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This edition of *Ekonomika preduzeća* is dedicated to reindustrialization. The economic reality in Serbia proves that economic policy so far could not get Serbia out of transitional crisis, nor could it alleviate the force of global economic crisis starting in 2008. All papers in this edition have a unique message – there is no more time to lose, now is the moment to change economic policy platform and coordinate policy tools. We embraced all the differing views of Serbia's top priorities. We assumed – if enough good minds apply themselves, a new and better way forward might finally take shape.

As the second dip of double-dip recession is evolving in Serbia, the transmission mechanisms of deeply embedded structural imbalances are accelerating, showing their negative impacts on macroeconomic fundaments as well as on overall vulnerability of the economy. In their paper, *D. Đuričin* and *I. Vuksanović* provided an in-dept analysis of Serbia's economy from several different angles: from macroeconomic perspective as well as from the business perspective including sectors' ones. The analysis is not based on reputation, impression, or anecdotal evidence. It is based on hard data. The authors suggest an anti-crisis program with twofold objectives – financial consolidation and reindustrialization, instead of further financialization of the economy. In the situation of two decades delayed reindustrialization and persistent deindustrialization, most of the options are lost. The authors propose the two-stage model of reindustrialization with expansion of commodities production (energy and food primarily) in the first stage, and manufacturing in the second stage.

In the second paper *M. Labus* criticizes actual monetary policy in Serbia. He cautions that in order to achieve future economic growth, monetary policy obstacles to it must be removed. He emphasizes above all that most important impediments to industrialization in Serbia refer to the model of inflation targeting, and related high interest rates and appreciated domestic currency. Output gap and forgone export are just part of their price. Using the DSGE model of an open economy, the author tries to prove that the monetary policy based on active role of the repo rate in the model of inflation targeting made the recession in 2012 deeper than expected.

In his paper, *V. Vučković* sees the last years of the crisis in Serbia as a "honeymoon" compared to the challenges and problems awaiting its fiscal system in the following two years. In order to avoid deadly fiscal cliff, he points that the Government needs to pose vigilant attention to several challenging tasks: strict control of public expenditures, implementation of Fiscal Strategy measures, and the restructuring of public finances to solve vertical imbalance between the central and local government levels.

The fourth paper written by *D. Malinić* explores in detail manifestations of the crisis in the real economy of Serbia. He emphasizes that the global economic crisis along with deeply embedded financial structural disorders transformed the crisis in Serbia's real sector into crises of competitiveness, profitability, solvency and liquidity. According to him, there is no long term solution to these problems while creditors' returns are higher than owners' returns.

In their paper *J. Anastasijević, V. Čupić,* and *A. Ilić* analyze the key structural changes in Serbia' s economy since 2007. The authors' intention was to sketch the crisis' main effects, by complementing the macroeconomic trends analysis as a way to describe the general environment with the microeconomic, firm-level data analysis. The analysis is fully complementary with the previous paper proving the alarmingly high level of indebtedness, short-term borrowing prevalence and illiquidity of Serbia's economy.

The following paper by *D. Vujović* explores the problems of long-run growth slowdown and "middle income growth trap". The author's focus is on countries unable to compete with low-income, low-wage economies in manufactured exports and also unable to compete with advanced economies in high-skill innovation goods. He presents possible solutions to avoidance of middle income growth trap through strong research and innovation towards smart specialization.

E. Jakopin in his paper provides another important concept. He attempts to prove that acceleration of economic growth in Serbia can be achieved through stimulation of dynamic entrepreneurship. He identifies dynamic enterprises as 2.8% of the total number generating almost entire economic growth in the period 2006-2010. Finally, author's concluding remarks are fully compatible with Porter's competitiveness of the national framework.

The paper written by *D. Lončar* and *S. Milošević* gives the analysis of the effects of anti-monopoly policy in Serbia in the period 2006-2012. They analyze the work of the Commission for Protection of Competition in terms of good practice that should be continued, improper practices which should be modified, and practices that should be introduced. The authors deal with the practice of the companies in Serbia with regard to their treatment of anti-monopoly regulatory risk and stress the need to introduce antitrust compliance programs.

S. Lovreta, G. Petković and *R. Pindžo* analyze the status and key operational challenges in commerce and tourism sector seeing them as the most resilient sectors of Serbia's economy in the last decade. The authors argue that the positive development of the two sectors has not threatened reindustrialization in Serbia. They rather debate that achieved development in these sectors had multiple positive effects on the industrial and agricultural development.

The last paper by *S. Mali* deals with the process of privatization in Serbia through the sale of equity model, its conceptual framework and results. The author's intention is to prove that that the method of sale was the most adequate privatization model in the case of Serbia. He also argues that tenders are the most suitable method of privatization for large, while auctions are the most suitable method of privatization for medium- and small-size enterprises.

Prof. Dragan Đuričin, Editor in Chief


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RISKS OF DELAYED REINDUSTRIALIZATION

Rizici zakasnele reindustrijalizacije

Abstract

2012 was a tough year for Serbia because transition was not completed yet and the economy went sharply into reverse. Last year the accession process to the EU slowed down and economic growth shrank by 2%, which is much more than expected.

Deterioration of macroeconomic fundamentals during the crisis 2008- is evident. The labor market has been hit hard by the recession. The unemployment rate, which stood at 14.4% before the crisis, is gravitating around 25% during the crisis. Projections are even more discouraging, as it is expected to stabilize at 28% in the following three years. Persistently high unemployment has dampened consumption (investment and final).

Now Serbia's economy is faced with the second dip of double-dip recession. Transmission mechanisms of deeply embedded structural imbalances are accelerated by global stress factors. Public sector and great majority of private sector are loss makers. Banking industry is profitable but in downturn negative prospects are affecting its deteriorating performances. Households suffer from low income and high unemployment.

This paper investigates the influence of the structural imbalances on the investor's risk appetite and potentials for recovery. The analysis includes an in-depth look at Serbia's economy through several different lenses. We take a view that is both broad and deep, striving to drill down into several key issues, but mainly from business perspective. Proposed anti-crisis program has two purposes, financial consolidation and reindustrialization through expansion of commodities production (energy and food primarily) in the first stage as well as manufacturing in the second stage. The role of the state and the importance of the public sector are also taken into equation via industrial policy in energy sector.

Our work is structured into four parts. The first part addresses the strategic audit of Serbia's economy. We present key macroeconomic and vulnerability indicators and adverse trends in the main sectors. The second part examines global economic prospects with a special emphasis on alternative economic models. The third part considers reindustrialization as a way of rethinking the current economic model. Finally, we put energy sector as priority one for economic recovery in the risk analysis framework in the fourth part.

Key words: *double-dip recession, risk, industrial policy, real economy, reindustrialization, technological platforms, manufacturing, energy sector*

Sažetak

Za Srbiju je 2012. godina bila teška pošto tranzicija još nije završena dok se u privredi beleže ireverzibilni tokovi. Prošle godine usporeno je pristupanje Evropskoj uniji dok je privreda zabeležila negativan rast od 2%, što je bilo gore od očekivanja.

Očito je da je tokom krize koja traje od 2008. godine je došlo do pogoršanja makroekonomskih osnova sistema. Recesija je teško pogodila tržište rada. Stopa nezaposlenosti koja je bila 14,4% pre krize, u krizi gravitira oko 25%. Projekcije još više obeshrabruju pošto se za naredne tri godine očekuje da će se stopa nezaposlenosti stabilizovati na 28%. Visoka nezaposlenost konstantno smanjuje potrošnju (investicionu i finalnu).

Privreda Srbije je u drugom talasu recesije sa duplim dnom. Globalni stres faktori ubrzavaju mehanizme prenošenja negativnih uticaja duboko ukorenjenih lokalnih strukturnih neravnoteža. Javni sektor i veći deo privatnog sektora stvaraju gubitke. Bankarstvo je profitabilno ali kriza i negativna očekivanja utiču na pogoršanje njegovih performansi. Sektor stanovništva pati od niskog dohotka i nezaposlenosti.

Ovaj članak istražuje uticaj strukturnih neravnoteža na apetit investitora za rizikom i mogućnosti oporavka. U pitanju je dubok pogled na privredu Srbije iz različitih perspektiva. Dubok i širok pristup treba da omogući da se prodre u nekoliko ključnih problema, dominantno iz poslovne perspektive. Predloženi antikrizni program ima dva cilja, finansijsku konsolidaciju i reindustrijalizaciju na osnovu povećanja proizvodnje sirovina i repromaterijala (primarno energije i hrane) u prvoj fazi, kao i industrijske proizvodnje u drugoj fazi. Uloga države i važnost javnog sektora takođe su predmet analize posredstvom industrijske politike u energetici.

Naš rad je podeljen u četiri dela. Prvi deo obuhvata strategijsku reviziju privrede Srbije. Ukazaćemo na ključne makroekonomske indikatore i indikatore ranjivosti kao i na negativne trendove u glavnim sektorima. Drugi deo daje izglede za globalnu privredu sa posebnom osvrtom na učinkovitost mogućih privrednih modela. Treći deo analizira reindustrijalizaciju kao način da se promeni postojeći privredni model. Konačno, u četvrtom delu biće analizirani rizici u energetskom sektoru kao sektoru koji je prioritetan za ekonomski oporavak.

Ključne reči: *recesija sa duplim dnom, rizik, industrijska politika, realni sektor, reindustrijalizacija, tehnološke platforme, industrija, energetski sektor*

Strategic audit of Serbia's economy: Four sectors, four stories

For more than two decades, Serbia's economy has been a victim of the decomposition of former Yugoslavia starting in 1990 during socialist bloc transition toward the capitalism. The most negative economic consequence of Serbia's geopolitical transition is deindustrialization followed by a growing population risk (depopulation, human resources paradox[1], and population aging). Previous consequences have slowed down economic transition toward the capitalism and accession to the EU.

During the whole period of transition Serbia was, more or less, excommunicated from the EU. Today, from geopolitical perspective, Serbia is stuck in the middle, between the EU and other countries with growing geopolitical influence.

After 23 years of transition from socialism to capitalism, Serbia is country in the so-called "transitionism" [2]. There are many consequences of never-ending transition. From economic perspective two important ones include transitional recession (output gap followed by constant and strong inflation pressure) and low level of competitiveness. The long-standing local economic crisis due to transitionism has raised Serbia's risk exposure. After 2008 Serbia is actually living in a combined crisis: transitional crisis and global economic crisis, which exacerbate each other.

Until 2000 the economic transition in Serbia evolved in a vacuum and without access to foreign capital. That kind of transition led to dramatic drop in GDP followed by mega inflation. The biggest output gap occurred in 1993, when GDP level was at a staggering 40% of its pre-transitional 1989 level. Deeper reforms were initiated once the political scene changed in 2000. However, macroeconomic fundamentals were so deteriorated that the new wave of reforms had only a limited impact on them. Despite accelerated privatization and frenetic institutional reforms primarily in financial sector, Serbia has never reached its pre-transitional GDP level. This is in stark contrast to a vast majority of former socialist countries which are characterized by output and productivity increase. The overall output gap in Serbia is almost 30% of GDP level in pre-transitional 1989. For comparison average GDP of other transitional countries is 45% higher [3]. Industrial production suffered the most.

Although there are opinions that the industrial revolutions have thus far bypassed former Yugoslavia and Serbia as well (*Lj. Jurčić* rule), the statistics show a significant level of industrialization until the start of transition in 1990. According to *P. Petrović & B. Milačić* [10], in the period 1960-1990 the compound average growth rate of industrial production was quite high (8%). In the same period the number of industrial workers increased from 400 thousand to 1.03 million, and the contribution of industrial production to GDP went up from 17% to 30%. Unfortunately, transition brought irreversibility in terms of deindustrialization. In 2010, the industrial production fell by 60%, approximately 700 thousand workers lost their jobs, and contribution of industrial production to GDP decreased to 15% (see Figure 1).

The whole period of transition was followed by deindustrialization coinciding with enormous depopulation and persistent demolition of tacit knowledge as a key component of human capital. Facts colorfully speak in favor of the previous point. The period since 1960 up to the start of transition in 1990, with the exception of few years, was characterized by annual growth in the number of industrial workers (annual average growth of almost 18 thousand employees). Conversely, with no single exception, each year in the period of transition was followed by decline of twice as higher intensity (annual average decrease of almost 35 thousand employees), with the biggest decline happening in 1999 (almost 90 thousand employees).

After 2000, transition architects were strongly inspired by the financialization of the economy and "strong currency in weak economy" policy platform. The main policy target has been CPI inflation, low and stable. The main policy tool has been inflation targeting. Unfortunately, macroeconomic policies have been set on the grounds that, so far, have not produced macroeconomic stability and conditions necessary for sustainable development.

Without a strong anchor, inflation targeting has never reached proclaimed policy target. Unfortunately,

1 Too many people of the wrong side and not enough people of the right side. On the one hand, the population increased due to inflow of refugees, but, on the other, the tacit knowledge has eroded as a result of brain drain.

relationships between key macroeconomic indicators like inflation, FX rate and wages were strongly dependable on populist attitudes (primarily election cycle) instead of performance of the economy and policy targets.

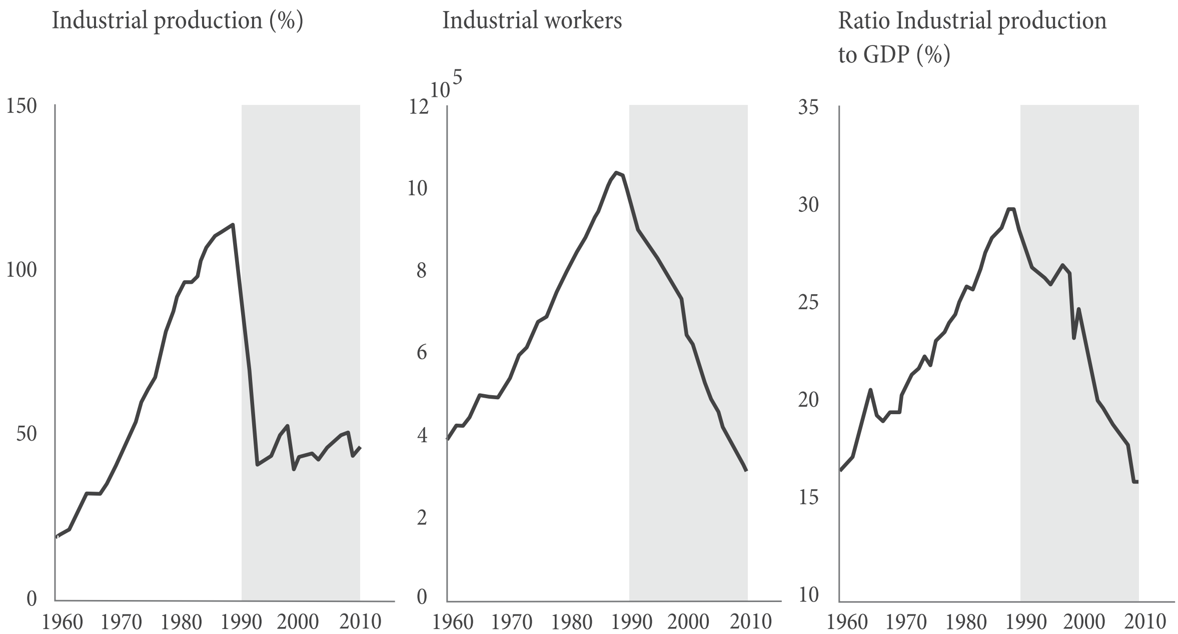
The inflation is neither low nor stable, and FX movements express high volatility as well as real appreciation, as we pointed out many times in our previous papers [4] and [5]. Volatility in key variables is largely the result of dysfunctional macroeconomic policy with frequently changing targets. Namely, wages are mostly adjusted through inflation, inflation is dependent on FX rate, and wages and FX rate are mostly dependent to political cycles. High costs of capital, unpredictable cost of labor and really appreciated FX rate influence the negative economic expectations. Owing to a populist economic policy without significant investment, output gap was not eliminated, policy targets were not achieved, and the economy stayed impotent and uncompetitive.

In the latest period disappointing figures have been augmenting. Structural imbalances are getting deeper and macro buffers are getting bigger. In an impotent economy public expenditure is rising absolutely and relatively. Low competitiveness influences unemployment increase and growing indebtedness. If Serbia's policy makers really intend to stop this chain of deterioration, they will have, first of all, to choose a macroeconomic anchor. Without a cohesive anchor, whether it is an inflation tide to that in euro zone, or wage and pension policy connected with productivity growth, economy will not reach a sustainable path of economic recovery.

No doubt, after 2000, reindustrialization was below the radar of the transition model. Foreign currency proceeds from FDI (privatization and green-field investment) and equity investments fueled this model. Paradoxically, the FX rate really appreciated for most of this period due to surplus in foreign currencies causing the import to become more attractive compared to the export. This contradiction also encouraged quick money investors, adversely affecting reindustrialization and misdirecting investments toward short-term government's papers, services and rent-seeking businesses (real estate and retailing in particular). No matter how big, FDI and equity investments never surpassed the annual level of remittances (EUR 3-4 billion per annum) during the whole period. During the crisis when FDI and equity investments vanished, remittances remained almost exclusive source of capital inflow. The twin deficits (current account and budget) were inevitable.

Under inflation targeting the central bank is reducing money supply whenever inflation threatens to rise above the target. In practicing inflation targeting monetarists focused on short-term interest rate rather than on money supply. By controlling short-term interest rates, the

Figure 1: Industrialization and deindustrialization, 1960-2010



Source: [10, p. 22]

central bank was able to move money supply by pushing or polling currency through open market operations. The implicit effects of such policy are high interest rates, really appreciated FX rate, and erosion of currency reserves. Government's deficit spending drives up interest rates and undercuts investments in private sector (crowding out). Namely, when the government runs deficit, it obtains the difference by borrowing from the open market, competing with borrowers from private sector and as result, drives up interest rate.

Figure 2 portrays the benchmark of policy rates in Serbia and some relevant economies. Double-digit or near double-digit policy rate is totally out of trend during the downturn.

Serbia's economy is, from manufacturing perspective, impotent and, from macroeconomic perspective, largely out of tune. These conditions are combined effect of geopolitical cataclysm and economic collapse during the 1990s, as well as misconceptions embodied in the transition strategy after 2000. The impact of these factors still echoes, due to absence of the proactive actions needed to keep pace with other countries in transition and the prevalence of reactive actions to maintain macroeconomic stability during the time of crisis. The key macroeconomic indicators for the last ten years presented in the Table 1 confirm the aforementioned qualifications. Trends are fully indicative and portray the effectiveness of institutional setting and efficiency of policy tools.

Table 2 provides vulnerability indicators of Serbia's economy in 2012, the last year of the analyzed period, divided in three segments: operational, financial, and competitive performances. For each indicator, the first column represents value and second column indicates the reference point.

Deeper understanding of situation could be revealed through sector-by-sector analysis. It is evident that the structure of Serbia's economy is a case of "fourth sectors, fourth stories".

The performance of the financial sector (banks and insurance companies) is far better than the performance of non-financial sectors (corporate sector, public sector, and household). But, such position is unsustainable.

From real economy perspective the financial sector is bank-centric since capital market is shallow. Confidence in the banking industry is gradually rising despite the crisis. In 2009, first year of crisis, savings rate rose from 14% to

Figure 2: Policy rate benchmark, 2008-2012

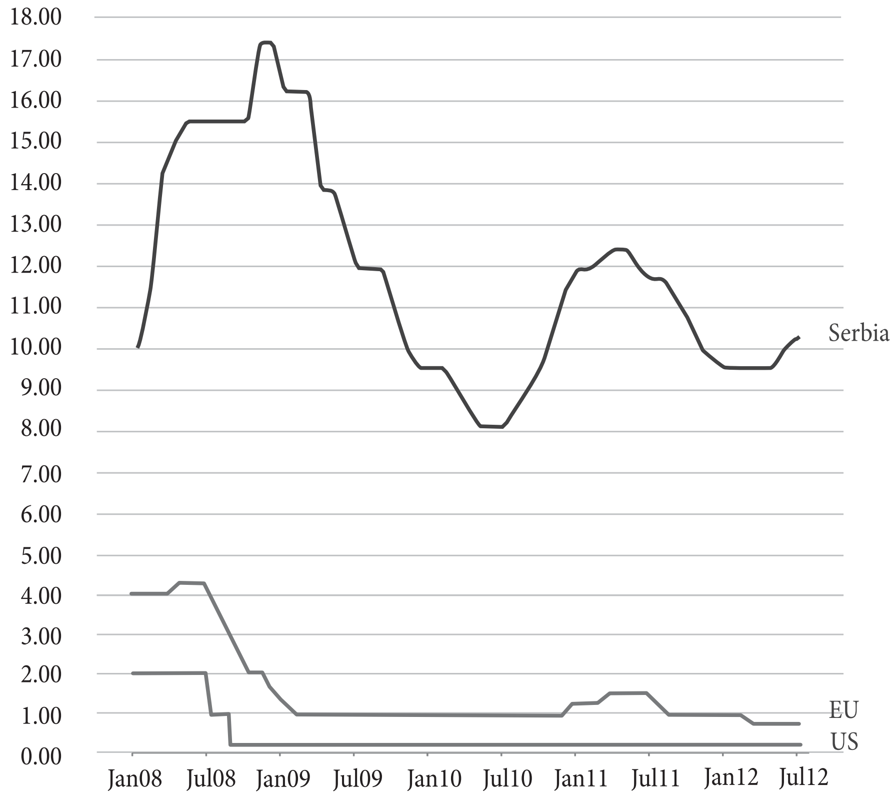


Table 1: Macroeconomic indicators, 2002-2012

Indicators	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP growth rate	4.3	2.5	9.3	5.4	3.6	5.4	3.8	-3.5	1.0	1.6	-1.5
Consumer prices inflation, in%	14.8	7.8	13.7	17.7	6.6	11.0	8.6	6.6	10.3	7.0	12.2
Unemployment rate	13.3	14.6	18.5	20.8	20.9	18.1	13.6	16.1	19.2	23	22.4
Current account balance, in % of GDP	-4.2	-7.8	-13.8	-8.8	-10.1	-17.7	-21.6	-6.6	-6.7	-9.2	-8.3
Budget deficit/surplus, in %	-4.3	-2.6	-0.3	0.3	-1.9	-1.7	-1.7	-3.4	-3.7	-4.2	-5.0
Public debt, in %	72.9	66.9	55.3	52.2	37.7	31.5	29.2	34.7	44.5	48.7	59.2
External debt, in %	58.7	55.9	49.8	60.1	60.9	60.2	64.6	77.7	84.9	77.5	85.6
RSD/EUR FX rate (period average)	60.66	65.13	72.70	83.00	84.10	79.96	81.44	93.95	103.04	101.95	113.45

Selected data from NBS database

19% of GDP. The ratio of corporate to retail banking moves slightly toward domination in retail banking. Significant part of revenues originates from operation with the central bank and treasury (repo papers and state bonds). The fact that the majority of credits are euro-denominated does not eliminate credit risk. The FX risk in case of devaluation automatically transforms into a default risk for debtors. The policy rate is extremely high in comparison with other relevant economies, which is predominantly a consequence of macroeconomic fundamentals and monetary policy. The main stress factors come from the public and corporate sector. Consequently, the current structural portfolio and revenues in financial sector are not sustainable, due to fault lines in non-financial sectors.

The corporate sector in Serbia is burdened with numerous structural buffers. Since the global credit crunch in 2008, illiquidity problem in the local market has become the biggest issue for real economy and it keeps escalating. The lack of long-term sources of financing complicates the unfavorable financial structure. Consequently, enterprises are relying on expensive short-term borrowing, spontaneous financing (account payables), as well as other operating liabilities (liabilities towards employees, state, etc.).

Growing indebtedness is another serious problem. Due to increasing demand for short-term credits, the costs of debt rose considerably. Precisely, it tripled in the period since the beginning of 2008 crisis. Today, more than 80% of credits are euro denominated. Hence, due to highly volatile FX rate, FX losses and other financial expenses arising from currency clauses have become too heavy burden constantly eroding profitability of real economy. Two main consequences of the above-mentioned is the reduction of equity component in financial structure and rise of financial leverage beyond tolerable risk exposure.

Table 2: Vulnerability indicators, 2012

Performances	Indicators	Reference point	
Transitional output gap	30%	0%	Operational performances
Okun index (inflation + unemployment)	34.6%	<12%	
Twin deficits			
▪ Current account	8.3%	<5%	
▪ Budget	5%	<3%	
Indebtedness			Financial performances
▪ Public debt/GDP	59.2%	<45%	
▪ Foreign debt/GDP	85.6%	<90%	
▪ Foreign debt/Export	215.7%	<220%	
Credit rating			
▪ S&P	BB-/negative	investment rang > BB	
▪ Fitch	BB-/negative	investment rang > BB	
Export (goods)/GDP	29.4%	>50%	Competitiveness
Currency depreciation (2012/2011)			
▪ Nominal	-9.9%	<-5%	
▪ Real	-5.7%	<-3%	
Global competitiveness index	95th of 144	65 - SEE average	
Corruption perception index	80th of 176	59 - SEE average	
Ease of doing business	86th of 185	60 - SEE average	
Economic freedom index	94th of 177	62 - SEE average	

Selected data from NBS database

Another problem refers to net working capital squeeze. The gap between necessary long-term financing, on the one hand, and long-term investments, on the other, has become deeper each year since the beginning of the crisis. The financial distortions from the balance sheets have their effects in the P&L. Increase of financial and other costs reduced profitability. Combined with the demand decline, distorted financial structure influenced profitability decrease and the increase of the number of loss-makers.

All the prevailing problems in the real economy (private and public) in Serbia mostly stem from the absence of long-term sources of financing under competitive terms. In the conditions of global economic crisis, systemic risk rises, the economy becomes much more fragile, and the collapse of few entities or even one big player due to rising indebtedness could provoke the domino effect and bring the economy into an imminent threat of default.

Figure 3 portrays the most important aspects of financial health of the real economy. The analysis and interpretation were based on data base presented in [9]. Due to the lack of official data for 2011 and 2012, we analyze the figures for three years before and three years after the 2008. Unofficial data for 2011 and 2012 are undoubtedly following the same adverse trend.

Capital market has never been shallower and it is in retreat. Market capitalization in numerous listed companies (privately owned and state owned) is lower than their book value. This means that their expected return on equity is lower than factual rate of return.[2] From investor's point of view, of course, such situation might look like a tempting deal, but despite that, M&A activity is not particularly intense, suggesting that the level of systemic risk is too high.

As regards the public sector, pricing policy and operational inefficiency are the main causes for concern. Full cost pricing is not being practiced. Also, with the so-called "party property" as the ultimate model for governing public companies, efficiency pays the price. Political party proxies governing public companies do not exclusively follow principles of economic efficiency, but also specific party interests. This leads to sub-optimization and corruption. The boomerang effect of such behavior is an overall motivation decline. In other words, employees lack confidence in managers, managers lack confidence in the board of directors (party proxies led), board members lack confidence in owners (state), and foreign investors have confidence in no one. This is a typical negative-sum-game. In the public sector, especially in network technologies like electricity and telecommunications, the role of independent, non-executive directors in the board of directors is necessary for full implementation of ethical and efficient corporate governance. Also, full cost pricing is a prerequisite for value creation and capital increase.

The number of households in Serbia totaled 2.5 million, so it is a small market even when compared to many CEE countries. At the end of 2012 the average salary equaled EUR 422 and the average pension amounted to EUR 230. Extremely adverse fact refers to the ratio of employed to inactive and unemployed population (0.57). The amount of savings of around EUR 8 billion is dramatically lower than in comparable CEE countries. In Croatia, for example, this figure is at least four times higher with almost a half smaller population.

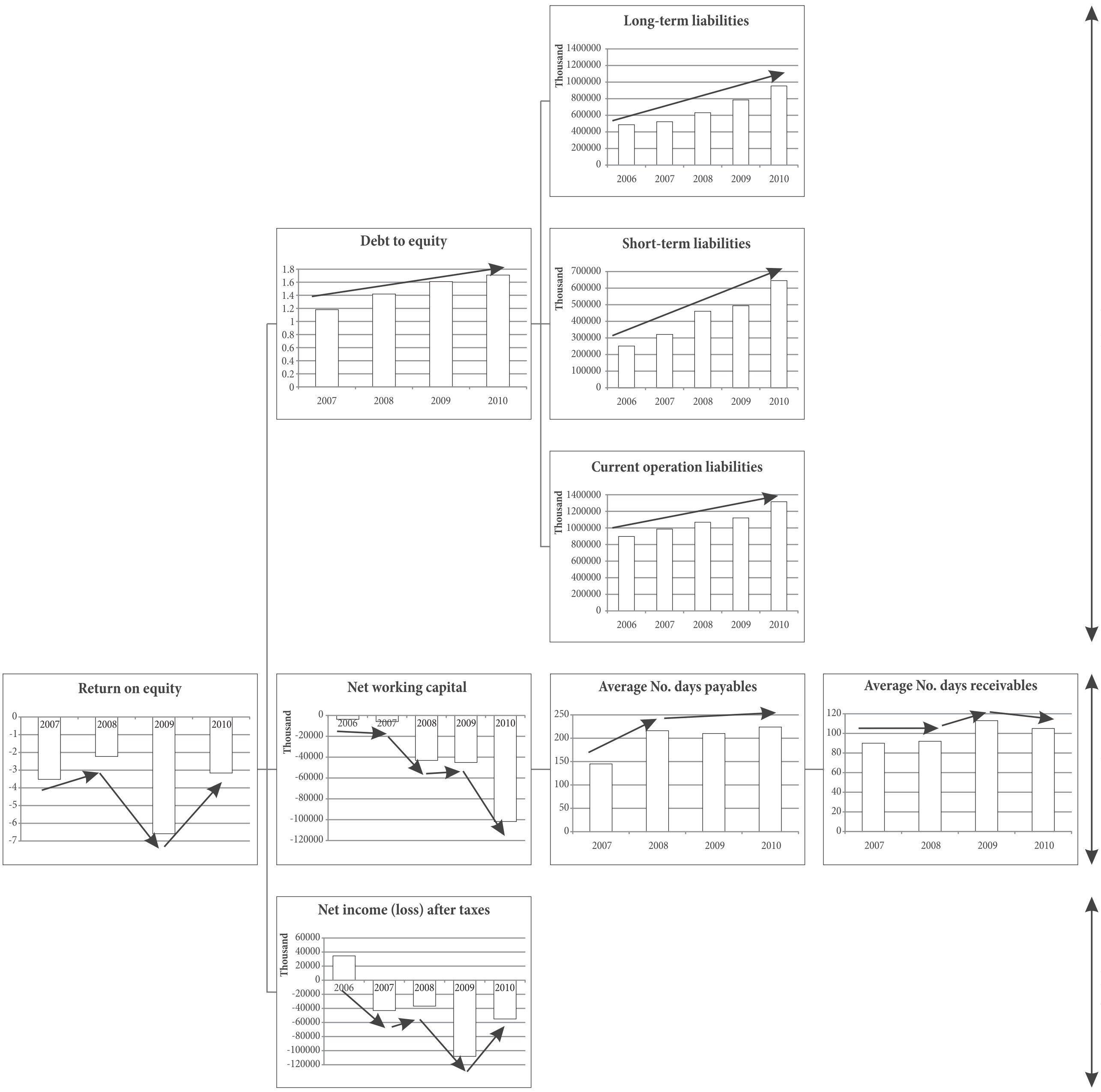
The banking sector is one of the strongest pillars of Serbia's economy. It is considerably viable, thanks to solid and growing confidence, as well as a constant and significant flow of remittances. The sector is stable, as a result of conservative regulation and high obligatory reserves. It is dominated by universal banks.

Capital adequacy ratio is particularly high in Serbia where it has stabilized on 21.0% level in 2011. Since the global meltdown in 2008 the assets of the banking sector have risen each year by an average of 25%, to reach around EUR 26 billion in 2011 which is more than 80% of the country's GDP. Interestingly, the value of these aggregated assets of Serbia's banks is practically incomparable with countries with similar population. For example, in Denmark respectable figure is EUR 920 billion.

During the crisis profitability in banking industry has declined. The main reason for that is very high level of impairment costs (the gap between an asset's value on the balance sheet and its recoverable amount). Depreciating assets have strongly hit profitability. In 2011 the volume of

2 For example, market capitalization for *Metalac Group*, company listed on Belgrade Stock Exchange in mid-February 2013 was EUR 18.2 million. According to official financial statements for 2012, net worth of this company is EUR 50 million and net profit EUR 5.4 million.

Figure 3: Abridged real economy performance, 2006-2010



Source: [9]

the write-offs and other impairment costs in CEE equaled 24.4% of the revenues generated by the banking industry. In Serbia, the equivalent figure in 2011 was 19.6% (excluding Agrobanka whose EUR 300 million write-off pushes this ratio to 37%). The same ratio for Q3 2012 is 24.2%.

The banking sector is small but it is growing. Matrix presented in Figure 4 comparing asset growth rates with loan-to-deposits ratio in banking industry puts Serbia in the top-left quadrant of CEE countries. Previous figure could indicate a sector relative attractiveness considering the growth potential. But, in-depth analysis reveals opposite conclusions. The banking industry growth is not sustainable due to bad macroeconomic fundamentals.

More than 4/5 of banking assets in the country belong to foreign-owned banking groups mostly from the EU, which have needed financial aid following the global economic crisis and have been forced to dispose of foreign assets, including well-performing banks. Lack of any large-scale foreign interest has meant that banking transactions have mainly involved divestment. Banking crisis in the EU is deep and needs time to be solved. Foreign banks will continue to leave domestic market through capital hedge due to their strategic refocus and limited opportunities for them to gain the scale on local market needed to fulfill their targets. Consequently, a heavy wave of asset deleveraging by the larger players is expected, involving non-performing loans (NPLs) and non-core loan portfolios. The level of NPLs is a growing issue. In 2011 NPLs level in Serbia of 19% was the highest in CEE.

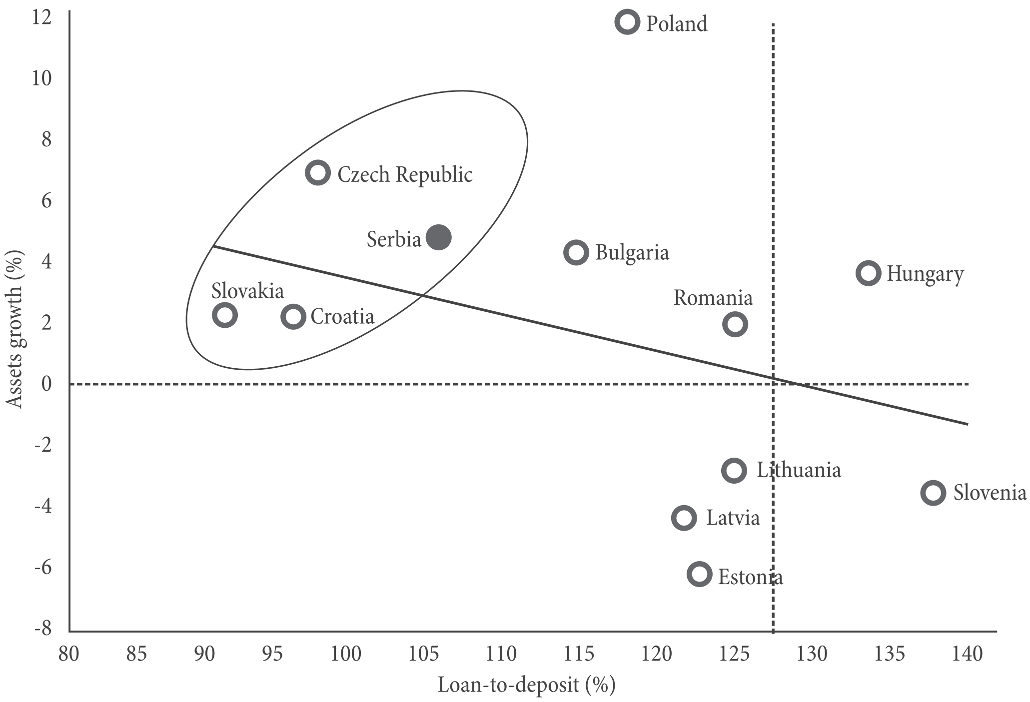
Taking all the above facts into account, it can be concluded that future of banking industry will be demanding in terms of profitability. Figure 5 with more details illustrates drivers of profitability from revenues, costs and equity perspectives. The cost of risk has risen sharply, especially in the last two years. According to [1, p. 76], the cost of risk amounted to 2.8% in 2011, up from 2.3% in the previous year, placing Serbia among those countries with the highest level of provisions in CEE region. Also, revenue relative to assets contracted throughout the period at the annual rate of 8%. The cost-to-income ratio remained stable at the same time, causing profitability to fail. The overall effect of previous movements is a decreasing bank's appetite for new loans.

Another problem that the banks are facing is a lack of liquidity. Before 2008, the interbank market was very active and banks were lending money with great confidence. During the crises the situation has changed and many smaller banks have serious problems in finding sources of liquidity other than deposits.

Situation in banking sector in 2012 could be qualified as "so far, so good – reasonable good". Deteriorating macroeconomic fundamentals are limiting banking industry's ability to grow up to its top line. Long-term prospects for banking industry are not impressive because the traditional sources of income are becoming much more restricted than before the crisis. The availability of mortgages is limited due to problems with long-term financing. Retail and SMEs lending are weak, due to high risk resulting from macroeconomic fundamentals. Deposits have significantly decreased as a result of intense competition in those markets with high loan-to-deposits ratio. Under these circumstances, profits have plummeted. Consequently, banks are seeking other sources of financing and revenues. In this situation repo operations are growing source of revenue and repo rate is the most important driver of profitability.

In 2012 the economy has dropped by 2%. Industrial production declined by 3.5%, while food production dropped by 8%. Reversal capital flows (mostly in financial sector) also contribute to the contraction of the economy. Last year

Figure 4: Impact of loan-to-deposits ratios on banking industry development in CEE



Source: [1, p. 9]

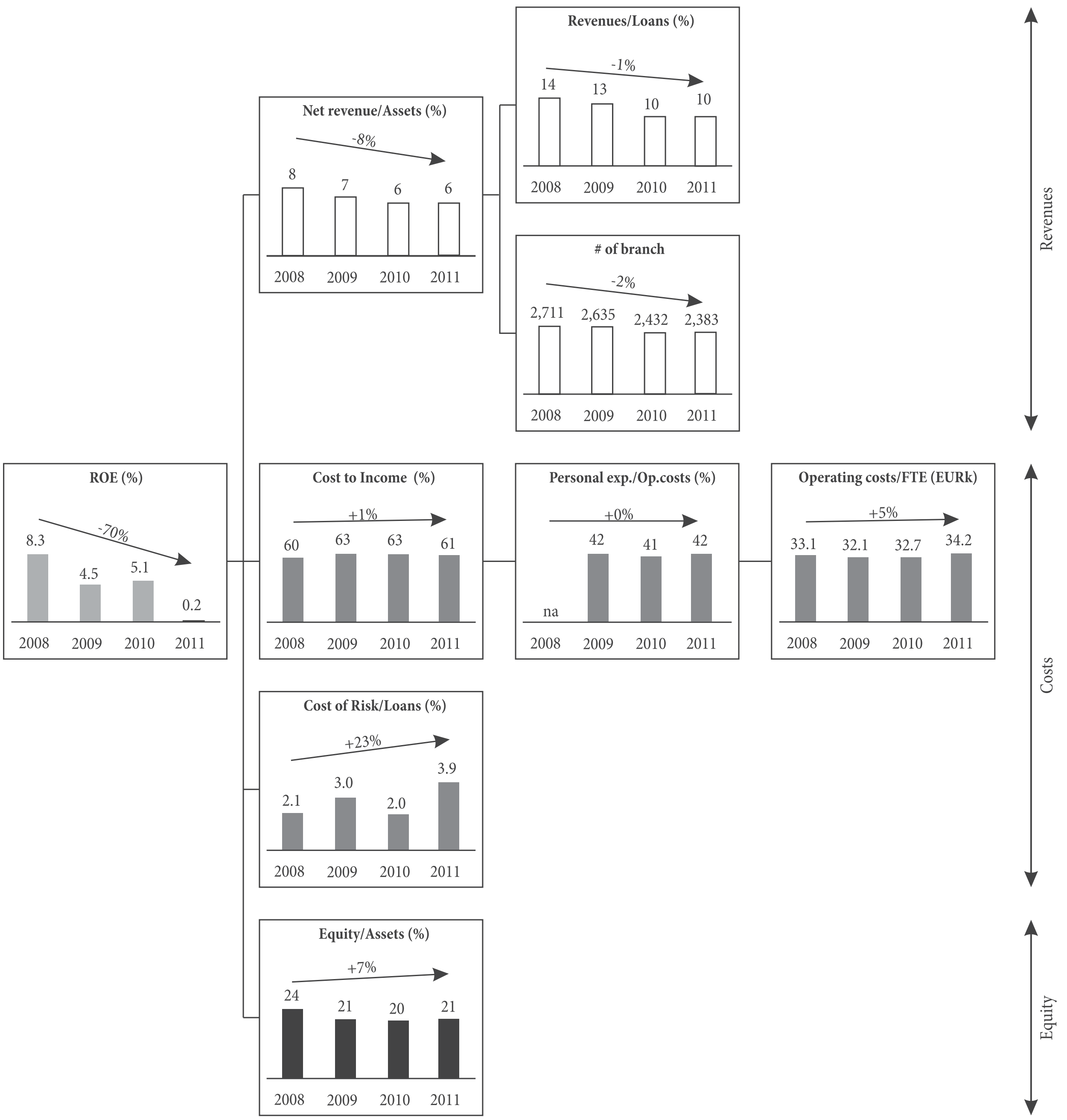
capital migration from financial sector is at least EUR 2 billion. Structural imbalances from the past influence the current macroeconomic performances. The economy has been stuck in crisis mode, without significant investments. Episodes of recovery (growth of 1% in 20010 and 1.6% in 2011) were actually jobless recovery. Unemployment is too high (gravitating around 25%). Unemployment of youngsters is above 50%.

Austerity measures did not meet budget targets. Budget deficit in 2012 was 5%. In the current account there are mixed signals. Export is doing well but import declined. Import fell much more than export because investment flow slowed down.

Public debt doubled approaching the red line of 60% of GDP. This year EUR 5.5 billion of fresh capital is needed for maintaining external liquidity. The most optimistic projection is that the economy could attract EUR 3 billion in FDI for that purpose.

Another negative surprise is political tensions with Kosovo. Under those circumstances, a significant

Figure 5: Drivers of profitability in Serbia's banking industry, 2008-2011



Source: [1, p. 77]

level of export (about EUR 2 billion) in that direction is in doubt.

In contrast to above-mentioned figures, the Government expects in 2013 a modest growth of 2%. The reasons for such optimism are new macroeconomic measures as a consequence of refocusing on some reaction policies, fiscal stimuli, and some relaxation of monetary stance. But still, this is significantly lower growth than in the pre-crisis period.

Geopolitical repositioning of Serbia is at the top of the agenda of the new Government. The compatibility of institutional setting with the EU is still the leitmotiv of Serbia's political leadership. However, due to the 2008-recession (sometimes called Great Recession), which has hit the EU, the actual investment inflow from that region will certainly not be sufficient. There is an interest of some investors from other regions, but a negotiation process is long and a considerable amount of time is required to put decisions into effect.

Economic recovery is a prerequisite for country's political stability and geopolitical repositioning. The situation is very time-sensitive. Before recovery, fiscal consolidation is necessary. Also, competitiveness improvement is an absolute must. Reindustrialization is the only guarantee of economic recovery and sustainable employment. Reindustrialization requires "3Rs", including investment in *real economy*, monetary model based on *real exchange rate*, and public finance following *real budget* doctrine.

Global economic prospects

Every crisis ends only when the buffers are closed, or when asset prices, debt levels, and factor incomes regain equilibrium. But this will take some time and depend on the remedies implemented. Once the balance is achieved, the appetite for investment on both domestic and global level will intensify. Without industrial policies encouraging investments in tradable sectors Serbia will be long time a hostage to the fallacies and inabilities of global players.

On the global level, there are some early signals of recovery. Deleveraging process in banking industry in high income countries has ended. Capital flows (FDI, portfolio investments, bank lending, ST debt, bonds flow) as % of GDP remain stable on the global level and have rebounded to developing countries. In the last year bank lending and bond issues are increasing because credit default swap rates and sovereign bond spreads have declined.

The last WB outlook [14] indicates that in medium term (2013-2015) a moderate growth of the global economy is achievable target (see Figure 6). We are living in multi-speed world. The growth is much stronger in developing countries than in high income countries. But, pre-crisis growth rates are not to be regained in the medium term in both groups. The global growth stems from developing economies. In high income countries recovery is slow and fragile. In these countries a firm hand on the tiller is required in order to eliminate current macroeconomic imbalances.

Currently, on the global level financial flows, trade flows and commodities prices are significantly higher than at the start of the crisis. But the crisis is not over yet. The risk of reversibility is evident, and it manifests in higher inflation pressures due to implemented remedies (monetary expansion and fiscal relaxation). Sustainable solutions depend on energizing investment and trade flows. Basic prerequisite for this strategy is competitiveness based on productivity growth. Emerging phenomenon is that South-to-South trade and investment flows overcome West-to-South ones. This is a dramatic change in trade and investment flows. BRICS and "next 11"[3] developing economies are doing very well in comparison with high income ones. These economies have fiscal space and capacity to stimulate the growth with monetary measures. These economies are following the heterodox approach [4] in economic policies (industrial policies lead, monetary and fiscal policies follow). This approach to economic policies could be a good blueprint for other economies in crisis.

Thanks to the developing economies, the global risks in 2012 are much more balanced than one year ago. In the future projections, there is not so much pessimism like in the previous period. However, the global risk should be regarded with the utmost caution especially bearing in mind externalization of the existing buffers in high

3 According *Goldman Sachs*, this group of fast-growing economies includes: Bangladesh, Egypt, Indonesia, Iran, Mexico, Nigeria, Pakistan, Philippines, Turkey, South Korea, and Vietnam

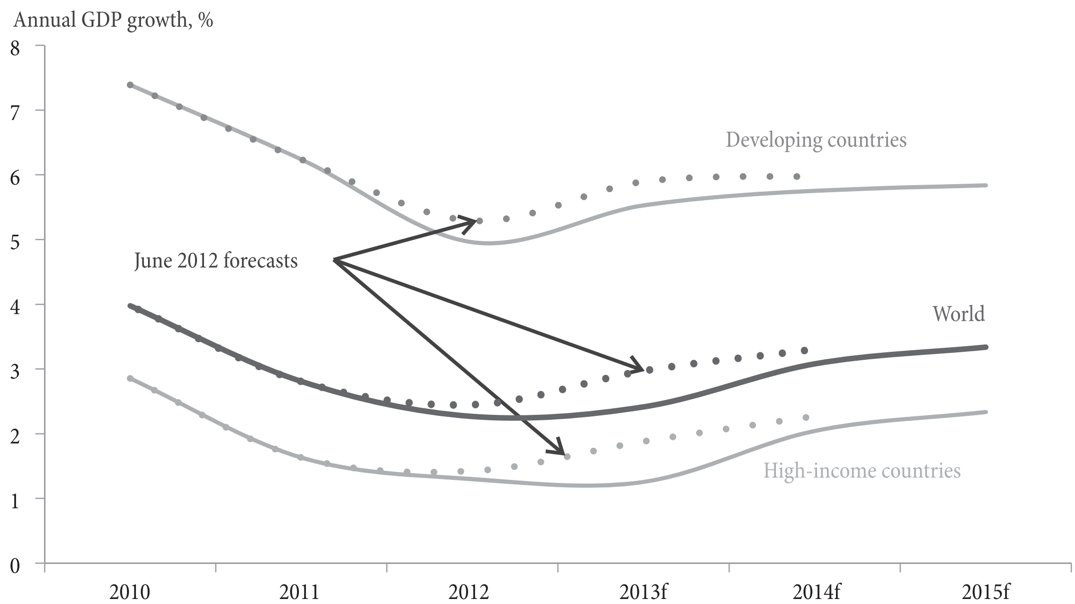
income countries through money printing (or quantitative easing), currency war, etc.

Realizing that in the global economic cycle every downturn transforms into recovery brings no comfort for policy makers in Serbia. Unfortunately, the anti-crisis policy platform of developed economies has limited impact on Serbia's one. Precisely, anti-crisis policy measures from developed countries cannot be implemented in Serbia due to limited fiscal space and high level of indebtedness. Strictly theoretically, majority of these measures are expenditures by their nature, which assumes substantial increase in the budget deficit (double digit in many cases). To finance fiscal cliff, the government must raise money by issuing bonds. If the central bank absorbed government bonds, it would be a money printing. Expansionary monetary policy and fiscal stimuli are more likely to generate government bond volatility and FX rate fluctuations than to guarantee a return to growth. By doing this, the state strives to re-inflate bubbles from financial sector. Moreover, purchasing of government securities by the central bank outdoes monetary expansion and incites a fear of inflation, placing upward pressure on interest rates (and crowding out). The consequence of these policy measures is the crisis irreversibility (double-dip recession).

On the other hand, the EU institutional setting developed during the last crisis cannot serve as an adequate blueprint for Serbia because it is too redistributive. Furthermore, instead of static macro-management concentrated on financial consolidation and inflation control, Serbia desperately needs dynamic micro-management concentrated on investments, in both the public and private sectors. Instead of bureaucratic mindset of the EU, Serbia needs entrepreneurial mindset orchestrated by industrial policies. For Serbia's prospects, the so-called "regulated capitalism" and growth based on tradable sectors in terms of *R. Rajan* [11, pp. 47-8] is the most viable model of capitalism it should strive to.

Despite huge investments in infrastructure and logistics as well commodities (energy and food, primarily), fiscal paralysis is prolonged and stronger growth remains elusive. These investments are pulled by global demand and have potential to eliminate output gap because they have the multiplicative effect on expansion of aggregate supply and its balancing with aggregate demand. When investments increase output, fiscal space is growing. It is important to recall that conceptual approach toward economic policies is critical to investment enthusiasm. This is not a matter of financial capital availability. It is a matter of vision and credibility of government. As FDIs declined during the recession, the model of strong currency in weak economy has become unsustainable. The misconceptions of this model are gone for good. The current situation requires a new approach toward economic policies. New approach is based on industrial policies as

Figure 6: Global economy growth prospects, 2013-2015



Source: [14, p. 2]

a top priority and macroeconomic policies relaying on automatic stabilizers in monetary and fiscal fields.

Unlike macroeconomic policies that affect the whole economy, industrial policies are sector specific. Industrial policies are directed at expanding industries with tradable goods by promoting certain sectors for import substitution and/or export-oriented sectors. In the new model of economic policies macroeconomic policy tenets should remain the same – low and stable output gap and inflation.

Reindustrialization: The way of rethinking the current economic model

Those who believe in built-in self-restoring equilibrium in a small market without demographic dividend, with weak and vulnerable economic performances, and high systemic risk in the period of global double-dip recession are condemned to failure. Without a substantial influx of intelligent investments in public and private sectors, Serbia's economy will not survive and recover. Moreover, a continuous volatility in global commodity markets will create a new source of inflationary pressure.

Serbia's real economy is impotent. Risk appetite in financial sector is decreasing. Main indicators of risk aversion in financial sector are high interest rates and significant migration of capital abroad through capital hedge and profit repatriation. An economy in which divestment dominates cannot provide funds for recovery and, most importantly, cannot be sustainable.

During the last economic crisis the prevailing doctrine in theory as well as in policy making is changing. The "great moderation" of invisible hand proved to be an illusion as it always was. Successful economic model involves government and market in a balanced way. Government's industrial policy acts as a corrector of market failures. In the new level playing field government-led industrial policies can be the best way to expand tradable sectors with export and anti-import tenets. Also, the public sector will become more prominent as a major customer for a number of industries. This is due to a rapid increase in spending as a substitute for output gap and demand squeeze in the private sector. But, rising social costs due to unemployment and population aging point to a new future challenge, fiscal cliff.

In search for sustainable solution, a zero step is rethinking current economic model. The new economic model must be driven by new level playing field, still motivated by value creation and reestablished by morality and ethics. The new turbulent context requires a new paradigm. Conceptually, some things remain the same. Macroeconomic stability remains the primary tenet of policy makers, but structural reforms should also be on the radar. Consequently, efforts should be refocused from macroeconomic stability to dynamic management in public and private sector. In case of Serbia this assumes that state investments in infrastructure and commodities would be supported by new regulatory framework in financial sector. The new financial regulation should be conceptualized in a way that minimizes moral hazard and decreases cost of capital in order to maximize opportunities for value creation in real economy.

In the implementation stage, reindustrialization is a first step in the right direction. But it takes time. Industrial policies could correct main structural imbalances and create foundations for sustainable development. Serbia must exploit the fact that the most attractive sectors in terms of growth potential (energy, agriculture, infrastructure, etc.) are in state hands. No economy has developed without industrialization. Today's fast-growing economies tend to have fast growing manufacturing.

Several indicators reveal there was something beyond the last economic crisis that made the current model of capitalism unsustainable. The first is an unfair distribution of wealth and polarization between ultra-reach 1 percent of society and the rest[4]. For many years labor incomes have been losing ground as a percentage of GDP. Although the overall pie is getting bigger, there are plenty of people who will be getting even smaller slice. For this reason, the last financial crisis has also been a demand crisis. In transitional economies shift toward political democracy and free trade capitalism has allowed some people from the bottom of even traditionally egalitarian economies to

4 In 2011, the investment bank *Credit Suisse* calculated that there were about 30 million millionaires in the world, people with more than USD 1 million in net assets which is ½ percent of the world population. In the same year, this investment bank noted that number of super-rich whom it delicately dubs UHNWI (ultra high net worth individuals) with assets above USD 50 million were 84,700.

rise to the top. Thinking of capitalism as a liberal theology in sense that free market equals free people proved not to work perfectly [7, p. 56]. The clash between growing political equality and growing economic inequality is a sensitive issue especially in the downturn. Moreover, it is sensitive due to the so-called "syndrome of unhappy growth". *C. Graham* [8] finds that at any given level of income, economic growth is associated with lower level of life satisfaction. Previous trend could trigger other conceptual extremes, refocusing from growth to redistribution, and from profit reinvestment to tax increase.

