations included in the sample, qualitative operation with regard to the competitors, teamwork, chance for the organization to become a high performance organization, and the level of consistency and clarity of the organization's leadership are the characteristics that have received the highest ratings (the average rating is over 4). At the bottom of the table with the lowest ratings (under 3.50) is the level to which the organization's employees share the responsibility both for the success and for the failure of the organization, the organization's allocation of funds for employee education and training, the level of development of the organization's marketing sector, the sources of creativity and new ideas coming from the outside of the organization, and the level of the consultants' engagement within the organization.

This research asked the respondents to answer the question whether there are any domestic organizations that could be characterized as high performance organizations, and if there are, which organizations they are. Out of the organizations listed as high performance organizations by the respondents, the following organizations stand out: "Metalac" Gornji Milanovac (listed twice as a high performance organization); "Tigar tyres"; Com Trade; Philip Morris Operations, Co. Niš (listed twice as a high performance organization); Telekom Srbija; NIS; "Matijević" Meat Industry; "Janković" Interiors; Telenor; Gazprom; Fiat (listed twice as a high performance organization); "Petrohemija"; the Electric Power Industry of Serbia; IT companies.

Table 1 Results of performance in organizations

Performances	Rang									
	1		2		3		4		5	
	Af	Rf	Af	Rf	Af	Rf	Af	Rf	Af	Rf
Level of competitiveness on the market on which the organization operates	7	5.1	12	8.8	42	30.9	29	21.3	46	33.8
Product quality on the market on which the organization operates	2	1.5	11	8.1	49	36.0	40	29.4	34	25.0
Level of the organization's competitive ability	4	2.9	8	5.9	30	22.1	57	41.9	37	27.2
Technological level of the organization	0	0	15	11.0	20	14.7	57	41.9	44	32.4
Level to which the organization implements the quality concept as demanded by the ISO 9000 series of standards	13	9.6	17	12.5	9	6.6	41	30.1	56	41.2
Level of development of the organization's marketing sector	13	9.6	15	11.0	54	39.7	26	19.1	28	20.6
After-sales services of the organization	7	5.1	3	2.2	32	23.5	45	33.1	49	36.0
Level of the organization's openness to creativity, new ideas and innovation	2	1.5	5	3.7	36	26.5	45	33.1	48	35.3
The extent to which the organization is a high performance organization, i.e. to what extent it possesses total excellence at all levels	9	6.6	12	8.8	39	28.7	50	36.8	26	19.1
Level to which the organization has clearly defined goals and the elements necessary for their successful achievement	4	2.9	6	4.4	21	15.4	68	50.0	37	27.2
Level of consistency and clarity of the organization's leadership	0	0	9	6.6	24	17.6	60	44.1	43	31.6
Functioning of the organization with regard to known external standards	2	1.5	2	1.5	36	26.5	54	39.7	42	30.9
Current functioning of the organization with regard to its position at an earlier period	6	4.4	7	5.1	26	19.1	53	39.0	44	32.4
Level to which the organization operates with less resources than considered necessary	2	1.5	16	11.8	39	28.7	47	34.6	32	23.5
Qualitative operation of the organization with regard to comparable competitors	0	0	2	1.5	22	16.2	57	41.9	55	40.4
Teamwork within the organization	3	2.2	10	7.4	16	11.8	51	37.5	56	41.2
Organization's employees as a source of creativity and new ideas	3	2.2	15	11.0	34	25.0	39	28.7	45	33.1
Sources of creativity and new ideas coming from the outside of the organization	5	3.7	31	22.8	50	36.8	29	21.3	21	15.4
Work habits of the organization's employees	3	2.2	8	5.9	48	35.3	45	33.1	32	23.5
Positivity of the employees' response to education and training programs, as well as their preparedness for education and training	8	5.9	16	11.8	30	22.1	48	35.3	34	25.0
The organization's allocation of funds for employee education and training	12	8.8	26	19.1	23	16.9	41	30.1	34	25.0
Justness in selecting the employees to be educated	6	4.4	16	11.8	25	18.4	38	27.9	51	37.5
Level to which the idea of business culture is realized within the organization	2	1.5	14	10.3	42	30.9	46	33.8	32	23.5
Level to which the organization's employees share the responsibility both for the success and for the failure of the organization	5	3.7	28	20.6	34	25.0	33	24.3	36	26.5
Level of the consultants' engagement within the organization	22	16.2	27	19.9	28	20.6	30	22.1	29	21.3
Chance for the organization to become a high performance organization	2	1.5	6	4.4	22	16.2	58	42.6	48	35.3

