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Editorial Office and Administration
Dobrinjska 11/1

Bulevar Mihajla Pupina 147

11000 Belgrade, Serbia

Phone: 011/264-49-80; 361-34-09

Fax: 011/362-96-89

Account No: 205-14935-97 Komercijalna

banka

Web: www.ses.org.rs

E-mail: office@ses.org.rs

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Angelina Milovanović

Prepress

Branko Cvetić

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his edition of *Ekonomika preduzeća* gathers the papers dedicated to the research on the project "Strategic and tactical measures to overcome real sector competitiveness crisis in Serbia" financed by Ministry of Education, Science and Technologic Development. The real sector in Serbia is a victim of a long-standing economic crisis which is structural by its nature.

We have pointed out many times before that the reindustrialization is the cornerstone of anti-crisis program and the road map for coordinated response to the crisis. It requires several things. Step zero assumes fiscal consolidation and building an adequate institutional environment that fosters economic activity flourishing. Additionally, sustainable future requires a clear vision of priority sectors on which economic development will rely. Finally, this work cannot be done by the force of invisible hand of the market alone. Crisis requires a manful hand of the state that should have a leading role in this process. All papers in this edition are dedicated to particular sectors or they analyze performances of the real sector and necessary changes in the overall institutional environment as a precondition for successful reindustrialization.

Section *Finance* consists of two papers. In the first paper *D. Malinić* and *V. Milićević* reveal the implications of macroeconomic fundamentals movements and economic policy measures for the performance of companies and the overall economy so far. The authors state that policy measures have not hit the goal of creating stable and attractive business environment. They also quantified the negative effects of exchange rate policy, in terms of financial expenses, on the performance and growth of Serbian economy. The following paper by *M. Todorović* further explores undermined liquidity position of the real sector. He points to the missed opportunities in terms of benefiting from management of working capital and cash conversion cycles as a manner of reducing the reliance on expensive external funding. Accordingly, he suggests supply chain financing program that joins together dominant as well as small-size players, financial sector as well as the state.

In the section *Tax and law*, *J. Perović* and *M. Đorđević* present their analysis of legal regimes concerning negotiations in comparative law from the perspective of legally safe international business transactions. The authors state that the differences in rules on negotiations in various legal systems may jeopardize legal certainty in these transactions as they may lead to unexpected outcomes in terms of overall cost calculation and liability, in particular in case of failed negotiations.

The first paper in the section *Transition and restructuring* written by *S. Janošević* and *V. Džepoljac* refers to the significance of innovation in the process of creating competitive advantage by companies operating in a knowledge-based economy. In the context of structural crisis, as is the case in Serbia, innovations are seen as the drivers of positive structural change. The second paper by *V. Ivanić* and *B. Paunović* deals with particularly interesting topic of the impact of power distance and uncertainty avoidance on competitiveness. For the purpose of their research they observed the performance of medium-sized companies in AP Vojvodina. In the following paper, *D. Lončar*, *S. Milošević* and *V. Rajić* explore competitive forces in the ice market in Serbia. The authors present the calculation of various indicators of market concentration, possible entry barriers, and market saturation. They demonstrate that the ice cream market in Serbia is a clear example of the fact that high level of market concentration is not necessarily accompanied by setting high entry barriers or hindering competition in any other way. *Ž. Stojanović*, *I. Popović-Petrović* and *K. Radosavljević* analyze the role and effectiveness of economic policies in the EU concerning the agriculture sector competitiveness. They explain the main concepts and terminology used in this area and provide an overview of the national level indicators, which may serve as a valuable experience for Serbia in the near future. In the last paper, *Đ. Kaličanin* and *V. Kuč* present possible effects of a prudent and well planned industrial policy in the gas sector in Serbia. Driven by similar experiences in the past, the authors assess a potential contribution of the South Stream, not only to the energy stability, but also to the growth and development of Serbian economy.



SUMMARY OF ACTIVITIES 2013

During the last year the Serbian Association of Corporate Directors actively participated in the preparation and implementation of the Program of Education and Training which consisted of the general training in economics and specialized training in different areas of corporate governance.

The general training included the conferences organized by the Serbian Association of Economists – the Kopaonik Business Forum and SEE Management Forum, where the members of the Association had the opportunity to take an active part in the panels on corporate governance.

- The 20th anniversary Kopaonik Business Forum (KBF), held on March 12-15 under the theme “Reindustrialization and Related Issues” and organized by the Serbian Association of Economists and the Serbian Association of Corporate Directors, was marked by constructive cooperation and lively debate between business practitioners and government representatives, with the aim of establishing a sustainable model of economic development in Serbia based on new reindustrialization initiatives. Business people expressed the hope that the government would create a positive and predictable business environment and support the development of sectors with competitive advantage and export growth potential. This could be achieved only by investing in infrastructure and building up an effective legal framework for doing business. The highest state officials urged the business community to take a proactive role in the process of shaping more favorable regulatory framework, especially in the preparation of the Law on Planning and Construction and the Labor Law, which have been perceived as major legal barriers to business activity.

Foreign investors and the representatives of the World Bank and the International Monetary Fund once again stressed the importance of more efficient public governance and the need to cut government spending and initiate structural reforms in the public sector. The Governor of the National Bank of Serbia also endorsed the corporatization of state-owned enterprises,

emphasizing that enhanced competitiveness, long-term macroeconomic stability and strong currency could be achieved only through a closer cooperation between the government and the NBS, and coordination between monetary and fiscal policies. The analysis of the public sector inefficiency burdening Serbian economy presented at the panel devoted to macroeconomic stability was particularly indicative. Annual turnover of the public sector characterized by high losses was compared to positive turnover of the private sector. Net positive effect does not suffice to alleviate the level of losses or to cover social transfers. In other words, in the absence of the public sector reform, the total amount of collected taxes and contributions to the budget paid by a healthy part of the economy is insufficient to ensure a normal functioning of the state, which inevitably leads to further borrowing as a way to cover the budget deficit.

The panelists also discussed the wider context of European integration, which apart from political issues encompasses a number of reforms, especially in the country’s judiciary. The representatives of the business sector pointed out that the functioning of judicial system impacts the cost of capital, given that inefficient enforcement of contractual obligations results in higher costs of doing business. The issues such as specific policies, the role of financial institutions, regional development, and the challenges of contemporary corporate management attracted a considerable interest of the public.

Kopaonik Business Forum engendered a strong spirit of cooperation and understanding of the necessity for joint action towards overcoming serious economic problems. Attended by 550 participants and 89 panelists, the Forum once again proved to be an important gathering of the representatives of government, companies, international organizations and academia, aimed at clarifying the country’s economic priorities. It was traditionally held under the auspices of the Prime Minister of the Republic of Serbia. The National News Agency Tanjug was a media partner of the 20th KBF.



- The 2013 SEE Management Forum and the 11th Conference of the European Leadership Centre held under the theme „The European Financial and Competitiveness Crisis: Can Business Leadership Find the Way Out?“ once again confirmed its reputation and provided respected speakers and more than 120 managers from the region and beyond (altogether 20 countries were represented) with the opportunity to share their views on burning economic issues. The conference lived up to the organizers' expectations and managed to motivate the participants to propose their solutions to the challenges posed by financial and competitiveness crises. The conclusion of this fruitful discussion may be summarized as follows: “overcoming the financial crisis in SEE region requires new mindsets”.

Nowadays many business leaders blame their government for thwarting significant change initiatives for reforms, growth and reindustrialization. On the other hand, the main challenge for business leaders is simply: Are we going to patch up our problems or are we going to dare to reinvent our strategy, business model and ourselves in such a way that will enable us to move forward and create new and better ways to live our collective lives? Each crisis is the time of destruction, but also the time of great opportunity that we cannot afford to miss. Innovation as a manifestation of leadership is of crucial importance in this regard. Participants agreed that innovation should become the keyword in European politics (new approach to leading and managing our society), business (new practices of handling economic resources), and social organizations (new forms of entrepreneurship). Sustainable growth encouraged by morality and ethics was at the heart of the 2013 debates.

The first day of the Forum was devoted to a growing role of leadership in the context of economic recession. The second day the participants addressed the issues such as the revitalization of mature businesses, measures to stimulate economic growth, sustainable development and ethics. The atmosphere was marked by calls for regional cooperation, which has always been the guiding idea and leitmotif of this event, as well as a hope that the three countries that participated in its organization, after the accession of Serbia to the EU, will again make a single market.

SEE Management Forum was organized by the Serbian Association of Economists, the Croatian Association of Economists and IEDC – Bled School of Management.

The Association organized specialized seminars within the Center for Corporate Governance and in cooperation with renowned international companies which are operating in Serbian market.

- On April 22 the Serbian Private Equity Association, the Serbian Business Angels Network and the Integrated Innovation Support Programme in cooperation with the Serbian Association of Economists, the Serbian Association of Corporate Directors and the Serbian Business Club “Privrednik” organized the presentation of a new concept of “angel” investing. The concept was presented by the experts that have successfully managed business angel networks in Serbia and abroad, and investors that have already been involved in angel investment projects: Chad Raube, Founding Member and Co-Chair of the Harvard Business Angel Network in London, Paulo Andrez, President of the European Business Angel Network and Aleksandar Cabrilo, Co-Founder and President of the Serbian Business Angels Network.
- On April 16 the Faculty of Economics, Finance and Administration (FEFA), the Serbian Association of Corporate Directors (SACD) and the National Alliance for Local Economic Development (NALED), with the support of the Konrad Adenauer Foundation, organized a panel discussion on the topic “Introduction of Corporate Governance in Public Companies”. Guest speakers included Dr. Katarina Djulic, Professor of Corporate Governance at FEFA, Dusko Vasiljevic, Private Sector Development Specialist at the World Bank's, Toplica Spasojevic, President of SACD and Vice-President of NALED, Zeljko Ivanji, Strategy Director at PTT, Zivorad Andjelkovic, Deputy Mayor of Belgrade and Dragan Pusara, Managing Director at Belgrade Wholesale Market.
- On October 8 the Serbian Chamber of Commerce and the Serbian Association of Corporate Directors in cooperation with the Ministry of Economy organized the conference “Improving Corporate Governance” in order to review the current practice of corporate governance, as well as to consider the need and possibilities to develop a sustainable program aimed at improving corporate governance in the public sector based on the experience of private companies. Corporate governance enables the companies to operate more efficiently, be socially responsible, gain better access to the sources of finance and achieve long-term and sustainable development, taking into account the interests of their stakeholders. Sasa Radulovic, the Minister of Economy, took part in the discussion.



- Presentation of a draft version of the Reindustrialization Strategy of Serbia was held on October 9 at the Solemn Hall of the Serbian Academy of Sciences and Arts. The presentation was a meeting place for more than 250 economists, business people, politicians, government representatives, media and other related people. The reform proposals that were discussed are the intellectual creation of the task force for reindustrialization within the Council for Economic Recovery of the Government of Republic of Serbia. The guiding principle is that the reintroduction of industrial economy is a prerequisite for structural changes and sustainable development. The very essence of this concept lies in the elimination of output gap along with financial consolidation and industrial development based on new technological platforms. The implementation of the Strategy requires a more complex economic policy platform that would create a new level playing field for the handshake between the visible hand of government (industrial policies in priority sectors and automatic stabilizers in core policies) and the invisible hand of market, acting as selection environment for all participants. The Reindustrialization Strategy puts a special focus on the role of science in opening the space for active involvement of the technocratic elite in economic development, which has been completely off the radar of the policy makers in the previous period.
- Seminar on corporate governance “Risk Management and the Board of Directors” was held on October 23. The lecturers were professors of the Faculty of Economics, Prof. Dragan Djuricin and Dr. Dragan Loncar. The topics of the discussion were the latest achievements in risk management (types of risk, division of responsibilities between Chief Risk Officer and the Board Risk Committee, impact of enterprise risk management on credit rating) and analytical aspects of risk management (risk management models and measures, as well as strategies for dealing with business risks). The lecture was followed by a constructive debate and exchange of views about this important issue.
- On November 6 the Association organized a seminar on the subject “Reform of Financial Reporting System”. The lecturers were prominent professors of the Faculty of Economics, Prof. Nikola Stevanovic and Prof. Dejan Malinic. The presentations

covered the issues such as challenges faced by financial reporting system, current trends in the use of financial statements and their predictive role. After the lecture, attendees had the opportunity to ask questions and discuss this topic.

- The Serbian Association of Corporate Directors and LeitnerLeitner hosted the workshop “Transfer Pricing: New Challenges for the Management” on November 19. Specialists in the field of transfer pricing, Dr. Clemens Nowotny, Partner at LeitnerLeitner and Ivana Blagojevic, Tax Advisor, gave the presentations on the practical impact of the Serbian transfer pricing legislation on business operations. The workshop was focused on topics such as overview of the new Serbian transfer pricing rules, mayor impacts on structuring cross border transactions, how to choose the right transfer pricing method and prepare documentation, risk management in the area of transfer pricing, i.e. steps to be taken by the end of the year and penalties for non-compliance with transfer pricing rules.

The Annual General Assembly of the Serbian Association of Corporate Directors was held on December 18. The guest of honor at this year’s Assembly was Sasa Radulovic, Minister of Economy. Apart from organizing seminars in general economics and specific disciplines of corporate governance for its members, in the following period the Association will be highly dedicated to the admission of new members and candidates, network building, exchange of views with the government representatives, cooperation with the companies from the region, and other associations. After the Annual General Assembly, at the traditional cocktail party the members and candidates who complied with the Rules on Acquiring and Renewing the Status of a Corporate Director were obtained the Certificate of Corporate Director.

As in the previous years, the SAE Prize Awarding Ceremony was convened in the presence of members and candidates of the Association, members of the Presidency of the Serbian Association of Economists and distinguished guests. This year, the Prize for Outstanding Contribution in the Field of Economic Theory and Policy was awarded to Prof. Pavle Petrovic, while the Prize for Outstanding Contribution in the Field of Business Economics and Management was awarded to Prof. Momcilo Milisavljevic.



Dejan Malinić
University of Belgrade
Faculty of Economics
Department of Accounting and
Business Finance

Vlade Milićević
University of Belgrade
Faculty of Economics
Department of Accounting and
Business Finance

EFFECTS OF CHANGES IN FOREIGN EXCHANGE RATES ON PERFORMANCE IN SERBIA'S ECONOMY*

Efekti promene kursa na performanse srpske privrede

Abstract

The situation in Serbian economy is quite complex. Business environment is unfavorable, while measures of economic policy do not have good results. Macroeconomic fundamentals, such as inflation, unemployment rate, foreign exchange rate, interest rates, growth rates and so on, do not contribute to stable and safe business conditions. Besides, there are numerous internal weaknesses of companies that emerge from their inability to reach a satisfactory volume of activities, technical and technological backwardness, low competitiveness, unfavorable cost structure, unsatisfactory quality of corporate governance, etc. In such circumstances, we talk more often about losses and illiquidity of Serbian economy than about growth and shareholder returns.

In this paper, we make efforts to shed some light, at least in one segment, on the implications of macroeconomic fundamentals movements and economic policy measures for the performance of companies and the economy. In this respect, we first emphasize the importance of responsibility in the process of running macroeconomic policies and creating a stable business environment. Then we attempt to quantify the effects of RSD exchange rate policy, in terms of financial expenses movements, on the performance and growth of the national economy. Finally, we point to the potential risks of high financial expenses.

Key words: *competitiveness, foreign exchange rate, financial expenses, economy, performance, profitability, leverage, growth*

Sažetak

Situacija u srpskoj privredi je prilično kompleksna. Poslovni ambijent je nestimulativan, dok mere ekonomske politike ne daju dobre rezultate. Makroekonomski fundamenti, kao što su inflacija, stopa nezaposlenosti, devizni kurs, kamatne stope, stope rasta i sl. nisu u funkciji obezbeđenja stabilnih i sigurnih uslova poslovanja. Naravno, i u internoj zoni preduzeća postoje brojne slabosti vezane za nemogućnost dostizanja dovoljno visokog obima aktivnosti, tehničko-tehnološko zaostajanje, nisku konkurentnost, nepovoljnu strukturu troškova, nezadovoljavajući nivo kvaliteta korporativnog upravljanja i sl. U ovakvim okolnostima u srpskoj privredi se češće govori o gubicima i nelikvidnosti, nego o rastu i prinosima za vlasnike.

U ovom radu činimo napore da barem u jednom segmentu osvetlimo implikacije kretanja makroekonomskih fundamenata i mera ekonomske politike na performanse preduzeća i privrede. U tom smislu prvo nastojimo da potenciramo značaj odgovornosti u procesu vođenja makroekonomske politike i stvaranja stabilnog poslovnog ambijenta. Nakon toga, činimo napore da kvantificiramo efekte politike kursa dinara, preko kretanja finansijskih rashoda, na performanse i rast nacionalne ekonomije. Na kraju ukazujemo i na moguće rizike koje visoki finansijski rashodi donose.

Ključne reči: *konkurentnost, devizni kurs, finansijski rashodi, privreda, performanse, profitabilnost, leveridž, rast*

* This paper is part of the research on the project financed by the Ministry of Education, Science and Technological Development entitled "Strategic and tactical measures to overcome real sector competitiveness crisis in Serbia" (no. 179050, period 2011-2014).

Introduction

Economic situation in Serbia is extremely deteriorating. A large number of companies are loss makers. More than one-third, or precisely 34.2% of total number of companies reported losses in 2012, while the net income totaled zero in 7.9% companies. Cumulative losses reached the share of 44.8% in total equity, with 41.4 % of companies reporting in their balance sheets loss up to the value of equity, and 27.4 % loss above the value of equity. At the end of 2012, a total of 4,719 companies were faced with bankruptcy [14]. Many companies whose financial statements show that they generate income achieve low rates of return, and it is often the case that return on equity is lower than return on assets. There are a number of reasons that explain this situation: pronounced structural imbalance, adverse transitional heritage, low quality of corporate governance, unfavorable economic environment, technical and technological backwardness, adverse effects of the crisis and inherent decline in the volume of activities, exchange rate policy, high level of indebtedness, uncompetitive pricing, etc.

There is almost a general consensus in academic and professional communities that creating a favorable business environment is the key prerequisite for enabling the efficient functioning of private and state sectors. In this respect, it is very important to ensure price stability, exchange rate stability (this does not necessarily mean opting for a fixed exchange rate), legal certainty, including stability of regulations, systemic risk reduction and capital market development. Of course, it is not difficult to identify the elements that need to be improved in order to create a favorable business environment. Reality confirms that all of the above-mentioned elements are actually the areas in which the satisfactory results have not been achieved. In the last 12 years, consumer price index had a very high average of slightly over 12% per year, RSD exchange rate was increasing at somewhat slower pace of 6% in the same period, regulations, including systemic laws, were often subject to changes, while the capital market was almost nonexistent, especially in terms of activities related to issue of securities.

The relationship between macroeconomic stability and economic performance is indisputable. However,

apart from theoretical debates on the factors determining macroeconomic stability, there is no serious empirical research about the scope and manifestation of the effects that an unfavorable business environment has on companies' performance. This is one of the reasons why it is necessary to direct efforts toward quantifying the effects of foreign exchange rate and currency clauses on financial expenses and performance of companies and the economy as a whole. Therefore, our analysis will be based on data reported in summary financial statements for the overall economy as well as for the ten most important sectors.

Exchange rate, inflation and returns

Exchange rate regime is often seen in the literature as a crucial determinant of behavior in a market economy [2, p. 269]. In this paper, we do not intend to deal with the theoretical considerations regarding exchange rate policy, impact of exchange rate on macroeconomic stability, existing dilemmas over the choice between fixed and floating exchange rate regimes, implications of fixed and floating exchange rates for the disruptions in money supply or real demand. It seems that economic policy makers, which are frequently faced with dilemma whether to opt for fixed and floating exchange rate, perceive this issue as a choice between two extremes. Moreover, an uncritical reliance on the experience of other countries might create serious problems in the functioning of the national economy.

The fact is that both regimes of exchange rate may bring some benefits, but that, on the other hand, both may have some disadvantages as well. Thus, for example, with floating exchange rate the monetary authority reserves the right to keep on running independent monetary policy, but the economy will be vulnerable to exogenous disturbances in demand and innovations in the field of financial transactions which calls for more restrictive exchange rate regime, while opting for fixed exchange rate provides a greater protection from prospective disturbances in domestic and global financial markets, but it cannot neutralize the effects of financial crisis [2, pp. 269-270].

More or less convincing theoretical arguments in favor of certain exchange rate regime and economic policy are almost always given without analyzing the effects of

selected measures on economic performance and the costs of making bad choices. The importance of responsibility has never been seriously considered. Endless debates about exchange rate and other macroeconomic issues that directly, through effects on the performance of the economy, or indirectly, by creating favorable or unfavorable business conditions, encourage or discourage investors and stimulate the growth of the national economy, have left aside the consequences that the national economy may suffer. Although the problems related to this area are manifold, their essence can be summarized as follows: well-conceived macroeconomic measures contribute to the growth of the national economy under normal circumstances, but, if that is not the case, performance might turn out to be dramatically unsatisfactory. Inflation, key policy rate, cost of capital, money supply, budget deficit, indebtedness, growth rate, etc., should not be seen as isolated macroeconomic fundamentals which the analysts use in order to prove the legitimacy of certain views. The key question is how good or bad choices affect the national economy.

Having the above-mentioned facts in mind, in this paper we deal with the consequences of the choices made in the area of macroeconomic policy measures. In this regard, our aspirations are directed exclusively toward analyzing the effects of RSD exchange rate movements on the level of financial expenses and, consequently, on the performances of the main sectors and the economy as a whole. In addition, we will try to identify potential risks associated with these movements.

Of course, exchange rate change is not an independent phenomenon. There is a well-known relationship between inflation, exchange rate, interest rates and returns. Interest rates have very serious implications for the functioning of the economy and its ultimate performance. On the one hand, interest rates will stimulate (lower interest rates) or discourage (higher interest rates) investment activities of companies. Also, dramatic changes in interest rates, i.e. their pronounced volatility will increase credit risk, which will consequently lead to their further rise. On the other hand, higher financial expenses will, to a greater or lesser extent, cause a fall in the companies' operating incomes. This does not necessarily imply that borrowing

has negative consequences, for at least two reasons. First, financial expenses are treated as a deduction in the income statement, which reduces the tax base and, by means of tax savings, lowers the cost of debt. Second, borrowing is acceptable as long as returns on assets are exceeding financial expenses rates, as it then results in higher shareholder returns. Therefore, it is logical that the performance of financial institutions will also depend on interest rates changes.

The situation becomes even more complex if we include in the analysis the changes in foreign exchange rate, which represents the price of one country's currency expressed in another country's currency. It is indisputable that exchange rate policy affects economic trends. Appreciation of the national currency is not favorable to export because it leads to an increase in the prices of exported products, thereby reducing their competitiveness and demand. Weaker domestic currency, by contrast, tends to make imports more expensive, but it is of benefit to domestic producers who become more competitive. However, foreign exchange rate fluctuations will also impact on interest rates and total financial expenses of companies. Namely, in the conditions of foreign exchange rate fluctuations and especially when it shows a greater volatility, exchange rate risk increases so that financial institutions and holders of debt securities seek to protect themselves from such a risk. These efforts lead to the introduction of currency clauses, which increase total financial expenses at the time when the national currency depreciates. Also, borrowing in a foreign currency implies the emergence of mostly negative exchange differences that further increase financial expenses each time the value of RSD declines. Of course, looked from the perspective of companies' performance, the outcomes are falling net incomes and greater exposure to the risks of liquidity, solvency and bankruptcy.

In addition to the aforementioned, it should be pointed out that it is not possible to completely grasp the relationships between interest rates, foreign exchange rate, securities prices and rates of return in the economy if the analysis does not take into account inflation. Inflation, as a general rise in prices, undoubtedly affects interest rates movements. It is evident that higher inflation causes

an increase in interest rates simply because creditors or buyers of corporate bonds tend to achieve real returns. This suggests that, apart from the nominal interest rate, we should also consider the real interest rate, which represents the difference between the nominal interest rate and the rate of inflation (changes in price levels). Therefore, when real interest rates are lower, companies are more inclined to continue with borrowing, but at the same time capital providers are less motivated to lend [11, p. 58]. Also, it is also well-known fact that when the current inflation is rising, interest rates will rise due to the effects of the current inflation as well as the expected inflation.

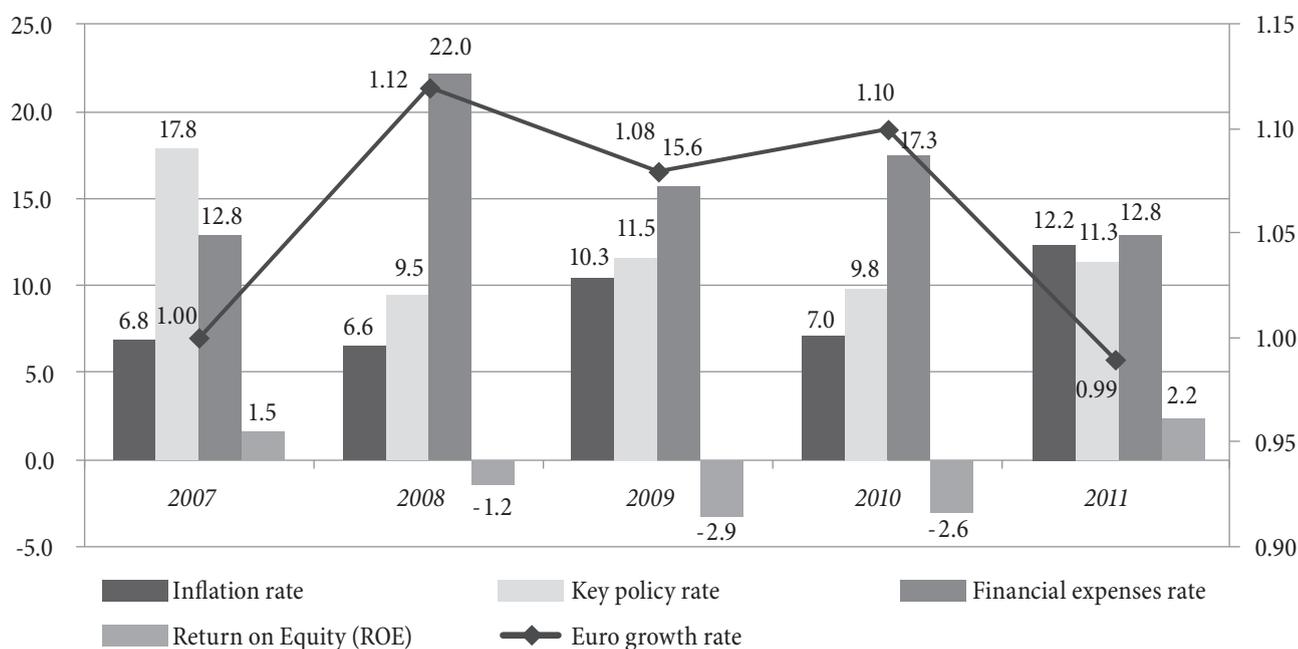
What is happening with returns? In an initial stage, it is possible to maintain stable incomes by increasing prices and thereby transferring the burden of higher costs to the customers. Return on equity will then follow the increase in inflation and interest rates, which may result in maintaining stability of share prices. Under a less favorable scenario, revenues continue to grow, but that growth is not sufficient to compensate for the growth of financial costs. The returns of companies decline because they can no longer increase prices to the extent to which costs are rising. Shareholders still expect that their real returns will exceed creditors' returns, which is impossible given that the reported incomes are not sufficient enough to provide for a dividend increase. In this situation, the companies'

returns are declining as well as their share prices. The worst scenario occurs when there is a simultaneous increase in interest rates and prices of inputs, which means that companies are not able to increase revenues due to the lack of price competitiveness. In such circumstances profit margins are falling and, given that companies are burdened with financial expenses, this leads to a significant decline in net incomes and often a sharp fall in share prices [13, pp. 419-422].

The situation in Serbia roughly corresponds to the aforementioned conditions. In order to provide a better insight into the movements of the analyzed variables, on the left axis of the mixed graph we will present the trends in inflation rate, key policy rate, financial expenses rate and return on equity, while we will be able to track RSD exchange rate movements on the right axis. These movements are displayed in Figure 1.

The relationship between the analyzed macroeconomic variables and the returns achieved in the economy is perfectly obvious. In this respect, we would like to emphasize a few points. Inflation is an important determinant of interest rates, which is visible from the fact that almost every year (except in 2011) the key policy rate was higher than the inflation rate. Financial expenses rate was significantly above the key policy rate, which points to a high level of protection of banks against different types of risks and high

Figure 1: Inflation, key policy rate, financial expenses, exchange rate and returns



margin. Let us remind that in the same period the policy rates set by the European Central Bank were incomparably lower. The policy rate reached the highest level during 2008, amounting to 4.25%, while it dropped to 1% in 2011 and continued to drop in 2012 to 0.75%. Apart from the level of financial expenses as an important determinant of risk, a volatility of financial expenses is also a signal of high level of risk. In that sense, there is an evident correlation between the foreign exchange rate movements and level of financial expenses. Namely, financial expenses were the lowest when RSD exchange rate was stable, as is the case in 2007 and 2011. Finally, return on equity (ROE), as an important measure of shareholders' returns, reveals a deeply worrying situation in the Serbian economy. This rate of return was negative in three of five years encompassed by the analysis. Of course, there are many causes of this state, but it is very indicative to notice that only two years in which ROE was positive were exactly the years in which the exchange rate was stable and financial expenses were the lowest. In the next parts we will try to provide further clarification of the impact of exchange rate movements on the level of financial expenses and economic performance.

Analysis of income indicators and income structure in the economy

In the circumstances when virtually all the world's economies are facing the numerous consequences of the Great Recession, a new challenge for analysts is to assess to what extent the achieved performances of certain economies were affected by the crisis and to what extent they were influenced by other factors, such as structural disorders, adequate economic policy, competitiveness, operating efficiency, backwardness in technical and technological development, etc. By accepting this challenge in the following sections we will try to explain the movements

of the most important performance indicators of Serbian economy in the period 2006-2011. Even a cursory look at the figures reported for this period is sufficient to see that Serbian economy finally managed to achieve positive net income in 2011. Bearing in mind that the economy in the previous three years (i.e. from 2008 to 2010) experienced huge losses, the question arises as to whether 2011 may be perceived as a visible sign of recovery after many years of crisis. To answer this very important question, one has first to examine the extent to which the values of income indicators in 2011 resulted from actual increase in the efficiency of Serbian economy and to what extent they came as a consequence of the impact of some factors that are beyond control of economic entities.

In order to identify the real causes of positive income after three-year period of reported losses, we should first examine the structure of incomes. Thus, at the very beginning of this paper we will take a look at earning potential of the economy by analyzing values of operating income, financial revenues, net income, Earnings Before Interest and Tax (EBIT) and Earnings Before Interest, Tax and Amortization (EBITDA). It is important to note that the first three concepts are incorporated in financial statements, while the last two financial metrics are derived concepts of income, i.e. they are not recognized under International Financial Reporting Standards. We would also like to add that for a moment we have decided to leave out other indicators of net income (loss) primarily because they have a transient character and therefore do not make a good basis for the evaluation of actual profitability. Values of the most important income indicators are shown in Table 1.

Let us start by analyzing the performance that the economy achieves in the most important domain, i.e. operating activities or core business. It is best reflected in achieved operating income. As we can see the economy showed positive performance in this segment in all analyzed

Table 1: Income indicators and income structure in Serbian economy (in 000 RSD)

Income (loss) concepts	2006	2007	2008	2009	2010	2011
Operating income	111,222	162,852	193,461	187,737	282,503	296,502
Net financial revenues (expenses)	19,057	(44,126)	(232,427)	(220,384)	(286,464)	(141,235)
Net income (loss) after taxes	105,394	49,867	(43,507)	(102,204)	(89,698)	84,838
EBIT	450,725	476,906	674,520	568,591	672,693	799,064
EBITDA	277,930	241,222	412,611	295,959	404,459	498,353

years. In this context it should be noted that, with the exception of 2009 when a slight decline was recorded, Serbian economy was constantly achieving income growth in the core business. Operating revenues showed a similar trend. However, despite these optimistic signs, we could not help but notice that the operating income margins were very modest, given that they did not exceed 5% in any year. Moreover, another even more unpleasant surprise is that the increase in operating revenues in the last year relative to the previous year was not followed by more rapid growth in operating income, which would be logical in such conditions considering the degression of fixed costs. Instead, the increase in operating revenues of almost 12% was accompanied by an increase in operating income accounting for only 5%. On the basis of the previous observations, it is apparent that we could speak of the decline rather than the growth of the efficiency of our economy over the analyzed period.

If we now refocus our attention to net income, we can see from the presented results of the analysis that in the middle of the period, i.e. from 2008 to 2010, the economy recorded very high net losses. In this regard, 2008 seems particularly indicative since in that year our economy, hit by the first waves of the crisis, recorded net loss of almost a twice as much as net income achieved at the end of 2007. Over the next two years, the economy continued to slide deeper into recession. However, as we have already pointed out, at the end of 2011 the economy managed to bridge the gap between total revenues and total expenses, recording a net income of almost RSD 85 billion. In other words, at the end of 2011 the economy experienced an outstanding growth in net income of almost 100%. Nevertheless, it is obvious that the increase in net income in 2011 in relation to 2010 by as much as RSD 174.5 billion did not result from higher operating income which would normally be expected. Instead, operating income increased by only RSD 14 billion in this period. Our research has shown that real reasons for this state

are to be sought by exploring the relationships between revenues and expenses arising from the financial activities in the economy. Considering their importance, we have decided to single out their values in Table 2.

On the basis of the presented data we can point out several important facts. First, with the exception of 2006, the financial revenues in our economy are far from being big enough to cover the financial expenses. Second, in the years when the economy recorded huge losses (i.e. in the period 2008-2010), it was simultaneously burdened with extremely high financial expenses that continued to grow during the whole period. Only in 2008 they were almost 2.4 times higher relative to 2007. Third, apparently there were large fluctuations in both financial revenues and financial expenses, though amplitudes were much more pronounced in financial expenses. Forth, after many years financial expenses were for the first time significantly reduced in 2011 by almost RSD 100 billion. It is even more interesting to note that this reduction was not followed by an expected decrease in debt – on the contrary, the indebtedness of our economy actually increased in real terms [7, pp. 132-136]. At the same time, the losses incurring as a result of financial transactions were halved at the end of 2011, i.e. they were reduced from RSD 286.4 billion to RSD 141.2 billion. Considering all the previous facts, we have to conclude that reported net income of the overall economy in 2011 emerged mostly due to the reduction of financial expenses, rather than being the result of the growth in income in the core business. Fifth, as expected, the sectors of the economy were differently burdened with financial expenses. It is interesting to look how these expenses are distributed, at least in 2010 and 2011. This is illustrated in Table 3 which provides information on the most important sectors of Serbian economy.

Presented structure clearly demonstrates that the majority of total financial expenses at the end of 2011 were absorbed by the processing industry (32.23%) and the trade sector (22.07%). The situation looks even more alarming

Table 2: Financial revenues and financial expenses in Serbian economy (in 000 RSD)

Revenues and expenses	2006	2007	2008	2009	2010	2011
Financial revenues	196,841	157,750	244,361	198,800	238,517	278,934
Financial expenses	177,783	201,876	476,788	419,184	524,981	420,169
Net financial revenues (expenses)	19,058	(44,126)	(232,427)	(220,384)	(286,464)	(141,235)

when it comes to the shares of these two sectors in total losses incurred as a result of financial transactions in the economy. It is easy to see that as much as two-thirds of the total financial losses of Serbian economy are attributed to the processing industry and the trade sector. However, our research has shown that it is necessary to make a clear distinction between these sectors. In fact, while the processing industry is not able to carry the burden of these expenses due an insufficient level of activities, which consequently leads to very high net losses, the trade sector even with this level of financial expenses has a high share in net incomes of the economy (about 24% in 2012). Besides, our analysis has shown that all sectors of the economy recorded financial losses in 2010. We would like to outline that the level of these losses in some sectors, like in the processing industry, is so high that it significantly reduce the overall profitability. On the other hand, only two sectors, i.e. the energy sector and telecommunications, managed to achieve a surplus of financial revenues over financial expenses in 2011, thereby preserving the profitability achieved in the core business [6, pp. 7-42].

Bearing in mind the problems that have been discussed thus far, we advocate more extensive use of the concept of EBITA in assessing the performance of our economy. The reasons behind this view lie in the fact that EBITA is not affected by interest expenses (in our case it means all financial expenses), taxes, depreciation of fixed assets, or financing sources. The values of EBITA presented in Table 1 further justify usefulness of this concept. In

fact, over the whole analyzed period EBITA was many times higher than achieved net incomes (losses), which leads us to a conclusion that precisely these differences must be considered in order to gain more insights about the functioning of the economy and the ability of local companies to settle their liabilities and pay off debts. However, when interpreting the values of EBITA one should always be aware that the financial expenses and taxes actually represent real costs to each company and that EBITA therefore provides only a rough approximation of cash flow from operations [5, pp. 345-349].

As far as our economy is concerned, advocating the concept of EBITA is well-grounded in reality because of the existence of high financial expenses that show dramatic fluctuations. Presumably, the majority of fluctuations arise from changes or, more precisely, from growing indebtedness of the economy. However, there are also some other factors that stimulate or reduce financial expenses. In order to identify them, it is necessary to start with looking at the very structure of financial expenses. Namely, it is well known that the position of financial expenses, apart from interest expenses, includes negative exchange differences and expenses incurred as a result of the effects of the so-called currency clause. Therefore, we may only conclude that the fluctuations in RSD exchange rate to which our economy has, to a greater or lesser extent, been exposed over a long period of time, have significantly contributed to the level of negative exchange differences and consequently, to the level of financial expenses, financial results and, finally, to the cost of capital that ultimately determines acceptable

Table 3: Financial expenses as sector burden

Sectors	Participation in financial expenses		Participation in financial losses	
	2010	2011	2010	2011
Agriculture	2.82	3.02	3.78	5.98
Mining	5.36	3.69	7.27	4.53
Processing industry	27.86	32.23	29.83	43.09
Energy	4.66	2.86	0.68	(3.94)
Water supply	0.57	0.58	0.45	0.37
Construction	10.50	9.28	13.67	14.74
Trade	21.90	22.07	21.39	23.35
Transportation	6.95	6.52	6.42	2.65
Tourism	0.95	0.96	1.48	1.87
Telecommunications	5.67	3.50	5.86	(1.30)
Other sectors	12.77	15.28	9.18	8.67
Economy	100	100	100	100

level of profitability from the perspective of both existing and potential investors. In our opinion this very important phenomenon deserves a greater attention, so in the next part of this paper we will observe the consequences that endless “playing” with RSD exchange rate has for the performance of Serbian economy.

Analysis of the effects of RSD exchange rate fluctuations on the cost of debt

We came up with the idea to analyze RSD exchange rate fluctuations due to the fact that most of approved loans to our companies have been denominated in hard currency and/or with currency clause. In most cases, approved loans have been tied to the euro. In this respect, it was particularly interesting to track the changes of RSD exchange rate against the euro on the one hand, and the cost of debt calculated based on average amount of debt, on the other. Before we present the main findings, let us explain that for the purpose of this analysis we calculated the cost of debt by dividing financial expenses by average long-term and short-term financial liabilities.¹

The results shown in Table 4 reveal some very interesting facts. First, the cost of debt was the lowest in the years when RSD exchange rate was stable, as is the case in 2007 and 2011 (remind that in 2006 EUR exchange rate stood at RSD 79.00), standing at slightly below 13%. In all other years the dinar depreciated against the euro, which resulted in higher cost of debt. The cost of debt reached its peak in 2008 when it exceeded 22%. Of course, the causes of high cost of debt are to be found in a consequent increase in financial expenses, which was initiated by increased

negative exchange differences in companies' balance sheets. Given the aforementioned, we can conclude that there is a strong correlation between the devaluation of dinar, on the one hand, and the increase in the cost of debt, on the other. In order to clarify this point, let us take a look at the costs of debt in 2008, 2009 and 2010 which were so high that even much more developed economies would hardly deal with them. The reason is that the cost of debt serves as the basis for determining the minimum rate of return on investment acceptable to shareholders and investors. More precisely, shareholders and investors actually require a rate of return on investment that is higher than the cost of debt. Given that in some years the cost of debt skyrocketed to over 15%, 17% and even over 22%, achieving returns that would go beyond those levels proved to be a mission impossible even for the most profitable sectors of our economy like, for instance, the telecommunications [8, pp. 43-50].

In 2011 the dinar slightly appreciated against the euro, which represents an exception to all previous trends. As a result, the cost of debt dropped by almost 5%. However, later in the paper we will show that, even at this level, the cost of debt is too high and may pose very serious financial risks to our economy. Therefore, now we can finally conclude that the previously observed phenomenon of more than doubled net income in 2011 does look really impressive only until one realizes that the growth was predominantly the result of RSD exchange rate fluctuations rather than dynamic business activities and increased efficiency which would certainly be better for the economy's health. We hope that the above presented arguments are strong enough to stress the utmost importance of stable and safe business environment for the success of the national economy.

At the end of this important story about the effects of RSD exchange rate changes on the cost of debt, we should not lose sight of another significant detail. It relates to

1 Note that in the formula for calculating the cost of debt the numerator does not include only the interest costs, but the entire financial expenses. In this way, we intended to show how the devaluation of the dinar against the euro, through negative exchange differences, raises the cost of debt.

Table 4: Analysis of the relationship between cost of debt and RSD exchange rate

	2007	2008	2009	2010	2011
Euro exchange rate in RSD	79.24	88.60	95.89	105.50	104.64
Growth euro exchange rate	1.00	1.12	1.08	1.10	0.99
Average debt (in million RSD)	1,574	2,165	2,680	3,037	3,285
Financial expenses (in million RSD)	202	477	419	525	420
Cost of debt	12.83	22.03	15.64	17.29	12.79

the possibility of postponing the recognition of exchange differences, which is allowed by the Rules on the Chart of Accounts [12]. These rules envisage the possibility (i.e. not the obligation) that legal entities in the preparation of financial statements may decide not to recognize the effects of calculated exchange differences and currency clause within financial revenues or financial expenses, but to transfer them to accruals. Since such solutions do not comply with the International Financial Reporting Standards, whose application in our country is prescribed by the law, one cannot say that such financial statements are prepared in accordance with good practice that is typical of the countries where the accounting culture is very important. We would also like to add that in conducting this analysis we were fully aware of the fact that the use of this opportunity in some companies led to underestimated financing costs and, as a result, their financial statements were burdened with hidden losses. Unfortunately, we were not able to quantify these effects due to the lack of relevant data.

Analysis of the impact of RSD exchange rate fluctuations on the profitability of Serbian economy

The analysis has thus far brought to light at least three very important conclusions. First, Serbian economy, even under conditions of a severe economic crisis, recorded an increase in net incomes generated by the core business. Second, that increase did not bring about the expected improvement in profitability because, among other things, the economy in almost all years covered by our

analysis was burdened with high financial expenses and losses in the area of financing. Third, in the years in which the dinar depreciated the companies that relied on borrowing (and most of them did so) were faced with an enormous increase in the cost of debt, which almost linearly corresponded with the weakening of the domestic currency. The epilogue of such a state can be perceived through the analysis of key profitability indicators and this part of the paper will be dedicated exactly to that topic. For the purpose of the analysis we use standardized, globally accepted measures of profitability, such as Return on Operating Assets (ROOA), Return on Assets (ROA) and Return on Equity (ROE). Changes in these rates of returns in their disaggregated forms (as products of appropriate income rates and turnover ratios) are displayed in Table 5.

The selection of these rates of return is perfectly understandable. The first of them, i.e. ROOA, is necessary for assessing the profitability of the core business, ROA is used for determining the return which is not influenced by the sources of finance, while ROE measures the fulfillment of shareholders' interests as well as the attractiveness of investments. But, in order to get a comprehensive insight into the profitability of the economy it is necessary to compare the above-mentioned rates with previously calculated cost of debt, thereby assessing the effect of financial leverage. The results of this comparison for the Serbian economy are presented in Table 6.