Liberal capitalism politicians led by *R. Regan* and *M. Thatcher* tended to celebrate their super rich capitalist (or "tycoons"). The Washington Consensus was economic policy platform that created them. Core components of that platform were deregulation (in capital market primarily), tax reduction, and social welfare spending cut. This economic policy platform was exported abroad. Its greatest impact was on emerging economies and economies in transition as well. Income inequality is now higher in communist China than in high income capitalist economies. But, in the new techno-social context of ICT revolution and globalization, being tycoon means being a self-made workaholic, not a rent-seeker. In post-transition countries the word tycoon often has pejorative overtones and it is associated with unfair privatization and rent-seeking mentality (especially when it comes to natural resources).

Super elite is about economics and politics. For example, political decision toward privatization helped to create super elite in former socialist countries. The new capitalists have raised most of the income from technological change and globalization, and the global economic growth they were creating. But, the emergence of neoliberal economic policy platform has been putting even more wind in the sails of rising inequality in income distribution. Today's super elites are nations themselves in terms that bifurcation between one percent society and the rest has become a conventional wisdom [7, p.58]. Interestingly, the Great Recession 2008- has not imposed further constraints on the new tycoons such as separation of commercial and investment banking, social welfare program and higher taxes, measures imposed in anti-crisis program during the Great Depression 1929-32. *E. Seaz* [12] has found that in the recovery stage of the crisis 2009-2010 in the U.S. almost 93% of the gains were captured by top one percent society.

Two of other leading trends that have emerged during the last economic crisis predominantly affect the role of external savings in economic development: decline in FDIs volume and growing role of sovereign wealth funds in investments. There are two underlying reasons for this. First, internal sources of financing, through retained earnings and dividends, have evaporated due to recession, while external sources have become inaccessible due to the credit crunch. Second, the risk appetite has been severely affected by serious recession in some countries, particularly developed ones. Consequently, all three types of FDIs (market seeking, efficiency seeking, and resource seeking) have seriously been affected. The trend that undoubtedly proves the rise of predominantly Asian countries is a dramatic increase in sovereign wealth funds since 2000, both in number and volume. Growing sovereign wealth funds indicate the future redistribution of capital and power away from the US and EU toward China, Russia, and the Middle East.

Last but not least, the current global market is shifting toward two extremes: commodities and high-end products. In Serbia, commodities expansion is the only alternative for restart. After deindustrialization during the transition, Serbia lost the core competences needed to produce high-end products. Also, in the age of hyper-competition it is too late for massive production of durables.

Commodities expansion (energy, food, raw materials, etc.) is the easiest way to cover the output gap. The future manufacturing assumes new technologies development based on new paradigm of massive customization. Core rules of new paradigm are manufacturing based on lean, clean and green factory and rising social costs due to ongoing structural joblessness and population aging.

For Serbia, infrastructure development and commodities expansion is the first step in elimination of output gap. Expansion of commodities is an engine to the entire economic development. Concessions and building-operating-transferring (BOT) are possible institutional arrangements. Financing by sovereign wealth funds should be targeted. After elimination of output gap, industrial policy should be concentrated on other issues. First, putting an end to negative trends in the manufacturing, enabling its revival and bringing it back to the functional stage. Second, integrating Serbia into the EU techno-economic space (36 European technology platforms which are complementary and mutually interactive). Third, transforming manufacturing processes in accordance with the new technology paradigm of massive personalization.

Reindustrialization is a way of catching up to the lead-edge technologies. This requires both endogenous and exogenous components of technological development. It assumes using external funds and knowledge on the one hand, and country's own funds and knowledge on the other. Consequently, private-public partnership (PPP) could be the prevailing model of financing in order to build the bridge between key emerging technologies and next generation manufacturing.

Majority of countries today do not produce what is necessary to them, but what they, actually, are able to produce. The reality in Serbia is that around 2/3 of technologies in the manufacturing belong to the second industrial generation and only 5% refers to lead-edge technologies [10]. This is a direct consequence of transition misconceptions. Discontinuity in industrial and technology development caused by the crisis halted development and transfer of the key component of techno-economic development, tacit knowledge.

Therefore, it is necessary that the state gets into creating the needed rudiments for future technological and, hence, manufacturing development. Precisely, the state has to participate or take the lead role in several necessary tasks. First, to create conceptual framework for reindustrialization. Second, to edifice the interactions between industry and science. Third, to define key priority sectors. Priority sectors are ICT, construction, new materials, military, metal processing, life sciences and fashion. Integration in European technological context via European technological platforms is imperative and prerequisite for development of globally competitive manufacturing facilities in Serbia.

Bearing the previous facts in mind, creating technological compatibility and recognition on the EU level is of fundamental importance to Serbia's accession process. European technological platforms are driving forces for creation of new growth. Also, they help to address major concerns related to the current stage of development like: climate change, sustainable transport, renewable energy, food safety and pro aging. Expansion of commodities is a way of buying the time for development of the key enabling technologies for next generation manufacturing. New technologies development is a time-consuming process and it takes at least 20 years to complete [10]. But it must start right now.

Risk profile in the energy sector

The energy issue is one of the main components of the global and systemic risk since on the global level, and frequently on the local level, supply and demand are not in balance. In the world of ever-rising instability, each economy has to take care of its energy self-sufficiency and sustainability.

For Serbia, there are three main challenges. First, the energy self-sufficiency of the country and tradable character of its products could help eliminate the output gap and boost investments in related sectors. Second, the EU compatibility challenge concerning environmental issues. Serbia has already joined the process of regional and European energy integration and in the years ahead it will have to devote its resources to climate change mitigation and increase the share of energy generation from renewable sources. Third, adoption of new pricing policy. Time of cheap energy is coming to an end and full cost pricing is another radical change Serbia will no longer be able to delay.

In each economy the energy sector represents a sector with considerable implications for industrial development. Several facts lead to the conclusion that future economic growth in Serbia will inevitably lean upon energy production. Namely, the energy sector in Serbia represents the largest sector in terms of capital and revenues. Also, it is a prerequisite for reindustrialization, magnet for foreign investments, as well as the lever of the overall economic and social development.

In the previous section we discussed reindustrialization as an unavoidable path for sustainable economic development. But this process is time-consuming. Buying some time before the radical shift in performance happens, policy makers must concentrate on two tenets: financial consolidation and elimination of output gap. The most efficient way to reach the previous targets is commodity expansion. Serbia does not have many options. Expansion of energy production is one of them.

Energy sector is capital-intensive one. On the other hand, demand for energy will increase in the future. Energy demand growth in Serbia is expected to be steady, projected at 1.0-1.5% rate in the longer run [13, p. 62]. More importantly, energy is a tradable good with zero marketing costs, which could have a significant positive impact on country's external liquidity position. Finally, geographic position undoubtedly indicates Serbia's vital role in the regional energy market in future. Energy system in Serbia will considerably influence sustainability of energy supply in SEE region. Previous favorable features make energy sector a logical choice for state industrial policy.

Annual demand for primary energy in Serbia is around 15 Mtoe. Today approximately 40% is covered from import. Majority of that refers to oil and gas. Serbia does not abound with energy resources, but thanks to the lignite reserves and hydro potential it satisfies all its internal needs for electricity. Prices of oil and gas are converging towards the EU level. Also, due to Serbian-Russian partnership the problem of supply has been solved and investments in this field appear to be promising. Anyway, there is plenty of room for improvement, especially in electricity segment.

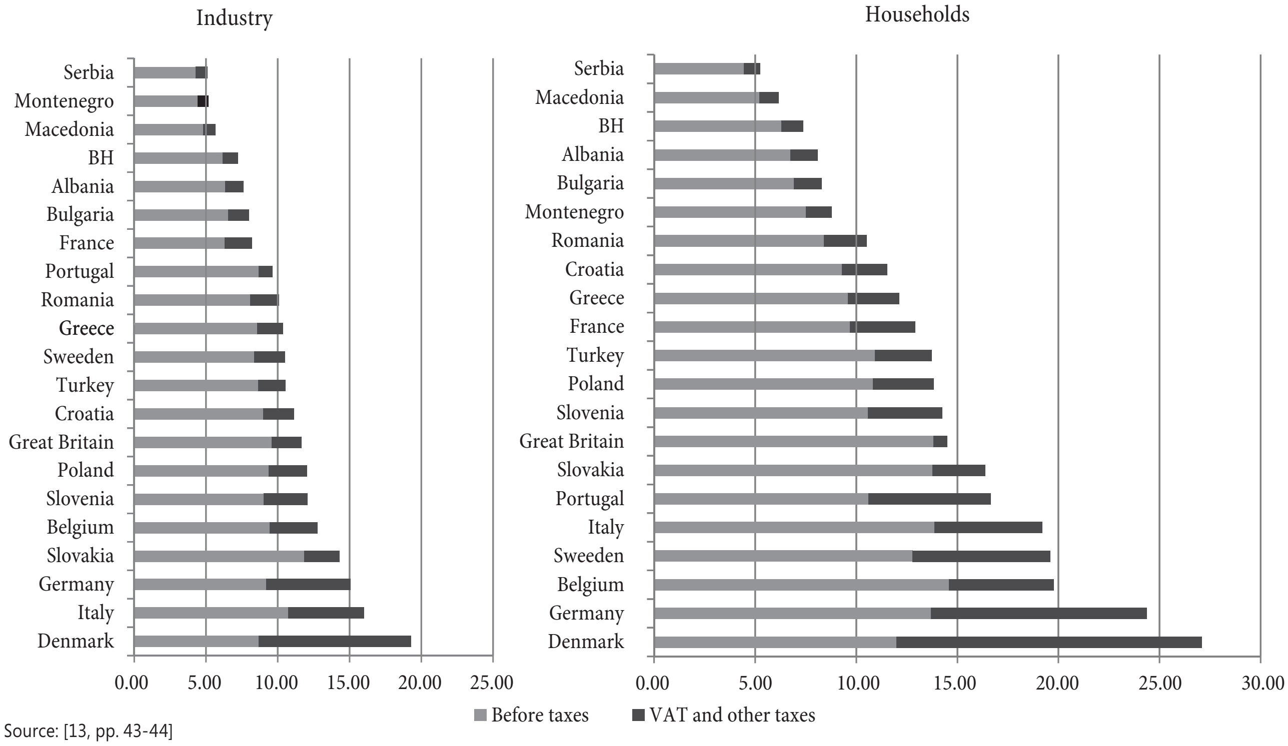
Serbia will soon have to fully open its energy sector for competition as a part of the process of catching up to the EU and legislative alignment. This especially refers to the electricity sector and its areas of generation, retailing, and distribution. In practice, these different areas are often not opened to competition at the same time. In many countries liberalization started from generation which is logically plausible. Yet, there are many other examples where retailing activities were opened to competition before generation and distribution, or with keeping of monopolistic regimes in generation and distribution [6, p. 4].

There are two inefficiencies in the electricity sector, in production and in consumption. Electricity sector is still highly regulated but its profitability is far below its potential due to low price level. Also, the efficiency is below the standards required by the EU. When we say "highly regulated", we refer to the price level since almost all initial activities for market opening have been completed. Up to 2008, conditions were being created for the economy to enter liberalized electricity market. Since 2008, all electricity buyers except households have the right to buy electricity on the open market at market, competitive prices. But, since the domestic regulated prices are in knock-down, not a single buyer has used that right yet.

When electricity is not valued properly, it influences the inefficiency in its consumption. Consequently, reforms are expected concerning both price level and efficiency. Some impressions can be obtained from the electricity price comparison between Serbia and other European countries (see Figure 7). Serbian households, as well as industry pay for the cheapest kWh in Europe. For example, electricity price for households in Serbia is almost two times lower than in neighboring Montenegro. Low price eliminates the pressure on consumers to use their energy more efficiently. The data for 2008 show that the total energy consumption per euro of GDP in Serbia was 67% higher than in EU27 [13, p. 32]. The total energy consumption *per capita* was 60% of EU27 average, while the GDP *per capita* figure was almost half of that, 35% of EU27 average. The low price of energy is the main reason for that.

Electricity represents 28% of final energy consumption and it is produced in large hydropower facilities and thermal power plants burning domestic lignite. Total net installed capacity of Electric Power Industry of Serbia (EPS) power plants is 7.144 MW (excluding Kosovo). Thermal power plants account for 55%, and hydro power plants for 40%. Production structure is varying, depending mostly on hydrological conditions. In principle, electricity produced from hydropower varies from 30% to 35% of total electricity production. The net efficiency of thermal power plants in Serbia is low and the installed capacities are mostly long time amortized. The net efficiency is around 30% lower than in new generation power plants while the average age of plants stands at more than 30 years. Despite these adverse qualities, substantial funds from the EU as well as internal funds have been used for reconstruction and maintenance of the power plants and network system after

Figure 7: Electricity price benchmark, 2010



Source: [13, pp. 43-44]

2000. Thanks to that, EPS managed to increase electricity production from existing capacities for more than 30%.

No doubt, the energy sector as number one priority for reindustrialization requires adequate industrial policy. This policy should take into account fundamental reforms in a way that energy system is structured, managed and financed. But, this industrial policy is associated with several risks. First, systemic risk due to global imbalance between energy demand and supply, which manifests in high price volatility and bilateral arrangements. Second, risks related to full liberalization of the electricity market (expected in 2015) in accordance with the EU directives. After full liberalization, electricity prices in Serbia will most certainly be much higher than today. This is related to another risk of unpreparedness of the economy and households which might lead to political instability. Third, risks related to stable and sufficient sources of financing of capacity expansion and modernization. When the output gap is tremendous, attracting investors will be critical. Chinese investors are active in thermal power segment. EBRD and KfW have already expressed their interest in financing some environmental projects. Also, EIB is interested in investing in electricity transmission system. In gas segment the South Stream project is in progress. Investors from the EU, China and Russia are not the only ones. Sovereign wealth funds dispose of the largest amount of financial capital waiting for the lucrative options. Attracting them could be the next big assignment for Serbia's government. Fourth, risks related to technical obsolescence and environmental incompatibility of physical capacities. In the last six years power plants have been overhauled, coal production has been increased, pollution reduced, and transmission networks repaired. Still, many old power plants will have to be replaced in the next couple of years as they reach the end of their lifespan or since they do not fulfill the EU environmental standards.[5] This brings the risks of finding enough financial sources for investment in replacement of old capacities beside the new ones.

Recommendations, instead of a conclusion

In Q1 2013 Serbia's economy is still in confusion and has only come up with partial solutions to structural imbalances. The threat of default is temporarily avoided, but that has again led to an increased indebtedness. In

5 According to AERS, it is projected that by 2020 Serbia will have to invest in more than 1700 MW of new capacities, which is almost 25% of current capacity in use

the last period policy makers have applied moderate doses of fiscal stimuli and have taken contractionary monetary stance. But these efforts have not resulted in sustainable improvements of macroeconomic fundamentals because the structural imbalances stayed intact. Inflation has stayed the only policy target. But when huge output gap exists, this target could not be achieved.

Downturn is not a time for setting targets. It is a time for changing economic policy platform and coordinating policy tools.

Serbia's economic crisis, like almost all other economic crises, has deep political roots. The main tenet of the US and the EU as key geopolitical stakeholders of Yugoslavia's transition during the 1990s was to render the regime of *S. Milosevic* irrelevant. Economic sanctions, NATO intervention, and permanent political mediation in searching for final solution have redirected transition toward geopolitical instead economical tenets and, consequently, made irrelevant not only the regime, but Serbia as well. Restart of economic transition after the regime was overthrown in 2000 did not help much.

Serbia should not be irrelevant for its citizens. Intellectuals and business elite, together with professional organizations, have to preserve the future of Serbia fighting with myopic political platforms and populist media against deep social pathologies our society is faced with. Current system, mostly excommunicated from the EU mainstream, is full of pathologies constantly creating non-level playing field. Just like cancer, pathologies are a smaller part of the system, but without their elimination, the system cannot survive.

The economy must be on the top of the list of priorities. Nobel's prize laureate *J. Tinbergen* defined economics as a king social science because the scope of its engagement is defined by politicians. The whole period of Serbia's economic crisis has been largely marked by the absence of an adequate political leadership with the vision and capacity to explain why some economic policy measures suggested from external advisors have turned out to be counter-productive. Instead of sustainable vision for economic development and feasible and efficient anti-crisis program, we are witnesses of permanent political lobbying for selfish interests (group and individual). Consequently, the new level playing field must be defined by technocrats. It could be based on heterodox approach toward economic policies (industrial policies lead, macroeconomic policies follow) and technological platforms enabling competitive manufacturing facilities in tradable sectors that maintain external liquidity and the sustainable development.

A good strategy for economic recovery requires two key components: adequate vision and the first step in the right direction. Vision for Serbia is based on reindustrialization. The first step is investment in commodities and infrastructure, along with fiscal consolidation. Investments intend to eliminate output gap and bring back the economy on productivity improvement track. Following step includes replacement of inflation targeting with currency board (or "snake in the tunnel" FX). An economy striving to join the EU must have stable currency. Stable and competitive FX rate is monetary automatic stabilizer. Also, money supply, rather than fiscal stimuli, is crucial for recovery. It is well known that when monetary and fiscal policies move in opposite directions, the economy will follow monetary policy (*M. Freedman's* rule). In each recession, the key question for monetary policy is how to boost money supply without increasing public debt and inflation. In order to augment money supply, in our previous article we suggested certain financial instruments [5]. Also, balanced budget should be automatic stabilizer for fiscal policy.

Furthermore, for strategists in Serbia one of the key issues on the reforms agenda is the model of capitalism. Any model of capitalism cannot exist without domestic capitalists. Serbia needs self-made capitalists, risk takers and innovators instead rent-seekers and oligarchs connected to politicians. Also, society should have respect for new capitalist's achievements, not continuous suspicion and blame.

Serbia is an example of how geopolitical transition and wrong strategy of economic transition could worsen technological fundaments of competitive manufacturing and create zero-sum-game mindset in economic transactions. In such conditions, no macroeconomic policies could improve the situation. But, industrial policies do matter. When it comes to energy sector it is often said "it is too important to be left to an invisible hand".

Structural reforms in economy along with scientification of society are the key levers of reindustrialization. Improved Serbia's manufacturing space based on integration with the EU technological platforms requires mentorship and real projects instead of bureaucratic maneuvering with the statements and promises, and financing of misconceptions. Also, structural reforms require turnaround in economic policy platform toward heterodox one. Is all that feasible? The answer is: yes and no. But, mostly yes. Without that, the risks of delayed reindustrialization will explode.

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EXCHANGE RATE AND REPO INTEREST RATE IN SERBIA: WHAT HAPPENED IN 2012 AND LESSONS FOR REINDUSTRIALIZATION

Devizna i monetarna politika u Srbiji: šta se desilo 2012. i kakve su lekcije za reindustrijalizaciju

Abstract

Monetary policy changes in 2012 were unpredictable. This cannot be simply attributed to the election cycle. More fundamentally, incoherent policy measures have been present since the onset of the 2008 global recession. Within such a framework, industrialization and economic policy were treated as unrelated and not in need of alignment. In our view, they are essentially associated, but in an asymmetric way. It is difficult for monetary and exchange rate policy measures to stimulate growth, which is the essence of industrialization, but they can easily discourage it. Hence, the Government of Serbia has to transparently define the industrialization policy over the medium term, and align it with other policy measures, including the monetary policy of the National Bank of Serbia.

The first thing to do so is to remove economic policy obstacles to growth. High interest rates and the overvalued domestic currency are serious obstacles to industrialization in Serbia. Looking back at 2012, the National Bank of Serbia pursued a stop-and-go monetary policy. It eventually returned to the repo rate as the main policy instrument to cure inflation. This initially stabilized the exchange rate level, but increased its volatility and overvalued the currency. In the long run the exchange rate should asymptotically approach its purchasing power parity level, which has happened two times in recent history in Serbia. In the meantime, short term factors are predominant, including inflation targeting monetary policy and delayed adjustment of the exchange rate to its equilibrium value. This is considered costly in terms of forgone output and export.

Key words: *exchange rate, purchasing power parity, uncovered interest rate parity, monetary policy, VEC model, DSGE model, industrialization*

Sažetak

Monetarna politika u 2012 godini bila je nepredvidljiva. To ne može jednostavno da se pripiše neizvesnosti zbog izbora. Generalno rečeno, neusaglašene mere ekonomske politike postoje od početka Globalne recesije iz 2008. godine. U tom okviru, industrijalizacija i druge ekonomske politike su odvojeno tretirane, bez potrebe da se usaglase. Po našem mišljenje, one su međusobno povezane, ali na jedan asimetričan način. Monetarna politika ne može da stimuliše rast, koji je ključna tačka industrijalizacije, ali može da ga ometa. Zbog toga bi Vlada RS trebalo da jasno formuliše industrijsku politiku na srednji rok i da usaglasi sve druge ekonomske mere s njom, uključujući i mere monetarne politike Narodne banke Srbije.

Ono što najbrže može da pomogne reindustrijalizaciju zemlje jeste otklanjanje prepreka za rast. Visoke kamatne stope i realno precenjen dinar su ozbiljne prepreke za reindustrijalizaciju. Prošle godine Narodna banka Srbije vodila je „stani-kreni“ monetarnu politiku. Na kraju ona se vratila svom oprobanom instrumentu za suzbijanje inflacije koji se zasniva na repo kamatnoj stopi. To je brzo stabilizovalo nivo deviznog kursa, realno apresiralo kurs i povećalo njegovu promenljivost. Na dugi rok devizni kurs moraće da se približi svom ravnotežnom nivou određenom na osnovu pariteta kupovne snage valuta. To se dva puta desilo od 1994. godine do danas. U međuvremenu kratkoročni faktori, uključujući i monetarnu politiku NBS, odbijaju devizni kurs od njegovog ravnotežnog nivoa. To je skupa politika zbog izgubljenog GDP i propuštenog izvoza.

Ključne reči: *devizni kurs, paritet kupovnih snaga, nepokriveni paritet kamatnih stopa, monetarna politika, VEC model, DSGE model, industrijalizacija*

JEL classification: E58, F31, C68

Introduction

Monetary and exchange rate policy changes in 2012 were unpredictable. This cannot be simply ascribed to the election cycle. More fundamentally, incoherent policy measures have been present in the Serbian macroeconomic framework since the onset of the global recession in 2007. Within such a framework, industrialization and economic policy were treated as unrelated and not in need of alignment. In our view, they are essentially associated, but in an asymmetric way. It is difficult for monetary and exchange rate policy measures to stimulate growth, which is the essence of industrialization, but they can easily discourage it.

Industrialization is a policy of stimulating economic growth, especially through government aid, to modernize aging industries and encourage growth of new ones. This is a long-term policy, which may or may not be aligned with other economic policies of a short-term nature. This issue of consistency is often neglected or simply ignored. In this paper we will switch our focus from government aid to monetary and exchange rate policy, and check its coherence with industrialization policy in Serbia. The first thing to do to stimulate growth is to remove economic policy obstacles to growth. We consider high interest rates and an overvalued currency as the two most important examples of these obstacles.

There is a general complaint about the level and variability of the exchange rate in Serbia. Fewer complaints are made about the monetary system of inflation targeting and free floats of the exchange rate. Euroization is considered pathology of the system, while the presence of a dual currency system is almost completely ignored. However, all these issues are connected and mutually reinforcing. Two incidents last year, the sharp depreciation of the dinar (RSD) in the first half of the year, and an inflation shock with a corresponding increase of the repurchase agreement (repo) rate in the second half of the year, remind us that policy measures may have unintended effects. They contributed to a deeper recession with gloomy prospects for growth. We believe that lessons learned last year are that an overvalued currency and high interest rates do not stimulate industrialization. This is our main conclusion in this paper.

Unintentionally, Serbia was in 2012 a very interesting laboratory to study the conduct of macroeconomic policy. The inflation targeting system was in fact postponed in the first half of the year, and instead of it the exchange rate stabilization policy was vigorously pursued. The dual currency system was kept unchanged. Macroeconomic results were poor, which forced the monetary authority to resume a classical inflation targeting policy in the second half of the year. This policy change had recessionary effects that are not yet fully unveiled. It appreciated the dinar and increased the cost of borrowing, which are not of much support for export and growth this year. The economy this year will be off the long-term path of reindustrialization even if prospects for moderate GDP growth are realistic.

The paper is organized in the following way. We set the framework for analyzing industrialization, monetary and exchange rate policy in the first part. Then, we explain in the second part what happened to the policy regime in Serbia in 2012. In the third and fourth parts we check how relevant two theories of the exchange rate, i.e. purchasing power parity and uncovered interest rate parity, were in Serbia. In the fifth part we formulate a small Dynamic Stochastic General Equilibrium (DSGE) model of an open economy to replicate econometric findings and simulate reactions of output to monetary policy measures. Finally, we conclude in the last part.

Five hypotheses

We identify five hypotheses in the framework for discussing industrialization, monetary and exchange rate policy. It is difficult for a depreciated exchange rate to stimulate reindustrialization over the long run, since it is not sustainable. On the other hand, an appreciated exchange rate discourages reindustrialization in both the short run and long run, because it makes exports less competitive. This is the first hypothesis.

The second hypothesis is related to the dual currency system and high euroization. The dual currency system creates high transaction costs and postpones trade integration into the wider market of the EU. Reindustrialization is not only about revitalization of Serbia's aging industry, but also should improve the supply of traded goods in order to promote exports. Trade-based industrialization is a promoter of Serbia's growth. However, the dual currency system creates obstacles to it.

The third hypothesis incorporates the monetary policy of targeting inflation into the framework. If inflation is under pressure from the cost side, an anti-inflationary policy, conducted through high repo interest rates that constrain aggregate demand, will not help reindustrialization. Quite the opposite is true; as such a policy inflates the cost of financing new investment projects and hurts competitiveness. External cost shocks, like an increase in the price of crude oil, cannot be avoided, and have to be accommodated through higher repo rates even if this has negative impacts on output. On the other hand, domestic cost shocks, like an increase in administered prices or prices of food due to bad harvests, should be significantly reduced. Otherwise, the inflation targeting policy would have significant negative effects on output and employment.

The fourth hypothesis refers to the way that inflation targeting policy is technically conducted. Recall that reindustrialization is at least the medium-term goal, if not completely the long-run one. Adjustment of the repo rate makes sense if underlying shocks on the price level have permanent effects in the economy. Shocks with temporary effects on the price level, like a seasonal increase in food prices due to a bad agricultural season, should not be allowed to cause increase costs of funding. As already said, reindustrialization is sensitive to the cost of financing investment projects.

The fifth hypothesis accounts for needs to diversify financing of reindustrialization. Expectations that foreign direct investments are the only way to finance industrialization in Serbia are wrong and misleading. Domestic savings must be also productively used for such a purpose. Long-term loans and domestic portfolio investments should accompany foreign direct investments. Therefore, the exchange rate and domestic interest rates are vital for reindustrialization, because domestic savings are overwhelmingly held in foreign currencies.

Let's briefly summarize the five hypotheses here:

H1: A depreciated exchange rate is not sustainable in the long term, while an appreciated exchange rate discourages reindustrialization in both the short term and the long term.

H2: The dual currency system hinders growth.

H3: Inflation targeting policy should take a normal use of economic resources into account, not only inflation.

H4: Inflation targeting policy should be conducted with the aim of reindustrialization to avoid a possible inconsistency in the long run.

H5: Financing of reindustrialization should be diversified with domestic savings as well as foreign investments.

This approach based on five hypotheses is axiomatic or based on general theoretical propositions. Nevertheless, it sets a useful framework to examine relationships among the exchange rate, repo interest rate and industrialization policy in Serbia's economy. We will demonstrate this by explaining what happened in 2012, and why the framework may be indispensable for deriving more general conclusions.

What happened in 2012?

The nominal exchange rate rose spectacularly in the first part of 2012, and appreciated in real terms equally spectacularly in the second part of that year. The first half of the year was the period of real depreciation of the dinar, while the second half marked its real appreciation. Ironically, the episode of depreciation coincided with strong interventions of the National Bank of Serbia (NBS) on the Belgrade foreign exchange (forex) market. NBS spent more than 1.3 billion euros (EUR) from official reserves for that purpose. The dinar started to recover in real terms shortly after termination of these interventions. The switching point occurred at the beginning of June 2012. Two months later, the new Governor of NBS was appointed. The incoming management of NBS claimed that they did nothing to strengthen the national currency, but only cancelled speculative attacks on it. The question is what governed the exchange rate behaviour last year – speculative attacks or monetary policy?

Our view is that stabilization of the exchange rate was due to a switch of monetary policy. This was the means by which speculation was eliminated. NBS decided at some point to reinforce the role of the repo interest rate in defending the exchange rate, instead of relying on forex interventions. This policy switch demonstrated that forex interventions are not effective in an inflation targeting system based on a dual currency system. Forex interventions provided an additional supply of foreign currency assets with a view to supporting market forces to balance the exchange rate on a lower level. However, this market balance was achieved, to the contrary, on the higher level of the exchange rate with a lower level of forex transactions. What happened was an unintentional rise of investors' expectation that the exchange rate would continue to lose purchasing power. Therefore, they reduced their own supply of foreign resources. Aggregate daily turnovers on the Belgrade forex market shrank, driving up the exchange rate. On the top of that, the election crises increased the level of risk that was not covered by the active repo rate. Investors started to sell out NBS' Certificates of Debts (CDs) and demanded more foreign exchange to buy. NBS policy was to keep a low level of inflation by suppressing the pass

Figure 1: Repo and exchange rates

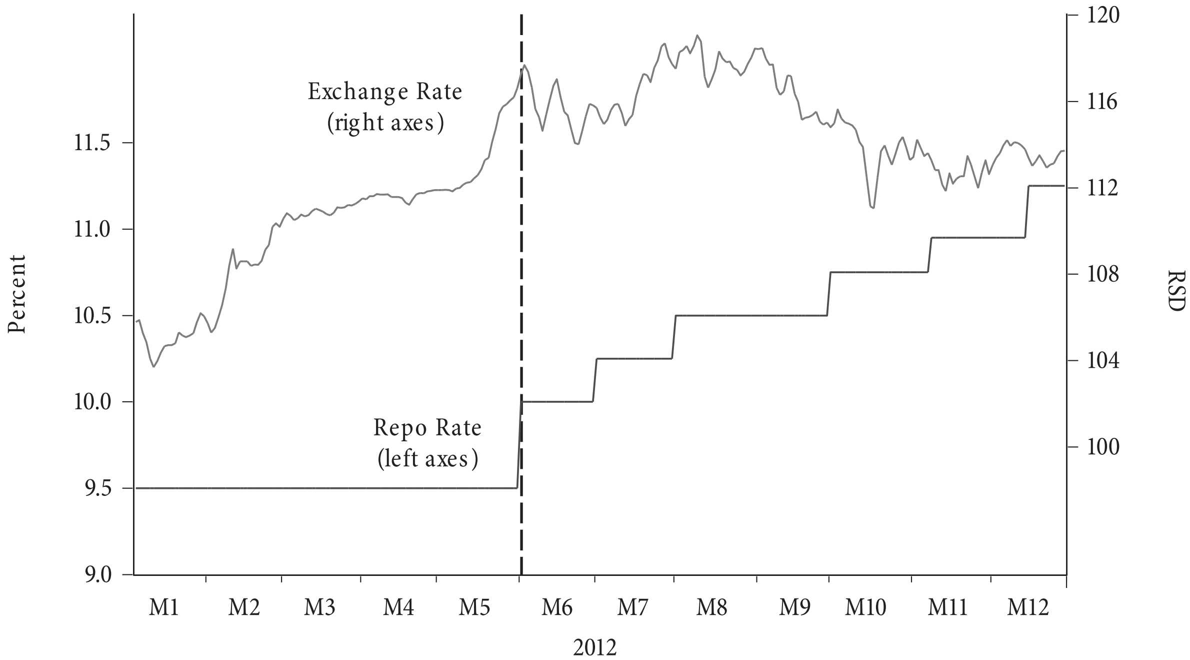
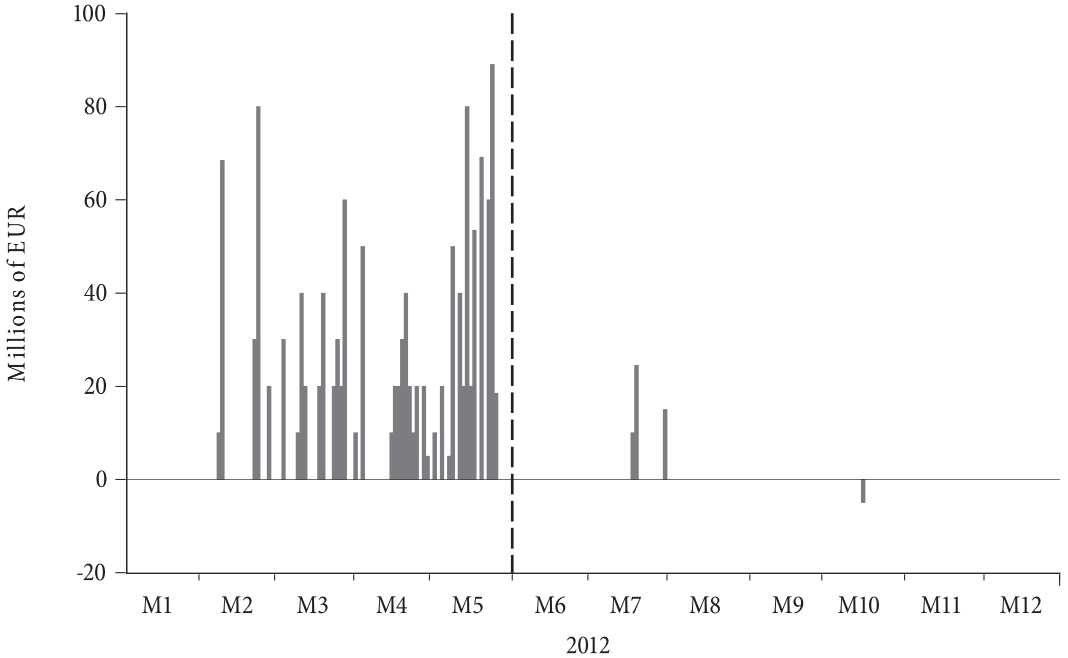


Figure 2: NBS forex interventions



through of the rising exchange rate to domestic prices, but later on the net result of this policy was the complete opposite. The real exchange rate depreciated, and foreign exchange reserves were wasted. A temporary substitution of the active repo policy for forex interventions was truly costly. An important question is whether the alternative monetary policy based on a high repo rate is less costly or even cost-free. Certainly, it has no costs in terms of forgone official reserves. It may have a cost, however, in terms of lost output or an increasing output gap. So far, no one has estimated the contribution of high interest rates to the deepening recession in Serbia in 2012.

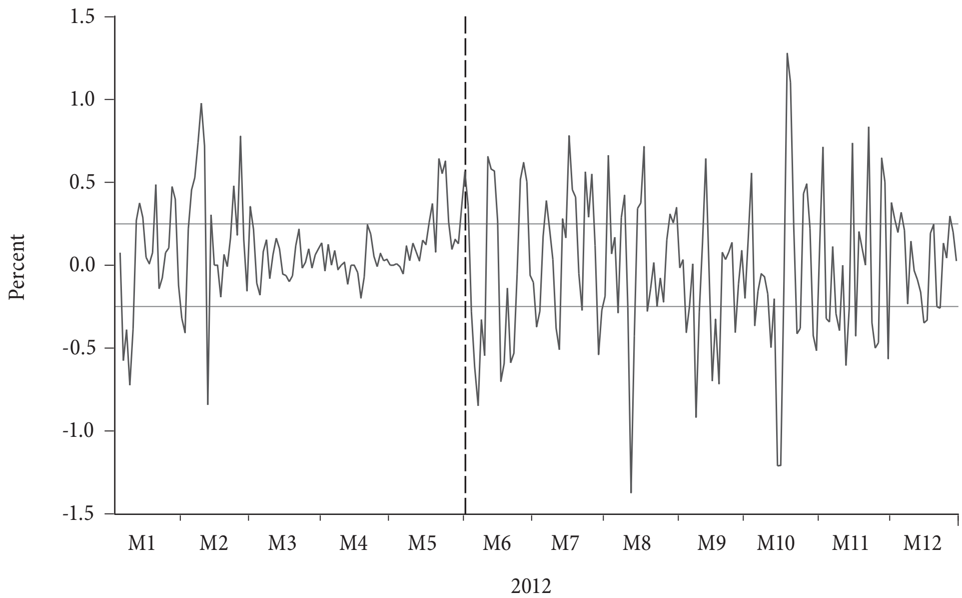
We report in Figure 1 daily movements of the exchange rate and corresponding levels of the repo rate in 2012. A vertical dotted line separates the two policy regimes in 2012. It can be easily noticed that the switch of policy regime took place at the beginning of June. In the first half of the year the repo rate was flat with no changes. The exchange rate rose from RSD 104 to RSD 117.7 for one euro. As a complement to this figure, we graph daily NBS forex interventions in Figure 2. They were high and frequent, but ineffective.

When NBS started to increase the repo rate in June, the forex interventions were abolished. Figure 1 reveals a stepwise pattern of the rising repo rate. After some hesitant oscillations, the exchange rate assumed a clear downward trend. Forex interventions disappeared rather soon with NBS' one-off purchase of forex assets in October for a symbolic amount.

The repo rate serves to suppress inflationary expectations. Actual inflation rates in the first half of 2012 were declining. NBS refused to reduce the repo rate, claiming that inflationary expectations would rise in the remaining part of the year. They failed to notice that political crises increased the country's risk, which was not compensated by a higher premium in the repo rate. Instead, NBS relied on forex interventions. In the second half of 2012 political risk went down, but inflationary expectations were fuelled by rising prices of food due to bad harvests. NBS resumed an active repo policy. We are convinced that higher interest rates contributed to the deepening recession. The expected recession at the beginning of 2012 was 0.5%. The year, however, ended with a recession higher than 2%. Part of this difference is due to higher interest rates in the second half of the year.

The fall of GDP because of the active repo policy is difficult to demonstrate using exact statistical data. Still, it is possible to point to another consequence of the new monetary policy. The active exchange rate policy in the first half of 2012 had one positive effect. It reduced daily variability of the exchange rate. This is visible in Figure 3 on the left side of the vertical dotted line. On the other hand, relative stabilization of the exchange rate level was correlated with higher daily variations. The corresponding

Figure 3: Exchange rate volatility: Daily changes of the exchange rate in Serbia



area in Figure 3 is to the right of the dotted vertical line. We draw the corridor of +/- 0.25% around the average daily percent change of the exchange rate. This corridor was violated many times in the second half of the year. The conclusion is that based on presented historical data in Serbia for the last year, it is not possible to simultaneously achieve both stabilization of the exchange rate level and removal of its daily volatility.

PPP exchange rate standard

What we know so far is the following: (1) in conducting monetary policy, NBS abandoned forex interventions and returned to the repo rate as the main policy instrument; (2) this stabilized the exchange rate level, but (3) increased volatility of the exchange rate, and finally (4) all these outcomes coincided with a recession in 2012 that was deeper than expected. We will now proceed with the question of whether the current level of the exchange rate is sustainable over the long run.

Two types of factors drive the behaviour of a nominal exchange rate between two regions, say between Serbia and the EU, with the dinar and the euro. One set of factors are of a long-term equilibrium nature, while the others are short-term cyclical or news-driven factors. We will address the first set in this section, and continue with the second in the following section of the paper. The first group of factors refers to the current account of the home country as indicated by its imports and exports of goods and services, terms of trade, and domestic price level, as well as the main foreign trade partner's price level. It is explained by the theory of the purchasing power parity (PPP) in relation to exchange rates.

PPP states that exchange rates between two currencies are in equilibrium when their purchasing power is the same. This means that the exchange rate between two countries should equal the ratio of the two countries' price level of a given basket of goods and services. When the home country's domestic price level is increasing due to inflation, its exchange rate must depreciate in order to return to PPP. The basis for PPP is the "law of one price". In the absence of transportation and other transaction costs, competitive markets will equalize prices of an identical basket of goods in two countries when the prices are expressed in the same currency. The economic forces behind PPP will eventually equalize the purchasing power of two currencies. This can take many years, with a time horizon between four and ten years.

The real exchange rate is defined as:

$$z_t = s_t \cdot \frac{p_t^w}{p_t}$$

where z_t, s_t, p^w_t and p_t are real and nominal exchange rates and domestic and foreign price levels, respectively. The PPP exchange rate is a particular case of the real exchange rate for $z_t = 1$, in which case the nominal exchange rate reveals the ratio of domestic prices to foreign prices ($s_t = p_t/p^w_t$). We draw it in Figure 4 and label it "PPP Exchange Rate" (solid line). The series goes from the beginning of 1994 to the end of 2012. Another series presented in Figure 4 is the nominal exchange rate between the dinar and the euro, referred to as the "Nominal Exchange Rate" (dotted line). Both series are normalized to one in 2005 in order to be easily visually compared.

The new dinar was introduced at the end of January 1994, and since then there were two periods that fully complied with PPP standards. The first period started in the first quarter of 1994 and lasted to the third quarter of 1998. The second period resumed in the first quarter of 2002 and ended in the second quarter of 2006. Both of these periods are presented as shaded areas in Figure 4. Between these two periods the dinar was depreciated in real terms. This is the first non-shaded area in Figure 4. The nominal exchange rate was above the PPP exchange rate. On the other hand, the dinar was appreciated in real terms from the third quarter of 2006. The nominal exchange rate was below the PPP exchange rate. The gap between the two series was slightly closer in the first half of 2012, but widened in the rest of the year. The dinar is also overvalued today in real terms.

We can conclude that the PPP theory of the exchange rate is supported by historical data in Serbia. Deviations of the actual exchange rate from its long-run equilibrium can take several years, but eventually the nominal exchange rate must return to the PPP level. This happened twice in the country's recent history. There are no reasons to expect it will never again happen. At the very least, there are economic forces which will drive the actual exchange rate toward its equilibrium level.

Uncovered interest rate parity

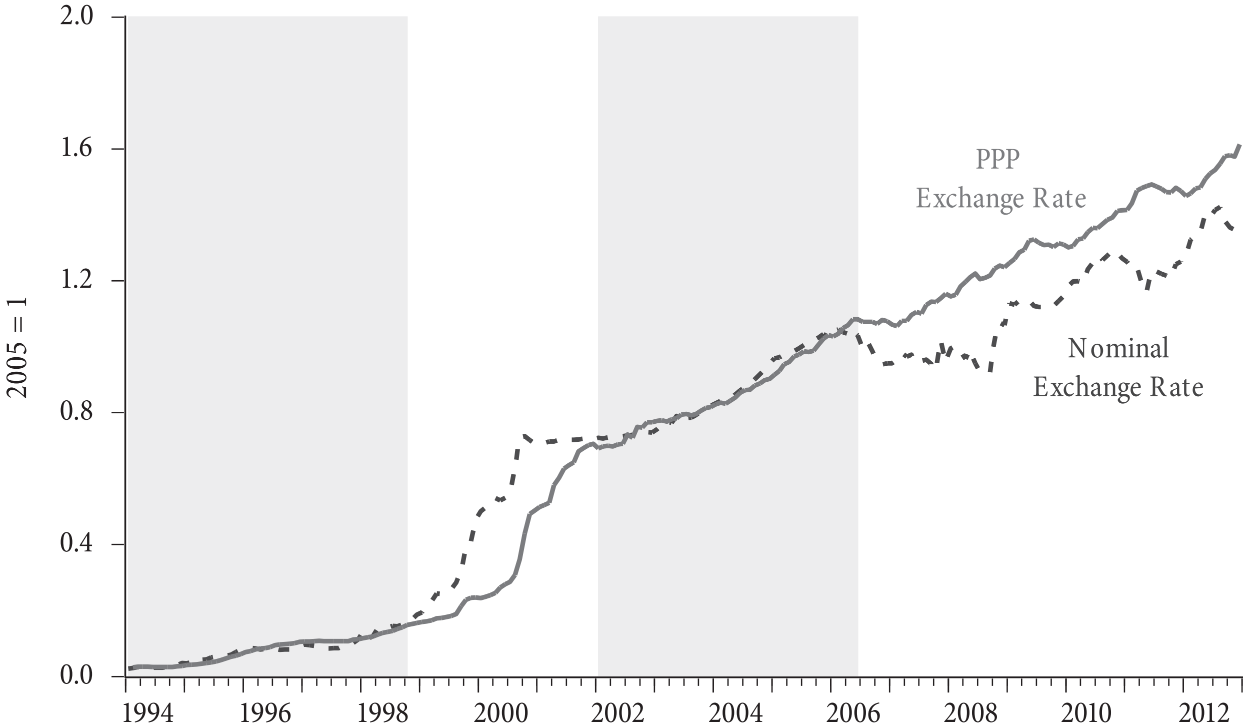
When the equilibrium forces will prevail over alternative short-term or news-driven forces in determining the nominal exchange rate level in Serbia is not clear. In the short run there are many drivers that cause its deviations around the equilibrium level. They originate in the country's capital account and financial markets. Let us mention some of them: inflow and outflow of short-term capital, portfolio and direct foreign investments, domestic and foreign interest rates, the country's risk and demand for domestic and foreign financial assets. The theory of uncovered interest rate parity (UIP) takes account of most of them. We write domestic interest rate as (i_t), foreign interest rate as (i^w_t), the country's risk premium as (u_t), current exchange rate as (s_t), and expected future change of the exchange rate based on all available information in the current period as ($E_t s_{t+1}$); (t) stands for time period and (E_t) is expectation operator. UIP states that the current exchange rate is a function of its expected exchange rate, risk premium, and domestic and foreign interest rates:

$$s_t = (1+u_t) \cdot \frac{i^w_t}{i_t} \cdot E_t\, s_{t+1}$$

An increase in the domestic interest rate drives down the nominal exchange rate, and *ceteris paribus*, appreciates it in real terms. Real depreciation, in the opposite case, implies a decline of the domestic interest rate, and a nominal rise of the exchange rate, under the *ceteris paribus* assumption. On the other hand, an increase in the foreign interest rate or the market risk pushes up the nominal exchange rate and, *ceteris paribus*, depreciates the exchange rate in real terms.

The repo rate in Serbia governs, more or less successfully, all other interest rates. It has the status of the monetary policy rate. The interest rate, which immediately reacts to a change of the repo rate, is Belgrade OverNight Index Average (Beonia). Looking at the whole of 2012, we see that it approached the upper bound of the repo rate corridor in the middle of 2012, then deviated a while around it, and finally asymptotically headed to the lower bound of the corridor toward the end of 2012. Short-term interest rates react to the repo rate as well, but also take into account monthly changes in the price level and inflation expectations. Long-term interest rates bear some resemblance to the short-term interest rates, but are more

Figure 4: PPP nominal exchange rate



influenced by expected inflation and investors' assessment of the country's risk. Short-term interest rates on loans in foreign currency terms are also correlated with the repo rate, but the coefficient of correlation is significantly lower compared to loans in the domestic currency. Being aware that there are differences between interest rates in terms of maturity and currency denomination, we will continue by approximating all of them by a single repo policy rate. We also take into account demand for financial assets. On that account, we study operations in the open market conducted by NBS and commercial banks, where short-term Certificates of Debt (CDs) issued by the NBS are traded. Alternative assets are Republic of Serbia Treasury bills, denominated in the dinar and issued for the local currency market or denominated in euros or US dollars for trading on the European money market. We additionally noticed that deposits with domestic commercial banks may be held in foreign currencies as well.

So far we know that PPP driving forces are present in the Serbian market. Now, the question is whether UIP drivers were also present in the same market**,** causing high volatility of the exchange rate in 2012**.** In order to answer this question we need to return from the monthly data in Figure 4 to the daily data already presented in Figures 1, 2 and 3. These figures indicate that there is a high probability of a positive answer. They show a relationship between the repo rate and the nominal exchange rate that is typical of a UIP pattern. It is more visible in the second half of the year, but we will econometrically test the hypothesis for the whole year. For that we will use a vector autoregression (VAR) model.

As said, we will use daily data for the model. The reason for such a time profile is that we have already detected daily changes of the relevant variables and a policy switch in the middle of the year. If data have lower frequencies, the policy switch cannot be properly detected and evaluated. However, there are some complications in formulating a proper VAR model. We do not take into account expectations due to the lack of data on a daily basis. Also, we do not have data on daily bases to approximate the country's financial risk. On the other hand, we take care of relative asset demand, for which we have corresponding data. Demand for local currency assets is approximated by the stock of outstanding NBS CDs that are traded through open market operations. Demand for foreign assets on the domestic market is approximated by daily turnover on the Belgrade forex market (F). Finally, the foreign interest rate is represented by the spread between Beonia (i_t - daily average overnight interest rate for non-secured loans on the Belgrade Stock Exchange) and Eonia (i^w_t - the corresponding market interest rate in the euro zone)[1]. Hence, model variables are: R_t (repo rate), $i_t - i^w_t$ (spread between Beonia and Eonia market interest rates), s_t (spot exchange rate), CD_t (NBS' Certificates of Debt), and F_t (turnover on the Belgrade forex market).

In order to avoid daily outliers, we smooth series by transforming them into 5-day moving average values. Consequently, we start from an unrestricted VAR model with 5 lags, which correspond with the weekly time series profile:

$$y_t = A_1 \cdot y_{t-1} + \cdots + A_p \cdot y_{t-p} + B \cdot x_t + \varepsilon_t$$

where $\varepsilon_t \sim N_p(0,\Omega)$ for t = 1,...,T. A_i are matrices of regression coefficients with lags p = 1,...,5; y_t is the k[th] vector of five endogenous variables (5x1); x_t is the vector of exogenous variables (including intercept and trend variables), and ε_t are random errors with a mean value of zero, normally distributed and mutually uncorrelated. The time period is defined as: t=January 4[th], 2012, and T=December 31[st], 2012. The starting VAR model can be reparameterized in the following way [6], [7].

$$\Delta y_t = \Pi \cdot y_{t-1} + \sum_{i=1}^{p-1} \Gamma_i \cdot \Delta y_{t-i} + B \cdot x_t + \varepsilon_t$$

If there is a reduced rank of matrix Π r < k, then there is a k x r matrix α and β, each in rank r, so that $\Pi = \alpha \cdot \beta'$ and $\beta' \cdot y_{t-1}$ are stationary linear combinations. This is how we arrived at the vector error correction model (VEC) in the form:

$$\Delta y_t = \alpha \cdot \beta' \cdot y_{t-1} + \sum_{i=1}^{p-1} \Gamma_i \cdot \Delta y_{t-i} + B \cdot x_t + \varepsilon_t$$

For us, it is of primary interest what form the matrix β has because it contains cointegration vectors that describe the long-run equilibrium relationship among the model's variables. On the other hand, the matrix α puts together adjustment coefficients that defines the mechanism of arriving at such a long-term equilibrium.

1 Alternative spreads between Belibor2W and Euribor2w, and Belibor3M and Euribor3M were, also, examined. The corresponding IRF was not significantly different from one reported in Figure 5.

Table 1: Unrestricted cointegration rank tests

Hypothesized No. of CE(s)	Eigenvalue	Trace/Max Eigen Statistic	0.05 Critical Value	Prob.**
		Trace Test		
None *	0.266505	120.1374	69.81889	0
At most 1	0.082318	43.27369	47.85613	0.126
At most 2	0.052705	21.96954	29.79707	0.3002
		Maximum Eigenvalue Test		
None *	0.266505	76.86369	33.87687	0
At most 1	0.082318	21.30415	27.58434	0.2583
At most 2	0.052705	13.42776	21.13162	0.4137

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis p-values

We present in Table 1 two cointegration tests which indicate that there is only one cointegration vector in the VEC model. This cointegration vector has the following form:

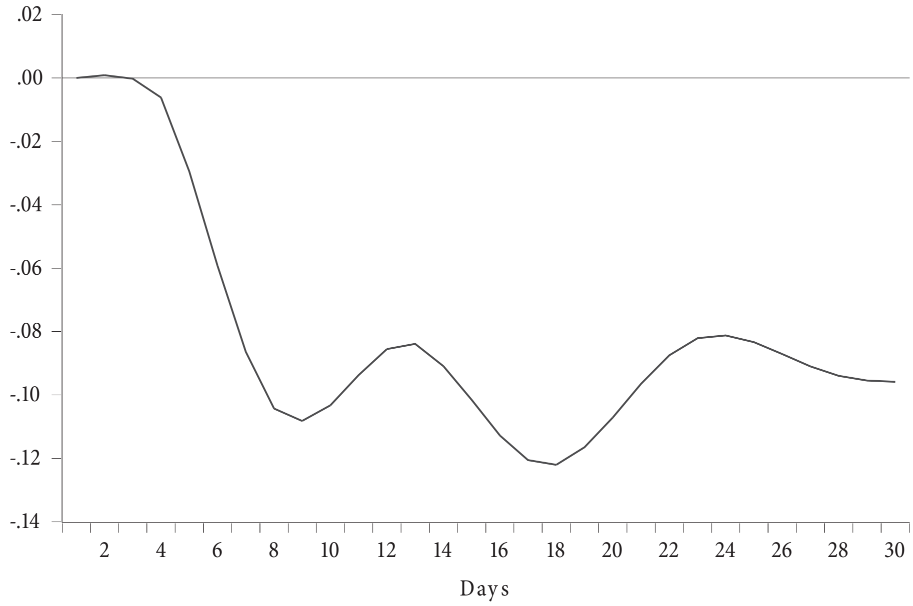
$$s = -0.17 \cdot CD - 9.64 \cdot R + 4.69 \cdot \Delta F - 1.72 \cdot (i - i^w) - 253$$

It represents the long-run equilibrium of the nominal exchange rate due to which all time subscripts are removed, and variables are italicized. A rise of the repo rate and short-term commercial interest rate pulls down, in the long run, the nominal exchange rate, which, *ceteris paribus*, appreciates in real terms. This finding is to be expected since such a rise stimulates demand for domestic assets and, consequently, makes demand for foreign assets less attractive. Therefore, the pressure on the exchange rate eases to nominal inflation. Rising demand for NBS's CDs also reduces the nominal exchange rate, and it is connected to a higher repo interest rate. On the other hand, an increasing change of the demand for forex assets drives up the nominal exchange rate. It is not the level, but the rate of change of this variable, that matters in this relationship.