Af - Absolute frequencies; Rf - Relative frequencies (percentages); M.V. - Mean values

Source: Miletić, V. (2016). p. 163-166

Table 2 Performance rank in organizations

Performances	Mean value	Performance rank
Qualitative operation of the organization with regard to comparable competitors	4.21	1
Teamwork within the organization	4.08	2
Chance for the organization to become a high performance organization	4.06	3
Level of consistency and clarity of the organization's leadership	4.01	4
Level of the organization's openness to creativity, new ideas and innovation	3.97	5
Functioning of the organization with regard to known external standards	3.97	5
Technological level of the organization	3.96	6
Level to which the organization has clearly defined goals and the elements necessary for their successful achievement	3.94	7
After-sales services of the organization	3.93	8
Current functioning of the organization with regard to its position at an earlier period	3.90	9
Level of the organization's competitive ability	3.85	10
Justness in selecting the employees to be educated	3.82	11
Level to which the organization implements the quality concept as demanded by the ISO 9000 series of standards	3.81	12
Organization's employees as a source of creativity and new ideas	3.79	13
Work habits of the organization's employees	3.70	14
Level of competitiveness on the market on which the organization operates	3.70	14
Level to which the idea of business culture is realized within the organization	3.68	15
Product quality on the market on which the organization operates	3.68	15
Level to which the organization operates with less resources than considered necessary	3.67	16
Positivity of the employees' response to education and training programs, as well as their preparedness for education and training	3.62	17
The extent to which the organization is a high performance organization, i.e. to what extent it possesses total excellence at all levels	3.53	18
Level to which the organization's employees share the responsibility both for the success and for the failure of the organization	3.49	19
The organization's allocation of funds for employee education and training	3.43	20
Level of development of the organization's marketing sector	3.30	21
Sources of creativity and new ideas coming from the outside of the organization	3.22	22
Level of the consultants' engagement within the organization	3.13	23

Source: Ibidem, p. 166-167.

Table 3 shows that the majority of respondents stated they were not sure whether there are domestic high performance organizations, 13.2% stated there are none, and 33.8% stated that there are high performance organizations.

Table 3 The existence of domestic high performance organizations

Are there any high performance organizations	Absolute frequency	Relative frequency
Yes	46	33.8
No	18	13.2
Not sure	72	52.9
Total	136	100.0