Based on the presented results, we conclude that the profitability of Serbian economy, according to any of the above rates of return, is far from being satisfactory. The reason for this is that ROOA and ROA were several

Table 5: Overview of key profitability indicators

Indicators	2007	2008	2009	2010	2011
1. Operating Income Margin	3.08	3.15	3.20	4.27	4.00
2. Operating Assets Turnover	0.92	0.91	0.79	0.85	0.84
3. Return on Operating Assets - ROOA (1x2)	2.85	2.87	2.54	3.62	3.37
1. EBIT Margin	4.57	6.71	5.05	6.12	6.73
2. Assets Turnover	0.78	0.77	0.67	0.71	0.71
3. Return on Assets - ROA (1x2)	3.54	5.14	3.36	4.34	4.80
1. Profit Margin	0.94	(0.71)	(1.74)	(1.36)	1.15
2. Capital Turnover	1.62	1.73	1.66	1.92	1.89
3. Return on Equity - ROE (1x2)	1.53	(1.23)	(2.89)	(2.60)	2.16

times lower than the cost of debt. This fact is colorfully illustrated by the results that are singled out in Table 6, which served as a basis for calculation of the effects of financial leverage [10, pp. 117-121]. We can see that ROA, as a test of success in the core business and measure of solvency, ranged between 3.36% and 5.14%. On the other hand, the cost of debt ranged from 12.79 up to 22.03%. The final outcome of the comparison of these two rates is the negative effect of financial leverage which is present in all analyzed years. This fact speaks volumes about the failure of Serbian economy to achieve the returns that would compensate for the cost of debt in any of given years. This conclusion confirms the previously expressed concerns that the current cost of debt is unattainable by our economy. Financial expenses have been continuously growing due to the constant devaluation of the dinar and the consequent accumulation of negative exchange differences, thereby destroying most of the efforts the companies make in order to achieve profitability in the core business. The final consequence of all this is the decline in values of ROOA and ROA, while ROE recorded negative values in three years (continuously from 2008 to 2011) of the five-year period covered by the analysis, though it was positive in the years when RSD exchange rate was stable, standing at barely above zero. Thanks to our extensive experience with this type of research, we have a right to underscore here that unsatisfactory profitability is the key problem of Serbian economy. This is especially true because this problem is not new, as it has been growing and deepening for years. Dealing with it requires undertaking an extensive analysis and the right steps, first at the state level and then at company level.

If we decide to look further into the causes of the poor performances of rates of returns, we can easily notice (see Table 5) that they are consequences not only of low profitability of the core business, but also of the lack of efficiency in the economy. Namely, achieved levels of

operating income margin and EBIT margin, which did not exceed 5% and 7% respectively, are far from being high enough to, after covering the cost of debt, other expenses and taxes, provide investors with satisfactory returns. At the same time, the multiplier effect that an increase in the volume of activities and operating efficiency has on the performances of ROE, ROA and ROOA was hampered due to low rates of capital turnover, operating assets turnover and total assets turnover. Let us note, for example, that assets turnover was practically in each year below 0.8, while operating assets turnover managed to exceed a limit of 0.9 only in the first years. As a consequence, in all analyzed years assets turnover decreased EBIT margin in the calculation of ROA (Table 5). Imagine to what extent the result of ROA would have improved (and thereby the effect of financial leverage) if during the analyzed period the assets turnover had been greater than one. It is easy to identify the main causes of low levels of turnover ratios, including technical and technological obsolescence of economic capacities, their underutilization, low productivity, low cost-effectiveness, uncompetitive products and services, lack of customers, low exports, etc. To put it simply, the assets of our economy have not been deployed in the manner that would lead to high enough incomes, which would give rise not only to turnover but also to income margins and, consequently, to the rates of return. Nevertheless, we have gained the impression that the major opportunities for improving the performance of Serbian economy and its attractiveness for new investments lie precisely in this area.

We can get a complete picture of the causes of low profitability of Serbian economy if we further disaggregate ROE and, in addition to ROA, take a look at solvency (leverage) and debt burden. One of the ways to do this consists of using four-component rate on equity, which we present in Table 7.

Table 6: Effects of financial leverage

Indicators	2007	2008	2009	2010	2011
Cost of debt	12.83	22.03	15.64	17.29	12.79
ROA	3.54	5.14	3.36	4.34	4.80
ROE	1.53	(1.23)	(2.89)	(2.60)	2.16
Effects of financial leverage	Negative	Negative	Negative	Negative	Negative

In order to enable better understanding of the conclusions that will be exposed below, let us first clarify the presented components of ROE. Leverage is defined as average assets to average equity. Assets turnover presents the relationship between sales and total assets. EBIT margin is a ratio of this concept of income to sales, while the debt burden is the ratio of net income to EBIT. Also, it is easily noticeable that the two central components of the formula make ROA. As to ROA, let us remind that this return depends on operating efficiency of companies, since the concept of EBIT excludes the effects of financing. Hence, the value of the central part of four-component formula of ROE is, among other things, determined by the efficiency of business operations, i.e. by operational risk. On the other hand, the first and the fourth components of ROE are closely associated with debt. Theoretically speaking, in the absence of debt, the first and the fourth components would be equal to one, which means that there would be no financial risk, nor the effect of financial leverage. It is obvious that then ROE would be equal to ROA. However, as the existence of debt seems like more realistic scenario, the value of the first component would actually be greater than one (assets are greater than capital), just as the last component will be less than one (interest expenses will absorb a portion of income). On the basis of the aforementioned, it can be concluded that an increase in debt could lead to the growth of profitability as well as to its decline. The increase in profitability occurs if the product of leverage and debt burden is greater than one. In this case, financial leverage will have a positive effect which is reflected in rising shareholders' returns, i.e. ROE is then greater than ROA. Of course, in the opposite case, further borrowing inevitably triggers a decline in profitability and negative effects of financial leverage. Hence, borrowing limit is established when ROA becomes

equal to the cost of debt. In that case, ROA is equal to ROE, which implies that borrowing up to this limit has positive effects, whereas exceeding this limit triggers the negative effects of financial leverage.

The data presented in Table 7 provide some relevant details which help getting the big picture of the extent to which RSD exchange rate fluctuations hinder the performance of our economy. It is obvious that increasing indebtedness of the economy (debt today accounts for more than 60% of total capital) was putting a strong pressure on financial expenses throughout the analyzed period. However, a complete understanding of the effects of borrowing could be obtained once we include debt burden ratio in the analysis. There were sharp fluctuations in this segment, ranging from negative values (from 2008 to 2010) to modest performances (in 2007 and 2010). Finally, in order to illustrate the real meaning of the displayed values of debt burden, let us say, for example, that of RSD 100 in EBIT recorded in 2011, only RSD 17 would belong to shareholders, while the creditors would gain as much as RSD 83. Furthermore, since in the period 2008-2010 the achieved EBIT did not suffice to satisfy creditors' claims, they had to be settled by reducing equity. In other words, in that period companies once again began to "eat" their own substance, which additionally backs up the view that relying on borrowed capital in such conditions proves to be very costly for Serbian economy. Since our economy will certainly have to continue with borrowing, we may only hope that in the near future that will be happening under significantly different circumstances. We believe that this type of research and similar analyses provide enough arguments stressing the importance of creating stable and positive economic environment, on the one hand, and considerably improving the quality of corporate governance, on the other.

Table 7: Four-component disaggregation of ROE

ROE	=	Solvency (leverage)	x	Assets Turnover	x	EBIT Margin	x	Interest Burden	=	ROE
ROE 2007	=	2.08	x	0.78	x	4.57	x	0.21	=	1.53
ROE 2008	=	2.26	x	0.77	x	6.71	x	(0.11)	=	(1.23)
ROE 2009	=	2.49	x	0.67	x	5.05	x	(0.35)	=	(2.89)
ROE 2010	=	2.71	x	0.71	x	6.12	x	(0.22)	=	(2.60)
ROE 2011	=	2.65	x	0.71	x	6.73	x	0.17	=	2.16

The risks of high financial expenses

The fact that in this paper we put the accent on the analysis of financial expenses does not mean we have forgotten that it is just one of the problems that keep burdening the economy. The build-up of a stimulating business environment involves achieving macroeconomic stability, developing capital markets in order to gain access to differentiated and less expensive sources of finance, ensuring legal certainty and stable regulatory framework. Also, we should not overlook the need for improving corporate governance and business management, attracting export-oriented investments, funding sustainable growth, enhancing profitability, overcoming the problems of illiquidity and insolvency and so on [9].

Bearing in mind the scope and gravity of the problem of high financial expenses that have been discussed in the previous sections of the paper, we must point to multiple dangers arising in this regard. At this point, we will not explicitly refer to apparent risks to profitability, liquidity and solvency. We will mainly focus on other direct and indirect adverse effects that might be large, leading to long-term negative consequences.

Financial expenses and price competitiveness. The factors that affect levels and frequency of changes in selling prices are numerous. Different research studies that have addressed the issue of setting and changing selling prices in a number of European countries (Belgium, France, Germany, Italy, Spain and Portugal) particularly emphasize the importance of factors such as cost structure, inflation, competition, seasonality, (non)existence of price regulations and so on [15, pp. 17-28]. As far as cost structure is concerned, these studies were primarily focused on analyzing the structure of operating expenses,

while the impact of financial expenses to price levels has rarely been tackled. Research studies conducted in Spain [1, pp. 27-29] and Portugal [4, pp. 34-36] that encompass the analysis of financial expenses are exceptions to this practice. However, research findings show that even in these countries, financial expenses had the lowest impact on setting and changes of prices in comparison to other costs. In countries with developed capital markets the sources of finance are differentiated, which significantly lowers the cost of debt and the strain on the performance of companies and the economy as a whole.

Indeed, the results of the previous studies are giving cause for concern, as the situation in Serbian economy is quite different. The share of financial expenses in total operating and financial expenses is not marginal. Analysis of the structure of operating and financial expenses (in %) in the analyzed period for the economy as a whole is presented in Table 8.

At the current level of performance of Serbian economy, the share of financial expenses in total operating and financial expenses accounting for slightly more than 10% on average is placing a heavy burden on economic activities. This is obvious given the fact that in the analyzed period financial expenses were 1.5 times greater than depreciation costs. In such circumstances, companies are faced with a difficult choice regarding pricing strategies. If they opt for cost-based pricing to ensure the minimum condition for survival, then financial expenses should definitely be included in the calculation of selling price (not in the costs of production). This approach is not good for at least two reasons. First, the market is not willing to pay the price that is higher than the prices of same or similar products and thereby to finance inefficient companies. Second, the introduction of these considerable

Table 8: Cost structure in percentages

	2007	2008	2009	2010	2011
1. Costs of materials	41.18	38.87	36.30	39.03	41.76
2. Labor costs	20.15	18.68	20.11	18.32	18.53
3. Depreciation costs	7.42	6.62	7.31	6.49	6.72
4. Other operating expenses	24.90	23.78	25.05	23.44	23.60
5. Total operating expenses	93.65	87.95	88.77	87.29	90.61
6. Financial expenses	6.35	12.05	11.23	12.71	9.39
7. Operating and financial expenses (5+6)	100.0	100.0	100.0	100.0	100.0

financial expenses into calculation of selling price makes companies uncompetitive. All of this leads to decline in volume of business activities as well as to greater share of fixed costs, taking the company near to the zone of losses. Eventually, this increases the risk of bankruptcy. Another possibility entails setting selling prices on the basis of market prices. In that case, the prices would be acceptable to the market, but due to tight profit margins, financial expenses would again lead the companies into losses. Therefore, it seems that high financial expenses are one of the main reasons (but not a sole) why many companies fail to achieve price competitiveness.

Financial expenses and sustainable growth. Taking into account the relationship between the problem of financing (including financial expenses) and company's growth, we must point out two things. First, we could hardly speak of growth as long as we are struggling for survival. Second, the exit from the crisis is possible only if we provide cheaper sources of finance, not the expensive ones.

The truth is that not all growth is good. There are numerous examples of companies worldwide that have gone bankrupt due to inadequate growth. Achieving healthy and sustainable long-term growth involves, among other things, providing for such a combination of sources of finance that would enable the company to maintain the target capital structure. A growth that is slowed down due to insufficient internal sources or expensive loans implies risks for both shareholders and creditors. The ones are faced with risk of not achieving expected returns, while the others are exposed to default risk.

On the other hand, insistence on rapid growth in situations where internal sources of finance are not available means that it should be financed by further borrowing. In present conditions, this option is generally considered as a bad strategy. High financial expenses would continue to decrease net income, thereby contracting internal sources of finance and preventing growth. This reduces borrowing capacity because a reckless accumulation of new debt distorts the capital structure and increases the risk. Default risk goes up, which increases the cost of debt, income and internal sources of finance are melting away

as a result of higher financial expenses, which again leads to additional borrowing, etc.

High financial expenses discourage both existing and potential shareholders. Namely, creditors bear less risk and receive higher returns than shareholders who are faced with the greatest risks. This fact is contrary to the very logic behind the functioning of corporations [9, pp. 49-52]. The question then arises as to why anyone would invest in such conditions. On the other hand, financing from own sources is necessary. From the perspective of company they are considered the best sources of finance. Also, equity issuance is prerequisite for the development of capital markets because the demand and supply of these securities form the core of the secondary market.

The risks to financial system stability. We have seen that the level of financial expenses has a direct impact on the performance of the economy. Naturally, their amount is an important determinant of banking sector performance, since from the perspective of banks they represent revenues. Increase in interest rates is simultaneously accompanied not only by growing revenues of banks, but also by higher cost of debt. In that respect, the efforts of banks aimed at achieving better results seem logical as well as measures of protection from different types of risks. Bearing in mind the previous findings on the relationships between interest rates, inflation, return on equity and trends in prices of securities, it is not difficult to conclude that the changes in these factors will also affect the market portfolio of other financial institutions, such as for example, investment and pension funds.

However, if all risks are transferred to companies and if the cost of debt is determined by adding the effects of risks to the initial interest rates, then those risks do not pose a threat only to borrowers. Creditors are exposed to serious risks as well. At the first glance, the recourse to collateralization of loans seems to protect banks against risks. Huge accumulated losses of companies, partly incurred as a result of large financial expenses, have an adverse impact on the balances of the economy. In such circumstances, the supply of loans declines due to increase in illiquidity and insolvency. Exhausted companies, burdened with numerous problems, often have no choice but to borrow again and each time under

less favorable terms, which increases the cost of capital and the risk of bankruptcy. Inability to pay out interests and repay principal results in the contamination of the banks' balance sheets [9, pp. 54-57].

In the previously described circumstances, the quality of collateral becomes an issue of major importance. In fact, balance sheets of companies are burdened with collateral. The marketability of certain types of assets which serve as collateral may significantly differ depending on whether the company is operating normally or it is near bankruptcy. In the latter case, the value of collateral might drop significantly, thus increasing the potential losses of creditors. If bankruptcy proceedings made a greater progress, that could result in the race between banks which would be the first one to seize its collateral, which would cause further decline in its value. All this would inevitably lead to the destabilization of financial system. At this point, despite being realistically estimated, collateral assets cease acting as powerful instruments in protecting creditors from risks.

Anyway, the stability of the banking sector should remain in the foreground. However, banks should take more interest in the future of the real sector. They must recognize their benefits from financing companies. A potential bankruptcy of numerous companies is likely to have repercussions for the banks. Banks' management must have a greater responsibility. They are accountable for wrong assessments of investment risk and inadequate decision-making. In this regard, it is unacceptable that the risks coming from low quality of management are transferred to clients in the form of higher costs of financing.

Financing from the so-called trade credits. In a situation where bank loans are too expensive and in the absence of alternative sources of finance, many companies allocate financing of their liquidity and even their growth to their suppliers. At first glance, it seems like a short-term policy whose lifetime depends on the willingness of suppliers to tolerate such behavior. However, in times of crisis in an economy that generally suffers from illiquidity, suppliers are inclined to accept such terms more than one might initially think. As companies resort to alternative sources in the conditions of a restrictive monetary policy when necessary sources of finance are not easy to provide at

affordable terms [3], they do the same in the crisis when banks tighten up the criteria for loan approval. In this context, trade credits as interest-free sources of finance become attractive. The main motive of suppliers (trade creditors) is desire to preserve good business relationships and retain existing customers [16].

However, this way of alternative financing also has its price. Since in times of crisis suppliers face their own problems with maintaining liquidity, they often have no other choice but to transfer their financial problems to their suppliers by deferring payment of liabilities [6, pp. 19-24]. As a result, the liquidity problem creates the effect of a spiral, transferring from contaminated to healthy parts of the economy. In fact, the increase in liabilities is closely followed by the rise in receivables, which confirms the fact that in the conditions of crisis suppliers provide finance to companies, but at the same time these companies, to a greater or lesser extent, finance their buyers. The consequences are the inability to achieve a solid growth, general illiquidity as well as insolvency, given that the companies often cannot service interests, or payback the principal. In this way, the effects of the crisis are further deepened.

Capitalizing on the above-mentioned effects is fair as long as both buyers and suppliers have the same problems related to the financing of liquidity and growth. But, there are naturally some exceptions to such generalized approach to the problem. This kind of behavior brings the major benefits primarily to state-owned companies and large private companies which, by abusing their power, maintain liquidity and grow at the expense of smaller companies. These companies primarily tend to prolong payments of their liabilities to suppliers rather than to act as lenders to their buyers. Abuse of monopoly position with all negative consequences of such behavior is obvious in this case.

Conclusion

The relationship between macroeconomic stability and performance of the economy is indisputable. It has long been known that there is an interdependence of inflation, exchange rates, interest rates, return on equity and stock

prices. The problem is that there was not enough readiness to quantify the effects of implemented economic measures and thus to assess the costs of bad choices. We suppose that the reason for this is quite simple. In this way, the responsibility of economic policy makers would have been subject to greater scrutiny. We have to outline that in this paper we consider not only interest rates, but also the total financial expenses which burden the economy. Therefore, the analysis should focus on the assessment of the effects of currency clauses as well as exchange differences, as they significantly increase the level of financial expenses.

The research that we conducted for the purpose of this paper clearly showed a strong relationship between RSD exchange rate and the cost of debt. In the years when RSD exchange rate was stable, the Serbian economy was faced with the lowest costs of debt. Unfortunately, even these minimum rates of return turned out to be unattainable for our companies, characterized by extremely low profitability and operational inefficiency in the core business. In the years when the dinar depreciated against the euro, the rate of debt experienced an almost linear trend as national currency due to immense negative exchange differences, thereby posing an unimaginable challenge to the economy of achieving the hurdle rates which in some years exceeded 20%. The epilogue of the previous processes was a negative effect of financial leverage in all analyzed years. The values of ROA were not nearly enough to cover financial costs. As expected, shareholders had to pay the highest price not only in terms of reduced ROA, but also for the erosion of their equity as achieved EBIT in many years was insufficient to fulfill creditors' interests.

Risks arising from high financial expenses do not affect only current performance of the economy. They are more serious and have long-term consequences. These risks lead to jeopardizing price competitiveness, hindering the possibility of achieving long-term sustainable growth, shifting the burden of financing to suppliers, which along with ignoring the problems of the economy by the banking sector could endanger the financial system stability. Hence it is necessary to differentiate the sources of finance. Relying on the issues of shares and long-term debt securities should be of particular importance in this

regard. The key prerequisite for this is the development of primary and secondary capital markets.

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Dejan Malinić

is a full professor at the Faculty of Economics, University of Belgrade. He teaches courses in Management Accounting and Analysis of Financial Statements (undergraduate studies) as well as Policy of Income and Strategic Controlling (master studies), and Advanced Management Accounting and Strategic Management Accounting (doctoral studies). He also teaches Management Accounting in International master courses Management and Business Economy. So far he has published two books: Policy of Company's Income and Divisional Accounting. He is co-author of university textbook Management Accounting. Moreover, he has published numerous scientific and research papers in the fields of management accounting, corporate finance and financial reporting. As a manager, team member or consultant he took part in great number of studies and projects in the fields of accounting, firm's value evaluation, business and financial consolidation companies, management control, privatization and corporate governance. He is a member of Accounting Board in the Association of Accountants and Auditors of Serbia, Executive Board of the Serbian Association of Economists, Editorial Board of the SAE Journal of Business Economics and Management. He is a certified public accountant. In the period 2004-2011 he was a member of Securities Commission, Republic of Serbia.



Vlade Milićević

is an associate professor at the Faculty of Economics, University of Belgrade. He has been teaching Management Accounting on undergraduate studies. Furthermore, he is the lecturer of Strategic Controlling and Profit Policy on master studies and Management Accounting II and Strategic Management Accounting on PhD studies. Additionally, professor Milicevic has been engaged as the vice-dean for finance and organization at the Faculty since May 2006. Professor Milicevic is known as the author of books Cost Accounting and Business Decision Making and Strategic Management Accounting, and as the co-author of books Management Accounting and Financial Markets. Furthermore, he has written numerous articles related to accounting, financial management and auditing, as well as some outstanding papers for several conferences in that field.

Miroslav Todorović
University of Belgrade
Faculty of Economics
Department for Accounting and
Business Finance

THE SUPPLY CHAIN FINANCE: AN UNEXPLOITED OPORTUNITY TO IMPROVE LIQUIDITY OF REAL ECONOMY COMPANIES*

Finansiranje lanca snabdevanja:
neiskorišćena prilika za ublažavanje problema
nelikvidnosti u realnom sektoru

Abstract

Managing working capital and shortening cash conversion cycles have become in times of crisis a key strategic priority of companies wanting to reduce their reliance on expensive external funding. However, it turns out that these options are available only to dominant companies, and weaker companies, especially SMEs, unfortunately have to agree with payment terms dictated by their dominant suppliers and/or buyers. Dominant companies forget that neglecting the problems of illiquidity, insolvency and, ultimately, collapse of weak links in their supply chains can seriously undermine their own perspective. By accepting the supply chain finance program financially solid, responsible and conscious companies recognize the need to support suppliers who may want working capital relief to survive. In this paper, we have presented practice of the supply chain finance, highlighting the benefits, prerequisites for the successful implementation, potential problems in the development and implementation, and activities to be undertaken, including expectations from economic policy makers. Multiple benefits for all participants translates also in benefits at the macroeconomic level, which if not improve, at least may contribute to prevent further fall of the competitiveness of the real sector. The banking sector also could benefit from initiation of supply chain finance at least to activate immobilized liquid assets and to reduce overall credit risk.

Key words: *supply chain finance, liquidity, supplier financing program, working capital management, banks*

Sažetak

U vremenu krize bolje upravljanje obrtnim sredstvima i skraćivanje gotovinskog ciklusa postali su strateški prioritet kompanija koje žele da smanje svoju zavisnost od skupih eksternih izvora finansiranja. Ipak, kako se ispostavlja u realnosti, na ovom prioritetu mogu insistirati samo dominantna preduzeća dok, nažalost, ona slabija, posebno mala i srednja preduzeća, mogu samo da prihvate uslove plaćanja koje im diktiraju njihovi dominantni dobavljači i/ili kupci. Dominantne kompanije pri tom zaboravljaju da zanemarivanjem problema nelikvidnosti, nesolventnosti i, konačno, propadanja slabijih karika u njihovim lancima snabdevanja mogu ozbiljno podriti i sopstvenu perspektivu. Prihvatanjem programa finansiranja lanca snabdevanja finansijski solidne, odgovorne i dovoljno svesne kompanije priznaju potrebu pružanja pomoći dobavljačima kojima je smanjenje pritiska na strani finansiranja njihovih obrtnih sredstava neophodno da bi preživeli. U radu smo predstavili program finansiranja lanca snabdevanja, ističući njegove koristi, predušlove za uspešnu implementaciju, potencijalne probleme pri razvoju i primeni, i aktivnosti koje je potrebno preduzeti, uključujući i one koje se očekuju od kreatora ekonomske politike. Zbog višestrukih koristi koje programi donose za sve učesnike, ne bi izostale ni koristi na makroekonomskom nivou, što bi moglo da rezultira ako ne unapređenjem, ono bar sprečavanjem daljeg propadanja konkurentnosti realnog sektora. I bankarski sektor mogao bi imati koristi od uvođenja ovih programa, u najmanju ruku u pogledu aktiviranja imobilisane likvidnosti i smanjenja ukupnog kreditnog rizika.

Ključne reči: *finansiranje lanca snabdevanja, likvidnost, program finansiranja dobavljača, upravljanje obrtnim sredstvima, banke*

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Introduction

Many local companies are facing serious liquidity problems. Every year since the start of the financial crisis, these problems have been more pronounced. To our knowledge, the NBS data show that by the end of November 2013, 26,688 companies have had their bank accounts frozen. A large number of companies filed for bankruptcy. According to the Bankruptcy Supervision Agency, as of beginning of November 2013, there have been 2,171 active bankruptcy proceedings (from the beginning of the year 119 new cases have been opened), 2,387 bankruptcy proceedings have been completed and 454 have been terminated, totalling 5,012 bankruptcy cases [2]. Illiquidity and insolvency are particularly pronounced in small and medium-sized enterprises (SMEs), which are critical to the economic recovery.

Competitiveness in many industries today is increasingly manifesting at a supply chains (SC) level than at an individual company level. The leading company in the supply chain – SC anchor – is either a producer (e.g. company that assemble cars in the automobile industry) which acts in the chain as the main buyer and the major seller, or a retailer, which acts only in the role of the major buyer. There are noticeably growing efforts of SC anchors, together with partners in the supply chain, to reduce costs, shorten delivery time, better manage supply risk and automate the flow of information. On the other hand, unlike the flow of goods and information, importance of proper management of financial flows has been neglected, making it a blind spot in the supply chain literature [10]. As goods, information and financial flows in network are inevitably linked, with the outbreak of the crisis it becomes clear to SC anchors that they also need to worry about the way their chains are financed. To be competitive supply chain must optimize all flows.

Illiquidity and, ultimately, the problem of insolvency of any single link in the chain, can become a problem for other links in the chain. Many supply chains are facing supply risks due to the deteriorating financial health of their suppliers. Following a supplier's bankruptcy, the probability of supply disruptions for the next link in the chain increases. Bankrupt suppliers lose key personnel,

forgo investment in production process, face labour strikes, decrease product quality [for other examples of costs of financial distress, see: 15, pp. 403-405] thus making fulfilment of buyer's orders very uncertain. Recent examples of a supplier's financial troubles affecting operational performance of buyers are, for example, Chrysler/Plastech, Delphi/General Motors and Visteon/Ford Motor cases. Visteon's bankruptcy has been averted after Ford (which is the largest of Visteon's buyers, accounting for 65% of Visteon's sales) agreed to pay between \$1.6 billion and \$1.8 billion to help with Visteon's restructuring. Similar to Ford, General Motors subsidized its ailing supplier, Delphi [1]. An option to subsidize the supplier could add significant value to the SC buyer.

At the end of the introductory discussion we emphasize that in Serbia, due to deteriorated creditworthiness of companies (or increased credit risk for banks) and the obligation to set aside large amounts of provisions, banks became reluctant to provide new credits to real sector companies, especially to SMEs. According to the NBS data, since early 2013 corporate lending in banks have decreased by 7,1%. Loan repayments have exceeded new loan disbursements; compared to 2012 Q3 in 2013 Q3 new loans disbursements have been lower by 1/3. Banks are hyper-liquid. The liquidity is in an extremely safe level, according to all criteria; at the end of June the average broader liquidity ratio for banking sector has stayed at 2.51 (regulatory minimum are 1.00) and narrower liquidity ratio at 1.96 (minimum are 0.70) [13].

Problem background

A source of liquidity problems for a large number of local companies is in the rigor application of traditional working capital management strategies by their stronger buyers and/or suppliers. Due to credit gaps, i.e. unavailability or high cost of loans, liquidity problem cannot be easily resolved.

The traditional approach to short the cash conversion cycle (CCC) and to achieve related working capital reductions has full meaning if it's observed at the level of individual company. CCC is actually "cash gap", thus shortening CCC eases the company's financial strain: reduces the amount of funding from other contracted sources (often

expensive short-term loans), reduces borrowing costs and improves cash position. Working capital management strategies which, applied individually or together, can bring shortening of the CCC are (see in Figure 1): 1) postponement of purchase orders to the last moment; 2) earlier deliveries of goods to buyers; 3) reducing the time to collect receivables and 4) extending the period of payment to suppliers.

However, things look different if observation is done at the supply chain level. Let us consider only the upper stream of the supply chain and the first-tier suppliers. Dominant SC buyer realizes working capital management strategies by pressing suppliers to long term of payment (often over 120 days) and by holding low inventories (small order quantities and delay of orders until the last moment). Suppliers must keep inventories that do not hold SC buyer – each day of delay of order (strategy 1) extends DIH (and CCC) for one day and raises the level of inventories at the supplier. The suppliers’ need to hold high level of inventories and to have quick response on SC buyer orders is especially emphasized in the case of lean forms of production as is Just-in-time. Every day of extension of payments to suppliers (strategy 4) prolongs supplier’s DSO and CCC for the same number of days, increasing working capital and need for external financing. These tendencies are amplified at time of crisis – as revenues and profits are falling, a SC buyer is seeking compensation in the field of working capital management.

Suppliers, especially SMEs, can hardly bear this burden and they are forced to borrow more and for longer periods. Bearing in mind the gaps in the credit market, where SMEs can obtain loans only at high interest rates

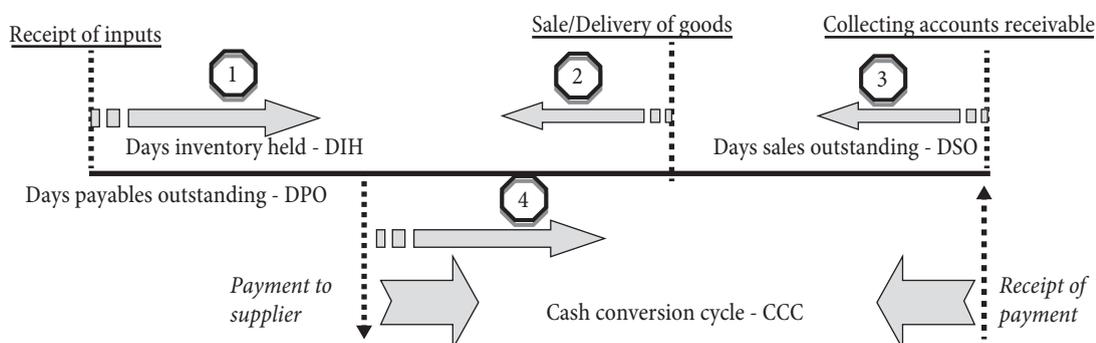
or cannot get them at all, many suppliers are pushed in a very unenviable position. In 2010, one research has shown that 50% of European buyers had sought to extend payment terms to suppliers and 63% suppliers had reported as unable to sustain this [5]. Constrained by internal finance SMEs will forgo positive net present value projects, and this underinvestment problem can have negative repercussions further along a supply chain [4].

The above-considered problems are present whenever we have relationship between a dominant buyer and less powerful suppliers, regardless of whether they really are the participants of formal supply chain. Guided by this logic in this article we recommend supply chain finance (SCF) as a universal for all large solid financial buyers (and their suppliers). Therefore, in the following text the term SC buyer can easily be read as a large, financially solid buyer.

The supply chain finance

Many facts indicate the importance of supply chain finance. In 2011, the European Commission adopted an action plan to address the mounting difficulties in accessing funding to survive and to grow faced by SMEs in many Member States. Given their reliance on bank financing, these difficulties are reinforced given bank deleveraging and the fact that local banks have, to a large extent, lost or lessened links to their local SMEs. Certain initiatives have already been agreed, including supply chain finance [9]. UK minister for Business and Enterprise Mark Prisk in one of his interviews assessed that SCF is clearly an option that all large companies should consider providing:

Figure 1: Operating cycle and strategies of shortening CCC



Source: [modified 11, p. 122]

“It is one option that could help plug the funding gap of their suppliers while looking to cover working capital as they await payments” [7].

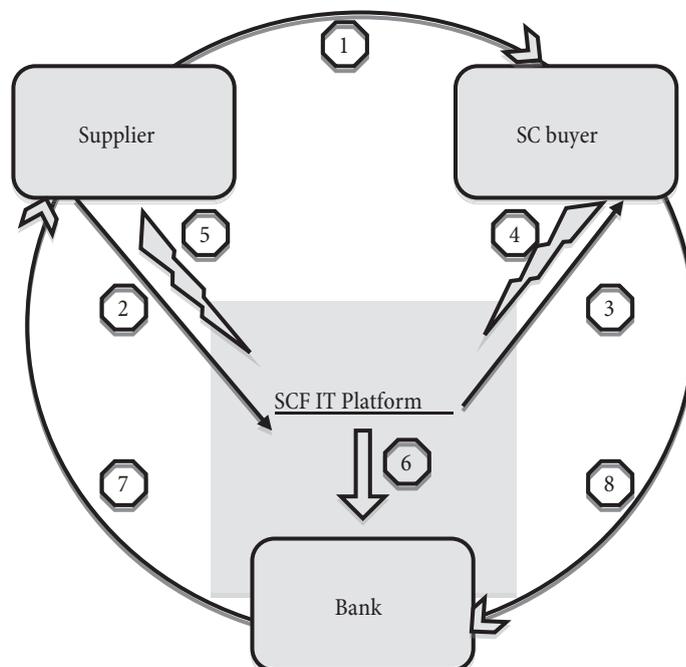
In this article will be considered primarily supplier financing program, supplier payment program or approved payables financing, which is the major and most common form of financing within SCF and which usually uses as a synonym with the term supply chain finance. Supply chain finance has gained attentions since the financial crisis – it is in the early stages of development, but it’s developing rapidly. One recent report [6] shows that major international banks had reported 30-40% annual growth rates in SCF programmes over the last two years, with growth rates expecting to settle down to 20-30% by 2015, and 10% per annum to the end of the decade. The report argues that Eastern Europe, along with China and India, are considered to be the top three regions providing the greatest SCF market potential in the future. One reason for the recent neglect of SCF is that related disciplines – namely Supply Chain Management – paid little or no attention to management of financial flows in supply chains, although some studies [12] even show that information flow and material flow do not have significant impacts on the performance of supply chain, while financial flow has

a significant impact on the performance of supply chain management. In addition, the low cost of capital and certain technical problems, such as e-invoicing, difficult and costly development of IT platform, made unattractive of some SCF initiatives that have existed since the beginning of the 2000s and prevent their significant development. Supply chain finance is financial management that erases the boundaries of an individual company and can increase competitiveness and reduce the vulnerability of the supply chains, i.e. increase the capacity of supply chains to cope with external shocks.

Supplier financing program is strategically oriented program (see Figure 2). Program is initiated by the SC buyer, which opens access to financing at lower interest rates and enables faster collection of receivables to its suppliers. There are three participants in this SCF program, the SC buyer, suppliers and the bank, and after meeting the technical requirements related to the development of an appropriate automated IT B2B platform that processes the orders of the three sides and provides settlement, the logical structure and functionality of the program is relatively simple.

After delivery of goods (and services) by the supplier to the buyer SC (step 1), all other procedures are routinely

Figure 2: The SCF mechanism



Source: Author’s illustration

performed on automated and highly transparent IT platform. The supplier sends an e-invoice to the platform (2), SC buyer “takes” the e-invoice in his accounting IT system (3) and approves invoice to the IT platform (4). After making sure that the invoice has been approved supplier launches an order for payment (5), the bank receives order (6) and disburses the supplier cash within a maximum of 24 hours (7). Finally, at the end of the trade credit period SC buyer makes payment of the entire invoice amount (8).¹

If he wants, supplier can launch order for payment on the same day when the invoice is approved. Bank is discounting receivable, for the number of days the payment date preceding the date of expiry of the credit period, at an interest rate that applies to the SC buyer plus a service fee. Since they do not assume any additional credit risk related to suppliers, banks do not consider the credit risk of the suppliers, but only of SC buyer. Thus, the bank makes the payment to the supplier without recourse. SC buyer pays the invoice at maturity date to the amount that would otherwise be paid i.e. invoice value, with no additional interest costs or fees.

The possibilities for application of SCF in Serbia

A lot of companies in Serbia face severe problems with their liquidity and solvency. This is illustrated by the number of companies that have frozen the bank accounts and the number of companies in bankruptcy proceedings, which are presented in the introduction to this paper. Illiquidity not only undermines the ongoing competitiveness of companies and of the real economy, but also may threaten the survival of many companies and long-term perspective of the economy. Since failure of one company almost necessarily affects its buyers and suppliers, it means that rare financially solid companies cannot sit idly by. Option to financially help the weak supplier may add significant value to the dominant buyer.

1 In presented case “the trigger” for payment is approval of invoice. The other forms of SCF in which the trigger point is the receipt of the purchase order or the start of customs clearance etc. are in the early stages of development and implementation. These have been featured with significantly higher risk and it is reserved for use in extremely solid relationship between SC buyer and suppliers. The other forms of event-triggered financial services along the supply chain will not be discussed in this paper.

Policymakers should encourage this cooperation of buyers and suppliers, but also help banks to increase their loans to the real economy. We have recognized the SCF as a good mechanism for achieving these goals.

In the rest of the paper, we have dealt with the analysis of the prerequisites for the successful implementation of SCF in Serbia and the perception of the expected benefits, but also potential problems in its implementation. Our research has included analysis of companies’ financial statements and interviews with managers of banks and supplier companies.

Prerequisites for the successful implementation of the SCF

As prerequisites for the success of the program we have identified following factors: 1) a relatively long DSO at suppliers i.e. a relatively long DPO at SC buyer level; 2) the desire of SC buyers to develop strategic cooperation and long-term stable relationships with suppliers; 3) large volume of purchases; 4) SC buyer has in comparison to its suppliers better credit rating i.e. enjoys sufficiently lower interest rates.

To test the fulfilment of first prerequisite, for the illustrative purposes, we have examined the practice of working capital management in Serbia. On the one hand, we have calculated the average days payables outstanding with chains of retail store as buyer, and on the other side the average time to collect receivables in the food industry, specifically with companies in the confectionery industry, fruits and vegetables processing industry and meat processing industry. Seven examined retailers take huge share in the Serbian retail market, with total sales of over 2.1 billion EUR. The sample of companies in the food industry includes 32 companies, 5 large and 27 medium-sized companies, with total sales of about 550 million EUR². The analysis used publicly available data for year ended December 31, 2012 on the website of the Serbian Business Registers Agency.

2 Classification of enterprises by size is based on local regulations. The sample did not include small companies, as their data were not publicly available.

Table 1: Retailers' days payables outstanding, DPO and suppliers' days sales outstanding, DSO at the end of 2012

	Chains of retail store as buyer	Food industry suppliers
N	7	32
Total sales (mil EUR)	2,133.78	549.60
	<i>DPO</i>	<i>DSO</i>
<i>Mean</i>	53.96	118.53
<i>Std. dev.</i>	29.19	197.63
<i>Min.</i>	20.52	38.48
<i>Max.</i>	91.91	809.03
<i>Mean (2011)</i>	61.81	113.41

Source: [14, derived data]

As we can see in Table 1, the average buyers' DPO is about 54 days, which is about 8 days shorter than in 2011. The longest time for payment of liabilities to suppliers is with one of the chain with the largest market share and the DPO is around 92 days. On the other hand, the average collection period of receivables for suppliers in the food industry is as much as 119 days, and for about 6 days longer than in the previous year. The big difference between the DPO and DSO can be partially explained by the fact that buyers' trade payables include liabilities to importers, for electricity, fuel and utility services where payment periods are typically significantly shorter. On the other hand, suppliers' DSO includes also the average time to collect receivables from other buyers, which is probably longer than DSO with the big chains of retail store.

We have not been in position to directly examine the willingness of SC buyers to offer SCF to their suppliers. However, in our discussions with banks' executives as potentially initiators of SCF we have identified following companies: chains of retail stores, energy and telecommunications companies, some state-owned enterprises, the tax administration (for a VAT refund), strategically important

exporters (with state guarantees for those with low credit rating) and other large first class client companies. Each of these initiators has a large annual volume of purchases from their suppliers. To illustrate this we calculated the total volume of purchases from suppliers in seven chains of retail stores. Total yearly purchases are slightly less than EUR 3.5 bn.

Suppliers must finance their working capital. Trade credit is an important source of funds, but after exhausting the possibilities of further funding from this source, companies have turn to short-term bank loans. Reasonably, banks require a risk premium and charge higher interest rates for the riskier loans. As a rule, the cost of debt for large SC buyers with high credit ratings is significantly lower than the cost of debt for the largest number of their suppliers, particularly for SMEs. Of course, this interest rate difference varies from case to case and from bank to bank. In the absence of reliable publicly available data and academic research on this topic, our insight into available data showed that the approximate difference between the interest rate for first class large borrower (category A, according to NBS classification) and interest rates for medium-sized enterprise with medium credit rating (category C) for the loans in RDS is in the range from 6% to as much as 11%.

To highlight specific financial benefits of SCF for a typical medium-sized local company we have compared SCF with discount loan paying mean interest rate of the previously indicated range of 18.5% (see Table 2). In this example, we assume invoice value of 1 mil RSD and the credit period of 90 days. We suppose that bank administrative costs for the SCF are at the same level with the administrative costs of processing the application for discount loan, which allow us to omit them from the analysis.

Table 2: Illustration of financial benefits for suppliers: case of first class SC buyer and typical medium-sized company in Serbia

Day of the inflow	Cash flow to supplier		
	SCF (SC buyer's interest rate 10%)	Discount loan (supplier's interest rate 18.5%)	Difference
0	976,440	956,414	20,026
30	984,293	970,942	13,351
60	992,147	985,471	6,676
90	1,000,000	1,000,000	0

Source: Author's calculations

The column “Discount loan” reflects the amount of cash that would be obtained with the assumption that the company returned the bank face value of RSD 1 mil on the 90th day. Assuming continuous yearly sales in same amount and requesting payment of the 0th day, annual interest costs for supplier would be lower (and net income higher) by RSD 80.104 (4 x 20.026) compared to the bank loan alternative. Suppliers who do not have liquidity problems and do not want discounted cash inflow can wait for the end of the trade credit period (90th day) when they will receive the full amount. Finally, some suppliers may decide to require payment on any other day between the date of approval of invoice and the end of the trade credit period.

Apart from the evident decrease in financial costs and consequent increase in profitability, for a number of suppliers with liquidity problems a major benefit of the program is earlier and certain cash inflows. For some SMEs suppliers this may be the only way left to finance operating cycle and to maintain production. To realize the full benefit of the lower cost of capital, suppliers need to request earlier payment as soon as it is possible.

Benefits and accomplishments of SCF

In addition to above calculated financial benefits to suppliers we have identified a number of other benefits of SCF to suppliers, buyers and banks, and at the level of the national economy as a whole. It is reasonable to expect that the materialization of just some of them may, to some extent, increase liquidity and preserve competitiveness of companies in the real economy. To examine the perceived benefits of the SCF by banks and suppliers, we have conducted a series of interviews with executives of local banks and companies. The answers are summarized below.

Banks are already offering early collection of receivables to companies in the form of factoring and promissory note discounting, and also a secured short-term loan with pledge of receivables. In this sense, the SCF could be viewed as product that could compete with these existing bank products and produce effects of revenue cannibalization. Despite this, banks have responded that SCF makes to them very interesting product and would be

very interested to offer it to SC buyers. Among the benefits perceived by banks the following could be pointed out:

Increasing revenues. In addition to the realized interest and fees from SCF, by tying of large SC buyers and their suppliers bank opens up the possibility of cross selling of other banking products.

Reduction of credit risk. Due to increased exposure to high quality clients, there are expected reduction of the related credit risk provisions and allowances for loan impairment. Because of high transparency and visibility of IT platform, it is very easy to monitor bank exposure and to have early warning signal of potential problem with repayment.

Low administrative cost and simple execution. In comparison to promissory note discounting or factoring transactions, SCF transactions go through automated IT processes with very low manipulation. The costs are lower and execution is easier even if compare SCF with the processing of applications for conventional short-term loans.