The reported equation is a long-run relationship embodied in daily changes in the forex market. The actual movement in the market is a consequence of long-run equilibrium forces and short-run adjustment coefficients, which bring the exchange rates back to equilibrium. As already indicated, the short-term adjustment mechanism is represented by matrix α which has the dimensions 25x5. It would be cumbersome to print and analyze it. Instead, we present in Figure 5 the impulse response function (IRF) of the exchange rate with a repo rate innovation. The IRF simulates an adjustment process which takes into account both long-term equilibrium and short-term cyclical forces.

Figure 5 portrays one month reactions of the exchange rate caused by a one-off shock of the repo interest rate. The shock is of a size corresponding to one standard deviation.

Figure 5: Impulse response function: Response of exchange rate to one S.D. repo rate innovation



We see that there were not many changes in the first week. However, from then, the nominal exchange rate started to sharply decline. The rate of decline fluctuated around a stable level in the following weeks. All together, the accumulative decrease of the nominal exchange rate is evident. The VEC model supports intuitive expectations that the repo monetary policy stabilized the nominal exchange rate in the second half of 2012.

A small DSGE model of an open economy

What we know so far is that the monetary policy, based on forex interventions as the main policy instrument to stabilize the nominal level of the exchange rate in 2012, was highly costly. The estimated cost in terms of forgone official foreign exchange reserves is 4.5% of GDP. However, we do not know whether the new monetary policy is costly or not. If it is costly, this has to show up in a suppressed output due to reduced aggregate demand, not in declining official reserves. In order to check this proposition we need data. However, there are no data on daily GDP to test this hypothesis econometrically. Even quarterly GDP is available only after a significant delay. What we can do is to formulate a DSGE model, as a mirror image of the VEC model, to simulate general equilibrium effects of the repo rate policy on output.

We have indeed formulated such a model which, of course, takes into account the variables similar to those in the VEC model and some additional ones (output and price level). Model parameters are also calibrated in a way to mimic results of the reported VEC model[2].

2 We have assigned the following values to parameters: alpha=0.7, beta=0.65, gamma=0.7, rho1=0.99, rho2=0.99, rho3=0.5, mu=0.8, phi=0.2 and delta=0.3. The target inflation rate is set to zero.

Equations of the model are reported in Table 2. All variables but the interest rate and inflation are in levels and transformed into logarithms. The DSGE model relies on both theories of the exchange rate (PPP and UIP). There is a dynamic Investment-Saving curve which accepts moderate output inertia, and further relates the output level to the real interest rate and changes in the real exchange rate. The price equation takes account of a pass through effect of the exchange rate to the domestic price level. The monetary authority follows standard rules on how to conduct inflation targeting policy, which is focused only on inflation, not on an output gap or exchange rate gap. The real interest rate is defined along Fisher's line. Foreign assets, the foreign interest rate, and the foreign price level are modelled as autoregressive processes with stochastic shocks that are independently and identically distributed with a mean value of zero and variance of 1. All together these equations represent a small DSGE model of an open economy, and are solved using Dynare and MATLAB software [1].

We will now proceed in the same way as in the case of the VEC model. This means we will trace general equilibrium effects that the one-off increase in the repo rate makes on all the model variables. Those effects are best expressed by means of IRFs. We report in Figure 6 impulse response functions of the main variables with one unit of innovation of the repo rate. The first two panels at the top of Figure 6 show the inflation pattern. The next two panels in the middle refer to the exchange rate reactions. The last two panes at the bottom of Figure 6 deal with output and real interest rate reactions. All series are measured as deviations from the corresponding

Table 2: A small open economy DSGE model

Name	Equation
Real exchange rate	$z_t = s_t + p_t^w - p_t$
Uncovered Interest Rate Parity	$\Delta E_t s_{t+1} = \alpha \cdot (i_t - i_t^w) - (1-\alpha) \cdot E_t f_{t+1} + \varepsilon_t^s$
Policy Rule	$i_t = \gamma \cdot i_{t-1} + (1-\gamma) \cdot (E_t \pi_{t+4} - \pi_{target}) + \varepsilon_t^i$
Dynamic IS Curve	$y_t = \mu \cdot y_{t-1} + (1-\mu) \cdot E_t y_{t+1} - \delta \cdot r_t + \varphi \cdot \Delta E_t z_{t+1} + \varepsilon_t^y$
Real Interest Rate	$r_t = i_t - E_t \pi_{t+1}$
Pass Through Equation	$p_t = \beta \cdot p_{t-1} + (1-\beta) \cdot E_t s_{t+1} + \varepsilon_t^p$
Annualized Inflation Rate	$\pi_t = 4 \cdot (p_t - p_{t-1})$
Foreign Price Process	$p_t^w = \rho_1 \cdot p_{t-1}^w + \varepsilon_t^{p^w}$
Foreign Interest Rate Process	$i_t^w = \rho_2 \cdot i_{t-1}^w + \varepsilon_t^{i^w}$
Foreign Assets Process	$f_t = \rho_3 \cdot f_{t-1} + \varepsilon_t^f$

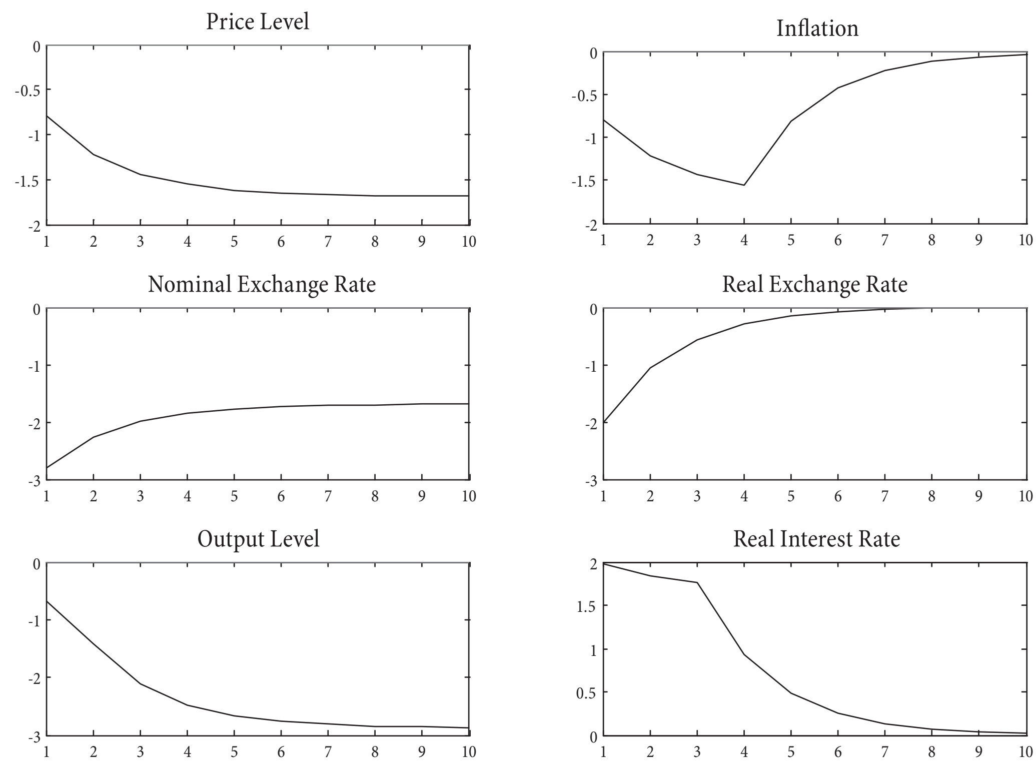
steady state levels. Negative values indicate undershooting of the steady state, while positive values, oppositely, point toward an overshoot of the steady state.

The inflation targeting system is designed to cure high inflation. It is clear from Figure 6 that such a task can be successfully performed using the repo policy rate. The domestic price level continuously declined over the specified time horizon of ten periods. The inflation rate initially declined rapidly, and after some time slowed down as inflation pressure died out over the ten periods. It should be noticed that both nominal and real exchange rates assume negative numbers. Since all reported figures are deviations from the steady state, this means that the nominal exchange rate declines bellow the steady state, while the real exchange rate appreciates in real terms[3]. All of these results reported so far closely resembled outcomes in the VEC model. What have been missed in the VEC model are responses of output and real interest rates to monetary policy. We have filled this gap with IRFs from the DSGE model. The real interest rate has increased as should be expected after reduction of inflation and an initial increase in the repo rate. The real interest rate increased and in addition the real exchange rate appreciated. The only meaningful consequence of those two pressures should be a fall in the output level. This is exactly what happened in the model. This is shown in the left panel at the last row of Figure 6. By visual inspections, we can see that the fall in output is permanent, while the rise of the real interest rate has a temporary effect. Also, the fall of the nominal exchange rate is permanent, while the real exchange returned to the steady state level after nine periods.

Of course, all reported outcomes of the simulation depend on the way the DSGE model is formulated and the particular values of its parameters. However, the model is able to replicate the relationship between the exchange rate and repo rate embodied in the empirical VEC model for the Serbian economy in 2012. It is reasonable to claim that the output contracts after an increase in the repo policy rate. From our point of view, we have demonstrated a result which is apparent. The problem is that such a result is often ignored. Anti-inflationary policy based on inflation targeting is treated as a cost-free policy. How costly it is in the real-world environment of the Serbian economy is a question that still requires a proper answer.

3 Let us reiterate that the real exchange rate is so defined that its positive value means real depreciation, while negative value indicates real appreciation.

Figure 6: Impulse response functions of the main variables with one unit of repo rate innovation



Conclusions

We can briefly summarize our findings in the paper as follows. By conducting a stop-and-go monetary policy, NBS abandoned forex interventions at the middle of last year, and returned to the repo rate as the main policy instrument to fight inflation. This policy switch rather quickly stabilized the exchange rate level, but increased its volatility and overvalued the local currency. From the long-term perspective, the PPP exchange rate has prevailed in Serbia over last fifteen years. This indicates that the present level of the exchange rate is not sustainable. In the meantime, the short-run destabilizing drivers have been active, which delayed necessary adjustment of the contemporary exchange rate to its long-run equilibrium level. The monetary policy based on an active role of the repo rate in a system of inflation targeting was one of the disturbing drivers. These drivers contributed to high interest rates and an overvalued exchange rate that made the recession in 2012 deeper than expected. This last outcome was not econometrically tested, due to the lack of high frequency data, but was demonstrated by impulse response functions in a small DSGE model of an open economy. Other findings have been econometrically supported.

As far as reindustrialization of the Serbian economy is concerned, overvalued currency and high interest rates do not support it. Within the analytical framework we outlined in the paper, industrialization and economic policy measures were treated as closely related in an asymmetric way. It is difficult for monetary and exchange rate policy measures to stimulate growth, which is the essence of industrialization, but they can easily discourage it. From this proposition, we would suggest that the Government of Serbia transparently define the industrialization policy over the medium term and align other short-term policy measures with this principal goal.

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NO TIME TO LOSE: FISCAL CONSOLIDATION RELOADED

Nema vremena za gubljenje: o nastavku fiskalne konsolidacije

Abstract

Public finance deficits and structural weaknesses of the Serbian economy and society are so severe, that there is no time to lose. After emergency measures, taken in the last quarter of 2012 in public finances, a responsible control over public finances in 2013 is necessary in the first place in order to prevent deficit increase above the projected. It is of key importance for the Government to keep under control what is in its power, i.e. expenditures, including a solution to be found for the arrears problem. Second, along with monitoring execution of this year's budget, the Government has to adopt and implement the Fiscal Strategy measures: solving problems in enterprise restructuring, limiting and reducing subsidies and guarantees, limiting the public sector wages, developing and implementing a rationalization programme as regards the public sector employment, and the like. Third, several systemic fields are improperly regulated, primarily the pension system and vertical imbalance in the public finances between the central and local government levels.

Key words: *fiscal deficit, public debt, fiscal consolidation, budget, fiscal strategy, reforms*

Sažetak

Deficiti u javnim finansijama i strukturni nedostaci privrede i društva Srbije toliko su izraženi da nema vremena za gubljenje. Nakon interventnih mera u javnim finansijama u poslednjem kvartalu 2012. godine, treba, prvo, odgovorno kontrolisati javne finansije u 2013. godini, kako bi planirani deficit bio dostignut. Ključno je da Vlada drži pod kontrolom ono što je u njenoj moći, a to su rashodi, uključujući rešavanje problema docnji. Drugo, uporedo s praćenjem izvršenja budžeta za tekuću godinu, potrebno je da Vlada usvaja i sprovodi mere iz Fiskalne strategije: rešavanje problema preduzeća u restrukturiranju, ograničavanje i smanjenje subvencija i garancija, ograničavanje zarada u javnom sektoru, izrada i primena programa racionalizacije zaposlenosti u javnom sektoru i drugo. Treće, nekoliko sistemskih oblasti nije na pravi način uređeno, a prvenstveno je reč o penzionom sistemu i vertikalnoj neravnoteži u javnim finansijama između centralnog i lokalnog nivoa vlasti.

Ključne reči: *fiskalni deficit, javni dug, fiskalna konsolidacija, budžet, fiskalna strategija, reforme*

Introduction

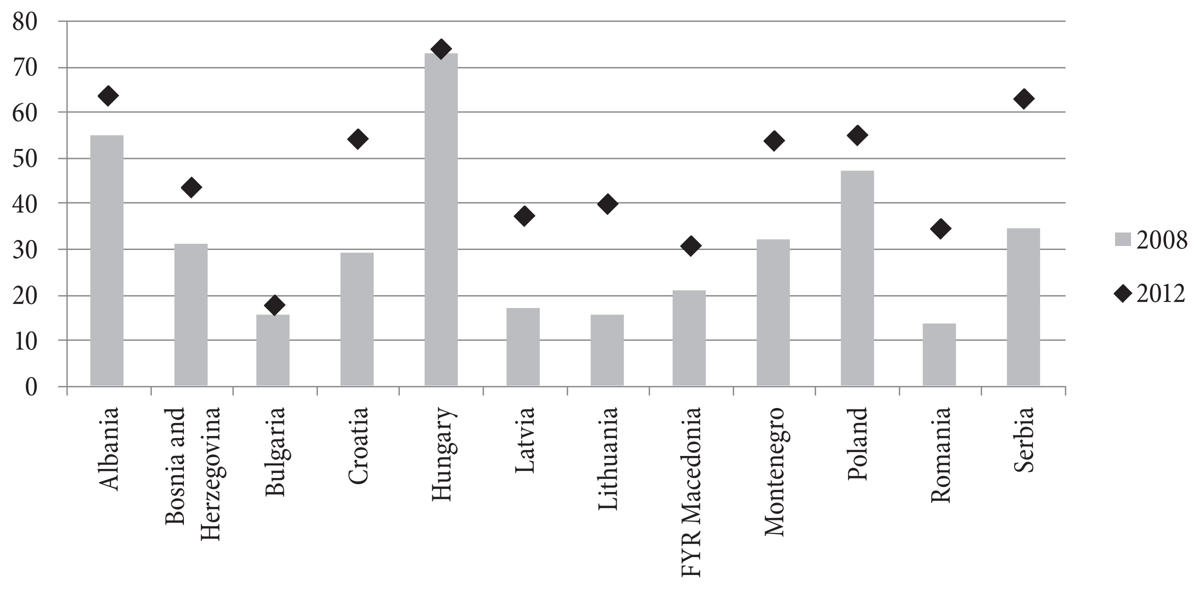
In the first two months of 2013, economic policymakers have directed their efforts to promote foreign investments, preserve certain endangered domestic enterprises, introduce incentives for export-oriented sectors and companies, as well as to develop agriculture. After emergency measures, taken in the last quarter of 2012 in public finances, initial energy channeled towards regulating public finances seems to be lost. It remains to be seen whether this is calm before the (new) storm or the Government considers it has already completed most of the work. It is important to emphasize that the public finance deficits and structural weaknesses of the Serbian economy and society are so severe, that there is no time to lose. It is necessary to set the grounds in the first half of 2013 for avoiding the public finance crisis in the next three-year period. It is important to place the focus back on fiscal policy and public finances. Such a conclusion results from two facts: first, the budget deficit and the public debt are (long since and quite far) in the red zone and they are threatening with the future public finance crisis and; second, the effects of measures can be experienced only in the time span – therefore, it is important to act immediately.

The current situation in the Serbian public finance is alarming and requires decisive measures of fiscal policy. Developments in 2012 and in the previous years have confirmed that public finances remained at unsustainable path requiring a comprehensive programme of fiscal consolidation in order to reduce the deficit and avoid the public debt crisis. The first half of 2012 was characterized by markedly expansive fiscal policy. At the time, the general government deficit stood at RSD 111bn instead of the projected RSD 61bn. The deficit of RSD 61bn was projected for the first half of 2012, and as such would then correspond to total annual deficit of RSD 152bn. However, the general government deficit in the first half of the year was by RSD 50bn higher than the projected and stood at RSD 217bn at the end of 2012.The new Government also failed to seize the opportunity to reverse negative trends by the 2012 supplementary budget [4]. The main reason for exceeding the annual deficit, by as much as RSD 65bn, is an expansive fiscal policy over the year, because the changing macroeconomic environment could justify up to a third of exceeded projection.

At the end of 2012, public debt exceeded 60% of GDP, whereby the legal limit of public debt (45%), sustainable in the long run in economic terms, was also exceeded. Serbia is an infamous regional leader as regards the extent and dynamics of public debt recorded after 2008. Apart from being ranked among the top regional countries in terms of the public debt, Serbia stands out with the public debt growth dynamics – over four years (2009-2012), Serbia's public debt to GDP ratio doubled. Such a ratio was also recorded by Romania, Latvia and Lithuania, but at a significantly lower public debt level (Figure 1). Even under the assumption that financial markets will continue to lend Serbia, thus postponing the public debt crisis for the far future, it should be noted that about RSD 100bn will be paid in 2013 only for interest on previous debts. Interests increase most dynamically as the public expenditure item; they are higher than expenditures on goods and services from the Republic budget, and also higher than expenditures on subsidies, defense, agriculture… In short, interests supersede other budget expenditures, thus becoming an unsustainable burden for Serbia.

The new Government and Parliament of the Republic of Serbia were active in the period August – end 2012. Basically, emergency and intervention measures were carried out: the 2012 supplementary budget was adopted as well as the set of laws on public finances, the 2013 budget and the

Figure 1: Public debt of Serbia and of the comparable countries (% of GDP, 2008 and 2012)



Source: IMF, World Economic Outlook Database (estimates for 2012)

Fiscal Strategy – an important document establishing the guidelines for the future three-year period. Calculations show that the projected path of deficit reduction will require drafting of new measures in 2013, to take effect in 2014. The previous efforts, primarily VAT increase and limiting of the public sector wages and pensions, will not nearly result in sufficient savings for the next year.

This paper presents the overview of the previous efforts to prevent the fiscal system collapse, then the obligations assumed by the Government in the adopted Fiscal Strategy, and finally a set of questions still without proper answers by the economic policy.

What did the Government do?

The supplementary budget for 2012

In the fall of 2012, the 2012 supplementary budget was executed and numerous laws with fiscal implications were adopted and amended. The basic assessment is that supplementary budget failed to produce efforts to immediately tighten the public finance, but, on the other hand, a large number of measures were aimed well and should provide for more successful year 2013. The overall package of measures, related to changes in tax laws, is an important structural measure for permanent reduction of fiscal deficit. Therefore, general assessment of these measures is positive [1].

By the 2012 supplementary budget, compared to the initial one, the Government of the Republic of Serbia envisaged more pronounced increase in public expenditures compared to increase in public revenues, due to which the deficit of the Republic was higher by the end of 2012 that it would be if the budget revision was not conducted. The additional deficit increase was due to impact of new measures related to the expenditure side of the budget, such as: the "13th pension" payments, subsidies for mitigating drought effects, increase in subsidies to the corporate sector and increase in expenditures on acquisition of financial assets. On the other hand, the supplementary budget also provided for certain savings whereby certain effects of the said expenditure measures were mitigated. The increase in tax revenues was projected on the revenue side due to tax rates change (VAT, income tax, tax on dividends, interest income tax) and excise duties increase. On the expenditure side, deficit reduction resulted from lower indexation of pensions and wages in October, as compared to the one that would be valid if the October adjustment was conducted in accordance with inflation.

Value Added Tax

The overall package of measures related to changes in tax laws, enacted in the fall of 2012, is an important structural measure for permanent reduction of fiscal deficit. Major amendments to the Law on Value Added Tax (VAT) include an increase in general tax rate from 18% to 20%, VAT increase to agricultural producers from 5% to 8%, increase in the threshold for (mandatory) entry into the VAT system from RSD 4 million to RSD 8 million of annual turnover, abolishing of the threshold for voluntary entry into the VAT system, increase in the threshold for monthly increase in VAT from RSD 20 million to RSD 50 million, enabling small and medium-sized enterprises with annual turnover less than RSD 50 million to settle their obligations upon colleting the receivables instead of upon invoicing the receivables.

Excise duties

Basic amendments to the Law on Excise Duties include increasing excise duties on tobacco products, unification and partial increase in excise duties on petroleum products, as well as the shift from proportional to the absolute amount of the excise duties on coffee. It was decided to increase the specific amount of excise duties on tobacco products from RSD 33 to RSD 43 per pack (i.e. RSD 45 as from 1 July 2013), as well as to reduce the proportional amount of excise duties from 34% to 33%. Excise duties on (unleaded) gasoline remained at the same level (RSD 49.6 per liter), while the amounts of excise duties on gas oil and liquefied petroleum gas increased (from RSD 37 to RSD 42 per liter i.e. from RSD 18 to RSD 30 per kg).

Personal income tax

The main change in the personal income tax is an increase in the financial capital income rate from 10% to 15%, as well as increase in tax rate on income from interest, dividends and capital gains, from 10% to 15%. Nominal tax rate on corporate income increased from 10% to 15%.

Other laws

Amendments to the Budget System Law, to the Law on Local Self-Government Financing and the Law on Republic Administrative Fees, envisaged abolition and limitation of various forms of quasi-fiscal levies and establishment of a transparent and controlled framework for determining non-tax levies. Seven local utility taxes were abolished. The limited business sign display taxes were also abolished at the local level, as well as the maximum fees for motor vehicles. In addition, the mandatory local utility fee for displaying company signs on office space was also abolished for entrepreneurs, i.e. small enterprises, while the maximum fee to be paid was defined for medium-sized and large companies. Deletion of files and activities was envisaged, for which the republic administrative fee was paid as regards registration of endowments, foundations, funds, associations and other similar associations and activities.

From a fiscal standpoint, the main changes envisaged by amendments to the Law on Tax Procedure and Tax Administration and the Law on Fiscal Cash Registers, include abolition of obligation to register turnover through cash registers for entrepreneurs engaged in production activities who pay the flat rate tax, as well as limiting the possibility of banning the activity of taxpayers who failed to regularly register their turnover through fiscal cash registers, and expanding the competence of Tax Administration as regards the control over the execution of fiscal obligations.

The public funds management system

Changes in the budget treatment of own revenues represent a positive change. The term "budget users' own revenues" was deleted from the Budget System Law, thus creating the assumptions that (former) own revenues shall be the general budget revenue. It was common for own revenues to remain available to the authorities who generate them. Now, users' funds should be directly available to the Ministry of Finance.

The public funds management system has been improved. The conditions have been created to consider in general the public funds users' revenues and expenditures. The system of user records was established at the Treasury. It has been envisaged that users shall open the accounts and sub-accounts within the consolidated Treasury account, while the provision according to which the Minister may authorize opening of the budget user accounts with the bank, for own revenues, was deleted. The provisions regulating that the users shall inform the Treasury of the new contract on assuming the obligations, and on the obligations (payment terms) already assumed as well as on requests for payment and Treasury obligations to keep the register of all public fund users, lead towards improvement in the public funds management system.

The changes in the Budget System Law, related to fees and charges, are positive. Given unregulated field of fees and charges, it was good to adopt the provisions that will lead to more predictable and stable framework for business operations, to abolishing of state authorities autonomy in determining the levies and to reduced pressure on the corporate sector and on citizens. It was determined that fees can be imposed only by law and that the amount thereof shall be stipulated by the law, or that the law shall entitle the entity to determine the fee amount (only in the absolute amount), whereby the consent of the Ministry (or of the local authority) has to be previously obtained.

Public sector wages

The maximum wages in the public sector have also been determined. The Law on determining maximum wages in the public sector establishes the maximum pay at agencies and similar institutions, public enterprises at all government levels, organizations of mandatory social insurance, legal entities in which the Republic or the local authority has majority ownership. Determining the maximum wage and the highest wage for the ancillary tasks is justified. The current legal framework for determining the public sector wages is very complicated and contains five different bases and about 600 different grades for various employment positions within different sectors.

The "13th pension"

On the other hand, the adopted programme of the "13th pension" is not fiscally responsible and does not act in accordance with the current concepts of social protection and pension system. The "13th pension" programme implies that all pensioners whose monthly pensions are less than RSD 15,000 shall be paid an additional transfer from the republic budget in the amount of RSD 16,000 a year (quarterly, in four equal installments). The "13th pension" programme shall arbitrarily define the criterion according to which the retired may be considered vulnerable and thus may be eligible for this programme. The programme is not in compliance with the current solutions and concept of the social protection since it does not consider the overall financial standing of the pensioner's household. It is neither in compliance with the concept of the current pension system based on the ratio between the contributions paid during the working life and the amount of the retirement pay.

Arrears

According to estimates from the last quarter of 2012, the state authorities' arrears (at all levels) reached the amount of about RSD 50bn in the fall of 2012, whereby the health arrears (Republic Institute for Health Insurance and health care institutions) were the highest, accounting for about 60% of total arrears. By the end of 2012, the government took over RSD 13bn worth debt of health care institutions as public debt, under the special law. Amendments to the relevant laws limited the health care expenditures (expenditures are executed according to financial plans, supervised employment, centralized acquisition of medications), which should reduce the possibility of arrears increase in the future. Also, the government settled its debts to the road construction industry in December, in the amount of RSD 4.73bn. Finally, in early 2013, the Republic offered to local self-government to regulate its arrears for capital investments. According to the proposal, the Republic shall issue debt securities to creditors (thus regulating the local self-government obligations), and shall assume the revenues of local self-government for settling obligations of the Republic due on the securities. The grace period shall be one year, and the call for local self-government and creditors to apply shall be open till late April this year. To prevent new arrears, the Budget System Law and the special decision limited expenditures of local self-government, as follows: by wage planning (according to fiscal rules), by maximizing the number of employees, through recommendation for savings, by payment priorities (fixed costs), through reporting on planned expenditures to the Treasury. Limiting the public sector payment deadline to 45 days, starting as of 2013 (90 days for the health care fund, starting as of 2015) should also be helpful as a general principle.

What did the Government promise?

The 2013 budget

The 2013 budget envisaged a sharp reduction of the Republic deficit by about RSD 70bn, i.e. to RSD 122bn. Sharp deficit reduction is required so as to terminate almost uncontrolled public debt growth at the end of 2013. The planned deficit reduction in 2013 will be achieved primarily by higher taxes and decreasing growth of the public sector pensions and wages, i.e. based on the effects of measures established back in 2012. For realization of the planned budget deficit in 2013, it will also be necessary to sharply reduce expenditures on the purchase of goods and services and expenditures on subsidies.

Reduction of expenditures on the purchase of goods and services and of expenditures on subsidies has not been prepared well enough. The main mechanism for reducing expenditures on the purchase of goods and services, and partly subsidies, is a limitation of allowable expenditures of the state authorities for this purpose. Obviously, there is a lack of a clear plan for exactly specifying the government functions and programmes to be abolished or markedly reduced, as well as the reason thereof. This plan is required in order for the announced deficit reduction to be credible, but also for rationalization of public expenditures to be implemented in economically optimal way – by reducing least useful expenditures. It is therefore possible that the 2013 deficit shall be by about RSD 25bn higher than the projected. There are additional risks that the republic budget expenditures, therefore the deficit as well, will be even higher. The budget has not envisaged the funds for the Smederevo steel mill, even though substantial funds were allocated for this company in 2012. If this company is not to be privatized soon, it is certain that some unplanned expenses, related thereto, will appear in 2013. In addition, the announcements have appeared in the public that one-off programme, the "13th pension", would evolve into a permanent right. The budget proposal envisaged only payment of the remaining installments of this programme, so the continuation thereof would lead to deficit increase. However, the most dangerous risk certainly covers the potential problems that may occur in implementation of the announced 2% indexation of wages and pensions in April, since it is possible that inflation could be slightly higher than expected [2].

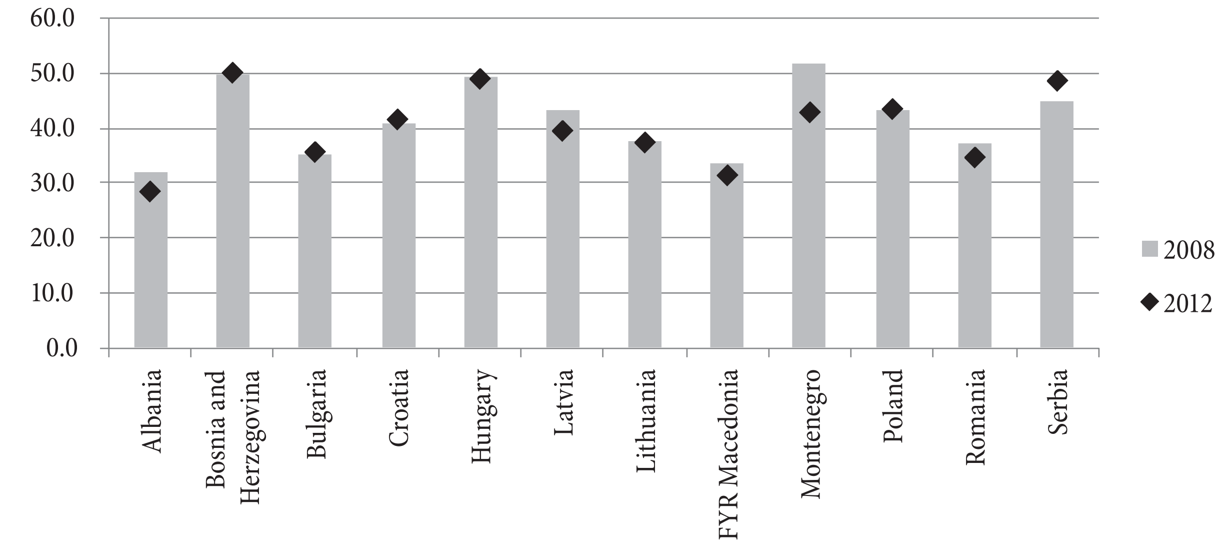
Fiscal Strategy

From a standpoint of a medium-term path of fiscal deficit and public debt, the contents of the "Fiscal Strategy for 2013 with projections for 2014 and 2015" is of a particular importance. So, this is a document that determines the budget frameworks for 2014 and 2015. In this regard, it should be noted that high systemic deficit of Serbia's public finance is necessary to be eliminated in the forthcoming years primarily through expenditure reduction. Discrepancy between the levels of public revenues and the existing public expenditures is systemic in its nature (the so-called structural deficit), so this imbalance shall not disappear with a mere economic recovery, but it is necessary to implement structural measures. Given the empirical regularity, according to which a bloated public sector slows down economic development of countries in transition, as well as the fact that Serbia's public spending is among the highest in Eastern Europe (Figure 2), it is necessary to achieve the fiscal deficit reduction primarily through the reduction of public expenditures.

Fiscal Strategy envisaged the fiscal deficit reduction to terminate the public debt increase and a decrease thereof in the medium term. The Fiscal Strategy proposal has planned the deficit to stand at 3.6% of GDP in 2013, 1.9% of GDP in 2014 and 1% of GDP in 2015. The deficit path is defined in such a way to terminate the increase in public debt share in GDP at the end of 2013, and, in the coming years to result in the public debt to GDP ratio decrease [3].

The projected sharp deficit reduction in 2013 should be provided by short-term measures – based on the effects of higher taxes and limited increase in pensions and wages. It is planned to achieve the fiscal deficit reduction as of 2014 only through public expenditure reduction but not through the additional increase in public expenditures. The Fiscal Strategy stipulates that the public expenditure share in GDP, over only two years (2014-2015) shall decrease by about 3% of GDP. The approach, according to which the necessary reduction of fiscal deficit is achieved in the medium term, by public expenditure reduction, is good.

Figure 2: Public expenditures in Serbia and in comparable countries (% of GDP, 2008 and 2012)



Source: IMF, World Economic Outlook Database (estimates for 2012)

Large savings will yet not be achievable only by more rational consumption and by reduction of government discretionary expenditures, but they may only result from implementation of comprehensive structural reforms in public expenditures.

Pension system

Fiscal Strategy envisages several important reform moves. In the field of pension reform, it is stated that factors of actuarial fairness for retirement, before and after normal retirement age, will be introduced in the first half of 2013. Employee who retires at a younger age shall receive his/her pension, as a rule, much longer than the employee who retires at older age. It is therefore necessary for actuarial fairness factors (actuarial penalties) to provide for the workers who retire at a younger age to receive proportionally smaller amount of the pension benefit, i.e. the workers who retire later to receive a proportionally greater amount of pension, depending on how long they are expected to receive pension. It is good that this principle has been included in the Fiscal Strategy. A concrete solution is expected in 2013 in order to start with application thereof as of 2014. This is about establishment of the percentage reduction of pension for each retirement year prior to normal retirement age, i.e. the pension increase for each year of retirement after normal retirement age.

Public sector wages

As regards the public sector wages, the Government has committed itself to consistent application of indexation rules. According to data, the public sector wages increased by 11.4% in the period 2010-end 2012, more than it was projected by legal indexation. Bad practice has continued in the year of 2013, in which the projected wage indexation stood at about 4.2% (2% in April and 0.5% in October), while the 2013 Budget Law projected increase in the wage pay budget item, by as much as 7.6%. One explanation for the increase in wages over the planned indexation is employment growth, while the other is justified by advancement of civil servants during the year. However, these factors can explain only portion of the increase, primarily because employment did not significantly increase in this period, and the advancement of some employees coincides with the retirement of other employees in the civil service – since the employees who retire usually have higher wage grades than those who are still to advance, it is reasonable to assume that these two pathways have neutral impact on wage bill growth. Therefore, it is necessary to prevent any increase in wages above indexation and abuse leading to growing wages against fiscal rules – the Government has committed itself to the aforesaid in the Fiscal Strategy.

The Government is committed to introduction of a unified system of wage grades, which would solve the issue of wages for similar positions in different state and public services, in a consistent and systematic manner. According to the current regulations, workers with equal qualifications and equal job descriptions earn even as much as multiple-different wages in different segments of state administration.

Public sector employment

It is also envisaged to develop a rationalization programme of the public administration employees in 2013, including local self-government as well. The previous policies of reducing the number of civil servants were conducted *ad hoc* and mostly occurred at the time of budget adoption – when there was a need to cut expenditures. Such policies were irrational and inefficient. The Government considers offering a systematic solution for inefficiency and redundancy to certain state and public services in 2013. Introduction of the central register of employees, planned for the first half of 2013, is very important since, paradoxically, the number of public sector employees at different levels is still unknown.

Public enterprises

An important segment of reforms planned in 2013 is related to public enterprises. The Fiscal Strategy has envisaged for 2013 the adoption of action plan for completing the restructuring procedure by mid-2014 and initiation of bankruptcy in 2013 as regards some enterprises, as well as abolition of the respective subsidies. Also, the plan to define certain efficiency criteria for public enterprises in state ownership in the first half of 2013 is very important for measuring their performance.

Subsidies

As regards subsidies, there is a large room for improvement in public finances. The Fiscal Strategy envisaged that subsidies to "Serbian Railways" shall be limited to 0.5% of GDP per year. As for the public enterprise "Resavica", it is planned to find a strategic partner until privatization, i.e. until a complete termination of subsidies to this enterprise by 2015. Furthermore, the subsidies for employment and for investment will be limited to local public enterprises, as well as funds for employment and investing (though, the method and the amount have not yet been determined).

Social protection

In the field of social protection, the Government has committed itself in the Fiscal Strategy to develop the social map in 2013 and to provide local self-government with more active role in social protection of the poor, which is justified given higher funds that local self-government was granted after the so-called fiscal decentralization in 2011.

What did the Government fail to promise?

Expenditure control in 2013

The first challenge is to realize the plans of the 2013 budget. In addition to the aforementioned possibility that expenditures may be higher than planned, the risks are also pronounced on the public revenue side. The budget plan thereof is optimistic, even though the 2013 inflation, higher than planned, could increase revenues and bring them closer to the planned level [4]. Therefore, there is a much greater risk of exceeding the planned fiscal framework in 2013 on the expenditure side than on the budget revenue side. In any case, it is crucial for the Government to control what is in its power, i.e. the expenditures. In this regard, the Fiscal Council proposed to the Government to define quarterly goals of expenditure execution [4]. Quarterly execution goals should be defined for total expenditures of the republic budget and for individual expenditures that are particularly risky for exceeding the planned budget framework – such as expenditures on the purchase of goods and services and expenditures on subsidies. If the quarterly goals fail, conditional measures should be defined, to automatically take effect. Measures should be defined in advance and they would automatically take effect if the quarterly goals are infringed. Conditional measures would bring additional credibility to the Government determination to limit the budget expenditures. These measures could be related to indexation of pensions and wages in October, to suspension of some subsidy programmes or to something else.

Arrears

The second challenge is related to arrears. It is particularly important to prevent the emergence of new Government arrears in 2013 and to solve the problem of the existing ones (as said, the latter decreased in late 2013 but the highest portion of arrears remained unsolved). The accumulation of arrears as regards Government payments is dangerous from two aspects – on the one hand, it threatens public finance since the outstanding liabilities are mostly shifted to public debt at the end, and, on the other hand, the Government arrears increase illiquidity of the economy that fails to receive funds for the product or service sold.

Pension system

The third open issue is the pension system. In addition to the announced introduction of actuarial fairness factors, it is necessary to introduce a gradual increase in the retirement age of women in order to reduce unreasonably big difference, of as much as five years, between the retirement age of women and men. It is possible to gradually expand the age for six additional months during one calendar year, so that the retirement age for women is at least 63 years at the end of the transitional period of six years. Demographic and social situation in Serbia does not provide for justification for a lower retirement age of women than that of men – 60 years for women, compared to 65 for men. The largest number of developed countries equalized retirement age of men and women over the past years. Among the comparable countries experiencing similar problems like Serbia, Bulgaria recently adopted the solution according to which men retire at 65 years of age and women at 63 years of age, while Poland opted for more pronounced reform – retirement age of both women and men was gradually increased to 67 years of age.

Fiscal decentralization

The fourth challenge is the relationship between the Republic and the local self-governments. By legislative changes in 2011, local self-government received about RSD 40bn of additional funds for reduction of the Republic revenues. With this in mind, it is surprising that additional transfers are approved in 2013 from the national level to local self-government, this time for the maintenance of road infrastructure (RSD 4bn). In addition to the said (unnecessary) transfer, the amount of other, non-earmarked transfers to the local level, in the amount of about RSD 7bn, should be reconsidered and reduced. In addition to the current issues, it is necessary to systematically reconsider the relations between the Republic and the local self-governments. The vertical fiscal imbalance is obvious between the central government and local levels, due to multiple unilateral and unsystematic legislative amendments in the past few years. The optimal approach would cover restored relations under the 2007 Law. This would imply reduction of the municipalities and cities' share in income tax, from 80% to 40%, is in accordance with good economic practice according to which main tax forms, with pronounced effects on economic activity (such as payroll tax), should dominantly belong to central government levels. Also, returning to the previous practice would imply increasing amount of transfers from the current 1.1% of GDP to 1.7% of GDP. Finally, if local self-governments accept the obligation to maintain 6.000 km of local pre-categorized roads, legal provisions from 2007 should be finally expanded within this package, in order to transfer a total amount of RSD 4 billion of funds to relevant municipalities and towns.

The fifth task – which certainly should stay in focus – is commencement of fulfilling the commitments assumed in the Fiscal Strategy. This has to do with solving the problem of enterprises in restructuring, limiting and reducing subsidies, limiting the public sector wages, developing and applying the programmme of employment rationalization in the public sector, as well as other relevant questions mentioned above. Only by implementation of planned measures and by introduction of new ones, can we reach a desired path of sharp decrease in fiscal deficit and, consequently, in public debt.

Conclusion

The first wave of fiscal consolidation was intended to prevent escalation of the government financial problems and was aimed at late 2012 and at 2013. Changes made in the set of laws on tax implications and regulation of the public finance system, as well as limitation of expenditures (primarily the public sector wages and pensions), can be said to have laid solid foundations to achieve this goal. With consolidation measures taken, achievement of this goal was also supported by abundance of funds in the international market and by low interest rates. The situation in the financial market was appropriate for smooth and relatively cheap government borrowing and provision of funds for financing a larger portion of this year's deficit. Still, the "honeymoon" is coming to an end. The current year is full of uncertainty; we are nearing the year of 2014 which is more demanding in budgetary terms than 2013. Upon considering the situation and trends, the Government has committed itself late last year to start carrying out the reforms on several tracks, in order to further reduce the deficit in 2014 and 2015. Vigilant attention is required within this time frame, in three directions.

First, public finances should be controlled in 2013 in order to achieve the general government deficit, planned at 3.6% of GDP. This would help create a good position to further go on in 2014, in terms of an additional deficit reduction and, finally, of refraction of the public debt entrance trajectory downwards. According to present situation, this task will not be easy at all, since pronounced risks are also present on both the public revenue side and on the expenditure side. Therefore, it is necessary to react, starting from the beginning of the year and no later than the first quarter, if observed that expenditures are exceeding the plan and deficit is spinning out of control. An arrangement with the International Monetary Fund would be desirable since it would strengthen the mechanism for monitoring public finances and implementing the potential corrective measures.

Second, along with monitoring the execution of this year's budget, the Government has to adopt and implement the Fiscal Strategy measures (companies in restructuring, limiting and reducing subsidies and guarantees, restrictions on the public sector wages, development and implementation of rationalization programme related to public sector employment, etc), since these measures are necessary in order to further reduce the deficit as from 2014, and to push public debt to a downward path.

Third, the calculations show that if all the said is achieved, it will not be enough for a desirable and necessary consolidation in the medium term, and for avoidance of the public debt crisis. Profundity of our problem and the necessary of adjustment require additional measures, which are not announced to be taken yet. Several systemic fields are improperly regulated, primarily vertical imbalance in public finances between the central and local government levels. There are different modalities for solution thereof, but the best would imply a decrease in the municipalities and towns' share in income tax, from 80% to 40% by amended legal framework, whereby the funds transferred from the Republic to the local level should increase.

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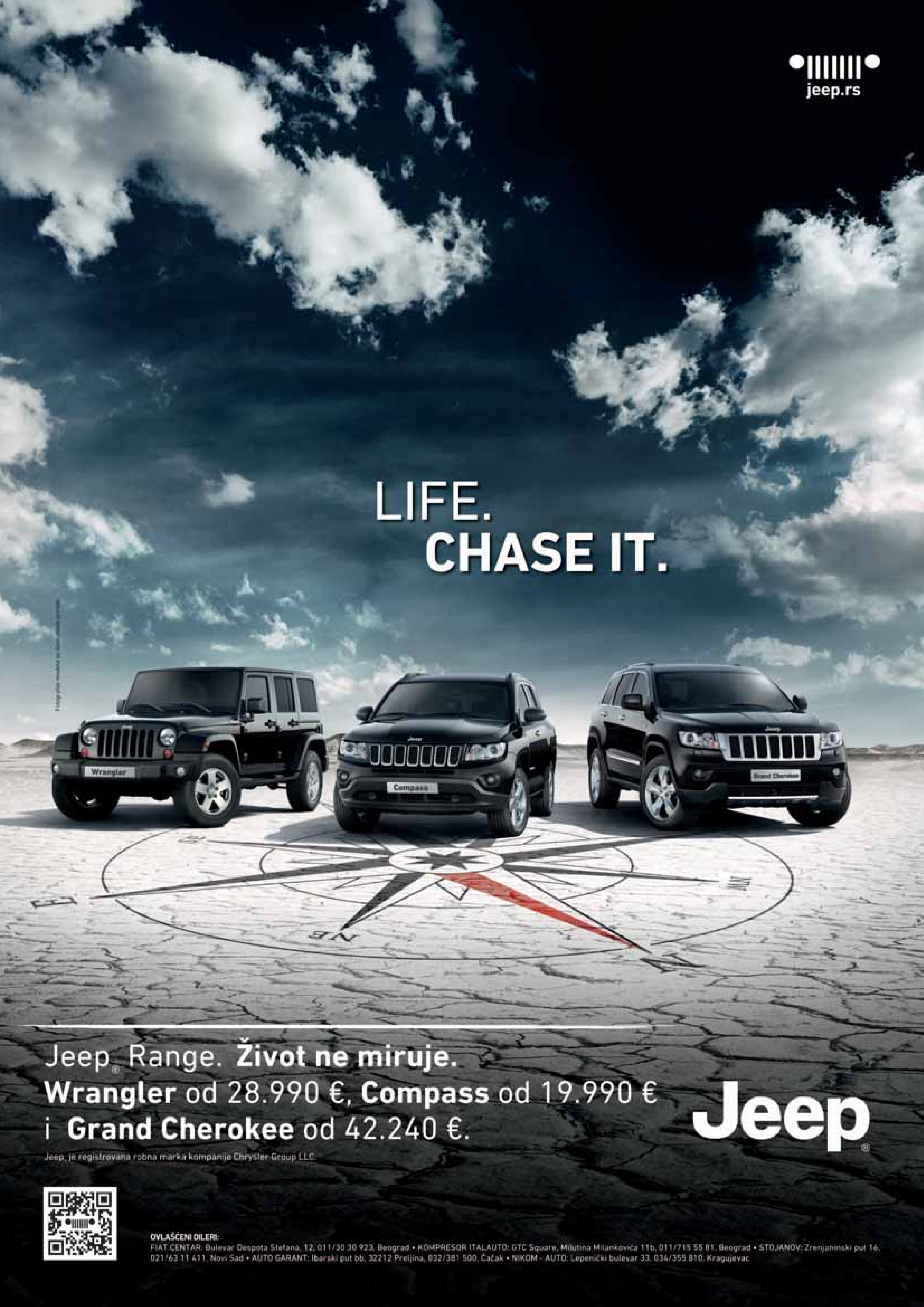
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INSUFFICIENCY OF SERBIAN ECONOMY'S OPERATING PERFORMANCES: MANIFESTATIONS, CAUSES AND MAIN GUIDELINES OF RECOVERY

Insuficijencija poslovnih performansi srpske privrede: manifestacije, uzroci i glavne smernice oporavka

Abstract

Serbia faced the economic crisis with powerless and very fragile economy. The inconvenient transition heritage made the consequences of global economic crisis even worse. The companies that had already experienced serious problems approached to bankruptcy. Other, healthier companies, kept some kind of business activity, but they were faced with the lack of capital. Low activity level disabled generating higher incomes. In this way, the possibility of growth based on internal financing sources was limited. More difficult capital obtaining, by means of share issuance, led the companies, due to insufficiently developed capital market, to borrowing at very high costs. The consequences are very worrying.

In the first part of this paper, we will try to quantify the consequences of Serbian economy's financial staggering. The aim is to visualize the complexity of financial and structural heritage and to show to what extent it is the burden to the growth of Serbian economy. At the same time, elaborations in this part should serve to identify some prerequisites for the creation of favourable business environment, stimulating to investors and able to provide the economy to operate in normal conditions. Finally, in the third part, we point to the basic guidelines in the process of overcoming financial and structural problems.

Key words: *growth, competitiveness, profitability, solvency, liquidity, risk, financial expenses, leverage, bankruptcy*

Sažetak

Srbija je ekonomsku krizu dočekala sa nemoćnom i veoma ranjivom privredom. Nepovoljno tranziciono nasleđe učinilo je da posledice globalne ekonomske krize budu još veće. Preduzeća koja su već imala ozbiljne probleme približila su se stečaju. Druga, zdravija preduzeća zadržala su kakvu-takvu poslovnu aktivnost, ali su se suočila sa nedostatkom kapitala. Nizak nivo aktivnosti onemogućavao je stvaranje većih dobitaka. Na taj način mogućnost rasta na bazi internih izvora finansiranja bila je ograničena. Otežano pribavljanje kapitala emisijom akcija, usled nedovoljne razvijenosti tržišta kapitala, upućivalo je preduzeća na zaduživanje uz vrlo visoke troškove. Posledice su veoma zabrinjavajuće.

U prvom delu rada nastojimo da kvantificiramo posledice finansijskog posrtanja privrede Srbije. Cilj je da učinimo vidljivim koliko je teško finansijsko-strukturno nasleđe i koliko je ono opterećujuće za rast srpske privrede. U isto vreme, izlaganja u ovom delu rada treba da budu u funkciji identifikovanja nekih preduslova za stvaranje povoljnog poslovnog ambijenta koji će biti stimulativan za investitore i koji će omogućiti privredi da posluje u normalnim uslovima. Konačno, u trećem delu ukazujemo na osnovne smernice u procesu prevazilaženja finansijsko-strukturnih problema.

Ključne reči: *rast, konkurentnost, profitabilnost, solventnost, likvidnost, rizik, finansijski rashodi, leveridž, stečaj*

Introduction

Economic crisis is usually and simply defined as a chronic state of abnormally low activity during a relatively longer time period. Thereby, the consequences are very hard and become more and more serious with the prolonged effect of crisis. They reflect in lower GDP, low or negative growth margins, deficit in the balance of payments, higher inflation risk, growth of indebtedness and higher unemployment. National economy is suffering serious losses. In this situation, there are not many of those who are ready to disclose the real losses. Political elite, not only in Serbian case, often declares success everything that is not a total collapse. Damages do not equal only to reported losses and balances of companies and economy. We should add the lost value to such losses, appearing as the difference between the real production potential and lower activity level in conditions of crisis. Lost salaries, missed investment opportunities, lost incomes and similar damages appearing on these grounds will not be compensated. Here we should add that unachieved projected growth and prolonged effect of crisis increase the investment risk and discourage investors, which definitely postpones the end of crisis.

Serbian economy is also suffering the effects of economic crisis. Serbian economic situation is even more complex due to a history of economic difficulties longer than the current crisis. Occasionally present tendency to "blame" the economic crisis for the financial difficulties of Serbian economy is, of course, wrong, but it seems rather dangerous as well. Thereby, smaller problem is that, in this way, the responsibility for unsuccessful economic policy is purposely shifted towards the uncontrollable factors. Much bigger problem lies in the fact that avoiding facing the causes and volume of financial structural disorders could result in finding inadequate solutions that will resolve the problems by ignoring them. The years of warnings about the accumulated financial structural problems have not been understood right. Projecting growth rates is not only a matter of macroeconomic modelling. The important question is whether Serbian economy with the existing deformities could achieve any growth.

Key determinants of financial difficulties in Serbian economy

Serbian economy had very serious financial structural problems even before the economic crisis. It is well known that the transition in East-European countries is a difficult and complex process. In Serbia, the situation was even more complex due to war exposure, economic sanctions and narrowed market. The decrease of business activity, technical and technological backwardness and fall of competition were the inevitable consequences. Prolonged duration of transition complicated the business climate even further. Present investors' insecurity and the increased investment risk created the unfavourable investment climate and limited the inflow of foreign capital, especially in greenfield investments.

Business failure identification and the identification of early warnings which could indicate financial difficulties within companies and national economies is a common practice in many countries. Early warnings are mostly based on the information contained in the official financial statements. Their use brings the obvious benefits to both individual companies and national economy. The vital interest is to avoid crisis situations or at least to reduce the consequences to the lowest possible level. Based on high-quality information support, the economic-policy regulators can make safer strategic choices. High-quality financial analysis could help them to recognize strategically-relevant fields and create the business climate which would prompt the economic growth. The value of financial indicators is even greater due to a fact that investors pay much attention to them in a decision-making process. Financial performance measures are a sound basis for the recognition of profitable sectors, branches and companies and the decrease of adverse-selection risk.

Projecting the economic growth has to respect the existing economic potentials. Thereby, we mean the disposable capacities (level of write-off, technical and technological backwardness), the availability of working capital, indebtedness level, profit potential, possibility of servicing matured liabilities and so on. Of course, sustainable economic growth implies new profitable projects, raising the competitiveness, significant investments, the inflow of foreign capital, the acceptable relation between the internal and external financing sources and promoting exports. However, ignoring financial structural heritage, i.e. the ability of economy to bear the burden of overcoming the crisis and reach the targeted growth rate, often results in strategically-relevant documents that offer unsuccessful solutions. It is sure that, in any of those projections, we cannot ignore the burdening of companies and the economy with liabilities to creditors, suppliers, state and other interest groups. Also, it is quite sure that the state of financial imbalance is not sustainable in the long run, at least at the level which could provide sustainable growth.