Source: Ibidem, p.168

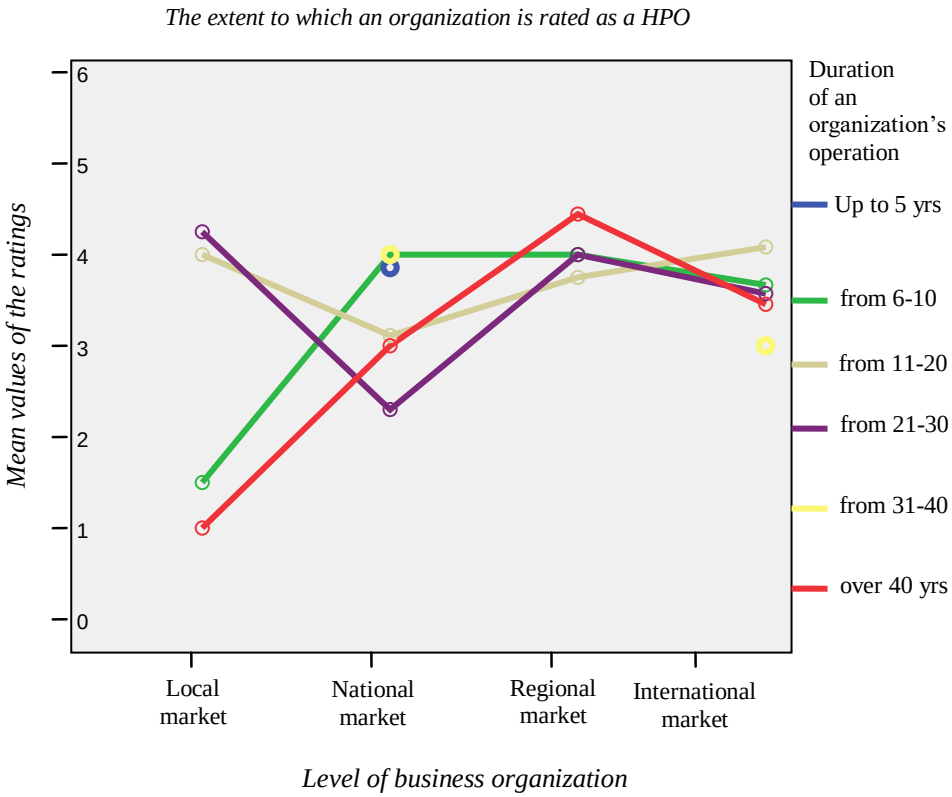
Table 4 shows the mean values of ratings regarding the extent to which an organization is a high performance organization, observed in the organizations that operate over a different time period and at a different level for each level and duration of operation. Standard deviation represents a deviation of the rating's mean value, and N stands for the number of respondents in the sample. It is evident that the extent to which an organization is a high performance organization is the greatest among organizations that operate on a regional market, and among them the highest ratings were received by those organizations that have operated for over 40 years.

Table 4 Mean values of the extent to which an organization is an HPO

Operation level	Duration of an organization's operation	Mean	Std. Deviation	N
Local market	From 6 to 10	1.50	.577	4
	From 11 to 20	4.00	.000	3
	From 21 to 30	4.25	.886	8
	Over 40 years	1.00	.000	2
	Total	3.18	1.551	17
National market	Up to 5	3.86	.900	7
	From 6 to 10	4.00	.000	2
	From 11 to 20	3.11	.782	9
	From 21 to 30	2.30	1.252	10
	From 31 to 40 years	4.00	.000	2
	Over 40 years	3.00	.000	4
	Total	3.12	1.066	34
Regional market	From 6 to 10	4.00	.000	2
	From 11 to 20	3.75	.463	8
	From 21 to 30	4.00	1.155	4
	Over 40 years	4.44	.527	9
	Total	4.09	.668	23
International market	From 6 to 10	3.67	1.175	15
	From 11 to 20	4.08	.669	12
	From 21 to 30	3.57	1.076	21
	From 31 to 40	3.00	.000	3
	Over 40 years	3.45	1.036	11
	Total	3.65	1.010	62
Total	Up to 5	3.86	.900	7
	From 6 to 10	3.35	1.301	23
	From 11 to 20	3.72	.729	32
	From 21 to 30	3.44	1.259	43
	From 31 to 40 years	3.40	.548	5
	Over 40 years	3.54	1.174	26
	Total	3.53	1.102	136

Source: Ibidem, p. 205

Graph 1 shows the mean values of ratings regarding the extent to which an organization is a high performance organization. It is evident that those organizations that have operated on the regional market for over 40 years have been marked as high performance organizations.



Graph 1 Mean values of the ratings of the extent to which an organization is a high performance organization
Source: Ibidem, p. 206

The influence of the duration of operation and the level of operation on the rating of the extent to which an organization is a high performance organization is given in Table 5. In the column Operation level/Operation duration Sig=0.000 which is less than 0.05, so it can be deduced that there are significant differences in the ratings of the extent to which an organization is a high performance organization. The influence of the interaction between the level and duration of operation is statistically significant.