Does not compete with existing banking products. Products that could potentially compete to SCF, such as note discounting, factoring and providing payment guarantees to large buyers for making payments to their suppliers, are poorly developed. The reason is that SC buyers usually do not give supply chain suppliers notes or guarantees for payment and often do not want to give their approval that the suppliers can make the factoring of receivables from SC buyer.

Bearing in mind the above-illustrated financial benefits for suppliers, it is not surprising that all the managers we interviewed (in the position of the suppliers) expressed their interest to participate in the SCF. Choosing between financial costs savings and benefits of earlier cash inflows, respondents emphasize second mentioned benefit. Interestingly, unlike the managers of banks, managers of suppliers believe that SC buyers will be interested to offer the SCF. They expect also that banks should be interested in SCF. Other identified significant benefits that cannot easily be “financially quantified” can be summarized as follows:

Benefits of developing long-term strategic relationship with the SC buyers. As the benefits of stronger linkages

respondents emphasized the reduction of marketing costs, logistics costs and costs of holding excessive inventories. In the case of companies that also produce private label products for chains of retail stores, managers highlighted the benefit of reducing the risk of losing the contracts; since the retailers' requirements in terms of delivery time and product quality are so very rigorous there is a constant fear of breaching the contract due to liquidity problems. Some see SCF as a way of "formalization" of their position in supply chain, expecting a better position in annual negotiations with buyers. Finally, since respondents do not expect that financially weak SC buyers can get SCF from the banks, they see the SCF as a means to identify the quality buyers with whom they need stronger attachment.

Benefits of the side of the relationship with their suppliers, due to the ability to pay their liabilities on time. Some suppliers offer cash discounts for early payment in the range of 1% for discount period of 15 days to 3% for payment in advance or cash on delivery and some suppliers have clauses on minimum order quantity, which due to illiquidity cannot often be met. Sometimes it is possible to achieve a lower cost of inputs in the case of payment obligations in a short timeframe. At the end, they could reorient to the suppliers of quality inputs that do not allow open account sale. This is especially true when purchasing inputs from abroad.

Substitution of expensive sources of financing. They will gladly get rid of factoring. They point out that in comparison with factoring, SCF is cheaper, non-recourse, source of financing and also looks easier and simpler.

Improved cash flow management. Responders expect that the IT platform is transparent enough so that they can see how much money they can get at any day, which, also, eases cash flow forecasting processes. If they are not short of cash, they will wait until the end of credit period to get more cash.

In reviewing the available literature on the topic, we have found a number of benefits for SC buyers, which are: 1) primarily, stabilization of the financial health of the upstream links of the supply chain in order to reduce the uncertainty of supply for SC buyers; 2) strengthening of connections and interdependencies among links in the supply chain and developing long-term strategic

relationships with SC suppliers; 3) bearing in mind the benefits that are provided to suppliers, buyer can negotiate to lower the price of inputs or extend payment deadlines; 4) freer use of its working capital management strategies without the risk that those moves will threaten suppliers; 5) no additional cost, either towards the bank, because the bank charges are borne by suppliers, or towards suppliers, since the payment is made in the amounts and time periods in which buyer normally pay obligations; 6) user-friendly payment platform with high transparency which can reduce administrative cost in finance department related to monitoring and payment of liabilities to suppliers; 7) possibility of attracting suppliers of quality inputs that didn't want to sell to SC buyer due to long terms of payment.

At the level of the national economy, we envisage the following benefits: 1) reducing liquidity problem in important and large supply chains, therefore, to a large extent, reducing the overall illiquidity in the real economy (even though the SCF is offered only for the first tier of the supplier, this supplier can pass the "fresh money" to further links in the chain); 2) closing gaps in the credit market, i.e. improving access to cheaper capital for SMEs; 3) increasing the competitiveness of SMEs based on the reduction of financial costs, the consolidation of their position within the supply chains, and reducing the risk that they will be squeezed out by foreign suppliers; 4) preventing of bankruptcies, that is, increasing survival rates of SMEs; 5) in the case that the SC buyer is exporter, strengthening of export chains and increasing volume of export; 6) activation of immobilized liquid assets in banks, increasing banks' exposure to healthier clients, which, to some extent, means reduction of overall risk i.e. increase in capital adequacy in the banking system.

Problems, the necessary activities and the potential role of government in the development of SCF

The managers of banks as a major problem for the implementation of SCF perceived potential lack of understanding and unwillingness to accept SCF by SC buyers. Another problem is the relatively high initial costs for the development of IT platforms. Law on the Terms for the Settlement of Monetary Obligations in Commercial Transactions [16], which came into force this year, restricts

the freedom of contracting credit period between the two parties. Due to the length of operating cycle in certain industries adapting SC buyers to the prescribed payments deadlines is not possible to achieve in “natural” way. For this reason, some of uniformed SC buyers can see SCF as an additional pressure in regard to the abolition of freedom in setting terms of payment. Although SCF is not in conflict with the Law, the Law may interfere with SCF in terms of setting out long payment periods voluntary negotiated between the buyer and the SC suppliers that agree with them. Additional banks’ concerns are the worry that sustainability of program could be jeopardized due to improper behaviour of some participants and the need to adapt bank’s internal procedures. Potential challenge is meeting the requirements of Anti-money Laundering Law and related Know Your Client procedure because SC buyer’s suppliers are not necessarily clients of the bank.

Necessary activities to be taken in the development of the SCF in the banks are: intense affirmation of the program with a clear emphasis on potential gains for all parties in the program; the in-house development or purchasing of software for the IT platform; developing the technical setup, workflow diagrams, and legal documentation; preparation of some type of code of conduct for future participants in the SCF; defining bank procedures to make Know Your Client process effective. The availability of bank credit to support businesses has become a political issue and the techniques of supply chain finance have been mentioned in that connection [3]. In our case, we propose active involvement of the government, which should include following: 1) setting incentives for the banks for the development of IT platforms in the form of tax breaks or subsidies; 2) promoting e-invoicing³; 3) reconsideration of the content, the consistency in the implementation and sustainability of the Law on the Terms for the Settlement of Monetary Obligations in Commercial Transactions; 4) encouraging the involvement of large state-owned enterprises, as well as companies with majority state ownership and tax administration, in the role of the SC buyers in SCF; 5) in order to encourage export, offering state guarantees to banks for SCF programs of low credit

rating exporters in strategically important sectors i.e. in sectors with comparative or competitive advantage (for list of the sectors, see: [8]).

Conclusion

It seems that today the possibilities of passing “fresh money” into the real economy in order to extinguish fire of illiquidity are pretty exhausted. This is indicated clearly by depletion of possibilities to continue granting subsidies for bank loans for liquidity and working capital, problems in the work of some state institutions that have been main providers of state subsidies, and stopping the idea of forming a development bank. It did not happen either the reduction of debt on the books, since the idea of implementing multilateral compensation had not been implemented and the effects of the implementation of the Law on Negotiated Financial Restructuring of Companies are quite small (or even non-existent). Serbia failed to initiate, to a significantly extent, private equity or venture capital funds, which would certainly be helpful for not such a small number of SMEs. Due to costs or due to complexity, recorded volume in the factoring and note discounting transactions, as alternative ways for earlier receivables collection, are more than modest. Because of the large accumulated NPLs and high credit risk, banks constantly reduce lending to all but first-class companies. In this bleak situation SCF seems as a very promising solution. It should be borne in mind that due to the many benefits, in the last 2-3 years this way of financing recorded the enormous growth even in developed economies.

In a SCF a SC buyer and its suppliers work together with a bank, in order to optimize the financial flows resulting from trade. Supply chain finance helps ensure that suppliers of financially solid companies have access to liquidity and cheaper source of financing to guarantee the smooth flow of goods throughout the supply chain. Participating in SCF allow to reduce working capital, both to buyers and to suppliers. Supply chain finance helps improving supplier-buyer relations and development of their strategic partnership. For many local SMEs supply chain finance could be the key to survival and to future competitiveness. Supply chain finance increases banks’

³ Electronic and automated invoice processes can result in savings of 60-80% compared to traditional paper-based processing [3].

revenues, reduces risk exposure and decreases provisions for credit losses. It appears to us that, in choosing between banks, suppliers, customers and the government, is most realistic to appeal to banks to consider the SCF and, hopefully, to approach to its development.

At the end, we should point out the most attractive feature of SCF in our opinion – it is there but not there. The suppliers can get, if they wish, a full payment by waiting for the invoice maturity date; SC buyer pays when they usually pays and as much as they would normally pay – invoice value with no additional interest costs or fees.

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Miroslav Todorović

is associate professor at the Faculty of Economics, University of Belgrade. He teaches the following courses at the undergraduate, and master's level: Business Finance, Corporate Restructuring, Auditing, Issues in Corporate Finance, Issues in Auditing, Strategic Finance, Corporate Financial Management and Investment Management and Policy. He also teaches subjects on PhD studies at the Faculty of Economics in Belgrade and Faculty of Economics in Kragujevac. He is the author or co-author of numerous articles, conference proceedings, and monographs in the fields of finance and accounting. He received his BSc (1994), MSc (1998) and PhD degree (2005) at the University of Belgrade.

Jelena Perović
University of Belgrade
Faculty of Economics
Department of International
Economic Relations

Milena Đorđević
University of Belgrade
Faculty of Law
Department of Civil Law

NEGOTIATIONS OF CONTRACTS FROM A PERSPECTIVE OF LEGAL CERTAINTY IN INTERNATIONAL BUSINESS TRANSACTIONS*¹

Značaj pregovora za zaključenje ugovora iz
perspektive pravne sigurnosti međunarodnog
poslovnog prometa

Abstract

In this paper the authors analyze the legal regime applicable to negotiations in comparative law, with a special emphasis on the solutions adopted in uniform law. The general hypothesis of the paper is that the differences in rules on negotiations in various legal systems are likely to jeopardize legal certainty in international business transactions as they may lead to unexpected outcomes in the field of pre-contractual liability. For that reason, the advance understanding of the applicable law to negotiations is of utmost importance in international business transactions as it may significantly affect party's overall cost calculation and liability, in particular in case of failed negotiations. Upon examining the approaches to negotiations taken by two major legal systems (civil law and common law), the content of the sources of uniform contract law and the practice of courts and arbitral tribunals, the authors conclude that, irrespective of the law applicable to negotiations, the parties may exercise critical impact on the legal framework of their negotiations by concluding different kinds of agreements on negotiations. However, in doing so, the parties need to be aware of the importance of predictability of the solutions to be applied, since predictability is one of the crucial elements of legal certainty in international business transactions.

Key words: *legal certainty, international trade, contract law, negotiations, pre-contractual liability, good faith, freedom of contracting*

Sažetak

U ovom radu autori analiziraju pravni režim pregovora u uporednom pravu, sa posebnim osvrtom na rešenja uniformnog prava. Rad se zasniva na hipotezi da razlike u pravilima o pregovorima u različitim pravnim sistemima mogu da ugroze pravnu sigurnost međunarodnog poslovnog prometa jer mogu da dovedu do neočekivanih ishoda na polju predugovorne odgovornosti, i s njom povezanih dodatnih troškova. Na osnovu ispitivanja razlika u pristupu pravnom uređenju pregovora u dva velika pravna sistema (kontinentalnom i anglosaksonskom), sadržaju pravila o predugovornoj odgovornosti u izvorima uniformnog ugovornog prava i sudske i arbitražne prakse, autori zaključuju da, bez obzira na pravo merodavno za pregovore, strane mogu da presudno utiču na pravo oblikovanje svojih pregovora kroz zaključenje različitih oblika sporazuma o pregovorima. Pri tome, treba da imaju u vidu značaj predvidljivosti merodavnih pravnih rešenja, jer je predvidljivost jedan od ključnih elemenata pravne sigurnosti u međunarodnom poslovnom prometu.

Ključne reči: *pravna sigurnost, međunarodna trgovina, ugovorno pravo, pregovori, predugovorna odgovornost, princip savesnosti i poštenja, sloboda ugovaranja*

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Introduction

In modern international business, the conclusion of contracts of significant value, complex content or nature, as well as the contracts which provide for extension of their performance over a longer period of time is normally preceded by negotiations. It can hardly be imagined that certain international commercial contracts, such as contracts for transfer of technology, long-term business cooperation, franchising, distribution, performance of construction works and similar are concluded without prior negotiations. As a matter of principle, negotiations are fundamentally important for a contract, since their course and outcome define not only the conclusion of a contract, but also its content and, consequently, its performance. Apart from this basic role, the negotiations may have a crucial impact on the interpretation of a contract [13, pp. 495-505].

The negotiation process *de facto* begins already in the first moment where the parties mutually express their common interests with respect to the conclusion of a certain contract. During the negotiations, the parties analyze the possibilities for conclusion of the contract, exchange their points of view, discuss the questions relevant for a particular contractual relationship, such as the realization of any previously necessary studies, financing terms, insurance, appropriation of necessary licenses, hiring third persons capable of providing a certain professional assistance or performing a certain service. Additionally, the parties negotiate specific clauses of the future contract, especially those relating to the time limitations and the dynamics of performance of obligations, means and place of performance, quality and quantity of goods or type of services to be rendered, price to be paid, method and place of payment, necessary guarantees, effects of hardship and *force majeure* on the performance of contractual obligations, applicable law, dispute resolution mechanism etc. The questions discussed during negotiations are numerous and diverse and they relate to both factual and legal circumstances that may be important for the conclusion of a contract [14, pp. 258 et seq.].

Business in a globalized world brings together negotiating partners from very different cultures and

business traditions, with a wide range of negotiating styles and experience. While this variety is a foundation of today's vibrant trading community, it also increases the chances for costly misunderstandings that impede the smooth flow of business [7, passim.]. The certainty with respect to the legal regime applicable to negotiations is particularly important in international business transactions, which, by definition, include conclusion of contracts with partners from foreign markets. Naturally, parties to international transactions often find themselves in a situation where the negotiations that they undertake are governed by a law other than the law of the country of their nationality. It is therefore necessary to critically examine the approaches taken in comparative law with respect to the basic legal principles of negotiations and the legal nature of agreements made during negotiations in order to assess to what extent possible differences in this field of law may affect legal certainty in international business transactions.

Freedom of negotiation and the principle of good faith

Parties' liability. An important issue which arises when negotiations fail is that of determining if and to what extent the parties must respect certain obligations, even in the period before the conclusion of the contract. The approach to this problem varies substantially from one legal system to another [3, p. 110], and this issue is, not surprisingly, considered as "among the most sensitive in comparative law" [22, p. 300].

Civil law systems. In civil law countries, two basic principles apply to negotiations: freedom of negotiation and the principle of good faith. The principle of freedom of negotiation means that the negotiations do not oblige the parties to conclude the contract and that each party may withdraw from the negotiations whenever it wants. Freedom of negotiation is based on the general principle of *freedom of contracting* which, among other, entails the freedom to decide whether to conclude or not to conclude a contract. Accordingly, each party is free to decide whether it wants to conclude the contract that is the subject-matter of negotiations and, as a matter of

principle, it can withdraw from the negotiations without any legal consequences.

Nevertheless, the freedom of negotiation is not absolute. The negotiations must be led in good faith, in a correct way and they should be aimed at the conclusion of the contract. In civil law countries, this requirement stems from the principle of good faith, which is one of the basic principles of contract law. The negotiations must not be used for realization of forbidden or immoral goals, such as the betray of trust of the other party and the abuse of its business secrets, negotiation without the intent to conclude a contract and with the aim to prevent the other party from making a business deal with a third person, extension or delay of negotiations with the aforementioned aim, as well as unilateral cessation of negotiations in the advanced stage without a justified reason [20, pp. 143 et seq.]. In most general terms, the negotiations can generally be led freely and stopped whenever the parties so wish, but if one of the parties is acting *mala fide* and it causes damage to the other party, the party acting *mala fide* shall be liable for the damage caused [18, pp. 854-865]. A general view on the rules of pre-contractual liability in civil law countries allows for the conclusion that these rules, whether they are provided for by the law or established by case law, are based on the principle of good faith [6, pp. 5-69]. The parties are obliged to observe this principle not only during the conclusion and performance of the contract, but also during negotiations. Therefore, the parties must lead the negotiations in a scrupulous and loyal way and in good faith.²

Common law systems. Unlike civil law countries, common law countries, and especially English law, take restrictive approach to pre-contractual liability. In these countries, pursuant to the traditional principle that the offer is revocable, the dominant concept is the one that each party may legitimately protect its interests during negotiations and is free to stop the negotiations at any point, up until the moment of conclusion of the contract [9, pp. 58 et seq.]. In English law, the principle of good faith is not considered to be a general principle so, consequently,

English law does not set an obligation to observe this principle during negotiations.³ On these bases, there is generally no liability for the cessation of negotiations in common law countries, so the negotiating parties may withdraw from negotiations for any reason whatsoever, or they do not even have to state any reason at all for their withdrawal. However, in English law pre-contractual liability exists in case of *negligent misrepresentation* during negotiations [17, pp. 172 et seq.]. In that sense, the *House of Lords* in the case *Hedley Byrne Co., Ltd. v. Heller & Partners, Ltd.*⁴ has extended the application of the rules on liability for damage caused by a tort to the case of negotiations during which one party, relying on the statement of the other party and taking account of the special relationship that had existed between these two parties, was falsely led to believe that the contract would be concluded and, thus, suffered damage.⁵ Similar situations in the USA and Australia may also be addressed by the notion of promissory or equitable estoppel [19, p. 275].

Uniform contract law. Parties negotiating international contracts frequently submit their agreement to neutral rules which do not favour any of them. In that respect, they often provide for the law of a third country (for example Swiss law) as the law applicable to the contract. However, it commonly happens that the parties are not familiar with a law of a third country chosen by them, so that some of the rules or principles of this law are not complying with the parties' intentions and expectations. For these reasons, there is an increasing need among business people for uniform transnational rules which they can apply to their international contracts as a neutral legal framework. An attempt to set out uniform rules adapted to the needs of international commerce has been made in UNIDROIT Principles of International Commercial Contracts (UNIDROIT Principles) [11], [22].

² See: [4, p. 31], where the following position of the French jurisprudence is reported: "négociations doivent être menées de bonne foi: si chaque partie reste libre de conclure ou pas le contrat définitif, elle engagera sa responsabilité si elle a rompu sans raison légitime, brutalement et unilatéralement des pourparlers avancés".

³ This standpoint has been confirmed in the case *Martin Walford v. Charles Miles* (1992), 1 *Weekly Law Reports*, p. 174, where it was explicitly underlined that: "the concept of a duty to carry on negotiations in good faith is inherently repugnant to the adversarial position of the parties when involved in negotiations. Each party to the negotiations is entitled to pursue his (or her) own interest, so long as he avoids making misrepresentations."

⁴ Law reports, Appeal case (1964), p. 465, cited in [1, p. 246].

⁵ The same principle was applied in the case *Caparo Industries plc v. Dickman and Others* (1990), 1 All England Law Reports, 568. See [17, p.173].

The UNIDROIT Principles are gaining an increasing practical importance. Already in 2004, on the occasion of the publication of the second edition of the Principles, the Governing Council of UNIDROIT observed that “the success in practice of the UNIDROIT Principles over the last ten years has surpassed the most optimistic expectations” [21, p. viii]. Even though this assertion may have sounded too audacious at the time it was pronounced, the current statistics confirm its validity, since the UNIDROIT Principles are becoming widely accepted by courts and, particularly arbitrations.⁶ The Unilex database lists 152 court decisions and 170 arbitral awards where the Principles were applied in the period from 1994 to date.⁷ What is more, the UNIDROIT Principles have made another significant and noteworthy practical influence, as they served as a source of inspiration for reforms of national contract laws in different parts of the world [22, p. 17].

With regard to the rules relevant for negotiations, UNIDROIT Principles mainly follow the civil law approach, but by relying on the threshold of ‘bad faith’, they offer “an intermediate solution that should be acceptable to parties from most legal orders” [22, p. 300].

Under Article 2.1.15. of the UNIDROIT Principles:

- “(1) A party is free to negotiate and is not liable for failure to reach an agreement.
- (2) However, a party who negotiates or breaks off negotiations in bad faith is liable for the losses caused to the other party.
- (3) It is bad faith, in particular, for a party to enter into or continue negotiations when intending not to reach an agreement with the other party.”

As to the actual meaning of good faith in the context of negotiations, the official commentary to the UNIDROIT Principles says that: “A party’s right to enter into negotiations and to decide on the terms to be negotiated is, however, not limited, and must not conflict with the principle of good faith and fair dealing... One particular instance of negotiating in bad faith which is expressly indicated in para (3) of this article is that where

a party enters into negotiations or continues to negotiate without any intention of concluding an agreement with the other party. Other instances occur when one party has deliberately or by negligence misled the other party as to the nature or terms of the proposed contract, either by misrepresenting facts, or by not disclosing facts which, given the nature of the parties and/or the contract, should have been disclosed...” [11, p. 60].

The relevance of good faith negotiations under UNIDROIT Principles was underlined in the practice of International Centre for Settlement of Investment Disputes (ICSID), in a dispute between US company and the Republic of Turkey. The dispute arose out of failed negotiations between US company – Claimant in this case, and Turkey as a Respondent. Namely, in 1994 Claimant started negotiations with Respondent to develop the energy sector in Turkey which were followed by granting of a Concession Contract to build a coal mine and a power plant in 1998. However, the subsequent negotiations were delayed by repeated changes in Turkey’s legal framework for the energy sector that culminated in the termination of the investment project in 2001. Although no mining operations were undertaken nor was construction commenced, Claimant expended millions of dollars in the late 1990s on an initial feasibility study, follow-up studies and several rounds of negotiations with government agencies. Hence, Claimant initiated proceedings before ICSID requesting, *inter alia*, damages for Respondent’s unjustified breach of negotiations. Respondent argued that, absent evidence to the contrary, negotiations must be presumed to have been carried out in good faith and in the light of Art. 2.1.15 UNIDROIT Principles, there was no obligation to reach an agreement or liability for failure to do so. Nevertheless, the Arbitral Tribunal found that Respondent’s continuous changes in the legislative environment breached the fair and equitable standard under the U.S.-Turkey BIT, which mandates host States to provide a stable and predictable business environment for foreign investors. Consequently, Claimant was awarded with damages.⁸

Serbian law. The Serbian Law on Contracts and Torts contains rules on negotiations which are in every respect

⁶ In arbitration, the UNIDROIT Principles apply within their scope to the exclusion of any particular national law, subject only to the application of those rules of domestic law which are mandatory. More on the application of the UNIDROIT Principles, see [10, pp. 5 et seq.].

⁷ See <http://www.unilex.info/>

⁸ See *PSEG Global & Others v. Republic of Turkey*, ARB/02/5, 19.01.2007, available at Unilex website.

adapted to contemporary tendencies in comparative law and to the needs of modern business [16, pp. 264 et seq.].

Pursuant to Art. 30 of the Law:

- “(1) Negotiations preceding the entering into contract shall not be binding, and each party shall at any moment be free to interrupt them.
- (2) However, a party conducting negotiations without intending to enter into contract shall be liable for damage caused by conducting such negotiations.
- (3) A party conducting negotiations with intent to conclude a contract, but afterwards withdrawing from them without a justified reason, thus causing damage to the other party shall be equally liable for damage.
- (4) Unless otherwise agreed, each party shall bear their own expenses relating to preparations for entering into contract, while joint expenses shall be shared equally between the parties.”

Even a cursory look at the aforementioned rules of the Law on Contracts and Torts is sufficient to see the great resemblance between the solutions contained in the Law and the relevant uniform law rules. In that respect, it is particularly worth mentioning that the Law on Contracts and Torts was drafted long before the cited uniform law rules (in 1978), which is yet another confirmation of the fact that the Serbian legislator succeeded in trying to find the optimal solutions in the matter of legal regime of contract negotiations.

Agreements on negotiations

Different types of agreements. In international commerce, particularly in the context of complex dealings, a rather common practice is to sign documents that provide for the issues relevant for negotiating procedure. These are presented under various names: letter of intent (LOI), memorandum of understanding (MOU), letter of understanding (LOU), preparatory agreement, heads of agreement, temporary agreement, etc. These documents serve to establish the important elements of the negotiation procedure. The most typical examples of these elements are: reasons and goals of negotiations, time of commencement of negotiations, dynamics of negotiations, time limit for

completion of negotiations, place of negotiations, form in which the negotiating parties will exchange their points of view, questions already settled and questions to be settled during negotiations, obligations of each party during negotiations (e.g. preparation of a certain study, acquisition of certain documents, hiring certain experts) etc. Other than that, some of the frequently used clauses in the agreements on negotiations are the exclusivity clause and the confidentiality clause.

Legal nature. In many cases, these kind of agreements leave ambiguity as to their binding nature and represent a true “*terra incognita*” in contract law. The doctrine of contract law pays little attention to their legal nature, meaning and effect. The aforementioned questions have not been settled in national laws and sources of uniform law either, and the opinions expressed in case law are extremely divergent [6, pp. 5-69].

Legal nature of the agreements on negotiation is questionable: are they legally non-binding expressions of will or do they represent the documents of *contractual* character? From the standpoint of classical contract law theories, an *a priori* simple answer can be given – negotiations do not oblige the parties to conclude the contract, and the parties are not bound by the acts that they undertake during negotiations, up until the moment of conclusion of the contract. This answer is logical, since the basic purpose of negotiations consists in giving an opportunity to each party to assess the circumstances important for a potential contract and to decide, on the basis of such assessment, whether it wants to conclude the contract or no. However, this stance may be challenged if one would be to consider this problem through the lenses of complex agreements on negotiations in modern business, as these often contain clauses that strictly and precisely define the obligations of the negotiating parties with respect to specific issues in the negotiation process. In these cases, one may reasonably ask whether the agreements of the aforementioned kind, bearing in mind the unambiguously expressed meeting of the minds of the negotiating parties with respect to the commitment to a certain precisely defined performance, may be considered as *contracts*, which would in turn render the liability for their violation a contractual one.

The difficulties in answering the said questions stem from the differences in approach of national laws to the issue of pre-contractual liability and the fact that in practice these agreements differ from case to case not only by their form, but also by their purpose. It is impossible to determine the binding character of this type of documents in general terms; this will depend primarily of the wording of the agreement and the applicable law [3, p. 110]. For these reasons, the agreements on negotiations and the problems arising therefrom must be seen in the light of the relevant circumstances of each particular case.

Case law. With respect to the question raised, different approaches can be identified in case law. In this paper we will attempt to provide a general overview of some typical situations where the problem of binding nature of negotiations agreements is likely to arise.

In the *Dupuis* case before the Commercial court of Brussels, the respondent (*Dupuis*), acting against the general agreement on takeover of a company concluded during the negotiations with the claimant, *GBL et Hachette*, performed the takeover of another company – *Editions Mondiales*. The Commercial court of Brussels found that the general agreement in the case at hand created a contractual obligation to lead the negotiations in good faith. According to the Court, the respondent did not act in good faith when it suddenly withdrew from negotiations, contrary to the obligations under the general agreement, and concluded the contract with the third person. In that sense, the Court concluded that the said general agreement represented a contractual basis of liability for cessation of negotiations. However, even though the Court that Dupuis had the contractual liability, the claim with respect to the transfer of shares to the claimant *GBL et Hachette*, was not granted because the general agreement did not stipulate the duty to *conclude the contract*, but rather to *lead the negotiations in good faith*.⁹

Unlike the Commercial court of Brussels, the Court of Appeals of Brussels in the case *FMC Corporation* took a restrictive view with respect to the legal nature of the letter of intent, which was disputed in the case at hand. According to the Court, a letter of intent *cannot* form a

basis of contractual liability until the parties do not reach an agreement with respect to all essential elements of the contract.¹⁰

The aforementioned question was also discussed in the decision of an International Chamber of Commerce (ICC) tribunal in the case of a joint venture in Iran. A Swedish manufacturer of trucks and an Iranian company signed a Memorandum of Understanding concerning the supply to the Iranian party of trucks and respective spare parts, the organization of the purchaser of an after-sales service, the setting-up of a joint venture and a future cooperation in the assembly of trucks. Thereafter, the supplier did not implement the MOU, failing to set up the joint venture. In the dispute, the Iranian party contended that the MOU did bind the parties, while the Swedish supplier sustained that such document did not bind them, since it had not agreed upon the specific contracts to be negotiated in the framework of such general scheme. The arbitral tribunal awarded damages to the Iranian party for the loss of the ability to enjoy the probable benefits of the aborted projects. In that respect, the tribunal invoked Article 5.1.4(2) of the UNIDROIT Principles¹¹ and concluded that rules that the expression of the intent to conclude a contract in general terms contained in the memorandum of understanding *binds* the parties to put their best efforts in order to conclude the contract. Pursuant to the decision of the tribunal, the respondent was obliged to recover damages caused to the claimant by breaching the obligation to put its best efforts in order to conclude the contract provided for in the memorandum of understanding.¹²

In another ICC case, a US supplier of telecommunications systems and a Middle Eastern supplier of cables entered into an agreement whereby the parties undertook to negotiate in good faith the supply of cables to the US party if the latter succeeded in becoming prime contractor for a telecommunications expansion project. The agreement did not contain a choice-of-law clause. The US supplier obtained the contract and became prime contractor, but the

9 Comm. Bruxelles, 24 juin 1985, Journal des Tribunaux (Bruxelles), 1986, p. 236.

10 Bruxelles, 14 juin 1984, Revue de droit commercial belge, 1985, p. 472.

11 This article stipulates: "To the extent that an obligation of a party involves a duty of best efforts in the performance of an activity, that party is bound to make such efforts as would be made by a reasonable person of the same kind in the same circumstances".

12 ICC case 8331/96, in ICA Bull., 2/1999, p. 67. Cited in [3, p. 105].

parties were not able to reach an agreement on the supply of cables. The question as to whether the undertaking to negotiate in good faith was valid and enforceable. The arbitral tribunal took the stance that, in determining the applicable law, it should prefer a legal system that would satisfy the expectations of the parties, i.e., a legal system under which the agreement would be considered valid. The tribunal decided in favor of New York law, after having ascertained that under such law the agreement would be enforceable. In addition, the tribunal emphasized that this result was in conformity with general principles of the law of international trade as expressed in the UNIDROIT Principles.¹³

On the other hand, the traditional position of English law with regarding the refusal of pre-contractual liability is systematically applied by the English courts to the agreements on negotiations in modern business transactions. English courts refuse to give any legal effect to this kind of agreements. Two decisions of English courts illustrate this standpoint. In one of the cases, *Cleveland Bridge* informed, by means of a letter of intent, *British Steel* of its willingness to conclude a contract with them and authorized them at the same time to begin the performance of that contract. The Court came to the conclusion that, in that case, no contract was concluded after the letter of intent was sent, despite the fact that one of the parties started to perform.¹⁴ In another case, *Waldorf v. Miles*, the House of Lords invoked the freedom of the negotiating parties to decide whether they want to conclude the contract or not and pointed out that English law does not recognize contracts which stipulate the commitment to conclude a contract, which includes the agreements on negotiations.¹⁵ This decision was heavily criticized in English doctrine [6, p. 50].

Consensual exclusion of obligations arising out of negotiations. In certain cases, the parties decide to include in their agreements on negotiations a clause which expressly provides for exclusion of any obligations that might arise from negotiations. An example of such

clause would be the following provision of a letter of intent: "All of the terms and conditions of the proposed transactions would be stated in the Purchase Agreement, to be negotiated, agreed and executed by the Parties. Neither Party intends to be bound by any oral or written statements or correspondence concerning the Purchase Agreement arising the course of negotiations, including this letter of intent, notwithstanding that the same may be expressed in terms signifying a partial, preliminary or interim agreement between the Parties", or the following provision of a memorandum of understanding: "The present MOU is not legally binding the parties. The exact terms and conditions of the future cooperation will be negotiated in due course and laid down in a contract, should circumstances permit".¹⁶ These clauses express the will of the negotiating parties to "dislocate" their agreement from the legal domain (*opting out clause*) and to conclude some sort of a "gentlemen's agreement" deprived of legal sanctions [2, pp. 115-157]. In that context, questions may be raised as to the validity of the clause excluding any legal effect of the agreement concluded.

Comparative law shows different approaches to this question. The French law starts from the rule contained in the Code of Civil Procedure which allows to the parties to bind the court by their legal characterizations,¹⁷ so in the light of that provision it is considered that the parties are entitled to exclude, by means of their equivocal expressions of will, the contractual character of their agreement [12, p. 58]. French law generally admits the validity of "gentlemen's agreements" and other "moral commitments", but the court is not automatically bound by the characterization of the parties with respect to the legally non-binding nature of their agreement if the circumstances of a specific case lead to conclude otherwise [6, p. 51]. The Belgian legal doctrine points out that the court must respect the equivocal will of the parties to deprive their agreement of legal effects, but only to the extent that this is not contrary to public policy and mandatory norms [6, p. 51]. On the other hand, the Dutch authors consider that "gentlemen's agreements" do not have the legal force of a contract, which does not necessarily mean that they are deprived of any legal effect

13 ICC award 8540/96, published on the Unilex website [cited in 3, p. 104].

14 *British Steel Corp. v. Cleveland Bridge & Engineering Co.*, (1984), All England Law Reports, p. 504.

15 1 Weekly Law Reports, p. 174 (1992).

16 The examples of clauses given pursuant to [8, pp. 49-50].

17 *Code français de procédure civile*, Art. 12(4).

[23, pp. 214-254]. In contrast to the somewhat reserved attitude of the civil law countries towards legal effect of these agreements, English law widely accepts the validity of the clauses which exclude legal effects of the agreement concluded (*subject to contract clauses*).¹⁸ Finally, according to the views expressed in American law, this kind of clauses is considered valid, although certain acts of the parties may nevertheless lead to their invalidity.¹⁹

The overview of the approaches taken in comparative law on the issue of the clauses which serve to exclude pre-contractual liability shows great diversity and considerable hesitation in taking a firm stance with respect to their admittance or challenge of their validity. The only exception is English law, which admits this type of clauses without reservation. For these reasons, it may be concluded that the validity and legal effect of “gentlemen’s agreements” primarily depend on the principles and solutions regarding the negotiations and pre-contractual liability in general accepted by the applicable law.

Confidentiality agreements

During the negotiations, parties often conclude agreements by virtue of which they commit to keep the information disclosed during negotiations confidential. Such an agreement may be phrased as a clause inserted into the text of an agreement on negotiations (*confidentiality clause*), or as a separate agreement – confidentiality agreement. In any event, the duty of confidentiality may bind just one or both negotiating parties. The duty of confidentiality is particularly often in negotiating transfer of technology agreements and know-how licenses, joint ventures, contracts for acquisition of company, distribution contracts, as well as other contracts which require disclosure of confidential information in order to enable the other party to assess all the circumstances relevant for the conclusion of the contract.

In practice, confidentiality clauses are often phrased in very broad terms: “The terms and conditions of this

Agreement shall be treated as confidential and such terms and conditions shall not be disclosed in whole or in part by either of the Parties without the prior consent of the other Party”, “The Parties agree to keep confidential all business and technical information relating to and acquired in the course of their activities connected with the present MOU”, “You shall hold secret all know-how and other confidential information disclosed to you by the Company or its employees”.²⁰

Duty of confidentiality of the parties who negotiate the contract is provided for by the UNIDROIT Principles under which: “Where information is given as confidential by one party in the course of negotiations, the other party is under duty not to disclose that information or to use it improperly for its own purposes, whether or not a contract is subsequently concluded. Where appropriate, the remedy for breach of that duty may include compensation based on the benefit received by the other party” (Article 2.1.16).

One of the key problems in practice with respect to confidentiality clauses as they are usually drafted in practice is to define what the confidential information is. As long as the party expressly declares that the information is to be considered confidential, it is clear that the receiving party is obliged to treat it as confidential. However, even in the absence of such an express declaration, the receiving party may be under a duty of confidentiality. This is the case where, in view of the particular nature of the information or the professional qualifications of the parties, it would be contrary to the principle of good faith and fair dealing for the receiving party to disclose it, or to use it for its own purposes after the breaking off negotiations [11, pp. 62-63]. Other problems that usually arise with respect to the confidentiality during negotiations are primarily related to the duration of duty of confidentiality and to the remedies of the aggrieved party in case of breach of confidentiality [6, pp. 304-311].

Agreements on certain aspects of negotiations

In certain cases, the negotiating parties insert in their agreements on negotiations the clauses which oblige one or both parties not to enter parallel negotiations with

¹⁸ See: [6, p. 51]. For more examples, see *Rose and Frank Co v. Crompton Brothers Ltd* (1925), Law reports, Appeal cases, 445; *Walford v. Miles* (1992), Law reports, Appeal cases, 128.

¹⁹ See in that sense: *Texaco Inc. v. Pennzoil Co*, 784 Federal Reporter (Second Series), 1133 (2nd Cir. 1986); [5, pp. 155-172].

²⁰ The examples of the clauses given pursuant to [8, pp. 241 et seq.].

third persons aimed at concluding the same contract – exclusivity clause. As a rule, the duty of exclusivity is time-limited and usually refers to a certain deadline or the realization or fulfillment of certain preconditions during the negotiations. The exclusivity clause contains clearly defined essential elements with respect to which the meeting of the minds of the negotiating parties has been achieved. Consequently, the confidentiality clause represents an agreement of a contractual nature, irrespective of the circumstance that the duty of confidentiality binds just one or both parties.

This being said, one may ask whether the duty of exclusivity exists even when it is not expressly provided for, i.e. whether the duty of a negotiating party to refrain from entering parallel negotiations during the initial negotiations stems from the very principle of good faith and, consequently, exists even in absence of an express agreement. It seems that the answer to that question is in principle negative. Parallel negotiations represent a common practice in business transactions on competitive markets and they constitute an expression of the freedom of contracting, pursuant to which each party is free to choose its contracting partner. For these reasons, the freedom to engage in parallel negotiations aimed at conclusion of the same contract should generally not be denied. However, the problem must be assessed in the light of all relevant circumstances of each particular case. Consequently, the aforesaid general conclusion may be nuanced. For example, if the parties stipulated, in their agreement on negotiations, hard commitments with respect to the negotiation process, including the duty to put their best efforts into concluding the contract and to lead the negotiations in good faith, the unilateral withdrawal from negotiations of a party wishing to conclude a contract with a third person may, if the other circumstances of the case allow for such a conclusion, represent the violation of the principle of good faith, irrespective of the fact that the exclusivity clause had not been expressly stipulated [6, pp. 32-33].

Agreements on negotiations often include a clause which sets the time limits and the dynamics of negotiations, as well as the deadlines for conclusion of a contract. An example of such clause is contained in the following

provision of a letter of intent: “Considering the urgency of this project, the contract will be signed as soon as possible after the initial discussions, and every effort will be made to make this possible within 30 days of the beginning of the initial discussions”. These clauses may provide for conditions and modalities of cessation of negotiations: “Within 120 days after completion of the feasibility study, each party shall inform the other as to whether it wishes to implement the project. In the event either party fails to so inform the other or decides not to implement the project, this letter of understanding shall be thereupon deemed terminated and neither party shall have any obligation thereafter to the other (subject to surviving secrecy obligations)...”.

Other possible clauses whereby the parties set up rules for future negotiations are those by which the parties grant each other a right of first refusal [3, p. 111], provide for the reimbursement of certain expenses in case of failure to conclude the contract, agree on organization and costs of feasibility studies, etc. [6, pp. 32-38].

Recommendations to negotiators

Considering the indicated differences in comparative law it can be difficult to determine the extent of the parties’ liability during negotiations without analyzing the legal system applicable in a specific case. Therefore, as a first step, the negotiators should identify the rules that govern the type of negotiation agreement in question in order to verify whether these rules conform to the expectations of the parties and whether there are mandatory rules that cannot be derogated by contract [3, p. 106]. It is equally important to define the dispute resolution mechanism in case the negotiations fail, as this is, in terms of legal certainty, a very sensitive phase in the development of a business transaction. To that end it is highly recommended to opt for arbitration as the preferred dispute resolution mechanism, since the international (or should we say a-national) character of this mechanism seems the best suited for the international character of the legal relation between the parties to international business transactions [15, pp. 31-47].

Upon identifying the legal framework in which the agreement is to be placed and the jurisdiction for eventual disputes, the negotiators should start to draft the terms of the agreement. The agreement should define in the most precise possible way the intents of each parties during negotiations and, as well as the scope of each particular clause in order to avoid any possible misunderstanding. The parties can explicitly state that certain (or all) statements in the agreement are not legally binding. The example of such type of clauses could be: "All of the terms and conditions of the proposed transaction would be stated in the Agreement, to be negotiated, agreed and executed by the parties. Neither party intends to be bound by any oral or written statements or correspondence concerning the Agreement during the course of negotiations". In the same context, the parties may expressly provide that a certain issue on which the meeting of the minds is not achieved during negotiations is of substantial importance for the contract, so without that meeting of the minds the negotiations do not bind the parties. Similarly, the parties may provide that the binding character of an agreement depends on a certain requirement of form (e.g. signing of a document in written form), they may enter the "subject to contract" clause etc. [8, p. 58]. On the contrary, the parties can expressly state that certain undertakings, as for example exclusivity and confidentiality duties, are legally binding, providing for the legal consequences and remedies in case of their breach. Before drafting these and similar clauses, the negotiating parties must always check whether they would be valid pursuant to the law applicable to their agreement.

Model contracts/clauses drafted by international organizations normally represent a result of a worldwide compromise offering companies engaged in international trade set of simple, fair and well-balanced rules that can help them negotiate and draft international contracts. Thus, model contracts and standard clauses are a very valuable tool for drafting the key elements of the agreement in question. In that respect, it should be noted that to date, the ICC has published fourteen model contracts: the ICC Model Commercial Agency Contract (ICC Publication No. 496), the ICC Model Distributorship Contract (ICC Publication No. 518), the Model Occasional Intermediary Contract

(ICC Publication No. 619), the ICC Model International Sale Contract – manufactured goods intended for resale – (ICC Publication No. 556), the ICC Model International Franchising Contract (ICC Publication No. 712), the ICC Short Form Model Contracts International Commercial Agency and International Distributorship (ICC Publication No. 634), the ICC Model Contract for Turnkey Supply of an Industrial Plant (ICC Publication No. 653), the ICC Model Selective Distributorship Contract (ICC Publication No. 657), the ICC Model Mergers & Acquisitions Contract 1 – Share Purchase Agreement (ICC Publication No. 656), the ICC Model Confidentiality Agreement (ICC Publication No. 664), the ICC Model Turnkey Contract for Major Projects (ICC Publication No. 659), the ICC Model International Trademark Licence (ICC Publication No. 673), the ICC Model Transfer of Technology Contract (ICC Publication No. 674), The ICC Model Subcontract – ICC Model Back-to-back Subcontract to ICC Model Turnkey Contract for Major Projects (ICC Publication No. 706). As far as the texts prepared by the ICC are concerned, the recently published Principles to Facilitate Commercial Negotiations are particularly important in the matter of negotiations, since they offer a practical guideline for negotiators in cross-border transactions.²¹ Apart from ICC, model contracts are also drafted by the International Trade Centre (ITC), which published a series of Model Contracts that take into account the increasing sophistication of international trade transactions and incorporate internationally recognized standards and best practices [10, foreword].

While model contracts certainly are of great importance for drafting and negotiating a particular contract, they should not be used without the appropriate knowledge on how to adapt them to the specific needs of the parties. That is why the parties should prepare the negotiations with the assistance of a lawyer who will make sure that the undertakings of the parties are lawful and effective. The same need for a close cooperation between the businessman and the lawyer exists during the whole negotiation stage, so that the parties are able to fully understand the legal aspects and especially legal consequences of the proposed

²¹ See <http://www.iccwbo.org/News/Articles/2013/New-ICC-business-principles-help-traders-navigate-world-of-international-deal-making/>

solutions. The assistance of the lawyer from the very beginning is particularly important where the contract is to be governed by a law different from the laws of negotiators. In such a case, the optimal solution would be to require advices of a lawyer from the country whose law is to be applied or who is otherwise familiar with the rules applicable to the agreement in question [3, p. 109].