Processes which existentially endanger the functioning of certain companies and the economy as a whole are related to the inability to service liabilities regularly (liquidity crisis), inability to pay debts (crisis solvency), inability to achieve necessary income level (profitability crisis) and loss of competitiveness (crisis of competitiveness). Undoubtedly, all these processes are mutually and closely related. The above specified sequence of these processes is not random. It does not indicate the sequence in the appearance of financial difficulties, but the level of visibility in their manifestation and the immediate threat of bankruptcy. The appearance of financial difficulties follows the opposite order, beginning with the fall of competitiveness, through the fall of profitability and creation of financial structural imbalance to the inability to service matured liabilities. Liquidity is often stressed first, which is the consequence of the fact that more lasting illiquidity is one of the reasons for opening the bankruptcy proceedings. According to the Law on Bankruptcy Proceedings, permanent payment inability exists when the debtor cannot service his or her cash liabilities within 45 days from the day of their maturity or if he or she stops completely all payments in the sequence of 30 days [29]. Stressing the sequence of the above-mentioned processes does not aim to make some kind of hierarchy. It is calculated mostly in order to understand right the complexity of the problem. Highlighted danger of illiquidity stresses the urgency of resolving this problem. Since liquidity is the consequence and not the cause of the problem, single and unsystematic actions in this field represent just extinguishing the fire and not a long-term solution to the problem. The seriousness of the problems in Serbian economy is much deeper.

How serious are problems in Serbian economy? This is the question imposed by itself. At the same time, it is the question often taken for granted. Nowadays, it is a common statement that the economy is in a difficult situation. Avoiding quantifying the level of deformity will certainly not help. Ignoring the early warnings brought us into a situation that the price of economy's recovery will be much higher and that it will only rise with time. However, prescribing the cure for the solution of problems based on such common statements (and some are inclined to do so) is wrong and dangerous. It is similar to the situation when the doctor would try to cure an obviously ill patient without any deeper tests and establishing diagnosis. In both cases, chances for success are not big.

Analysis of short–term illiquidity risk

In the attempt to identify more precisely the level of financial disorders in Serbian economy, in this paper we will start from perceiving financial structural problems of the economy. It is a convenient analytical method to evaluate performances. Thereby, we do not bring into question our previous statements related to the fact that liquidity is not the first problem in the sequence of their appearance. We will use official financial statements for the period 2006-2011 as the basis for the analysis of economic performances [23]. Thereby, the reviews of key indicators will be given for the economy as a whole, and within this, distributed by the most important sectors. Performances of all other sectors are reported cumulatively. In the same way, the indicators of financial structural position are displayed in Table 1.

Liquidity indicators warn convincingly enough of the problem's complexity as their calculation is based on balance sheet. The values of current ratio and quick ratio are far below the usual general normals (current ratio 2:1, and quick ratio 1:1). Both indicators forecast good or bad financial structural premises in terms of capability to service matured liabilities in due time. With such results which are more or less equally serious in all economic sectors, at this point we can only state that financial deformities are such that the liquidity is almost impossible to maintain. Still, in this paper we will rely more on the analysis of cash flow, in order to evaluate the seriousness of liquidity problem. Cash flow synchronization is crucial to maintain liquidity. Statement of cash flow is far less prone to manipulations compared to balance sheet and income statement and this statement indicates, in a quite explicit way, the level of companies' and economy's exposure to business and financial risks [14, p. 61]. Furthermore, various empirical studies confirm the relevance of cash flows in the processes of evaluating companies' and economy's financial health and in recognizing the early warnings [3], [10].

The movement of key cash flows in 2011 is displayed in Figure 1: cash flow from operations (CFO), cash flow from investing (CFI) and cash flow from financing (CFF). Cash flow from operations has the biggest value in terms of perceiving the capability to settle current liabilities. Good news is that, in the analysis of this cash flow, we can see that it is positive for the first time after 2007 (at the level of the economy). The situation is similar in individual sectors as well, except in information and communications sector where these cash flows are positive in the whole analysed period and in processing industry where cash flows were negative in 2011. However, after this good news, all others that follow are mostly bad ones. A somewhat deeper analysis reveals that positive CFOs result from the existing income which is, unfortunately, not the consequence of increased core-business profitability, but of decreased financial expenses (we will discuss it later on) and very high growth of operating liabilities. So, operating liabilities rose compared to the previous year by some more than 306 billion dinars. Of course, we would like if positive cash flows came from revenue growth, decrease of receivables and decrease of liabilities to suppliers.

Speaking of the fact that we cannot be satisfied with reported CFOs, there are the indicators like CFO/Current Liabilities and CFO/Total liabilities. Empirical studies show that good values for the first indicator are those which exceed 0.4, and for the second indicator those which exceed 0.2 [7]. Only achievements within the information and communications sector and partially energy sector approach to such values. The situation is alarming in all other sectors, since from total number of reported indicators (sector number and year number) one half has values below zero. The fact that CFO should serve for financing new investments, loan repayment and paying dividends to owners only confirms the seriousness of the situation. Cash-flow synchronization and servicing matured liabilities seems like mission impossible.

After these brief elaborations, there is a logical question imposed: how do many companies and the

Table 1: Indicators of sector's financial positions

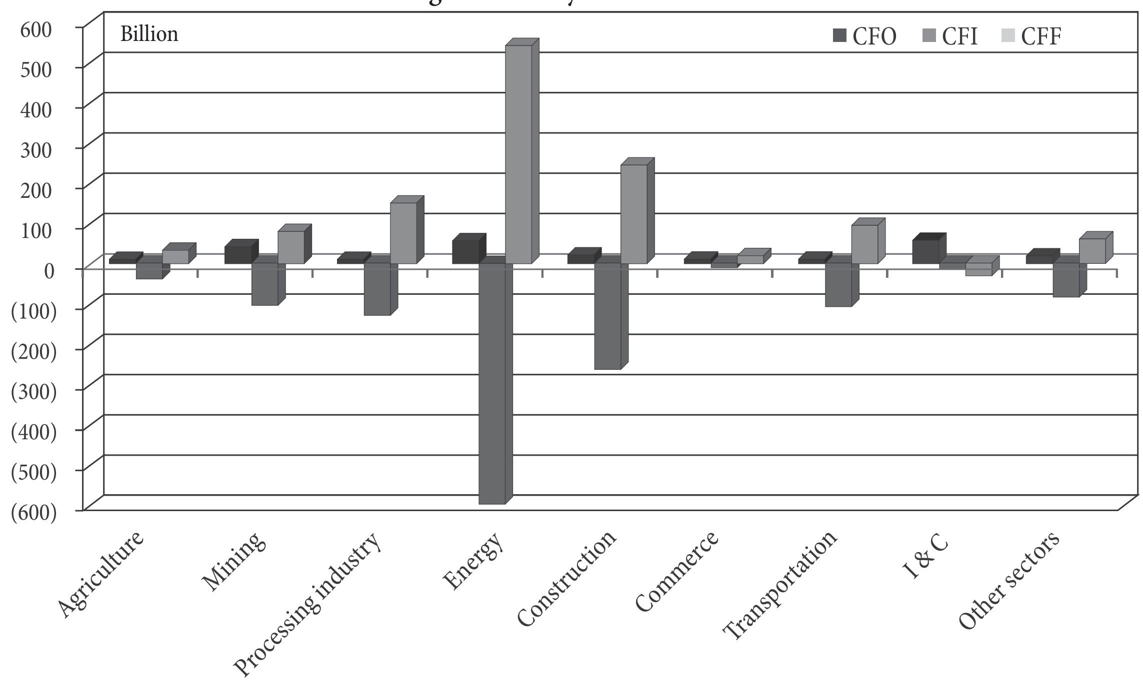
	Indicators	Current Ratio					Quick Ratio					CFO/Current Liabilities					Cash Cycles				
		2007	2008	2009	2010	2011	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
Liquidity	Agriculture	0.96	0.98	0.93	0.89	0.84	0.56	0.60	0.57	0.51	0.47	0.00	(0.07)	(0.05)	0.01	0.02	22.90	34.65	39.67	16.86	5.52
	Mining	0.79	0.61	0.67	0.85	1.14	0.33	0.30	0.33	0.37	0.58	0.03	(0.07)	(0.02)	0.03	0.36	(3.22)	3.99	(33.75)	(24.66)	(1.18)
	Processing industry	1.05	1.05	1.01	1.02	0.98	0.59	0.57	0.58	0.58	0.57	(0.00)	(0.09)	0.00	(0.07)	(0.00)	33.63	43.12	50.16	52.41	50.28
	Energy	1.08	1.00	1.10	0.89	0.89	0.81	0.79	0.89	0.74	0.75	(0.70)	0.21	0.10	0.18	0.22	35.48	31.04	26.18	15.89	2.14
	Construction	0.89	0.90	0.94	0.88	0.88	0.55	0.53	0.52	0.47	0.46	0.10	0.02	(0.01)	(0.08)	0.04	(96.46)	(93.51)	(89.55)	(58.65)	(44.67)
	Commerce	1.01	1.04	1.01	1.01	1.01	0.61	0.63	0.63	0.61	0.60	0.03	(0.10)	(0.00)	(0.05)	0.00	12.80	18.89	24.50	23.42	23.53
	Transportation	0.88	0.84	0.79	0.92	0.88	0.69	0.67	0.62	0.71	0.66	0.18	(0.15)	(0.02)	(0.10)	0.04	(42.83)	(24.29)	(27.22)	(5.49)	0.99
	I & C	1.02	0.80	0.85	0.86	0.77	0.70	0.55	0.60	0.62	0.56	0.50	0.05	0.24	0.25	0.34	(81.15)	(82.68)	(86.78)	(96.25)	(110.63)
	Other sectors	1.17	1.00	0.96	0.99	0.99	0.77	0.64	0.64	0.73	0.75	(0.04)	(0.06)	(0.06)	(0.02)	0.03	(29.30)	(25.56)	(53.99)	(40.76)	(28.06)
	Economy	1.02	0.98	0.97	0.97	0.96	0.62	0.60	0.60	0.61	0.60	0.02	(0.07)	(0.00)	(0.03)	0.05	13.94	18.38	18.61	22.45	22.57
		Fixed Assets Coverage Ratio					Fixed Assets and Inventories Coverage Ratio					CFO to Total Liabilities					Debt/Equity Ratio				
Solvency	Agriculture	0.84	0.82	0.76	0.74	0.70	0.80	0.78	0.77	0.70	0.67	0.00	(0.05)	(0.04)	0.01	0.02	0.85	1.01	1.10	1.30	1.39
	Mining	0.70	0.55	0.34	0.39	0.57	0.73	0.66	0.65	0.71	0.85	0.02	(0.05)	(0.01)	0.02	0.16	0.92	1.37	3.03	2.74	1.48
	Processing industry	0.66	0.62	0.58	0.54	0.48	0.74	0.72	0.71	0.69	0.68	(0.00)	(0.06)	0.00	(0.05)	(0.00)	1.92	2.17	2.39	2.84	3.11
	Energy	0.88	0.86	0.88	0.82	0.85	0.93	0.92	0.94	0.91	0.90	(0.39)	0.12	0.06	0.11	0.13	0.32	0.40	0.43	0.49	0.37
	Construction	0.64	0.60	0.58	0.47	0.63	0.71	0.68	0.70	0.67	0.72	0.08	0.01	(0.00)	(0.05)	0.03	1.71	2.00	2.06	2.72	1.51
	Commerce	0.78	0.74	0.71	0.62	0.67	0.75	0.73	0.71	0.61	0.61	0.03	(0.08)	(0.00)	(0.04)	0.00	1.41	1.79	1.98	3.23	2.96
	Transportation	0.74	0.72	0.69	0.63	0.66	0.92	0.90	0.86	0.87	0.86	0.10	(0.08)	(0.01)	(0.06)	0.02	0.65	0.73	0.89	1.27	1.07
	I & C	0.59	0.53	0.51	0.48	0.44	0.92	0.85	0.86	0.85	0.78	0.24	0.02	0.11	0.12	0.18	1.17	1.45	1.60	1.82	2.25
	Other sectors	0.79	0.65	0.61	0.64	0.66	0.92	0.84	0.84	0.86	0.88	(0.02)	(0.03)	(0.03)	(0.01)	0.02	0.84	1.29	1.45	1.45	1.30
	Economy	0.74	0.69	0.65	0.62	0.66	0.81	0.78	0.77	0.76	0.77	0.01	(0.04)	(0.00)	(0.02)	0.03	1.12	1.40	1.59	1.83	1.51
		Assets Turnover					Inventories Turnover					Receivables Turnover					Payables Turnover				
Efficiency	Agriculture	0.54	0.54	0.48	0.55	0.66	3.85	3.61	3.23	3.49	3.78	3.40	2.89	2.42	2.94	3.72	2.04	1.90	1.63	1.72	1.93
	Mining	0.94	0.76	0.60	0.78	0.71	7.60	5.68	4.69	4.91	4.56	5.56	9.16	6.99	8.82	8.65	3.12	3.65	2.23	2.60	2.96
	Processing industry	0.85	0.86	0.71	0.76	0.79	4.05	3.93	3.27	3.54	3.66	4.11	4.09	3.32	3.45	3.58	2.51	2.63	2.13	2.33	2.41
	Energy	0.37	0.39	0.41	0.47	0.36	9.65	10.99	10.92	13.72	13.98	3.94	3.74	3.13	3.35	3.03	3.85	3.65	2.94	3.05	2.53
	Construction	0.67	0.67	0.52	0.49	0.43	4.16	3.81	2.76	2.47	2.31	3.46	3.35	2.77	2.94	2.88	1.26	1.22	1.03	1.10	1.11
	Commerce	1.21	1.23	1.09	1.20	1.38	6.57	6.28	5.39	5.44	5.58	5.44	5.24	4.37	4.43	4.84	3.32	3.35	2.88	2.90	3.11
	Transportation	0.53	0.59	0.56	0.66	0.63	13.26	14.80	12.53	11.53	9.55	5.83	5.99	4.66	4.65	4.48	2.74	3.32	2.71	3.15	3.07
	I & C	0.60	0.55	0.53	0.54	0.57	8.77	7.96	7.32	7.33	7.24	5.78	5.45	4.86	4.75	4.77	1.96	1.87	1.72	1.64	1.54
	Other sectors	0.44	0.41	0.35	0.36	0.38	4.21	3.56	3.05	3.50	4.35	4.03	3.87	3.21	2.92	2.85	1.77	1.64	1.27	1.35	1.52
	Economy	0.78	0.77	0.67	0.71	0.71	5.45	5.10	4.33	4.56	4.68	4.63	4.52	3.73	3.82	3.94	2.77	2.73	2.23	2.38	2.46

economy as a whole function at all? The answer to this question requires the understanding of operating cycle and cash gap. Operating cycle implies a time period from the moment of inventory purchase, through the production and sales of products, until collection of receivables of good sold. Obviously, we can recognize two important components in the operating cycle. The first one refers to the number of days from inventory purchase to sales of final products and it is called "days inventory held". The second component of operating cycle includes time from the moment of product sales to receivables collection and it is called "day accounts receivable outstanding". The duration of operating cycle clearly points to the need of providing current-assets financing sources. These needs are partly financed from the so-called spontaneous operating liabilities, where the most important position is reserved for suppliers. The remainder between the length of operating cycle and period when we settle liabilities to suppliers (days accounts payable outstanding) is a cash gap. Cash gap points to the time when we should provide other sources for financing the current assets. Short-term loans are usually used to that end.

Generally speaking, fewer days requiring additional financing should mean higher ratio of cash flow from operations to average current liabilities. Thereby, shortening the cash gap could be achieved in two ways: by more efficient production, faster inventory sales and faster receivables charge or by more aggressive use of suppliers in the process of financing the current assets [24, pp. 294-295]. The first way is preferable since it implies raising the efficiency in using current assets. The other option may be very problematic. The analysis of operating cycle and cash gap for Serbian economy and by sectors is displayed in Figure 2.

At first sight, if we measure liquidity from the point of view of cash gap, the situation is very favourable. At the economy level, period which requires additional current-assets financing is encouraging 23 days. In general, the situation is even more favourable if we watch cash gap distributed by sectors. Only processing industry requires 50 days of financing from additional sources while commerce is somewhere near the average for the economy. In all other sectors, cash gap is lower (agriculture, energy, transportation) or even negative (mining, constructions, information and communications, other sectors). Unfortunately, such cash-gap movements are not the consequence of increased efficiency in managing inventories and receivables in any of the analysed sectors. They result from an unscrupulous abuse of suppliers who, in all sectors, bear a great burden of financing the current assets. In processing industry, suppliers collect their sold products in about 5 months on average, in agriculture in more than 6 months, in the information

Figure 1: Analysis of cash flow



and communications sector in about 8 months, while the worst situation is in construction sector where suppliers wait 11 months to collect. The biggest unpleasant surprise is the information and communications sector which has the shortest operating cycle and is the only one to have positive CFOs in all analysed years, but whose suppliers wait to charge even 237 days on average.

Previous analysis points to several important conclusions. Firstly, companies shift operating-cycle financing mostly to suppliers. Secondly, suppliers, mostly due to inefficient collecting of their receivables, cannot close their cash gap, which directs them to short-term borrowing. Thirdly, in such conditions, the illiquidity problem takes on the effect of spiral. Illiquidity is shifted from buyers' companies to suppliers and then further, to their suppliers and so on. Fourthly, the biggest damage arising from this situation appears due to a fact that, in this way, illiquidity enters the healthy parts of the economy as well.

By aggressive (ab)use of suppliers in current-assets financing the illiquidity problem is not resolved. It is only postponed. The longer is postponement, the bigger are the problems, and resolving them becomes more painful. It is familiar that increasing liabilities to suppliers above the usual level is not a long-term sustainable cash flow [26, pp. 386-387]. Such increase in current liabilities is only a postponement of cash outflow. The problem in Serbian economy is even more complex if we have in mind that the illiquidity problem is the consequence of other serious disorders.

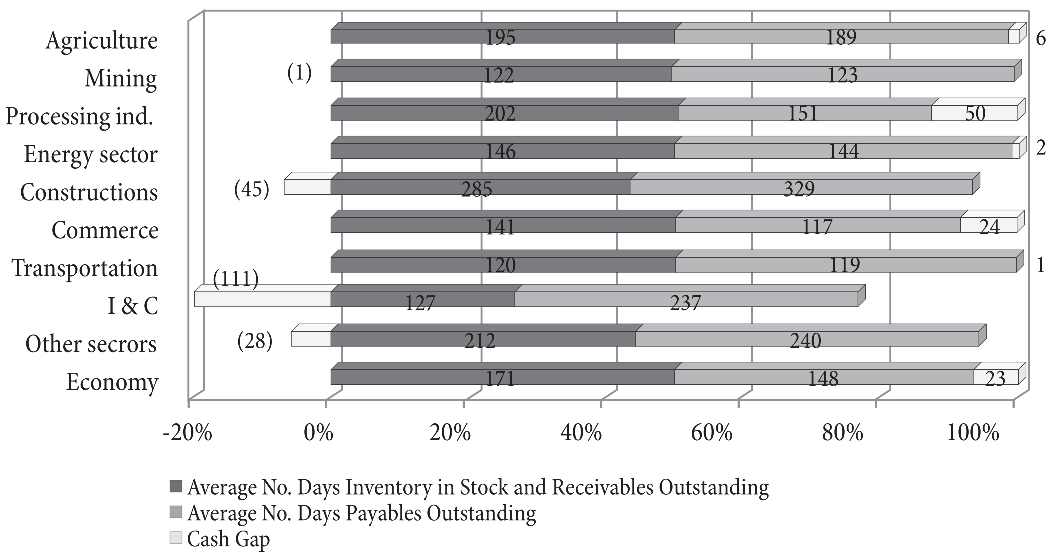
Analysis of long-term solvency risk

Short-term liquidity problems arising from the inability to synchronize inflows and outflows from operations could be resolved by the insertion of liquid funds in the economy, more efficient cash-flow management and similar measures. Problems are more complex when the economy is in a situation when, besides current liabilities, it cannot settle liabilities based on interest payment and repayment of financial debts. In that case, besides liquidity crisis, there is solvency crisis as well. The inevitable accompanying elements of solvency crisis are fall of profitability, financial-structure disorders, fall of investors' trust, and growth of cost of capital.

Previously mentioned relations are well-known in literature [24, pp. 296-299]. The lack of necessary funds forces one towards borrowing. It is a good strategy in situations when borrowed funds are invested in assets that bring return on assets (ROA) which is higher then financial expenses after tax. However, at the same time the increase of debt in capital structure increases the risk of inability to pay interests and repayment of financial debts, thus increasing the incremental borrowing costs. When ROA falls below financing costs after tax it means that the owners have losses from such borrowing. In other words, return on equity (ROE) decreases. Hence the importance of measuring long-term solvency risk.

Identifying long-term solvency risks requires wider range of indicators. Thereby, the most important ones are indebtedness ratio, coverage of fixed assets (and inventories)

Figure 2: Analysis of cash cycles



with high-quality financing sources, sufficiency of CFO in servicing debts (these indicators are displayed in Table 1), synchronization of cash flow from operations, cash flow from investing and cash flow from financing (see Figure 2), net working capital and profitability (being probably the most important solvency determinant).

Capital structure is closely related to solvency-based risks. This is because movements in indebtedness increase or decrease the above-mentioned risks. Our analysis shows that, at the economy level, debt is, in the analysed period, higher than equity by about 1.5 times on average. However, capital structure distributed by sectors varies significantly. So, for example, in energy sector debt to equity ratio is averagely only 0.4 (among others, due to extremely high revaluation reserves). On the other hand, the least favourable values are present in processing industry, 2.49 on average, commerce, 2.27 on average, construction, 2.0 on average and mining, 1.91 on average. Having in mind previous research of this problem [16], as well as the information in Table 1, we have to point out several worrying details: in all sectors indebtedness mostly rises during the whole analysed period, accumulated losses rise steadily, the share of short-term debts in total debts is considerable, while the burden of interest is hardly bearable. The fact is that financial risks increase with the growth of indebtedness. It results in greater investors' caution and the increase in cost of capital.

We will get bigger picture of financial structural disorders by the analysis regarding methods of financing certain parts of assets. In order to do so, two indicators are important: fixed assets coverage ratio and fixed assets and inventories coverage ratio. It is well-known that the most risky assets (fixed assets) should be financed from the best-quality sources, meaning from equity. However, fixed assets are not entirely financed from own sources in any of the sectors. Also, long-term financing sources (equity plus long-term debt) are not enough to finance fixed assets and inventories. In other words, it means that a part of fixed assets and inventories is financed from short-term sources. All this increases the exposure of economy to long-term financial risks. Capital structure and assets structure in 2011 are displayed in Figures 3 and 4.

In favour of the fact that such a situation was inevitable during the analysed period we offer the analysis of cash-flow movement (see Figure 1). Namely, often negative cash flow from operations (at the economy level, after three years of negative cash flow from operations, we have positive cash flow only in 2011) did not enable significant investment financing from internal generated sources. This was not feasible even with the above-mentioned abuse of suppliers. It led to additional borrowing, mostly under unfavourable conditions. Such a situation causes multiple problems. The first one is related to borrowing, which we have already discussed. The second one comes from the fact that there are not enough investments in conditions of scarce internally generated financing sources, difficult obtaining of capital by share and bond issuance and expensive credit sources. The third problem arises from the previous two. Insufficient investments also mean the insufficient range of activity (insufficient revenues), which implies very tight operating margins. It is not possible to cover high financial expenses from such margins and, consequently, losses are unavoidable.

The movement of net working capital, as the most

Figure 3: Analysis of capital structure

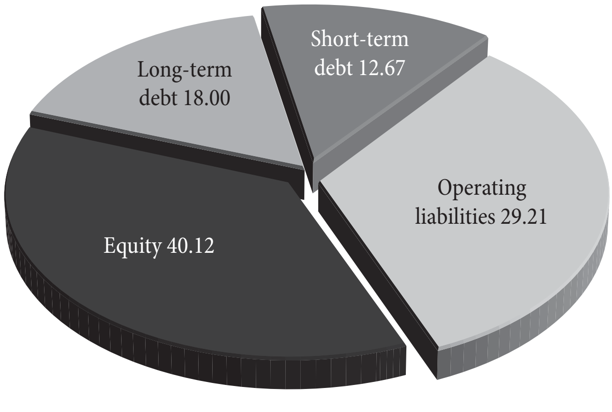
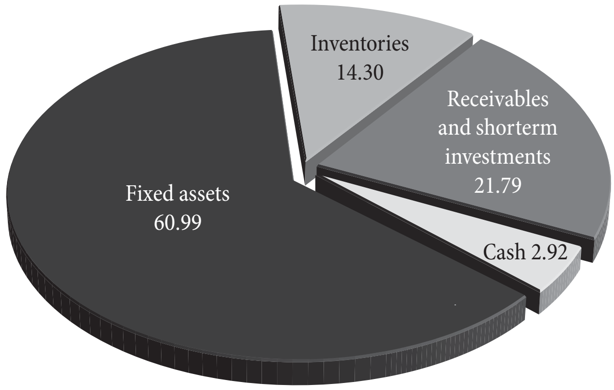


Figure 4: Analysis of asset structure

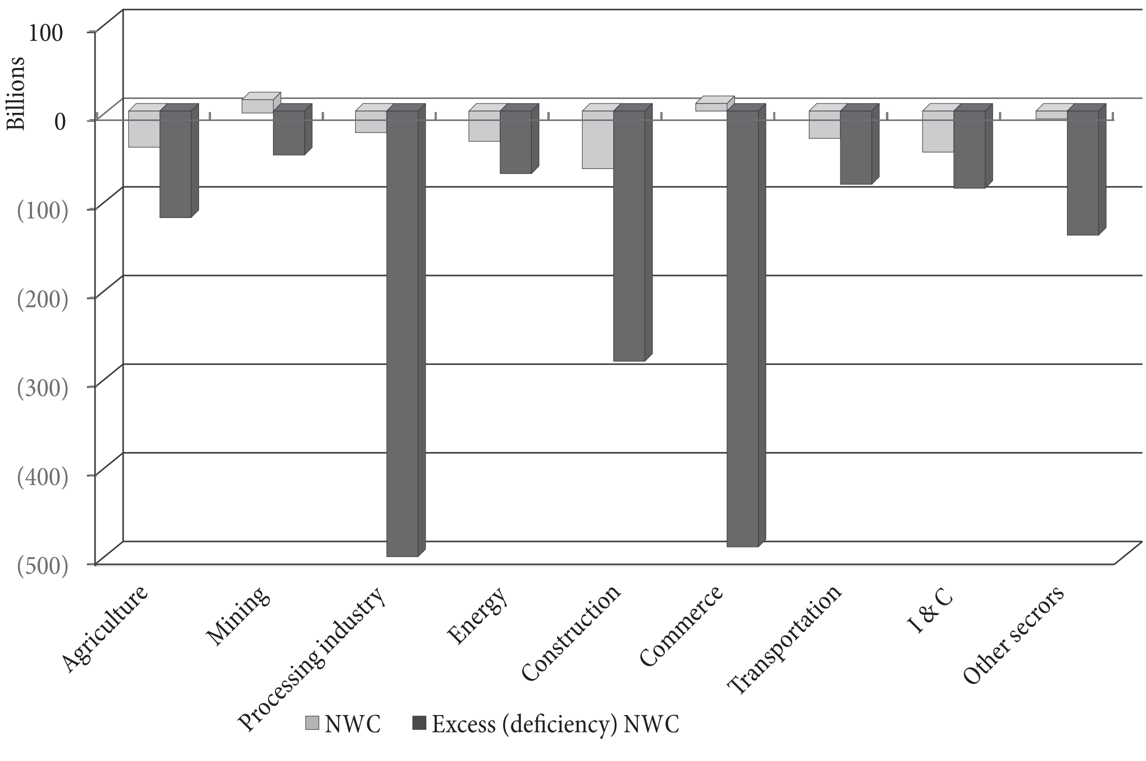


widely-used measure of companies' and economy's financial equilibrium, could be guessed quite easily from the previous story. Chronic lack of long-term financing sources causes that net working capital, as the difference between long-term equity and fixed assets, is often negative. So, for example, own net working capital (being the difference between equity and fixed assets) is negative in all sectors and each analysed year. In almost all years, net working capital is negative in agriculture, mining (except in 2011), construction, transportation and information and communications (except in 2007). During the whole period, net working capital is positive only in commerce and, in some years, in processing industry and energy. However, the missing net working capital (long-term capital necessary for fixed assets-and-inventory financing) is much bigger, which is displayed in Figure 5. It is only after this review that we could get a bigger picture of deformities in Serbian economy.

There is one very serious question imposed by previous assumptions. Is solvency crisis the biggest problem in Serbian economy and is it so big that it cannot be overcome? Thereby, we must not neglect a few important facts. Financial structural disorders are very serious and their presence causes serious problems. Capital is decreasing steadily. From debt share of about 53% in 2007, the economy came to debt share of about 60% in 2011. It is undoubtedly that financial risks are rising, especially if we have in mind the level of financial expenses. Despite all this, the answer to previously asked question is negative.

Empirical studies, both in developed and developing countries, clearly show that capital structure depends on numerous factors. Therefore, there are some important factors like macroeconomic conditions, availability of financing sources, type of activity, management capability etc. In developed countries, the share of total liabilities in total sources is for instance, at 66% in USA, 67% in Japan, 72% in Germany, 69% in France, 67% in Italy, 575 in UK and 61% in Canada [20]. The analysis based on capital structure research in 10 countries of Central and Eastern Europe (countries that went through transition) shows that, during that process, they increased their leverage and decreased the gap between real and target leverage. Gradual financial system development enabled companies to have higher debt level [12]. In Bulgaria total liabilities ratio is 59%, in Czech Republic 61%, Estonia 62%, Hungary 62%, Latvia 65%, Lithuania 53%, Poland 59%, Romania 76% and Slovak Republic 59% [13]. High indebtedness level is also typical for Turkey with total

Figure 5: Analysis of net working capital



debt ratio of about 59%, South Korea about 73% and India about 67%. On the other hand, the lowest indebtedness level is in countries like Brazil about 30%, Mexico about 35% and Malaysia about 42% [6]. From our neighbouring countries, total liabilities ratio is about 63% in Croatia (on a sample of 110 companies) [22], while it is about 60% in Slovenia (on a sample of more than 3.210 companies)[9].

Previously presented research results are given in order to realize that higher debt share does not have to be a limitation to successful functioning of companies as well as of the economy as a whole. Since there is solvency crisis in Serbian economy, it speaks in favour of the fact that liquidity crisis and solvency crisis are not the only problems and that they are more the consequence than the cause of crisis. Further analysis points us to profitability, and through that, to the competitiveness of Serbian economy.

Analysis of profitability

Nowadays, people speak much more of the illiquidity problem in Serbian economy, while the profitability problem is set aside. This is probably the reason why some economic policies are short-term and often unsuccessful. The problem is that liquidity is not the cause of unprofitability, but vice versa. Profitability is an important premise of liquidity (which does not always mean that profitable companies are immune to problems of maintaining liquidity) and the most important determinant of companies' long-term stability (solvency). With high returns it will be easier to provide cash flow synchronization (a key prerequisite for maintaining liquidity), attracting necessary capital and sustainable growth.

Profitability represents the driving force in market-oriented economies. It is only by covering the real costs that the maintenance of invested capital is provided, as a minimum prerequisite of survival and company functioning. Thereby, reported income represents the measure of achieved owners' returns. Only profitable companies able to provide the internal financing sources can count on long-term sustainable growth. The existing and perspective profitability provides companies' and branches' appeal to investors. After all, income, as one of profitability measures represents the basis and framework of increasing national economy's prosperity [15, pp. 19-27].

It is the fact that profitability depends on numerous factors. Empirical studies point especially to the relevance of factors like: country's investment appeal (determined by resource availability, development of financial and technological structure, quality of institutional and regulatory framework, openness to international trade and approach to markets), industry structure (according to Porter, it is determined by the intensity of competition, possibilities to include new producers, potential appearance of substitute products, services, buyer's and supplier's negotiating skills) and companies' features (quality of organization structure, product quality, relationship with suppliers, distributors and buyers, as well as the availability of knowledge to maintain the existing competitive advantage or acquire the new ones) [11, pp. 495-498]. Also, it is the fact that a few years of poor profitability combined with high borrowing could cause serious financial disorders.

In stressing the importance of profitability and factors that could affect it, it was counted on turning the attention towards two things. Firstly, profitability is closely related to the progress of economy, the ability of economy to invest and provide sustainable growth rates, as well as the ability to increase employment. Vice versa is also true. Unprofitability causes problems with illiquidity, solvency, companies' deterioration, decrease of employment and so on. Secondly, by pointing to profitability factors we also stress the possibility of taking action and jurisdiction in certain fields. Therefore, it is definitely clear that the state is in charge of development the business climate, while owners and management are responsible for successful functioning of companies.

In the evaluation of Serbian economy's profitability we will certainly stress the most common indicators used worldwide: return on assets and return on equity. The first one (ROA) represents the measure of owners' interest achievement. Thereby, both ROA and ROE will be displayed in their analytical versions. The mail goal is, in this way, to grasp deeper into the key causes of un(profitability) in Serbian economy. Key indicators of profitability in certain sectors and in the economy as a whole are displayed in Table 2.

Return on assets represents the measure of capability in companies and the economy to generate incomes regardless of the method in financing the assets. It is exactly the reason why ROA is used as a test of core-business success and a measure of capability to repay debts. Further importance of ROA comes from the fact that its level is partly influenced by industry's features, while it is partly the consequence of strategy choice and implementation, the level and profitability of incomes and the efficiency in assets management.

Based on results displayed in Table 2 it is relatively easy to conclude that ROA at the national economy level is very low. Average ROA for analysed five-year period is just some more than 4%. Of course, profitability of individual sectors differs. Different characteristics of certain industries as well as different effectiveness and efficiency within the individual sectors make these variations expected. However, even the analysis of individual sectors does not change the general impression on very low capacity of economy and its sectors to generate incomes. Average ROAs for the whole analysed period are below 6% in all sectors, except in information and communications. The worst situation is in the energy sector where the average ROA is negative (3.06) and in agriculture where it is only 0.48%. Of course, this is quite worrying if we have in mind that it is the profitability of core business and that such a situation imposes a serious question of justice in functioning of companies that contribute such profitability. We must not forget that financial expenses have not been considered yet, as well as the achievements of the most profitable sector. We cannot be satisfied with information and communications. It is an infrastructural sector that has a very high profit potential worldwide, so that achieved average ROA of 8.36% does not confirm such possibilities [18].

Eventually, there is the question why profitability is so low in Serbian economy. The reasons are numerous. Firstly, profit margins are usually very tight. For example, in 2011, EBIT margin was respectable only in information

Table 2: Indicators of sector's profitability

	Indicators	Gross Profit Margin [1]					Salary Ratio [2]					Amortzation Ratio [3]					Other Operational Expenses ratio[4]					Operatin Profit Margin [5=1-2-3-4]				
		2007	2008	2009	2010	2011	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
Profitability	Agriculture	27.19	26.30	25.07	23.02	24.04	12.93	12.14	12.09	9.81	8.87	4.09	3.96	4.32	3.70	3.38	10.05	9.53	9.58	8.13	7.98	0.12	0.68	(0.92)	1.38	3.81
	Mining	26.94	35.48	48.74	51.26	52.33	11.57	15.94	24.17	19.55	18.33	5.87	7.39	12.31	7.85	7.00	8.86	11.66	14.18	11.41	10.56	0.64	0.50	(1.92)	12.44	16.45
	Processing industry	33.91	33.34	35.21	32.50	31.26	14.93	14.41	15.19	13.02	12.85	4.09	3.92	4.72	3.95	3.69	11.82	11.66	12.43	11.67	11.35	3.07	3.34	2.87	3.87	3.37
	Energy	37.13	35.73	38.77	29.12	26.46	12.29	11.87	11.73	8.44	7.81	20.88	18.92	14.07	9.03	8.61	11.01	11.02	11.44	9.00	8.12	(7.05)	(6.08)	1.53	2.65	1.92
	Construction	67.41	65.79	68.42	65.78	65.21	15.04	14.82	16.46	14.69	13.82	3.79	4.00	5.02	5.00	6.95	42.26	39.20	40.82	38.78	39.71	6.33	7.77	6.12	7.31	4.73
	Commerce	17.34	17.06	17.65	17.36	16.59	5.19	5.27	5.62	5.35	5.13	1.12	1.10	1.22	1.13	1.08	7.36	7.29	7.92	7.81	7.30	3.67	3.39	2.90	3.07	3.09
	Transportation	52.39	46.25	51.22	45.94	44.44	20.55	19.76	20.50	16.99	17.60	8.71	6.39	6.51	5.14	4.94	23.26	21.88	22.59	21.84	21.56	(0.12)	(1.78)	1.63	1.97	0.34
	I & C	80.73	82.47	84.12	82.76	82.80	17.83	18.09	18.41	17.94	18.97	13.11	13.74	14.81	14.38	14.37	38.50	37.00	38.59	36.96	35.91	11.29	13.64	12.31	13.47	13.55
	Other sectors	64.78	67.73	69.32	63.50	63.52	24.50	23.29	24.23	23.49	23.78	5.42	5.57	5.89	5.75	6.06	30.33	35.42	34.43	28.93	29.42	4.53	3.44	4.76	5.33	4.26
	Economy	34.64	34.73	36.61	34.42	33.54	12.12	12.02	12.80	11.45	11.20	4.46	4.26	4.65	4.06	4.06	14.98	15.30	15.95	14.64	14.27	3.08	3.15	3.20	4.27	4.00
		Leverage (Total Assets/Equity) [1]					Turnover (Sales/Total Assets) [2]					Profitability (EBIT/Sales) [3]					Interest Burden (Net income/EBIT) [4]					ROE [5 = 1x2x3x4]				
Return on equity	Agriculture	1.77	1.93	2.05	2.19	2.34	0.54	0.54	0.48	0.55	0.66	4.45	1.62	(1.90)	(0.36)	0.36	0.29	(2.61)	-	-	(9.50)	1.24	(4.43)	(7.65)	(6.84)	(5.23)
	Mining	2.32	2.13	2.95	3.87	2.89	0.94	0.76	0.60	0.78	0.71	1.42	2.90	(15.25)	14.60	19.41	(1.17)	(2.27)	-	0.38	0.76	(3.64)	(10.67)	(44.04)	16.66	30.31
	Processing industry	2.90	3.05	3.28	3.61	3.97	0.85	0.86	0.71	0.76	0.79	6.49	8.34	4.84	6.35	4.64	0.23	0.01	(0.61)	(0.31)	(0.50)	3.74	0.16	(6.84)	(5.37)	(7.31)
	Energy	1.35	1.36	1.41	1.46	1.41	0.37	0.39	0.41	0.47	0.36	(42.98)	(6.74)	(1.58)	2.86	7.00	-	-	-	(0.80)	0.61	(20.20)	(5.81)	(2.44)	(1.56)	2.20
	Construction	2.58	2.86	3.03	3.41	2.92	0.67	0.67	0.52	0.49	0.43	9.74	10.96	9.76	9.92	7.31	0.52	0.34	0.18	(0.31)	(0.12)	8.83	7.05	2.72	(5.12)	(1.14)
	Commerce	2.33	2.60	2.88	3.46	4.09	1.21	1.23	1.09	1.20	1.38	5.65	5.35	4.77	4.37	4.19	0.56	0.16	0.09	(0.04)	0.18	8.97	2.72	1.34	(0.79)	4.31
	Transportation	1.62	1.69	1.81	2.07	2.16	0.53	0.59	0.56	0.66	0.63	5.06	4.64	7.06	5.14	8.87	0.15	(0.89)	(0.04)	(0.52)	0.36	0.64	(4.15)	(0.28)	(3.65)	4.39
	I & C	1.85	2.31	2.53	2.71	3.02	0.60	0.55	0.53	0.54	0.57	12.44	15.91	14.15	15.00	17.18	0.65	(0.12)	0.13	0.12	0.56	8.90	(2.43)	2.43	2.64	16.41
	Other sectors	1.78	2.07	2.37	2.45	2.37	0.44	0.41	0.35	0.36	0.38	12.05	12.52	11.38	8.90	14.89	0.43	(0.11)	(0.12)	(0.47)	0.21	4.15	(1.21)	(1.11)	(3.64)	2.84
	Economy	2.08	2.26	2.49	2.71	2.65	0.78	0.77	0.67	0.71	0.71	4.57	6.71	5.05	6.12	6.73	0.21	(0.11)	(0.35)	(0.22)	0.17	1.53	(1.23)	(2.89)	(2.60)	2.16
		Fixed Assets Turnover (inverse) [1]					Current Assets Turnover (inverse) [2]					Total Assets Turnover [3 = 1/(1+2)]					EBIT Margin [4]					ROA [5 = 3x4]				
Return on assets	Agriculture	1.25	1.15	1.29	1.11	0.91	0.61	0.69	0.80	0.71	0.61	0.54	0.54	0.48	0.55	0.66	4.45	1.62	(1.90)	(0.36)	0.36	2.39	0.88	(0.90)	(0.20)	0.23
	Mining	0.71	0.99	1.23	0.91	0.99	0.35	0.33	0.42	0.38	0.42	0.94	0.76	0.60	0.78	0.71	1.42	2.90	(15.25)	14.60	19.41	1.34	2.21	(9.22)	11.32	13.83
	Processing industry	0.62	0.60	0.72	0.66	0.63	0.55	0.57	0.69	0.66	0.64	0.85	0.86	0.71	0.76	0.79	6.49	8.34	4.84	6.35	4.64	5.53	7.17	3.43	4.82	3.66
	Energy	2.30	2.17	2.00	1.72	2.31	0.41	0.39	0.46	0.41	0.44	0.37	0.39	0.41	0.47	0.36	(42.98)	(6.74)	(1.58)	2.86	7.00	(15.91)	(2.63)	(0.64)	1.34	2.54
	Construction	0.88	0.84	1.07	1.17	1.41	0.62	0.65	0.85	0.88	0.92	0.67	0.67	0.52	0.49	0.43	9.74	10.96	9.76	9.92	7.31	6.52	7.33	5.09	4.83	3.13
	Commerce	0.44	0.41	0.44	0.36	0.27	0.38	0.40	0.48	0.48	0.45	1.21	1.23	1.09	1.20	1.38	5.65	5.35	4.77	4.37	4.19	6.83	6.59	5.21	5.24	5.79
	Transportation	1.54	1.36	1.39	1.11	1.14	0.33	0.33	0.38	0.40	0.44	0.53	0.59	0.56	0.66	0.63	5.06	4.64	7.06	5.14	8.87	2.71	2.75	3.97	3.41	5.62
	I & C	1.28	1.41	1.45	1.38	1.27	0.39	0.40	0.44	0.47	0.49	0.60	0.55	0.53	0.54	0.57	12.44	15.91	14.15	15.00	17.18	7.46	8.77	7.49	8.14	9.76
	Other sectors	1.55	1.65	1.92	1.82	1.68	0.70	0.80	0.95	0.97	0.92	0.44	0.41	0.35	0.36	0.38	12.05	12.52	11.38	8.90	14.89	5.35	5.11	3.95	3.19	5.73
	Economy	0.82	0.81	0.91	0.83	0.83	0.47	0.50	0.60	0.58	0.57	0.78	0.77	0.67	0.71	0.71	4.57	6.71	5.05	6.12	6.73	3.54	5.14	3.36	4.34	4.80

and communications sector where it is 17.78% and mining where it equals 19.41%. More deeper analysis of income profitability reveals that gross profit margin (calculated only after covering the direct variable costs, costs of direct material and purchase value of goods sold) is higher than 50% in 2011 only in mining, construction and information and communications (we do not discuss other sectors in the analysis). Profitability of certain sectors' incomes is determined by the amount of achieved incomes and cost structure. Although each sector is specific and requires careful analysis, we could generally say that sectors where fixed costs are dominant have, among other things, problems with insufficient range of activity. Due to unit fixed cost decrease and the effect of operating leverage, extending the activity range would soon bring companies and, through them, even sectors, into a zone of high operating profit margin, which would increase ROA. On the other hand, sectors where variable costs are dominant will not be able to increase ROA in short time even with extending the activity range (which is otherwise necessary), because, thanks to low contribution margins, that increase will not considerably influence operating profit margin. Regardless of how different the problems are in individual sectors (in the energy sector there is a strict state control of prices, sectors are variously capital-intensive, etc.), at this point we could generally conclude that there is a huge problem of the insufficient activity range and relatively low efficiency in managing the costs, revenues and incomes. It means that an obvious profitability crisis is mostly a consequence of crisis in competitiveness.

Secondly, turnover, as the other component of ROA, is extremely low in all sectors, except in commerce where it is higher than zero. Thereby, the fact is that some sectors are capital-intensive (e.g. energy, mining, information and communications) and require great investments. Low turnover ratios in such sectors are not surprising. Still, we should bear in mind that investment basis (total assets) is not high. Years of technical and technological backwardness as well as product and price uncompetitiveness demand investments all over Serbian economy. It will raise the value of assets, but higher yield power of such investments should also affect, through wider activity range, the increase of profit margins and assets turnover.

We get better picture of (un)profitability in Serbian economy only by bringing return on equity into the analysis. In Table 2, it is presented as the product of leverage, total assets turnover, EBIT margin and interest burden. Mind that this is the measure of generated incomes for owners. Research results show that average returns for analysed five-year period are negative for the economy as a whole and five more sectors (agriculture, mining, processing industry, energy and transportation). Construction has average ROA of 2.47%, commerce 3.31%, while the highest return, as expected, is in information and communications, 5.59. Instead of commenting on the insufficiency of reported returns even in these sectors, let us remind that owners take the biggest risk and hence expect higher returns compared to other investors.

It is relatively easy to notice that second and third component of ROE make ROA. We have already discussed this rate. At this point, the first (leverage) and fourth (interest burden) component of ROE are more important for us. These are the components of ROE that are directly related to borrowing. Theoretically, if there were no borrowing, leverage and interest burden would equal zero, which means that ROE would equal ROA. However, with borrowing, the first component of ROE (Total assets/Equity) increases, while the fourth component (Net income/EBIT) is below zero. If the product between the two components exceeds one it means that borrowing affects ROE positively. Thereby, ROA is higher than cost of capital and the remainder is shifted to owners. Vice versa, when the product is less than one, cost of capital is higher than ROA, so ROE decreases. In the first case, we speak of positive effect of financial leverage, while in second one we speak of negative effect of financial leverage [25].

Our results show a significant level of indebtedness in the economy. For example, the worst situation is in 2011 in commerce and processing industry where indebtedness (Total assets/Equity) is about 4. It practically means that the share of total liabilities in liabilities is 80%. Even more worrying is the fact that such borrowing does not contribute the increase but the decrease of ROE. In other words, the burden of financial expenses is huge. It can be seen from the movement of interest burden. Wherever this indicator is negative, it means that financial expenses cannot be covered by the achieved operating incomes. Where the results are positive (except in agriculture in 2009 and 2010, mining in 2009 and energy in 2007, 2008 and 2009, where EBIT and net income are negative, so positive values do not make sense), they show how much out of 100 dinars (belonging to owners and creditors) belongs just to owners. So, for example, at the economy level in 2011, out of 100 EBIT dinars (belonging to owners and creditors) 17 dinars belong to owners and the rest goes to creditors. In such circumstances, we get quite a clear picture of the appeal of investment in Serbian economy.

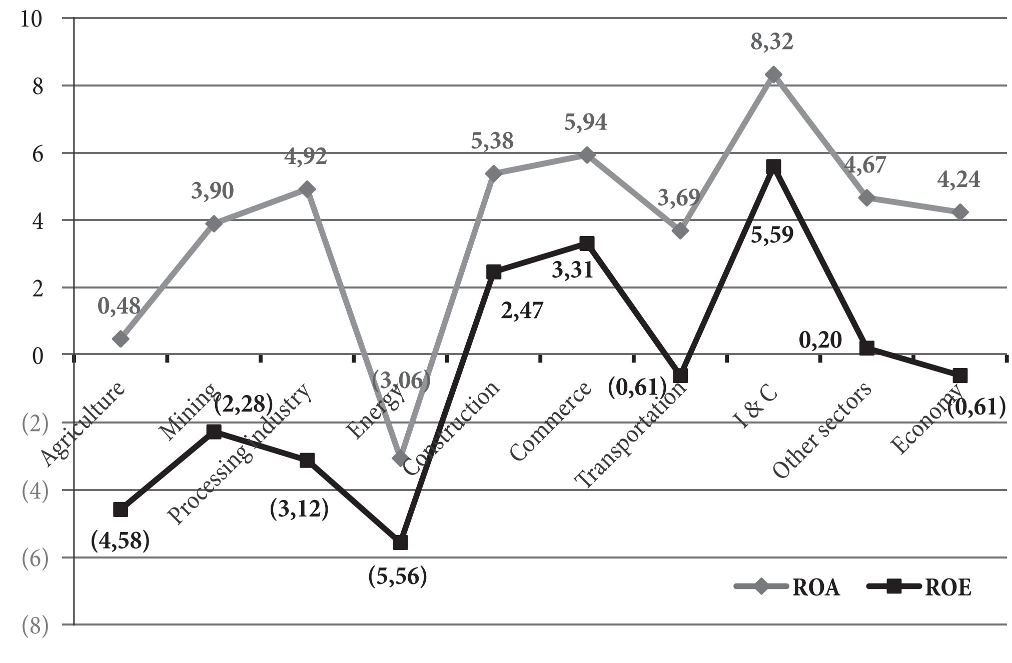
Let us make clear only one more thing – how serious is the problem regarding the burdening of Serbian economy with financial expenses and where does it mostly come from? The answer to the first part of the question could be sought through the analysis of ROA and ROE movement. That will help us to bring a final conclusion on profitability. The answer to the second part of the question points us to the analysis of financial expenses' level and structure. In Figure 6, we present the analysis of financial leverage by following ROE and ROA movement. Thereby, we use average ROE and ROA for analysed five-year period in all sectors and economy.

It is well-known that profitable companies are characterized by the situation when ROE is higher than ROA. As we have already stressed, it is the sign that ROA is higher than the cost of debt and that the excess shifts to ROE. In Figure 6, we see that the situation is quite the opposite in all sectors. That means that owners suffer losses where ROE is below zero, and owners earn less than creditors where ROE is higher than zero, which opposes to the logics of company functioning in market economy. So, in all sectors and all years, there is a negative effect of financial leverage.

What comes from this is that causes of unprofitability are partly found in core-business unprofitability, but that they are no less important in the segment of financial expenses. High financing expenses are the key determinant of financial risk. In order to understand and disclose the problem, key factors are the level and structure of financial expenses. We calculated the amount of cost of debt from the relation between financial expenses and average amount of long-term and short-term financial liabilities. In order to perceive the structure of financial expenses, we will follow the fluctuations of dinar exchange rate compared to euro and cost of debt movement at the economy level for the analysed five-year period. These fluctuations are shown in Figure 7.

The first important observation is that, at the economy level, financial expenses reach the level of 22% in 2008. Even much stronger economies would not handle such high expenses. Secondly, cost of debt is very fluctuating so it varies significantly between certain years. Besides the level of financial expenses, their variability is another important determinant of financial risk. Thirdly, we can

Figure 6: Analysis of financial leverage



notice the dependence of fluctuations in dinar exchange rate on cost of debt. In periods of stable exchange rate (in 2007 and 2011), financing expenses were the lowest. It is also evident that financing expenses considerably grow with the fall of dinar value. The reasons for this should be sought in the fact that in total cost of debt, there are the exchange differences and the effects of currency clause apart from interest cost. So, the greatest part of financial risk is shifted to the economy.

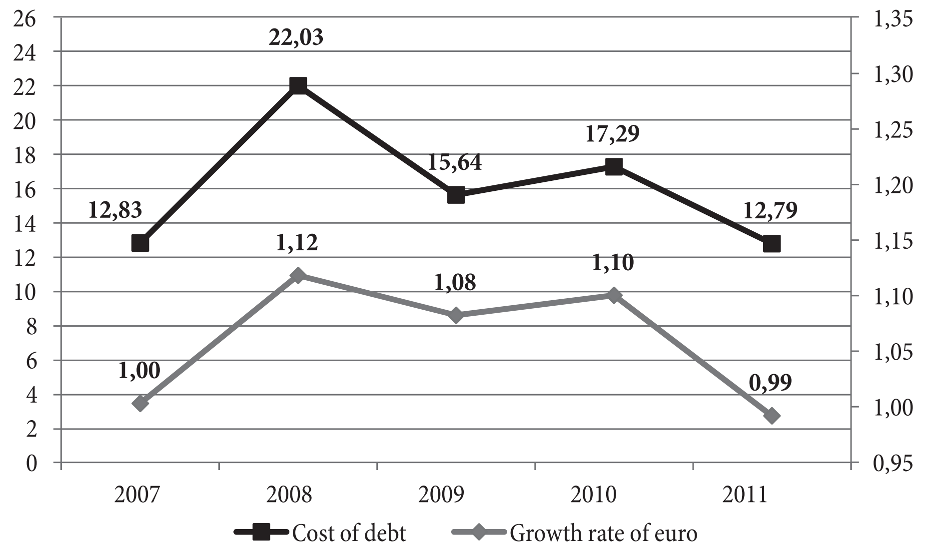
Analysis of bankruptcy risk

The presence of high cumulated losses, high illiquidity and insolvency risk, profitability crisis and competitiveness crisis imposes the question to what extent certain parts of economy are exposed to bankruptcy risks for companies belonging to some sectors. This happens particularly because the evasion of Bankruptcy Law has enabled for years the existence of companies with losses higher than equity, which are illiquid and endanger healthy parts of the economy, by participating in business transactions. It is exactly the reason why we dare to test financial health of the economy, by applying some models based on selected groups of financial indicators. Thereby, we are familiar with the fact that the evaluation of financial position and the analysis of bankruptcy risk are related to individual companies. Despite that, in this way, we would like to get a general impression on financial performances in the economy and point out the seriousness of the situation. After all, if the financial position of the economy is bad, it is sure that some companies have contributed such a situation and that bankruptcy risks are extremely high for such companies.