After analyzing the common influence, there followed an analysis of individual influences. In the operation level column, Sig is 0.001, which is less than 0.05, so it can be deduced that the level of the organization's operation has a strong influence on the rating of the extent to which an organization is a high performance organization. In the operation duration column, Sig is 0.112, which is higher than 0.05, so it can be ascertained that the duration of operation does not significantly influence the difference in ratings. Based on this, we can conclude that the operation level and operation duration significantly affect the differences in the ratings of the extent to which an organization is a high performance

organization viewed through the common influence of operation level and operation duration, but the individual influence is significant only in terms of the level of operation.

Table 5 Influence of the interaction of the variables Operation level and Operation duration on the rating of the extent to which an organization is a high performance organization

Variables	Df	Mean Square	F	Sig.
Operation level	3	4.802	5.842	.001
Operation duration	5	1.507	1.834	.112
Operation level/Operation duration	10	4.432	5.391	.000

Source: Ibidem, p. 207

It can be noticed that the individual influence of operation level stands out. A subsequent Tukey test reveals which organizations in terms of operation level particularly differ in ratings. Table 6 shows that the quantifying ratings of the extent to which an organization is a high performance organization significantly differ among organizations that operate on the local and regional market, national and regional market, national and international market.

Table 6 Comparative analysis of organizations with different levels of operation in terms of the extent to which an organization is an HPO

(I) Operation level of an organization	(J) Operation level of an organization	Mean value of the difference (I-J)	Standard error	Error significance (Sig)	95% Confidence interval	
					Lower threshold	Upper threshold
Local market	National market	.06	.269	.996	-.64	.76
	Regional market	-.91(*)	.290	.011	-1.67	-.15
	International market	-.47	.248	.239	-1.12	.18
National market	Local market	-.06	.269	.996	-.76	.64
	Regional market	-.97(*)	.245	.001	-1.61	-.33
	International market	-.53(*)	.193	.037	-1.03	-.02
Regional market	Local market	.91(*)	.290	.011	.15	1.67
	National market	.97(*)	.245	.001	.33	1.61
	International market	.44	.221	.195	-.14	1.02
International market	Local market	.47	.248	.239	-.18	1.12
	National market	.53(*)	.193	.037	.02	1.03
	Regional market	-.44	.221	.195	-1.02	.14

Source: Ibidem, p. 208

4. Results and Discussion

The purpose of the empirical research was to present a realistic image of the application of the HPO operation concept in the contemporary economic environment of Serbia. For this purpose, in the interaction of characteristics of the systemic model the key conditions of transforming an organization operating in Serbia into a high performance organization have been evaluated and the premise has been confirmed. Based on the research results, it can be concluded that qualitative operation with regard to the competition, teamwork, the chance

for an organization to become an HPO, and the level to which the leadership of an organization is consistent and clear are the key characteristics and they were also the top rated performances. The results of the research also show that some conditions and criteria are not seen as dominant among domestic organizations and they were not rated as relevant to the increase of business performance. Attributes that received the lowest marks were the level to which the organization's employees share the responsibility both for the success and for the failure of the organization, the organization's allocation of funds for employee education and training, the level of development of the organization's marketing sector, sources of creativity and new ideas coming from the outside of the organization, and the level of the consultants' engagement within the organization.

A conclusion that especially stands out is that the greatest number of respondents said they were not sure whether there are high performance organizations in Serbia, as well as that the creation and sustainability of HPOs depends on the successfulness of their management in facing the challenges of constant changes in a complex environment which possesses a high level of uncertainty and risk. Achieving a high performance organization represents a conditioned process of development. The successful design of a high performance organization demands the fulfillment of different demands by the management. The primary demands are, first of all, the securing of a leadership that is capable of achieving high performances, the establishment of strong connections between the organization and its environment, the adoption of an approach based on the network model in the realization of operation, and the integration of components such as information, knowledge, power, and rewards, which are necessary for the successful operation of such an organization.