Conclusion

The overview of rules and practices regarding negotiations in comparative law shows that two major legal systems – civil law system and common law system – take diverging approaches with respect to the legal effect of negotiations. These divergences in approach primarily stem from the different treatment of the principle of good faith in two respective legal systems. Serbian contract law, typically for a civil law system, provides for pre-contractual liability of the party which negotiates in bad faith. Therefore, the parties coming from civil law background should not encounter major differences in the legal regime applicable to the negotiations in the event that Serbian law governs the negotiations in which they take part. However, the same does not apply for the parties coming from common law countries.

In any event, in light of the principle of freedom of contracting, negotiating parties are allowed to shape the legal regime applicable to their negotiations by derogating from the provisions contained in the relevant contract law. This may be done by concluding different kind of agreements on negotiations. If the negotiating parties decide to establish a special regime for their negotiations, they should be strongly encouraged to resort to model contracts or model clauses drafted by one of the international organizations that promote unification of business law.

Whatever path the negotiating parties decide to take in creating the legal framework for their negotiations, they should be aware that the predictability of solutions is of the utmost importance in international business relations. Bearing in mind that such transactions involve parties from foreign markets and that such contracts are often governed by foreign law, the predictability of the applicable legal regime is an indispensable element of legal certainty

in international trade. This is particularly true in case of failed negotiations, as under some national laws – such an outcome may result in party's liability for the damages suffered by its negotiating partner. Consequently, business people should, before entering into negotiations, take into account the potential costs of failed negotiations.

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Jelena Perović

full professor at Faculty of Economics, University of Belgrade. Lecturing: International Commercial Law (bachelor classes), International Business Contracts (master classes), EU Private Law (master classes). She is the president of the Commission for the International Sale of Goods of International Association of Lawyers (UIA), Paris and a member of International Academy of Comparative Law, Paris. As an expert of the ITC Committee on International Commercial Model Contracts of UN/WTO/ITC in Geneva, professor Perović is the author of the ITC Model-contract for the International Commercial Sale of Goods. She is scientific collaborator for the *Revue de droit international et de droit comparé*, Bruylant, Brussels. Professor Perović is specialized in international business law, particularly international sales and related transactions. She has also acted for many years as arbitrator in international arbitration proceedings. Ms. Perović is vice president of the Jurists' Association of Serbia.



Milena Đorđević

is an assistant professor at the University of Belgrade, Faculty of Law where she teaches International Commercial Law, International Commercial Arbitration, EU Trade Policy and Legal English. She holds a LL.B. (U. Belgrade), LL.M. (U. Pittsburgh), and a Dr. iur. (U. Belgrade). She also coached Belgrade moot team for the Willem C. Vis International Commercial Arbitration Moot for the past eleven years. Previously, she served as Legal Consultant at USAID/ WTO Accession Project for former Yugoslavia, was a national delegate at the GTZ Open Regional Fund's project on promotion of the CISG and arbitration in Southeast Europe and a visiting professor at University of Pittsburgh where she taught a course on International Commercial Arbitration. She is also an arbitrator at the arbitration courts attached to chambers of commerce in Serbia and Montenegro and does consulting work for domestic companies, institutions and international organizations. Ms. Đorđević has published extensively on the CISG, arbitration, WTO law and EU trade law both in Serbia and internationally. Ms. Đorđević's publications also include a monograph – Commercial and Economic Law of Serbia co-authored with Prof. Mirko Vasiljević and published by Kluwer Law International in the International Encyclopedia of Laws series. Her doctorate thesis on "Damages for Breach of International Sales Contract" was awarded by the Belgrade Chamber of Commerce in May 2013 as one of the best thesis defended in academic 2011/2012 year.

Stevo Janošević

University of Kragujevac
Faculty of Economics
Department of Management and
Business Economics

Vladimir Dženopoljac

University of Kragujevac
Faculty of Economics
Department of Management and
Business Economics

INNOVATION-BASED COMPETITIVENESS: THE CASE OF SERBIA*

Konkurentnost zasnovana na inovacijama:
slučaj Srbije

Abstract

Innovation is certainly one of few issues whose relevance to social and economic development has been widely recognized. Innovation is a fundamental factor in economic growth and prosperity. This is particularly important in a knowledge-based economy. Taking into account the nature of innovation, this paper explores its role and importance in the process of creating competitive advantage. The first part analyzes typical aspects of innovation as the basis of competitive advantage. Since innovation can be seen as a tool for enabling changes, we start by examining the relationship between innovation and change. We then explore the relationship between innovation and sustainable competitive advantage and describe key innovation indicators. In a knowledge-based economy, intangible assets (intellectual capital) form the core of the value-creation process. Since innovativeness is often considered as a significant element of intangible assets, we also explore this issue. Finally, we analyze the innovation activities of Serbian companies, whose performance is unsatisfactory and results from low competitiveness level of the entire economy. This is especially important since economic crisis in Serbia is structural in its nature, which is why it is necessary to implement innovation-driven structural change.

Key words: *innovation, competitive advantage, intangible assets, intellectual capital, knowledge-based economy*

Sažetak

Malo je pitanja koja odlikuje tako velika saglasnost kao što je pitanje uloge inovacija u društvenom i ekonomskom razvoju. U pitanju je fundamentalni faktor ekonomskog rasta i prosperiteta koji dobija posebno na značaju u ekonomiji zasnovanoj na znanju. Imajući u vidu samu prirodu inovacija, u radu se razmatra uloga i značaj inovacija u procesu stvaranja konkurentne prednosti. Prvi deo je posvećen analizi karakterističnih aspekata inovativnosti kao faktora konkurentne prednosti. Budući da inovacije predstavljaju sredstvo za ostvarivanje promena, izlaganje otpočinje analizom odnosa inovacija i promena. Zatim sledi razmatranje značaja inovacija za stvaranje i održavanje konkurentne prednosti, kao i prikaz ključnih indikatora inovativnosti. Poseban deo rada je posvećen razmatranju nematerijalne aktive (intelektualnog kapitala) kao ključnog pokretača inovativnosti, pošto u ekonomiji zasnovanoj na znanju, ili inovacionoj ekonomiji, okosnicu procesa stvaranja vrednosti čini upravljanje nematerijalnom aktivom. Izlaganje završava sveobuhvatnom analizom inovativne aktivnosti Srbije čije su inovacione performanse nezadovoljavajuće i povezane su sa malim nivoom njene konkurentnosti. Ovo posebno dobija na značaju imajući u vidu da je ekonomska kriza u Srbiji strukturne prirode, a inovacije su pokretač strukturnih promena.

Ključne reči: *inovacije, konkurentna prednost, nematerijalna aktiva, intelektualni kapital, ekonomija zasnovana na znanju*

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Introduction

The modern age is referred to in a variety of ways. Some use terms such as the period of discontinuity, turbulence, uncertainty, future shock, or digital revolution, while others call it the post-industrial economy, information age, or innovation economy. The one thing that all these different definitions have in common is the understanding of the role played by knowledge and innovation in new economies. The creation and application of knowledge is a part of the innovation process. Knowledge-based activities result in the creation of new types of innovation. A great deal of evidence suggests that knowledge is a key factor influencing added value and GDP growth. In 2009, knowledge-intensive activities, where more than one third of the employees have a tertiary education degree, represented 35% of total employment in the EU with generally no large variation around this rate among EU Member States [16, p. 11]. Thanks to the influence of knowledge and innovation, the way in which products are made has become more important than the type of products. Innovation is a central element of the Lisbon Treaty that reflects the intention of the EU to strengthen the innovation-based economies of Member States. The post-industrial economy, information age or innovation economy would be better described as the knowledge-based economy. The term “knowledge-based economy” reflects the major component – knowledge – that is the key driver of value for the fastest-growing companies in our age [31].

The concept of organizational learning focuses on a company’s ability to create and acquire new knowledge and new concepts and to successfully adapt those to its unique business environment. Organizational learning is a specific form of change and a vital aspect of a company’s readiness for adapting to change in the environment. Organizational learning develops competencies that did not exist previously, which increase the value of the human capital of a company, and lead to competitive advantage. During the industrial era, there was a clear distinction between two categories of employees. The first category consisted of intellectual elite, managers, and engineers, who used their analytical skills to create products and

processes, select and manage clients, and obtain daily insights into operations implementation. The second category entailed people who were directly involved in product manufacturing and service provision. The central factors of productivity were physical, rather than intellectual, abilities [27, p. 5]. During the information era, the role of many jobs has changed significantly. The manufacturing process has become automated, and each employee is directly engaged in product manufacturing and service provision, quality improvement, cost reduction, and shortening the production cycle. The ability to improve existing products and introduce new ones is achieved by innovation and learning process. Without adding extra value to products and services, it is not possible to achieve competitive advantage.

Innovation in a knowledge-based economy is diverse and pervasive [12]. The term “innovation” has been understood and interpreted in many different ways. The basic definition of innovation most widely accepted is that it represents a purposeful change to existing activities that improves economic performance. Various examples of products, services, processes, organizational structures, management styles, ideas, technologies, tasks, and behavior can be labeled as “innovation.” By introducing new or modified products or services, which arise from innovations, existing customer needs are satisfied, future needs are anticipated, and new needs are generated. Innovations represent a complex set of activities, from the conceptualization of an idea to its practical implementation [52, p. 2]. *Hitt, Ireland* and *Lee* [24] suggest that innovation can be conceptualized as a learning process, and *Cavagnoli* [6, p. 111] defines innovation as “the creative application of knowledge in a new form to increase the set of techniques and products commercially available in the economy.” *Tinnesand* [55] places innovations into six categories: 1) new idea; 2) introduction of a new idea; 3) invention; 4) introduction of an invention; 5) an idea different from existing ideas; and 6) introduction of an idea disrupting prevailing behavior. *Drucker* [11], for example, defines innovation as the process of equipping in new, improved capabilities or increased utility, and *Baregheh et al.* [2, pp. 1326-1327] analyzes numerous innovation definitions from various disciplinary perspectives: business and

management; economics; organization studies; innovation and entrepreneurship; technology, science, and engineering; knowledge management; and marketing. Some of the most important attributes in terms of defining innovation relate to the type of innovation, nature of innovation, means of innovation, innovation and people, stages of innovation, and aim of innovation. *Trott* [56, p. 15] suggests that “innovation is the management of all the activities involved in the process of idea generation, technology development, manufacturing and marketing of a new (or improved) product or manufacturing process or equipment.” According to the *Oslo Manual* [37, p. 46], “an innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations.”

There are two types of innovation processes: pushed and pulled. The reasoning for this categorization is that a potential innovator, in the process of creating an idea for a new product or service, either starts from the market need and develops a product, or starts from the product and works toward market need. In other words, we have two concepts: “technology push” or “demand or market pull.” Some innovations represent significant (radical) change in doing business, while others are incremental (evolutional) because they incorporate low levels of innovativeness. These two types of innovation represent two ends of the innovation continuum. “Innovation depends on technological, as well as on other critical capabilities in areas such as manufacturing, marketing and distribution, and human resource management” [4, p. 8]. *Schumpeter* [47] describes various types of innovation: new products, new methods of production, new sources of supply, the exploitation of new markets, and new ways to organize business. *Trott* [56, p. 17] makes the distinction between: product innovation, process innovation, organizational innovation, management innovation, production innovation, commercial/marketing innovation, and service innovation. According to the *Oslo Manual* [37, p. 91], “innovation activities are all those scientific, technological, organizational, financial, and commercial steps, including investment in new knowledge, which actually lead to, or are intended to lead to, the implementation of

innovations.” Four types of innovations most broadly used are product innovations, process innovations, marketing innovations, and organizational innovations [37, pp. 48-51].

Bearing in mind what has been said so far, the purpose of this paper is to analyze and identify the role and importance of innovation regarding building competitive advantage in the knowledge-based economy. The impact of innovation capacity on competitiveness can be viewed from the aspects of innovation characteristics, different innovation indicators, and innovation drivers. According to the identified research objective, the paper deals with following research questions:

- In what way are the innovation performances of certain economies associated with their competitiveness?
- Is there a significant relation between different innovation inputs and innovation outputs, on the one hand, and building the competitive advantage, on the other?
- Are the results of innovation activity related to the components of intellectual capital?

Given the defined research purpose and objective, as well as research questions imposed, the paper uses qualitative and quantitative research methodology and appropriate methods of the research. In the segment of research problem analysis, theoretic and empirical approaches were combined, while the use of analysis and synthesis of secondary data prevailed. The theoretic approach is based on applying the methods of analysis, synthesis, deduction, and induction, with special focus on the results of different studies undertaken so far, and on critical review of different theoretical standpoints. The comparative method was used for the purposes of analysis and presentation of the results obtained, as well as for the purposes of making adequate conclusions.

The paper is organized as follows. The first part analyzes typical aspects of innovativeness, as means of achieving competitive advantage: the role of innovation in the changes, the importance of innovation for competitive advantage, and key innovation indicators. Taking into account the value-creation potential of intangible assets and its components, the second part of the paper deals with intangible assets and innovation as one of its elements.

The final part of the paper presents the results of our research study regarding innovation activities in Serbia.

Innovativeness as factor of a company's competitive advantage

Innovation is critical for competitiveness. The World Economic Forum [50, p. 4] defines competitiveness as the set of institutions, policies, and factors that determine the level of productivity of a country. Innovativeness is a key pillar of competitiveness. Depending on the way in which competitiveness is achieved, there are three stages in developing national competitiveness: 1) factor-driven economy; 2) efficiency-driven economy; and 3) innovation-driven economy. Innovation-driven economies have an environment that encourages innovation and the capacity for innovation. A number of empirical studies [23], [26], [28], [36], [39] indicate a significant positive correlation in various industries between innovation input and innovation output and between innovation output and firm performance. One research study [1], which was carried out on a sample of over 800 organizations, revealed that innovation excellence can boost EBIT by 4%, and that top innovators have 2.5 times higher sales of new products, and get more than ten times higher returns from their innovation investments. The study also pointed out the importance of adequate innovation management. One of the key success factors is good link between strategy, on the one hand, and innovation-related objectives and innovation capability on the other.

Innovation and change

Innovations are the tool for implementing changes. In the modern business environment, the need to introduce changes is clear. Companies are under pressure of constant change, both in developed and in developing countries, private and public sectors, production and service industries, small and large companies, as well as profit and non-profit organizations. A successful company differs from an unsuccessful one by its ability to manage changes rather than the status quo. Of companies from the *Fortune* magazine list of the 500 largest in the world in 1970, around 40% had disappeared from the list by 1996.

Only three out of ten of the largest companies in 1972 had sustained their position by the end of the 20th century [33, p. 3]. On a macro level, national economies change their relative position, industrial foundation, wealth, and power according to their ability to cope with changes.

The modern business environment alters the rules and logic of the contemporary business model. One of the most significant new trends of development is a consequence of the global economic crisis that started in 2008. This context creates numerous challenges, because of which there is a need to understand innovation as a source of sustainable growth and to use it in solving many social and global issues. Considering this, a large proportion of countries have introduced guidelines that formulate appropriate goals and create systematic conditions for nurturing innovativeness. A *European Commission* [14] document entitled "Europe 2020 – European Strategy for Smart, Sustainable, and Inclusive Growth" states that development based on knowledge and innovation must be a key pillar of future "smart" growth in EU Member States. A law on innovation activity was declared in Serbia in 2005, on the basis of which the government announced a strategy for scientific and technological development in Serbia from 2010 to 2015. This strategy determined the scientific and technological priorities of Serbia, as well as infrastructure projects that are vital for improving scientific work and research.

The OECD Innovation Strategy [38] is built around five priorities for government action, and together can underpin a strategic and broad-based approach to promoting innovation for the 21st century: empowering people to innovate, unleashing innovation potential in firms, creating and applying knowledge, applying innovation to address global and social challenges, and improving the governance and measurement of policies for innovation.

The importance of innovation for competitiveness

Competitiveness is at the core of a company's success or its failure. A company achieves competitive advantage when its long-term value exceeds total costs (including cost of capital), while a company's strategy identifies the way in which the competitive advantage will be achieved. Each competitive advantage is linked to certain competency. In

other words, thanks to available competencies, a company attains competitive advantage. Regardless of the manner in which the company achieves this, the key competency is the source of competitive advantage. A competency-based strategy in a knowledge-based economy generates value through knowledge, innovation, skills, talents, and employee expertise.

The ability to innovate determines GDP and productivity growth, positive change in economic structure, and improvement in quality of life. In addition, innovations are closely tied to processes of social, political, and economic change. *J. Schumpeter* [47] recognized the importance of innovation as the main driver of dynamic economic development as far back as the 1930s. In *Schumpeter's* view, just as there are natural reasons for people to die, the natural reason for a company's failure is lack of innovation. He named the process in which new technologies replace the old "creative destruction." *Zahra and Covin* [59, pp. 183-184] suggest, "innovation should be widely considered as the life blood of corporate survival and growth." Although innovations represent the core renewal process in any organization, there is no universal formula that guarantees success when it comes to a process that has to be enabled through sophisticated and active management. Unless the company changes what it offers the world (product/service innovation) and the ways in which it creates and delivers those offerings (process innovation), it risks its survival and growth prospects [3, p. 1366].

Although there is little empirical evidence regarding the identification of a business model that inevitably leads to innovation success, the basic set of rules for efficient innovation management could be described as [58, pp. 68-69]: 1) successful innovators understand customer needs better than others do; 2) successful innovators pay more attention to marketing; 3) successful innovators are more efficient when it comes to development, which does not necessarily involve them developing innovations more quickly; 4) successful innovators possess more internal research and development (R&D); 5) the individuals responsible for successful innovations are usually higher in hierarchy and have more authority in decision-making processes.

Innovation management is a process that corresponds with the proactive search for new working methods, behaviors, values, and formulations and implementations of new strategies. It is a process of continuous creation of better organization, structures, and opportunities in order to secure competitive advantage. Competitiveness is achieved through a strategy that reflects a non-conventional and consistent idea that leads the company through turbulent times. The non-conventional character of a strategy is attained through innovativeness. Innovation is therefore a crucial component of a business strategy. At the same time, it should be understood that companies compete with unique strategies in the global market, where uncertainty, dynamism, and complexity rule. High added value expected by customers leads to a swift and mass take up of innovations. The trend of shortening the period of competitive advantage exploitation makes the risk of strategy execution in the modern era more complex.

The innovation process itself represents the process of creating and applying new knowledge. Innovation also depends on organizational, social, economic, marketing, and other knowledge. *Sullivan* [53, pp. 180-181] recognizes three types of knowledge from a value-added perspective: value-added knowledge, direct-support knowledge, and indirect-support knowledge. Value-added relates directly to the innovations and their product features or functions. It may be knowledge about manufacturing or distribution capabilities or about customers and their requirements. This type of knowledge often provides unique capabilities that differentiate the firm from competitors. Direct-support knowledge includes administrative knowledge, company plans, methods, and procedures. Indirect-support knowledge involves accounting, financial services, information systems, and corporate services.

Chesbrough [8] suggests new approach to innovation, which should be based on the model of *open innovation*. The concept of open innovation promotes the paradigm within which there is a systematic encouragement of innovation, research of the wide range of internal and external sources of innovation, integration of these researches with the abilities and resources of the company, as well as exploitation of different opportunities in various ways. When we consider the innovativeness, the borders

between a company and its environment become fluid because innovation can be easily transferred within and outside of the company. The open innovation model is based on the following assumptions that are completely opposite to the closed innovation model [8, p. 38]:

- Since not all of the smart people work in one company, management must find and tap into the knowledge and expertise of bright individuals outside their company.
- External R&D can create significant value and internal R&D is needed to claim some portion of that value.
- A company does not have to originate the research in order to profit from it.
- Building a better business model is better than getting to market first.
- If a company makes the best use of internal and external ideas, it will win.
- A company should profit from others' use of its intellectual property, and it should buy others' intellectual property whenever it advances that company's business model.

Knowledge is the result of the learning process. The human dimension of innovation involves knowledge creation, education, training, and workforce support. New competencies are developed through learning, and these new competencies should lead to the achievement of competitive advantage. The focus is on encouraging people to work as a team and to think systematically, to learn from each other, to understand what needs to be done in order to introduce and maintain change. This is why the learning process must be continuous, since it is a vital part of innovativeness. Transformational processes within a company create a further need for new and varied types of knowledge, and assume the existence of a dynamic organization able to adapt to new circumstances and challenges. The learning process itself involves numerous social interactions between members of the organization, which may result in new knowledge.

Innovativeness is measured by efforts toward finding new possibilities. Experience shows that companies that were successful in the past because of the introduction of new technologies cannot build their competitive advantage

on a permanent basis by relying solely on that technology. A comparison of modern industrial leaders with those 20 or even 10 years ago illustrates that many successful companies lost their leadership position or even vanished from the scene. On the other hand, innovativeness is the most significant component in terms of entrepreneurial strategy. Entrepreneurial activity is based on starting new business ventures. An entrepreneur is a person who sees possibilities for new products or services when others do not. Innovativeness assumes the take up of new opportunities and the creation of new business ventures that leave behind existing ways of doing things. New business ventures are based on new business ideas, on new or improved products, services, or technologies, or on the penetration of new markets. Entrepreneurial firms are a natural way of instigating entrepreneurial activity. New products and services are not only drivers for starting new companies, but also drivers for the creation of entirely new industries.

Measuring innovative activities

Innovativeness can be measured at the national level and company level. Many countries have developed some form of indices to measure their innovation performance. The Innovation Index, devised by *Michael Porter* and *Scott Stern* [41], assesses the innovation performance of the USA and is a quantitative measure that captures three main contributors to a nation's overall innovative performance: the common innovation infrastructure that supports innovation in the economy as a whole (e.g., investment in basic science); the cluster-specific conditions that support innovation in particular groups of interconnected industries (e.g., automotive, information technology); and the strength of the links between them (e.g., the ability to connect basic research to companies and the contribution of corporate efforts to the overall pool of technology and skilled personnel). The central objective of the Innovation Index is to create a quantitative benchmark of national innovative capacity that highlights the resource commitments and policy choices that most affect innovative output in the long run.

The Global Innovation Index [9] represents one of the approaches in terms of innovativeness measurement.

The research for 2013 included 142 countries. Serbia was ranked 54th. The Global Innovation Index relies on two sub-indices – the Innovation Input Sub-Index and the Innovation Output Sub-Index – and ranges on the scale from 0 to 100. The Innovation Input Sub-Index is built around pillars that enable innovation activity: (1) Institutions, (2) Human capital and research, (3) Infrastructure, (4) Market sophistication, and (5) Business sophistication. The Innovation Output Sub-Index relies on two pillars: (6) Knowledge and technology outputs and (7) Creative outputs. Each pillar consists of three sub-pillars, and each sub-pillar is composed of individual indicators with adequate weight, making a total of 84 indicators.

The European Innovation Scoreboard (EIS) is a methodology that monitors the innovation performance of EU-27 Member States, as well as that of Croatia, Iceland, the Republic of Macedonia, Norway, Serbia, Switzerland, and Turkey. It is the primary instrument for national innovation measurement at the EU level. EIS distinguishes between three main types of indicators and eight innovation dimensions, capturing in total twenty-five indicators. The most significant innovation indicators are enablers, company activities, and outputs. The enablers determine the main drivers of innovation performance external to the company and cover three innovation dimensions: human resources; open, excellent, and attractive research systems; and finance and support. Company activities capture the innovation efforts at the company level, grouped into three

innovation dimensions: company investments; links and entrepreneurship; and intellectual assets. Outputs cover the effects of companies' innovation activities in two innovation dimensions: innovators and economic effects.

Kuczmarski [29] suggests a broad approach to measuring innovation at the corporate level. He divides innovation metrics into two types: 1) innovation performance metrics (those that measure growth); and 2) innovation program metrics (those that measure and reflect program management and control). Innovation performance metrics include return on innovation investment, new product success rate, new product survival rate, cumulative new product revenue and cumulative new product profit, and growth impact (Table 1). Program metrics include R&D innovation emphasis ratio, innovation-portfolio mix, process-pipeline flow, innovation revenues per employee, and speed to market (Table 2).

Quantitative metrics for measuring innovation results may be based on the following indicators (or measures from different perspectives):

- Revenue received from sales of new product
- Revenue obtained from introduction of products to new market segments
- Revenue received from sales of new products as compared to total revenue for the last several years
- Time span between submission of an innovative idea and start of innovative project

Table 1: Performance metrics

Metric	Components	Potential implications
Return on innovation investment (R2I)	Cumulative net profits generated from new products launched Research costs + development costs + incremental production costs + initial commercialization pre-launch costs	Single, standard measure for comparing performance between divisions, over time, and within industry
Cumulative profits	Cumulative (3-5 years) profits from new products	Impact on income statement
Cumulative revenues	Cumulative (3-5 years) revenues from new products	Impact on income statement
Growth impact	Revenues from new products over 3-5 years 3 year revenue growth	Contribution to firm growth
Success rate	Number of new products exceeding 3-year original forecasts Total number of new products commercialized in last 3 years	Indicates the quality of planning
New product survival rate	Number of new products remaining in the market (time period X) Total number of new products launched (time period X)	Provides insight about the demand of new product introductions relative to total new product efforts

Source: [29, p. 28]

Table 2: Program metrics

Metric	Category	Components	Potential implications
Speed-to-market	Speed	Time from idea generation to market launch for new products Total number of new products	Indicated efficiency of R&D process
R&D innovation emphasis	Amount	Cumulative (3-5 year) R&D expenditure allocated solely to new products Cumulative (3-5 year) R&D expenditure	Indicates strength of innovation focus within R&D Allows for simple check on R&D execution of innovation strategy
New product portfolio mix; New product types: New to world New to the company Line extensions/ improvements	Type	Number of new products of type X Total number of new products Revenues from new products of type X Total revenues from new products Expenditures for products of type X Total expenditure on new products	Indicates how well balanced new products portfolio is compared to strategic goal
Process pipeline flow	Amount	Number of new product concepts in each stage of development Sample product stages: Concept analysis Prototype development Market testing First year of launch	Quantities how full the pipeline is and helps with forecasting future revenues and expenses. Can also indicate at which stages there might be bottlenecks or glitches in the process
Innovation revenues/ employee	Success	Total annual revenues from commercialized new products Total number of full-time equivalent employees devoted solely to innovation initiatives	Provides insight about the effectiveness of additional resource allocations

Source: [29, p. 29]

- Number of innovative ideas that came from employees of the company during a certain period
- Number of patents
- Cost reduction
- Percentage of new customers
- Growth rate in number of customers
- Customer satisfaction with product/service feature
- Customer retention
- Number of new products, services, or processes introduced to new markets within last several years
- Growth of market share driven by innovations
- Number of innovation initiatives funded
- R&D spending as a percentage of revenue
- Return on investment for new products/services
- Ratio of total number of innovative ideas to number of implemented innovative ideas.

Innovativeness and intangible assets

The nature of innovation is also changing in the knowledge-based economy. A knowledge-based economy stimulates the emergence of new forms of innovation, change in the innovation process, and reconfiguration of a company's value chain. One of the most important changes is the

increasing significance of intangible assets (intellectual capital). In an innovation-based or knowledge-based economy, the essence of the value-creation process is reflected in intangible-assets management, since company value is dominated by intangibles. The substance of intangible assets is human, structural (internal), and relational (external) capital. The most vital elements of human capital are knowledge and innovativeness. Besides knowledge and innovativeness, human capital entails worker skills, creativity, learning ability, responsibility, dedication, enthusiasm, and motivation. Structural capital consists of management processes, business strategy and plans, software, databases, organizational structure, patents, trademarks, and all other organizational abilities that support employee productivity. Relational capital is in fact external capital, which comprises numerous relations with external stakeholders (customers, suppliers, creditors, investors), as well as their perception of the company. Examples of relational capital include brand, reputation, customer and supplier relations, various agreements, licenses, supply chains, capacities for negotiation, and a variety of networks. Figure 1 shows investment in 2006 in fixed and intangible assets of GDP in the most developed economies. Capital market places a high value on the

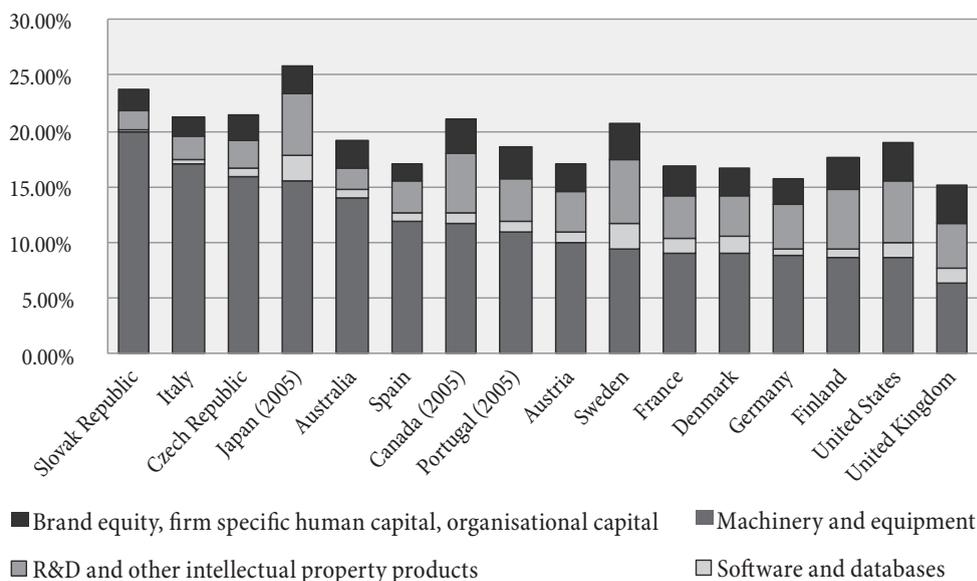
growth potential of companies that base their strategy on intangible assets. The ratio of the market to book value of a company is one measure of its intangible-assets value. The value of intangibles ranges between one-half and two-thirds of the total value of a modern successful company [30, p. 17].

Intangible assets are closely related to innovativeness. Innovation activity exploits and increases intangible assets. Certain authors in their classification of intangible assets distinguish innovation capital as a separate component. For instance, in Skandia reports on intellectual capital [51], innovation capital is treated as the part of organizational capital. On the other hand, *Mortensen et al.* [34] see innovation as a separate and main component of intangible assets in a company, along with structural capital, executive contracts, market capital, and goodwill. In addition, *Nazzari and Herremans* [35] analyze innovation capital as the part of structural capital. Forms of intangibles (expertise, innovative behavior, corporate culture, personal relations, databases, various applications of information capital, customer relations, and reputation) are the most important inputs of innovation activity. On the other hand, results achieved through innovation activities are related to particular components of intangible assets (technological knowledge, patents, new technologies, new or improved customer relations, and so on). Therefore, innovativeness, as an element of intangible assets, does not create value

independently. It is also essential that innovativeness is connected to other elements of intangible and tangible assets. Changes resulting from new and different knowledge (such as technological, organizational, social, economic, marketing) are particularly important for innovativeness. Employees' knowledge, their innovativeness and creativity, determine the value of other forms of visible and invisible assets. Unlike physical assets, which are imitated easily, it is much harder to achieve competitiveness by copying innovative abilities.

Value created by knowledge, information, and innovation is contextual in nature. Created value reaches a maximum when all components of intangible assets are synchronized with strategy. Consequently, strategy is essential in order to increase value through innovations. The relationship between intangible assets and strategy is interactive, and the innovation-driven process of value creation should therefore be observed in the context of strategy. In other words, strategy enables effective use of innovations. The concept of the balanced scorecard [27] secures better insight into the role intangible assets play in the process of strategy formulation, and in terms of improving the relationship between strategy formulation and strategy execution. Financial perspective, customer perspective, internal perspective, and perspective of learning and growth may be related to forms of intangibles. The learning and growth perspective identifies intangibles that

Figure 1: Investment in fixed and intangible assets as a share of GDP, 2006



Source: [38]

are crucial for strategy. *Kaplan and Norton* [27] suggest that companies that intend to improve their intangible-assets management must integrate intangible-assets measurement in the management system.

Possibilities for innovation are a consequence of learning and development. Identifying new customers, new markets, and new needs of existing and new customers is a part of the innovation process. In general, performance improvement from the perspective of learning and growth enables business performance improvement within the perspective of internal business processes. This leads to fulfillment of the needs of customers and corporate owners. Poor performance from the customer and learning and growth perspective are leading indicators of future performance lag, even while the existing financial situation may be satisfactory. Through the following chain of cause-and-effect relationships, innovation impact on financial performance may be monitored:

- Competent human resources are prerequisite for successful innovation
- Successful innovation could result in process innovation, which improves the production process
- Innovated processes ensure higher product quality, which leads to customer satisfaction improvement
- Higher customer satisfaction leads to customer loyalty improvement
- Increased customer loyalty generates income and profit increase.

Innovation and competitiveness in the Serbian context

Serbia is an efficiency-driven economy and is at a stage in which its competitiveness gives it a GDP per capita of US 4,943. In case of Serbia, the transitional output curve is a perverse triple J-shaped curve, which never reaches its pre-

transitional level. At the end of 2011, Serbia’s transitional output gap was around 30% [10, p. 23]. Serbia entered the 2008 global economic crisis with an impotent economy, structural development problems, low competitiveness, and high systemic risk. Development goals include improving its competitiveness and the innovation performance of firms. The significant proportion of products that have low added value in terms of export and low ratio of export to import is a consequence of the economy’s low level of competitiveness. In 2009, only 12.1% of firms exported products, where the majority of exporters were made up of large companies. The value of export as a percentage of GDP is 41%.

Many indicators point to the low level of competitiveness of the Serbian economy. Measured by the Global Competitive Index (GCI), the competitiveness level of the Serbian economy is very low (index value 3.77 on a scale of 1 to 7). The economy was ranked 101 (out of 148 countries analyzed) in 2013 according to the World Economic Forum. Compared to the previous year, the value of GCI for Serbia dropped by 0.1 points, which led to decline in ranking from 95 to 101. Serbia is the worst ranked country in Europe according to GCI. In 2010, Serbia was 96th (index value 3.84), in 2011 95th (3.88), and in 2012 the ranking was also 95th (3.87). Basic requirements, efficiency enhancers, and innovation factors are three fundamental components of the Global Competitiveness Index. Sub-index innovation factors include two competitiveness pillars: business sophistication (11th) and innovation (12th). From the standpoint of sub-index innovation factors, in 2013 Serbia was in 125th place with a score of 3.01, while in 2008 it took 91st place (Table 3). When we analyze sub pillar nature of competitive advantage (pillar: business sophistication) Serbia is ranked 145th.

In Serbia, around 5% of GDP is spent on education, which represents the average expenditure in the countries

Table 3: The Global Competitiveness Index and innovation factors

	2008		2009		2010		2011		2012		2013	
	Rank	Score										
Global Competitiveness Index	85	3.9	93	3.77	96	3.84	95	3.88	95	3.87	101	3.77
Sub-index C: Innovation factor	91	3.3	94	3.21	107	3.04	118	2.99	124	2.96	125	3.01
11 th pillar: Business sophistication	100	3.51	102	3.45	125	3.15	130	3.08	132	3.11	137	3.18
12 th pillar: Innovation	70	3.09	80	2.98	88	2.93	97	2.90	111	2.81	112	2.85

Source: [48], [49], [50]

of Central and Eastern Europe. Public expenditure on education in the EU-27 in 2008 was equivalent to 5.1% of GDP, while the expenditure of public and private sources of funds on educational institutions amounted to 5.8% of GDP [17, p. 209]. In the EU in 2009, employment in knowledge-intensive activities as a percentage of total employment was 35.1%. Human resources are one of the most important drivers of innovation activity, and the education structure for Serbian population is currently inadequate. According to the World Economic Forum, in 2013 Serbia is ranked 83th in terms of quality of higher education and training. In 2008, Serbia was ranked 70th. Almost 50% of the adult population have elementary education or below. The ratio of adults with college degrees is also inadequate. Regarding Internet use, Serbia falls behind significantly compared to the EU-27 average. In 2012, only 48% of households in Serbia were using the Internet, which is far below the EU average at that time (76%), with only 34.2% of persons aged 15 and over that are computer literate. According to data from the Statistical Office of the Republic of Serbia in 2011, of the population above 15 years of age, 5.65% have high education, 10.59% possess higher education, 48.93% have secondary education, 20.76% have primary education, 11% have partially or incomplete primary education, and 2.68% have no educational attainment. Among the employed population in 2012, 7.2% have higher education, 15.3% possess a university degree, 56.9% hold a high-school degree, 15.1% have elementary education, and 5.5% have no educational attainment. Of people aged 30-34 years, 25.5% have a university degree, and 0.54 out of 1,000 received a PhD in 2009 [32, p. 111]. The Europe 2020 strategy has set a target of increasing the percentage of the population aged 30-34 with a university degree to 40%. Data for this age group was 34.6% in 2011. In South Korea, Japan, and the USA the figures for their equivalent population in 2009 were 57.9%, 55.1%, and 41.6% respectively [16, p. 23].

R&D activities take place at various stages of the innovation process. Innovation activities involve not just R&D, but R&D activities are the most important element of innovation activity. The proportion of GDP invested in R&D is a common statistical measure of countries' efforts toward R&D and essential prerequisite for innovativeness

and industrial growth. The financial dimension of innovation can be viewed from the standpoint of R&D investment. In certain EU documents (e.g., Lisbon Treaty), there are plans for major growth in R&D investments, which should be at the level of 3% of GDP (2.03 % of GDP in 2011). Some EU countries already invest more than 3.3% of their GDP in R&D (e.g. Sweden and Finland). Business enterprise expenditure on R&D in EU as a percentage of GDP in 2011 was 1.26%, while in the USA it was 2.01%. Between 2000 and 2009, R&D intensity progressed in 24 EU Member States with acceleration in the period 2006-2009 in a majority of Member States. The global economic crisis that began in 2008 did not cause a decrease in the ratio of R&D to GDP in EU; on the contrary, it rose from 1.92% in 2008 to 2.03% in 2011. In addition, the data show that business R&D expenditure has been relatively resilient to the economic crisis. Total investment in R&D in 2009 in Japan was 3.36% of GDP, in the USA 2.87%, in China 1.7%, and in South Korea 4% (2010). Since 2000, China's share of global R&D investment has increased from 3.9% to above 10%. Serbia falls behind these numbers significantly, behind not only EU Member States but also newly accepted EU members, since investment in R&D in Serbia, as a percentage of GDP is only 0.4%. It is important to mention that these investments are financed almost in full by the public sector. Serbia is ranked 127th out of 147 measured by companies' expenditure on R&D [50]. In 2008 and 2009, there were budget cuts in science in Serbia, from 100 to 86.2 million Euros. In 2010, the government sector financed 34.6% of total R&D expenditure in the EU-27, while business enterprise sector financed 53.9%. In the USA, business enterprises financed 67% of total R&D expenditures [18, p. 26]. More than half (54%) of the researchers in the EU work in the public sector, and only 46% work in the business sector. The share of researchers employed by the private sector is much higher within our main economic competitors, e.g. 69% in China, 73% in Japan and 80% in the United States [16, p. 4].

According to data from the Statistical Office of the Republic of Serbia [44], during 2012, 259 organizations in Serbia were involved in R&D activities. The non-financial sector participated with 32%, state sector 25%, tertiary education 40% and non-profit organizations 3%. Some

19,646 employees were engaged in R&D activities (full- and part-time employees combined), among which there were 13,249 researchers. The percentage of all researchers who work in the non-financial sector is only 2.1%. In terms of employees, in R&D activities there were 17,730 employees, out of which 11,802 were researchers. In 2009, 1.68 % of total EU-27 employment was related to R&D activities, which was lower than in Japan and South Korea (1.84% and 1.99% respectively). Between 2005 and 2011, the total number of R&D personnel measured in FTEs grew by 2.9% per year on average in the EU-27. In the business enterprise sector, manufacturing accounted for the highest shares of researchers in most European countries [18, p. 40].

EIS methodology categorizes countries into four broad groups (based on the value of innovation indicator): innovation leaders, innovation followers, moderate innovators, and modest innovators. The average value for the Innovation Index for EU-27 in 2011 was 0.539, where the values are on a scale of 0–1. Sweden has the best score (0.755) and Latvia the worst (0.230). The performance of innovation leaders is 20% or more above that of the EU-27; of innovation followers it is less than 20% above but more than 10% below that of the EU-27; of moderate innovators it is less than 10% below but more than 50% below that of the EU-27; and for modest innovators it is below 50% that of the EU-27.

Serbia displays poor innovation performance compared to EU Member States (67.1% of EU-27 average) and belongs to the group of moderate innovators, with the value on the Innovation Index 0.365. Table 4 presents the Innovation Index of Serbia from 2008 to 2012, compared to the EU-27 average and to neighboring countries. Figure 2 analyzes performance scores per dimension (human resources, research systems, finance and support, company investments, links and entrepreneurship, intellectual assets, innovators, and economic effects). The intellectual assets score is particularly low (0.017), chiefly because of the low level of intellectual property rights protection. Therefore, intangible assets are a limiting factor in growth of innovativeness.

Table 4: Innovation performance, 2008-2012 (Serbia vs. neighboring countries and EU-27)

Country	Summary Innovation Index				
	2008	2009	2010	2011	2012
Slovenia	0.448	0.473	0.489	0.517	0.508
Hungary	0.301	0.301	0.329	0.335	0.323
Romania	0.234	0.250	0.233	0.252	0.221
Croatia	0.275	0.286	0.308	0.317	0.302
Bulgaria	0.187	0.198	0.231	0.234	0.188
Macedonia, FYR	0.191	0.216	0.219	0.220	0.238
EU27	0.504	0.516	0.532	0.531	0.544
Serbia	0.255	0.248	0.290	0.279	0.365

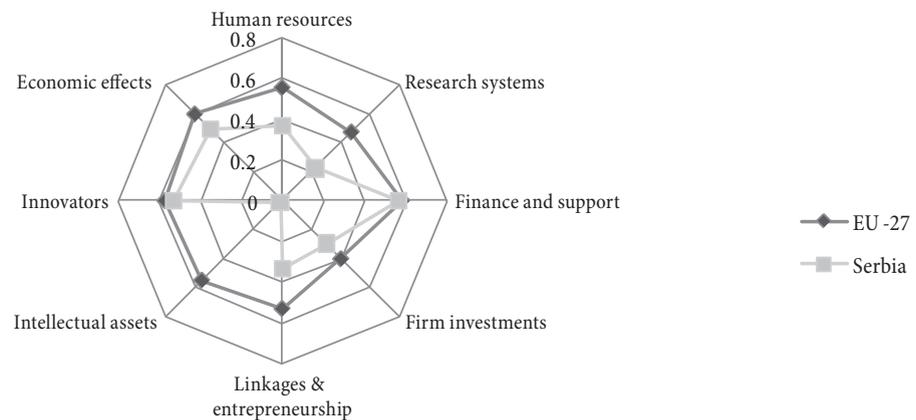
Source: [19]

In the previous section, “Innovativeness and intangible assets,” we analyzed intangible assets as the most important input of innovation activity, and the connection between the results of innovation activities and certain components of intangible assets. Data from S&P 500 companies from the mid-1980s reveal a significant growth in intangibles’ book value in terms of total book value and market value of companies. In 1975 to 2005, the percentage of total book value of assets that comprised intangible assets rose from 1.9% to 43.2%, while in the same period, the percentage of market capitalization that constituted intangible-assets’ book value also increased, from 1.6% to 15.5% (every ten years the percentage doubled) [5, p. 4]. Data on 100 companies from the industrial sector in Serbia that achieved the highest level of net profit in 2010 show that the percentage of total assets’ book value attributed to intangible assets was only 3.04% [25].

Janošević and Dženopoljac [25] show that intellectual capital and its components had a small or insignificant impact on financial performance. Their findings lead to the disappointing conclusion that the corporate success of companies with the highest profit in Serbia is in no way determined by the elements of intellectual capital. In fact, their business success is determined by factors that are not components of the modern business model. Instead, corporate success in Serbia is influenced mostly by capitalization of tangible assets. The majority of empirical studies undertaken so far [7], [21], [22], [54] point to a positive correlation between intellectual capital and its elements, and the financial performance of companies.