In previous elaborations, we have already mentioned some indicators used to classify the companies exposed to high bankruptcy risk from those that are financially healthy. First of all, we mean the use of two indicators that include cash flow from operations into the calculation: CFO to current liabilities and CFO to total liabilities. Empirical studies performed by *Casey* and *Bartczak* in 1984 and 1985 showed that, in five-year period preceding the bankruptcy, 83-92% of companies with values of the first indicator less than 0.4 and values of the second indicators less than 0.2 were properly classified as high-risk companies (that ended up in bankruptcy) [7], [8]. Other studies have also pointed clearly to the importance of information on cash flows for the purpose of estimating risk [3], [4]. At this point, we just remind that the values of these indicators are displayed in Table 1 and that they are below the required values in all sectors.

In this part of the paper, we stress some scoring models based on combined use of accounting indicators and statistical techniques with the aim to set the zones characterized by higher or lower risk. Thereby, they often combine indicators related to liquidity, assets turnover, the share of liabilities (total and short-term ones) in total financing sources, profitability, performance variability, quality, etc. We will test financial health of the economy applying three different models. For all of them, it is common that they are

Figure 7: Analysis of financing expenses



based on the information in financial statements. From our point of view, *Taffler's model* [1] is the most rigorous since it is based on the analysis of listed companies in UK. Thereby, it links four financial indicators, one of them being related to profitability and the other three to liquidity. *Zmijewski's model* [30] is based on different methodological approach, but again with the aim to get to the score which points to the exposure of companies to bankruptcy risk. It combines the information on profitability, leverage and liquidity. Finally, *Altman, Hartzell, and Peck's model,* adjusted to developing markets, the so-called EM Score [2], includes the indicators which reflect the height of net working capital, retained earnings, profitability and indebtedness. Results of the analysis are displayed in Table 3.

According to *Taffler's model*, all companies that have score less than zero are below the solvency threshold, i.e. in a risky zone. If we averaged the amounts obtained by the application of this model, all sectors would practically be below the solvency threshold. We are not inclined to take these very results as the real measure of financial health in Serbian economy, but we also consider it wise to see where we are compared to the standards in developed market economies.

Zmijewski's model aims to recognize bankruptcy risk. Thereby, values exceeding 0.5 mean the increased bankruptcy risk. Thus, reported values are favourable. However, we should be careful here since neither this model, nor the previous one, is adjusted to developing economies.

It is a general impression that *Altman, Hartzell, and Peck's model* has the greatest practical value. This is mostly due to the fact that it is adjusted to be used in countries with emerging markets. As much as it is difficult to develop a universal model, the fact is that it still considers the peculiarities of companies operating in such an environment. In the evaluation of financial health (solvency), the authors make the difference among three risk zones. The best one is a so-called safe zone where there are those whose score is higher than 5.8. The riskiest one is a so-called distress zone where there are those with score less than 4.15. In between, there is a so-called grey zone with the companies which, depending on the score, approximate or digress from safe zone.

EM/score results show that the economy with the score of 4.17 in 2011 is somewhere at the borderline between grey zone and distress zone. If we averaged the values, we would come to the conclusion that almost all sectors (except energy) are at the rock bottom of grey zone, i.e. at the borderline of distress zone. We do not take these results as the final answer regarding the probability of bankruptcy in some companies, but most of all as a serious warning on the situation in our economy. Besides, it seems like a certain conclusion that there is a huge number of companies in bankruptcy zone within all sectors. The artificial holding of such companies (except those whose existence is socially justified) significantly decreases general performances of the economy.

Prerequisites of creating favourable business climate

Having in mind a very serious financial structural heritage presented on previous pages, we feel obliged at least to point briefly to key prerequisites of creating favourable business climate and possible actions aimed at overcoming

Table 3: Indicators of financial strength

	Taffler's model					Zmijewski's model					Altman, Hartzell and Peck's EM score				
	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
Agriculture	(2.21)	(3.09)	(4.44)	(5.35)	(5.12)	0.32	0.29	0.28	0.28	0.29	4.76	4.45	4.04	3.76	3.70
Mining	(1.85)	(5.96)	(10.19)	(2.84)	3.47	0.29	0.26	0.19	0.35	0.42	3.79	3.07	2.30	4.17	5.23
Processing industry	(2.05)	(2.67)	(4.03)	(3.99)	(4.23)	0.32	0.31	0.29	0.30	0.29	4.48	4.49	4.06	4.08	3.89
Energy	(11.76)	(1.86)	1.01	0.04	2.39	0.19	0.27	0.29	0.30	0.33	5.28	5.95	5.87	5.43	5.88
Construction	(3.22)	(4.28)	(4.93)	(8.09)	(6.87)	0.34	0.33	0.32	0.30	0.31	4.11	4.01	3.97	3.65	3.70
Commerce	(0.42)	(1.52)	(2.25)	(3.34)	(3.02)	0.35	0.32	0.31	0.31	0.32	4.66	4.57	4.26	4.13	4.09
Transportation	1.08	(0.97)	(0.90)	(1.16)	0.17	0.31	0.29	0.31	0.29	0.33	4.96	4.71	4.42	4.38	4.36
I & C	3.10	(1.94)	(1.07)	(1.27)	(1.98)	0.36	0.30	0.32	0.32	0.36	5.07	4.29	4.24	4.21	3.92
Other sectors	1.37	(2.63)	(3.37)	(2.76)	(1.08)	0.33	0.30	0.31	0.30	0.32	5.46	4.63	4.25	4.15	4.46
Economy	(0.83)	(1.97)	(2.73)	(2.92)	(2.05)	0.32	0.30	0.30	0.30	0.32	4.60	4.44	4.15	4.11	4.17

the existent problems. Since we will avoid a more detailed discussion due to a limited space and purpose of the paper, in these elaborations we intend to provide enough grounds for recognizing jurisdiction and responsibility in taking further steps. Creating an adequate business climate is a constant problem which is obviously not resolved properly. Therefore, we see the following prerequisites as necessary: reaching macroeconomic stability, developing the capital market, achieving legal stability and reasonable (very limited) state involvement in the economy.

Macroeconomic stability, by its definition, serves to stimulate economic activity. First of all, we mean price stability, interest rate stability, exchange rate stability and financial market stability. Although these goals do not always have to be mutually synchronized in a short run, looking in a long-term, economic growth and employment growth cannot be successfully achieved without the stability of these factors. It is certain that instability in any segment brings higher uncertainty for investors, complicates decision making and affects unfavourably the economic growth. The relations among inflation, interest rates and share prices are familiar. Although the interdependence does not always have to be direct and consistent, it certainly exists [21, pp. 419-422]. In order to maintain targeted real returns, credit institutions incorporate inflation into interest rate, which affects its growth. In situations when companies cannot shift the growth of production costs and financial expenses to their buyers, incomes and cash flow decrease while share prices fall. Due to increased uncertainty, investors hesitate to invest, which results in fall of economic activities.

The impression is that nowadays people sometimes discuss macroeconomic stability and economic growth without bearing in mind that the economy (with all its problems) should in fact bear the burden of economic growth. In order to get the picture of how much we managed to create a favourable business climate in the previous period, in Table 4 we present the review regarding the movement of key macroeconomic indicators and the indicators of economic performances. We also do this because of the need to encourage further empirical studies on the influence of certain key macroeconomic aggregates (e.g. inflation, exchange rate, etc.) on economic performances.

From the information displayed in Table 4, we would like to emphasize a few things. Firstly, inflation is at a very high level which is not in function of providing macroeconomic stability. The problem is that inflation goes beyond targeted values. Secondly, dinar exchange rate is unstable. Its fluctuations are related to inflation, but they are not consistent. Here, we do not consider that the exchange rate should be fixed, since stability is more about predictability. Thirdly, inflation movement and weakening of the dinar against the euro is, by means of the effects of currency clause and exchange rate, included in financing costs, thus significantly raising the cost of capital. Economies cannot bear such high financing costs, especially in the situation when core-business profitability is very low. Fourthly, this set of circumstances results in an unsustainable situation: creditors, who take less risk, earn more than the owners, who take the most risk. It is opposed to the logics of company functioning. Therefore, we should not be surprised by investors' indifference. Insisting on strengthening the role of dinar is completely legitimate, but hardly feasible in inflationary conditions.

Table 4: Macroeconomic indicators and indicators of economic performance

Macroeconomic indicators					
	2007	**2008**	**2009**	**2010**	**2011**
GDP growth (in %)	5.4	3.8	(3.5)	1.0	1.6
Consumer prices (in %)	11.0	8.6	6.6	10.3	7.0
Unemployment (in %)	18.1	13.6	16.1	19.2	23.0
RS public debt (in % GDP)	31.5	29.2	34.7	44.5	48.7
RSD/EUR exchange rate	79.24	88.6	95.89	105.50	104.64
Indicators of economic performances					
Debt/Equity	1.12	1.40	1.50	1.83	1.51
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

A strong presence of financial risks (due to the level and variability of financial expenses) causes the weakening of balance in the economy. With the same assets, the share of liabilities in total liabilities and equity grows in conditions of growing exchange rate and currency clause. In such circumstances, banks reduce the offer of loans since the insolvency of companies grows. Exhausted companies, whose value decreases, often have no choice. They are ready to pay the creditors higher price for capital and to enter riskier projects. That increases the cost of capital, brings companies closer to bankruptcy since they cannot pay debts, but, at the same time, it causes the contamination of bank balance and the increase of loss risk. The fall of economic activity is inevitable. That is why economic stability is the first prerequisite of creating favourable business climate. Stability increases investors' protection, reduces the risk of adverse selection and narrows the space for speculative activities.

The development of capital market is another important prerequisite. The fact is that even in projections of growth by 2020, which plead to be serious, the problem of developing capital market is treated very superficially. It is true that the issue of shares, unlike media attention caused by capital markets, is not, individually speaking, the greatest external financing source for US companies and especially companies in continental Europe. We could say the same for debt securities. In developing countries, credit sources are dominant as well [19, pp. 371-375]. However, we should not draw a wrong conclusion from it that capital market is of small importance for the efficient functioning of the economy. It is enough only to look at the level of cost of debt and realize instantly that it is necessary to increase alternatives on the side of financing source offer in order to reduce the monopolistic position of banking sector.

We should not forget that financing from share issuance represents the best-quality financing source for corporations. This is mostly due to a fact that this is the source that never matures, except in case of liquidation. This is what embodies the advantage of financing from share issuance. Namely, unlike debt instruments and bank loans which have their maturity date and have to be obtained again after it, share issuance implies permanent acquiring of capital. Having in mind that, besides profitability, the height of equity is the most important determinant of companies' stability, it becomes even clearer why the primary share market is so important.

Debt instruments have a particularly important role in extending the range of financing sources. Corporate bonds of different maturity and features could change the debt structure of companies and make debts less dependent on banks. Furthermore, the development of debt-instrument market would be a good alternative for investors as well.

The fact is that only public traded companies have the approach to capital market. It is also true that only profitable and programme-attractive companies can be appealing to investors. In all developed economies, corporate, public traded companies play a very important role in their development. If we want a corporate way of doing business, we must develop capital market. Vice versa is also true. Public traded companies depend on primary capital market. On the other hand, if there are no primary issues, attractive shares and debt instruments, there is no active secondary market as well.

Regulatory stability is also a prerequisite of creating a favourable business climate. Regulations should provide the respect of property and contract, free flow of capital, transparent process functioning at the financial market, transparency of doing business in public traded companies, prevention of financial frauds and so on. Unfortunately, instability and incompleteness of regulations is an important feature of countries in transition. The problem in Serbia is all the greater because the transition process lasts longer than in other countries so that the harmful consequences of low-quality regulations are greater. Let us just mention that we have had three Laws on Enterprises in the transition period. A stable regulatory framework, based on widely accepted professional and ethic standards, is the best invitation to both national and foreign investors. Of course, we cannot say that nothing has been achieved in this field. On the contrary, the imperative of joining the European Union forces us to raise the regulations to a higher level and adjust them to European standards. The problem is that this is a long-lasting process.

The other problem related to regulations is the efficiency in their implementation. A good example would be the Law on Bankruptcy Proceedings. Evasion in the implementation of this law directly undermines financial discipline and puts the companies which do business well in an unfavourable position towards those which are artificially maintained. Hence the practice in Serbia which is not typical for market economies. Companies with cumulated losses higher than equity do not suffer any legal sanctions. In such conditions, owners and creditors suffer the damage.

Insisting on stable regulations does not mean commitment to absolute protection which would completely free the investors of risk. It is the requirement that market participants should do business in a regulated, stable business environment where they will be treated equally. In such conditions, investors should evaluate risk on their own, decide how big risk they will take and suffer the consequences of potentially bad evaluations. High-quality regulations increase the credibility of a country and reduce the investment risk.

As much as we recognized the role of the state in previous areas (macroeconomic stability, capital market development, regulatory stability and legal certainty), *state interference in the private sector is still undesirable.* State has been proven a bad owner. For example, from 2006 to 2011, public companies reported net losses in each year, and they even reported operating losses in 4 out of 6 analysed years. Such an "efficiency" should not be transferred.

The state's concern regarding the economy functioning is comprehensible and justified. In that sense, system solutions for regulating the business climate are comprehensible and necessary. However, palliative approaches in resolving the economic problems are generally wrong. So, for example, the problem of state liquidity could be resolved neither by occasional pumping money into the economy nor by stimulating loans with lower interest rates. It is just a temporary extinction of fire, which will have no effect unless there is macroeconomic stability and raise of competitiveness. The intention that the state showed in order to take part in the property of small and medium enterprises is also very disputable. The state does not possess mechanisms of the efficient allocation of capital. Whatever the criteria, they will be submitted to subjective and flexible interpretation, which would always put some companies in an unfavourable position compared to some other companies. Apart from its role in previously mentioned fields, the state is obliged to be active in fields of reforming the public sector, restructuring the public traded companies, reducing grey economy, raising the efficiency of justice system, price liberalization etc.

Main guidelines for overcoming financial structural deformations

It is hard to expect that an economy with such financial structural imbalances could achieve any serious growth. The solutions are not simple. At this point, we have space to expose only main guidelines for the recovery of Serbian economy. A greater number of required activities have a strategic character, while some of them aim to alleviate current burning issues. In a few previous papers, we have already mentioned some of the challenges existing in these processes [17].

Raising the profitability of core business. One of the biggest problems in Serbian economy is insufficient competitiveness and insufficient profitability directly related to it. Thereby, we must be conscious of the fact that these financial structural problems did not appear only as a consequence of economic crisis, meaning that they will not disappear with overcoming the crisis. Years of technical and technological backwardness, market loss, maladjustment of capacities, numerous poor privatizations, inadequate economic structure and bad management are the inherited elements we brought into the crisis. Production, cost and price uncompetitiveness of a major part of Serbian economy shows that reaching the targeted activity range is a huge challenge. In that sense, it is necessary to focus the activities in several directions.

The improvement of quality in corporate management, as a set of relations among management, owners and other interest groups, should bring to the reduction of information asymmetry and adverse selection risk, the increase of investors' protection, the improvement of decision-making process, easier attracting of capital and lower financing costs. In this respect, it is necessary to strengthen the internal control mechanisms, including a competent board of directors, monitoring, internal audit, system of internal controls and internal market of managers.

In order to raise the quality of corporate management, it is equally important to provide the acting of external control mechanisms as corporate-control market, presence of institutional investors, active capital market, external market of managers and high-quality legislation.

The improvement of quality in business management. Creating values for owners and other interest groups requires the following things from management: maintaining and improving the competitive position, programmatic improvements, more intense investments and rational use of resources. That should result in the increase of profitability, employment and growth of GDP. Thereby, prerequisite is a continuous professional improvement and constant raising of the quality of knowledge. Human capital is the driver of future company performances and the most valuable intangible assets. How much this is a sore point of our economy can be seen from the fact that in 2011, when operating incomes at the economy level grew by 12%, operating margin fell by slightly more than 6%, instead of growing faster due to a unit fixed cost decrease. The application of contemporary concepts of performance management represents the inevitable way in creating cost competitiveness.

Strengthening the export orientation of the economy. Serbian market is relatively small and it is difficult to provide the necessary economy of scale on it, and accordingly, the strengthening of competitive position on these grounds. The increase of exports brings advantages to both individual enterprises and at the macro level. Serbia should use its good geographical position and good approach to markets (CEFTA, Russia, EU) and provide export-oriented investments. In this respect, it is important to remove the administrative barriers and develop transportation and telecommunications infrastructure. Higher awareness of domestic companies regarding the possibilities on foreign markets would result in easier approach to those markets.

The increase of direct foreign investments. Without diminishing the importance of other portfolio investments and in terms of the need to provide rapid growth of the level of economic activity and increase employment, the most important are the so-called greenfield investments. They are important due to a fact that they bring new technology, know-how, competitive products and that they could bring to the increase of economic activity in a short term. In a long term, such investments bring to the transfer of contemporary management skills, corporate culture, better approach to various financing sources, positive signals to other foreign investors and so on. Greenfield investments often initiate the start-up of new enterprises which serve to support final production. The state is responsible for the increase of efficiency in public administration, simplifying administrative procedures, improving the quality of infrastructure, raising the capacity of regulatory bodies, providing legal stability and reducing the investment risk.

Investing in profitable assets. It is obvious that the existing assets cannot provide incomes that would reject satisfactory profitability. The fact is that, from 2007 to 2011, operating assets rose by 1.5 times, but we should bear in mind that about 25% of the increase comes from assets revaluation. There are no real investments behind revaluation, but only correction of the value of existing assets. Bearing in mind years of technical and technological backwardness, it is obvious that raising the competitiveness of the economy requires considerable investments in revitalizing the existing capacities and building new ones.

It is true that not all the sectors have the same importance for economic growth and that, due to their distinctiveness, they require particular sector policies. In this respect, we often stress the importance of investing in sectors of agriculture, mining, processing industry and construction. However, we need to add them so-called infrastructural sectors, like energy, telecommunications and transportation. Their strategic character comes from the fact that, besides having a direct influence on growth, they have a multiplying effect on the growth of activities in other sectors. These sectors represent the pillars of national economy's development.

All previously mentioned sectors are capital-intensive. It means that they require high investments. Only financially healthy companies can bear such investments. Having in mind that many companies are in financial difficulties, it means that they will have to improve their financial position on the go as well as to take care of new investments and their funding.

Sources of financing sustainable growth. Unsatisfactory profitability of Serbian economy indicates that the internal financing sources are not enough for required investments. So, the question is how to finance gap existing between high investment demands and internally generated sources. Further limitations are related to the fact that borrowing capacity is small and that obtaining external own sources often means losing control. Long-term sustainable growth implies combining various financing sources in a way that capital structure does not provoke excessive financial risk which could lead companies to bankruptcy. In that sense, we are making a few notes. Firstly, in companies where financial balance is not considerably damaged and where projects are not too demanding financially, combining internally generated sources with credit sources could provide maintaining of target capital structure. Secondly, in situations where projects are capital-intensive and there are still certain financial deformities the exit should be sought in recapitalization (additional issuance of stocks). Although such processes are not likely to succeed at present, we should not exclude the possibility that attractive projects find their way to investors by means of initial public offering (IPO), public share issuance or private placements. Having in mind great financial dubiousness, for many companies finding a strategic partner represents the only way to provide sustainable growth. Thirdly, in order to obtain the essential fresh capital, we should open space for public private partnerships. Infrastructural sectors are particularly attractive in this respect. Although, generally speaking, the state is not a good owner, we should not exclude it as the investor in some strategically important companies. Fourthly, partial financing of capital investments from debt is acceptable as well. Thereby, expensive bank loans need to have an alternative in various types of corporate bonds (long-term, short-term, convertible, inconvertible, bonds with put option, bonds with call option, floating rate bonds etc.). Prerequisites for the growth of bond market are strengthening the primary and secondary capital market, reduction of transaction costs and institutionalization in measuring the credit risk.

Financial expenses, leverage and profitability. We have already seen that financial expenses are intolerably high. Their level is determined by interest rate, exchange differences and incorporated currency clause. Owing to this structure, unstable financial climate makes the financial expenses variable, which increases additionally the financial risk. Extending the possibilities on the side of financing-sources offer should cause cost reduction. However, it is because of the structure of these expenses that the financial stability is necessary in order to reduce financing costs more seriously. That implies a reasonable inflation and clearly defined exchange regime.

In order to have a sustainable situation in the economy, it is necessary that financial expenses should be lower than owners' returns. Only then, financing activities would, by means of positive effect of financial leverage, contribute the increase of profitability of equity. Overcoming the existent difficulties in terms of financial expenses burden requires much greater responsibility of state (primarily in terms of providing macroeconomic stability), regulators (in terms of creating climate where banks should be interested in real sector's destiny), banks (which are inclined to shift all risks to companies, including those based on bad management) and company management (which should be more careful in borrowing and get in touch with creditors in the attempt to find a way for relaxation of liabilities). It is certain that companies will pay the price of unfavourable borrowing. However, even creditors will not be spared in that process. As much as the respective loans are secured, collateral will be worth much less if companies go bankrupt. The participants should bear in mind at least two things. Firstly, long-term growth and survival of financial sector without the real one are hardly feasible. The existent unnatural alienation must be overcome. Secondly, overcoming the crisis could not be provided by expensive loans. On the contrary, money should be cheap.

Strenghtening the solvency. Solvency crisis appears as a consequence of profitability fall, indebtedness growth, inability to pay interests and repay debts. Accordingly, raising stability implies the increase of the ability to generate incomes from so-called core business and strengthening the position of own capital from internal sources and owners' shares. In other words, resolving previously stated problems within operating, investment and financing activities is a normal way to resolve the problem of solvency.

At this point, we would like to emphasize certain systemic flaws that undermine solvency. It is familiar that the appeal of corporation comes from limited liability of their owners. On the other hand, legal system of each country tries to protect creditors' interests as well. Settling these two opposite requirements is obtained by providing the sufficient amount of own capital which protects creditors' interests. By prescribing 100 dinars as the minimum amount of basic capital for starting up a private limited company, according to Law on Enterprises (Art. 145), the protection of creditors' interests was made pointless [27]. The protection of creditors against possible abuses by the owners, stipulated by Art. 183, is certainly good and represents an important step forward compared to the previous law. Still, it is not enough since we consider only one type of risk. Such a legal solution is opposed to the essence of corporation' functioning. The situation is similar with publicly traded companies as well, where, as stipulated by Art. 293, the prescribed minimum basic capital is higher (3 million dinars), which, considering their potential size, is far from being enough to protect creditors' interests.

Improving liquidity. From the point of view of consequences and intensity in manifestation, illiquidity is the burning issue of Serbian economy. That is why people often reach for short-term extorted measures whose range is very limited. A long-term solution of illiquidity problem requires establishing the competitiveness, increasing the profitability and removing financial structural imbalances. Wrong moves in this field are the consequence of misunderstanding the essence of illiquidity in the economy. If we reported the entire economy in one balance sheet, this problem would be manifested as the discrepancy between disposable cash and purchases done. More lasting negative cash flows from operations point to the inability of servicing liabilities from operating activities. The problem becomes even bigger and more obvious if we have in mind the need to finance a part of capital investments from internal sources, debt repayment and dividend payment. In that case, outstanding negative balance rises. The problem is not resolved by the insertion of fresh money into the economy. Debts still rise, risks grow, cost of capital grow, and the illiquidity problem remains and becomes even harder. Short-term, good measures are certainly the establishment of strict financial discipline and the increase of efficiency in cash-flow management.

The establishment of strict financial discipline is one of the key prerequisites for the improvement of liquidity position. It is necessary in a way that companies could acquire good business practice, but also to prevent the abuse of smaller suppliers by big and powerful companies (both public and private). In this respect, adoption of the Low on Terms of Settling the Financial Obligations in Commercial Transactions is a good move [28]. This is particularly due to the possibility that public sector could stop to be one of the generators regarding liquidity. Speaking of private sector, prescription of strict terms is disputable since the economy is so heterogeneous that it is hard to expect that any deadline would suit to everybody. Some relaxations of the anticipated 60-days deadline, e.g. extending the payment deadline, provided that unconditional payment instruments are obtained, indicate that the problem is understood. Turning the outstanding, non-interest-based liabilities into interest-based liabilities is also a good solution. The question remains if we are ready for the consequences of consistent enforcement of this law since there has been no such readiness so far.

Establishing strict financial discipline goes in favour of more efficient cash-flow management. Particular attention should be paid to managing the cash gap (inventory days on hands + receivables collection period – accounts payable period = cash gap). Through managing the cash gap we can understand how the efficiency in performing operating activities affects cash flows [5]. Closing the cash gap requires the obtaining of additional financing sources, mostly short-term loans. In that case, daily interest costs based on financing the cash gap could be easily calculated. Each day of cash gap decrease means reducing the need for cash and daily savings in interest costs. Increasing the efficiency of inventory management and shortening the period of receivables collection are crucial managing levers. The possibility of prolonging liabilities towards suppliers is not an option right now, since it has been widely abused in Serbian practice so far.

Scopes of the announced multilateral compensations are not great. In fact, the illiquidity problem cannot be completely resolved by multilateral compensations. After potentially done multilateral compensations, eventually a huge outstanding balance would remain as a result of the above mentioned imbalance between purchases and disposable cash. It is a time-limited measure which, by definition, refers to old debts and does not bring fresh money, so it cannot resolve the problems of future liquidity. It can help in partial balance sheet adjustments of participants in compensations, which is not enough to remove the causes of illiquidity.

*Balance sheet adjustments***.** By this, we primarily mean excluding hidden losses from balance sheet. Hidden losses, being the result of overrating the assets and underestimating the liabilities, contaminate balance sheets which then stop to be a reliable information source. It is certainly not in favour of the need to attract foreign investors. Responsibilities of management, auditors and accountants are obvious in the process. However, what particularly worries is that the state takes part in the process of legalizing the creation of hidden losses. Allowing companies to postpone the effects of foreign exchange losses (and gains) and currency clause by means of delineation of the balance sheet for future periods is against the law. In this way, some companies are given the opportunity to report more favourable incomes and pay them off in the form of dividends. These outflows can be considerable, especially in case of companies whose founders are not the enterprises doing business in Serbia. Of course, dividend payoff is not disputable as a corporate decision, but the artificial framing of incomes in order to provide that is not allowed. Objectivization of excessive hidden reserves (which are essentially contrary to hidden losses) would contribute the reality of balance sheet. However, the fact is that reasonable hidden reserves are preferable and that potential damages based on excessive hidden reserves are incomparably smaller than damages caused by hidden losses. Raising the quality of reporting would contribute the increase of information capability of financial statements and the reduction of adverse-selection risk. In addition, ensuring a safe insight into the financial position of the economy, sectors and certain branches would reduce the risk of creating wrong sector policies.

Conclusion

Serbian economy is faced with very serious financial structural problems which are not only the consequence of economic crisis. Nowadays, we can freely say that Serbian economy is characterized by the crises of competitiveness, profitability, solvency and liquidity. Very difficult financial structural heritage raises a very serious question regarding how much such an economy can bear the burden of more significant economic growth. Ignoring the real problems in Serbian economy, as well as the distinctiveness of certain sectors and branches, results in strategically important documents whose realization is unsuccessful.

Years of delay in resolving financial structural disorders made the problems even bigger, and their resolving even more complex. Thereby, it is certain that the recovery of Serbian economy requires the creation of stimulating business climate for investors. Institutional premises in this respect are macroeconomic stability, capital-market development, regulatory stability and reasonable (quite limited) state interference in economic affairs. Main guidelines in overcoming financial structural deformations should be directed to the increase of competitiveness and profitability of core business. Thereby, in order to extend the activity range more seriously it is not enough just to increase the efficiency in using the existent assets. Years of technical and technological backwardness require big investments which should be directed to strategically important sectors in terms of growth. A small domestic market and the inability to reach economies of scale impose the stimulation of export-oriented economy. Such investments also imply searching for financing sources able to provide sustainable growth. In this respect, we will have a normal situation when creditors' returns are lower than the owners' returns. The opposite situation is not long-term sustainable. We could say that these are also the premises of long-term solution to the problems of solvency and liquidity.

In bringing final conclusions on economic performances, based on analyses of cumulative financial statements, we should always be careful up to a point. The fact is that there are parts of the economy, branches and individual companies burdened by serious losses, which in some cases exceed the amount of equity. In 2011, almost 42% of companies did not report incomes. Some of these companies could be restructured, while the unpromising ones should be market-sanctioned. However, there are some other, healthy parts of the economy, with above-average performances. Growth should be based on financially healthy and strategically important parts of the economy.

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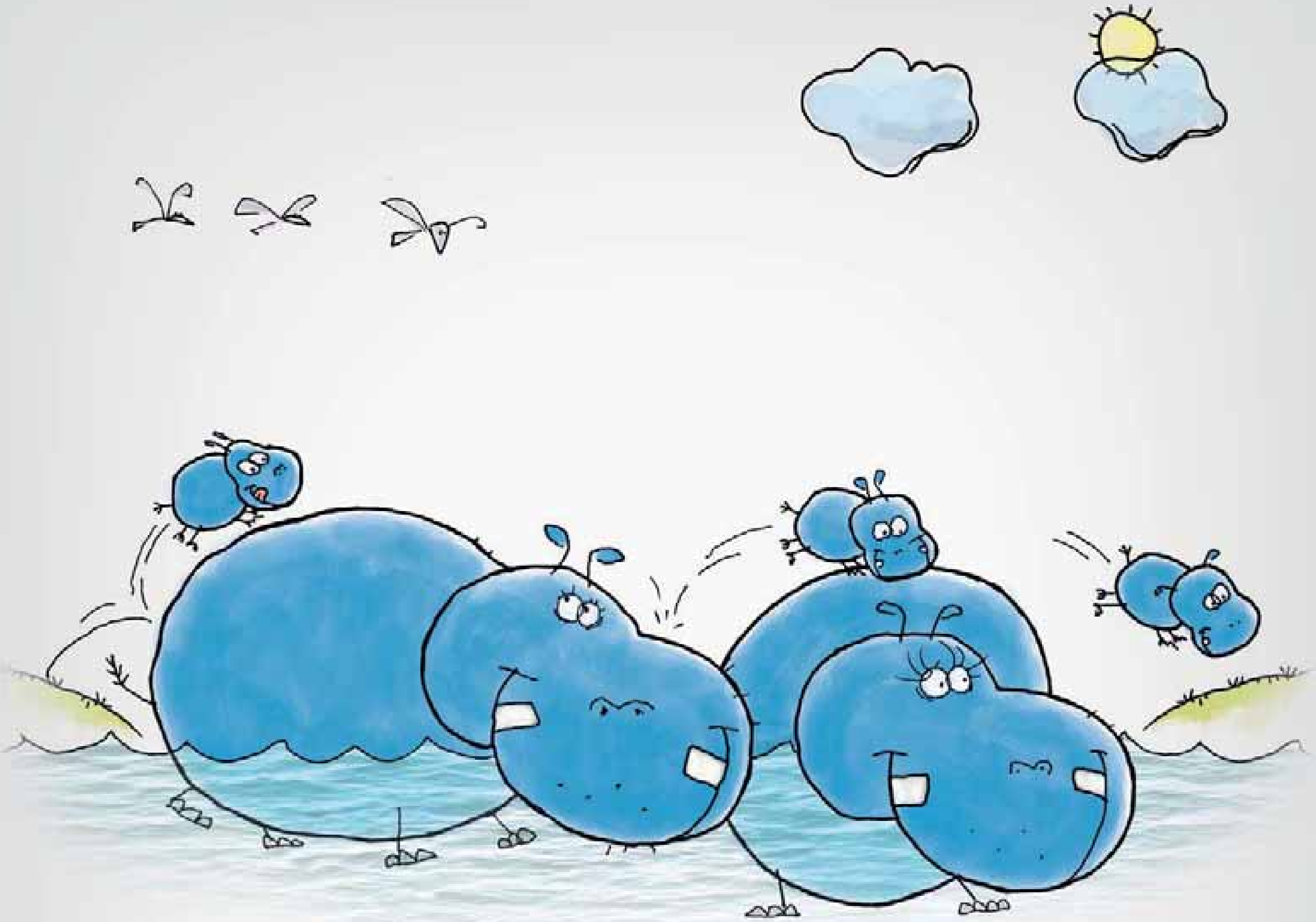

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MICROECONOMIC FUNDAMENTALS (OF THE STRUCTURAL CHANGES) OF THE SERBIAN ECONOMY IN THE PERIOD 2007 – 2011 AND FORTHCOMING CHALLENGES*

Mikroekonomske osnove (strukturnih promena) poslovanja privrede Srbije u periodu od 2007-2011. godine i izazovi za naredni period

Abstract

This paper aims to detect and analyze the structural changes in the Serbian economy in the period spanning from 2007 to 2011. This period was characterized by the eruption of the global financial and economic crisis, which spilled over in Serbia from late 2008. By pinpointing the crisis' effects on Serbian economy, we improve the approach by complementing the macroeconomic trends analysis (as a way to describe the general environment) with the firm-level data analysis, i.e. microeconomic fundamentals of the representative sample of the largest Serbian companies. Relying on the financial database of the 5,000 largest for the period from 2007 to 2011 used for statistical analysis of financial performances, and 500 largest for 2011 and 2010 used for complementing previous overall view with the case by case approach, we are trying to draw conclusions on the key structural changes within the companies and sectors of activities as well as the main characteristics of the financial position of the real sector. Finally, we make a list of imminent challenges and goals confronting the Serbian economy as a whole, and economic decision makers in particular.

Key words: *business operations, microeconomic approach, financial position of firms, structural changes, business environment, Serbia*

Sažetak

Ovaj članak ima za cilj da odredi i analizira strukturne promene u srpskoj ekonomiji u periodu koji se proteže između 2007. i 2011. godine. Ovaj period je bio oličen izbijanjem svetske ekonomske i finansijske krize, čiji su se efekti prelili u Srbiju krajem 2008. Određujući efekte krize na srpsku ekonomiju, unapređujemo pristup u tom pogledu što analizi makroekonomskih trendova (kao načinu da se opiše široka slika poslovnog okruženja) dodajemo i, komplementarnu, analizu podataka sa nivoa preduzeća, tj. mikroekonomske fundamente firmi obuhvaćenih reprezentativnim skupom najvećih srpskih kompanija. Oslanjajući se na bazu finansijskih podataka za 5,000 najvećih kompanija u periodu između 2007. i 2011. (korišćenu za statističku analizu finansijskih performansi), kao i za 500 najvećih za 2011. i 2010. (korišćenu za dopunu prethodnog prikaza pristupom „od slučaja do slučaja"), pokušavamo da donesemo zaključke o osnovnim strukturnim promenama unutar kompanija i unutar sektora, kao i izdvojimo glavne odlike finansijske pozicije celog realnog sektora. Konačno, utvrđujemo spisak predstojećih izazova i ciljeva koji se postavljaju pred srpsku ekonomiju u celini, kao i pred donosioce ekonomskih odluka.

Ključne reči: *poslovanje privrede, mikroekonomski pristup, finansijski položaj preduzeća, kriza, strukturne promene, privredni ambijent, Srbija*

JEL classification: D22, E32, E44, G32, L25, L60, O16

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Introduction

Global economic and financial crisis, manifesting in Serbia from 2008 onwards, brought about an additional dimension in the discussion on the economic growth model, as well as on the application of specific economic policies aiming at stimulating the economic development. After two decades from the start of transition in Eastern Europe (one decade in Serbia), which mainly resided on a neoliberal model with key elements of macroeconomic stabilization, privatization and market liberalization, the crisis reopened new (old) dilemmas within the professional and academic circles throughout the globe. In this context, the polemics over key measures and mechanisms for inciting the economic growth and government's role in these processes were intensified, such as – the state interventionism vs. the laissez faire, justifiability of protecting the domestic industries via industrial policies vs. liberalization, promoting consumption as a way of inciting the economic growth vs. increase of savings, fixed vs. flexible exchange rate, etc.

However, in these discussions and related analyses, the departure point is usually macroeconomic (aggregate) trends, based on whom the problems, conclusions and possible measures to be taken are defined. By doing this, the real sector, i.e. the economy, is treated as a homogeneous structure, or at best, a sample of homogeneous segments (manufacturing or service-providing enterprise, specific industrial branches, segments of small, medium and large enterprises, state and private enterprises, etc). Generalized qualifications on the real sector or its specific segments (such as that it is illiquid, inefficient, monopolized, etc) are often made. This approach, although not necessarily limited and erroneous, does, up to some extent, ignore the systematic overview of microeconomic base of Serbian economy's functioning, its specificities (especially those immanent to the process of transition implying fundamental changes in principles of management, market and institutional framework, in a short period of time), often neglecting the needs of the economy itself. On the other hand, microeconomic analysis of a certain economy's functioning is complementing the overview of economic trends based on macroeconomic approach, thus suggesting additional arguments for certain economic policies, as well as more detailed information for analysis of alternative policies[1]. One of the frequent limitations for using the micro-level approach for the macroeconomic questions resides in a lower availability and lesser quality of the data on specific economic subjects, while it requires a greater effort for its processing and analysis.

In this paper, we analyse microeconomic bases for business operations, i.e. structural changes of the Serbian economy in the period spanning from 2007 to 2011, on a representative database on financial state of specific enterprises. By using a new methodological framework, goal of this analysis is, apart from documenting the financial state of specific enterprises, to shed light on a new dimension of real sector overview. This may provide invaluable insights on discussion and decisions on further structural reforms, as well as elements for making decisions on potential policies aiming at stimulating the economy and improving the business climate.

As basis for the analysis we used the database obtained from the financial reports of companies in Serbia[2] registered with the Serbian Business Registers Agency[3]. At the upper segment of companies, out of 5,000 largest by annual operating revenues, which is also a representative sample of the Serbian economy, observed are the base trends of the financial state in a five year period spanning from 2007 to 2011. Additionally, we made an analysis on a sample of the 500 largest enterprises in Serbia according to the criteria of the size of operating revenues in 2011. The aim of the analysis of the 500 largest in 2010 and 2011 was to check whether the trends observed in the sample of the 5,000 still hold, by using a more detailed overview of the specific cases on a smaller sample.

This paper is organized in five parts, as follows. In the first part we give a macroeconomic overview in Serbia in the period from 2007 to 2011. The second part aims at presenting the used database and applied methodology.

1 Its significance in applied economic literature grew in importance ever since the period of the 1997 Asian crisis, whose roots were explored at the micro level, after it was concluded that it was impossible to capture the causes of the crisis on aggregate level data. See [10], where the author analyses the enterprise finances in the overview of the crisis.

2 Although the term "company" is accepted in the domestic legislature, we will also use synonymous terms "enterprise" and "firm" in this article.

3 Financial reports are not audited.

In the third part, we analyse the financial performance of the Serbian economy in the observed period with a special overview on base financial components – growth, earning, indebtedness, debt structure, liquidity and efficiency. In this part we also point to the crisis effects on companies' performance. In the fourth part we make an in- depth analysis of the structural changes in the observed five-year period, also by pointing to possible relations with the crisis. The fifth part concludes the analysis by sublimating the key challenges of the Serbian economy stemming from the micro level overview, while it also points to the possible directions of the future economic policies in improving the conditions for sustainable economic growth and healthy functioning of the economy.

Macroeconomic framework in the period between 2007 and 2012

The period from 2007 onwards has been marked by a large global economic crisis, which started to manifest by the end of 2008 in Serbia, via two major channels – (1) trade, through falling demand for Serbian exports, and (2) financial, through cease of foreign capital inflows. Although the macroeconomic situation stabilized to some extent in the first half of 2009 by concluding the Vienna initiative and arrangement with the IMF, Serbian GDP contracted significantly in 2009, only to temporarily leave recession in the second half of 2010 (due to a recovery in exports) and in course of 2011 (due to a higher investment-related consumption), whereas it finally started to fall once again in 2012, which was also an election year. Dinar significantly weakened, by a total of 50% from 18th September 2008 to 2012 end. Imports recovered in 2011 due to capital equipment purchases following larger investments, while import growth in 2012 may be attributed to a consumption-related fiscal expansion. Due to a necessary fiscal consolidation pointed to deficit reduction, this trend ended, and effects of a large investment in the car factory started to reflect on the export growth in the last quarter of 2012. Inflation in this five-year period oscillated from 3-4% to 15%, while a heated demand, present in 2007 and 2008, has been eliminated as an inflationary factor since 2009. Than the primary inflationary role was overtaken by the FX depreciation, as well as some cost and supply-side factors, such as the food prices in a period of the fall of domestic agricultural production (2010) and surge in global food prices (2011), gasoline prices in combination with USD/EUR strengthening, all together mixed with ubiquitous structural causes. Gasoline prices in Serbia surged by 102% from January 2009 to 2012 end (while the global oil prices surged by app. 99%, calculated in dinars), and in the same period domestic food prices rose by 35% (while global FAO food price index grew by equally 35%). In the period spanning from the beginning of 2007 to 2012, Serbian GDP grew by an average of 1.1% a year. Consumer prices grew by app. 70% between the beginning of 2007 to the end 2012 (while the Eurozone inflation sped up by 14%). Nominal wages in the same period grew by 72% in RSD terms, and 21% in EUR terms. Real wages grew by 11% in the period from the beginning of 2007 to September 2008, only to drop by 9% from September 2008 to December 2012. Hence, after a relative loss of external competitiveness until 2008, in the period between 2009 and 2012 it was partially restored. Also, under the pressure of crisis, productivity increased as well, through an increase of GDP per employee by 16%. Unfortunately, the unemployment rose from a low of 13.3% in April 2008 (434 thousands of unemployed persons), to 14% in October 2008, when the rising trend started, and finally to 22.4% in October 2012, to 665 thousand unemployed persons.

After relatively solid macroeconomic results in 2011, situation deteriorated in 2012 – GDP contraction was estimated at 1.7% in that year. These developments were also contributed to by low domestic and external demand, unusually adverse weather (especially in February and during the summer), as well as uncertainties related to the May 2012 elections, which typically deteriorate the economic activity while the state initiatives are usually postponed. These events were coupled by closing down of the Pancevo refinery due to its reconstruction during the Q3 2012. Also, at the beginning of 2012, US Steel, the largest exporter in the previous period, quit its Smederevo steelworks operations, while this steel mill's production fully halted in July 2012. Last year was also marked by a drastic contraction in foreign direct investments inflows in comparison with 2011. Nevertheless, some positive signals could have been seen in the last quarter of 2012, primarily the beginning of serial production of cars and start of work of the modernized Pančevo refinery, reflecting on the overall industrial production and exports. Due to a loose fiscal policy, consolidated state deficit deepened to almost 7% of GDP, while public debt breached the level of 60% of GDP. During 2012 a fierce RSD depreciation took place. Dinar first reached a historical minimum of 119.1 at the beginning of August 2012 (12% value loss since the year beginning), followed by a trend change and strengthening to 113.7 level at the end of 2012 (8.7% value loss for the entire 2012). These exchange rate dynamics, bearing in mind a high share of FX-indexed loans, will undoubtedly influence on reporting of higher expenditures on FX losses in the balance sheets, i.e. lower profitability of companies in 2012.

Data and methodology

As the base for further analysis we used a database of financial reports of companies in Serbia for the period spanning from 2007 to 2011. Source of data used in the analysis is the Serbian Agency for Business Registers, which includes the database of financial reports for all companies in Serbia pursuant to the Law on Accounting and Audit. Bearing in mind that at the moment of conducting the analysis the Agency did not dispose of audited financial reports, the analysis was made on the basis of unaudited reports.

This way, we have made a database of the 5,000 largest single companies, by the criterion of operating revenues in each of the five years of the observed period. The 5,000 largest, which is app. 5% of all registered companies, account for 82% of operating revenues and 64% of total employment of all registered companies in 2011. A similar coverage was reported in the previous four years. This database was used to overview the financial situation of the economy by using the statistical analysis. The second "layer" of the analysis represents an analysis of the 500 largest companies (by the criterion of operating revenues in 2011). These companies were ranked according to the criterion of their realistic power, by introducing groups to list of the largest 500, while companies otherwise consolidated in the included groups were deducted from the list. The advantage of this approach is in comprehensibility of specific cases which contributes to a better analysis of the financial data, and which is practically impossible at the sample of the 5,000. Also, due to the economic concentration, the coverage of the overall business operations of the Serbian economy via the largest 500 is equally significant. Namely, these 0.5% of total registered companies in Serbia, account for 53% of total operating revenues and 38% of all employees in all registered companies. Their operations were analysed in 2011 and 2010 as a part of this paper.

In order to overview performances per sectors/industries, a classification of the largest 500 (single) companies was conducted. In the classification of the enterprises by industries the predominant business activity registered at the Agency for Business Registers was taken into consideration, but some posterior corrections were made in accordance with the international practice and the analyst expertise, wherever it was estimated that the official classification doesn't fully reflect the predominant activity of the company in question. Bearing in mind their large importance for the Serbian companies and Serbian specificities, in this paper we made special attention, on one hand, to the "conglomerates" – domestically owned companies, which generate a significant level of operating incomes in three or more sectors (industries), and, on the other hand, to foreign direct investments. Apart from this, as a separate sample, we observed the "state companies", i.e. companies in majority (over 50%) ownership of the central or local government, or those where the state, although a minority shareholder, has a crucial, i.e. controlling role in their management. The Top 500 list including main financial indicators and industry level sub-lists are published in NIN [3].

Financial position of companies and key challenges in operations

By observing the financial results of the Serbian economy in the analysed period, it is observable that the total operating revenues and profitability suffered the most in 2009, while 2010 was a year of stabilization after a crisis-induced shock, while a recovery is visible in 2011.

However, it seems that 2012 will be very bad with a return of recession to the so-called "double-dip". Apart from this, one of the main challenges Serbian economy is confronted with is bad liquidity.

Operating revenues – visible crisis effect in 2009 and recovery in 2010 and 2011

The medial growth of operating revenues in RSD in 2008 amounted to significant 22%, whereas 10% of 5,000 observed companies reported a fall of operating revenues of 10% or more. In 2009, the medial growth amounted to 3.4%, and as much as 31% of the observed companies had a fall larger than 10% in that year. In 2010 and 2011, the medial growth of operating revenues of the largest 5,000 companies amounted to 18.3% and 16.6% respectively, whereas, similar to 2008, i.e. before the crisis, operating revenues' fall of 10% or more was reported in 13% of companies in both of these years.

At the sample of the 500 largest companies in Serbia, when single companies are observed, it is visible that effects of the foreign direct investments from the previous period are starting to materialize. Namely, apart from the companies growing and advancing year after year, such as Tarkett, Telenor, Mercator, Idea, VIP Mobile, Metro, Coca Cola, SBB, Ball Packaging, etc, in 2011 a solid advance of previous investments in the sector of tradables and services was evident, such as Valy, Gorenje, which keeps opening new factories across Serbia, Yura, which opened several factories in a short term, Grundfos and others. In the Q4 2012 first positive effects of the FIAT car factory on the industrial production and exports started to show. Nevertheless, in this segment there are some negative examples of withdrawal of some companies, as in the case of US Steel. Some other investors also consider strategic options that include an exit from the Serbian market, bearing in mind the current market conditions in Serbia, such as Hemofarm Stada, which generated large losses because of write-off of claims from wholesale pharmacies. However, those examples of withdrawal of foreign investors from Serbia are relatively scarce, leading to a conclusion that there are still large untapped investing possibilities and direct benefits for foreign investors, although in parallel there is still room for an improvement of the business climate itself.

In the segment of large companies with a majority domestic ownership, defined as conglomerates, results are very heterogeneous, in the sense of business development, growth of revenues, profitability, indebtedness and systemic importance for the economy. There are examples where growth and development from the previous period rapidly continued in 2011, such in the example of Radun Inženjering, after takeover of Slovenia's Fruktal (operating revenues growth in RSD in 2011 attaining 117,1%), Interkomerc (growth of 50% or more in the last three years), concern Farmakom, significantly supported by the international financial institutions (growth of operating revenues in 2011 of 45%) or the Elixir Group (almost 130%). Out of large companies in majority domestic ownership there is a need to mention Beohemija, IM Matijević, Univerexport, DIS, Lilly Drogerie, Almex, Vino Župa and others, reporting constant growth and development, sometimes with support of international financing institutions. On the other hand, a part of large companies in majority domestic ownership protected and consolidated their position without a significant growth rate, and some of them slowly disappeared (see Table 1).

When it comes to mid-sized companies, trends are not quite favourable. Although from the aspect of economic growth these companies are expected to grow and develop constantly, and to attain a place at the list of the largest with time, events of this kind are rare, especially in the tradable sector. More accurately, not a single company of this kind made it to the list of the Top 20 fastest growing companies in 2011. Causes of this could be found, from one side, in high concentration of the economy and significant influence of the large companies on small ones' operations, inadequate and expensive financing sources and – notwithstanding improvements at that field – insufficient incentives in business environment turned to small and medium enterprises.

When single sectors are observed, there is heterogeneity in operations of companies within sectors, but also between sectors as a whole. However, what is almost a universal phenomenon is that the sectors and the economy as a whole are consolidating. In 2011, due to an economic recovery, the fastest growth was made by the companies that operate in sectors of agriculture (24.6%), construction (22.1%), metal industry (19.1%) and energy (15.9%).

Seen as a whole, a significant growth of 26.2% was attained by companies whose main activity is retail trade. However, this growth is in a large extent a result of growth of operating revenues of Delhaize Serbia (of 37.3%), but it is not entirely realistic, bearing in mind that Delhaize, i.e. Delta Maxi did not consolidate all the companies in its system in 2010. Without Delhaize Serbia, companies that operate in the retail sector attained a 16.9% growth. Out of all observed sectors, aggregate fall in operating revenues of the listed companies was achieved by the sectors of pharmaceuticals (-9.2%) and tobacco (-6.6%), and it can be concluded that these sectors are significantly crisis-ridden.

The heterogeneous sector development in the observed period was contributed to, apart from a different effect of the crisis, by measures of the government policies.

Sector of food and beverage production is one of the most important in the Serbian economy. In 2012 this sector had a share in total exports of Serbian goods of 15.2%, and this share, despite the crisis, was increased in comparison with 2007, when it was at 14.9%, and in the crisis period (between 2008 and 2011) when an average annual growth rate of exports of 6.3% and trade surplus was 11%. Consequently one can conclude that the crisis was beneficial to this sector, foreign exchange rate adjustment as its part, of course along with the investments effecting in that and the previous period. Within this sector, trends are divergent. Hence, brewery and juice/soft-drink beverages sectors were highly consolidated, dominated by large international investors, such as Molson Coors as the owner of the Apatinska brewery (earlier owned by InBev), Carlsberg, Heineken, Coca Cola (Fresh&Co), PepsiCo, Rauch and other or significant domestic enterprises such as Nectar (part of Radun Inženjering) from Bačka Palanka. These enterprises invested significant sums in the previous period, and almost all of them had positive financial results in terms of operating revenues growth and profitability, and also had low or sustainably low level of indebtedness, with visible results in exports, above all to the regional markets (most of these companies use Serbia as the regional and production centre wherefrom they export mainly to Bosnia and Herzegovina, Macedonia and Montenegro). On the other side, subsectors of confectionery industry and meat processing are predominantly owned by the domestic capital. In these subsectors consolidation is in process, and in the forthcoming period one can expect foreign investors to come with a continued advance of the most successful domestically owned companies. This conclusion is pointed to by financial results, which are, as opposed to breweries and juice/soft-drink beverages, worse, and there are companies, mainly domestically owned, which confront the challenge of high level of indebtedness.

Effects of measures of state politics are well observable in the construction sector. This sector was hit particularly hard by the crisis, which was especially felt in 2009 and 2010, when this sector attained a fall of performed works of 19.9% and 6.4% respectively. After that, the state decided to help the domestic construction industry amidst the economic crisis by realization of large infrastructure projects (Corridor X, building new bridges, etc) and other projects (housing zones "Stepa Stepanović" and "Dr Ivan Ribar"), along with the special Law on stimulating of the construction industry. However, these measures had limited results. On one side, liquidity in the sector was improved up to some point, but systemic problems were not resolved, so even today a part of the domestic construction companies is at the brink of disappearance. On the other side, the present situation at the domestic market were fully used by the international companies operating in Serbia, such as Porr, Alpine and others, which are not the sector leaders, especially in the part related to the road infrastructure. These trends were contributed to by the way of financing large projects, relying on credits from international financial institutions, where tender conditions were out of domestic companies' reach, so they were usually involved as subcontractors of large international companies, often with a significantly lower profit margin.

A good example of the state's influence on the development of some sectors is the pharmaceutical sectors, before the crisis one of the most profitable ones, where the largest domestic suppliers (Hemofarm, Galenika, Zdravlje) are confronted with illiquidity and operating losses, whereas the chain effect of illiquidity spilled over on the pharmaceutical industry (more on this subject in the third part of the paper). Sectors that saw their results worsen under the effects of the crisis and/or state decisions are motor vehicles sales and auto parts sector and the tobacco industry. At the other hand, the sector of construction materials, especially the cement production sector, apart from all the challenges and contraction of the construction industry, remained relatively resistant to the crisis.

Profitability – large influence of financing modes

In the observed five-year period spanning from 2007 to 2011, the margin of operating profitability – EBITDA did not change sizeably, bearing in mind that the operating expenses followed the dynamics of the operating revenues. Medial EBITDA margin in operating revenues across the whole observed period stayed at app. 6%, whereas in 2007 it amounted to as much as 6.8%, only to fall to 5.9% in 2011. In other words, operating expenses (without amortization) followed proportionally the rise (fall) of operating revenues along the entire five-year period. Profitability, however, fell significantly in 2009 and recovered in 2010 and 2011, but it is still under the 2008 level. Medial ROA fell from 6.8% and 4.5% in 2007 and 2008, to 3.4% in 2009, only to recover to a 4.9% level in 2011. In absence of a more robust growth of operating revenues (i.e. in case of revenues contraction in a part of the economy), it is clear that the fall of profitability is the result of the fact that cost of financing and negative exchange rate differentials, "ate" a part of the margin and hence reduced the profitability. The influence of high costs of financing and negative exchange rate differentials is best seen at the 500 largest companies in Serbia. Unlike 2010, when a loss of RSD 1.2 billion was recorded, TOP 500 recorded a profit of RSD 114 billion in 2011. This result is a direct consequence of a significant change of a decrease of negative financial results, resulting from FX rate stabilization, and not from an increase of the profits, having in mind that the EBITDA median was reduced from 6.5% to 5.9%, and that average EBITDA margin practically remained unchanged at the same level as the year before, i.e. at 7.5% (Table 3).