The management was identified as a powerful process of achieving high performances since it offers customer satisfaction at a level different than their target value. The research results show the importance of the role of the leader/manager in the sense that 48% of the respondents stated that an organization would be managed more successfully by the employees who are not among the top management. In that sense, the research results reveal the need for employee education and development in the areas of new managerial technologies as the basis of the concept of business excellence. It is obvious that excellent organizations place the top employees on the jobs with the greatest chance of success, not on the jobs with the greatest problems. By engaging the right people, the problem of motivation and management becomes smaller. Thus, employee management is a suggestion for further improvement in this area.

The research results show that the extent to which an organization is a high performance organization has received the highest rating in the organizations that operate on a regional market, and among them the highest rated are those that have been operating for over 40 years. Also, there are significant differences in the ratings of the extent to which an organization is a high performance organization. It can be concluded that the level of operation and the duration of operation are important factors when it comes to the differences in the ratings of the extent to which an organization is a high performance organization as seen through the common influence of the level of operation and the duration of operation, and the individual influence is significant only for the level of operation. By applying the Tukey test, it can be determined that the ratings of the extent to which an organization is a high performance organization are especially different for organizations that operate on a local and regional market, national and regional market, and national and international market.

The obstacles to achieving high performances and to implementing the leadership concept of operation are a lack of financial capital, outdated equipment and technology, and a lack of resources.

The research has shown that the systemic concept of operation has a future in Serbia. Expressed in percentile rank, the chances (4.06) for Serbian companies to achieve total excellence and high performance results are increasing. In the national model of a high performance organization, leadership represented at all levels of the organization is required, and here every employee must personally contribute to leadership functions if an organization wants to produce results. Based on the respondents' opinion, the leadership is responsible for the success and high performances of excellent Serbian organizations, and they do not rank technology (3.96) among the top five factors of success even in this time of rapid technological change.

The relation between an improved management and increased performances of organizations operating in Serbia exists, and it is stronger than linear. The quality of the organization often cannot be and is not better than the quality of the leader who is at its front. Finally, the answer to the question of what high performances are should be organization-specific. Even better so, for each organization is specific and it has a unique business policy, so logically its high performances are specific. What is important is to recognize whether a domestic organization has reached high performances, since excellent performances do not tolerate compromise.

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KOLIKO SU VISOKE PERFORMANSE ORGANIZACIJA KOJE POSLUJU U SRBIJI?

U uslovima sve snažnije konkurencije na tržištu, organizacije svoju održivost mogu osigurati pre svega implementacijom sistemskog koncepta poslovanja u kome je menadžment prepoznat kao moćni proces za postizanje visokih organizacionih performansi. U pitanju je koncept koji omogućava zadovoljavanje potreba kupaca na nivou drugačijem nego što je njihova ciljna vrednost. U tom smislu organizacije moraju biti struktuirane na način da ispunjavaju određene uslove i kriterijume zahvaljujući kojima se kreiraju održivo visoke performanse, što je ujedno i cilj ovog istraživanja. Takve performanse nastaju kao rezultat unapređenja upravljanja u okviru ključnih oblasti poslovanja - kvaliteta proizvoda i usluga, troškova proizvodnje, brzine dostavljanja tržištu i inovacija i razvoja takvih proizvoda i usluga. Uspeh u takvim organizacijama u velikoj meri zavisi od sposobnosti menadžera da razviju i zadrže talentovanu radnu snagu, što je bitan faktor u razvoju visokih performansi. Ovladavanjem promenama, kvalitetnim upravljanjem i kontrolisanjem budućnosti, stvaraju se pretpostavke za postizanje poslovne izvrsnosti i ostvarivanje rezultata visokih performansi. U cilju potvrđivanja polazne hipoteze korišćeni su metod analize, metod sinteze i metod višestrukog upoređivanja i statističkog testa.

Ključne reči: *Menadžment, organizacija, performanse, OVP model.*

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