Research carried out in the period from 2010 to 2012 by the Statistical Office of the Republic of Serbia [45], which

Figure 2: Country groups: Innovation performance per dimension in 2012



	Human resources	Research systems	Finance and support	Firm investments	Linkages & entrepreneurship	Intellectual assets	Innovators	Economic effects
EU27	0.557	0.478	0.585	0.406	0.532	0.555	0.571	0.603
Serbia	0.367	0.223	0.563	0.302	0.336	0.017	0.530	0.494

Source: [18]

involved 3,500 firms, found that 45% of firms made at least one innovation. Firm size is the crucial factor in innovation activity. Among large firms, over 66% are innovative. Among middle-sized companies in Serbia, more than 50% are innovative, and among small enterprises more than 40% are innovation-oriented. When we look at differing forms of innovation, 31.4% are related to organizational innovations, 29.7% of innovations are in the area of marketing, product/service innovations comprise 21% of all innovations, and innovation of processes make up 19.1% of all innovations in Serbian companies. Abandoned innovations and ongoing innovations make up 7.9% of all innovations. Based on effect of introduced technological innovations, which innovators estimated as significant, in the period of 2008-2010, the most significant ones are: improvement of product/service quality (38.4%), increase of product/service assortment (31.1%), and replacement of obsolete product/processes (25.9%) [46].

In the EU-27 Member States (excluding Greece) 52.9% of enterprises from industry and services reported innovation activity between 2008 and 2010. In Germany 79.3% of enterprises are innovation-oriented. In 2010, 39.7% of enterprises in the EU-27 (excluding Greece and the United Kingdom) were considered active in terms of product and process innovation, the same percentage as in 2008 [19, p. 68]. In the EU-27, over 80% of companies report that they introduced at least one type of innovation in 2006-2008. About half (45% to 50%) of companies

stated that they have made innovations of all of the above types. Similarly, for EU enterprises, innovation as a primary or significant source of income does not vary according to company size. Since 2006, 49% of surveyed enterprises have introduced new or significantly improved organizational solutions (e.g. in knowledge management, workplace organization, external relations). In addition, since 2006, 46% of EU firms have introduced new or significantly improved business processes (e.g. in production, distribution, supports). A similar number of companies in the EU (45%) have been engaged in the introduction of new or significantly improved marketing strategies (Table 5) [13, p. 6]. According to one research study [20, p. 53] more than four out of ten (42%) EU-27 enterprises introduced new or significantly improved products, services or processes, 28% introduced new or significantly improved organizational structures and management methods, while 27% introduced new or significantly improved marketing strategies or distribution methods.

Income from the sale of unchanged or slightly changed products dominates total sales by innovators in the Serbian economy (37%). Sales of products/services that are new to the company make up 9.1%, while products/services new to the market account for 3.8% of total sales (Figure 3). Non-innovators are companies that have introduced no innovation whatsoever. We can obtain a good understanding of innovativeness levels in Serbia if we analyze data on sales in the innovator market. The majority of innovators

Table 5: Forms of innovation implemented in enterprises by country and EU-27

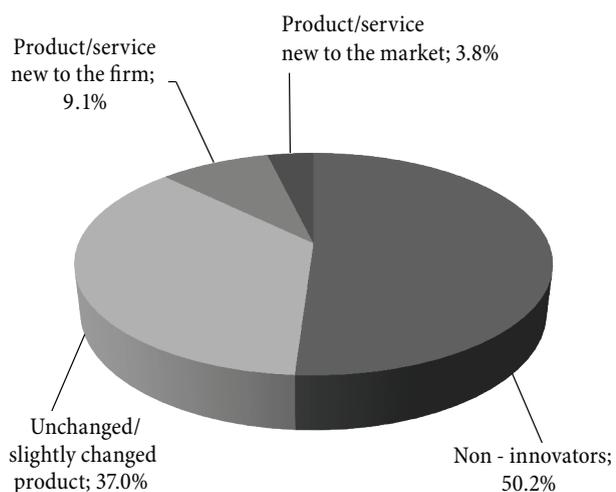
Country	Forms of innovation				
	New or significantly improved products	New or significantly improved services	New or significantly improved processes (e.g. production processes, distribution methods, support activities)	New or significantly improved marketing strategies	New or significantly improved organizational structures (e.g. knowledge management, workplace organization or external relations)
Slovenia	45.1	61.4	59.3	50.1	61.5
Hungary	22.5	21.1	11.9	17.1	15.9
Romania	56.7	55.7	45.4	47.9	61.5
Bulgaria	40.3	33.9	36.2	35.8	33.5
Italy	49.0	41.2	40.5	47.2	44.3
Czech Republic	51.8	60.4	49.9	49.1	47.9
Germany	35.2	61.5	47.1	47.8	53.4
EU27	45.3	50.1	45.8	45.1	49.2

Source: [13, p. 103]

consist of those who sell products/services in the local/regional market (49.1%), followed by companies that sell at the national level (40.7%), and finally innovators selling in the EU and European Free Trade Association region (sales of which are one-third those at the national level) and other markets in the world with the least sales activity (7.1%), while other markets make up only 3.1%. In 2006-2008 in the EU-27, innovation expenditure activity as a percentage of turnover was 2.21% (Sweden 4.45%). Of total innovation expenditures in Serbian companies, the majority was made up of the acquisition of machinery, equipment, or software (Figure 4 and accounted for 80% of all innovation costs, which is close to the EU-27 average (76%) [13, p. 7], [13, p. 318].

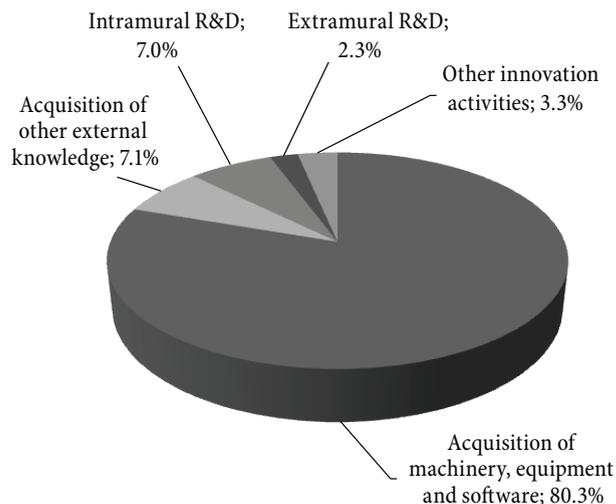
New products and services form the basis for new ventures creation. In other words, founding small and medium-sized enterprises (SMEs) aids the commercialization of inventions. European SMEs are innovative. Of those with activities in innovation, 27% introduced in 2008 new or improved products to the market. Over the last 35 years the USA has displayed a much better capacity to create and grow new companies in research-intensive sectors. SMEs dedicate more than 45% of their innovation expenditure to machinery, equipment, and software. SMEs in advanced economies invest more heavily in the production and acquisition of new knowledge [16, p. 9], [16, pp. 316-317]. An analysis of the development level in 2010 of SMEs and entrepreneurial ventures shows that this sector is lagging behind the EU average and most of the comparable

Figure 3: Income structure of innovators in Serbia



Source: [45, p. 3]

Figure 4: Innovation expenditure structure in Serbia



Source: [45, p. 4]

economies (Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovenia) [32]. Comparative analysis of SMEs and entrepreneurial sector development between Serbia and the EU reveals a significant falling behind of Serbia in terms of turnover per employee, gross added value per employee, and net profit per employee. If we compare investments per employee and total investments per firm, we find that Serbia invests 3,400 Euros per employee on average (EU average is 7,400 Euros) and 8,700 Euros per firm (EU average is 33,400 Euros annually).

The number of patents represents another important indicator of innovation activity. In the course of 2012, the Intellectual Property Office of the Republic of Serbia received 224 patent applications, out of which domestic applicants made 191. If we analyze the number of patent applications per million people, in Serbia that value in 2012 is 31. If we look at EU-27 score in 2010, the ratio of patents per million inhabitants was 109. In terms of patent applications per million inhabitants, Sweden was at the top (308), followed by Germany (267) and Denmark (244).

Conclusion

Innovations are the most significant source of competitive advantage and economic growth. Our knowledge-based economy alters the very nature of the innovation process and affects the creation of new types of innovation. The innovation process itself is a process of creation of new knowledge and the application of that knowledge. In a knowledge-based economy, innovations therefore increase in significance because they represent the core renewal process in any organization. Innovation is a tool for undertaking changes and entails a broad spectrum of various changes. Very often, these changes involve the creation of new competitive advantages at the expense of the old ones. Some innovations are purely a reaction to external threats, while others are a proactive attempt to seize opportunities on the market. Businesses should therefore aim to reach and maintain harmony between their environment, values, and resources, by introducing innovations as the result of either external factors or internal possibilities. The period needed for innovation introduction and diffusion is no longer measured in

decades. Instead, that period has shortened significantly and nowadays it can be measured in years, sometimes months. The process and role of innovation should be observed in the context of a contemporary business environment that is characterized by frequent, wide, and mutually encouraged changes. Entrepreneurial and proactive behavior is no longer a choice, but a necessity, since it demands the creation of new relations with the business environment. Success is measured by the ability to survive and to prosper through innovation. We are witnessing the impact of innovations on creating new economic, political, and social relationships that have a global influence on uncertainties in the business environment.

The conclusions and results presented in this paper should enable a better understanding of the role and importance of innovation in the process of creating competitive advantage by companies operating in a knowledge-based economy. By doing this, we may find a theoretical framework that explains and models the innovation process management. On the practical side, the objective of the paper is to provide a broad analysis of innovation-based competitiveness in Serbia, by using available data on indicators of innovativeness. Comprehending innovativeness aims to enhance the existing managerial practice since ability to manage innovations represents the basis for competitiveness. Therefore, the paper emphasizes the importance of the formulation and implementation of various innovation strategies because the chosen strategy represents desired path of change. Further research in this field should focus on a more detailed analysis of relevant processes and interactions in the process of managing innovations. Knowing the nature of innovations is vital for their appropriate use. This is important since innovation is not limited to the technological field. Another important issue is the fact that Serbia's economic crisis is not cyclical, but structural, and innovations are the drivers of positive structural change.

Competitiveness is ensured through a strategy that represents a non-standardized and consistent idea that navigates a business through turbulent times. The non-standardized character of this is the basis for innovation. Although the significance of innovation is undisputed, there is no universal formula for innovation success. It is a

process that has to be enabled through sophisticated and active management. In a knowledge-based or innovation-based economy, at the core of the value-creation process is intangible-assets management, and intangible assets are closely connected to innovativeness. Various forms of intangible assets (training, expertise, innovativeness, corporate culture, personal links, databases, information capital, customer relations, reputation, and so on) are the most significant inputs of innovation activity. On the other hand, the results of innovation activity are related to certain components of intangible assets (technological knowledge, patents, new technologies, new or improved customer relations, etc). Different quantitative measures can be applied for measuring innovative capacity at the national, corporate, and business level (Innovation Index).

The most developed market economies base their competitiveness on knowledge, company innovations, strategies, and sophistication of their business model, and far less on natural resources and cheap labor. All EU countries tend to strengthen their competitiveness by passing adequate action plans that stimulate enterprises' innovativeness. Our research shows that there is a low level of domestic competitiveness in the Serbian economy. Serbia is lagging behind significantly in terms of innovation performance compared to neighboring countries and the EU (67.1% average of EU-27). Development of the SME sector is a good measure of an economy's innovativeness, since SMEs commercialize inventions. This sector in Serbia is also behind the EU average and some comparable economies (Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovenia). Firm size in Serbia is a key factor in its innovation activity, where large companies tend to be more innovative. In the EU, however, firm size does not influence the level of innovativeness. The current structure of education for Serbians and investments in knowledge acquisition are unsatisfactory. Serbia belongs to a group of countries that invest poorly in R&D, measured as a share of GDP, suggesting that these investments are made largely by the public sector.

In an innovation-based economy, company value is predominantly determined by intangible assets, which represent the most important input for innovation activity. The ratio of market to book value of a company

is one measure of its intangible-assets value. Intangibles are between one-half and two-thirds the total value of a modern company. For most successful companies around the world, the percentage of book value of total assets that are intangibles is around 50%; for Serbian companies, the figure is around 3%. Empirical researches show that the corporate success of the most profitable Serbian companies is in no way determined by the efficient exploitation of intellectual capital. When we analyze the income structure of Serbian innovators, the income from selling unchanged/slightly-changed products dominates. In addition, these companies primarily focus on selling their products/services in the local/regional market. In addition, when we look the structure of different forms of innovation in the innovation portfolio, Serbian enterprises fall behind and relate to poor level of domestic economy competitiveness.

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Stevo Janošević

is full time professor at the Faculty of Economics, University of Kragujevac. He teaches courses in Strategic management (graduate studies) Business strategy (postgraduate studies), and Change management and competitive advantage (doctoral studies). So far he has published several books as author or co-author, such as Strategic planning of research and development, Innovations and technology strategy of a firm, Strategic management (4 editions), Total quality management, and Management and strategy (8 editions). He was on study programs in London Business School, Tilburg University as a Dutch Government fellowship holder and Western Illinois University in Macomb (USA). He led and participated in over 60 studies for the needs of companies in Serbia. Now, he is the chair of board of directors at "Metalac-Proleter". Current areas of professional interest are change management and competitive advantage, enterprise restructuring, strategic financial management, and measurement and management of intellectual capital.



Vladimir Dženopoljac

is a teaching assistant and a researcher at the Faculty of Economics, University of Kragujevac, on courses of Strategic management and Business planning and policy, at the bachelor level of studies. At the postgraduate studies, he is engaged as a teaching assistant for Business strategy. Until now, he has published a number of papers in his field of professional expertise, and has been involved in implementation of several projects for Serbian companies. Current areas of professional interest are intellectual capital management and strategic financial management.

Valentina Ivanić

Agency for Balanced Regional
Development of the Government of
AP Vojvodina, Novi Sad

Blagoje Paunović

University of Belgrade
Faculty of Economics
Department of Business Economic
and Management

POWER DISTANCE AND UNCERTAINTY AVOIDANCE AS FACTORS OF COMPETITIVENESS OF COMPANIES IN AP VOJVODINA*

Distanca moći i izbegavanje neizvesnosti kao faktori
konkurentnosti preduzeća u AP Vojvodini

Abstract

This paper aims to show how the dimensions of organizational culture (power distance and uncertainty avoidance) affect competitiveness of medium-sized companies in the recessionary environment in the region of a transitional economy on its way to EU accession. Our research was based on the assessment of differences in attitudes of both managers and non-managers in two groups of companies operating with private capital of foreign and domestic origin in AP Vojvodina with regard to each element of these dimensions of culture. Analysis of indicators of liquidity and profitability was performed using ratio analysis. The assumption in this research is that medium-sized companies that operate with private capital of foreign origin in AP Vojvodina are characterized by lower power distance and less uncertainty avoidance in comparison to companies that operate with private capital of domestic origin. Therefore, those dimensions of culture make their businesses more liquid and more profitable. When it comes to uncertainty avoidance, contrary to the expectations, the managers of the first group of companies have shown a higher degree of uncertainty avoidance in comparison to the managers of the second group of companies. This can be explained by the fact that the operations of this group have been exposed not only to the contraction of external demand, but also to the need to respond by planning to the environment which is not regulated to the same extent as is the case in the country of origin of the capital.

Key words: *organizational culture, FDI as a means of transposing cultural patterns, competitiveness, medium-sized companies*

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Sažetak

Cilj ovog rada je da ukaže kako dimenzije organizacione kulture (distanca moći i izbegavanje neizvesnosti) utiču na konkurentnost preduzeća srednje veličine u regionu jedne tranzicione ekonomije na njenom putu ka EU i u kontekstu poslovanja u recesionim uslovima. Testirane su razlike u stavovima menadžera i zaposlenih dve grupe preduzeća srednje veličine koja posluju u AP Vojvodini, sa privatnim kapitalom stranog odnosno domaćeg porekla, u odnosu na svaku od stavki koja indikuje pomenute dimenzije kulture. Analiza indikatora likvidnosti i profitabilnosti urađena je korišćenjem racio analize. Pretpostavka u istraživanju na osnovu koga je nastao ovaj rad je da se preduzeća srednje veličine koja posluju sa privatnim kapitalom stranog porekla u AP Vojvodini odlikuju nižom distancom moći i manjim stepenom izbegavanja neizvesnosti u odnosu na preduzeća koja posluju sa privatnim kapitalom domaćeg porekla. Niža distanca moći i niži stepen izbegavanja neizvesnosti čine poslovanje kompanija koja posluju sa privatnim kapitalom stranog porekla likvidnijim i profitabilnijim. Kada je u pitanju odnos prema neizvesnosti, menadžeri grupe preduzeća koja posluju sa privatnim kapitalom stranog porekla (prva grupa preduzeća) su pokazali viši stepen izbegavanja neizvesnosti u odnosu na menadžere preduzeća koja posluju sa privatnim kapitalom domaćeg porekla (druga grupe preduzeća), što je protivno očekivanjima. Dobiveni nalaz se objašnjava činjenicom da su menadžeri prve grupe preduzeća bili više izloženi kontrakcijama eksterne tražnje, ali i da imaju potrebu da na ambijent koji nije uređen u meri u kojoj su uređene zemlje porekla kapitala reaguju planiranjem.

Ključne reči: *organizaciona kultura, SDI kao metod prenošenja kulturnih obrazaca, konkurentnost, preduzeća srednje veličine*

Introductory remarks

The aim of this paper is to explain the nature of the impact of power distance and attitude to uncertainty as dimensions of organizational culture on the competitiveness of medium-sized companies operating with private capital of foreign and domestic origin in AP Vojvodina.

The theoretical and methodological basis of this research is the work of *Hofstede* [29], who developed a model that identifies cultural dimensions such as power distance, uncertainty avoidance, collectivism versus individualism, and feminine versus masculine dimensions of culture. The reason for the choice of *Hofstede's* model lies in the fact that, in 1971, the former Yugoslavia was also included in his series of research conducted from 1967 to 1973, encompassing more than 116,000 participants from more than 72 countries.

In their paper "HRM Trends in Transition Economies", *Janićijević* and *Bogićević-Milkić* found that the national culture of Serbia changed the least relative to the original research of *Hofstede* due to a very slow process of transition toward a market economy [9, p. 173]. As this research was conducted only in AP Vojvodina, the initial assumption was that the values that *Hofstede* got for Serbia in 1993 were valid for AP Vojvodina so that obtained results were interpreted and compared in relation to the cultural dimensions index of Serbia, which *Hofstede* got for Serbia.

According to *Hofstede*, culture is the so-called "software of the mind, the collective programming of the mind which distinguishes the members of one group or category of people from another" [31, p. 4]. Although the term culture is usually associated with a nation-state, *Hofstede* is of the opinion that the term culture can be used for any human collective: organization, profession, age group, family, etc. This opinion is shared by many other authors [28], [30]. When it comes to the research of national cultures, *Hofstede* points out that they differ in values, whereas in the study of organizational culture we rather talk about the differences in practice [30, p. 312]. Different levels of observation of both national and organizational culture produce the different styles of managing these cultures. In fact, while a value system is more difficult to change, changing the rules in companies can lead to easier and

faster changes in the behaviour of employees, and therefore, to more efficient business operations.

Hofstede himself indicates that the terms organizational culture and corporate culture are synonymous, highlighting the importance of the works "Corporate Cultures" by *Deal* and *Kennedy* and "In Search of Excellence" by *Peters* and *Waterman* in which the concept of corporate culture is elaborated.

In this research, *Hofstede's* model of culture was applied to the level of organizations or more precisely to two groups of medium-sized companies operating with private capital of foreign and domestic origin in AP Vojvodina in 2010. With the aim of providing more comprehensive understanding and interpretation of dimension indices of organizational culture, the research included both managers and employees.

This research looks into two dimensions of organizational culture (power distance and uncertainty avoidance) for the purpose of revealing their impact on maintaining long-run competitiveness of the observed companies, based on the fact that these two dimensions of culture are determining factors of the efficiency of FDI in culturally divergent countries. In this research, FDI is used as a means of transposing cultural patterns.

Many authors agree that the issue of competitiveness has not been situated at an adequate analytical level. Namely, the competitiveness of nations and regions has most often been approached, although neither nations nor regions compete in the world market, but companies [49, p. 189].

The competitiveness of countries in transition, which the Republic of Serbia belongs to, is rarely covered in the literature. However, in recent years a greater number of researchers have been dealing with the ways of improving the receptivity of these countries to FDI, and the ability to manage the costs of cultural distance caused by the inflow of investment into these countries from culturally divergent countries [37], [42], [43], [60].

From 2001 to 2009, total net foreign direct investment (FDI) in Serbia amounted to almost EUR 11 billion, of which EUR 4.8 billion were in AP Vojvodina. Investors from the European Union have the highest percentage share in the total number of investors in AP Vojvodina and accordingly, we could talk about the convergence

of dimensions of Serbian national culture to culture dimensions of the EU countries. Thus, in this period, Italy participates with 17% in FDI in AP Vojvodina (with power distance of 50 and uncertainty avoidance of 72), Belgium with 12% (PDI of 65 and UAI of 94), Germany with 12% (PDI of 35 and UAI of 65) and France with 10% (PDI of 68 and UAI of 86). For the sake of comparison, according to *Hofstede's* research, Serbia is a country which has higher values of power distance index and uncertainty avoidance index compared to all the aforementioned countries (PDI of 86 and UAI of 92).

Although in the literature there is no concept of a "European model of culture" in terms of precisely defined dimensions, each of these investor countries could be said to belong to the group of Western countries whose dimensions of culture diverge from the dimensions of culture of transition economies. *Eriksen* states that "there are systematic differences between Western and Eastern European countries with regard to *Hofstede's* dimensions of culture. Countries in the former group tend to be more egalitarian, more individualistic, more long-term oriented, and more tolerant of uncertainty than countries in the latter" [22, p. 342].

To better understand the purpose of this research and its conclusions, it is important to clarify the content of power distance and uncertainty avoidance as dimensions of culture, the way in which the concept of competitiveness is understood in this research, as well as the ways in which certain dimensions of culture influence certain processes of management in companies and, consequently, their micro-competitiveness.

Power distance, as defined by *Hofstede*, is the dimension that refers to "the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally" [29, p. 46].

While *Hofstede* defines uncertainty avoidance as "the extent to which the members of a culture feel threatened by ambiguous or unknown situations," this feeling is, "among other things, expressed through nervous stress and in a need for predictability: a need for written and unwritten rules" [29, p. 187].

Authors observed organizational culture as a factor in strengthening the performance and competitiveness of companies and accordingly pointed to the characteristics of organizational culture that contribute to gaining and maintaining micro-competitiveness [18], [29], [39]. From the very beginning of the writing on organizational culture to this day, it is possible to distinguish three phases of the research on the influence of culture on the performance of organizations: the research phase which lasted until 1982 (*Peters and Waterman*) when those companies with "strong" organizational culture were considered successful, followed by the period 1982-1990 (*Kotter and Heskett, Denison*), and finally the period after 1990, when *Denison* and *Mishra* defined the dimensions of organizational culture that affect the long-term competitiveness of companies.

Denison observed the dimensions such as involvement, consistency, adaptability, and mission, indicating that involvement and consistency related to the processes within the company, whereas the dimensions of adaptability and mission were connected to relations of a company within the environment. Involvement corresponds to *Hofstede's* dimension of power distance, while adaptability and mission are similar to *Hofstede's* dimension of attitude to uncertainty. Although there has been a great deal of research on the relationship between organizational culture and effectiveness, there is still no general theory of organizational culture and effectiveness of companies [3], [18], [48], [56].

According to the aforementioned, it is possible to set a hypothesis that national culture determines the organizational culture of companies, thus making organizational culture of companies a factor of their competitiveness. Based on the previous theoretical and research analyses, in this research we start from the hypothesis that companies which have lower power distance and lesser uncertainty aversion are more competitive compared to those characterised by an organizational culture whose dimensions are divergent from the above-mentioned. Considering the indices of the analysed dimensions of culture provided for the investor countries in AP Vojvodina, we may assume that accordingly the first group of companies observed in AP Vojvodina (companies operating with private capital of foreign origin) should be more competitive than the

second group of companies (those operating with private capital of domestic origin).

The next section of the paper contains a review of the relevant literature, research methodology, analyses of the obtained research results and, accordingly, conclusions and recommendations for future research in the field of organizational culture and organizational performance.

Literature review

The fact is that a very small number of privatized companies in transition economies managed to restructure and improve their competitiveness without the support of strategic investors [19], [34], [40], [46]. In the opinion of many authors, the lack of organizational transformation, as well as changes in the organizational culture of privatized companies, is one of the main reasons why transition economies are not able to be competitive at the global level [16], [35], [47].

The primary motive of capital owners in transition economies is “survival” rather than “growth” of companies and that is the major difference from entrepreneurs in developed market economies [54]. *Sachs* and *Who* [52] believe that there is a need for further research on the ways to stimulate companies’ growth in a post-transition environment.

Scase [55] found the explanation for the dominance of motive for “ownership of the business” over the motive for the “entrepreneurial behaviour” in the experience of state socialism – after ownership transformation and transition process people have a strong need for personal autonomy as opposed to the authoritarian style used during the centrally planned economy. Apart from the need to avoid the pressure of authoritarianism, small and medium-sized companies were found to “avoid uncertainty” [1] brought by some situations, such as being spun off from public companies in the process of privatization and restructuring.

The fact is that there are few studies that specifically deal with the study of the organizational culture of small and medium-sized companies [15]. Small and medium-sized companies differ from the large ones in terms of more flexibility, a lower level of bureaucracy, a lesser degree of

rigidity in decision-making, and faster response to both chances and threats from the environment [13], [41].

Power distance affects management styles, organizational structure of companies, and the process of change management. There are many authors who pointed to a strong correlation of power distance with the mentioned management functions in the process of gaining and maintaining competitive advantages.¹

When it comes to the growth of small and medium-sized companies, authors and researchers increasingly point to management styles that have the highest similarity with entrepreneurial behaviour [53, p. 47]. *Kanter* [36] suggests that there is a strong correlation between a participative management style and entrepreneurial behaviour as opposed to a traditional autocratic management style.

The dimension of uncertainty avoidance affects the relationship with changes, the strategic management process, as well as planning and control systems. The authors who have considered certain management functions as the variables dependent on the value of the uncertainty aversion index are *Castells* [14], *Francesco* and *Gold* [23] *Harzing* and *Hofstede* [27], *Kotter* and *Schlesinger* [38]. *Berry* [6] believes that the lack of strategic planning does not only affect the inability of small and medium-sized companies to realize their full growth potential, but also their survival which due to “myopia” and lack of a long-term vision can be endangered [6, p. 455]. Strategic planning is a competitiveness factor of small and medium-sized companies. Researchers point to a positive correlation between strategic planning and the growth of the rate of return, employment rate, and sales rate of medium-sized companies that have strategic development plans [11], [8], [12], [25]. The role of planning is especially pronounced in recessionary conditions.

A systematic study of organizational culture in Serbian companies dates back to the end of the 1990s of the last century, to be continued in the period after 2000. In this period, domestic authors (e.g. *Janićijević*, *Mojić*, *Bogićević*) started to introduce the concept of organizational culture into their research practice, to critically analyse its scope and to look for the ways of improving it. Authors mostly use *Hofstede’s* findings and research as theoretical

¹ See [2], [4], [7], [26], [29], [45], [56], [57].

and methodological basis for their studies. Since, in this study, we deal with organizational culture as a factor of competitiveness of medium-sized companies in AP Vojvodina, a finding by *Janičijević and Bogičević-Milikić* is important. He states that the centralization of the decision-making process in companies operating in the Republic of Serbia, as well as aversion to delegating authority and responsibility, represents an obstacle to the growth of medium-sized companies [33, p. 178].

Data and analysis

This research used a methodology of the Statistical Office of the Republic of Serbia, which is based on the classification of legal entities by the number of employees and where medium-sized companies are the companies that employ 50 to 249 employees. The performance of medium-sized companies in AP Vojvodina was observed from 2007 to 2010.

Two sets of indicators for the two groups of medium-sized companies are considered: qualitative and quantitative ones. Quantitative indicators refer to indicators of competitiveness of companies and are obtained by analyzing their final accounts, whereas the qualitative ones are related to attitudes of the employees and management in the two groups of companies in AP Vojvodina. The survey covered 90 managers and 445 employees from two groups of medium companies operating in AP Vojvodina with private capital of foreign and domestic origin.

The main objective of the research of medium-sized companies in AP Vojvodina based on final accounts from 2007 to 2010 is to calculate the indicators of their profitability and liquidity. In 2008, final accounts were submitted by a total of 23,391 companies, of which 22,148 were small, 999 were medium-sized, and 244 were large. There were 134 medium-sized companies with foreign capital.

Measurement of attitudes of the managers and non-managers from two groups of companies in AP Vojvodina was performed on a sample determined as follows. The target groups of the research were: (a) managers of companies in top positions and (b) employees in different jobs. The research was conducted in two phases, as follows: in the first phase of the research, the basic set consisted of 134 medium-sized companies with a share of foreign capital

in the ownership structure (according to final accounts submitted in 2008) operating in the territory of AP Vojvodina. The survey was conducted in 44 companies.

In the second phase of the research, the managers and employees of companies operating with private capital of domestic origin in AP Vojvodina were interviewed. The main set in this case consisted of 865 companies. A set of 120 companies was created (which was 14 % from the basic set). The survey was conducted in 46 companies operating with the share of foreign capital in the ownership structure.

The questionnaire used in this research was taken from *Hofstede's* study of national cultures and adjusted to the needs of this research [29, p. 467].

Results and discussion

A decisive role in the determination of the ways of investing in a country as well as the success of this investment is played especially by two dimensions of national cultures of the recipient countries, such as power distance and uncertainty avoidance [29, p. 447].

High-power distance societies are characterized by low interpersonal trust and highly expressed information asymmetry resulting in high transaction costs.

As the Serbian culture is characterized by high power distance and high uncertainty avoidance, this research provides an overview of FDI realized in AP Vojvodina from 2001 to 2009, as well as an overview of countries whose investment constituted more than 10% of the total investment in the region in this period. When foreign investment is observed from the sector's perspective, an interesting finding is that in the reporting period FDI was placed in the non-tradable sector in AP Vojvodina in a greater amount (56.69%) compared to the 43.31% placed in the tradable sector [60, p. 136]. Investment in non-tradable sector also indicates the existence of cultural distance as a type of transaction cost that still puts investment off in the tradable sector.

Power distance and uncertainty avoidance

Countries with low uncertainty avoidance are open to innovation and at the macroeconomic level they

are characterized by high investment in research and development (in Serbia, investment in research and development amounted to 0.5% of GDP in 2010, which is far from the target set by the Europe 2020 strategy where this type of investment should be at the level of 3 % of GDP).

Managers of the two groups of companies were asked about the characteristics of business and questions of demographic character. Upon testing the differences in attitudes of the two groups of managers, a conclusion on the specifics of each group of respondents was reached. Since the research occurred in 2010, among others, questions were formed in such a way to obtain estimates of managers of the degree and ways of the impact of the economic crisis on companies they managed. Thus, the managers of the first group of companies in the majority of cases (43.2%) compared to 28.9% of the managers of the second group of companies, declared that the global economic crisis would “decisively” effect on reducing demand for goods and services in external markets. This demonstrates their strategic export orientation and ability to meet more sophisticated external demand.

Innovation is a key factor for long-term competitiveness. Thus, from this aspect it important to understand the differences in attitudes of managers of the two groups of middle-sized companies that operate with private capital of foreign or domestic origin, to confirm or refuse the presumption that companies doing business with private capital of foreign origin have a lower degree of uncertainty aversion and consequently a higher degree of openness to change and innovation (compared to companies that do business with private capital of domestic origin). The findings are interesting because they indicate the existence of statistically significant differences in the frequency distribution of responses to the question “Does your company cooperate with a scientific research institution to improve its production?” between managers of the two groups of companies. The percentage of the managers of the first group of companies (70.5%), i.e. medium-sized companies operating with the private capital of foreign origin in AP Vojvodina, responded that they did not cooperate with scientific research institutions to improve their production compared to 54.3% of the managers of the second group of companies, i.e. medium-sized companies operating with

the private capital of domestic origin in AP Vojvodina. Considering the nature of FDI in the Republic of Serbia and AP Vojvodina, the responses of the managers of the first group of companies are understandable, given that the Republic of Serbia has been in the stage of resource- and efficiency-driven competitiveness since 2000 until the present day, which attracts market-seeking and efficiency seeking investments, rather than the investors who would bring new technologies to the Serbian market. Although this was the case, research in this field was usually located in branch offices or countries of origin of the capital.

Power distance

In this research, the formula used in *Hofstede's* research was used to calculate the power distance index for the managers and employees in the two groups of companies in AP Vojvodina. $PDI = 135 - 25x$ (the arithmetic mean of the questions concerning fear of employees to express their disagreement with the views of managers) + (% of current management's grade 1+2) - (% of preferred management 3).

The same formula was used in the research of leadership styles of managers in Serbia by *D. Mojić* and, based on that, he calculated power distance indices of managers and employees of Serbian companies [44, p. 99].

Based on the above formula, *Hofstede* calculated the power distance index for the former Yugoslavia (76). Yugoslavia was placed in the cluster of countries with high power distance. After the breakup of Yugoslavia in 1993, *Hofstede* calculated the indices of dimensions of culture for Serbia, Slovenia, and Croatia and he got the power distance index of 86 for Serbia. In 2003, *Mojić* calculated the power distance index for managers in Serbia and got a value of 83 [45, p. 100], which is higher than *Hofstede's* index for the former Yugoslavia (76) and slightly lower than *Hofstede's* index for Serbia in 1993 (86).

Observing the power distance index that *Hofstede* got for Serbia in 1993 (86) and compared with *Mojić's* findings (83), it can be concluded that the power distance index for Serbia showed a tendency to fall over time. The decline continues when these values are compared with the results we obtained in this research.

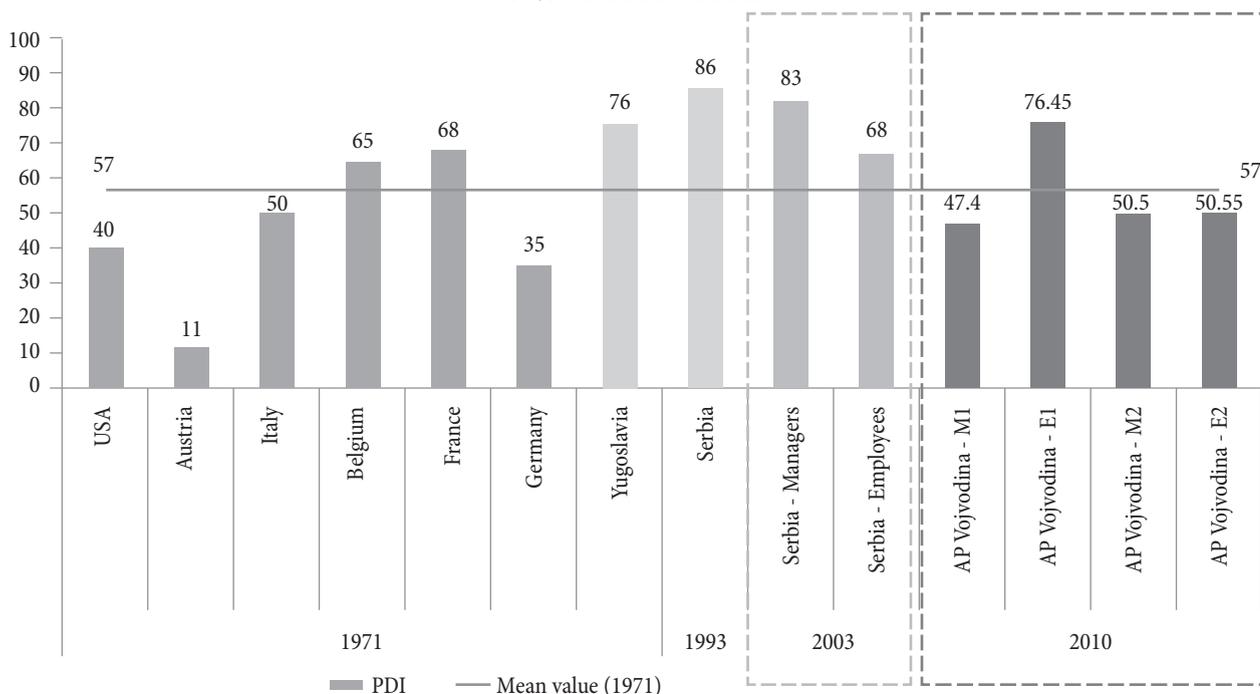
The power distance index is slightly lower (47.4) for managers employed in companies that do business with private capital of foreign origin in AP Vojvodina, compared to the same index for managers employed in companies that do business with private capital of domestic origin (50.5). Contrary to expectations, the power distance index for the employees in the first group of companies in AP Vojvodina is higher (76.45) than the power distance index of the employees in the second group of companies (50.5).

Since there are different subcultures in every company, both managerial and non-managerial subcultures were observed in this research. Our assumption was that the process of selection of employees in companies operating with private capital of foreign origin in AP Vojvodina is directed toward finding candidates who will fit into the dominant culture of the organization, even if such candidates are atypical representatives of their own cultures. In accordance with this, it can be expected that the employees in the first group of companies in AP Vojvodina show lower power distance compared to the employees of the second group of companies.

A finding indicating higher power distance of employees of the first group compared to the second group of companies is contrary to expectations. Because the employees of the first group of companies showed the presence of higher power distance to a greater extent than the employees of the second group of companies, it is quite logical that they perceived their managers as autocrats to a greater extent than the employees of the second group of companies. This finding suggests that the management of companies operating with private capital of foreign origin in AP Vojvodina still cannot be based on a consultative management style for which the local workforce is not ready yet.

The reason of high power distance index for the employees of the first group of companies can be explained by the fact that the local workforce, even when working in organizations with low power distance culture, is still prone to the values immanent in high-power distance culture in which they grew up and socialized, which emphasizes the need for choosing and applying a management style that is appropriate, understandable, and congruent with the local culture.

Figure 1: Values of PDI for the Republic of Serbia, AP Vojvodina, and countries whose FDI in AP Vojvodina is over 50% from 2001 to 2009



Research findings for selected group of countries and Serbia, Geert Hofstede, 1971 and 1993

Research findings for Serbia, Dušan Mojić, 2003

Research findings for AP Vojvodina, 2010

Managers who come from countries with low power distance to the countries and organizations with high power distance automatically apply a consultative management style, which is counterproductive because members of high-power distance cultures expect to be ordered and explained in detail what to do, and they think that if their bosses consult them, they are certainly incompetent.

Seven years since *Mojić's* study was done (2003), a survey of managers and employees in companies in AP Vojvodina shows that the managers of both groups of companies have lower power distance index in comparison to the employees (see Figure 1). Comparative research in this area indicates that there is a downward trend in power distance index in the countries of Central and Eastern Europe, especially in the managerial subculture [50, p. 98]. In the context of this trend observed in a cluster of Eastern European countries, the findings of this research should be understood as well. With power distance index values obtained in this research, one should consider the fact that the sample consists of medium-sized companies and that their size and a small number of hierarchical levels is one of the reasons that may explain the values of the obtained indices.

Uncertainty avoidance

The dimension "uncertainty avoidance" is indicated in this study by responses to the questions related to stress, job stability, and tolerance toward breaking company rules. *Hofstede* got the uncertainty avoidance index of 88 for the former Yugoslavia, and later after the breakup of the former Yugoslavia, in 1993, he calculated this index for the Republic of Serbia (92) [29, p. 501]. In his research of leadership styles of managers in Serbia, *D. Mojić* calculated the uncertainty avoidance index of 93 for managers [44, p. 100], which is not only higher than the score of 88 that *Hofstede* got for the former Yugoslavia (1971), but also higher than the score got by the same author for the Republic of Serbia (92). *Mojić* used *Hofstede's* formula to calculate this index, which is as follows: $UAI = 300 - 30$ (the arithmetic mean of responses to the question of violation of company rules) – (percentage of those who responded they would remain in the company less than

five years) – 40 (the arithmetic mean of responses to the question about stress). The same formula was used in our research.

As obtained results in our research show, the employees in companies with foreign ownership exhibit lower degree of uncertainty avoidance (63.3) in comparison to the employees of companies that do business with private capital of domestic origin (70.2) in AP Vojvodina. The mere fact that a person got a job in a company that operates with private capital of foreign origin in AP Vojvodina and not through strong social networks (close connections) in a company operating with private capital of domestic origin indicates a lower degree of uncertainty avoidance.

Furthermore, in conditions of crisis, managers are more exposed to situations where the existing rules do not apply and where one must act quickly, which means breaking the existing rules if the situation indicates that it is in favour of the company. The fact is that managers have the possibility to change the rules and they were forced to it by doing business in recessionary conditions. Contrary to expectations, the managers of the first group of companies showed a higher degree of uncertainty avoidance (88) compared to the managers of the second group of companies (77.9), which can be explained by doing business in the context of recession. In any case, the recession led to an increase in the uncertainty index around the world, not only because of the increased stress level, but also because of the need to implement packages of anti-crisis measures at the international level and regulate business operations in the post-recession period. New mindset must respect new geopolitical and regulatory trends as "current Serbia's economic model is impotent and unsustainable. This model was based on services, consumption, import and credits. The new model requires new set of priorities: real economy, investments, exports and savings" [21, p. 326]. *Đuričin* and *Vuksanović* also point out that the productivity of national economy arises as a consequence of combined influence of domestic companies and foreign investors, but they conclude that "domestic business elite cannot be substituted with foreign technocrats" [21, p. 326].

In this context, the increased level of uncertainty avoidance with the managers of the first group of companies

should be understood since the companies they managed mainly focused on meeting external demand, which was in contraction in the observed period.

“The stress level of the managers of the first group of companies was higher because they had to lead and organize their business activities in a country which was not institutionally regulated then, as were countries investing in AP Vojvodina. They were doing business with capital originating from countries which to a large extent determine the mechanisms of administrative control as a way of reducing the uncertainty, and the results should be interpreted in that context” [5, p. 309].

In fact, when it comes to uncertainty avoidance, a seemingly paradoxical situation should be considered and that is that companies under conditions of uncertainty “defend” themselves by adopting new business rules, redefining the organizational vision and mission, which in the post-recession period (and in normal circumstances) is a task that is expected of managers. In this sense, one should also understand a higher degree of uncertainty avoidance from the managers of the first group of companies in AP Vojvodina compared to the managers of the second group of companies. As for the managers of the second group of companies and their greater tolerance for “violation of rules”, observed as an indicator of lower degree of uncertainty avoidance in this study, it should be mentioned here that during the 1990s the entrepreneurial culture and entrepreneurial ethics in the Republic of Serbia evolved in conditions of the “gray economy”, which does not only have negative effects when it comes to the possibility of levying taxes and filling the budget, but also when it comes to blocking the formation of entrepreneurial ethics in the Republic of Serbia.

Furthermore, “in lasting business operations in the gray economy, people learn to ‘wheel and deal’ and do not learn modern entrepreneurial activities, they learn to be ‘resourceful’ in prevaricating regulations, but do not learn how to be business creative” [10, p. 173]. Such creativity was reflected, among other things, in business activities where a high tolerance for the non-performance of business duties was considered the normal behaviour.

Recessionary business conditions obviously affect the higher value of this index even in countries whose cultures

are characterized by low uncertainty avoidance index. The global economic crisis was called the “confidence crisis”. Therefore, an important element of any exit strategy from the crisis is dealing with the ways to restore confidence: “A society will, in fact, be more capable of organizational innovation, as a high degree of confidence enables the existence of a wide diversity of social relationships. However, people who do not trust each other will cooperate with each other only under the system of formal rules and regulations” [24, p. 37].