When the results of specific companies are in question, it is noteworthy that in 2011 there has been a change at the list of the most profitable companies measured by the ratio net profits – after Telekom Srbija's domination in several last years, in 2011 the most profitable company in

Table 1. Overview of sectors on the base of Top 500

Sector	Growth of operating revenues, total, in %	Growth of operating revenues, median, in %	EBITDA margin, total, in %	EBITDA margin, median, in %	ROA, aggregated, in %	ROA, median, in %	Total operating income, in 000 EUR	Total number of employees	EBITDA, in 000 EUR	Net income, in 000 EUR	Total value, in 000 EUR	Net debt, in 000 EUR	Estimated investments, in 000 EUR
Agriculture	25.8	29.1	7.5	5.8	3.6	2.6	969,458	8,552	72,433	33,110	946,804	241,386	129,518
Food and Beverages	12.9	12.7	15.0	11.5	6.3	4.3	3,788,750	33,920	566,492	252,083	4,041,113	910,689	539,069
Tobacco Production	-5.6	-12.0	6.0	7.1	-1.3	-3.0	254,582	1,027	15,205	-6,675	489,581	64,544	7,237
Wood and Paper Industry	11.6	13.3	8.6	9.2	1.0	2.5	564,627	12,723	48,557	13,440	1,283,866	206,101	59,971
Chemical Industry	19.1	18.0	7.0	10.2	-3.9	5.9	2,076,457	15,929	145,734	-80,726	2,108,311	410,557	184,012
Pharmaceutical	-8.3	-7.1	14.4	9.7	-23.5	-11.3	353,683	5,772	51,051	-170,518	619,761	151,949	25,532
Construction Materials	8.2	7.7	23.2	14.9	12.6	8.7	412,227	4,255	95,450	62,147	490,917	82,816	69,413
Metal Industry	20.3	28.8	0.7	4.7	-5.4	2.8	2,390,920	26,057	17,584	-130,945	2,529,054	697,380	425,599
Other Machines and Apparatus	8.1	17.6	-0.9	7.2	-5.5	2.8	876,674	20,656	-8,314	-109,267	2,155,466	583,799	393,504
Motor Vehicle Sales	4.4	4.3	3.4	2.3	0.2	0.9	500,701	1,331	16,925	630	369,754	161,898	16,837
Energy	17.1	18.8	12.9	2.5	4.6	3.8	8,645,647	58,772	1,118,751	680,559	17,867,709	1,793,008	1,102,319
Wholesale Trade and Mediation	9.4	15.4	3.9	3.9	1.0	5.3	6,237,431	21,760	244,967	37,060	4,000,863	873,475	211,656
Retail	23.3	21.3	14.5	2.1	0.9	2.2	3,597,873	23,110	81,992	-36,955	2,544,123	1,006,048	902,495
Construction	27.5	42.9	2.3	8.8	-1.5	3.9	2,129,205	40,389	309,483	44,288	6,021,653	354,619	780,678
Transport	9.6	17.8	6.4	5.2	4.8	1.9	1,165,890	53,623	74,743	189,128	4,160,365	893,446	284,889
Telecommunications	7.4	13.5	41.0	40.1	6.2	1.5	1,801,296	16,934	738,260	251,856	3,988,208	439,130	471,144
IT	8.7	8.5	4.5	3.8	5.5	6.2	545,346	2,655	24,595	13,109	237,401	55,869	17,035
Media	5.8	2.3	14.4	7.2	2.8	8.8	296,269	2,866	42,671	10,140	359,058	79,490	21,080
Total sectors	13.3	12.9	10.0	6.4	2.1	0.9	36,607,036	350,331	3,656,580	1,052,464	54,214,007	9,006,205	5,641,988

Source: Agency for business registers (APR), authors' calculations

Serbia was NIS, with net profits reaching RSD 40.6 billion, and followed by EPS (RSD 26.8 billion) and Telekom Srbija (RSD 23.2 billion). Telekom Srbija was a leader in profitability in the last five years, but in 2011 it lost its primacy, which is to a large extent a result of an increase in NIS' performance after its takeover by Gazprom in 2008 and investments effected after that.

Observed sector-wise, in 2011 at the basis of EBT margin, the most profitable sectors were: construction materials (average EBT margin amounts to 9.9%, median EBT margin at 6.1%), telecommunications (4.8% and 3.4%) and the media (4.2% and 6.7%) and especially the companies operating in the media and sale of advertising space in developing markets. At the basis of 2011 data, the most unprofitable sector was pharmaceuticals (average EBT margin of -70.7%, median EBT margin -17%) and tobacco-processing (-9.3% and -4.4%).

Employment – adverse trends with uncertain perspective

In the observed period, after an almost stopped period of revenue growth, a (nominal) recovery of revenue growth in 2010 and 2011 was not followed by a growth in number of employees, but the median of number of employees stayed stable along these two years at the level of 2009, i.e. the median of growth of number of employees in particular companies amounted to 0 during 2009, 2010 and 2011, after 7.4% in 2008.

According to the official data, the total number of the employed in Serbia in 2009, 2010 and 2011 had a fall of 7.1%, 4.4% and 2.1% respectively, and in all companies in this period, the number of employees fell by 5.8%, 2.3% and 2.2% respectively, which may point to a conclusion that all large companies, aggregately observed, boasted a smaller reduction in the number of employees than the economy as a whole – i.e. that the small and middle companies had a shock "amortizing" role and suffered from a larger headcount reduction than the large companies. These data may point to a conclusion that the small and medium-sized enterprises are a more flexible segment of the economy, which reacts quicker to external changes, so in this segment there has been a larger employment decline in the crisis period. Also, it is possible that, in difficult external circumstances the small and medium enterprises (SME) resort to a larger tax evasion, so because of this the number of the officially employed workers diminished.

The largest employers in Serbia are the state-owned companies, concretely EPS (with 32,178 employees in 2011), Železnice Srbije (Serbian Railroads) (20,413), JP PTT Srbija (15,060) and Telekom Srbija (13,598).

Indebtedness and borrowing

During these five years, foreign borrowing, i.e. its part in total sources, increased in 2008 (median grew from 11.8% in 2007 to 14.7% at end 2008), but in 2009 and 2010 it remained at the same level, and it even mildly fell in 2011 (13.2%). In the whole observed period, indebtedness level stayed relatively low, but its concentration grew larger as time went by. Indeed, there are a small number of significantly indebted companies and a far larger number of those with little or no debt. As much as 75% of the observed companies have a share of borrowed sources of less than 30%, which is a generally accepted critical limit of indebtedness, while 10% of the observed companies have a debt larger than a half of total sources. Also, looking at debt, there is a concentration in the segment of large companies. Indeed, median of share of credits in total sources for large companies (operating revenues exceeding RSD 1 billion) amounted to 18.8%, while it stood at 12.1% in small companies at the end of 2011 (Table 4).

Short term debt (of up to one year maturity) dominates the total debt. Indeed, the median of share of short term debt in total debt of the loan-indebted companies amounts to 82%. Share of the short term debt has increased from 2009 onwards, which, apart from other things, point to a conclusion that new borrowing is probably largely motivated by needs to increase liquidity, but also that the availability of new sources of crediting was decreased in the same period.

Generally adverse pre crisis borrowing structure (domination of the short term debt and FX-indexed debt) took a toll during the macroeconomic shock of the crisis, which eventually had a negative effect on liquidity of large debtors. Negative influence of the financial position of companies, above all liquidity, was additionally indirectly contributed to the effect of the exchange rate differentials, bearing in mind that the largest share of debt has been euro-indexed, while the Serbian currency significantly weakened since the outbreak of the crisis, i.e. since 2008, with the exception of 2011. The existing researches of the crisis effects show that in 2009, after the crisis outbreak, liquidity of large debtors worsened, and that new borrowing along 2009 was used to reduce pressures on liquidity [2].

Liquidity

Despite the fact that in a large part of the observed companies short-term assets seem to be complying with the short-term liabilities (its median amounts to a solid 1.2 throughout the observed period), liquidity was threatened and drastically worsened in 2009, 2010 and 2011, as well as in 2012, although exact indices are lacking, illiquidity is probably at its highest since the start of the observed period. Namely, the net working capital, counted as a sum of values of all net working capital, became negative since 2009, deepening until 2011. This is a result of the fact that the unadjusted liquidity position is especially pronounced in large and public companies, hence a larger part of the negative net working fund originated from these companies, thus rendering this sum negative at the level of all 5,000 companies. Apart from these indices, there is a large share of unpaid claims and unpaid debt in companies' balance sheets, which in pair contribute to compliance of the short-term assets and short-term liabilities, and hence give an illusion of liquidity, but in reality it means that the companies finance their unpaid claims by not paying their current liabilities to their suppliers (median of share of these claims/obligations in total assets/liabilities is 22%), which is only a signal of illiquidity.

Hence, the key negative characteristic of operations of companies in Serbia, especially in the last two years, is the widespread illiquidity in terms of prolonged delays in payments and accumulation of total obligations in this respect. Trend of growth of negative net working capital was continued in 2011 – in comparison with 2010, negative aggregated net working capital of all companies in Serbia increased by almost 50% to RSD 322 billion, which is 3% of total assets of all companies put together. Unfavourable financial situation, that is, the imbalance of the structure of assets and liabilities of companies in Serbia has many causes, of which some date from before the crisis, such as financing of the fixed assets from short term sources. Additionally, illiquidity at the market lately was contributed by a significant lack of financial discipline in the system, increase of payment delays of the state, and debts of the state companies, an increase of the number of companies "under restructuring", which are legally protected from forced collection by creditors until the end of the restructuring process, weakening of creditworthiness (which reflects in impossibility of refinancing of the short term loans with longer term loans), absence of long term loans, etc.

All these problems may be well seen at the example of the subsector of the wholesale pharmaceutical suppliers. Before the crisis, this subsector had an incontestable leader, Velefarm, and other three important followers, Jugohemija-Farmacija, Vetfarm and Unihemkom. However, these four companies entered the crisis with relatively high indebtedness, partially because a fierce investing cycle,

Table 2. Overview of operating revenue of largest companies in Wholesale Trade in Pharmaceutical Products, in 000 EUR

	2007		2011		Average growth rate 2007/11
	Rank	Operating revenues	Rank	Operating revenues	
Velefarm	1	217,261	3	82,586	-21.5%
Jugohemija-Farmacija	2	76,358	7	33,568	-18.6%
Vetfarm	3	74,136	9	4,017	-51.8%
Unihemkom	4	65,014	6	38,675	-12.2%
Farmalogist Holding	5	57,029	2	119,261	20.3%
Pharmanova / Phoenix Pharma	6	52,428	1	213,198	42.0%
Pharmaswiss	7	48,882	4	79,583	13.0%
Erma	8	45,093	5	71,132	12.1%
Vetprom Hemikalije	9	35,155	10	25	-83.7%
Roche	10	33,126	8	22,510	-9.2%

Source: Agency for business registers (APR), authors' calculations

and with an inadequately strong liquidity position which could not withhold a long period of repayments and non-payments by the Republic Fond for Health Insurance and some other health care institutions. Other companies that had a good position of working capital took full advantage of this market position, above all, Phoenix Pharma, Farmalogist and Pharmaswiss, which thus became new market leaders (see Table 2).

Out of the former "big four", Velefarm is in bankruptcy, Vetfarm practically stopped operating, Unihemkom was in blockade for 149 days in 2012 with uncertain perspective, while Jugohemija-Farmacija owners sought an exit from the current situation in the sale of the company. Vetprom Hemikalije has also been erased from the Top 10 list, by practically ceasing to exist.

Table 3. Financial ratios of top 5000 companies in Serbia

		2007	2008	2009	2010	2011
Operating revenues, in RSD million	10th percentile	160.3	168.9	161.8	177.2	203.1
	Median	337.6	352.9	300.4	331.4	387.3
	90th percentile	1,529.1	1,613.6	1,355.8	1,579.6	1,890.7
Number of employed persons	10th percentile	8	7	5	5	5
	Median	44	42	37	37	37
	90th percentile	327	228	243	242	244
Growth of operating revenues	10th percentile		-8.9	-34.4	-15.3	-16
	Median		21.8	3.4	18.3	16.6
	90th percentile		107.7	79.4	109.4	103.86
Growth of operating revenues, tradable sectors	10th percentile		-10.7	-31.6	-16.9	-13.9
	Median		21.5	3.2	19.7	19.7
	90th percentile		100.6	67.8	90.2	90.1
Growth of operating revenues, non-tradable sectors	10th percentile		-10.8	-36.1	-14.6	-16.9
	Median		23.1	3.3	17.5	14.8
	90th percentile		148.1	88.1	123.3	113.6
Growth of the number of employees	10th percentile		-10	-18.3	-21.6	-31.1
	Median		7.4	0.0	0.0	0.0
	90th percentile		58.3	37.1	33.3	42.9
EBITDA margin, in %, in operating revenues	10th percentile	-0.3	-0.9	-2.4	-1.1	-1.1
	Median	6.8	6.5	6.4	6.4	5.9
	90th percentile	22.3	21.1	22.5	22.5	21.2
EBT margin, in %, in operating revenues	10th percentile	0.1	-3.4	-7.9	-7.1	-3.3
	Median	3.7	2.5	1.9	2.1	2.4
	90th percentile	16.9	14.9	14.8	14.7	14.9
Pre-tax profit, in RSD thousands	10th percentile	52	-15,603	-30,620	-29,869	-18,231
	Median	13,243	9,719	6,886	8,234	11,019
	90th percentile	100,367	87,119	72,538	85,060	103,109
Pre tax ROA, in %	10th percentile	0.1	-3.3	-6.7	-5.7	-3.4
	Median	6.8	4.5	3.4	3.9	4.9
	90th percentile	28.8	25.6	22.6	23.1	23.3
Loans in total liabilities	10th percentile	0	0	0	0	0
	Median	11.8	14.7	14.8	14.9	13.2
	90th percentile	43.2	18.9	49.2	48.2	46.8
Short-term loans in total loan debts	10th percentile	0.1	0.1	14.7	15.6	14.5
	Median	74.7	73.5	85.9	85.2	82.4
	90th percentile	100	100	100	100	100
Liquidity ratio (short-term assets in short-term liabilities)	10th percentile	0.7	0.7	0.6	0.6	0.6
	Median	1.2	1.2	1.2	1.2	1.2
	90th percentile	3.3	3.2	3.3	3.2	3.6
Total net working capital, in RSD billion		73.2	41.2	-3.6	-56.5	-117.0
Herfindahl concentration index, in %		28.7	31.1	34.4	38.5	35.4

Source: Agency for business registers (APR), authors' calculations

Structural shifts in the economy in the period 2007-2011

Structural shifts in Serbian economy in 2007-2011 were evident. These changes reflect in some important directions, the most important of which are the carrying out of foreign direct investments and growth in their importance in the Serbian economy, continuation of trends of concentration and consolidation (with more room for further consolidations), reconfiguration of the domestic large capital, larger focus of the Serbian economy on exports.

Concentration and consolidation through the crisis

One of the most important observable trend from the start of the crisis onwards is increase in concentration of the Serbian economy which is, by nature, highly concentrated (Figure 1) with a small number of relatively large and a large number of small companies. The fact that the large grow despite the crisis is observable at the Top 500 list, where large companies, in average, achieved solid growth rates in the crisis years as well. At the sample of the largest 5,000, it is obvious that the concentration index (Herfindahl index which is counted as a sum of squares of shares of companies in total operating revenues of the whole sample) grows from 2007 to 2010, with a tepid fall in 2011. Additionally, larger companies in the observed 5,000 (with operating revenues exceeding RSD 1 billion), attained a larger growth of operating revenues, especially in the crisis years 2009 and 2010 (median at 5.7 in 2009 and 19.7 in 2010), than the smaller companies (median at 2.6 in 2009 and 18.2 in 2010), which was not the case before crisis, when (naturally) smaller companies attained larger relative growth of operating revenues.

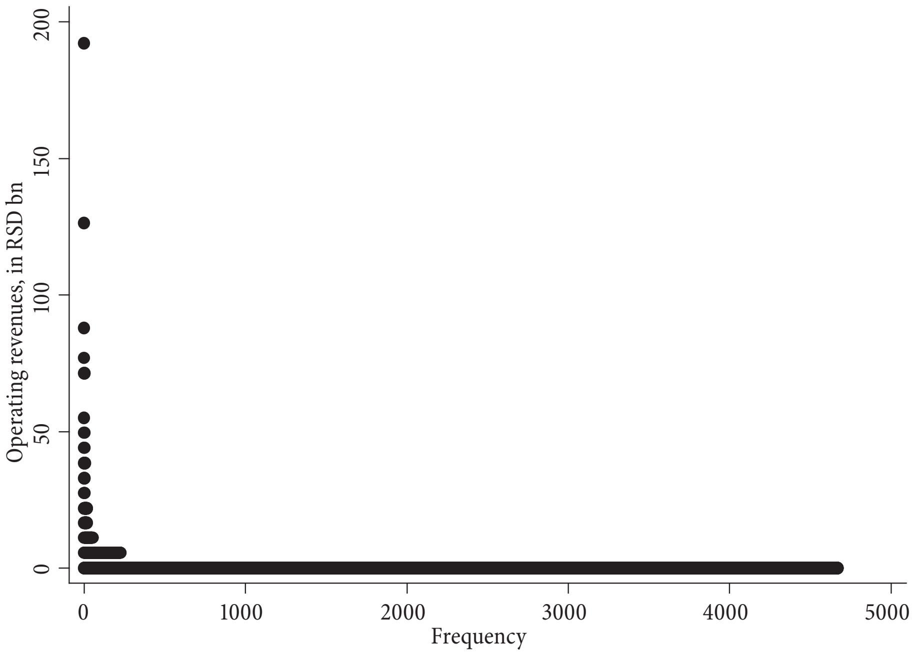
The fact that throughout the observed period there is (and remains) a constant and significant dispersion of EBITDA margins (10^{th} percentile at -1%, 90^{th} percentile at 22%), suggests that there is still a lot of room for consolidation in the market. In other words, growth of business efficiency, improving the utilization of assets which do not yield adequate returns, are all positive effects that a fiercer competition and better functioning of market

Table 4. Financial ratios of Top 5000 companies in Serbia by size of operating revenues*

		2007		2008		2009		2010		2011	
		large	small	large	small	large	small	large	small	large	small
Operating revenues, in RSD million	10^{th} percentile	1,092.6	160.3	1,088.1	164.4	1,101.6	159.2	1,105.9	173.9	1,101.7	197.6
	Median	1,855.4	284.8	1,855.8	295.8	1,860.1	262.9	1,943.9	284.9	1,893.6	319.3
	90^{th} percentile	7,846.0	670.9	7,646.9	688.9	8,850.4	656.1	9,228.7	667.6	8,839.1	702.9
Growth of operating revenues	10^{th} percentile			-6.2	-9.7	-30.6	-35.3	-8.4	-16.8	-13.1	-16.8
	Median			19.9	22.2	5.7	2.6	19.7	18.2	15.8	16.8
	90^{th} percentile			106.7	108.2	69.6	83.0	89.5	113.5	88.7	109.7
Growth of operating expenses	10^{th} percentile			-3.8	-8.3	-28.8	-34.2	-7.8	-15.9	-10.1	-15.3
	Median			20.1	22.1	3.9	2.3	18.8	17.7	16.0	17.1
	90^{th} percentile			103.7	106.9	69.7	82.9	86.8	112.5	84.8	110.9
EBITDA margin, in %, in operating revenues	10^{th} percentile	-0.4	-0.3	-1.3	-0.8	-3.4	-2.1	-1.1	-1.1	-0.9	-1.1
	Median	6.6	6.9	5.7	6.6	6.4	6.4	6.5	6.3	5.7	6.0
	90^{th} percentile	22.4	22.2	20.6	21.2	21.9	22.7	20.2	22.9	20.1	21.5
Pre tax ROA, in %	10^{th} percentile	-3.9	0.1	-8.2	-3.9	-10.4	-5.8	-9.3	-4.9	-5.3	-2.5
	Median	4.6	7.2	2.6	4.6	2.3	3.5	3.2	3.8	3.8	5.0
	90^{th} percentile	20.3	30.2	18.4	20.3	17.3	23.0	17.7	23.1	19.2	23.9
Growth of the number of employees	10^{th} percentile			-10.4	-10	-16.9	-18.3	-13.2	-15.9	-11.8	-14.6
	Median			6.1	7.7	0.9	0.0	0.9	0.0	2.8	1.3
	90^{th} percentile			54.5	59.6	33.3	37.8	29.7	37.4	41.4	46.4
Total net working capital, in RSD billion		-6.4	79.5	-26.1	67.4	-87.1	83.5	-99.6	43.1	-140.6	23.6
Loans in total liabilities	10^{th} percentile	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Median	17.0	10.9	19.7	13.2	20.9	14.1	19.4	14.2	18.8	12.1
	90^{th} percentile	48.5	45.0	53.9	48.5	54.2	47.8	51.8	47.3	50.4	45.3

* a large company is defined by operating revenues exceeding RSD 1 billion
Source: Agency for business registers (APR), authors' calculations

Figure 1: Distribution of companies by size of operating revenue in 2011



Source: Agency for business registers (APR), authors' calculations

institutions may produce in order to increase employment in the future. In order to put the assets in a better function, a fresh capital is needed, i.e. investments and an increased knowledge so that the production possibilities are fully tapped. In that context, growth and better performances of Serbian companies do not only depend on the business sector itself, but also on institutions and system itself, education quality, legislative system, access to financing and financing costs.

Reconfiguration of the large domestic capital – importance of financing decisions

In the observed period, it is visible that there has been an adjustment of the large domestic capital, especially in the sub period of the full swing economic and financial crisis, from 2009 to 2011. Namely, it was an almost universal case that in the pre-crisis period, especially in 2007 and 2008, all domestically owned large companies, i.e. so called conglomerates, were carrying out strong investment cycles that were financed from loans, often short term ones. These decisions were based on the fact that before the crisis there was growth in all markets, hence a continuation of these trends was expected in the forthcoming period. However, instead of large growth rates, there came a fall in business activity, while conglomerates were burdened by a relatively large indebtedness[4] (see Table 5).

In these circumstances, owners have been using various strategies in financing their businesses. Analysis at the chosen indices for the period 2007-2011 show that the most significant rise of business activity was in those companies whose owners "opened up" to the capital, be it borrowing or direct investments in capital of international financial institutions (IFIs) or private equity funds[5]. By the entrance of these institutions to the capital of the companies, or by their support through (re)financing, a financial position of those companies is additionally ameliorated, and all conglomerates which had this kind of cooperation also had a significant growth and development even in the crisis period.

4 It is considered that the company enters a zone of high indebtedness when the value of net debt (total financial liabilities less the value of cash and cash equivalents on a certain day) exceeds the 5x value the EBTIDA, and in the crisis period this limit is reduced to 4x the EBITDA. Of course, in order to determine the situation more accurately, one has to take into consideration multiple factors, such as the maturity of indebtedness, ability of the company to create a positive net cash flow and other, but the ratio between net debt and EBITDA is a relatively sound index, based on which some preliminary estimates may be concluded.

5 Access to IFI financing is, even when it comes to credit financing, closer to approach of private equity funds, than to the commercial banks, seeing that a more thorough analysis / client check up is conducted, and contracts often contain such provisions that allow to IFI a better control of operations of companies in which they invest.

Table 5: Analysis of operations of conglomerates in the period 2007-2011, in EUR thousands

	Operating revenes			Net debt / EBITDA			Support of IFI of foreign funds
	2007	2011	Cagr	2007	2008	Average	
INTERKOMERC	48,351	234,710	48.4%	26.0	9.4	17.7	Without support
KONCERN FARMAKOM M.B.	129,336	421,864	34.4%	6.1	3.7	4.9	Support through refinancing
VICTORIA GROUP	260,728	567,119	21.4%	5.0	3.3	4.2	Support through financing and share in capital
RADUN INŽENJERING	69,774	144,438	19.9%	1.1	1.8	1.5	Support through financing
ITM GROUP	43,201	83,781	18.0%	8.3	10.0	9.2	Without support
MPC HOLDING	140,846	258,538	16.4%	2.3	3.9	3.1	Support through share in capital PE fund
MK GROUP	132,884	234,034	15.2%	3.2	6.6	4.9	Support through financing
RUDNAP GROUP	100,176	174,097	14.8%	7.1	6.8	7.0	Without support
INVEJ	206,568	193,502	-1.6%	3.0	6.0	4.5	Without support
DELTA HOLDING	1,503,379	1,098,468	-7.5%	7.0	9.1	8.1	Without support
DUNAV GRUPA	42,275	28,528	-9.4%	2.4	3.1	2.7	Without support
ZEKSTRA GRUPA - ZEKSTRA	52,233	21,826	-19.6%	7.8	77.2	42.5	Without support
VERANO MOTORS	114,027	43,777	-21.3%	12.3	16.3	14.3	Without support
IRVA INVESTICIJE	40,421	5,853	-38.3%	50.0	30.9	40.4	Without support
RODIĆ M&B HOLDING	77,038	0	-100.0%	50.0	50.0	50.0	Without support

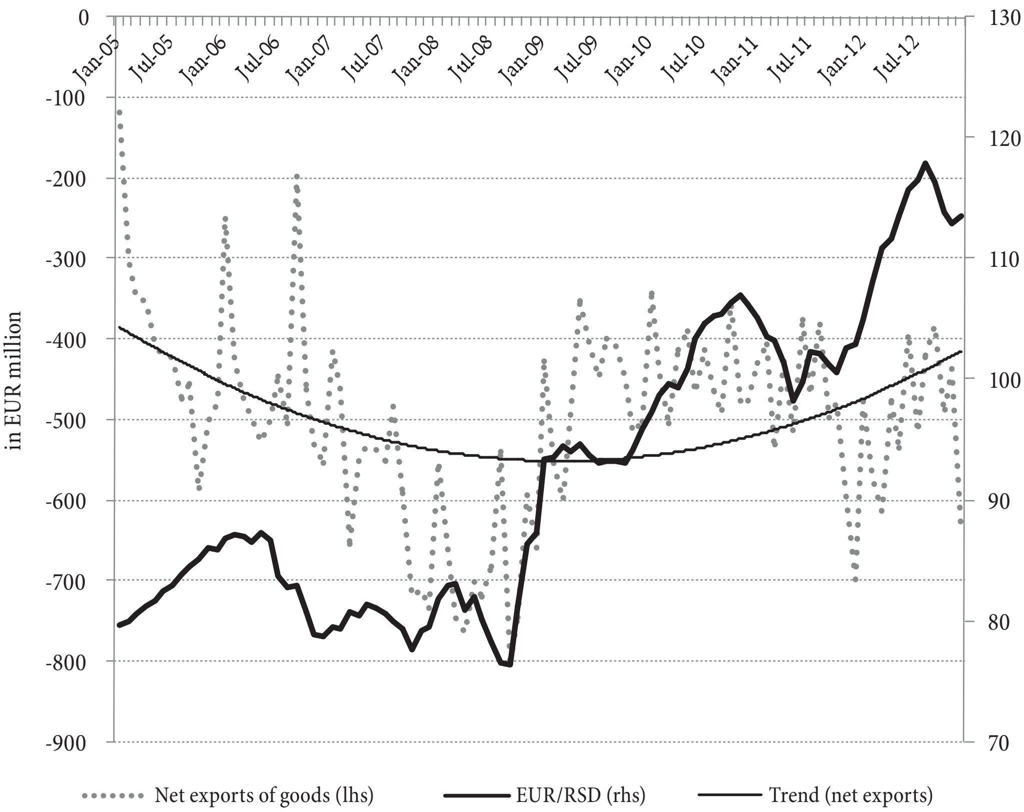
Source: Agency for business registers (APR), authors' calculations

On the other hand, companies, i.e. its owners who were less open, i.e. suitable for a partnership with professional financial institutions, had an aggregate fall of activity, many are still confronted to significant challenges, and some even went bankrupt. Of course, in this segment there are some exceptions, such as Interkomerc or ITM Group.

Higher focus on exports

In the observed period, from the outbreak of the crisis onwards, a significant structural shift took place in the Serbian economy, consisting on a more concentrated focus on exports (Figure 2). Although still sizeable, the current account deficit was narrowed. The narrowing is

Figure 2: Monthly net exports (trade deficit) and FX rate EUR/RSD



Source: Serbian Office of Statistics, National Bank of Serbia, Author's calculations a result of a smaller consumption (which is structurally oriented towards imports to a large extent), and also due to a success of some sectors to compete and sell their products abroad.

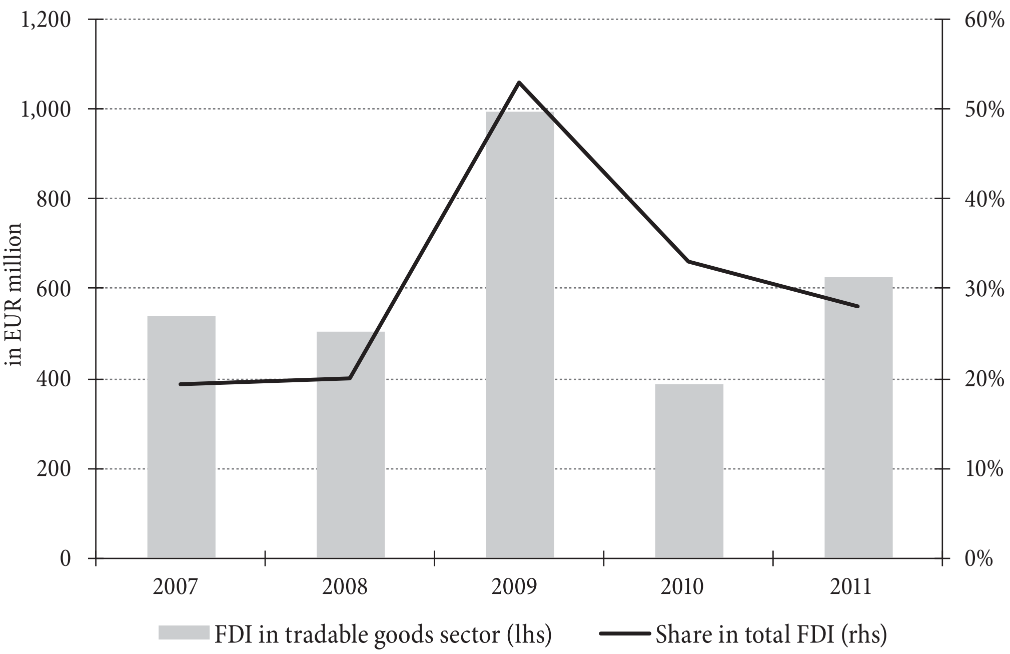
Favourable for these developments was RSD weakening, nominally by 50% and in real terms by 12%, in the period from the crisis outbreak (September 2008) until the end of 2012[6]. Non-tradable sectors have been growing at a faster pace by their operating revenues than the tradable sectors (agriculture and industry) in 2008, as well as in 2009, but in the latter at a much lower level (median at 23% and 3.3% for the non-tradable sector and 21% and 3.2% for the tradable sector in 2008 and 2009 respectively). However, the tradable sectors growth starts to outpace that of the non-tradable, in the period from the crisis outbreak onwards. In 2010 and 2011, the tradable sectors boast larger operating revenue growth (median of 19.7% in 2010 and 2011 each, against medial growth in non-tradable sectors of 17.5% in 2010 and 14.8% in 2011). In addition to that, foreign direct investments were not stopped, like the foreign credits, but their inflow slowed down from the average of 8.7% of GDP in 2007-2008, to an average of 5.9% of GDP in 2009-2011. This was partially the result of local efforts and financial incentives, but also of the fact that in Serbia there are still many untapped potentials for investments. After the last large privatization – when NIS was sold to the Russia's Gazprom in 2008 – in the previous period foreign direct investments inflow was marked by the arrangement with FIAT and a number of smaller investments flowing in, aiming at providing supplies for the car factory, but also to some other export-oriented activities. In 2011, the single largest retail chain was sold to Belgium's Delhaize.

A similar adjusting trend is visible when it comes to the destination of foreign direct investments. Indeed, in the pre crisis period, there have been some sizeable foreign direct investments in non tradable sector, while in the crisis a trend of a growing share of foreign direct investments in the tradable sector is observable (Figure 3).

Hence, by departing from the basic macroeconomic trends, it can be stated that until 2009 there was a model of economic growth based on capital imports from abroad, while from 2009 onwards, under the pressure of the global economic and financial crisis, there is an adjusting process of the Serbian economy going on, especially through the depreciation of the domestic currency and reduction of the foreign trade deficit. How long will this trend persist

6 Although in our professional and academic public there has been a lot of discussion on FX rate influence on foreign exchange sector, there is a growing body of evidence suggesting that FX rate adjustment does have a positive effect on foreign exchange deficit. See for instance [9].

Figure 3: Foreign direct investments in the tradable sector, in EUR million



Source: NBS, authors' calculations

depends both on efforts in improving the business climate and stimulating domestic and foreign investments, and on the framework of the economic policies in the forthcoming period.

State as owner and manager

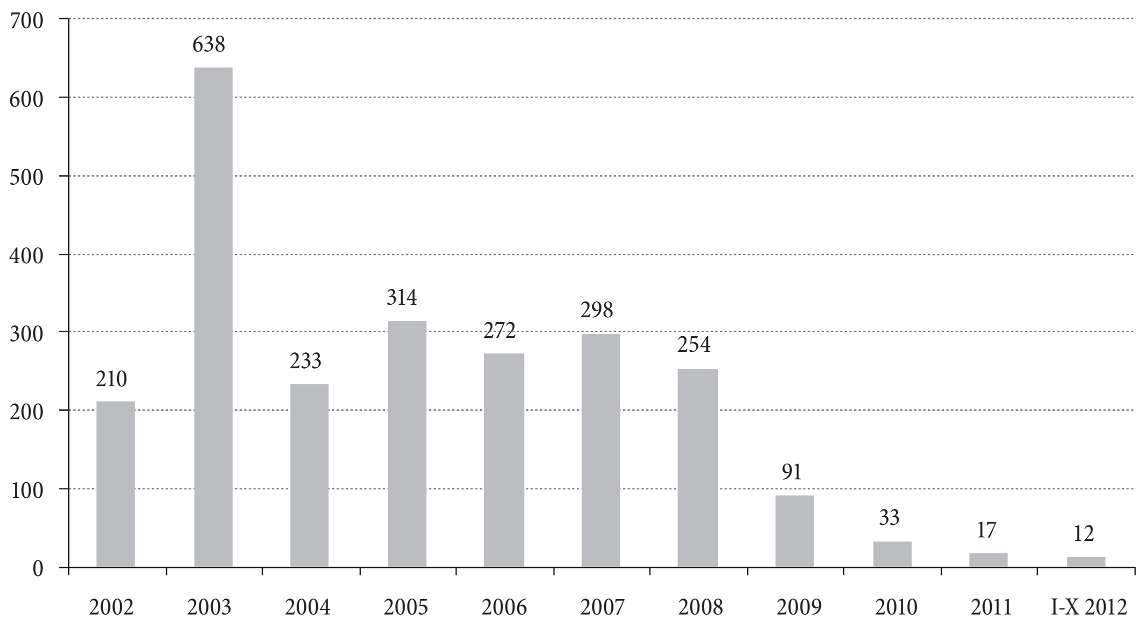
After the last large privatization of NIS by Gazprom in 2008, it can be said that since 2009, process of privatization of state and socially owned enterprises practically stopped, although it was meant to be finished in 2008 already[7]. In mid 2012, the number of non-privatized companies under the auspices of the Privatization Agency amounted to 594 with about 100 thousand employees [8]. For comparison (see Figure 4), total number of privatized companies at the end of 2011 amounted to 1,438 (source: APR).

With the economic crisis outbreak, not only was the privatization slowed down, but there was a de facto opposite process – of private ownership returning to state ownership. Namely, in order to protect the operations of companies confronted with the business challenges, and to protect the number of the employees, the state was often breaking the privatization contracts and taking the companies back from the private ownership. Many of those ended in the "restructuring", which is a concept introduced by the changes of the Law on privatization [5], which prevents creditors from conducting forced collection against companies in this status. There are currently 175 such companies, employing some 55,000 persons [8]. In order to protect business and employment, state decided to take over large companies, such as US Steel (app. 5,000 employees), and it was doing that directly or through takeover from other companies owned by the state, such as Srbijagas, which entered into ownership via debt replacement in the Serbian glass factory (the takeover took place in 2009, only to be sold to a consortium of Bulgarian companies Rubin and Glass Industry), HIP Azotara from Pančevo (2009), MSK from Kikinda (2009), and in 2010 it bought Pančevo's Agroživ (which was in bankruptcy). Apart from this, Srbijagas acquired 30% share in the company Informatika (in 2009) and together with a Russian insurance company Sogaz founded an insurance company in Serbia in 2012. If we add to the companies in state of privatization (about 600) some 50 central governments' public companies, and about another 650 local government's public companies, we come to a sum of 1,300 state-owned companies [1].

At the list of Top 500 in 2011 there were 56 companies classified as state-owned. All these companies are in majority ownership (over 50%) of the state or local government,

7 According to [5], the public tender, i.e. public auction, for the privatization of non-privatized public capital, had to be published from 31st December 2008 (Act 7).

Figure 4: Number of privatized companies



Source: [7]

with an only exception in Energoprojekt Holding, where the share of state ownership is below 50% (33.6%), but we nevertheless added it to this category, due to the state's key role in management. We also added the remaining "society-owned" companies. These account for more than 10% of total companies on the Top 500 list, and made about a fifth of all operating revenues, and employed 42% of employees of all the companies from the list. The largest among those is JP EPS with 32,000 employees, which is 8% of total Top 500's employment. These 56 companies account for 38% of the sum of net debt of all Top 500's, while Srbijagas with the record high net debt of EUR 750 million at the end of 2011 (and about EUR 1 billion at the end of 2012), accounts to 7% of total net debt of all the largest 500. These companies account for 30% of all capital investments in 2011 of all the companies from the list. And finally, these companies account for 44% of the losses of all the loss-generating companies from the Top 500 list.

It is difficult to make a general note on operations of state enterprises in 2011, but at the sample of the 56 largest state companies (which made it to the Top 500), there is a basic impression that their list is heterogeneous in multiple ways – activities they are in, motive of the state to run them, and successfulness to do it both in activities of public and strategic importance (where a state role is justifiable, often monopolist), and in those more or less market activities where the state meets the private owned competitors. At the sample of 56 large companies from the list of Top 500, the state is, we can say, present in all activities, from agriculture (PKB Beograd, PIK Bečej), manufacturing industry (production of furniture and confectionery Simpo Vranje, tires in Kruševac's Trayal, cables in Jagodina's Holding Kablovi, chemical products – HIP Petrohemija, HIP Azotara, armaments, etc), to energy sector, telecommunication, transport, infrastructure, construction, mining, utilities, natural resources management (waters, forests and other natural resources).

When it comes to performances, significant heterogeneity is observable, whereas in the public companies functioning in the domain of regulated prices, it is difficult to separate the element of realistically set price level from the efficiency level in business that is linked to organization, management, adequate number and structure of the employed, etc. However, the data show that, generally observed, this segment may be qualified as relatively inefficient and with large room for productivity and efficiency increases, through better management and by letting a part of their activities to the private sector.

As a whole, state enterprises at the Top 500 increased their operating revenues in 2011 by 7.4% (against growth of 13.8% of aggregated Top 500 companies). Aggregately counted EBT margin amounted to 3.6% (almost as much as all Top 500) which represents a significant improvement comparing to 2010, when EBT margin of all state companies was (aggregately) negative at -3.8%. Such a change for the better is above all attributable to pre-tax profits of EPS, Serbian Railroads (both reported losses in 2010), as well as by increase of profits of Telekom and PTT. Meanwhile, largest absolute fall of profits, i.e. growth of losses in 2011 was reported by Galenika. Out of all the companies from the list, 14 had negative EBITDA in 2011. Out of these 14, 9 had negative EBITDA for two years in a row. Most companies with negative result are also highly indebted, often with an explicit state guarantee. Although the efficiency is hard to define due to the absence of comparable parameters from private of international practice, in this group of companies there are some examples of relatively successful companies. They report positive results in several consecutive years, without significant oscillations in incomes and without a significant indebtedness. The previous examples are found primarily among the enterprises operating in monopolist activities, but also in some cases in activities where market is less regulated, and where a private sector (often foreign) competition is more marked, such as the construction sector. By the level of investments in fixed assets in 2011, Putevi Srbije, EPS, Beogradski vodovod i kanalizacija (water supply and sewage), RTB Bor, Telekom, Kontrola letenja (flight control), Srbijagas, HIP Azotara and EMS stand out.

The first larger group at this list is made out of eleven central-government owned public enterprises: EPS, Srbijagas, Serbian Railroads, PTT, EMS, Jugoimport SDPR, Srbijašume, PEU Resavica, Vode Vojvodine i Vojvodina šume. The other group is comprised of twelve local companies performing utility services in Belgrade, Novi Sad, and one in Vršac and Kragujevac each: JKP Beogradski vodovod i kanalizacija, Vodovod i kanalizacija Novi Sad, Gradska Čistoća Beograd (city cleaning company), DP Drugi Oktobar Vršac, Parking servis Beograd, city bus operators GSP Beograd and JGSP Novi Sad, JKP Zelenilo Beograd, JKP Beograd Put, JKP Beogradske elektrane, Novosadska toplana and Energetika Kragujevac (the last three centralized heating companies). All these companies have a status of public enterprises except for the two, which are in the same time in "society" ownership – DP Drugi oktobar Vršac and Energetika Kragujevac – in restructuring. Most of these companies are subject to a regulated price regime of its services, and their revenues are largely determined by the Government's approval for price hikes on one side, and by the efficiency of management on the other side. Among these, GSP Beograd (city transport company) stands out by a particularly negative EBITDA margin of -17% (i.e. –RSD 1.8 billion), while this company even increased its debt in 2011, by enlarging its net debt from RSD 131 million to RSD 1.305 billion, and the continuation of indebting (with an aim to renew the vehicle fleet) continues in 2012 as well. By positive financial performances, we would single out Parking servis (2011 operating revenues amount to RSD 2 billion – on a similar level as in 2010 and despite a fall in EBTIDA margin, profits and ROA in comparison with 2010, while it still boasts enviable indices – EBITDA margin at 22%, ROA at 3.4%), Gradska Čistoća (operating revenues at RSD 5 billion, i.e. 20% more than in 2010, with EBITDA margin at 21.3% and ROA at 5.5%), but Beogradski Vodovod i kanalizacija and Novosadski vodovod. Novosadske toplane significantly ameliorated their result in 2011, by passing from the zone of negative EBITDA to a solid results zone, with a growth in operating revenues.

Four companies from the arms industry made their way to the list Top 500 in 2011 – Krušik Valjevo, Milan Blagojević Lučani, Prvi partizan Užice and Kompanija Sloboda Čačak. All together, they made total operating revenues in 2011 of RSD 10 billion, i.e. 18.3% smaller than in 2010. These companies record a fall in operating revenues in 2011 as a combination of a high base effect from 2010 (a year which was particularly good for placements of Serbian weapons on the Near East markets) and, from the business point of view, adverse political turmoil (the so-called "Arab spring") of 2011. Fall of operating revenues was followed by the fall in EBITDA and EBITDA margin. Except for company Prvi Partizan Užice, almost all other three companies operated in 2011 with a negative EBITDA, but only Milan Blagojević Lučani operated with a loss, while the three others reported positive before tax results.

Other companies from this list may be observed as a group of non-privatized state companies or those the privatization contracts were broken in, and by the nature of their activities it is not necessary for those to remain in government's ownership, because they operate at relatively liberalized markets. Among those, the largest are Telekom Srbije (in which the state even increased its part at the beginning of 2012 by repurchasing stocks previously owned by Greece's OTE), HIP Petrohemija, RTB Bor, Jat, HIP Azotara, Lasta and Galenika, whereas Telekom, Jat and Galenika are mentioned most frequently in the context of the following privatizations.

Out of public enterprises, because of the nature of their activity, a pronounced profitability is not to be anticipated. However, because of their specific position, it is plausible that their management is more efficiently organized and that these companies are more sustainable, while the public interest remains protected – and public interest is that these are not dependent on (direct and indirect) subsidies, and therefore burdening the public budget. However, these companies often, like other state-owned companies (which are not public) run a social or some other function, by operating inadequately efficiently, i.e. with a negative profitability. On the other side, successfulness of some state owned companies, statistically observed, is not crucially different from an average successfulness of the whole list Top 500, and negative result of many public enterprises is the result of a low market price of their products (electricity, gas, utilities), although this cause is often hard to distinguish from low efficiency and bad management. Bright examples at this list show that state owned companies too may be run by professional management, and that these companies too may achieve results equal to their privately-owned competitors.

However, in companies whose activities have a strictly market nature, and do not have a strategic dimension for a state to keep its ownership or some kind of surveillance, it is generally considered that there is no long term interest for the state to remain a dominant owner. It is especially the case of companies operating in the negative zone of the operating result and which the state must subsidize directly or indirectly with various forms of the so called "soft budget constraint". Although the social aspect is the one that is crucial for the state's stance, bearing in mind the large size of these companies, which employ a large number of employees, at the long run the cost of maintaining the unsuccessful state-owned companies is significant, and consequences for other industries depending from these companies are unforeseeable. These consequences reflect in liquidity widening, and finally in the high cost of services paid by citizens. In the domains where, be it for the natural monopolies, or the state interest, or necessity to protect the public interest (providing services there where private owners would not see possibilities for profits, so the citizens would be deprived of these services or affordable prices of basic goods and services), the most efficient way for the society is that the state remains the owner only where it is not possible to protect the public interest by mere adequate regulation, while the business itself should be left to the private enterprises (in form of public-private partnership, or concession, to give an example). Finally, it is important that where the state remains the predominant owner of the capital, mechanisms are provided that this capital is handled by a professional management which could be motivated by various mechanisms already developed in practices of private corporations, and which permit an efficient management, rational use of resources and protection of the public interest in the widest sense.

Conclusion

The economic development from the macroeconomic perspective fit in the so-called financial integration driven growth model until the crisis outbreak. Namely, the foreign capital inflows – direct investments and, above all, debt, led to an economic growth mainly contributed to by growth of consumption. The other side of this saving-financed growth (albeit with small rates of domestic saving) deepened the foreign trade deficit, given that the consumption reflected in imports, up to a large extent. With all this, it seems that, in the same period, non-tradable sectors – trade, telecommunications, real-estate related activities – grew more intensively than the tradable sectors. Capital inflows contributed to RSD strengthening against EUR, resulting in strengthening of the effective foreign exchange rate. Wages grew more intensively than the productivity, while the competitiveness decreased. With the crisis outbreak and cease of massive inflows of private borrowing, foreign trade deficit narrowed, but the growth convergence also stopped. The Serbian economy failed to kick off a sustainable growth from 2009 onwards, given that after the weak recovery in 2010 and 2011, domestic economy fell into a recession in 2012 already, but there has been a certain adjustment. Exports and investments in tradable sectors grew in importance and were main drivers of recovery in 2010 and 2011. Even the exit of the largest exporter – US Steel – from Serbia at the beginning of 2012, and extremely adverse weather conditions (harsh winter in February and drought in the summer), did not alter the stable dynamics of growth of exports, in place since 2010 beginning, but were compensated by growth of other products of manufacturing industry, and from autumn 2012 by automotive industry exports.

The main findings resulting from the detailed micro data based analysis of the financial data for the largest 5,000 companies along the period from 2007 to 2011 consist in the following. Regarding general financial position, the main observations are: (1) high concentration of the economy in terms of size of turnover, (2) even higher concentration of debt in the upper part of the list – small number of large debtors and large number of modestly indebted or not indebted at all, (3) high reliance on short term debt, (4) poor liquidity originating from very few large "illiquidity generators" – predominantly within the public sector with severe structural problems, (5) dispersion in operating performances pointing to the suboptimal use of assets, market segmentation and business environment which is not supportive for asset transformation. On the more dynamic and structural horizon, the undertaken study has shown the following: (1) the economy has suffered the hardest shock to operation in 2009 and some recovery was felt in 2011 all improving productivity by controlling the employment level along the period from the crisis, (2) the crisis has brought some impulse to more intensive consolidation in the upper segment of the economy while larger companies has less felt the fall in income than smaller once, (3) the overall economy seems to shift toward export since the crisis with improvement in tradable industries and less resistant non-tradables, the last being a frontrunners until the crisis, (4) similar pattern has been registered in the destination of FDIs where 2011 and 2012 brought effects on production and exports of the previously undertaken FDIs, and (5) still unresolved challenges to the state controlled part of the economy with few hot points generation the majority of sources of systemic instability resulting in increase in public deficit and public debt and wrong price signals to markets and illiquidity.

Numerous challenges keep confronting the domestic economy, standing in the way of reaching the sustainable growth and decrease of unemployment at the aggregate level. By summarizing findings from this attempt of a summary financial analysis at the basis of microeconomic data, we can enumerate the following challenges: (1) increase of the financial discipline, (2) financing investments from the long-term sources with smaller reliance on debt, and larger on capital, (3) decrease of borrowing costs, (4) managing the risks stemming from foreign exchange rate changes, (5) growth of small and medium enterprises, (6) increase of knowledge and managerial capabilities.

For a stronger economy, important is the role of the creators of economic policy, i.e. the state, and especially at several key fronts. The first is to improve the institutional framework in which business takes place, in order to correct the signals for an adequate allocation of resources, and in order to provide conditions for more efficient asset utilization. The latter includes the correction of unrealistic prices of products and services of public companies, speeding up the bankruptcy proceedings, incentives, i.e. cancellation of obstacles for a better functioning of the capital market. The second important direction where a state may improve conditions in business is to resolve illiquidity, often generated by state institutions, which starts a chain of non-payment. The precondition for confronting these challenges is to finish the reforms in the state-controlled part of the economy.

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AVOIDING MIDDLE INCOME GROWTH TRAP THROUGH INNOVATION*

Izbegavanje zamke usporenog rasta na srednjem nivou dohotka podržavanjem inovacija

Abstract

The previous paper presented the analysis of binding constraints on growth [22]. In this paper we extend diagnostics to problems of long-run growth slowdown and Middle Income Growth Trap (MIGT). Countries caught in the MIGT are unable to compete with low-income, low-wage economies in manufactured exports and also unable to compete with advanced economies in high-skill innovation goods. The root cause of the MIGT is failure to shift out of lower middle (LMI) income to upper middle income (UMI) growth strategy. The former is designed to support supply-oriented capital accumulation and labor relocation from agriculture to higher productivity industry, while the latter seeks to support skill (knowledge) intensive manufacturing activities ("moving up the value chain") and business services. LMI strategies embrace diversification and simple export expansion, while UMI strategies foster specialization and export growth based on innovations (new processes, new products, new markets) and highly-educated labor force; they also promote a blend of competition and public support in guiding the "discovery process" that leads to "smart specialization" and innovation based growth. Hence, MIGT can best be avoided through strong research and innovation systems, which critically depend on: (i) Research excellence, including scientific collaboration, involvement of diaspora, and merit based financing and incentive systems; (ii) Modern research infrastructure and other innovation inputs; (iii) Closer collaboration between research organizations and enterprises, better technology transfer offices, protection of patents, trademarks and other industrial property rights (IPR); (iv) Better financing at all stages of the innovation process, especially early stages where existing financial markets have limited knowledge and instruments; and (v) Better governance of the R&I process and financing.

Key words: *middle income growth trap, innovation, research and innovation, GDP per capita in PPP terms, patents, IPR– Industrial Property Right, centers and networks of excellence, TTO –Technology Transfer Offices, brain drain, brain gain*

Sažetak

U prethodnom radu izložena je analiza efektivnih ograničenja rasta [22]. Dijagnoza se u ovom radu proširuje na probleme usporavanja dugoročnog rasta i zamke usporenog rasta na srednjem nivou dohotka. Zemlje padaju u zamku rasta kada ne mogu da konkurišu privredama sa niskim dohotkom i niskim platama u izvozu industrijskih proizvoda, i istovremeno ne mogu da konkurišu naprednim privredama visoko-stručnim inovacijama. Koren zamke rasta je propust da se na vreme pređe sa strategije rasta pravljene za zemlje sa nižim srednjim nivoom dohotka (NSND) na strategiju rasta za zemlje sa višim srednjim nivoom dohotka (VSND). Prva podržava stranu ponude, akumulaciju kapitala i seljenje radne snage iz poljoprivrede u industriju sa višim nivoom produktivnosti. Druga podržava industriju zasnovanu na znanju ("moving up the value chain") i poslovne usluge. NSND strategije podržavaju diversifikaciju i jednostavno širenje izvoza, dok VSND strategije podržavaju specijalizaciju i izvoz baziran na inovacijama (novim procesima, novim proizvodima, novim tržištima) i visoko obrazovanom radu; one takođe promovišu mešavinu konkurencije i podrške javnog sektora u vođenju "procesa otkrivanja" oblasti "pametne specijalizacije" i rasta zasnovanog na inovacijama. Dakle, ovu zamku rasta najlakše je izbeći preko snažnog sistema istraživanja i inovacija, koji kritično zavisi od: (i) izvrsnosti u istraživanju uključujući naučnu saradnju, privlačenje dijaspore, i sisteme finansiranja i nagrađivanja zasnovane na rezultatima; (ii) moderne istraživačke infrastrukture i drugih inovacionih inputa; (iii) bliže saradnje između istraživačkih organizacija i preduzeća, rada centara za transfer tehnologije, zaštite patenata, trgovinskih maraka i drugih oblika intelektualne svojine (IS); (iv) boljeg finansiranja svih faza inovacionog procesa, posebno ranih faza gde postojeća finansijska tržišta imaju ograničena znanja i instrumente; i (v) kvalitetnijeg upravljanja procesom istraživanja i inovacija, i finansiranja.