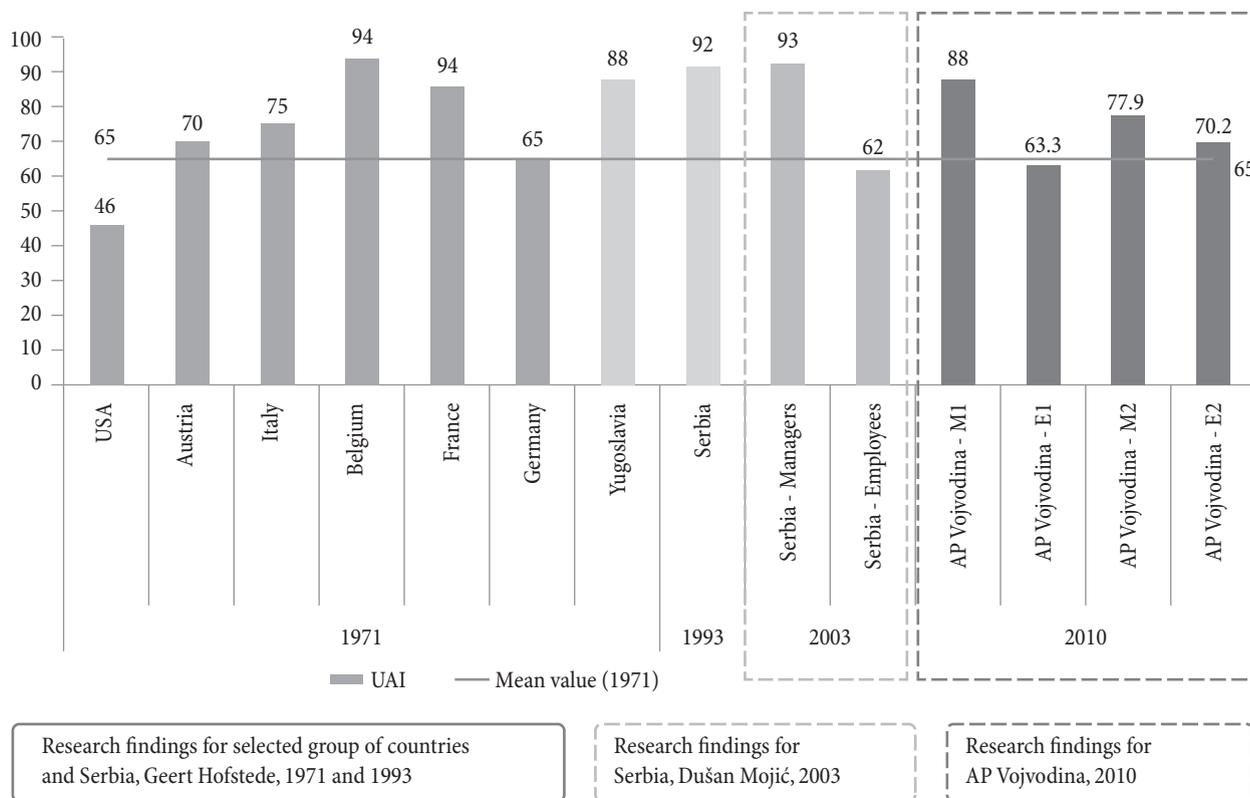
According to *Đuričin* and *Vuksanović* “reindustrialization could solve the crisis of confidence, enabling Serbia to return to industrial economy development model. It largely depends on the statesmen, not politicians, and their readiness to first and foremost consider the economic consequences of the political decisions, giving priority to the return on investments over the return of voters” [20, p. 308].

Observing the movement of the uncertainty avoidance index over time (see Figure 2), a drop is noticed from 92 (as calculated by *Hofstede* for Serbia in 1993) and 93 (as *Mojić* got for the Republic of Serbia in 2003) to 88 as shown by the results of this study for the managers of the first group of companies in Vojvodina, and 77.9 for the managers of the second group of companies in AP Vojvodina. Concerning employees, the comparison is only possible in relation to *Mojić’s* research in 2003 when he got 62 for the uncertainty avoidance index for employees. In our study, 63.3 is the uncertainty avoidance index for the employees of the first group of companies, while the index for the employees of the second group of companies is higher at 70.2, thus showing an increase compared to *Mojić’s* index.

Competitiveness indicators of companies in AP Vojvodina, 2007-2010

Since the recessionary environment is mentioned when analyzing the indicators of competitiveness of companies in AP Vojvodina, it is necessary to briefly point out the characteristics of this environment. A recession is defined as a period of decline in gross domestic product (GDP) for two or more consecutive quarters. Emerging from recession can be discussed when GDP growth is realized in a single

Figure 2: Values of UAI for Serbia, AP Vojvodina, and countries whose FDI in AP Vojvodina is over 50% from 2001 to 2009



quarter. In the first quarter of 2010, the Republic of Serbia statistically emerged from recession. In the first quarter of 2010, the Republic of Serbia had an increase in GDP amounting to 1%, which was the first increase in GDP after the fall in four consecutive quarters. Accordingly, it can be concluded that the Republic of Serbia emerged from recession in the first quarter of 2010.

Rates of return on total assets are commonly used as global indicators of profitability. To determine these rates, balance sheet and profit and loss account data are used with the following formula: Rate of return on total assets = Net profit / Total assets; Net profit (ADP 229 from the profit and loss account); Total assets (ADP 024 or ADP 122 from the balance sheet) .

Quick ratio is obtained by the formula: Short-term receivables + Investments + Cash (ADP 015) / short-term liabilities (ADP 114 for balance sheets for 2007 and ADP 116 for 2008, 2009, and 2010). The indicator of relatively satisfactory liquidity is 1:1 ratio for liquid assets and short-term liabilities. However, since the operations in the recessionary environment affect the extension of the collection of receivables, vigilance is required when

unreservedly classifying receivables to liquid assets, which can lead to an unrealistic picture of the liquidity of the company. However, when the liquidity of the economy or economic branches is analyzed, then it can be assumed that upward and downward deviations from the average cancel each other out, which allows the quick ratio in the amount of 1 to be accepted as a standard of a satisfactory liquidity. The analysis of the financial structure and profitability of medium-sized companies in AP Vojvodina was done from 2007 to 2010. The sample consisted of medium-sized companies with private capital of foreign or domestic origin in AP Vojvodina (their number is presented in Table 1).

Expectations were that companies doing business with private capital of foreign origin would be more successful and more profitable than companies that do business with private capital of domestic origin in AP Vojvodina in recessionary conditions. Expectations were based on assumptions that companies doing business with private capital of foreign origin have an organizational culture that in recessionary conditions makes them more competitive than companies operating with private capital of domestic origin. Indicators of financial structure and

Table 1: Indicators of financial structure and profitability for medium-sized companies operating with private capital of foreign origin (first group of companies) and companies operating with private capital of domestic origin (second group of companies) in AP Vojvodina from 2007 to 2010

Year	2007		2008		2009		2010	
Origin of private capital:	domestic	foreign	domestic	foreign	domestic	foreign	domestic	foreign
Number of companies	514	102	538	119	480	118	437	105
Quick ratio	0.61	0.73	0.65	0.54	0.66	0.66	0.71	0.73
Rate of return on total assets	6.0	5.6	4.8	2.8	3.6	2.2	3.9	4.9

profitability of both groups of companies in the observed period are listed in Table 1.

Medium-sized companies operating with private capital of foreign origin in AP Vojvodina were more profitable than companies operating with private capital of domestic origin in the second half of 2009 and throughout 2010. Higher rates of return on total assets of companies operating with private capital of foreign origin in AP Vojvodina in the second half of 2009 and 2010 were a sign of the competitiveness of their products and services. Because of its export orientation, the first group of companies showed signs of faster recovery and a willingness to respond to the external demand recovery. Domestic economy lagged behind in terms of the recovery (recorded no sooner than at the end of 2010). Thus, one should understand the low rates of return and profitability of the second group of companies, considering their focus on local demand.

When quick ratio from 2007 to 2010 is observed, companies that operated with private capital of foreign origin in AP Vojvodina were more liquid (except in 2008) compared to companies that operated with private capital of domestic origin (Figure 3). It is important to note that the values of this ratio that were obtained for the observed group of companies are below the standard value. If the standard 1:1 is applied, it is noticeable that most sectors in the Republic of Serbia were below the limit of liquidity in the same period. In certain situations, analysts take 0.50:1 as a standard for this ratio.

The decrease in this ratio is explained by the amount of time required for the collection of receivables in the Republic of Serbia, prolonged in times of a recession. According to Eurostat, the average time for the collection of receivables in the Republic of Serbia during the recession period was 128 days. To better understand the importance of this factor for the liquidity of companies, it should be

Figure 3: Quick ratio for medium-sized companies operating with private capital of foreign or domestic origin in AP Vojvodina from 2007 to 2010

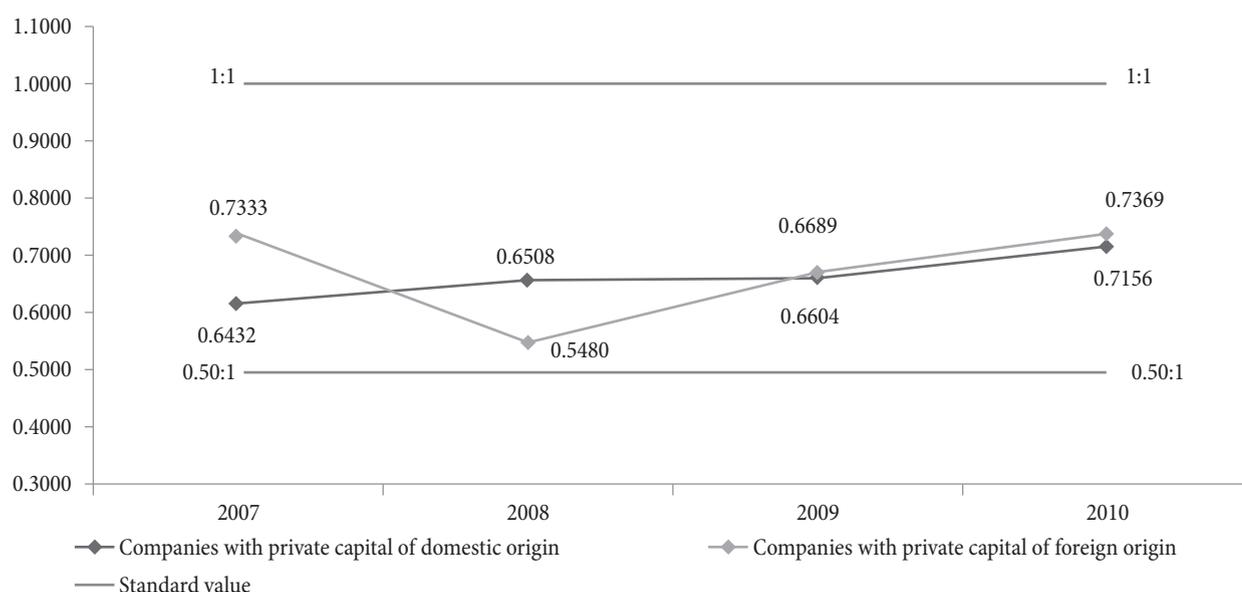
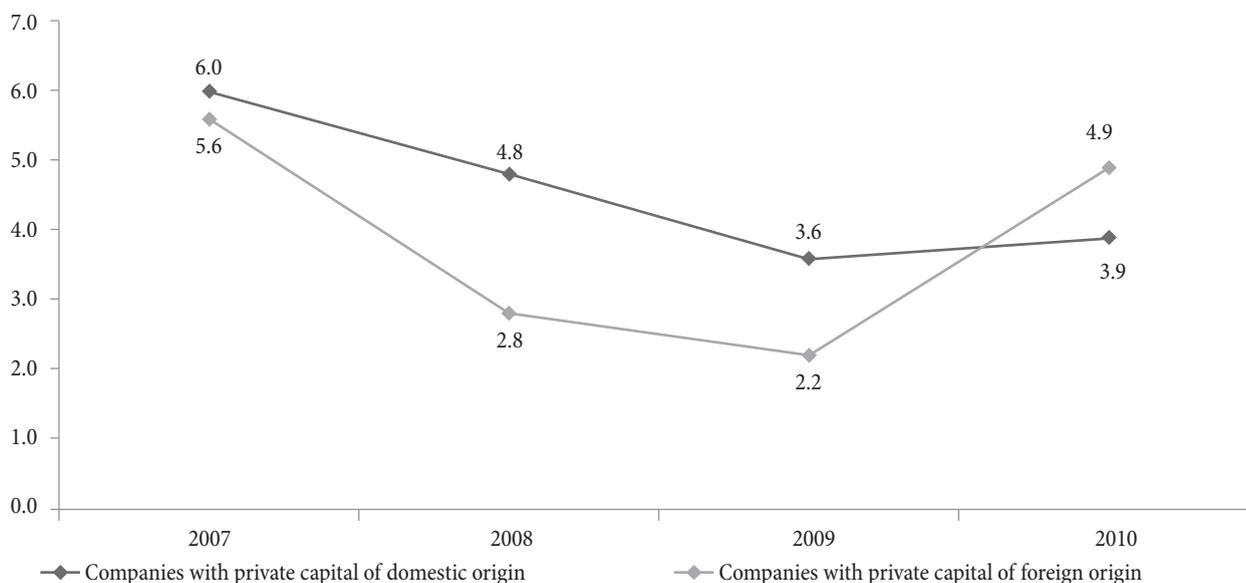


Figure 4: Rate of return on total assets of medium-sized companies operating with private capital of foreign or domestic origin in AP Vojvodina from 2007 to 2010



said that the average time for the collection of receivables in Germany is 18 days.

In the second half of 2009 and in 2010, companies operating with private capital of foreign origin in AP Vojvodina had more profitable businesses (measured by the rate of return on total assets) compared to companies that did business with private capital of domestic origin (Figure 4). These results should be interpreted in light of the fact that the initial revival of economic activities in the Serbian economy during 2010 contributed to halting the further decline in its profitability, as well as in light of the fact that companies operating with private capital of foreign origin are export-oriented.

Conclusion

The power distance index of managers of the second group of companies (medium-sized companies that do business with private capital of domestic origin in AP Vojvodina) and the power distance index of managers of the first group of companies (medium-sized companies that do business with private capital of foreign origin in AP Vojvodina) converge, which shows the confidence growth among the second group of managers of companies and their associates, and indicates the willingness to delegate duties and responsibilities and to abandon the paradigm of power culture, and a shift toward the role culture. Low

values of the power distance index in the second group of companies also indicate the existence and awareness of the need to develop cooperation with other companies instead of striving for vertical positioning within the state apparatus. Furthermore, this allows positioning within business networks that are “flat” and not hierarchical. As this dimension of culture has a direct impact on a management style, and accordingly the micro-competitiveness of companies, it is clear that a more efficient management style in the first group of companies would be benevolent autocratic, rather than participative.

Members of cultures with high uncertainty avoidance are very competitive when it is necessary to respond to clearly defined and urgent requests. Such requirements are imposed on businesses in the recessionary environment, and therefore, the high value of the uncertainty avoidance index of the managers of the first group of companies compared to the managers of the second group of companies should not be surprising. These results should be understood in terms of the commitment of this group of companies to satisfy the sophisticated external demand. The profitability and liquidity of the first group of companies after the recovery in external demand is proof that the first group of companies reacted to the recessionary business conditions by strengthening the capacity for reducing uncertainty to promote the position of their products when the contraction in external demand ended.

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Valentina Ivanić

is managing director at the Agency for Balanced Regional Development of the Government of AP Vojvodina. Field of her research interest is a culture as a factor of national and regional development, as well as organizational culture as a determinant of competitiveness of medium-sized companies. The subject matter of her PhD thesis is the relationship between organizational culture and the competitiveness of medium companies in AP Vojvodina.



Blagoje Paunović

is a full professor in the Faculty of Economic, University of Belgrade, and Chairman of the Department for Business Economics and Management. Professor Paunović is author and co-author of nine books and large number of scientific articles. During his career professor Paunović has worked in various types of teams, from government bodies to research teams. He was the Assistant Minister in the Ministry of Economy and Privatization (2002-2004), Director of NICEF (2004-2009), and has chaired Managing/Supervisory Boards of Guarantee Fund, Tipoplastika, Privredna Banka, Clinical Centre Bezanjska kosa, and was member of Managing/Supervisory Boards of several other companies. He participated in international funded projects and practiced consultancy helping more than 70 private enterprises in different fields such as: business plan development, financial management, accounting, research and economic surveys, policy analyses and recommendations, etc.

Dragan Lončar

University of Belgrade
Faculty of Economics
Department of Business Economics
and Management

Siniša Milošević

Belox Advisory Services

Vesna Rajić

University of Belgrade
Faculty of Economics
Department of Mathematics and
Statistics

CONCENTRATION ANALYSIS ON THE SERBIAN ICE CREAM MARKET

Analiza koncentracije na tržištu sladoleda Srbije

Abstract

This paper presents the results of research on the concentration levels of the impulse ice cream market in Serbia. It shows the theoretical characteristics of the indicators of market concentration. All the data presented here are illustrated by the example of the impulse ice cream market in Serbia. The aim of this paper is to make a comprehensive analysis of the concentration of the ice cream market in Serbia, including the adequate definition of the relevant market, the calculation of various indicators of market concentration, investigating the existence of entry barriers, testing and measuring current levels of market saturation. The synthesis of all these segments creates the opportunity to present the real situation in the market and demonstrate the historical dynamics and potential for future development of the ice cream market in Serbia.

Key words: *market concentration, market share, ice cream market, Serbia*

Sažetak

Rad predstavlja rezultat istraživanja nivoa koncentracije na tržištu impulsnih sladoleda u Srbiji. Prikazane su teorijske karakteristike pokazatelja tržišne koncentracije. Svi prezentovani pokazatelji ilustrovani su na primeru tržišta impulsnih sladoleda u Srbiji. Cilj rada je da se napravi sveobuhvatna analiza koncentracije tržišta sladoleda u Srbiji uključujući pravilno definisanje relevantnog tržišta, obračun različitih pokazatelja tržišne koncentracije, ispitivanje postojanja ulaznih barijera, kao i merenje nivoa trenutne saturacije tržišta. Sintezom svih navedenih segmenata stvara se mogućnost da se predstavi realno stanje na tržištu i ukaže na istorijsku dinamiku i potencijale budućeg razvoja tržišta sladoleda u Srbiji.

Cljučne reči: *tržišna koncentracija, tržišni udeli, tržište sladoleda, Srbija*

Introduction

The issue of market concentration is related to the notion of competition. Competition is a form of struggle, race between individual market participants or competitors. Each competitor is trying to offer the very products that the consumers want. His goal is to satisfy the needs of consumers as much as possible, in order to gain as much profit. All competitors in the market have the same goal, which leads to the creation of competitive pressure. Therefore, each competitor wants to be better than other players in the market in order to attract consumers' attention and take the biggest market share possible. This process of competition leads to economic efficiency because consumers are offered better products and services, of better quality and at lower prices.

Current trends in the global market, such as transition and liberalization of goods and capital, have led to a reduction in competition. This is primarily due to an increase in the concentration of market power of a small number of large companies. However, one should bear in mind the fact that it is the big companies who are bearers of economic development in certain industries, and thus, a reduction in the number of competitors does not necessarily mean a reduction in economic efficiency. This is the reason why competition is often mistakenly associated with the number of competitors. In some situations, competition may be more intense among several large competitors who continually invest in innovation, than among a large

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number of little ones who do not have sufficient funds to seriously engage in research and development.

The first stage in the process of analysing concentration is defining relevant market precisely. When defining the relevant market, it is necessary to take into account the existence of substitution between products belonging to the same relevant market. Substitution of products is seen from the perspective of consumers and in terms of product properties, their use and price. All three criteria must be fulfilled cumulatively so that a particular set of products may be classified in the same relevant market.

For an understanding of the relevant market, it is necessary to consider its specifics and what distinguishes it from other markets. Furthermore, it is necessary to analyse the practice of the players in equivalent markets in other countries. These procedures precede the stage of computing the indicators of market concentration, and they need to be considered together with the calculated indicators in order to achieve full understanding of the market being analysed.

In addition to the Introduction and the Conclusion, the paper consists of three parts. The first part defines the relevant market. The second part describes market activities of the leading manufacturers of ice cream in the world, as well as the specifics that characterize the ice cream market. The third section provides a theoretical basis for indicators of concentration and their empirical application on the impulse ice cream market in Serbia.

Determining relevant market in the ice cream industry

In order to measure the degree of competition in any relevant market more reliably, first of all it is necessary to properly define and determine the relevant market. The relevant market has two dimensions: the relevant product market and the relevant geographic market. According to the Law on Protection of Competition [21], Article 6 Paragraph 2, relevant product market is defined as a set of goods and services that consumers and other users consider interchangeable in terms of characteristics, the common use and price. The Decree on the criteria for determining the relevant market [18], in Section 2

Paragraph 1, defines the relevant product market in the same manner, as a set of goods and services that consumers consider interchangeable in terms of their characteristics, common use and price. Paragraph 3 of the same Article further specifies that the substitutability of goods or services based on the criteria of the assessment of the possibility that the customers purchase other goods or services, which are substitutes for the goods or services observed, represents substitution of demand.

It is clear that the basis for defining the relevant market is substitution of products, from the perspective of consumers and other users, based on the three dimensions mentioned above. In terms of the ice cream market, in general, all kinds of ice cream can be divided into three categories [6]: impulse ice cream, take home ice cream, and catering ice cream. The question is whether in the territory of the Republic of Serbia all these categories represent single relevant market or a number of individual relevant markets. In order to obtain a response, it is necessary to apply a cumulative analysis of the three above-mentioned criteria to test the substitutability of the three categories of ice cream.

In terms of their characteristics, the key difference between the three categories lies in the type and size of the packages. Impulse ice cream is packaged in small individual packages in foil, while take home ice cream and catering ice cream are packed in much larger solid injection moulded packaging. The size of packaging influences the choice of individual consumers, but also on the structure of requisition for ice cream by retailers, primarily because of limited storage space.

Bearing in mind general properties of the three categories of ice cream according to the current categorization of frozen dessert products [16], it can be concluded that the take home and catering ice creams generally belong to cream and milk ice creams (ingredients: milk fat, non-fat milk solids, no vegetable fat or vegetable proteins) and ice creams (ingredients: milk and/or vegetable fat and fruit), while a significant portion of impulse ice creams, in addition to the three categories, also belong to the categories of frozen fruit ice creams (ingredients: water, sugar, fruit, and additives) and frozen flavoured ice creams (ingredients: water, sugar and additives).

Furthermore, impulse ice cream is the result of impulse buying in the street that happens in order to meet the current needs of the individual for cooling and refreshment. The purpose of the take home ice cream is subsequent consumption of ice cream at home by family members, while the purpose of catering ice cream is further sales of ice cream to the guests of hotels and restaurants as dessert. Due to the different uses by final consumers, retailers of different formats structure their requisitions for these three categories of ice cream differently. Namely, minimarkets predominantly focus on impulse buying of single-wrapped ice creams (sticks, cones, cups), because the purchases of the final consumers in these formats are of high frequency, and low average values of bills. Larger commercial formats (supermarkets, hypermarkets, big discounts and cash/carry facilities) buy all three categories of ice cream, focusing predominantly on the range of take home ice creams and a little less on the catering ice creams. If they sell impulse ice creams, they sell them in packages containing several individual pieces. Finally, catering ice creams are the object of direct interest of the representatives of the HoReCa market, to which the ice cream is delivered directly, without trade intermediaries. As far as prices are concerned, it is clear that the prices of ice cream vary considerably between the three categories, and that they represent a key platform for substitutability of different categories of ice cream from the perspective of both end consumers and retailers.

The analysis of the current EU practices has shown that a clear distinction between industrial and artisan ice cream is made according to the manner and scope of production, and also according to the retail outlet and where it is consumed. However, due to the lack of relevant data and the approximated small market of artisan ice cream in the Republic of Serbia, in this paper further attention will be focused exclusively on industrial ice cream. In terms of industrial ice cream, according to the retail outlet and where ice cream is consumed, the European Commission makes a clear distinction between the impulsive, take home, and catering ice creams. In the case of Van den Bergh [6], referring to the ice cream market in Ireland, the defined relevant product market is the market of single-wrapped industrial impulse ice creams. The decision of

the European Commission states that such ice creams are intended for direct human consumption near the place of purchase. It also states that take home ice creams are distinguished from impulse ice creams both in the packaging (in terms of the larger quantity) and price, and also in the place of consumption, or purpose. They are not intended to be consumed immediately near the place of purchase, but are intended to be consumed at home. The European Commission further notes that catering ice creams are served in hotels, restaurants and other catering establishments as dessert. In the same case, some of the features of impulse ice creams are highlighted such as, for example, the fact that their sale is of seasonal nature, that it is limited to four months (May to August). It is pointed out that their production is capital intensive and requires high investment in working capital (inventories of raw materials, work in progress and finished goods inventories) during the year. On the other hand, the European Commission recognises that the sale of impulse ice cream lasts for a short period of time and that is heavily dependent on the weather, so this business is classified as a highly risky business. Manufacturing of take home ice creams and catering ice creams lasts throughout the year, but the sales are also distributed throughout the year, so that the risk of these business lines is significantly lower.

At the ice cream market of Germany, in the case of Langnese-Iglo [7], the determined relevant market is the impulse ice cream market of sales through all distribution channels other than home delivery. The arguments for distinguishing the impulse ice cream market as special are similar to those in the case of Van den Bergh. In the process of approval of the acquisition of Scholler by Nestlé [8], the European Commission has specifically examined the effects of a possible takeover on the four individual relevant product markets. These are: the impulse ice cream market, the take home market, the catering ice cream market, and the market of ice cream produced for other brands, i.e. private label. This is yet another confirmation that the current European practice distinguishes impulse ice cream market as a separate relevant market, i.e. that it distinguishes relevant ice cream markets according to the categories of ice cream. Therefore, further in the paper, we will analyse the impulse ice cream market as the relevant

product market. The relevant geographic market in this paper will be the national market of the Republic of Serbia.

Practice of the players and specificities of the ice cream market

The products of the ice cream industry have certain specificities. They are characterised by extreme seasonality. If our observation is confined to the impulse ice cream only, then the very method of purchasing is a particular specificity as well. Namely, in these products, the location of the outlet where the product is sold is a major sales factor, but also the position and exposure of the product in the outlet. It is therefore necessary that the availability of these products to the consumers at the highest level. The fulfilment of this goal causes other problems. It is a well known fact that the selling price of a product depends on the attractiveness of the location of the outlet in which it is sold. Thus, for example, the outlets located in attractive locations sell their products at much higher prices than the worse positioned retail facilities. This is practically rational behaviour of retailers based on economic arguments. The outlets in attractive locations pay a much higher rent, so these retailers are forced to charge much higher margin in order to maintain their operations within the limits of profitability. Following this logic, due to their position, the volume of requisition and the attractive location, some retailers could achieve much higher sales prices of ice cream compared to other competitors.

On the other hand, there is the question of whether such behaviour of retailers threatens the interests of consumers who would pay “monopoly” price in attractive locations which would be much higher than the cost price plus the normal amount of profit. To make their products available to all of their customers at affordable prices, it is not uncommon, both in Serbia and abroad, that manufacturers of ice cream determine maximum retail prices for their ice creams. This raises the question of whether determining maximum prices is punishable by law and whether this practice threatens the interests of consumers, as a key interest group that the Competition Law covers.

If we look at the practice of the European Commission in the area of punishment for price fixing, we find the following statement: “The restrictions referred to in Article 4 (a) of the Regulation 330/2010 (BER) [9] are related to Retail Price Maintenance – RPM, i.e. the agreements and concerted practices which have as their direct or indirect, goal determining the fixed or minimum sale price, or a fixed or minimum level of sale price which the buyer has to adhere to in the resale.” It is clear from this paragraph that the practices that threaten competition, according to the practices of the European Commission, are defining minimum and fixed price, but not defining maximum price. This is also confirmed by the Serbian Commission for Protection of Competition in its Opinion no. 1/0-06-523/09-2 where it says [12]: “The use of specific support measures or submitting a list of recommended prices or maximum prices to the customer by the supplier shall not constitute RPM per se.”

Defining the maximum price is not contrary to the interests of end consumers. On the contrary, this practice is in their interest, because it prevents retailers from imposing significantly higher prices for end consumers in specific circumstances (e.g. concerts of popular musicians and major sporting events) or at specific locations (for example, the central city zone). This is also what the European Commission says in its guidelines [10]: “... for example, in an exclusive distribution system, the distributor may want to increase the price of a product due to a reduction in competition between brands. Then, the use the provisions on maximum prices may limit such price increases.”

Another important feature of the products of the ice cream industry is the cold chain distribution. Namely, these products must constantly be stored in minus zero temperature until the point of consumption in order to retain all of their service properties. Practically, if the cold chain for the products of this industry should be interrupted at any stage, from the time of manufacture to the point of final consumption, they would practically no longer be fit for use. Therefore, the practice in the world, including Serbia, is that the manufacturers provide freezer cabinets in the retail outlets.

On the other hand, the manufacturer provides a warranty on his product in terms of the quality of the product and its shelf life. For products such as ice-cream, it is very important to keep them in the cold chain regime, in order to fully preserve all their service properties. If the manufacturers were to leave the task of providing and maintaining freezer cabinets to retailers, that would increase the risk of inadequate storage and thus contamination of the products of this type, which ultimately could have negative implications on the reputation and image of the manufacturers.

This practically means that, in order to maintain the cold chain and ensure that their products maintain the quality of all service properties when they reach the end users, manufacturers must make considerable investment in refrigeration. Also, it is very important that the ice cream does not mix with other products in the same refrigerated chambers, because they can easily take on odours of other products. To prevent unscrupulous retailers from keeping ice cream in the same refrigerator with other foods with strong odour, manufacturers of ice cream provide freezer cabinets where they can keep only ice cream. This practice is globally referred to as *freezer exclusivity*.

The question is whether the practice of *freezer exclusivity* is in violation of the rules of competition. In the case of Delimitis [11] (also upheld in the case of Langnese-Iglo [7]) the CFI argues that in cases of exclusivity in the freezers: “account must be taken of the number of retail outlets tied to the manufacturers in relation to the number of retailers not so tied, the quantities which are sold through such retailers, and the duration of such agreements.”

In similar cases, the European Commission has commissioned detailed studies of the market and based on the results of the analysed the relevant market and made decisions. Thus, for example, in the case of Van den Bergh [6], they first selected a representative sample that included 501 retail outlets. The respondents were managers of those retail outlets who responded through direct contact and the answers to the following questions were provided:

- How many retail outlets have freezer cabinets that are owned by an ice cream manufacturer,

and what is the share of each individual ice cream manufacturer?

- The ratio of outlets that have one, two, three or more freezer cabinets, and the average number of freezer cabinets per outlet.
- How many outlets have freezer cabinets from a single manufacturer, and how many from more of them?
- Are retailers willing to replace the existing freezer cabinet with a new one from another supplier?
- Why do outlets not have their own freezer cabinet?
- Is there demand for another brand of ice cream in the outlets that have a freezer cabinet of one manufacturer?
- And other questions relevant for assessing the situation in the relevant market.

Thus, in the case of Sagit (and its competitors Nestle, Sammontana and Sanson), which was presented before the Italian Competition Commission (Italian Competition Authority - ICA) [17] a detailed economic analysis found that a relatively small percentage (27%) of the total number of outlets were bound by Sagit’s distribution agreements with exclusivity clause. Since the same model agreement with exclusivity clause was also used by other competitors as well, which resulted in the fact that 57% of the total number of outlets were bound by exclusivity clauses, and the remaining 43% were not, it was concluded that new competitors were able to access sufficient number of outlets and organize their distribution network, the size of which would not be inferior to the distribution networks of current market participants, on the basis of which it was deemed that the application of exclusivity clauses did not have a significant impact on the prevention of competition.

If such practice did not exist, there would be no investment in such devices because suppliers would have no incentive to supply freezers that the retailer would then use to store competitive product in. In this case, only large retailers, who have sufficient financial resources, could procure freezers. This would lead to the strengthening of major retailers and medium size and small retailers would virtually disappear (or at least weaken) from the ice cream retail market. The ICA has found that the freezer

exclusivity clause was necessary to protect the investment of Sagit company in freezers, i.e. to protect Sagit from free riding by other competitors.

In the analysis of ice cream market concentration, it is important to take into account market specificities and bear in mind the described practice of global players, as well as the decisions of regulatory bodies to avoid initially making wrong conclusion based solely on concentration indicators. The indicators provide a basic picture of the market, but for the comprehensive analysis it is necessary to consider other factors such as the previously mentioned specificities, market entry barriers, market saturation etc.

Concentration indicators in Serbian ice cream market

When relevant market is properly defined, it is possible to measure market concentration in it. The issue of effects of concentration on competition in the relevant market is one of the main reasons for researching concentration. Economic theory has developed methodological procedures and statistical methods to measure market concentration in the relevant market. The most common indicators of market concentration are presented below through the analysis of the concentration in the ice cream market in Serbia.

Absolute market share

Any analysis of market concentration starts with calculating absolute market shares. The first step, after determining the relevant market, is to calculate market shares for all the companies operating in the relevant market [19]. It is common that the analysis of

market concentration and market share calculation is performed on the basis of historical data. It may be that the changes that occur in the final year underestimate or overestimate the market share of individual players. Therefore, it is extremely important to include market dynamics into the analysis of market concentration. Also, when analysing market concentration, it is necessary to pay attention to the future as well. For example, if there are new technologies that are available to market participants, but individual participants still do not use them, then it can be concluded that the historical market shares are overvalued in terms of their future competitive significance. Absolute market shares indicate the shares of individual players in the overall market. Table 1 shows the trends in absolute market shares in the impulse ice cream market in Serbia. Since we are dealing with impulse ice cream market, we will consider the total number of single-wrapped pieces of ice cream sold and not the sales value.

The reason for this observation stems from the specifics of the sale of impulse ice creams. As previously mentioned, impulse ice creams are consumed immediately upon purchase. Therefore, at the time of purchase, the consumer buys only a single piece, i.e. one ice cream. Even if the consumer's appetite is bigger, let's say s/he can eat more than one ice cream, for example three, one after the other, s/he never buys three ice creams at the same time, but only one, so when s/he finishes eating the first one, s/he buys the next one. It is precisely this fact that, at the time of purchase, impulse ice cream consumers buy only one ice cream, which supports the conclusion that it is more relevant to observe the shares of individual players according to the number of pieces of ice cream sold rather than according to value.

Table 1: Dynamics of absolute market shares of the participants in Serbian ice cream market

Absolute market shares	2004	2005	2006	2007	2008	2009	2010
Total Frikom	46.39%	47.61%	59.38%	60.74%	75.40%	81.30%	81.81%
Total Somboled	3.34%	1.70%	0.56%		0.03%	0.01%	
Total Nestle(Delta)	37.80%	39.29%	39.13%	36.97%	22.98%	17.03%	16.48%
Total Donze	8.22%	7.51%	0.03%	0.00%	0.00%	0.01%	
Total Unilever	2.81%	2.00%	0.20%	0.09%	0.20%	0.12%	0.08%
Total Other Producers	1.41%	1.89%	0.70%	2.17%	1.22%	0.86%	0.68%
Total Private Label				0.02%	0.18%	0.67%	0.96%

Source: MEMRB

Relative market share

After calculating the absolute market shares, we will also calculate the relative market shares. The relative market share is the ratio of the number of sold ice creams by the observed company and the number of ice creams sold by its main competitor. Table 2 shows relative market shares of individual competitors in Serbian impulse ice cream market.

Market concentration ratio – CR₄

Market concentration ratio is defined as the sum of market shares n of the largest companies in the relevant market [13]. It represents the sum of their absolute market shares and is calculated using the following formula.

$$CR_n = \sum_{i=1}^n S_i$$

where:

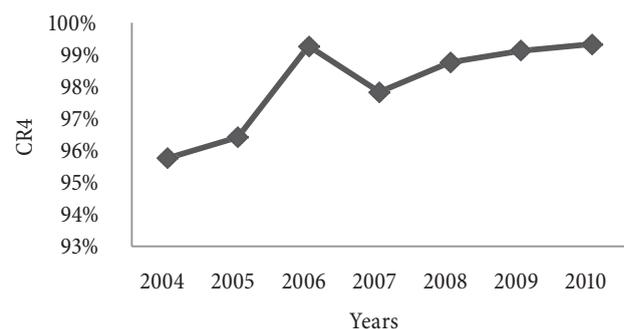
S_i – market share of company i

n – number of companies in the market.

The concentration ratio ranges from 0, but it is never equal to zero, to 100. The closer the value of this ratio is to the upper limit the more concentrated the market. The advantage of this concentration indicator is that it takes into account only the biggest players and their market shares, so there is no need for an exhaustive collection of data from all market participants. However, this indicator does not show the relationship between the leading competitors. The number of the competitors that the concentration ratio is calculated for can be taken approximately. The most commonly used one is CR₄, so we will also take it into consideration in analysing the ice cream market in the territory of Serbia. If the concentration ratio is less than 50%, it is considered that there is low concentration of participants in the market. If CR is between 50% and 80%, the market is a moderately concentrated. Highly

concentrated market is any market where concentration ratio exceeds 80%.

Figure 1: CR4 in Serbian impulse ice cream market



Source: The authors' calculations

The Herfindahl-Hirschman Index (HHI)

The Herfindahl-Hirschman Index (HHI) is defined as the sum of squares of individual market shares of individual companies. This gives proportionally greater weight to the companies with greater market share. Based on experience, regulatory bodies of the USA consider that the level of the HHI index may approximate the level of market concentration in a certain way [19]:

- Low concentration market: HHI below 1500
- Moderately concentrated market: HHI between 1500 and 2500
- Highly concentrated market: HHI over 2500

The HHI has certain specificities [3]. Firstly, the HHI is highly sensitive to small changes in market shares, especially of market leaders. Therefore, calculating the market shares of the leading companies requires a high level of precision. The HHI will be lower when the market shares of the parties are equal. When there is a market leader or more companies whose market share is way ahead of other competitors, the HHI will have higher value. Another important feature of the HHI is that it reflects

Table 2: Dynamics of relative market shares of the participants in Serbian ice cream market

Relative market shares	2004	2005	2006	2007	2008	2009	2010
Total Frikom	122.73%	121.19%	151.74%	164.28%	328.11%	477.24%	496.47%
Total Somboled	7.20%	3.56%	0.94%	0.00%	0.04%	0.02%	0.00%
Total Nestle(Delta)	81.48%	82.51%	65.90%	60.87%	30.48%	20.95%	20.14%
Total Donze	17.73%	15.78%	0.06%	0.01%	0.00%	0.01%	0.00%
Total Unilever	6.05%	4.21%	0.33%	0.16%	0.26%	0.14%	0.10%
Total Other Producers	3.03%	3.97%	1.18%	3.57%	1.61%	1.06%	0.83%
Total Private Label	0.00%	0.00%	0.00%	0.03%	0.23%	0.83%	1.17%

Source: The authors' calculations

the market shares of all the companies in the market. On the one hand, this is an advantage of this index, but on the other, and it is also its limitation, as in some markets there are a large number of individual players and it is very difficult to collect accurate data on the market share of each of them. In such situations, it is necessary to adopt an arbitrary decision on the number of competitors with significant market shares and include them in the HHI index. The third characteristic of the HHI index is that it can be interpreted as a “numbers equivalent”. That means you can easily calculate how many companies there are in the market with equal market shares would result in a specific HHI index. The HHI is calculated by the following formula:

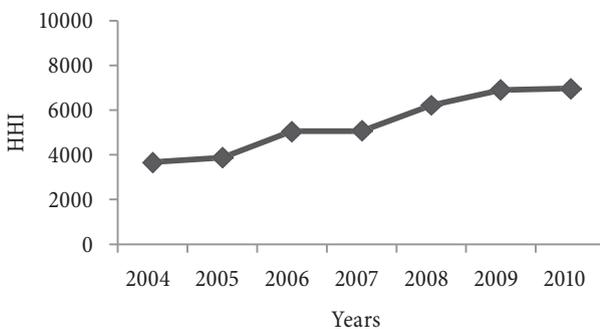
$$HHI = \sum_{i=1}^N S_i^2$$

where:

S_i – absolute market share of company i

N – total number of companies in the market

Figure 2: Dynamic trends of the HHI index

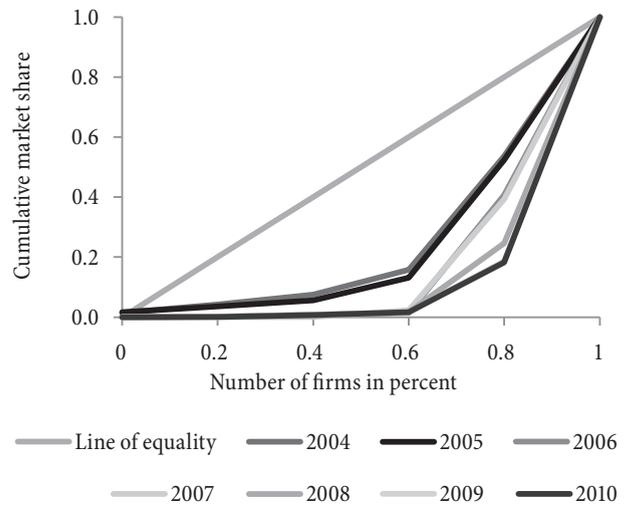


Source: The authors' calculations

Concentration curve (Lorenz curve) and Gini coefficient

Lorenz curve and Gini coefficient are also used for measuring concentration. They virtually represent a measure of inequality of market shares. This measure is expressed as the difference between the actual allocation of market shares and that which would occur in the case of perfectly competitive markets. The initial concept was developed in the research of distribution of income and wealth in society [1]. The closer the Lorenz curve to the line of equality of market shares, the lower the market concentration level.

Figure 3: Lorenz curves for impulse ice cream market in Serbia by years



Source: The authors' calculations

Gini coefficient has the advantage over other indicators because it effectively shows the distribution of market shares between companies, which cannot be seen when we look at other indicators such as the CR4 and the HHI. It is a measure of inequality of market shares. Gini coefficient GC is a ratio of area between the Lorenz Curve of the distribution and the line of equality (uniform distribution) to the lower triangle.

$$GC = 1 - \sum_{i=0}^{k-1} (Y_{i+1} + Y_i)(X_{i+1} - X_i)$$

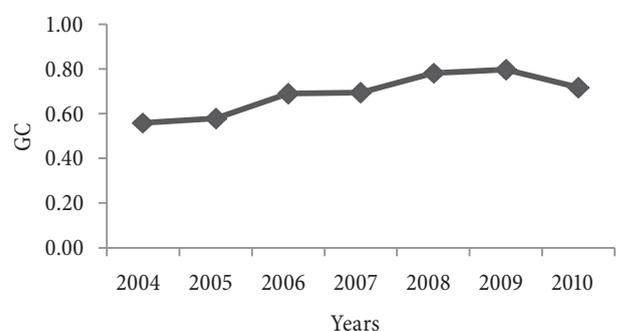
where:

Y_i – cumulative empirical market shares

X_i – cumulative uniformed market shares (assumption of perfectly competitive market).

The closer Gini coefficient to zero, the more uniformed market share of the observed companies, i.e. the lower the level of market competition.

Figure 4: Dynamic trends of Gini coefficient in ice cream market



Source: The authors' calculations

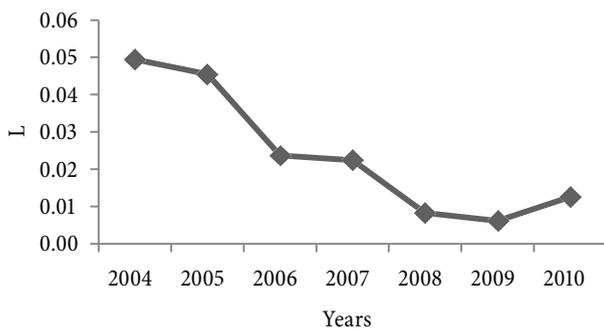
The Linda index

Linda index measures the degree of inequality between the average market shares calculated for different sub-samples of companies. This index is practically a combination of different concentration ratios. Since the ratio between two sub-samples is calculated in several iterations, it can be said that this index measures the oligopolistic equilibrium [4]. It is calculated based on the following formula:

$$L = \frac{1}{n(n-1)} \sum_{i=1}^{n-1} Q_i$$

where Q_i is the ratio of average share of the first i companies and average market share of the remaining $n-i$ companies. Lower value of this index represents higher market concentration.

Figure 5: Dynamic trends of the Linda index in ice cream market



Source: The authors' calculations

The Rosenbluth index

Rosenbluth index is similar to the CR index, but unlike the concentration ratio CR, when calculating the concentration index, it also takes into account the ranks of individual companies [2]. This index is calculated by the following formula.

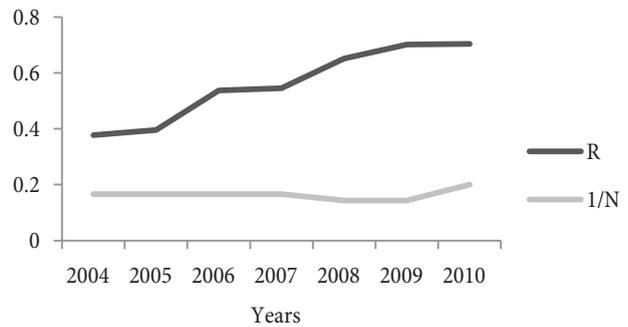
$$R = \frac{1}{2 \sum_{i=1}^N i s_i - 1}$$

where

- i rank is the position of the company,
- s_i market share of company i
- N number of companies in the market.

The closer the value of this index to $1/N$, the lower the level of market concentration. The figure below shows the dynamic trends of the R index in relation to the curve $1/N$.

Figure 6: Dynamic trends in the R index in impulse ice cream market in Serbia



Source: The authors' calculations

The Horvath index

The Horvath index or the Comprehensive Concentration Index is a hybrid index that combines discrete and aggregate indicators of market concentration. Unlike the HHI index, when calculating the Horvath index, the shares of market leaders are not squared, and the shares of other players in the market are multiplied by $(2-s_i)$ [14]. The Horvath index is calculated by the following formula.

$$CCI = s_1 + \sum_{i=2}^N s_i^2 (2 - s_i)$$

where

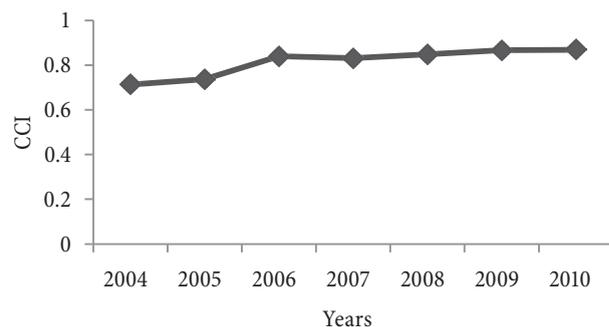
S_1 – market share of the largest company

S_i – market share of company i

N – the number of companies in the market.

If the value of this index is lower than 0.4 then the concentration is low.

Figure 7: Dynamic trends in the Horvath index in impulse ice cream market in Serbia



Source: The authors' calculations

After a detailed explanation of individual indicators of market concentration, now we are going to present their summary review in one place and, based on them,

comment on the level of market concentration of the impulse ice cream market in Serbia.

Table 3: Summary review of all the calculated indicators

	2004	2005	2006	2007	2008	2009	2010
CR4	95.75%	96.41%	99.26%	97.83%	98.76%	99.12%	99.32%
GC	0.56	0.58	0.69	0.69	0.78	0.80	0.72
HHI	3670	3877	5058	5061	6215	6901	6965
L	0.05	0.05	0.02	0.02	0.01	0.01	0.01
R	0.38	0.40	0.54	0.55	0.65	0.70	0.70
CCI	0.71	0.74	0.84	0.83	0.85	0.87	0.87

Source: The authors' calculations

All the indicators of market concentration lead to the conclusion that the impulse ice cream market in Serbia is highly concentrated. However, as market concentration is always viewed dynamically, it is necessary to include in the analysis the potential of future competitors, and also analyse entry barriers and market saturation. Market shares and market concentration levels provide useful initial information about the competitive situation. However, it is always important to bear in mind the fact that market shares and concentration levels provide only part of the overall picture on total market competition [20]. To obtain a complete picture of the competition, it is necessary to include in the analysis other factors such as entry barriers, market saturation, the possibility of using technology in the relevant market, technological advances, etc.

Since the data on the market shares were available for years until 2010, the analysis also included publicly available information regarding the analysed market. Based on the balance of the entry of new competitors in the ice cream market in Serbia in the period 2010-2012, it is clear that there are three new competitors. In addition to the already existing ones, these are: Ice Cream Factory, Swisslion Takovo, and Cermat. Also, in recent years, there has been growing presence of private label ice creams. These facts confirm the existence of freedom of entry into the ice cream market in Serbia. Non existence of high entry barriers to the market of ice cream is also reflected in the fact that it is neither expensive nor complicated to start the production of ice cream. It is necessary to have processing equipment, which includes a pasteurizer, a homogenizer, tanks for the preparation and storage of ice cream mixture, cooling machines, machines for

finalization of ice cream, and a system for centralized cleaning (the CIP systems). Thus, for example, a current manufacturer of frozen foods could launch production of ice cream with additional investment of around 2-3 million EUR, with the annual production capacity of 1,000 to 5,000 kg of ice cream.

It can be concluded that the ice cream market in the Republic of Serbia is unsaturated. One of the main indicators of non-saturation is the consumption of ice cream per capita compared to the EU average. In Serbia ice cream consumption per capita is 2.6 liters (1.69 kilograms), while average consumption in the EU is 2.6 times higher at 6.8 liters per capita (4.4 kilograms) [5]. In the neighbouring country of Croatia, annual ice cream consumption is 5.5 liters, which is twice as much as in Serbia [15]. It is clear that there is ample room for market growth and that room can be filled with both new and existing players in the market.

As we can see, the ice cream market in Serbia is highly concentrated, but on the other hand, market saturation is extremely low, and entry barriers are not significant and are practically non-existent. All this suggests that, in the future, we can expect additional entry of new players in this market, as already happened in the period of 2010-2012, the increase of competitive pressure, but also the growth of the entire market, which stems from the low level of current consumption of ice cream in Serbia. The ice cream market in Serbia is a clear example that high market concentration is not necessarily accompanied by setting high entry barriers and consequently by hindering competition in any other way.

Conclusion

The ice cream market in Serbia consists of three separate relevant product markets as follows: the impulse ice cream market, the take home ice cream market, and the catering ice cream market. This division comes from the fact of their diversity in terms of characteristics, use and prices from the viewpoint of end users. In terms of characteristics, the most prominent ones are impulse ice creams, with the majority being in the categories of frozen fruit ice creams and frozen flavoured ice creams,

while the take home and catering ice creams comprise mainly cream and milk ice cream. In terms of their use, impulse ice creams are the result of impulse shopping in the street that takes place in order to meet the current needs of the individual for cooling and refreshment. On the other hand, the take home ice creams are designed for subsequent consumption at home by family members, while the catering ice creams are designed for resale to the guests of hotels and restaurants in as dessert. In terms of price, it is clear that there are significant price differences between these categories, as per unit in kilograms. This type of division of the ice cream market is justified and confirmed through examples of global practice in the field of protection of competition. Consequently, the designated relevant market, which is the subject of concentration analysis in this paper, is the impulse ice cream market in the Republic of Serbia.

The impulse ice cream market is characterized by certain specificities that need to be taken into consideration when analysing concentration. With these ice creams, the location of the outlet where the product is sold is a major sales factor, but also the position and exposure of the product in the outlet, which is a characteristic shared by all impulse products. Another important characteristic of the ice cream market is the cold chain distribution system, which is necessary in order to preserve all the service properties of the product until consumption. To do that, the manufacturers invest heavily in freezers that they supply to retail outlets.

All the indicators of market concentration are based on a combination of the number of market participants and their market shares. Bearing in mind the specificities of the sales of the impulse ice cream, which are reflected in the fact that consumers buy only one ice cream at the time of purchase, the market shares of individual players were calculated relative to the number of pieces of ice cream sold.

Based on the available data, the analysis of the concentration of the impulse ice cream market in Serbia has shown that the market is highly concentrated, but also that there are no entry barriers or any restrictions of competition of any other kind, which was confirmed by the entry of new competitors into the market in the

period between 2010-2012, which was not included in the analysis. In this way, we have demonstrated that the ice cream market in Serbia is a clear example of the fact that high level of market concentration is not necessarily accompanied by setting high entry barriers and consequently by hindering competition in any other way.

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Dragan Lončar

associate professor at the Faculty of Economics, Belgrade University, in Project Management and Strategic Management. As a scholar of Shell Foundation, in 2003 he completed Master course in Management Studies at the University of Cambridge (Judge Business School) in the UK. Acquired the PhD title at the Faculty of Economics in Belgrade in 2007. As a Fulbright Scholarship Program grantee, he completed post-doctoral research studies in the field of financial management at the University of Chicago (Booth School of Business) in 2009. The author of a significant number of scientific-research and consulting projects. The current focus of his research is the methodology of financial evaluation of investment projects. Other areas of his research interests include market analysis, strategic forecasting and planning, decision modeling and corporate governance.



Siniša Milošević

was born in 1983 in Tuzla. He graduated from the Faculty of Economics in Belgrade in 2006, where he received his MA degree in Management of foreign trade and sale in 2009. He is now a PhD student. In 2007 he started his professional carrier. He had worked for the wholesale company "Mercur International" as a category manager before he joint consulting firm "Belox Advisory Services". His main research interest is related to retail market operations and competition protection policies. Siniša is married and has a son.



Vesna Rajić

associate professor at the Faculty of Economics, Belgrade University, in Elements of statistical analysis. She attained her Master degree in 2002 on the Faculty of Mathematics in Belgrade, the department of Probability and Statistics. In 2007, she gained the title of a Doctor of statistical science at the Faculty of Economics, Belgrade University. The current focus of her research is resampling methods and their application in the field of property insurance, as well as market analysis. Other areas of her research are nonlinear time series models and possibilities of their application, as well as multivariate analysis. The results of her scientific research were presented in numerous scientific papers in relevant national and international conferences.

Žaklina Stojanović

University of Belgrade
Faculty of Economics
Department of Economic Policy and
Development

Ivana Popović-Petrović

University of Belgrade
Faculty of Economics
Department of International
Economic Relations

Katica Radosavljević

University of Belgrade
Faculty of Economics

THE EU AGRICULTURAL SECTOR COMPETITIVENESS AND GOVERNMENT EFFECTIVENESS: THE LESSONS FOR SERBIA *

Konkurentnost agrarnog sektora i efektivnost
upravljanja u EU: Pouke za Srbiju

Abstract

The analysis covers governance indicators and competitiveness in the EU. It clarifies the main concepts and terminology used in this area and provides an overview of the national level indicators. The government's role in agricultural sector competitiveness is of crucial importance, starting from creating the general business environment to the specific factors that influence agricultural sustainability. The analysis of the governance indicators and competitiveness in this paper was based on the pillar 6 of Global Competitiveness Index (GCI) and Worldwide Governance Indicators (WGI). The best performers in terms of competitiveness have experienced both good governance and policy implementation, while countries with the worst trade performance have faced significant problems in governance structures. However, relative change in governance structures also affects the competitive position of the EU countries. The new Member States are generally in less favourable position than the old Member States. This fact calls for better government performance in order to develop competitive agricultural sector both within the EU market and worldwide.

Key words: *agriculture, CAP, competitiveness, governance indicators*

Sažetak

Analiza je usmerena na konkurentnost i indikatore upravljanja u EU. Objasnjeni su osnovni koncepti i terminologija korišćeni u ovoj oblasti istraživanja, pri čemu je dat prikaz indikatora na nacionalnom nivou. Uloga vlade je od ključnog značaja za konkurentnost agrarnog sektora, počev od generalnih uslova poslovanja do specifičnih faktora koji utiču na agrarnu održivost. Analize indikatora upravljanja i konkurentnosti u ovom radu bazirane su na odeljku 6 Globalnog indeksa konkurentnosti (GCI) i Opštim indikatorima upravljanja (WGI). Zemlje sa najboljim performansama u domenu konkurentnosti se karakterišu i dobrim upravljanjem i vođenjem politike, dok zemlje sa lošim iskustvima u ovom domenu imaju značajne strukturne probleme upravljanja. Ipak, relativne promene u upravljanju takođe utiču na konkurentnost evropskih zemalja. Nove zemlje članice su generalno u lošijoj poziciji od starih zemalja članica. Ova činjenica upućuje na potrebu unapređenja performansi upravljanja u cilju podizanja nivoa konkurentnosti agrarnog sektora, kako unutar evropskog, tako i na svetskom tržištu.

Ključne reči: *poljoprivreda, ZAP, konkurentnost, indikatori upravljanja*

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Introduction

If we observe the period 2007-2011, the EU countries recorded negative relative change in world market share within fresh food sector. The changes are mainly derived from a negative initial effect of geographical specialisation. However, the overall negative relative change in global market share is less distinct in case of the most developed countries (e.g. the Netherlands and Germany), and it is alleviated by positive competitiveness effect. The EU exporters of processed food also dominate the world market with more than 30% in the observed period. However, this group of processed food exporters recorded the decrease of their share in the world market (from 33.2% in 2007 to 30.2% in 2011). The situation calls for redefinition of measures directed toward improving competitiveness within the Common Agricultural Policy.

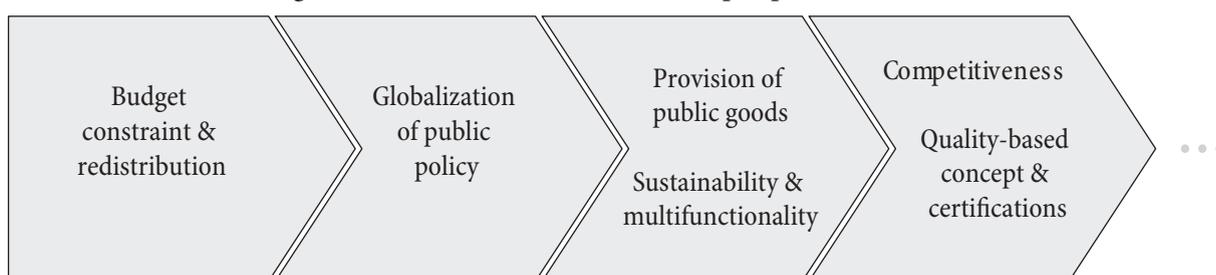
The Common Agricultural Policy (CAP) is oriented toward the EU 2020 Strategy goals. The policy supports the creation of smart, sustainable and inclusive growth of the EU agricultural sector. Consequently, it includes the negotiation on further reduction in tariffs and liberalization of the agricultural markets, as well as different aspects related to food security and rural prosperity. All things considered, the CAP measures significantly contribute to the sustainability of the farming sector, faced with the challenges of climate change and natural conservation. Thus, the frame for regulation of an increasingly polarised agricultural industry is set – different measures related to post-productivism and rural development are being defined [16].

The bimodal frame has emerged from constant reforms of the CAP. The policy has always been adapted to respond to the contemporary challenges. The reforms are driven both by the changing role of budgetary politics

and globalisation of public policy (Figure 1). *Daugbjerg* and *Swinbank* provide three potential explanations of past reforms of the CAP: a budget constraint, pressure from General Agreement on Tariffs and Trade/World Trade Organization (GATT/WTO) negotiations or commitments, and a paradigm shift emphasising agriculture’s provision of public goods [2]. The first is related to changing society commitment to support agricultural producers, while the latter two appeared as the consequences of globalization. However, the first significant change in the CAP was caused both by a budget constraint and pressure from globalization (The MacSharry reform package from 1992). In the literature Agenda 2000 was treated as the reform package further oriented toward the EU enlargement. The 2003 Fischler reform made agricultural sector support more market-oriented. The reform of the CAP in 2007 (the CAP Health check) was initiated as a response to changing global environment under the conditions of world economic crisis as well as budgetary constraint.

Starting from the CAP reforms and experiences, the drivers of policy change are obviously divided into two groups. The first group is related to the internal factors (the EU market – budget constraint and redistribution). The factors from the first group are provoked by the fact that inefficient policies persist when consumers and taxpayers are rationally ignorant due to a rather marginal impact of policies upon them. The second group of factors is essentially external (seen as a result of the WTO multilateral negotiations). This group of factors is connected with the restructuring of power relations with the emergence of new supranational centres of political authority. As a result, both competitiveness and sustainability become the key words commonly used to describe the EU agricultural sector. Having in mind the CAP policy orientation, the governance structures and government effectiveness

Figure 1: The CAP reform drivers in the postproductivism era



play an important role in overall improvement of the agricultural sector competitiveness.

The EU support to the agricultural producers has shown a steady and substantial decline starting from the 1980s. This was in large part due to successive CAP reforms. The similar results are achieved by the market price support analysis. However, agricultural prices and exchange rates may also have an impact on estimated results. The analysis shows that the reduction in direct payments is overcome by sophisticated forms of institutional support aimed at promotion of different quality schemes and value added products (PGO, PGI, TSG, Organic, Non-GMO, etc.). The changes were driven by growing importance of complementary food production dimensions – social, environmental, health and ethical.

Research methods and data

The Governance Indicators (GI) address the economic performance and measurement of government effectiveness. The World Bank defines GI as the ways public officials and public institutions acquire and exercise authority to provide public goods and services including public services, infrastructure, and a sound investment climate. In the broad literature, the governance is treated as the capacity of the government to formulate and implement sound policies [14]. The UNDP uses deeper definition that includes interactions within and among the state, civil society and private sector. The common denominator of different approaches is the state ability to serve the citizens.

In this report we use the Worldwide Governance Indicators (WGI) from the World Competitiveness Yearbook (WCY), annually published by Institute for Management Development (IMD). The WCY methodology is based on over 300 criteria. The national competitiveness is explained by four groups of indicators: economic performance, government efficiency, business efficiency and infrastructure. IMD indicator of competitiveness is based on hard data statistics (2/3) and a business executive opinion survey (1/3). This World Bank's report gives a list of aggregate and individual governance indicators over the period 1996-2011, for six different dimensions of governance: 1. Voice and accountability; 2. Political stability and absence

of violence; 3. Government effectiveness; 4. Regulatory quality; 5. Rule of law; 6. Control of corruption. In this paper we cover only one of them – *government effectiveness*.

The correlation between World Economic Forum (WEF) and IMD competitiveness indicators is significant. WEF annually carries out respective computations of the competitiveness index by different indicators. Global Competitiveness Report focuses on economic welfare and increasing standards of living while making computations and rankings of the countries. The 116 lowest level variables are grouped into 12 pillars. These 12 pillars are the sources of national competitiveness which make difference between factor-driven economies, efficiency-driven economies and innovation-driven economies. In order to access agricultural policy effectiveness we use sub-indicators of the Global Competitiveness Index (GCI) – sub index 6 and its components (6.08 – agricultural policy cost, 6.09 – prevalence of trade barriers, 6.10 – trade tariffs).

The research goal is both to map the role of the governance structures in the EU agricultural sector competitiveness and to set the priorities aiming at improvement of business conditions related to the Serbian agricultural sector competitiveness during the EU accession.

Governance indicators: EU perspective

The overall business environment

Doing Business Report is a source of calculating the national competitiveness. Ease of doing business indicator is derived from eleven, ten, or nine areas of business regulation, depending on the year of reporting. The competitiveness evaluation is defined in terms of how difficult or easy is to run a business when complying with the national regulations. Consequently, ease of doing business addresses only the availability of regulatory environment for business.

The number of observed economies has increased from 2004 when the first report was generated. The last edition has covered a number of 185 economies. This publication is designed precisely to evaluate the efficiency of the reforms of business regulations at the country level. The number of undertaken reforms all over the world in the last ten years reached nearly 2,000. Therefore, the

Report has exposed the list of challenges and has identified examples of many countries having a positive experience after implementation of reforms. The list of lessons they have learned during the reform process, as well as warnings of vulnerabilities requiring business regulation reform, could be used by other countries.

The EU members are most represented on the list of top twenty countries. Especially high rankings are achieved by EU old member countries (EU OMS) from the group EU-15. Except EU countries, high rankings are evident for Australia and New Zealand, Hong Kong, USA, Canada, Korea, Malaysia. Also, EFTA countries achieved high rankings, especially Norway and Iceland. After intensive reforming processes, some developing countries, for example, Georgia, have achieved high rankings, too. On the other hand, BRIC countries (Brazil, Russia, India and China) and Argentina are ranked at the very low level, between 91st and 132nd place.

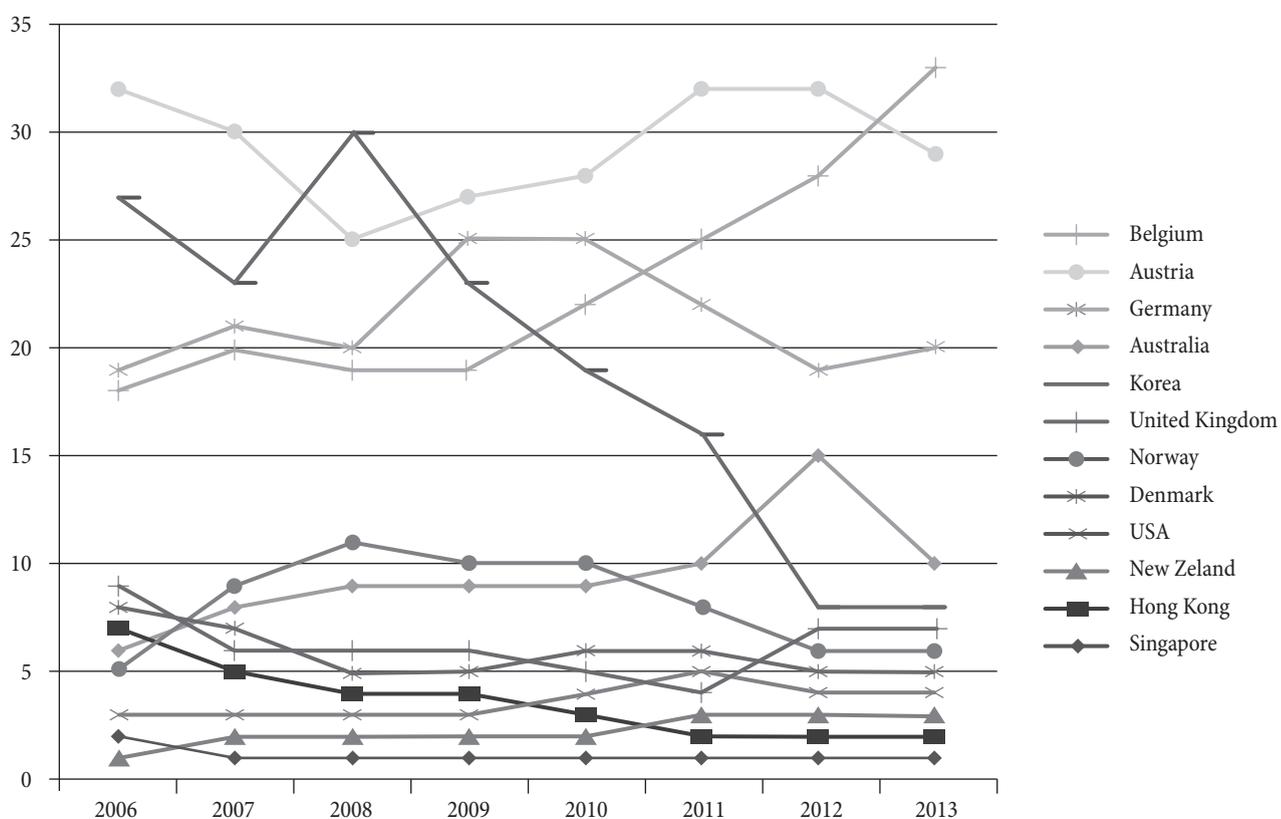
Among EU countries, the best performers in 2013 are traditionally Nordic countries — Denmark at the

fifth place and Finland at the eleventh place. Other EU countries with high rankings are United Kingdom at the seventh place, Ireland at the fifteenth place and Germany at the twentieth place.

Comparing the list from 2004 to 2013, the same group of countries traditionally keep the track without significant change in positioning. Denmark, as the best performer from the EU-15, has improved its position from the twelfth place in 2005 to the fifth place in 2012 and 2013. United Kingdom in the same period has retained the seventh place. Finland has improved its fourteenth place from 2005 to the eleventh place in 2012 and 2013. After an excellent start in 2005 at the ninth place, Sweden had a fall to the eighteenth place in 2010. After that, a period of improvement has come with the thirteenth place in 2013. In 2013, Ireland is at the same, fifteenth place, as in 2005. Germany is also highly ranked at the twentieth place in 2013, as in many other previous years.

Among EU NMS, very high ranking belongs to Estonia at the 21st, Latvia at the 25th and Lithuania at the

Figure 2: Rankings on the ease of doing business 2006-2013 – top countries¹



Source: [3], [4], [5], [6], [7, p. 6], [8, p. 6], [9], [10, p. 4], [11, p. 6], [12]

1 In order to provide a better visibility, we have used data for top 10 countries, excepting Georgia, and for some other EU countries: Germany, Austria, Belgium.

27th place. Other countries do not have so high rankings and they have recorded great variations of their rankings during last decade. For example, Romania was at the 47th place in 2009 but only a few years after, in 2013, Romania has fallen to the 72nd place. Czech Republic has lost its good position from 2005 at the 41st place. Its position in 2009 and 2010 at the 75th and 74th place was much lower. Some improvements were made in 2011 when Czech Republic took the 63rd place.

Government effectiveness

The good governance is a key factor in achieving economic growth and further development. Monitoring and evaluation of the quality of governance through time and within individual economies is supported by Worldwide Governance Indicators (WGI). The number of observed countries is 215, which gives to the report great comprehensiveness. These aggregate indicators combine the views of enterprise, citizen and expert survey respondents from developed and developing countries on different aspects important for the evaluation of government in each country. One of these six given indicators, i.e. *government effectiveness*, gives valuable insight into the effectiveness of a government. It ranges from -2.5, meaning a weak role of government, to 2.5, meaning strong government. Government effectiveness measures the quality of the civil service and the degree of its independence from the political pressures. Also, it measures the progress in policy implementation by the government and the credibility of the government. A list of variables creating this measure is very heterogeneous: quality of bureaucracy, infrastructure, satisfaction with

public transportation system, satisfaction with roads and highways and with the education system. For instance, the quality of bureaucracy is important from the aspect of quick decision-making considered by foreign investors.

Based on the data presented in Table 1 we can conclude that the level of government effectiveness is remarkably high in the case of EU-15 countries. The best performers are Nordics, especially Finland with the level of 2.27 in 2012, Denmark with the level of 1.97, and Sweden with the level of 1.94. Finland is the only one from the EU countries with the level above 2. Some old member countries like Portugal, Spain and Greece also have obtained low levels — Portugal 1.03, Spain 1.11 and especially Greece with the level of 0.31 in 2012. New member countries of the EU (EU 2004 and EU 2007) are barely attaining the level close to 1. Some of them, like Romania, even had a level with a negative sign (-0.31).

Agricultural policy costs, prevalence of trade barriers and tariffs in the EU

GCI Pillar 6 measures market efficiency. Countries with efficient goods markets are well positioned to produce the right mix of products and services given their particular supply-and-demand conditions, as well as to ensure that these goods can be most effectively traded in the economy. This pillar is measured by 16 components related to competitive advantages (8 components: extent and effect of taxation, total tax rate, % profit, number of procedures to start a business, number of days to start a business, prevalence of trade barriers, trade tariffs, % duty, burden of customs procedures, imports as a percentage

Table 1: Government effectiveness in the EU countries

Country / Estimate	2007	2008	2009	2010	2011	2012	Country / Estimate	2007	2008	2009	2010	2011	2012
Austria	1.87	1.77	1.67	1.84	1.61	1.56	Latvia	0.49	0.56	0.63	0.72	0.71	0.83
Belgium	1.61	1.38	1.59	1.58	1.66	1.59	Lithuania	0.71	0.62	0.70	0.76	0.72	0.83
Bulgaria	0.00	-0.05	0.16	0.11	0.11	0.14	Malta	1.22	1.29	1.17	1.20	1.21	1.24
Cyprus	1.43	1.52	1.43	1.53	1.56	1.38	Poland	0.40	0.48	0.52	0.64	0.62	0.66
Czech Republic	0.90	1.01	0.89	0.91	0.93	0.92	Portugal	0.90	1.08	1.16	1.02	0.96	1.03
Denmark	2.36	2.24	2.23	2.09	2.11	1.97	Romania	0.32	0.32	0.36	0.25	0.31	0.31
Finland	1.97	2.04	2.24	2.25	2.26	2.21	Slovak Republic	0.74	0.87	0.86	0.83	0.83	0.83
France	1.48	1.58	1.49	1.45	1.37	1.33	Slovenia	0.94	1.19	1.16	1.03	0.99	1.02
Germany	1.63	1.52	1.59	1.57	1.55	1.57	Spain	1.00	0.92	0.93	0.99	1.03	1.11
Greece	0.57	0.59	0.61	0.55	0.50	0.31	Sweden	2.02	1.94	2.05	2.01	1.97	1.94
Iceland	1.78	1.81	1.65	1.59	1.58	1.49	United Kingdom	1.66	1.64	1.50	1.56	1.55	1.53

Source: [13]

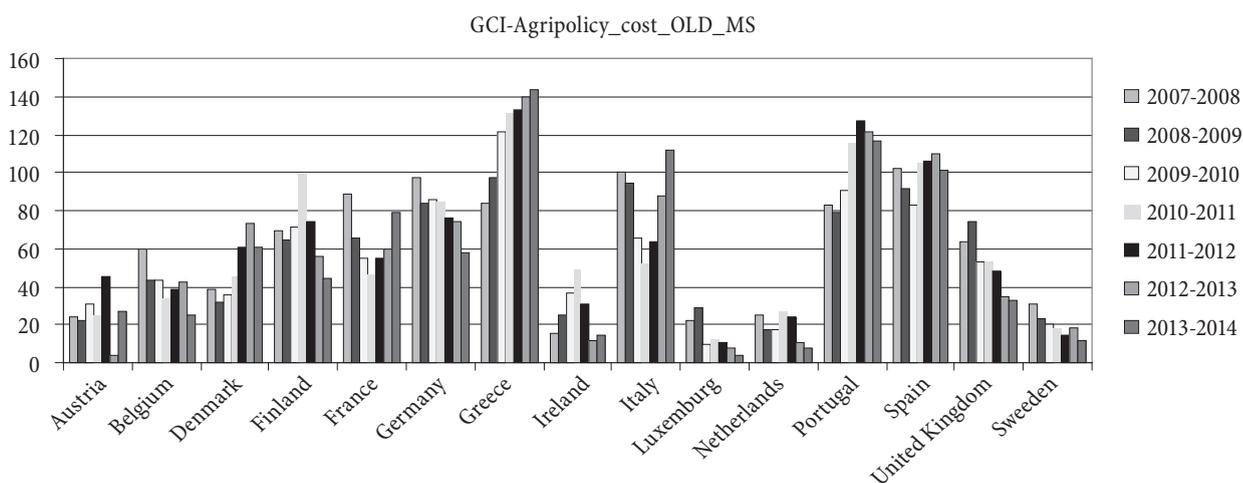
of GDP) and competitive disadvantages (extent of market dominance, intensity of local competition, effectiveness of anti-monopoly policy, agricultural policy costs, degree of customer orientation, prevalence of foreign ownership, business impact of rules on FDI and buyer sophistication). The analysis covers following components: 6.08 – agricultural policy cost, 6.09 – prevalence of trade barriers, 6.10 – trade tariffs. Additionally, analysis supports conclusion related to differences between the EU old Member States (EU OMS) and the EU new Member States (EU NMS).

The assessment of the agricultural policy cost in the country is based on the 7-point scale (1 = excessively burdensome for the economy; 7 = balances well the interests of taxpayers, consumers, and producers). The agricultural policy in the EU OMS (see Figure 3) is perceived as a well balanced in terms of relationship between costs and

stakeholders benefits in Luxemburg, the Netherlands, Sweden and Ireland in 2013-2014. Adversely, the least balanced interests of taxpayers, consumers, and producers are perceived by respondents in following the EU OMS: Italy, Germany, Denmark and France. As far as EU NMS are concerned (see Figure 4), based on the perception of agricultural policy costs, the best positioned are Estonia and Malta, while Croatia, Slovak Republic, Bulgaria and Romania keep the worst positions regarding this issue.

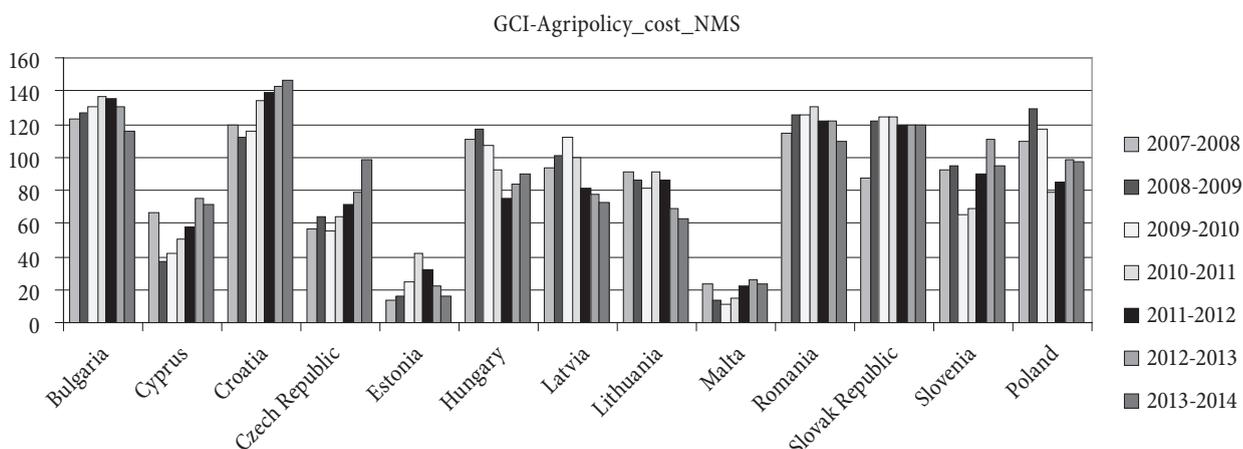
Market competition, both domestic and foreign, is important in driving market efficiency. Therefore government intervention should be oriented toward creating the best possible environment for the exchange of goods. Additionally, market efficiency also depends on demand conditions such as customer orientation and buyer sophistication.

Figure 3: The Global Competitiveness sub index 6.08 – Rank of the EU OMS



Source: [19]

Figure 4: The Global Competitiveness sub index 6.08 – Rank of the EU NMS



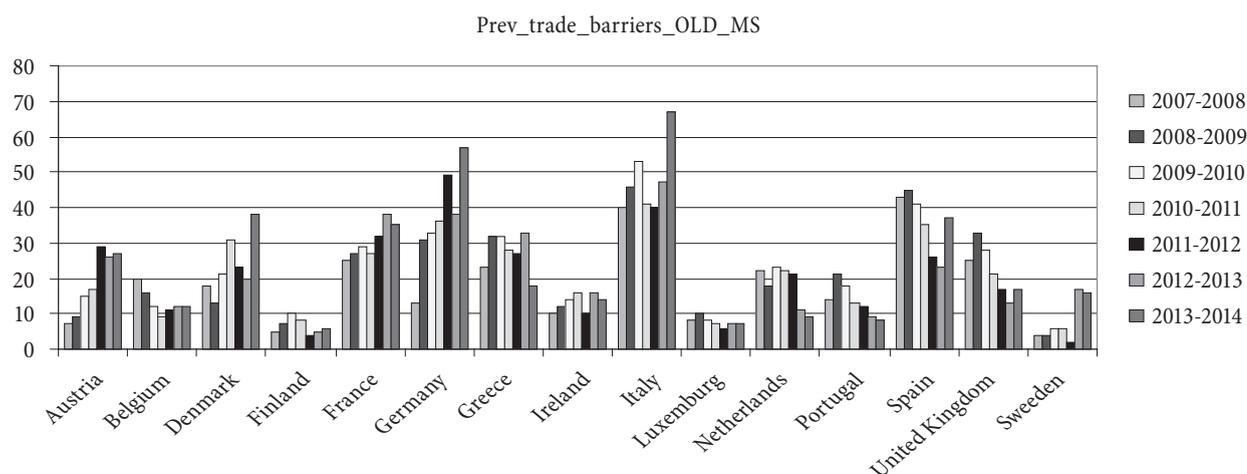
Source: [19]

Specific barriers are related to the food labelling regulations (GMO, organic production, PGO, PGI and TSG). The European Union had authorised GMOs products for animal feed imports or for feed and food processing. There is also a safeguard clause that Member States may invoke to temporarily restrict or prohibit the use and/or sale of a GMO within their territory. The buffer zones and isolation distances between the GM and non-GM crops exist in the form of the specific national regulations. Member States may also designate GM-free zones, effectively allowing them to ban cultivation of GM crops in their territory without invoking a safeguard clause. The number of the EU regions declaring to be GM free is constantly growing. Additionally, the public debate put the light on the importance of the local food concept and

quality-based food certifications. Organic and traditional products gain in the importance. Consequently, the EU quality schemes – organic and traditional food production and consumption – become significantly important in promoting sustainable food chain competitiveness.

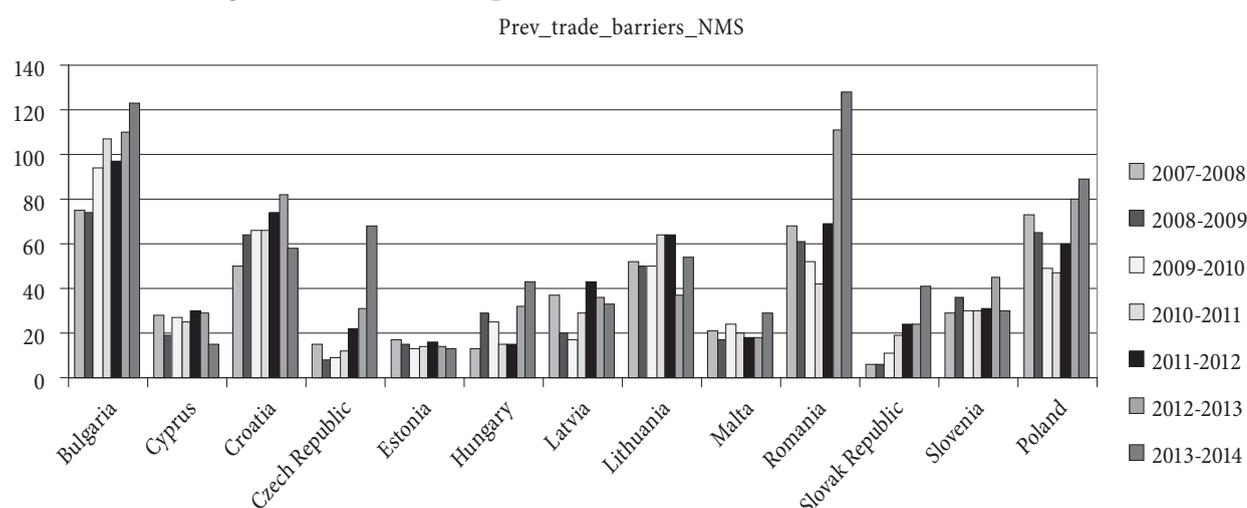
The question related to non-tariff barriers in the country (e.g. health and product standards, technical and labelling requirements, etc.) addresses limitations of the ability of imported goods to compete in the domestic market (see Figure 5 and Figure 6). The answer is measured on 7-point scale (1 = strongly limit; 7 = do not limit at all). The worst positioned EU countries regarding this issue are those which particularly insist on application of the regional food concept in the practice (for OMS – Italy and for NMS – Romania).

Figure 5: The Global Competitiveness sub index 6.09 – Rank of the EU OMS



Source: [19]

Figure 6: The Global Competitiveness sub index 6.09 – Rank of the EU NMS



Source: [19]

Finally, the tariff rates are measured by trade-weighted average tariff rate in 2012 or most recent year available for the country/group of countries. Regarding tariff rates, the EU countries are ranked at the 4th place worldwide.

Conclusion

The most commonly used report regarding competitiveness in Serbia is Doing Business Report. According to the obtained results, Serbia has relatively better position in following pillars: starting a business, getting credit and registering property. On the other hand, it is necessary to enhance the position of different administrative procedures related to: dealing with construction permits, paying taxes and enforcing contracts. However, this report does not provide specific analysis of the sector performance. The further analysis should be more specific and targeted toward agricultural policy measures. The analysis can help the identification of different indicators that can be used in order to define a specific role of the government in the agricultural sector performance.

The CAP is not perceived equally in all countries. In 2013-2014, the highly balanced relationship between costs and stakeholders benefits is perceived in Luxemburg, the Netherlands, Sweden and Ireland. Adversely, the least balanced interests of taxpayers, consumers, and producers are perceived by respondents in following the EU OMS: Italy, Germany, Denmark and France. As far as EU NMS are concerned, based on the perception of agricultural policy costs, the best positioned are Estonia and Malta, while Croatia, Slovak Republic, Bulgaria and Romania keep the worst positions regarding this issue.

The common conclusion is that the best performers in terms of competitiveness have experienced both good governance and policy implementation, while countries with the worst trade performance have faced significant problems in governance structures. Following the obtained results, government role in the sector performance requires deeper analysis. Consequently, the analysis should be based on more informative food-chain approach. It includes specific sector performance analysis, food chain structure and stakeholders influences toward competitive positioning.

Finally, the analysis based on the governance indicators is often criticized (comparisons of governance over time and across countries; some elements of the governance indicators are estimates of governance based on the perceptions of businesspeople, and especially the “elite” among businesspeople which necessarily do not reflect public policy interests; they are heavily influenced by economic performance of the country, etc.). However, there are findings that suggest that even after taking errors into account, governance indicators permit meaningful cross-country and over-time comparisons [14]. To avoid misunderstandings, only comparisons of countries within one period of observation are used, while we capture change over time only within a single country.

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Žaklina Stojanović

is a full professor employed by the Faculty of Economics, University of Belgrade. She teaches Agricultural Economics at the undergraduate studies and gives lectures related to agro-rural courses on the master's program Economic Policy and Development – Rural Development, Financial Market and Exchange, Agrarian Economy and Policy, as well as Globalization and Agricultural Development; at the PhD program she is foreseen as a lecturer of Developmental and Regional Economics. Editor of six and author of three books and more than 100 articles in agricultural economics, rural development and agricultural finance.



Ivana Popović Petrović

has been employed at the Faculty of Economics in Belgrade since 2008, working as a teaching assistant. She holds practicals in the following courses: Foreign Trade Operations, International Business Finance and Economics of the European Union. In her scientific research she deals with the issues of international trade, regional economic integrations, European Union and international trade in agricultural products. In this field she has published scientific papers and articles and attended conferences in the country and abroad.



Katica Radosavljević

was born on July 16, 1975 in Gothenburg, Sweden. Since 2000, she has been employed at the Faculty of Economics, University of Belgrade. She was a manager of two projects related to the valuation of corporate capital. She also assisted in numerous projects of the Centre for Scientific Research of the Faculty of Economics. Currently she is participating in the project of the Ministry of the project of the Ministry of Education, Science and Technological Development of the Republic of Serbia "Strategic and Tactic Measures for Resolving Competitiveness Crisis of the Real Sector in Serbia".