Ključne reči: *zamka usporenog rasta na srednjem nivou dohotka, inovacije, istraživanje i inovacije, BDP per capita po PPP kursu, patenti, intelektualna svojina, centri i mreže izuzetnosti, CTT –centar za transfer tehnologije, odliv mozgova, priliv mozgova*

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Introduction

Serbian growth is slowing down and medium term prospects do not look good. Following an estimated 0.5 percent GDP decline in 2012, the official growth projection used for 2013 budget was set at 2.0 percent. Medium term growth projections used in the latest IMF World Economic Outlook are also revised downwards, declining from 2.5 percent in 2014, to 2.2 percent in 2015, and only 2.0 percent thereafter.

This puts Serbia on a significantly slower growth path than most of the comparator countries in the upper middle income group and substantially delays its permanent transition to high income status accomplished by dozens of countries in the past decades. More importantly, the slower growth path now projected for Serbia is not sustainable in the medium and long run from at least six important angles.

First, it generates unsustainable levels of external indebtedness. Given that the cost of external financing is greater than the projected medium-to-long term 2 percent GDP growth rate, and the primary budget balance is not likely to have a surplus any time soon, debt to GDP ratio is bound to increase until it reaches externally imposed external debt limits. We already observed such developments since 2008 as the debt to GDP ratio quickly increased from comfortable 30 percent levels to legally set 45 percent limit and beyond. Sale of public sector (physical and financial) assets have been used in the past to lower the level of foreign debt, but little has been done to change behaviors, i.e. the propensity to generate deficits on the current account and, hence, the need to borrow internationally.

Second, it puts pressure on the balance of payments and makes it more difficult to finance the savings-investment gap. Growing indebtedness erodes credit worthiness, increases the cost of external financing, and limits the amount of available external borrowing. Obviously, more expensive foreign financing further exacerbates the debt situation, while more limited ability to use foreign savings directly constrains and even undermines the ongoing investment effort needed to sustain and boost economic growth. The impact of these constraints on gross capital formation (investment) is sized by the policy responses affecting consumer demand, trade and service balances, and exogenously driven dynamics of remittances and foreign direct and portfolio investment.

Third, it significantly constrains the budget and fiscal side given the need to accommodate the unusually high level of past (political) commitments and (social) expectations in pensions and social expenditures, on the one side, and gradually tames the large government and excessive public sector, on the other.

Fourth, it is not sustainable from the macroeconomic point of view as it requires continuation of restrictive monetary and fiscal policies, which are both likely to constrain further the growth prospects.

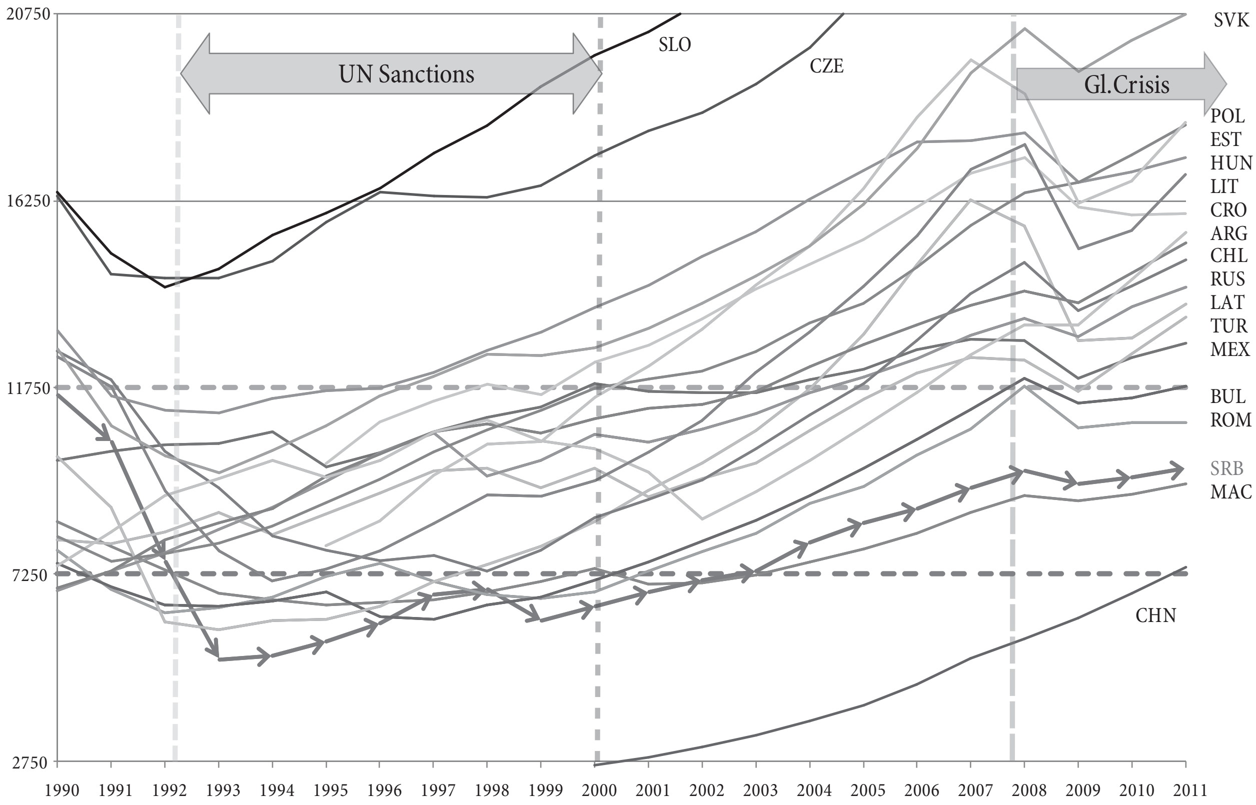
Fifth, it makes it more difficult to close the large gaps in social and economic infrastructure, and to upgrade the human capital needed to increase competiveness and unleash the growth potential of the Serbian economy in the longer run.

Sixth, it is likely to significantly slow down income convergence with the EU and hamper country's ability to effectively compete in the EU markets both during the accession stage and even more upon obtaining membership status.

The six elements highlight an ominous vicious circle: Demand driven growth, financed from easily available external sources in the pre-crisis period, quickly increased external public and private debt, but failed to upgrade physical and human capital, or generate sustainable domestic supply response. Everybody knew that this growth model was not sustainable in the longer run, but no one objected since it soothed consumer cravings for imported goods and durables, comforted politicians and provided an easy campaign slogan, benefited the omnipotent import lobby and increasingly foreign-owned banks. The voices of the shrinking industrial lobby, exporters, true entrepreneurs, and concerned analysts were muted or ignored.

What are the solutions? Going into another (probably inevitable) round of short-term austerity policies (with or without the IMF) will impose less pain and provide considerably more gain if it is preceded or accompanied by a resolute move to remove the binding constraints to growth, address key structural problems, and design coherent set of development policies that would avoid the

Figure 1: Serbia is lagging behind comparator countries – GDP per capita in constant 2005 PPP $



Source: World Development Indicators (WDI) database, World Bank.

looming middle income growth trap, and help restart the engines of growth through innovation and smart specialization.

We identified and extensively discussed the binding constraints on growth in our previous paper in this journal [22], while this paper turns to possible sources of future growth and focuses on some of the remaining issues. Next section is devoted to growth slowdown and middle income growth trap as it pertains to the Serbian economy. Section three discusses the importance of research and development (R&D) and innovation for economic growth in recent decades. Section four provides a brief diagnostics of Serbia's status and (unused) potential in research and innovation area. Section five concludes and presents a set of policy recommendations that would help put Serbia on a faster growth path based on its innovation potential, greater and more efficient expenditures on R&D.

Avoiding the middle income growth trap

Between 1990 and 1993 Serbia experienced an unprecedented economic decline, by far the largest among the Upper Middle Income (UMI) countries (see Figure 1), and the second largest decline among the transition economies – only marginally after Latvia in terms of annual GDP contraction rate, and after Ukraine in cumulative fall (see Table 1).

The decline was caused by transitional recession, the breakup of former Yugoslavia, the ensuing civil wars, and the UN sanctions imposed in May 1992. GDP per capita measured in constant 2005 PPP[1] Dollars fell by 55 percent, from 11,602 in 1990 to 5,220 in 1993. As shown in Figure 1, this pushed Serbia from the border line of high-income status to well below the lower UMI trash-hold of 7,250 PPP Dollars, and significantly behind all comparator countries – except Macedonia. Partial recovery during the 1990s – ridden with sanctions and wars – failed to bring Serbia back to the higher UMI group.

Sustained economic recovery started a decade later, after democratic changes in October 2000. It produced eight years of positive GDP growth averaging 3.6 percent

1 PPP stands for Purchasing Power Parity Dollars. GDP per capita expressed in Constant 2005 PPP Dollars enables comparisons across countries and over time as it accounts for both price and exchange rate fluctuations.

per annum and a safe return to the middle of the upper middle income range (see dashed line with arrows in Figure 1). If the growth trend set in the 1999-2007 period had continued, Serbia would have crossed into high income group later this year (see dotted line in Figure 2).

Unfortunately that did not happen. The global crisis caused a 3.5 percent GDP decline in 2009 and pushed Serbia down to a lower growth trajectory (indicated by a dashed line in Figure 2), which delayed the crossover to high income group by at least three years, to 2016.

Further setback was caused by a weak post-crisis recovery in 2010-2011 and the effects of a double-dip recession which produced another 0.5 percent GDP decline in 2012. Weak economic performance combined with inadequate policy responses, especially the lack of fiscal restraint and external debt build-up in recent years, led to lower sovereign credit rating and downward revisions of the medium term GDP growth prospects (see dash-dotted line labeled "Serbia – revised projections" in Figure 2). As a result, the crossover date to high-income group was pushed back to 2020, or later.

Everything suggests that Serbia is sliding into the infamous Middle Income Growth Trap (MIGT) experienced by many economies in the past 150 years. Although the terms "Middle Income Trap" and "Middle Income Growth Trap" are relatively new (see [15], [6], [7], [8], and [1]) the concept has been well established and theoretically defined decades ago. It depicts countries that have successfully escaped the low income poverty trap and grew to middle-income levels, but subsequently stagnate in the lower or upper middle income level and fail to grow to advanced high-income country levels [15, pp. 281-282].

MIGT phenomenon is a departure from the standard theoretical proposition according to which countries continuously grow from low middle to high income levels, and the rates of growth gradually decline as the income levels increase. The reality shows a variety of different growth patterns. Many middle income countries have periods of high growth followed by periods of growth slowdown, stagnation or decline that are not strongly linked to or induced by global or regional growth dynamics. "Instead of steadily moving up over time, their GDP per capita simply gyrates up and down. They are caught in the Middle Income Trap – unable to compete with low-income, low-wage economies in manufactured exports and unable to compete with advanced economies in high-skill innovations [15, p. 282]."

Table 1: GDP decline and recovery in a subset of comparator countries, 1990-2011

	Economic Decline			Economic Recovery			Net J-curve Effect		
	No of Years	Annual rate	Total decline	No of Years	Annual rate	Total recovery	Decline	Recovery	Net effect
							In 2005 PPP $ per capita		
Latvia	2	-23.5%	-41.4%	18	4.8%	132.6%	4188	7853	3665
Serbia	3	-23.4%	-55.0%	18	3.6%	88.3%	6382	4610	-1772
Albania	2	-18.9%	-34.2%	19	6.1%	205.6%	1338	5289	3951
Lithuania	4	-13.2%	-43.2%	17	5.2%	137.8%	5404	9781	4377
Ukraine	8	-10.1%	-57.5%	13	4.9%	85.6%	4633	2935	-1697
Romania	2	-10.1%	-19.2%	19	2.9%	71.8%	1506	4559	3053
Turkmenistan	7	-9.3%	-49.5%	14	7.3%	169.2%	3025	5229	2204
Kazakhstan	5	-8.7%	-36.5%	16	6.1%	157.1%	2590	7068	4479
Slovak Republic	3	-8.6%	-23.6%	18	4.3%	114.2%	3001	11065	8064
Belarus	5	-8.2%	-34.7%	16	7.4%	214.2%	2235	8992	6757
Russian Fed.	8	-6.6%	-42.0%	15	4.6%	95.3%	5297	7232	1935
Macedonia, FYR	5	-5.2%	-23.4%	16	2.3%	44.7%	1991	2920	929
Hungary	4	-4.0%	-14.9%	18	2.5%	55.0%	1961	6137	4176
Bulgaria	7	-2.8%	-17.8%	14	4.7%	90.7%	1339	5607	4268
Poland	3	-2.5%	-7.3%	20	4.4%	138.6%	601	10506	9905
Croatia				16	3.0%	60.7%		6029	6029
Estonia				16	5.3%	128.4%		10191	10191
Montenegro				14	2.8%	46.6%		3330	3330
Bosnia and Herzegovina				17	10.8%	473.7%		6281	6281

Source: Authors calculations based on WDI database, World Bank.

In a recent empirical study *Eichengreen et al.* [8] find strong evidence of a bi-modal occurrence of such growth slowdowns: one is around per capita income of $10,000, and the other around $15,000, both measured as per capita GDP in constant 2005 PPP terms. This implies that middle-income countries may face GDP deceleration in steps rather than at a single point in time as suggested in their previous papers (see [6] and [7]), and that it affects a larger group of countries. The study shows that the main cause of growth slowdowns can be attributed to *slower productivity growth*: 85 percent of slower output growth can be explained by lower total factor productivity growth – much more than by any slowdown in physical capital accumulation or by decreasing marginal returns to investment in physical capital, as a simple neoclassical growth model would suggest.

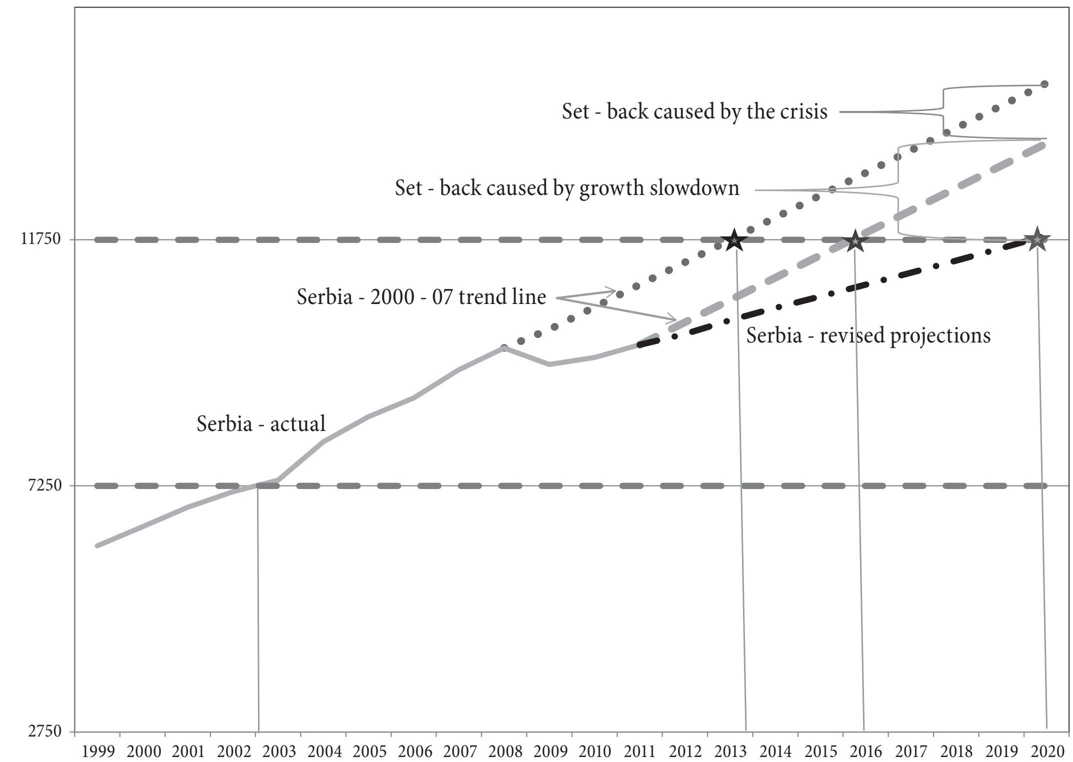
Growth slowdowns occur because low-cost labor and adaptation of foreign technology, key factors that generate high growth during lower levels of development, disappear at upper-middle-income levels. New sources of growth [1] and new development (policies and) strategies [15] are necessary to sustain increases in per capita income. In other words, upper middle income countries cannot compete in international markets by producing labor-intensive, low-cost products using technologies imported from abroad. Nor can they achieve large productivity gains by relocating labor from low-productivity agriculture or the pool of unemployed labor to high-productivity manufacturing. Growth slowdowns coincide with the points in the growth process where it is no longer possible to boost productivity by simply shifting labor across sectors, and reap gains from imported more efficient foreign technology.

On the positive side, the study finds that countries with greater innovation potential (higher share of workers with secondary and tertiary education in the labor force and greater share of high-technology products in exports) are considerably less likely to be affected by the growth slowdown. This is consistent with the standard proposition that moving up the technology ladder helps avoid the middle-income growth trap.

The root cause of growth slowdowns is failure to shift growth strategies after reaching middle-income status. Strategies that helped during the low-income stage soon become a constraint at the middle-income level.

Growth strategies for lower-middle income (LMI) countries are principally concerned with the supply side

Figure 2: Serbia per capita GDP (constant 2005 PPP Dollars), actual and alternative forecasts



Source: Authors calculations based on WDI database, World Bank, and World Economic Outlook 2012, IMF.

of an economy (i.e. the provision of enabling policies and institutions, and of quality factor inputs). LMI strategies seek to:

- Generate growth by moving labor from low to high productivity activities. Availability of jobs is crucial and simple export-led growth (whether in manufacturing as shown by East Asia or in modern tradable services, like business processing, as shown by India) provides almost unlimited scope for expansion and fast job growth once a successful niche is found.
- Grow fast by diversifying to build domestic production capabilities in most goods and services.
- Achieve high rate of capital accumulation to build infrastructure, cities, and centers of education (if they can save or borrow).
- Ensure political leadership and critical skills (in planning, organization and management, and implementation) in both public and private sectors.

By contrast, upper-middle income (UMI) countries rely on growth that is more capital and skill (knowledge) intensive in both manufacturing ("moving up the value chain") and modern services[2]. UMI growth strategies are much more focused on demand than supply. In upper-middle income countries, traditional exports can no longer be easily expanded since wages are higher and cost competitiveness declines. Export growth depends more on introducing new processes and finding new markets, than on expanding sales of the same product in existing markets. To do this, exporters must understand the quality, price, and consumer preference points of the global economy, which is a demanding task. Most firms start by developing in domestic markets, and only then expand to regional and global markets.

To help avoid the Middle Income Trap, new growth strategies must facilitate transition from diversification to specialization in the production of goods and services; and from emphasis on physical accumulation of factors to productivity-led growth, especially in sectors producing traded goods.

Specialization is critical to offset the cost disadvantages associated with higher wages (and higher cost of living in UMI countries), promote rapid innovation and the introduction of new products and processes based on the enhanced capabilities of firms.

The real policy challenge is to understand the role of the public sector in enabling and facilitating this process, correcting market failures and avoiding "state intervention failures." Emphasis on total factor-productivity growth in middle-income countries requires major changes in education, by moving focus from primary and secondary schooling to multi-tier tertiary education. It also requires the right blend of competition and public support for promising new areas: new "public private partnerships" are shaped through the so-called "discovery process" and "smart specialization." The knowledge economy has become a major source of technological progress and innovation. It is part and parcel of investment and capital accumulation process. Despite the recognized importance of innovation, middle-income countries often face significant legal, institutional and policy obstacles in becoming more innovative. We turn to these issues in the next section.

Innovation: Sine qua non for modern growth

There is little doubt that inventions and innovations were at the heart of modern economic growth. Following *Gordon* [11], the first industrial revolution (1750-1830) was enabled by the invention of steam engine and a widespread series of innovations in production and transport. The second industrial revolution (1870-1900) was based on the inventions of electricity, internal combustion engine, communications, petroleum and gas, chemicals, and utility networks which enabled an even broader range of innovations including airplanes and air-travel, modern house appliances, indoor plumbing (water and sewage), air-conditioning, interstate highways etc. The third industrial revolution started with the invention of computers and electronics in the 1960s and continues to this date with a

2 With new ICT technologies, huge productivity improvements become feasible as many services can be digitized, stored and delivered (transported) through modern telecommunications networks. Services have become a powerful engine of growth for many middle-income countries. In fact, service exports have become the fastest growing export sector globally and for many developing countries. Service productivity growth is outstripping industrial productivity growth in most developing and advanced economies.

major shift to widespread use of robots in the production process and in most products.

Clearly, the industrial revolutions would not have been possible without these inventions and spin-off innovations that enabled increases in productivity and economic growth for more than 250 years and completely changed the way we live, work, commute, entertain, travel and communicate. And yet, until recently, the mainstream economic theory saw (at least the first two if not all three) industrial revolutions primarily as the process of capital accumulation and labor relocation from low productivity (agricultural and traditional service) jobs to higher productivity jobs (in industrial employment and modern business services). The role of entrepreneurs was often reduced to mobilizing capital and labor and "taking risk." Inventions and innovations were pushed outside the theoretical model and policy intervention into exogenous sources of knowledge and technological change (manna from heaven), made available as public good to all or a freebee to lucky ones.

Schumpeter [20] was the first to recognize that "evolutionary character of the capitalist process" must not be reduced to capital accumulation and employment growth (i.e. "quasi-automatic increase in population and capital" as he put it), but rather treated as process of "creative destruction" based on entrepreneurial activity and innovation. Innovation "keeps the capitalist engine in motion," seeks "new consumers, goods, the new methods of production or transportation, the new markets, the new forms of industrial organization that capitalist enterprise creates" [20, p. 85].

Solow's neoclassical growth model also recognized that capital alone cannot be the basis of sustained growth due to diminishing returns. Hence, he identified "technological progress" as the main source of long run growth. *Solow* did the initial empirical estimates but he fell short of explaining what drives technological progress (and innovation) and left it in an exogenous "residual black box." This sent a huge number of eager researchers onto a futile empirical quest to estimate the black box residual. More importantly, the exogenous nature of innovations severed all links with economic policy and for decades deprived economists and policy makers of a meaningful policy framework to enhance economic growth through innovations.

This changed with endogenous growth models. *P. Romer* [19] created a simple AK model that took on a huge task to address the issues of economics behind technological advance. The AK model rests on a three point departure from the standard theory. First, it assumes that knowledge and ideas behind innovation are a non-rival good, i.e. that everyone can use the same idea (design, blueprint, recipe, chemical formula etc.) at the same time. Second, the production of innovation (ideas) is faced with increasing returns to scale since they are expensive to produce and very cheap (almost costless) to reproduce. Third, despite increasing returns, businesses will not be attracted to embark on an innovation activity unless they can impose some control over the new designs/innovations by patenting them, copyrighting them or simply hiding them as a secret until they recover the fixed cost of invention and make profit.

The core idea of the new theory of growth behind the AK model hinges on the institutional and policy framework that can orderly register and protect patents and other intellectual property rights (IPRs), as well as ensure public-private collaboration necessary to overcome possible market failures due to large possible externalities or lack of markets at critical stages in the research-innovation process.

Status of research and innovation in Serbia

At an applied level, national research and innovation (R&I) systems are rated based on the quality and adequacy of innovation inputs and outputs. Based on methodology used by INSEAD Global Innovation Index [13], innovation inputs include five dimensions evaluating the quality of: (1) Institutions (i.e. political, regulatory and business environment); (2) Human Capital (HC) and Research (i.e. I, II and III Education and R&D); (3) Infrastructure (i.e. ICT, general and environment); (4) Market Sophistication (credit access, investment climate, trade and competition); and (5) Business Sophistication (knowledge workers, innovation linkages, and knowledge absorption). Innovation outputs are evaluated based on: (1) Knowledge and Technology

Output (knowledge creation, impact and diffusion); and (2) Creative output (creative intangibles, creative goods and services).

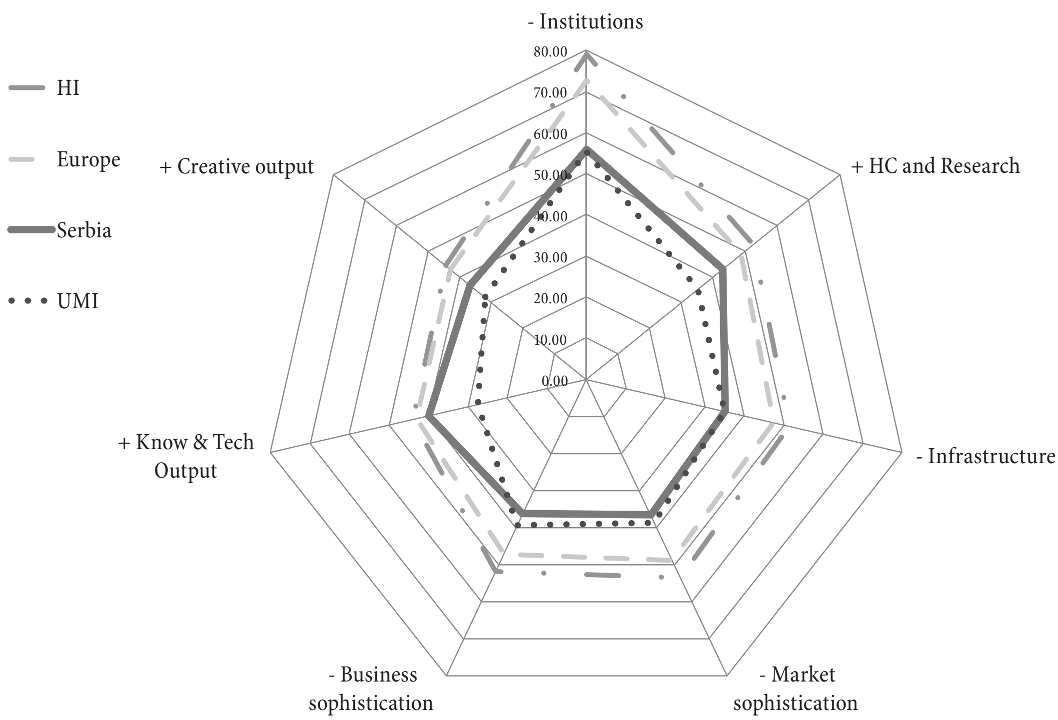
Overall, Serbia ranked no. 46 out of 141 countries covered in the Global Innovation Index for 2012. This rank actually averages very good innovation output performance (rank 35) achieved under somewhat unfavorable R&I conditions reflected in much lower innovation input rank (65). Output performance in imperfect conditions is best captured by Innovation Efficiency Index (IEI). In terms of IEI Serbia achieved an excellent 7th rank in the world, and a superb 2nd rank (only after China) in its income group (UMI). These IEI results should be interpreted with caution since they are designed to measure relative performance of the R&I systems rather than their impact on the economy. In other words, high innovation efficiency confirms the ability of an R&I system to perform well under existing imperfect circumstances, but the resulting absolute level of performance may not be sufficient to impart a real innovation impact on the national economy which must face world competition in domestic and world markets.

The source and nature of these innovation scores is best seen at the level of individual dimensions presented in Figure 3. Serbia outperformed its UMI group in both output dimensions and "HC and research" dimension on the input side. Most impressive is the result achieved in the most important dimension – the "Knowledge and Technology Output," where Serbia closed ¾ of the gap between UMI and HI groups. Figure 4 shows that Serbia belongs in the group of "innovation learners."

In Institutions and R&I Infrastructure Serbia performs at the average level of its income group which leaves a large gap vis-à-vis European and high income countries. This is a clear signal that more resources are needed to upgrade the R&I infrastructure, taking into account that the 2012 GII assessment only partially reflects efforts made in recent years, including a Euro 400 mil project under way aimed at boosting research infrastructure, improving R&I procurement systems, and improving living conditions for researchers.

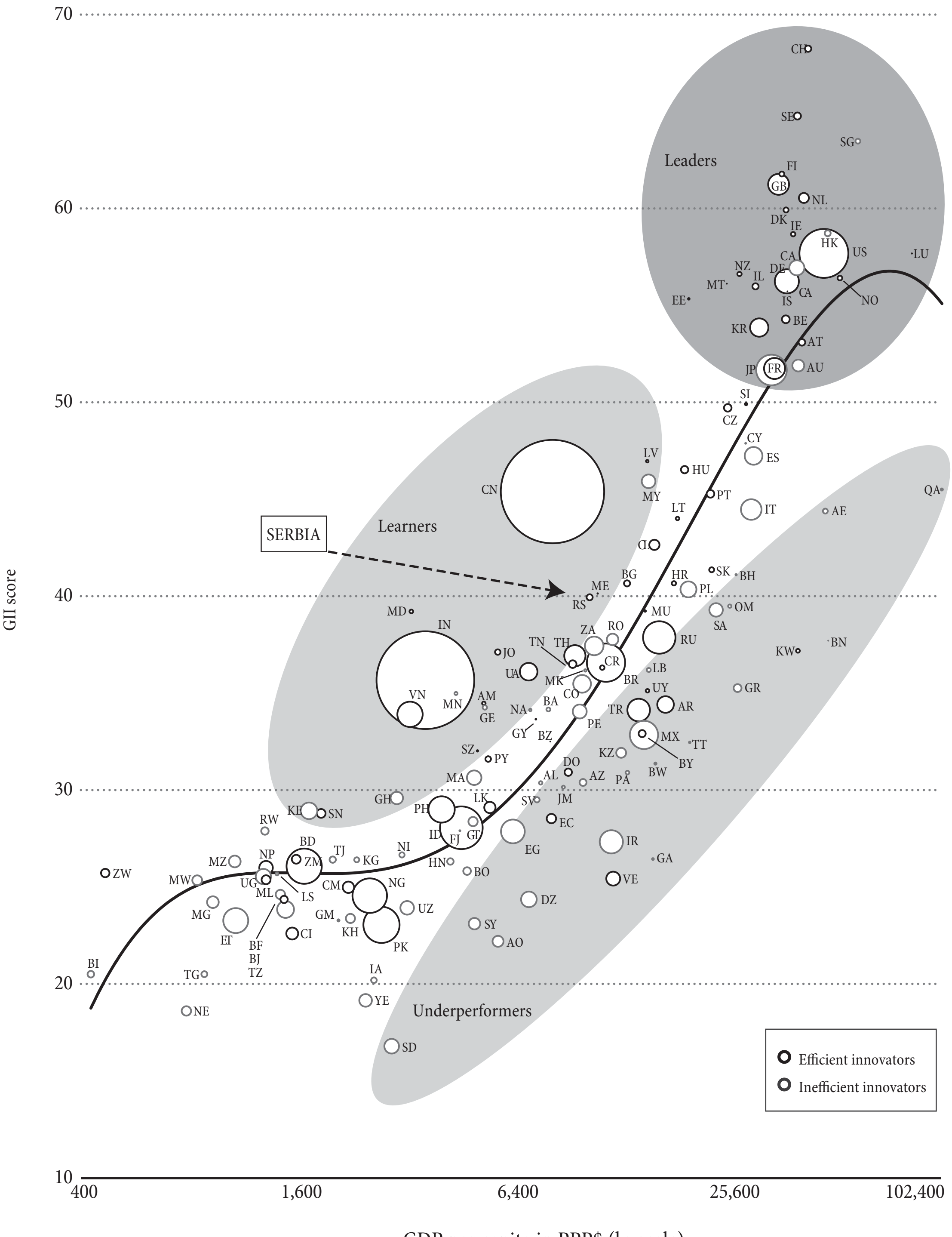
Finally, in two dimensions of innovation inputs (Market and business sophistication) Serbia lags even behind the UMI average. This doesn't come as a surprise and in many respects echoes the results of broader competitiveness diagnostic framework [22], especially in the availability of financing, stock market development, investment climate, and the level of competition. A conscious effort is needed to finally complete the institutional reforms

Figure 3: Serbia – Innovation input and output scores



Source: [13]

Figure 4: Serbia Research and Innovation performance – successful learner



Source: [13]

restarted more than a decade ago and make advances in public support for the R&I sector.

Since 2007 the share of public expenditures Serbia allocated on R&D[3] has fluctuated in a wide range between 0.63 and 0.92 percent of GDP. This is relatively high compared to other countries in the Western Balkans region, but lags behind the transition economies that have recently joined the EU and, more importantly, significantly behind the Lisbon Agenda target GERD of 3 percent of GDP for R&D. The potential impact of larger investments in research and innovation and better use of R&I resources is quite high. Empirical research and model simulations for a subset of recent EU accession countries [26] illustrate

3 This share is usually called GERD (Government Expenditures on R&D).

that increasing R&D expenditures to 3 percent of GDP would have a strong positive impact on accelerating GDP growth and enhancing "catching-up" with EU income levels, and increasing export levels in the long run, both acutely needed by the Serbian economy. For example, higher R&D expenditures would increase GDP level by 11.7 percent in Romania and 13.1 percent in Bulgaria; and permanently boost the value of exports by 12.9 percent in Croatia and 13.5 percent in Romania. Effects are smaller but still significant in other accession countries and range from 5.5 to 8.9 percent for GDP increase, and from 8.0 to 10.5 percent for larger exports.

Results from a background study using firm level data for the Western Balkans [29] indicate that:

- Innovative firms grow faster than non-innovative firms, by 15 percent in sales and 8 percent in labor productivity;
- Higher R&D expenditures significantly contribute to sales and labor productivity growth; and
- Expenditures on R&D expenditures have a higher correlation to growth than expenditures on training or on infrastructure services.

The broader diagnostic work carried out in the context of national and regional innovation initiatives confirms that Serbia suffers from a legacy of unfinished or partially finished reforms. Good IEI results in relative innovation output performance notwithstanding, Serbia's national research and innovation system performs substantially below its potential due to:

- Severe input constraints;
- Imperfect and highly skewed incentive systems;[4] and
- Weak "linkages" with the economy (in both technology transfer and collaboration).

As a result, R&I absolute output and contribution to economic growth and job creation has been too low.

The limited supply of "inputs" to scientific research, a widely recognized cause of suboptimal performance, is particularly relevant for Serbia. In part, reduced funding for R&I was an unintended consequence of stringent fiscal policies and tight budget situation in the past. Under fiscal pressure, public expenditures on R&I were cut more than social expenditures based on a widely shared perception among policy-makers that public expenditures on research do not generate relevant economic returns (at least not in the politically relevant short and medium run). Cumulative impact of low R&I investment and inadequate maintenance had a devastating impact on the state of research infrastructure. Large diversification of the "science-base" and research activities deepens the fragmentation of already scarce resources and makes the adjustment more difficult.

As public funding for research and innovation declined and became more unstable over the years, the social status of scientists deteriorated, and the political and economic uncertainties undermined future prospects in Serbia and the region, a large number of highly qualified researchers emigrated or left research for more rewarding employment in business during the past two decades. As a result, research staff has aged and declined in numbers, and research potential deteriorated compared to the world. Highly mobile researchers continue to emigrate in search of jobs and career prospects. Young scientists will likely continue to leave (brain drain) and expats not likely to come back (no or delayed brain gain) without better research conditions and more transparent, merit-based career opportunities.

Technology transfer, another important link in modern R&I systems, is weak and collaboration between public research organizations and industry is "fragile" at best. Patent applications (both national and international), a pre-requisite for licensing, have been stagnating or decreasing over the last decade. Given the initial low level, the gap vis-à-vis comparable economies in Europe and the world is further increasing. Recently signed patent agreements may change that, but the impact is not yet reflected in the data.

Quality interactions between industry and science have declined over the years and are essentially missing at this time. At present, collaboration happens mainly at the individual level, driven by occasional opportunities and short-term objectives. Recorded private sector expenditures for R&D (direct or through collaborative

4 Bibliometric data analysis suggests that changes in the incentive systems led to huge overproduction of published journal papers (of untested and hence unknown relevance and impact) at the expense of patents and other highly relevant forms of research, teaching and publications. See more in Vujović [23].

efforts with research institutions) declined significantly. The vast majority of R&D spending in Serbia is done by the public sector.

Research and university systems encounter profound structural and institutional limitations coupled with a lack of a strategic vision to better impact the national economy. The allocation of budget funds is heavily tilted toward basic research. Available data sets indicate that universities are the most productive organizations both in terms of quantity and quality of publications, but research institutes, clinics and hospitals receive the bulk of the public funding[5].

Despite recent legal and institutional efforts, a consistent institutional approach for technology transfer is still not fully developed. A handful of spinoff companies have emerged in recent years as the experiences of the University of Novi Sad and Institute Mihailo Pupin illustrate. But these cases result from very specific circumstances that were much more an exception to the rule than the rule. What's more, these special circumstances will not necessarily continue to exist nor can they be easily reproduced elsewhere. The establishment of full TTOs in recent years is a major step in the right direction which is expected to show impact in the coming years.

The limited demand for knowledge from the enterprise sector is often cited as the main cause of weak research commercialization and collaboration in Serbia and other countries in the region. As reported in the background studies for the Western Balkans regional innovation strategy [29], the economic reforms associated with transition have extinguished (or significantly reduced) most of research-intensive industries and with that the need for knowledge and innovations. The resulting demand for knowledge is constrained by the "new structure" of the economy – which creates a vicious circle that needs to be broken.

Last but not least, institutional framework for innovation has been the weakest link in the innovation chain which received very limited attention in past policy discussions. Policy disincentives (both economic and non-economic, intended and unintended) tend to affect the behavior of individuals and organizations. Rigid salary structures, job classifications, and promotion rules (allowed or mandated by laws) severely constrain incentives for good researcher performance. Regulatory frameworks and funding practices often discourage research excellence, commercialization and collaboration. Meritocracy is still weak in R&I organizations and the use of performance evaluation limited.

- Research funding continues to be made on a simple head-count basis based on formal research or teaching titles (institutional block grants), or on the basis of nominal research projects justified by the number of publications alone, rather than on basis of results based on program/project performance (competitive grants or scientific excellence).
- Career promotion has been linked to performance which is often based solely on the number of publications in scientific journals rather than on their impact factors, complemented with adequate recognition of technology transfer activities and other research activities (including the expansion of the base of young researchers needed for future advances in R&I sector).
- Policy frameworks regarding the ownership and commercialization of results from public-funded research (e.g. Intellectual Property Rights) are still weak or unclear, with the resulting uncertainty about the expected benefits to institutions and researchers (e.g. revenue and royalty sharing) from engaging in technology transfer activities.

A limited integration with the global scientific community is another constraining element of the current institutional framework. Further integration would enable "gains" from sharing ideas and research facilities, promoting research specialization and, thereby, research excellence and productivity. Reformed national research and innovation system must provide incentives to encourage the return or collaboration of national researchers (diaspora), including visiting and post-doc fellowships, and installation grants. Policies that go beyond removing barriers to mobility and seek to provide direct tangible support for the return of expatriates or attraction of top foreign researchers should be aware of

5 This result may be biased as the same individuals and teams may receive research funding through institutes and hospitals, and publish the results of that research under their "university titles." See more in Vujovic [23].

possible risks and an imperfect track record in this area. Experience of Croatian "Unity through Knowledge Fund" (UKF) shows that mobilizing the scientific diaspora to collaborate with local researchers (without a re-location goal), works in practice.

To compensate for the deteriorating research infrastructure, Serbia is striving to develop "centers of excellence" as part of the Serbian R&D Infrastructure Investment Initiative. During a five year period (2011-2015) EUR 400 million will be invested in a number of research fields, including nano-science and new materials – an area of formal interest of all other countries in the region.

Serbia has moved to improve conditions for technology transfer from research institutes and universities. Changes in the higher education law and the Innovation Law of 2010 have been implemented to stimulate the creation of university spinoffs and intermediary organization for support of innovation activities and technology transfer.

The supply of risk capital in the early stages of enterprise development is still at an early stage. The gap in venture capital markets in Serbia is estimated to be in the range of EUR 10-15 million per year. With the exception of some small initiatives already started in Serbia, technology transfer financing is almost non-existent and represents an obstacle to the development of a solid "deal flow." National and regional markets are relatively better supplied with financing for later stages and expansion of innovations. Given the prevailing characteristics of the equity industry, it is unlikely that those funds will "trickle down" to earlier stages of the innovation-chain without external support. Schemes to promote finance innovation have also been introduced in recent years, but are still scarce. The recently created Science and Innovation Investment Fund will finance knowledge-based startups in Serbia, just as BICRO's programs addressed several phases of the innovation process in Croatia.

The diagnostics of Serbian Research and Innovation system shows many common features with the neighboring Western Balkans (WB) countries. The small size of economies and R&I sectors in the region limits the opportunities for economic and research specialization in individual countries. The "smart specialization" process, in which research and innovation efforts leverage existing comparative advantages, could help pool regional resources to create a critical mass and more effective synergies that might pay major economic dividends. Moreover, economic clusters that tend to evolve from knowledge spillovers – given their cumulative and tacit nature – are not necessarily consistent with political boundaries. A relative expertise in the areas of agriculture and biological sciences, medicine and chemistry is shared by most Western Balkans Countries, providing an opportunity to enhance research collaboration and maximize opportunities for innovation. Equally relevant for regional collaboration is energy saving research and technologies, which become crucial to the challenges imposed by climate change.

The proposed Regional R&D Strategy for Innovation [29] combines the advocacy of policy reforms at national level and joint investments promoting research and innovation (R&I). *Policy reforms* seek to improve the impact of R&I on economic growth and job creation in the longer run. *Joint investment initiatives* aim to finance regional programs and institutions that could jump-start innovations and contribute to job creation and growth in the short-medium term. The initial set of regional initiatives includes: (i) a research fund to foster international collaboration with the scientific Diaspora, (ii) regional centers and networks of excellence in selected fields, (iii) a technology transfer facility, (iv) an early stage innovation financing facility, and (v) a non-profit entity mandated to continue the advocacy of reforms in the region and manage future programs.

Conclusion

Looking at the combined findings of our previous paper [22] and this text, we conclude that Serbian economy has both urgent short-term stabilization needs, to control inflation pressures, domestic (fiscal) and external imbalances, and worrisome long term structural and growth problems.

Abundant external financing and political optimism have dried up after a series of persistent shocks dealt by the global downturn and setbacks on the diplomatic front. "Let's wait and see" attitude clearly demonstrated by the international community (especially by the EU, the IMF and all key international players) suggests that Serbia cannot really count on external professional and financial support now, when it really needs it, or any time soon. In a way, this is better. With the IMF money and conditionality out of the way, Serbia can focus on longer-term challenges and tasks at hand. Much like China did in the early 1990s, Serbia should design its own IMF-style stabilization program which would not undermine pro-growth policies. And stick to it with more vigor than the IMF would (i.e. allow no waivers).

In parallel, immediately start to remove the five obvious constraints to growth we identified in September:

1. Align Real Effective Exchange Rate (REER) which strongly affects the tradeable sector and represents a bottleneck in moving the economy to a sustainable growth path with macro stability, sustainable fiscal and external balance.
2. Remember not to overdo the REER adjustment since the exchange rate works in tandem with product design, marketing, R&D and innovations in case of differentiated industrial goods.
3. Get to the bottom of structural and policy causes of the limited availability of credit, high real cost of financing, and inefficient financial intermediation. No economy can grow at the present level of interest rate spreads.
4. Control and scale down expensive, large and intrusive state. Eliminate its interference that creates costly business environment, and focus state actions to secure and promote competition policies. Set and maintain state and public sector wages levels at or below the market reference points generated by the private sector. Stop crowding out the private sector from the financial and labor markets.
5. Enact laws and policies that would promote competent corporate management and efficient labor force (with productivity levels that result in competitive unit labor costs). Aside from the obvious training programs for staff, to provide more efficient administrative and public services and utilities, e-government services, electronic payment of bills etc. to lower compliance cost and free up time lost on inefficient government services.

Complete all ongoing institutional and policy reforms and start all pending reforms knowing that the effects will come not in 4-5 years from now, but in 4-5 years after the reforms were really started.

Adopt a coherent set of policies that would avoid further sliding into the Middle Income Growth Trap. First and foremost change the development strategy (laws, institutions, policies) geared towards lower income country deriving growth from capital accumulation and relocation of labor from low productivity to higher productivity activities. Move away from sectors/goods where low income countries can compete in price and quality. Make a massive effort to better train the labor force and better educate youth. Put emphasis on quality intermediate tertiary technical training in ICT and modern business services.

Enhance support for innovation capacity as a basis for job creation and growth by promoting:

- Research excellence through scientific collaboration, involvement of diaspora, merit based financing and incentive systems;
- World class research infrastructure and other innovation inputs;
- Close collaboration between research organizations and enterprises, through better technology transfer offices (TTOs), protection of patents, trademarks and other industrial property rights (IPR);
- Better financing at all stages of innovation process, especially early stages where existing financial markets have limited knowledge and instruments; and
- Quality governance of the R&I process and financing.

Use smart specialization approach to identify a two-way match between research and innovation potential and the needs of the business sector in creating production and export opportunities.

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DYNAMIC ENTREPRENEURSHIP – THE ENGINE OF ECONOMIC GROWTH AND DEVELOPMENT IN SERBIA

Dinamičko preduzetništvo – pokretač privrednog rasta i razvoja u Srbiji

Abstract

In Serbia, there are around 3% of fast-growing enterprises that boast a growth potential. The results of research into dynamic entrepreneurship in Serbia have promoted a new methodological approach that has confirmed the well-known Birch's rule that at least 85% of economic growth and creation of new jobs in any economy is generated by, at most, 5% of enterprises. Given that in Serbia less than 3% of enterprises generate economic growth, fast-growing enterprises and gazelles present an economic buffer from economic recession. Major research findings are as follows: 2,583 fast-growing enterprises accounted for 90% of the growth of gross value added of Serbia in the period 2006-2010, 114% of the growth of business revenues (they covered 14% of the loss generated by the rest of the economy!); they also contributed to the growth of overall income and the creation of 33,000 new jobs. The rate of growth of value added of 500 dynamic enterprises in manufacturing industry was 100% in 5 years! Employment in 300 Serbian gazelles (most dynamic enterprises) doubled!

Economic recommendations presented in the paper follow two directions: firstly, given that the SME sector is particularly hardly hit by the economic crisis, it is vital to create additional stimulating mechanisms for entrepreneurs so that production could be triggered and employment decline prevented. Secondly, it is necessary to define a set of measures in order to create conditions conducive to a faster growth of dynamic entrepreneurship in Serbia.

Key words: *dynamic entrepreneurship, economic growth, competitiveness of the SME sector, business environment, risks*

Sažetak

U Srbiji postoji oko 3% brzorastućih preduzeća, koja imaju potencijal rasta. Rezultati istraživanja dinamičkog preduzetništva u Srbiji promovisali su nov metodološki pristup koji je potvrdio poznatu Birčovu zakonitost da najmanje 85% privrednog rasta i otvaranja novih radnih mesta u svakoj ekonomiji generiše najviše 5% preduzeća. U Srbiji u kojoj manje od 3% preduzeća obezbeđuje privredni rast, brzo rastuća preduzeća i gazele predstavljaju privrednu branu od ekonomske recesije. Osnovni nalazi istraživanja: 2.583 brzorastućih preduzeća učestvovalo je sa 90% u rastu novostvorene vrednosti Srbije u periodu od 2006. do 2010. godine, u rastu poslovnog prihoda sa 114% (pokrivali su sa 14% gubitke ostalog dela privrede!), u rastu celokupne dobiti i u kreiranju 33.000 novih radnih mesta. Stopa rasta novostvorene vrednosti 500 dinamičkih preduzeća u prerađivačkoj industriji bila je 100% za 5 godina! Zaposlenost u 300 srpskih gazela (najdinamičnija preduzeća) povećana je dvostruko!

Ekonomske poruke u radu usmerene su u dva pravca: prvo, s obzirom na to da je sektor MSP posebno teško pogođen ekonomskom krizom neophodno je kreirati dodatne podsticajne mehanizme namenjene preduzetnicima za pokretanje proizvodnje i sprečavanje pada zaposlenosti, i drugo, potrebno je definisati set mera kako bi se stvorili uslovi za brži rast dinamičkog preduzetništva u Srbiji.

Ključne reči: *dinamičko preduzetništvo, privredni rast, konkurentnost MSP, poslovni ambijent, rizici*

The entrepreneurs provide a magical touch to an organization, whether in public or private or joint sector, in achieving speed, flexibility, innovativeness, and a strong sense of self-determination. They bring a new vision to the forefront of economic growth.

(Vineet Chouhan, 2012)

Introduction

Fast-growing enterprises that boast growth potential (dynamic enterprises and gazelles) present the propeller of development of any economy. Dynamic enterprises make the most efficient use of their resources in the market environment; they manage to continually raise employment, improve their bottom line, respond to market signals fast and, accordingly, make business decisions swiftly. The key distinguishing features of dynamic entrepreneurs include creativity and originality, long-term orientation to the market and buyers, morality and business culture, ambition of achieving long-lasting success and capital profit, ability to predict risk and adjust, and pronounced problem-solving orientation.

During the transition period the sector of small and medium-sized enterprises and entrepreneurs has evolved into a relevant segment of an economy. Although the sector of SME accounts for only 1/3 of Serbia's GDP, other key parameters indicate an ever-larger share of the SME sector in the economy: in 2011 the entrepreneurial sector accounted for 99.8% of the total number of enterprises and entrepreneurs, which was around 320,000; the entrepreneurial sector also accounted for 2/3 of turnover and employment, 55% of the value added and investments in economy. Foreign trade imbalance affects the SME sector as well: it accounts for 48.5% of total exports and 55.8% of total imports. It should be noted that the recession tide has hit the entrepreneurial sector particularly hard, not only in Serbia, but also in the entire area of SEE.

Stimulating the development of dynamic entrepreneurship is a development opportunity for Serbia. Primary tasks are to continually strive to create a stimulating environment as well as to address key development problems of enterprises in the stage of growth and development.

The research presented in this paper is centered on development and contribution to growth of the dynamic entrepreneurship in Serbia. The objective of the research into dynamic entrepreneurship is to test the primary hypothesis that less than 5% of all businesses generate at least 85% of economic growth, revenues, and new jobs [3],[4] in the case of the Serbian economy. Apart from this, the research points to the development degree of the entrepreneurial sector in Serbia, extent of delay in entrepreneurship development relative to other transition countries, major obstacles to creating a stimulating entrepreneurial environment, and directions of activity of economic policy creators.

Theoretical foundation of dynamic entrepreneurship

The systemic research into dynamic entrepreneurship has primarily been driven by the research done by *Edith Penrose* dealing with the theory of enterprise growth [14], later named *theory of resources* (resource-based view of the firm) [36]. The theory of resources was rediscovered at the start of the last decade of the 20th century [27]. The core of the resource theory lies in the claim that a competitive advantage is acquired through resources that are valuable and scarce but that are hard to imitate and substitute. "Just like management tries to make best use of available resources, a real dynamic and interactive process happens as continuous growth is stimulated but at the same time is limited" [25, p. 5]. According to the theory of resources, a critical role is played by managers and entrepreneurial management teams, while key growth factors are:

1. Interaction with company's resources[1],
2. Subjective consideration and creation of new "benefits for resources", and
3. Direction in which a company grows and strategic experimenting develops.

1 The resource theory groups resources of companies in several ways – there are resources that depend on people ("skills"), knowledge ("know-how"), on the ability to learn, and resources that do not hinge on people ("property"). Resources can also be divided into physical, human, and organizational. From the aspect of a sustainable competitive advantage, there is a division of resources into physical, intellectual, and cultural property. A special accent is placed on non-material resources that are deemed to be highly important sources of a competitive advantage.

Resource management is the catalyst of growth of dynamic entrepreneurship [22]. Resources are cognitive growth drivers [15]. Factors of dynamic entrepreneurship are "intimate and silent insights into resources of a company, its ability, organizational structure, standard operational procedures, historical background, and staff specificities" [37]. The analysis of dynamic entrepreneurship should show whether "there is something inherent in a business itself that limits its growth rate" [25, ch. 11].

Nonaka [24] and *Sveiby* [31] upgraded the resource theory with the proposed dynamic theory of organizational knowledge about creation through interactions of individuals. "Dynamic characteristics of knowledge are pivotal to managers" [31, p. 344].

All researches into dynamic entrepreneurship show a high degree of correlation between growth factors and overall economic growth. A usual division of growth factors to external (ecological) and internal growth factors has been supplemented by numerous new aspects of dynamic entrepreneurship. Some authors stress that growth of a company depends on three major factors: (1) build-up of motivation, (2) abilities, and (3) opportunities [30], while others suggest that growth of a company is primarily influenced by the following factors: (1) company's exterior and interior setting, (2) the entrepreneur or the entrepreneurial team itself, (3) innovativeness and realization of changes, (4) growth and the strategic access, (5) the business model and the management system, (6) human resources, and (7) growth of financing [29].

Factors that have a crucial impact on the development of entrepreneurship can be covered by the term entrepreneurial-stimulating environment; the term refers both to factors in a broad sense of the word (socio-economic order that fosters or prohibits profit motives, cultural and religious aspects of a society and a general attitude to work, knowledge etc.) and individual elements which determine the behavior and conduct of an entrepreneur and a company in an environment.

Entrepreneurial growth is influenced by many other factors in a specific social-economic system, such as the health care system, pensions, labour legislation, protection of knowledge and industrial property, the degree of professional attainment and the access to knowledge, protection of buyers and providers, regulation of the capital market, management of public companies, etc.