Đorđe KaličaninUniversity of Belgrade
Faculty of Economics
Department of Business Economics
and Management**Vukašin Kuč**University of Belgrade
Faculty of Economics
Department of Business Economics
and Management

INDUSTRIAL POLICY IN THE ENERGY SECTOR: THE EXAMPLE OF GAS SECTOR IN SERBIA*

Industrijske politike u energetici: primer sektora gasa Srbije

Abstract

Global energy demand is rising with declining fossil resources. In such circumstances, energy security has to be the number one priority of any national or regional policy. It is believed that gas will play a critical role in the transformation of the current energy system toward the sustainable one. Unlike most European countries, energy import dependence of Serbia is not very large and is about 33%. This dependence is especially pronounced in the oil and petroleum products sector (70%) and gas sector (86%). The problem of high dependency on imported gas can be overcome in two ways: by diversifying sources of energy supply and creating of mechanisms which would withstand unexpected supply disruptions (i.e. adequate strategic reserves). The South Stream pipeline is the first measure while new domestic regulation has to ensure the implementation of the second measure. The subject of analysis in our paper will be the South Stream project.

In the Draft of the Reindustrialization Strategy of Serbia, the first place on the list of priority sectors with comparative advantages belongs to the energy sector. Having in mind that fact, the aim of this paper is to highlight the potential contribution of the South Stream, not only to the energy stability of Serbia, but also from a broader perspective, to the growth and development of the national economy, all within a new energy policy.

Key words: *energy sector, natural gas, South Stream pipeline, industrial policy, Energy Sector Development Strategy of the Republic of Serbia*

Sažetak

Globalna tražnja za energijom raste dok se istovremeno rezerve fosilnih izvora energije smanjuju. U takvim uslovima energetska sigurnost mora biti top prioritet svake nacionalne i regionalne politike. Veruje se da će gas imati kritičnu ulogu u transformaciji postojećeg ka održivom energetsom sistemu. Za razliku od većine evropskih zemalja, energetska uvozna zavisnost Srbije nije naročito visoka i iznosi oko 33%. Međutim, uvozna zavisnost je izražena u sektoru nafte i naftnih derivata (70%) i prirodnog gasa (86%). Problem visoke zavisnosti od uvoza gasa može se rešiti na dva načina: diversifikacijom izvora snabdevanja i kreiranjem mehanizama koji treba da amortizuju neočekivane poremećaje u snabdevanju (adekvatne strateške rezerve). Gasovod Južni tok predstavlja primenu prve mere, dok nova regulativa mora da omogućiti implementaciju druge mere. Predmet analize u našem radu biće projekat Južni tok. U nacrtu Strategije reindustrializacije Srbije, na prvom mestu prioriteta sa komparativnim prednostima nalazi se energetika. Polazeći od toga, cilj ovog rada je da ukaže na potencijalni doprinos Južnog toka ne samo energetske stabilnosti Srbije već i generalno rastu i razvoju domaće privrede, a sve to u okvirima nove energetske politike.

Ključne reči: *energetski sektor, prirodni gas, gasovod Južni tok, industrijska politika, Strategija razvoja energetike Republike Srbije*

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Introduction

Human existence, competitiveness of the economy and survival of the society in general are determined by available energy. Different forms of energy have certain advantages and disadvantages, and are often reduced to their physical availability and environmental properties. The EU has committed to reducing greenhouse gas emissions by 80-95% compared to 1990 levels by 2050, which requires a significant change in the existing energy system. It is believed that gas will play a critical role in the transformation of the energy system [8]. This stems from the fact that the substitution of coal and oil gas, using the existing technology (without huge investment), can considerably reduce greenhouse gas emissions in the short and medium terms. The time horizon in the energy sector is different from the usual time horizons in economics, which means that a period of less than 10 years is a short period in the energy sector, given the delayed impact of the measures.

Trends in the global energy market indicate the growing importance of natural gas. Natural gas is extracted from natural underground reserves and is not a chemically uniform product, but it contains a mixture of different gases, predominantly methane (typically over 85 %). In order to make it suitable for use, it must be adequately processed. It is estimated that gas reserves are sufficient for the next 250 years (IEA). In addition to solid fuels, natural gas is only primary energy form which can be used directly, with basic preparation. Other forms of energy such as crude oil, hydropower, nuclear fuel and the like must first be transformed into a suitable form (petroleum products, electrical power, steam, etc.), which requires substantial investment in the construction of huge power plants, so that favoring the use of gas seems reasonable. As for its environmental attributes, this source of energy is superior to other conventional fuels and is the cleanest fossil fuel. Furthermore, gas is considered to be an ideal partner for renewable energy sources and has an extensive usability. Since the use of natural gas is in accordance with the strictest 3E's standards (energy, economy, ecology), it is now apparent why natural gas is

becoming the most prominent source, being labeled as energy source for the 21st century [23].

A well-developed gas market involves integration of the participants, greater diversity of sources (suppliers) and sufficient storage capacity. The global gas market is changing rapidly due to the development of technology that opens up virtually limitless possibilities and greatly relativizes physically limited reserves of natural gas. The proof of this lies in the development of new types of unconventional gas (such as shale gas in North America). Also, liquefied natural gas (LNG) is distributed independently of pipelines, which reduces the dependence on the impact of monopoly pipelines and provides greater flexibility to the users of this energy source.

The world's largest natural gas producers are the United States (with 681 billion cubic meters, or 19.8% of total global production), Russia (19.1%), Qatar (4.7%), Iran and Canada (each with 4.6%). The largest exporter is Russia (about 28% of its production), followed by Qatar, Norway and Canada, while the largest importers are Japan and leading EU countries [9]. The prices of energy sources often differ significantly between countries. When determining gas prices in a country, the following factors are taken into consideration: domestic production, pipeline imports, LNG imports and total consumption (domestic production plus import).

After a long time, in 2012, we saw a slowdown in the growth of global natural gas consumption. This is a result of a reduced demand of European countries (due to a decline in economic activity), more significant use of coal in North America, and a global decline in the supply of LNG (after thirty years of constant growth). The situation is completely different in Asia where the demand for gas remains in the "red" zone, with gas being increasingly used for transport as well [10].

Characteristics of the gas sector in Serbia

The energy system of our country comprises oil sector, natural gas sector, coal sector, electrical power sector and district heating systems. Within the energy system of the Republic of Serbia there are the exploitation of domestic primary energy (coal, oil, natural gas, renewable energy),

imports of primary energy (mainly oil and natural gas), production of electrical power and thermal energy, mining and secondary processing of coal, as well as transport and distribution of electricity and energy sources to end users of final energy [16].

Energy resources of the Republic of Serbia include fossil, conventional (coal, oil and natural gas) and unconventional fuels (oil shale), as well as renewable energy sources. As regards the scope and structure of energy reserves and resources, the energy position of Serbia is unfavorable, given that the reserves of high-quality energy sources, such as oil and gas, account for less than 1% of total balance reserves. Almost the entire energy reserves consist of various types of coal, predominantly of poor quality lignite (92%). In 2010, the remaining balance reserves of crude oil in Serbia amounted to about 10.14 million tonnes, while natural gas reserves amounted to about 4.23 billion cubic meters. These reserves are of low exploitation quality since they are found in mature and later stages of exploitation of the existing reservoirs, which means that it is necessary to apply new production technologies [17].

The existing energy reserves will improve through the adoption of a new Law on National Commodity Reserves. According to the draft of this law, Serbia will be required to establish a mandatory oil reserves to cover 90 days of average daily imports or 61 days of average daily consumption before the end of 2022, which will require funds of about EUR 700 million [6].

Unlike most European countries, our country is not largely dependent on energy imports, amounting to about 33%. This dependence is especially pronounced in the oil and petroleum products sector (70%) and gas sector (86%). The problem of high dependency on imported gas could be overcome by the forming adequate reserves and diversifying sources of supply. With the privatization of NIS, and the increasing levels of domestic oil and derivatives production, oil import dependence of Serbia has been decreasing with years. The example of NIS can serve as a guiding principle for the future strategy for development of the gas sector, since NIS today is not only the pivot of energy sector, but also of economic, financial and environmental stability and security of Serbia.

Table 1: Total energy balance of Serbia for 2012

Description	Natural gas	Oil and oil products	Hydro energy	Electricity	Heat	Coal and coal products	Geothermal energy	Wood fuels	Total
	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ
Primary production	19762	51256	35690			304725	261	11480	423174
Import	66297	105817		20811		21635		610	215170
Export		14322		19411		242		1667	35642
Stock changes	-8005	-1853				-2513		437	-11934
Bunkers		121							121
Gross inland consumption	78054	169663	35690	40222	0	324089	261	14194	662173
Transformation input	30603	109611				294720		2049	436983
Transformation output		98138		96786	35203	12167		1974	244268
Exchange and transfers			-35690	35690					0
Consumption in the energy sector	3472	6866		15884	1723				27945
Losses	439	864		20192	2940	829	1	2	25267
Energy available for final consumption	43540	122752		97800	30540	40223	260	10783	345898
Final non-energy consumption	796	9745				1182			11723
Final energy consumption:	42744	113007		97800	30540	39041	260	10783	334175
Industry	28169	23208		23810	10355	14367		2922	102831
Construction		1414		1141		45		146	2746
Transport	165	74328		1771					76264
Households	9047	3947		52261	16917	17472		7342	106986
Agriculture	766	5452		1112		17	156	130	7633
Other users	4597	4658		17705	3268	7140	104	243	37715

Source: [18]

In 2012, total primary production of natural gas in Serbia amounted to 533.5 million cubic meters (equivalent to 19,762 TJ), while the imported amount was three times higher and amounted to 1.79 billion cubic meters. Of the total gas available, around 40% is used for energy production, while the remaining amount is intended for end consumption. The largest end users are industry (760 million cubic meters) and households (244 million cubic meters). About 240,000 households and about 11,000 other customers use natural gas. The Energy Balance of Serbia for 2012 with relevant indicators for each energy source is shown in Table 1.

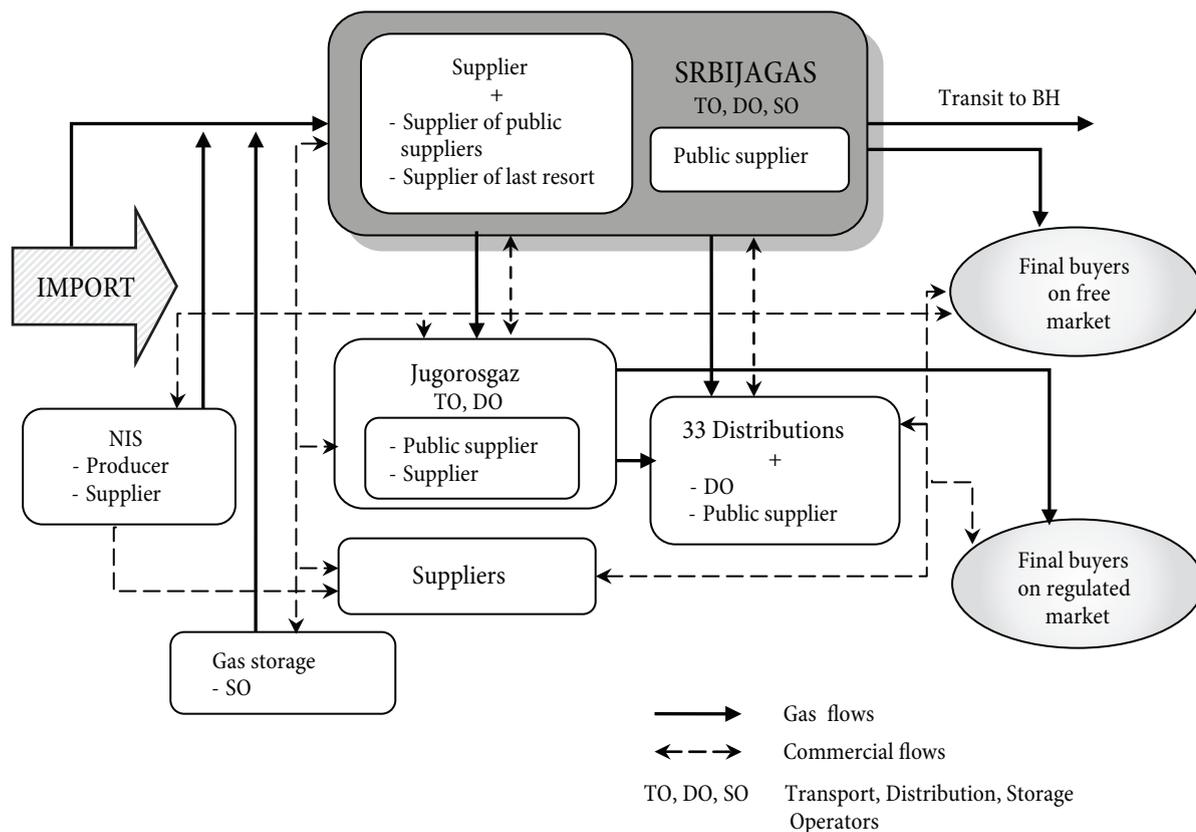
Our standards set high requirements to be met by gaseous fuels for residential use. There are four groups of gaseous fuels. According to the classification of gaseous fuels, the second group includes natural gases from natural reservoirs, rich in methane. Serbia uses the natural gas from the second group from Russia (Siberia) and the Banat region. Natural gas is imported through Hungary (border crossing at Horgos), while the construction of

the connection from Bulgaria is underway [23]. With the construction of South Stream, the above sources will become only alternative energy sources, which will significantly improve the gas market situation.

The natural gas sector of Serbia operates as a bilateral market, or a market in which natural gas is bought and sold directly between market participants. The gas market participants are: manufacturers, suppliers, public suppliers, end users, operators of transportation systems, distribution system operators, and operator of storage facilities (see Figure 1) [7]. As obvious from the chart below, the largest and most significant participants in the domestic gas market are Srbijagas (100% owned by the Republic of Serbia), Jugorosgaz (75% of Gazprom, 25% the Republic of Serbia), underground gas storage “Banatski Dvor” (51% Gazprom, 49% the Republic of Serbia), and NIS (56.15% Gazprom, the Republic of Serbia 29.87%, 13.98% minority shareholders).

One of the key energy goals of Serbia is equal development of the energy sector. With the arrival of

Figure 1: The natural gas market in Serbia



Source: [7]

Gazprom, i.e. the privatization of NIS, the oil sector has recorded significant growth. In such circumstances, the Serbian gas sector lags significantly and still is a weaker part of the energy sector.

Industrial policy in the energy sector

The global financial and economic crisis has brought losses, unemployment, and poverty in every sense of the word. In addition to myriads of negative consequences, the crisis has at least one bright side. If nothing else, it represents the ultimate “wake-up call” because it became apparent even to the greatest market fundamentalists that the current path is the wrong path. The current model of economic growth and development has not ensured growth and development for a long time. Smith’s concept of the invisible hand of the market, like any other concept, has proved to be short-lived and to little avail. It provided the answer and solution to the problems of the previous model of economic growth, but its utility value is obviously limited. As is the case with medicines: their use, in addition to the desired effects, may also lead to accompanying contraindications and side-effects. The global financial and economic crises are probably contraindications of the use of the existing system of economic development, since the outcomes are contrary to the desired ones. Also, it is a common fact that, over time, the body becomes immune and resistant to the medicine, in which case the therapy is usually changed. This analogy should also be applied to the chronically unhealthy economy.

Market imperfections, further enhanced by the global economic crisis, will not disappear by themselves. Routine establishment of market equilibrium is simply not possible in conditions of the perfect market where all the players are in the state of perfect information. Since this is not the case, i.e. the solution, the question is what next? Which way to go? It is certain that there is the need for state aid or intervention, but the question is in what form and to what extent. There is no perfect model of state-market partnership, so it is necessary to design a model that would be consistent with the level of economic development, culture and traditions of each individual country [14, p. 77].

Some of the effective tools are industrial policies [3], [4], [5]. In modern economic theory, industrial policy means the application of a series of measures and practical policies implemented by public institutions in order to create a favorable business environment and encourage the creation of new enterprises [13]. A theoretical basis for a new model of industrial policy in developed market economies was found in the theory of endogenous development as the dominant modern theoretical option for defining development, particularly of industrial policy. Industrial policies first aim at instigating, and then monitoring structural change and restructuring of companies in order to enable them to cope with all the changes and challenges of the business environment. These changes and challenges are a result of technological progress and the cumulative effects of political events, global integration, and global recession [14, p. 79].

When it comes to Serbia, for many years now, the macroeconomic trends clearly indicate that the current model of economic growth and development is unsustainable. In this context, the pressure and expectations of a new model of economic development are enormous since it must first stop the collapse of the local economy, and then redirect its path. The predominant position of domestic experts regarding the future model of economic development is the concept of (re)industrialization. It is a new concept of economic policy, which aims to strengthen the competitiveness of domestic industry through supporting its growth and development.

The National Council for Economic Recovery has prepared a Draft of the Reindustrialization Strategy of Serbia containing proposals of measures to overcome the crisis in Serbia, i.e. the anti-crisis program with the possible path of sustainable economic development. The anti-crisis program,¹ in accordance with the above new economic policies, advocates involvement of the state in the economic environment in order to enable the process of recovery of the local economy and create the foundations for its growth and development. Reindustrialization is perceived as the means of recovery and it simultaneously involves three things: 1) the expansion of financially healthy

¹ The anti-crisis program involves three processes: fiscal consolidation, closing the output gap and industrial development.

companies in tradable sectors, 2) the revitalization of public enterprises and companies undergoing restructuring, and 3) development of new businesses based on modern technology platforms. The focus should be on real economy instead of financial services, investment instead of consumption, saving instead of borrowing and activating domestic sources of growth in production instead of imports [5].

The post-crisis model of economic growth and development of Serbia 2011-2020 also advocates reindustrialization which should be based on the pyramidal structure of industrial policy. The base of the pyramid should be structural changes and infrastructure investment, linear (non-discriminatory) industrial policy is at intermediate level, while the top of the pyramid consists of selective instruments of industrial policy [24].

Industrial policy is defined solely for the priority sectors of the economy which leverage the overall economic development. The priority sectors are the sectors with comparative advantages and competitive advantages. In the Draft of the Reindustrialization Strategy of Serbia, the first place on the list of priority sectors with comparative advantages belongs to the energy sector. Emphasizing energy sector is expected, since the energy issue ranks among the top priorities of national and regional policies. Many countries have long since understood the importance of energy sector and are active not only as a regulator but also as a strategist, partner, and investor. A famous Robinson's words on energy are, "It is too important to be left to the market!" [22].

The new legislation of the Republic of Serbia which regulates the energy sector is fully compliant with the European Union regulations, the regulations of the countries in our region and internationally accepted principles of creating non-discriminatory conditions for transmission, transport and trade related to electric power and natural gas in the entire region [2], [12], [17].

Serbian Energy Policy and Energy Development Plan are based on the Energy Law, which clearly defines the main objectives, such as improving energy security, energy efficiency, competitiveness of energy market, utilization of renewable energy sources and environmental protection. Energy policy is elaborated and implemented by the means of the Energy Development Strategy of the Republic of

Serbia, the Strategy Implementation Program, and the Energy Balance of the Republic of Serbia. Subsequently, national action plans are developed within the framework of Strategy and Program which identify the development objectives and measures of their implementation more closely.

The Energy Strategy of the Republic of Serbia is the guiding principle that defines long-term objectives and directions of energy development. It is made for a period of at least 15 years. The Program outlines the conditions, manner, pace and measures for the implementation of the Strategy. The program is adopted by the Government for a period of up to six years upon the proposal of the Ministry in charge of energy, which, if necessary, proposes its alignment with the real needs at least every other year. The Energy Balance shall define: annual energy and/or energy sources needs expressed on a monthly level to be provided for the reliable, safe and quality supply of final customer, while recognizing the need for rational consumption of energy and energy sources; sources for the provision of required energy and/or energy sources; required level of reserves and reserve capacities of energy facilities for the safe supply of customers with energy and energy sources [11], [12].

The current Energy Sector Development Strategy of the Republic of Serbia by 2015 differentiated its objectives into three groups: basic – the energy objectives; specific – technological and environmental objectives, and overall – development and strategic objectives. In order to meet the objectives set, they defined five priority programs [15], [16]. Over time, the current strategy has become less topical since the assumptions on which it is based are largely inadequate and unrealistic. In the meantime, the Draft of the Energy Sector Development Strategy of the Republic of Serbia for the period by 2025 with projections by 2030 was developed, which proposes the path of market restructuring and technological modernization of the energy sector of the Republic of Serbia.

The implementation of the Energy Law and the new Energy Sector Development Strategy of the Republic of Serbia should result in adequate energy, economic, environmental and social policies, which, along with relevant legislation and the rule of law, would lead to a

sustainable energy system, a more efficient economy and greater social well-being, with a sustainable balance of natural resources and lower levels of pollution [17]. The basic principles according to which the energy policy by 2030 should be developed are ensuring energy security, energy market development and overall transition to sustainable energy (see Table 2).

Unlike the electricity market, the oil market has been liberalized since 1 January 2011. It created the preconditions for the opening of the oil products market in Serbia because it eliminated import barriers and stopped the state price regulation of oil derivatives. The Energy Law of 2011 created the conditions for the introduction of competition in the natural gas sector in Serbia in order to increase the efficiency of the sector through market mechanisms in the production and supply of natural gas. On the other hand, the activities of transport and distribution of natural gas, as natural monopolies, have remained in the domain of state regulation. All end users of natural gas have the right to freely choose their suppliers on the market, with the exception of households, which will have this right as of 1st January 2015. Liberalization, i.e. the process of opening

the natural gas market, is prescribed by the Law and will be carried out through several stages, thus narrowing the circle of customers who have the right to purchase natural gas from the Public Supplier at regulated prices. Customers who are not eligible for public supply may purchase gas from a licensed gas supplier on the open market [6].

In the field of gas, a new strategy sets out two objectives: ensuring safe supply of natural gas to the domestic market, and establishing national and regional natural gas markets. Therefore, the priority actions of the energy policy are the construction of the South Stream pipeline, the establishment of at least two regional interconnections by 2020 and the completion of gasification in Serbia. The subject of analysis in our paper is the South Stream project.

South Stream pipeline – the importance and potential impact on the Republic of Serbia

South Stream will have strong impact on the development of the energy sector and gas industry of the Republic of Serbia in the near future (end of 2015). The Republic of Serbia, which is on its route, also participates in the

Table 2: Key priorities of the energy sector policy of Serbia by 2030

1. Energy security	<ul style="list-style-type: none"> • Reliable, safe, efficient and quality supply of energy and energy products • Setting up conditions for reliable and safe operation and sustainable development of energy systems and energy sector in general
2. Energy market	<ul style="list-style-type: none"> • Competitiveness on electricity market based on non-discrimination, publicity and transparency • Protection of energy and energy products customers • Development of the electricity and natural gas market and their connection with the unique energy market of EU • More intense connection of energy system of the Republic of Serbia with energy systems of other countries, especially neighboring countries
3. Sustainable energy	<ul style="list-style-type: none"> • Provision of conditions for energy efficiency improvement in energy activities and energy consumption • Creating economic and financial conditions for increase of share of energy from renewable energy sources, as well as for combined production of electric and heat energy • Creating institutional, financial and technical assumptions for using new energy sources • Promotion of condition and environmental protection system in all fields of energy activities • Establishing more favorable legal, institutional and logistical conditions for more dynamic investment into energy sector

Source: [17, p. 31]

realization of this project. The project aims to stabilize the energy security of the European continent. The issue of stabilization of gas supply arose in 2006 when the relations between Russia and Ukraine, as a transit country, deteriorated due to the issue of the gas price.

Stabilization of gas supplies from Russia to Europe is achieved by diversifying gas flows. The first stage of diversification was finished with the construction of the Nord Stream gas pipeline. The second stage of diversification has been realizing through the construction of the South Stream. A separate company South Stream Transport AG was founded for this purpose as well. It is also based in Zug, Switzerland. The founders are: Russian OAO Gazprom (50% equity), Italian ENI (20%), French EDF (15%) and German Wintershall (15%). This company is responsible for covering the marine section of the South Stream pipeline, a distance of 925 km. The land section of the pipeline is about 1,450 km long and passes through the following countries (see Figure 2):

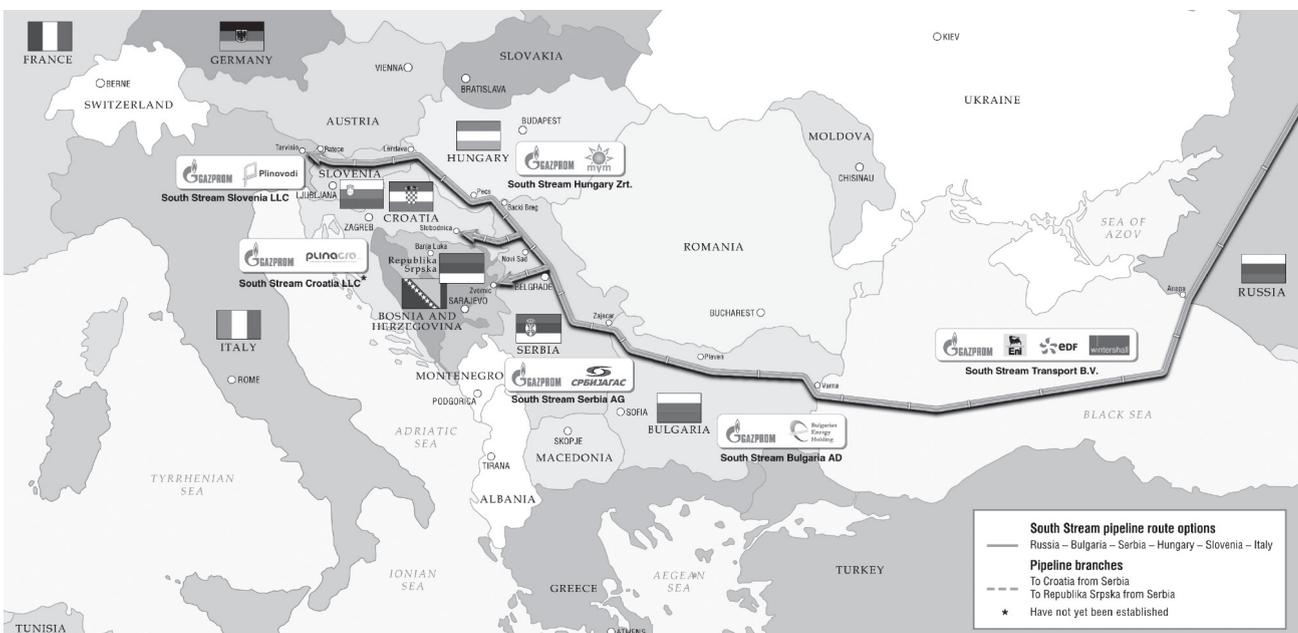
- Bulgaria (section length 536 km; operations are managed by the company South Stream Bulgaria AD, which was created by pooling the capital of the Russian Gazprom and Bulgarian EAD with 50:50 equity stakes);

- Serbia (section length 422.4 km; operations are managed by the company South Stream Serbia AG, which was created by pooling the capital of the Russian Gazprom and Serbian Srbijagas with 51:49 equity stakes);
- Hungary (section length 229 km; operations are managed by the company South Stream Hungary Zrt created by pooling the capital of the Russian Gazprom and the Hungarian MVM with 50:50 equity stakes);
- Slovenia (section length 266 km; operations are managed by the company South Stream Slovenia LLC, which was formed by pooling the capital of the Russian Gazprom and Slovenia's gas pipelines with 50:50 equity stakes), and
- Italy (section length 11 km).

According to the project, the pipeline in the Republic of Serbia has two branches: towards Croatia (52.8 km section, whose operations will be managed by a company with 50:50 equity stakes of Russian Gazprom and Croatian Plinacro), and towards the Republic of Srpska (105.8 km long).

South Stream is a project that will be used to transport 63 billion cubic meters of gas from Russia to Europe. The pipeline has four lines, with a capacity of 15.75 billion cubic meters each. First deliveries are scheduled for late

Figure 2: South Stream pipeline route¹



1 <http://www.south-stream.info/en/maps/>

2015, and the exploitation of the full capacity is expected in the period 2018-2019. The idea of the size of the pipeline in terms of its capacity is materialized through the fact that the world's total gas reserves are estimated at 193 trillion cubic meters, of which Gazprom owns about 35 trillion (more than 1/6).

An alternative to Russian gas is liquefied gas, which can be transported by outside pipelines (in Croatia, preparations are being made for the storage of this gas transported from Qatar to a terminal on the island of Krk). Another alternative was the construction of the gas pipeline Nabucco from Central Asia or the Middle East. The main source of gas would have been in Azerbaijan (about 16 billion cubic meters), and the remaining sources would have come from Turkmenistan and Iraq. The capacity of the Nabucco would have been 30 billion cubic meters and its length would have been about 4,000 km. However, assuming that the capacity utilization would probably be about 50%, such a project would not be financially viable, and it was abandoned.

The value of the whole South Stream investments is about EUR 16 billion. Of this amount, investment in the construction of the gas pipeline under the sea is about EUR 10 billion, while the construction of the land section will require investment of about EUR 6 billion. However, despite the high level of capital investment, the expected effect is significant. The transit countries can expect total annual revenues from the joint investment of about EUR 1 billion, with annual costs of EUR 0.3 billion. For a 25-year forecast horizon, total revenues are estimated at EUR 25 billion and total operating costs at EUR 7.5 billion.

Technically speaking, this is a very complex undertaking. Construction of the entire South Stream includes welding as many as 304,000 pipes. Furthermore, the project is facing challenges such as laying pipes on the seabed, sand waves, obstacles in the form of deep valleys, possible erosion, underwater currents, earthquakes, etc. However, the project is technically feasible and commercially reasonable in view of the growing demand for this energy source in Europe, and it is cost-effective for all the countries and companies involved in its implementation.

South Stream is one of the three priority activities in the field of natural gas that are listed in the Draft of

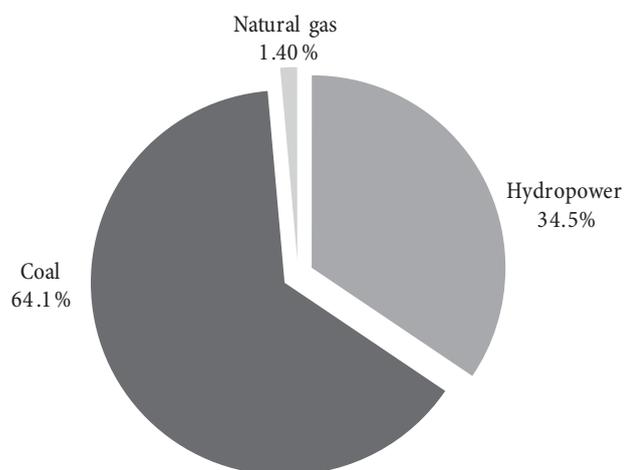
the Energy Sector Development Strategy of the Republic of Serbia for the period by 2025 with projections by 2030. The other two priorities are: the establishment of at least two interconnections by 2020 and the completion of the gasification in Serbia. From this gas pipeline, as planned, 3.9 billion cubic meters of gas will be used in domestic consumption. How large this amount of energy is for Serbia can be grasped from the fact that in late 2010, the balance reserves of natural gas in the country were only 4.23 billion cubic meters of gas.

The pipeline enters Serbia near Zajecar and goes past Belgrade and continues to the Hungarian border (near Sombor). Technical capacity includes the installation of pipes (about 400,000 tonnes of steel pipes), the use of the existing gas storage in Banatski Dvor and the construction of two compressor stations (near Backi Breg and near Paracin). The capacity of the pipeline in Serbia is projected at 40.5 billion cubic meters per year. It is expected that about 5,000 workers will be hired for the construction of the pipeline, and indirectly, approximately 100,000 workers employed in construction companies, equipment manufacturers and service companies.

The realization of the project requires high-quality machinery and qualified staff. The machinery consists mainly of trucks, excavators, bulldozers, pipe layers. It is estimated that there are enough trucks to perform these operations, but the situations with other machinery is uncertain in terms of its availability. This raises a new question of purchasing the missing machines and adequate models of financing this purchase given the short-term exploitation period of these resources (if it is known that South Stream will be launched by end 2015). The pipeline project through our country will mainly hire qualified welders. However, this is an advanced welding method, and in that respect, it is necessary to provide high-quality workforce that will be able to perform these tasks responsibly.

The construction of a gas pipeline in Serbia has an additional impact on the energy sector. Namely, this pipeline will provide gas supply to the gas power plants. Currently, natural gas accounts for 1.4% of electricity generation. The share of energy sources in the production of electricity in 2010 is shown in Figure 3.

Figure 3: The share of energy sources in the production of electricity in 2010



The Draft of the Energy Sector Development Strategy, in line with the objectives of increasing energy security and achieving sustainable situation in the energy sector, recommends the construction of a thermal power plant – a heating plant that uses natural gas with the capacity of about 450 MW by 2020. The Draft also envisages the possibility of building gas power plants in major industrial centers, primarily in Novi Sad, Belgrade, Nis, Kragujevac, Pancevo, Loznica and elsewhere. These power plants would produce electrical energy in an amount corresponding to the domestic and export needs, but also thermal energy for heating users in industry and in households. This idea is justified bearing in mind a similar situation with the Nord Stream in Germany, where the high profitability of this investment (with the degree of utilization of energy of 80 %) allowed the production of electricity from gas. Without the South Stream, the construction of gas power plants would only be possible in Novi Sad and Subotica, based on the current flow of gas from Hungary. South Stream increases the possibility of building these plants. In fact, for a power plant with the capacity of about 200 MW, it is necessary to provide 400 to 500 million cubic meters of gas per year, which is only possible with the new pipeline. Power plants are an integral part of the EPS (Electric Power Industry of Serbia), which means that the implementation of this venture implies the cooperation of Srbijagas and EPS.

The value of the investments in Serbia is estimated at EUR 1.9 billion. Initially, the value was estimated at

EUR 1.7 billion, but this estimation was subsequently adjusted to reflect rising steel prices in the world market. Also, the start of investment requires expropriation of land where the line will pass through, some 10,000 lots with a total area of 8,000 hectares and a value of around EUR 24 million.

This investment is financed in phases. The amount of EUR 500 million will be secured by the start of the construction, of which EUR 150 million (EUR 75 million invested by each the Republic of Serbia and Gazprom) were already secured in 2013. The remaining EUR 350 million will be secured in the first quarter of 2014, where Gazprom will provide EUR 175 million in investment and Serbia the same amount in the form a loan received from Gazprom at an annual interest rate of 4.25%. The security for this loan is the future revenues of the South Stream. Repayment of the loan is quite certain given the forecast that each party will have guaranteed 8 % revenue from investment.

The financing model of this investment is project financing, i.e. funding in phases will be provided by banks, mainly Russian. With this model of financing, the repayment of project financing is based on the cash flow analysis of the project itself.

In terms of the effects side of the said investment, there should be noted, first of all, that Gazprom will lease one hundred percent of the capacity of the South Stream for the next 25 years, on the ship-or-pay contract basis. This means that Gazprom will pay for the lease of this capacity regardless of whether blue gas is running through the pipeline or not. On the basis of this lease, it is expected that, by 2040, when the lease contract expires, Serbia will earn around EUR 5 billion. Annual amount of transit fees is EUR 200 million.

Financial impact on the budget is also visible. First of all, the transit fees are collected by the South Stream company Novi Sad. On this basis, all taxes flow into the budget of the Republic of Serbia. Opportunity benefits are reflected in the fact that there will be no penalties for purchased and unused (also Russian) gas from Hungary (at a price that is much higher than that paid by other countries). In addition, Serbia is guaranteed 8 % profit per annum from gas transportation.

The impacts on the economic environment are significant and obvious. First of all, the construction of the pipeline will make Serbia an important energy transit country. Also, from a broader perspective, it increases the attractiveness of the country in the process of attracting foreign direct investment. Apart from stable legal and macroeconomic environment, foreign investors are also interested in the stability of energy supply. With that respect, investors are primarily focused on their availability and price trends. South Stream provides the opportunity to extend the existing gas network and provide consumers in the household sector and the industry with more affordable access to gas.

The environmental impact is favorable compared to other energy sources (excluding renewable energy sources). First and foremost, natural gas is renowned for emitting 70% less carbon monoxide. The South Stream project is implemented according to the highest international environmental standards, and impeccable environmental footprint of its “brotherly” project (Nord Stream) confirms this assumption.

All in all, the South Stream is becoming a focal element not only of the gas industry of the Republic of Serbia, but also of the entire energy system with significant implications for employment and budgetary inflows.

Useful experience and data about the Nord Stream pipeline

About half of the total Russian exports to the EU go through Italy and Germany, while France is the third biggest European importer. Gas trade between Russia and the EU became vulnerable after Soviet Union dissolution, due to turmoil and conflicts between Russia and key transit countries – Ukraine and Belarus.² Around 80% of gas exports to Europe transit through Ukrainian pipelines. In order to prevent such problems in the future, Gazprom has implemented the strategy of diversifying its exports alternatives to Europe. Implementation of this strategy began in the 1990s with Yamal-Europe pipeline and more

recently has continued with the Nord Stream and South Stream projects [1].

The Nord Stream connects the gas reservoirs in Western Siberia with Europe, and gas is distributed through the Baltic Sea, from the Russian town of Vyborg to the German town of Lubmin, a distance of 1,224 km. Each pipeline is made up of over 100,000 concrete weight coated pipe segments, each with an average length of about 12.2 m and a constant inner diameter of 1,153 mm. This stream has two legs and the annual capacity of each is 27.5 billion cubic meters. This pipeline can supply more than 26 million households per year with its total capacity of 55 billion cubic meters.³ Nord Stream’s twin-pipeline system came on stream on schedule (completed in 30 months) and on budget, the first line in November 2011 and the second in October 2012 [19], [20].

The following companies are involved in the construction of the Nord Stream: Russian OAO Gazprom (51% equity stake), German Wintershall Holding GmbH (a subsidiary of BASF) (15.5%), German E.ON (15.5%), Dutch NV Nederlandse Gasunie (9%) and French GDF SUEZ (9%). The aforementioned companies have set up an international consortium Nord Stream AG based in Zug, Switzerland. The construction of a gas pipeline cost EUR 7.4 billion, out of which the investors have funded 30%, and the rest was financed from credits.

The policy literature about the Nord Stream usually presents the project as uneconomic and perceives it more as a part of Russia’s foreign policy than Gazprom’s business strategy. Political or not, the Nord Stream is a win-win project because both sides (Russia and the EU) profit from this arrangement. For the purpose of this study, we are mainly focused on the economic aspect of the project because experiences from the Nord Stream may be useful in analyzing the potential role and importance of the South Stream.

There have been plenty of researches and analyses about the Nord Stream’s potential effects and they provide different and often completely opposite conclusions. Financial viability of the Nord Stream project for sure depends significantly on the future development of gas

² There have been major gas transit disruptions through Belarus in 2004 and 2010 and through Ukraine in 2006 and 2009, affecting millions of people in South-Eastern Europe and Western Balkans.

³ 55 bcm is equivalent to the amount of energy transported by 600-700 LNG tankers or produced by 148,000 wind turbines.

demand in Europe and development of LNG market (as competitor). According to the research [1, p. 18] the average NPV of the Nord Stream system is USD 4 billion in the low demand case, USD 6.9 billion in the base case and USD 20 billion in the high demand case. There are three factors contributing to the positive economic value of the Nord Stream: lower transportation cost in comparison to existing options, the lowering of Ukraine's transfer fee and the insurance against transit disruption risks through Ukraine.

The total investment in Nord Stream was EUR 7.4 billion, providing a stimulus for many sectors of the European and Russian economy such as steel, construction, engineering, logistics etc. This investment created businesses and employment for twelve countries. Furthermore, 15.1 million man-hours, with around 2,500 workers per pipeline, were necessary to finish the construction of the Nord Stream pipeline. Some useful data about this investment are presented in Table 3.

The Nord Stream pipeline uses state-of-the-art technology to meet the highest international safety standards during construction and operation. Concerning environmental monitoring, EUR 40 million was invested and 22 companies were involved with more than 1,000 experts. Monitoring activities include surveys of the physical, chemical, biological and socio-economic environment.

The above-mentioned information concerning the Nord Stream pipeline results can help us better understand the importance and role of the South Stream project in Serbia. Having in mind the Nord Stream experience, we can expect that significant funds will be invested in the lacking domestic infrastructure. It will be an extraordinary opportunity for competitive local companies to take part

in the implementation of this project. There is no doubt that construction, engineering and logistic companies will benefit the most. Also, our experts in biology, ecology, chemistry and the like will get a chance to be involved in monitoring activities, especially during the construction and first three years of pipeline exploitation.

Conclusion

In its value, economic and environmental characteristics, gas is a superior source of energy, i.e. energy source for the 21st century. Major producers of gas include the world's leading powers, the United States and the Russian Federation, the latter also being its largest exporter; and the largest importers are also world's powers Japan and leading European Union countries. Uneven availability at global level and prominent import dependence of Europe's leading countries are the reasons why the analysis and formulation of the gas sector development strategies encompass, among other things, the geopolitical dimension.

Import dependence of Serbia's gas sector is extremely high. Moreover, it is higher than the import dependence on other energy sources and amounts to 86%. About 40% of imported gas is used for energy production and the rest is intended for end users (industry and households).

The construction of the South Stream through our country and the projected 3.9 billion cubic meters of gas for our purposes are the facts that assure us that the Serbia's decision to accept the invitation of Gazprom to participate in this large international project is justified. The decision on participating in the project is in line with the current Energy Development Strategy and the Draft of the Energy Sector Development Strategy for the period

Table 3: Useful financial data about the Nord Stream pipeline

Description	Amount (euro)
Total investment	7.4 billion
Cost of pipes and pipeline material	3 billion
Cost of pipe-laying contracts	2 billion
Cost to European taxpayers	0
Saving of transportation costs due to the sophisticated "green logistic concept"	60 million
Investment in developing the necessary harbor infrastructure in the region	100 million
Further investment in environmental monitoring along the route	40 million

Source: [21]

by 2025 with projections by 2030. The strategic priorities to be pursued in the implementation of this strategy are: energy security, development of the energy market and achieving a state of sustainability in the energy sector. In the field of natural gas, strategic priorities are implemented through: construction of South Stream, establishing at least two interconnections by 2020 and completion of gasification of the country.

The construction of the South Stream has multiple impacts. These are:

1. Direct hiring of about 5,000 workers for its construction and indirect engagement of 100,000 workers employed in related industries;
2. Employing machines (including those which have been idle for years due to the economic downturn and reduced national market);
3. Creating opportunities to build gas power plants – power plants in a number of industrial centers in the country;
4. Collecting annual transit fees in the amount of EUR 200 million, which amounts to about EUR 5 billion by 2040;
5. Increasing energy security (by reducing dependence on imported Russian gas via Hungary at relatively high prices and other unattractive purchase terms);
6. Increasing the attractiveness of the country as an investor destination;
7. Avoiding endangering the ecological system of the country;
8. Due to a privileged model of financing – short-term neutral (or least negative) impact on the State budget at the time of its construction and extremely positive long term impact at the time of project exploitation.

The experience based on the example of the Nord Stream, as a predecessor of South Stream, also indisputably confirms the economic, energy and environmental feasibility of the project, which should serve as a tailwind for domestic economy and trigger growth and development.

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Đorđe Kaličanin

is an associate professor on course in Strategic Management at the Faculty of Economics – University of Belgrade, where he acquired all his degrees (B.Sc., M.Sc. and Ph.D.). On master studies he teaches courses Strategic Finance and Business Strategy. He is the author of articles from the scientific fields of strategic management, business planning and value-based management. He led and participated in projects of strategic planning, investment decision making, business planning, organizational design, valuation and compensation system creating. He is the Manager of the Publishing Center at the Faculty of Economics.



Vukašin Kuč

is a teaching assistant in Strategic Management at the Faculty of Economics, University of Belgrade. He received bachelor (Management) and master (Accounting, Auditing and Business Finance) degree from the same university. Currently he is a PhD student in Business Management. The author has a number of articles in the field of strategic management, credit ratings, corporate restructuring, etc. Also, he has participated as a consultant in numerous projects in the fields of business and equity valuation, organizational and financial restructuring, etc.

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VIENNA INSURANCE GROUP
BELGRADE, TREŠNJINOG CVETA 1
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