Over the past few decades some business researchers have devoted ever more time to the study of ecological factors that impact on the development of entrepreneurship and growth of companies and vice versa (the impact of a company's growth on living environment). *Gabe* [8] has developed an empirical model that measures effects of an active environment policy on the growth of companies.

What is also interesting are research results of *Zahra* [39] who, by analyzing the relation between the environment and companies, pinpointed four crucial factors for a company's growth: (1) dynamic growth in the environment, (2) unfriendly and rival environment, (3) friendly and production-driven environment, and (4) statistical and impoverished environment. She managed to prove that the first and the third environment are conducive to dynamic growth. Dynamic growth in an environment is a very important factor of dynamic entrepreneurship, and so is demand for products, while production-driven environment is essential for providing opportunities for innovative companies that are oriented towards buyers' needs.

Numerous European researches have proved the link between the success of European gazelles and economic development by studying a set of stimulating measures: financial, fiscal, legal and other incentives for starting a business, attitude to entrepreneurship, tolerance of business failure, readiness to take a risk, an overall entrepreneurial climate, and favourable legislation for companies' growth.

Over the last decade the European Commission has repeatedly stressed that the business environment is no longer conducive to entrepreneurship development. The latest comprehensive analysis [6] has shown that 85% of new jobs can be attributed to the growth of micro, small and medium-sized enterprises, while the rate of employment growth in these enterprises is twice as high as in large enterprises.

The most comprehensive analysis of the entrepreneurial environment has been done by the international research project Global Entrepreneurship Monitor (2008, 2009, 2010, and 2011) which lists nine major conditions for a dynamic and stimulating entrepreneurial environment:

1. Government's support and policy, and stimulating tax legislation,
2. Developed state-funded programmes that endorse entrepreneurial initiatives,
3. Availability of financial resources,
4. Developed commercial and professional infrastructure,
5. Developed education and training systems,
6. Connection of research and development with a company,
7. Openness of an internal market,
8. Availability of physical infrastructure, and
9. Developed entrepreneurial culture and social norms.

In Serbia no major research into dynamic entrepreneurship has been done so far (this particularly refers to the impact of specific factors, such as the impact of the living environment on growth of companies, production gazelles, etc.). Systemic research into dynamic entrepreneurship in Serbia and its results were presented and disseminated to the public by the Republic Development Bureau in 2003 and 2008 [17]. The methodological framework for differentiating fast-growing enterprises and gazelles was based on modified criteria "Europe's 500" and "Europe Innove", and the well-known Birch's indicator. In methodological terms, this paper promotes a new concept of studying the dynamic entrepreneurship.

Development and competitiveness of entrepreneurship in Serbia

Development of the SME sector and the impact of recession

The entrepreneurial sector in Serbia accounts for 99.8% of the number of enterprises, in the structure of economy employs 2/3 of the employed, generates 2/3 of turnover and 55% of the gross value added; it accounts for 49% of exports and 1/3 of GDP (see Table 1). However, in comparison with large enterprises the entrepreneurial sector is less productive and less profitable.

In the structure of the entrepreneurial sector micro enterprises are most numerous, while small and medium-sized enterprises dominate all the indicators of reference. Medium-sized enterprises export 47.2% and have the best export/import ratio, micro enterprises employ 45.6%, while the balance of goods is the highest in small enterprises.

The level of competitiveness of the SME sector of Serbia significantly lags behind the European average and most transition economies (see Table 2). Qualitative indicators of the development level of the entrepreneurial sector are lower in comparison with the EU average and the majority of analyzed countries (employment per enterprise, turnover, GVA, and profit per employee). The rate of profitability is above the average, a consequence of a low starting basis and not the expansion or a higher level of this sector's internationalization.

Before the outburst of the global economic crisis the SME sector had been the most vital segment of the economy and a major source of new jobs. Due to general deterioration of business conditions, there was a considerable decrease in the volume of employed labour and, consequently, a comparative improvement of business performances relative to the number of employees.

The recession tide (decline in external and internal demand, investments, higher risks and costs of investment, as well as a fear of failure) hit the entrepreneurial sector in Serbia particularly hard. Robust entrepreneurial dynamics of the previous period has been undermined (slower

Table 1: Weight of the entrepreneurial sector in the economy (%)

Indicators	2009	2010	2011
No of enterprises	99.8	99.8	99.8
No of employees	66.7	66.4	65.3
Turnover	67.8	65.3	65.5
GVA	57.1	55.9	55.2
Exports	50.5	46.4	48.5
Imports	60.9	54.3	55.8
Balance of goods	72.8	65.4	66.7
Investments	52.6	52.1	-

Source: RSO

establishment, growth, and development of new enterprises, and faster closing), and so the number of shops fell and the number of enterprises is stagnating. Research done on the basis of the GEDI index and its sub-indexes relating to key dimensions of entrepreneurial activity in the period 2008-2010 points to strong negative effects of the crisis on the entrepreneurial climate in Serbia: deteriorated business conditions led to a decrease in perceived opportunities for staring a new business, expansion of the fear of failure (induced by higher investment risks), and a decline in social support for entrepreneurial activities, coupled with more intensity of the market competition. At the same time, the share of new companies in the sector of medium- and high technology is heavily decreasing, and chances for a company to apply new technologies and innovations in implementing business strategies that ensure faster growth are slimmer. The degree of orientation of new companies to an external market is in ever greater decline, and so is their readiness to employ venture capital.

Due to deteriorated business climate, the number of start-ups as well as new entrepreneurs is decreasing, which heavily restricts opportunities for the creation of new jobs and productivity growth. For example, in the course of 2011 each month around 3,400 individuals established new business entities, much less than 5,000 individuals (an average number of people that set up businesses each month in 2007).

The entrepreneurial environment in Serbia has deteriorated since the outbreak of the economic crisis. Consumer demand has been decreasing and the loss of business trust has made an adverse impact on the availability of financial support; therefore the opening of new and development of existing enterprises and shops has been seriously limited. The rate of the setting up of new enterprises has slowed down substantially. Namely, in 2007 per each 6 newly established enterprises one was closed down, and per three newly opened shops two were closed. In 2011, per 6 newly established companies 10 were closed, and the number of established shops was by about 10% lower than the number of closed ones. Prospects of newly established companies to survive on the market diminished, and so the share of companies that outlast the first two years of operating went down from 92.0% (2007) to 87.6% (2011), while the rate of survival of shops fell from 66.2% to 55.4%. At the same time, unemployment increased a lot, which leads to continued forced emigration, particularly of the young and the educated. The global economic crisis has made an adverse impact both on economic entities in the early stage of operating and on already established companies – there are fewer business opportunities and it is more difficult to start a business.

Worsening of business conditions in the entrepreneurial sector had a particularly severe effect on employment, and so the number of employees in 2009-2011 in this sector decreased by 153,286, which accounts for 79.2% of the employment decrease in the corporate sector. The trend of rapid opening of new jobs of the period 2004-2008 was interrupted. In this period, owing to an improved business climate and incentives, the number of employees in the SME sector increased by about 187,000, which neutralized a decrease in the number of jobs in large enterprises that was down to the restructuring process (-164,000 employees).

The quality of entrepreneurship

Measuring the quality of entrepreneurship entails a study of various dimensions of entrepreneurship development by states, the focus being on measuring the

Table 2: Comparative indicators of entrepreneurship development in 2011

	EU	Bulgaria	Czech	Hungary	Poland	Romania	Slovenia	Serbia
No of companies (in 000)	20,989.9	287.0	934.5	552.7	1,566.2	535.3	106.9	319.3
No of employees (in 000)	87,818.2	1,459.2	2,368.8	1,876.8	5,960.5	3,032.3	396.9	786.9
No of SME per 1,000 citizens	41.8	38.9	89.1	55.3	41.0	25.0	52.1	43.6
No of employees per company	4.2	5.1	2.5	3.4	3.8	5.7	3.7	2.5
Turnover per employee (in EUR 000)	141.9	53.5	100.5	84.7	88.0	49.4	122.0	64.8
GVA per employee (in EUR 000)	41.3	10.1	20.6	13.5	18.3	9.2	29.3	10.9
Profit per employee (in EUR 000)	10.9	4.2	3.6	0.6	3.2	7.2	2.4	4.0
Profitability rate	27.0	38.1	19	2.0	23.0	52.0	9.0	36.1

Source: EUROSTAT, DG Enterprise and Industry and RSO impact of innovations, the quality of technology, education of labour, and availability of the venture capital.

One of the most representative composite indicators for measuring the quality of entrepreneurship is *GEDI - Global Entrepreneurship Development Index*[2]. In particular, GEDI examines effects of entrepreneurship and innovations that are caused by individual and institutional factors.

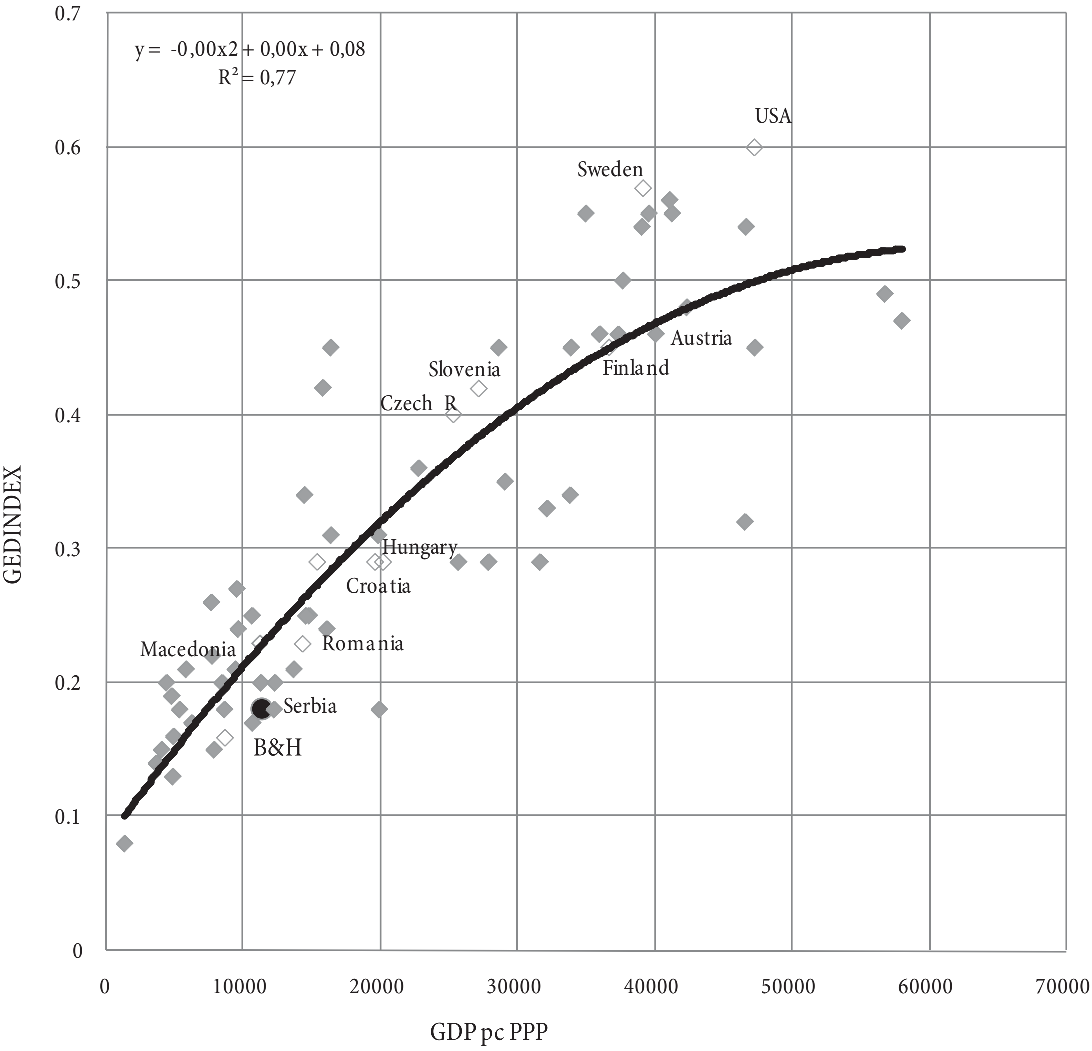
The value of GEDI for Serbia (see Figure 1) is at the same level in 2012 as in 2011, and equals 0.18 (the rank being 63), which is three times lower than in Denmark (0.55), or much lower than for countries in the region: Austria (0.46), Slovenia (0.42), Hungary and Croatia (0.29), Romania and Macedonia (0.23), while only Bosnia and Herzegovina has a lower value of the indicator (0.16). In the group of countries whose development is driven by efficiency[3], Serbia is at the bottom of the list – the highest ranked country is Columbia (0.27), and the lowest value of GEDI is that of Ecuador (0.15). In relation to the attained level of economic development, the level of GEDI and all three sub-indicators (ATT, ACT, and ASP) in Serbia is low (see Figure 2).

Sub-indicators of the dimension *Entrepreneurial attitude* show that deterioration of business conditions in Serbia has led to reduction of perceived opportunities for starting new business, expansion of the fear of failure (related to amplification of investment risks), and a decline in social support for entrepreneurial activities. In

2 GEDI comprises three different entrepreneurship dimensions [32]: *The entrepreneurial attitude (ATT); The entrepreneurial activity (ACT); The entrepreneurial aspiration (ASP).*

3 Average of the group "Stage 2 – Efficiency-driven Economies" [35].

Figure 1: GEDI index



Source: GEDI 2012

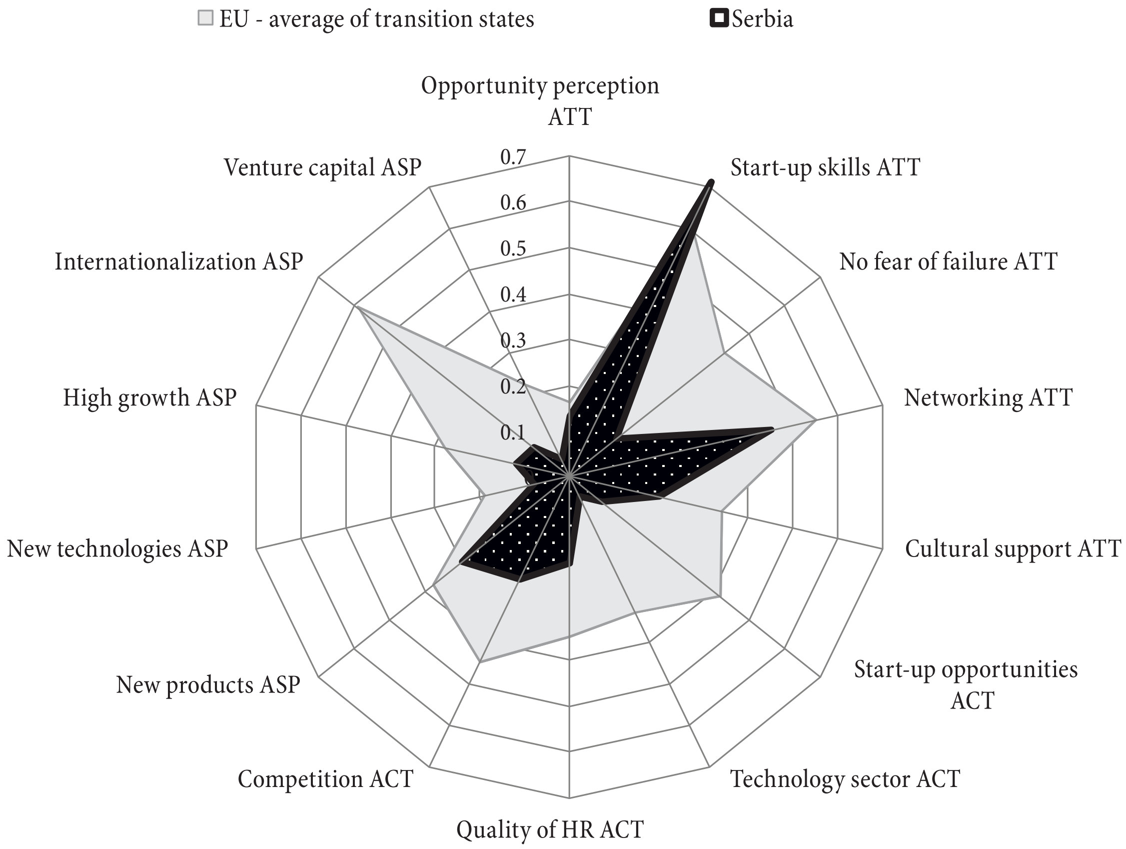
comparison with adjacent countries and the EU average, a lower value of the sub-index Entrepreneurial attitude (0.29) is registered only in BiH (0.21) and Romania (0.22).

The trend of some sub-indexes of *Entrepreneurial activity* is extreme decline: the share of new companies in the sector of medium and high technology is heavily decreasing and opportunities of businesses to apply new technology are tighter. Serbia and BiH have the lowest values of this sub-index (0.14 each), while an above average value is that of Slovenia (0.46 vs. 0.44 of the EU). As for the segment of *Entrepreneurial aspiration,* the degree of state-of–the-art technology and innovation application is in decline, and so are entrepreneurs' chances to apply business strategies that provide faster growth, the level of openness of new companies to the international market, as well as the degree of venture capital usage. For example, the sub-indicator of the internationalization degree of the SME sector in Serbia is only by 0.10 and 5-6 times lower than that of Romania (0.65), Croatia (0.60), Macedonia (0.50), and Hungary (0.46).

Policy of entrepreneurship development – SBA

The official framework for the policy of entrepreneurship development in the European Union is based on the *Small Business Act – SBA*. Guidelines for the creation and implementation of policies at the level of the EU and SBA member states are defined in the form of 10 principles: creation of a stimulating environment that appreciates entrepreneurship and family business; providing opportunities for the "second chance" for honourable entrepreneurs that went bankrupt; defining rules and regulations in line with the principle "think small first"; building up of public administration that is more responsive to needs of SMEs; facilitating participation of SME in public procurement and better making use of state aid; facilitating the access of SME to sources of funding and creating conditions for due payment of debts; assistance for SMEs so that they could take full advantage of the common market; improvement of skills and knowledge; innovations; eco-innovations, and SME's penetration of emerging markets (especially those of China and India).

Figure 2: The quality of entrepreneurship in Serbia compared to EU transition countries



Source: GEDI 2012

All the principles are backed by elaborate proposals for concrete actions and activities, classified as commitments of the European Commission and recommendations for member states. Since 2009 the SBA has been the reference framework for policies of support for SME and Western Balkans countries.

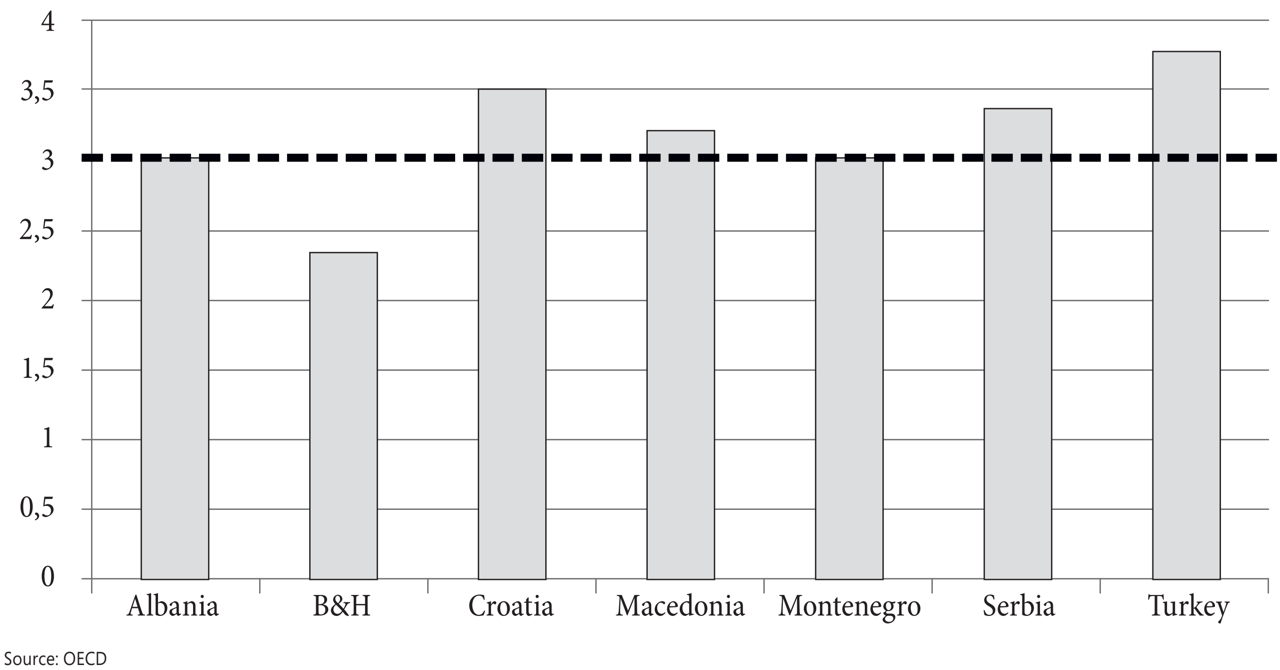
SBA is translated into practice through the monitoring of the *SME Policy Index* which has been developed by most eminent global institutions such as the OECD, European Commission, EBRD, and ETF (European Training Fund). On the basis of the latest Report and the Index results, the rate of reforms has slowed down (see Figure 3):

- Various levels of economic development and the fact that some countries have made greater progress in the process of EU accession have impacted on opportunities for development and an effective implementation of SME policies in a consistent and harmonized way.
- The global financial crisis diverted the attention of governments from structural reforms of SME policies to short-term measures of support.

Serbia is given the following recommendations (see Figure 4):

- Working environment should be improved and targeted measures of support for most dynamic enterprises designed and implemented. For example, while the system of business registration is largely efficient, it can be additionally improved by adjusting the company's registration number and expanding the online registration service that at the moment is available only to entrepreneurs.
- Bankruptcy procedures should be made more efficient. The new Bankruptcy Law that entered into force in 2010 launches an automatic bankruptcy procedure when the company's accounts have been blocked for more than three years. This has led to significant accumulation of bankruptcy cases as courts are still not efficient enough.
- The existing network of incubators should be reinforced and support for them increased. Incubators need to be more oriented towards science-based companies, i.e. high-quality services that provide greater value and support for innovations.
- The promotion of green economy could generate new opportunities for the SME sector, both in the country and on export markets. Eco-efficiency and eco-innovations should be underlined as priorities in the following SME strategies and linked to clear goals and measures.
- In the area of development of human capital, the

Figure 3: SME Policy Index in 2012



Source: OECD

role of high education institutions in the promotion of cooperation with the business community, and the "cross campus" concept of entrepreneurial learning need to be promoted.

Research Results

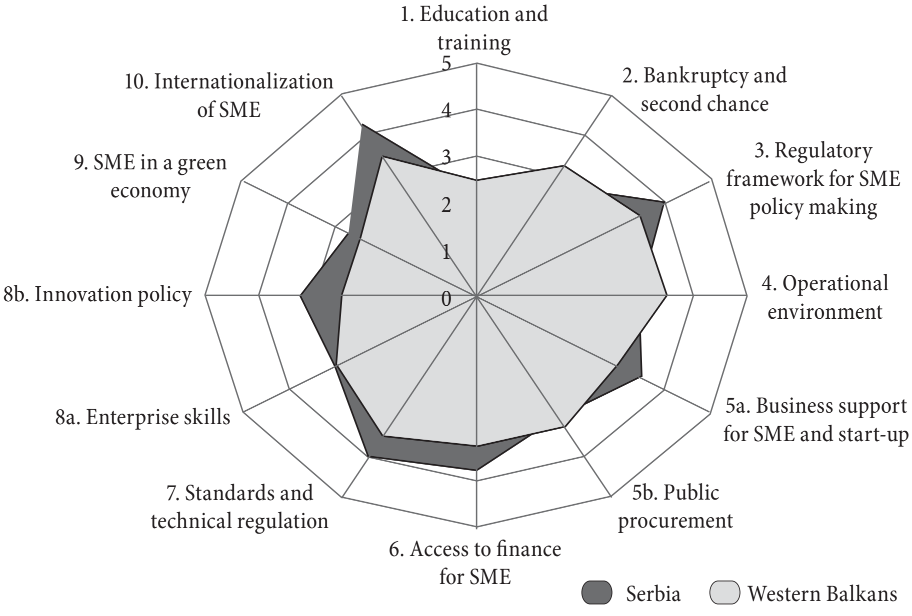
Methodological framework

The research of company's growth is based on various methodological concepts, which include most representative indicators, such as: increase in total or business income, added value, number of employees, market value of a company, market shares, value of brands, company's assets, etc. The paper promotes an entirely new methodological concept of measuring the dynamic entrepreneurship in Serbia. Criteria and indicators result from a continual research into dynamic entrepreneurship in Serbia [17]. The research is based on the quantitative analysis of growth of all the companies in Serbia during the period 2005-2010. The methodological framework for studying the dynamic entrepreneurship in 2005-2010 has been based on the following criteria that had to be met by fast-growing companies:

- They had more than 2 employees in 2010 or more than one employee (this criterion refers to entrepreneurs);
- Their business income was higher than EUR 65,000 in 2010 (average business income in economy represents the threshold value);
- Their GVA per employee in 2010 on 2006 was larger than EUR 13,000 (an average GVA per employee in economy represents the threshold value);
- Their enterprise worked continuously over the analyzed period of 5 years;
- Their enterprise had at least the same number of employees in 2010 and higher GVA in 2010 compared to 2006;
- They created at least twice as high average growth of business income than created in the economy (2 * 9.5%) over the period 2006-2010;
- The minimal cumulative profit was registered over the period 2006-2010;
- The state doesn't hold majority ownership of enterprises (over 50%) on December 31 2010;
- Enterprises dealing with the following activities have been excluded: L – Real estate; O – Public administration and defense, compulsory social insurance; S – Other services; T – Household activities with employers; various goods; U – extra-territorial organizations and institutions.

The listed criteria were met by 2,583 enterprises in Serbia in 2010, which equaled 2.84% of the total number of enterprises in Serbia.

Figure 4: Index of SME policy by areas in 2012



Source: OECD

The methodological process of ascertaining gazelles in Serbia was based on the well-known Birch's indicator[4] [2], which analyzes changes to the number of the employed, GVA, or their combination. The application of the Birch's indicator has helped differentiate 300 gazelles in Serbia, which is slightly more than 10% of dynamic enterprises.

Less than 3% of companies generate the entire economic growth in Serbia

Dynamic enterprises are present in all economies, both in the period of growth and in the period of recession. Their maximum number is up to 5% of all the enterprises, they report an above average increase in revenues and employment, and they drive innovation and sustainable development. Each economy should place its focus on these enterprises, encourage them, and continually create conditions for their growth. According to research done over the past ten years, dynamic enterprises have propelled economic growth of Serbia.

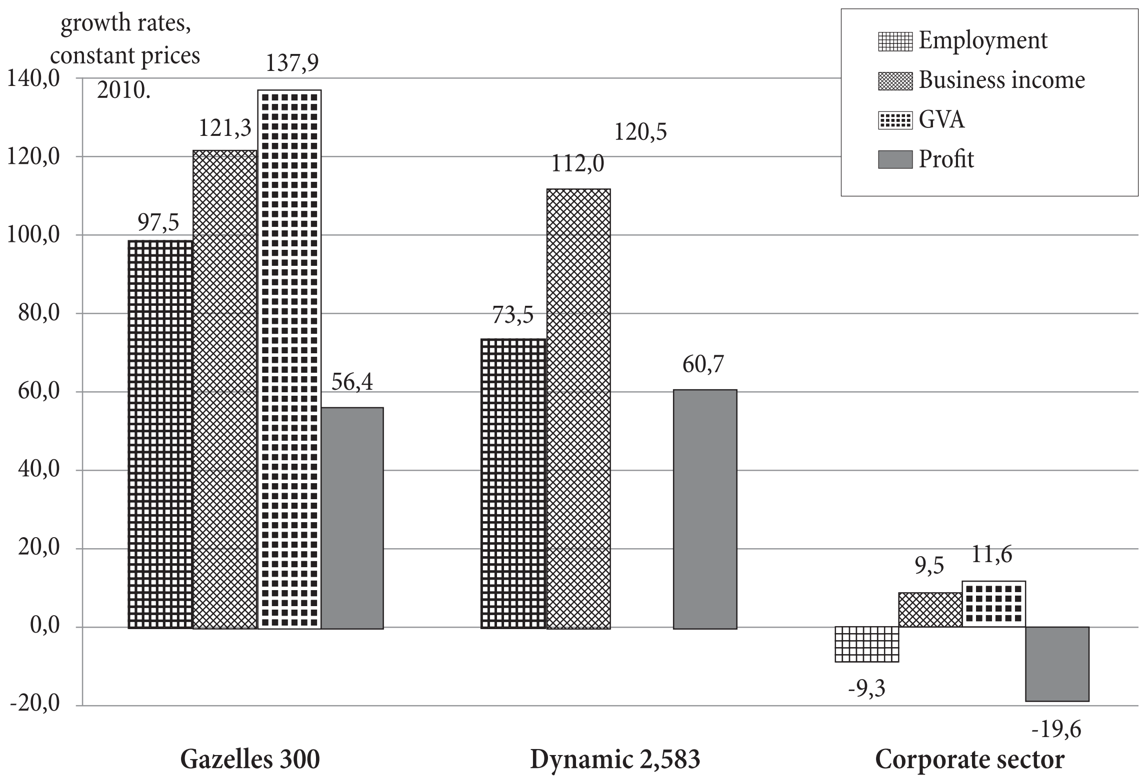
During the period 2006-2010 in Serbia 2,583 dynamic enterprises did business, of which 300 were gazelles (most dynamic enterprises) that during the period of a major global recession (since Great Depression in 1929) in 2009 presented an economic buffer zone against the collapse of the economic system; they generated overall economic growth. The potential for growth of dynamic enterprises is above average.

In the period 2006-2010 in Serbia 2,583 fast-growing enterprises: participated in the increase in business income of Serbia with 114.14%, which means that these enterprises covered 14.14% of the loss of the remaining segment of the economy; generated 90% of the increase in value added in Serbia; generated all the profit in the economy; created 33,000 new jobs in the economy (7.45% of overall employment in the corporate sector), while in the corporate sector employment went down -108,000 (see Figure 5).

Almost entire economic growth in 2006-2010 was generated by 2,583 dynamic enterprises, i.e. 2.8% of all

4 The Birch's indicator aims to reduce the impact of a company's size on the growth indicator, and presents a combination of the proportional and absolute rise in employment:
$m= (X_{i,t} - X_{i,t0})*(X_{i,t}/X_{i,t0})$,
where $X_{i,t}$ and $X_{i,t0}$ present the number of employees at the end and at the beginning of the period of reference.

Figure 5: Growth indicators for gazelles, dynamic enterprises and the corporate sector



Source: author's calculations

the enterprises. This serves to confirm the well-known Birch's rule that at least 85% of economic growth and job creation in any economy is generated by 5% of enterprises at the most.

Structural and regional characteristics of dynamic enterprises

Dynamic enterprises increased their contribution to economic growth in all dimensions of research. According to all the relevant economic indicators, the impact of 2,583 dynamic enterprises over the period of five years has doubled despite recession tendencies (Figure 6):

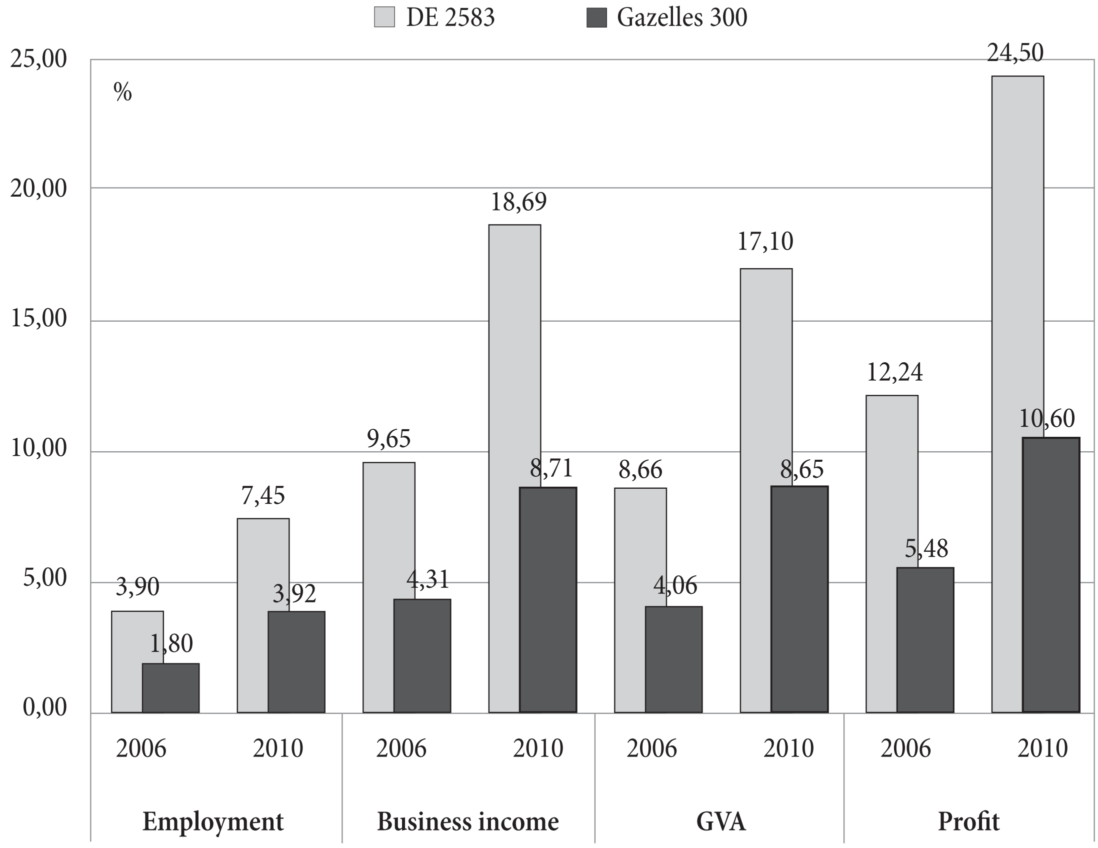
- The share of employment rose from 3.9% to 7.5% (from 44,983 employees to 78,025);
- The share of business income rose from 9.7% to 18.7%;
- The share of the gross value added rose from 8.7% to 17.1%;
- Profit increased from 12.2% to 24.5%.

Development of the share of 300 Serbian gazelles within the corporate sector is faster than that of the share of dynamic enterprises – the largest contribution is that of lower unemployment and diminishment of social tensions (300 gazelles in 2006 employed 20,784 people, and in 2010 they had 41,037 employees).

The section structure shows that dynamic enterprises are concentrated in sectors of Trade (1,035 enterprises or 40%) and Manufacturing industry (499 enterprises, i.e. 20%). Negative developments in the sector of manufacturing industry are illustrated by all the indicators: shares in the number of employees, business income, and value added are down. Industrial dynamic entrepreneurs and industrial gazelles are to face even larger challenges than over the five years of reference.

Regional distribution of dynamic enterprises and gazelles is in the shade of economic concentration in the City of Belgrade and South Backa area: of 2,583 dynamic enterprises, 1,584 or 61.3% are concentrated in these two areas. The trend of ever faster economic concentration is registered by all the other indicators of dynamic

Figure 6: Shares of dynamic enterprises and gazelles in the corporate sector



Source: author's calculations

enterprises, and so in 2010 65% of the employed, 72% of business income, 71% of GVA, and 69% of the total profit was accounted for by the City of Belgrade and South Backa areas. In addition, 2/3 of Serbian gazelles operate in these two areas.

Risks

National Competitiveness Decline Trend

Before the outbreak of the economic crisis, economic growth in Serbia had been increasing by 23% per year (IMF) and getting closer to the SEE average. GDP per capita decreased in 2009 and 2010 (on average by 11%) but in 2011 Serbia again saw growth, of 11%, which was not sufficient to get to the level before the start of the crisis (of all the adjacent countries Macedonia and Montenegro managed to achieve this). It should be noted that GDP per capita of Serbia is among the lowest in Europe and almost 6 times lower than the average of the European Union.

The global barometer of competitiveness [35], which includes 114 countries, ranks Serbia 95th, and by GDP per capita of USD 6,081 places it at the foot of the group of 33 countries (Stage 2 – *Efficiency-driven economies*) that through improvement of efficiency aim for economic growth and an improved competitiveness position overall. Almost all of the countries in the region are in the second stage of development except for Hungary (60) and Croatia (81) that are moving to the group of most robust economies that already includes Slovenia (56) with GDP per capita of USD 24,533. In 2012, Serbia was still one of the least competitive countries in Europe – only Greece is worse ranked than Serbia, while BiH overtook Serbia and currently is at 88th position.

The competitiveness of the Serbian economy has been stagnating for years and structural changes have been delayed, which is why the country fails to reach higher ranks in the global rankings that other SEE countries have. In this stage of development Serbia should strive to develop its own production processes and upgrade the quality of its products through constant enhancement of higher education, professional training of labour, and the ability to use available technologies so that eventually the price of work and the standard of living would go up. However, the prerequisite for boosting efficiency and transiting to innovative development in order to generate high productivity are solid *institutions* (pillar 1) and competent pursuit of *macroeconomic policy* (pillar 3), and with respect to these Serbia lags behind other countries a lot. These two pillars, apart from *innovations* (pillar 12), have registered the steepest drop in rankings compared to the year before.

Table 3: Indicators of Serbia's international competitiveness

Competitiveness pillars	Rank	Value	Index of value			
			2012/2007	EU-27=100	Region=100	Stage 2
GCI	95	3.87	102.3	81.7	97.0	96.1
Sub-index A: BASIC REQUIREMENTS	*95*	*4.15*	*99.1*	*80.1*	*94.3*	*95.1*
1st pillar: Institutions	130	3.16	93.7	69.6	85.6	85.1
2nd pillar: Infrastructure	77	3.78	139.2	73.7	98.5	102.2
3rd pillar: Macroeconomic stability	115	3.91	84.9	81.3	89.9	84.6
4th pillar: Health and primary education	66	5.73	94.9	92.1	100.3	106.2
Sub-index B: EFFICIENCY ENHANCERS	*88*	*3.83*	*107.7*	*81.5*	*99.0*	*98.3*
5th pillar: Higher education and training	85	3.97	108.8	77.4	93.8	100.2
6th pillar: Goods market efficiency	136	3.57	101.1	77.0	87.9	85.7
7th pillar: Labour market efficiency	100	4.04	104.6	89.9	97.8	96.7
8th pillar: Financial market development	100	3.68	98.5	83.8	97.1	91.6
9th pillar: Technological readiness	58	4.10	122.8	77.9	102.8	112.1
10th pillar: Market size	67	3.64	112.4	82.9	120.5	107.6
Sub-index C: INNOVATION FACTORS	*124*	*2.96*	*89.6*	*68.6*	*91.3*	*86.9*
11th pillar: Business sophistication	132	3.11	88.3	67.5	88.5	82.4
12th pillar: Innovation	111	2.81	91.1	67.6	94.6	94.2

Note: Value – the index maximum is 7; Region – an average of values for Albania, Bosnia and Herzegovina, Macedonia, Croatia, Montenegro, and Serbia

Source: [35]

Serbia is in a very adverse competitive position as according to most indicators it is below the average of countries that belong to the second development stage, which means it is far from the average of EU member states. Unless there is modernization of production capacities, and constant investment in education and promotion of the expertise, Serbia cannot improve its efficiency in some other economic spheres nor can it reach a higher development degree. Human capital and technology are two key factors that in the long run determine sustainable economic growth and a competitive position of an open market economy.

Some of the 13 most critical areas for raising competitiveness are (see Table 4): protection of small shareholders, scale of market domination, brain drain, efficiency of legal procedures, and efficiency of the anti-monopoly policy.

Table 4: Serbia's most critical competitive fields

Competitive fields	Global rank out of 144 countries
Protection of small shareholders' interests	140
Law efficiency in legal procedures	137
Efficiency of state corporations	136
Burden of government regulation	134
Extent of market domination	139
Efficiency of anti-monopoly policy	137
Strength of local competition	136
Purchaser sophistication	136
Brain drain	139
Worker-employer working relation	136
New technology in a company	136
Quality of competitive advantage	136
Readiness to delegate powers	136

Source: [35]

Sluggish improvement of the business environment

In terms of conditions for doing business, Serbia is ranked 86th in the rankings of 185 countries [35]. Of all the European countries, Serbia is better positioned only than Ukraine (137), BiH (126), Russia (112), and Malta (102). Although in 2011 Serbia made some positive reform steps (it promoted conditions for doing business in segments of starting a business, enforcing contracts, and resolving insolvency), Serbia has not seen a marked improvement in the business environment whereas some countries managed to promote operations and alleviate effects of the global economic crisis through faster structural reforms (see Table 5).

The lowest rank and 179th position Serbia occupies with respect to the process of *obtaining licences and various permits* (for construction, electricity access, telephone, permits from various inspectorates, etc.). Although it improved its performances in this area (the number of procedures went down by 2, the number of days by 10, and costs by 11%), other countries are developing much faster with respect to creating conditions for attracting potential investors, and thus the low rank is further lowered. A very low rank of Serbia is induced by high costs of issuing construction permits although they have a declining trend, viewed by years. While in the EU on average it takes 99% of GNI per capita (most in Ireland, 626%, and least in Hungary, 6%), in Serbia entrepreneurs should pay a 14 times higher value than the value of GNI/capita or 1,427% (only in 11 countries located out of Europe they face higher costs), while in countries located out of the EU costs stand at: in Montenegro 1,170%, in Bosnia 1,102%, in Croatia 573%, and in Macedonia 518% of GNI per capita.

Table 5: Poorer conditions for doing business

	2011	2012	Change
BUSINESS CONDITIONS, rank	*95*	*86*	*9*
Dealing with construction permits, rank	*178*	*179*	*-1*
Procedures (number)	18	18	
Time (days)	279	269	
Cost (% of income per capita)	1,603.80	1,427.20	
Paying taxes, rank	*145*	*149*	*-4*
Payments (number)	66	66	
Time (hour)	279	279	
Income tax (%)	..	11.6	
Taxes and contributions for employees (%)	..	20.2	
Other taxes (%)	..	2.2	
Total tax rate (% profit)	34	34	

Source: [35]

Systemic problems of entrepreneurship development in Serbia

- *Incomplete institutional setting and regulations* – major problems lie in the domain of high total fiscal liabilities; unfair treatment in public procurement processes; a failure to address the issue of monopoly; problematic claiming of liabilities; red tape and an inadequate taxation system; complicated and costly administrative procedures, particularly when it comes to the issuing of licences; resolving property and legal issues, etc. An important step taken in this direction is cancellation of a large number of parafiscal taxes;
- *Inadequate knowledge and skills of entrepreneurs and their employees* – a dearth of staff with specific skills as well as insufficient expert training of the management to resolve strategic and/or operative problems with the view to maintaining continuity of operations;
- *Unfavourable conditions for funding and inadequate forms and the volume of financial support* –banks that offer expensive loans and short terms of loan repayment are dominant. There is a lack of developed micro-credit institutions on the national and regional level, but also of other financial instruments designed to suit true financial needs of SMEs and their economic strength;
- *Undeveloped programme-based access to funds* – cooperation with private investors such as business angels; programmes of loans or loan guarantees; mezzanine loans to provide capital for innovative SMEs; capitalization of the funds of venture capital; tax incentives, etc.;
- *Poor liaison with large enterprises*, and, consequently, an untapped chance for dynamic development of the SME sector as a partner (supplier, subcontractor) of large business systems, i.e. insufficient exploitation of advantages offered by the SME sector in relation to large enterprises in some production segments that require flexibility and a speedy technical and technological/market adjustment;
- *Inadequate incentives for introducing modern technologies, innovations, standards, quality control, etc.*;
- *Insufficient stimulus for internationalization and a lack of information on markets;*
- *Poor promotion of development of skills in enterprises* – management skills, research and development skills and skills related to realizing exports by providing relevant trainings (by granting funds for private services and/or by directly providing trainings by means of training centres and other infrastructure).

Conclusion

Entrepreneurship is a force that exploits other resources to satisfy market demand, an ability to create and build up something practically out of nothing. (Chouhan, 2012)

Changes to the economic structure will be increasingly dynamic and competitive, new companies will be set up ever faster, while the impact of old ones will diminish, and terms of entrepreneurship and innovations will be redefined. Sustainable development will be faced with the following trends in the next decade:

- Speed and uncertainty will be dominant;
- Technology will make the greatest impact on the market game;
- Demography will set the pace of business processes;
- Loyalty will erode;
- Work will be done at any place and at any time;
- Employment in the usual sense of the word will disappear.

Growth factors of dynamic enterprises will ever more depend on the strategy for developing knowledge systems or knowledge spirals, whereby learning happens within the company's structure. Entrepreneurs are not gamblers and they strive to reduce the risk to a minimum. In order to raise productivity, an entrepreneur must combine resources skillfully, which requires continuous intensive learning (including collective learning, [10]). Start-up companies must learn and minimize the risk. A structured access to knowledge management and a strategic access to knowledge design through initiatives based on the mapping of critical knowledge will be increasingly needed [38].

The main tenet of dynamic entrepreneurship relates to proper matching of resources and abilities with possibilities [21]. A subjectivist theory of entrepreneurship will be ever more cited – it focuses on individuals, their knowledge, resources, and skills, as well as processes of discovery and creativity, the heart of entrepreneurship. A fundamental importance for development of dynamic entrepreneurship is recognized in creativity, perception of entrepreneurs, and personal knowledge. The need for a specific entrepreneurial knowledge should be differed from general knowledge [12]. A pragmatic access to the theory of learning shows that the content of knowledge and the process of studying (i.e. acquiring knowledge) are inextricably linked [22].

Given their development potential of job creation, dynamic enterprises draw attention not only of economic scholars but also of economic policy creators who have understood their role in diminishing the rate of unemployment, and boosting economic growth and development. Small and medium-sized enterprises are most propulsive enterprises [29, p. 53], and over the last five years of the 20th century in the EU they created more jobs than the largest ones lost, whereby they saw the largest increase in income and profit.

Research results show that acceleration of economic growth in Serbia can be achieved through stimulation of dynamic entrepreneurship. It is necessary to double the number of dynamic entrepreneurs that boast growth potential, to at least 5,000, i.e. to 5% of all the enterprises in Serbia. It is necessary to create a stimulating environment for growth and development of dynamic entrepreneurship (excessive administration, fiscal burdens) and internationalization. It is also of vital importance to promote trust in entrepreneurship and institutions that would facilitate investment to potential entrepreneurs.

Economic growth of any economy is based on the growth of dynamic enterprises and gazelles; economic policy fosters their growth and creates conditions for their growth. Studies show that over the past decade dynamic enterprises and gazelles have been the backbone of growth and development. Research results show that:

- *Dynamic enterprises boast an above average growth.*
- *Dynamic enterprises report above average financial indicators.*
- *Dynamic enterprises report above average employment.*
- *Dynamic enterprises are innovative and sustainable.*

Research into dynamic entrepreneurship in Serbia has shown how much these enterprises have contributed to economic growth of Serbia: almost entire economic growth in 2006-2010 was generated by 2,583 dynamic enterprises, i.e. 2.8% of all the enterprises. These enterprises generated 90% of the increase in value added in Serbia, all the income in economy, and created 33,000 new jobs in the corporate sector.

Fast-growing enterprises will be raising employment in Serbia in the years to come too. In the structure of dynamic enterprises medium-sized enterprises (259) raised employment 2.2 times, large enterprises (41) 1.9 times, and small enterprises 1.6 times. In the period of reference, dynamic enterprises raised employment by 33,000 new jobs overall (the growth rate at 74%).

In enterprises that grow fastest, i.e. 300 gazelles, employment doubled, being most apparent in medium-sized gazelles (2.4 times) and large gazelles (2 times). By comparison, in the period 2006-2010 in overall economy employment fell by 107,000 persons.

The previous research shows that by far the most important thing is to establish business environment and legislation that stimulate growth, reward achievements, motivate entrepreneurship through fiscal incentives, and create long-term stable conditions for its development. Of course, an entrepreneur is the most important agent, and so are his creativity and innovativeness, and his vision, as well as the business strategy that, with most of the fast-growing enterprises, is targeted at buyers, competitiveness on the domestic and foreign market, and liaisons and networking. The next segment of issues that is of utmost importance for a dynamic entrepreneur is management system that fosters growth and innovativeness and implements methods towards motivating employees. From the perspective of the employed, dynamic enterprises are safe and difficult to handle at the same time, as each individual must be ready for changes and constant advancement. The most important factor is the innovativeness factor regardless of whether a dynamic enterprise belongs to the group of high-, medium- or low-tech enterprises; another important factor is dynamic entrepreneur's readiness to take a risk. From the aspect of funding, what matters is development of financial planning and management in a dynamic enterprise.

Economic policy creators should pay special attention to incentive mechanisms for growth and development of dynamic entrepreneurship:

1. Defining incentive mechanisms for addressing key development problems of enterprises in the stage of growth and development, based on practices of highly developed economies of the OECD and the EU that have integrated similar mechanisms into the system for stimulating the development of dynamic enterprises and gazelles. In EU states this is a part of a wider process of implementation of the Lisbon strategy for providing growth and employment and creating the entrepreneurial, knowledge-based society.
2. Regulatory reforms should target not only the removal of barriers for the establishment of new companies, but also creation of favourable conditions for growth of dynamic enterprises. Apart from fiscal incentives for small enterprises, it is essential for collection of tax revenues to be brought in line with the company size. The earlier approach was to find opportunities to prevent the loss and bankruptcy, while at the moment losses and bankruptcy are accepted as a natural part of the market mechanism. Still, other ways to reduce their economic and social cost are being devised (i.e. by providing the "second chance").
3. Apart from the policy of support for development of the entire SME sector (by improving the business environment that will stimulate the opening of as many new entrepreneurial companies as possible), a special emphasis should be put on the policy of stimulating dynamic entrepreneurship that is dedicated to the creation of an environment conducive to growth of entrepreneurial companies and the one that will encourage gifted people with a clear vision of the future to start their own business. The advantage in providing the access to resources should be given to dynamic entrepreneurs that are promising in terms of high growth.
4. An altered way of funding (public sources of funds, various forms of grants, subsidies, and soft loans), relying on the combination of public and private sources, namely loans for research and development and grants for innovations, engagement of venture capital, and the issuing of securities.

A change to the structure of services delivered by institutions for the non-financial support, and that from basic (standard) counseling for setting up a business, business planning, and the doing business of small companies, to counseling based on experience in risky funding, strategic planning, support for the inclusion into supply chains of large companies, internationalization, and growth and development of enterprises.

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Grčko-srpski poslovni savet je osnovan u Atini u martu 2005. godine i predstavlja najvažnija grčka preduzeća koja posluju i koja su imala investicije u Republici Srbiji. Savet je stalni forum koji je u neprekidnoj komunikaciji sa grčkom i srpskom vladom u cilju olakšanja i unapređenja ekonomskih i poslovnih odnosa između dve zemlje. Savet je jedino telo koje ima ovlašćenje od strane grčke vlade da osnuje Grčko-srpsku privrednu komoru u Atini.

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CHARACTERISTICS OF ANTI-MONOPOLY POLICY AND THE EFFECTS OF ITS APPLICATION IN SERBIA

Karakteristike antimonopolske politike i efekti njene primene u Srbiji

Abstract

This paper gives the analysis of the effects of anti-monopoly policy in Serbia in the period 2006-2012. It analyzes the work of the Commission for Protection of Competition in terms of good practice that should be continued, improper practices which should be modified, and practices that should be introduced. Serbia's position was analyzed according to the indicators of the effectiveness of anti-monopoly policy and the reasons for poor ranking. Finally, the paper deals with the practice of the companies in Serbia with regard to their treatment of anti-monopoly regulatory risk and stresses the need to introduce antitrust compliance programs.

Key words: *anti-monopoly policy, effects, Serbia, antitrust compliance programs*

Sažetak

Rad se bavi analizom efekata antimonopolske politike u Srbiji u periodu od 2006-2012. godine. Analiziran je rad Komisije za zaštitu konkurencije u pogledu dobrih praksi koje treba nastaviti, neodgovarajućih praksi koje treba izmeniti i praksi koje bi trebalo da se uvedu. Analizirana je pozicija Srbije prema indikatorima efektivnosti antimonopolske politike i razlozi lošeg ranga. Konačno, rad se bavio praksom kompanija u Srbiji kada je reč o tretiranju antimonopolskog regulatornog rizika i ukazao na potrebu uvođenja *antitrust compliance* programa.

Ključne reči: *antimonopolska politika, efekti, Srbija, antitrust compliance programi*

Introduction

It is a well known fact that anti-monopoly laws are designed to protect competition and to promote free and fair competition. This regulatory framework is based on the idea that wherever there is free and open competition, the markets function efficiently, and the consumers benefit from high-quality, cost effective and yet affordable products and services.

The subject of this paper is the analysis of the anti-monopoly policy in Serbia from 2006 until present. The focus of this analysis is on the practice of the Commission for Protection of Competition, as the key regulatory body in this area. Another focus of the analysis is on the companies operating in Serbia and their treatment of the anti-monopoly regulatory risk.

The paper consists of several parts. The first part quantifies and describes the results of the Commission in the past. The second part measures the effectiveness of anti-monopoly policy as measured by standard indicators from secondary sources. The third part highlights a specific aspect of anti-monopoly practices concerning the relationship between the level of market concentration and the height of entry barriers. The fourth part deals with the anti-monopoly practice of domestic companies, while indicating the need for introducing modified antitrust compliance programs. The final part summarizes the main conclusions and makes recommendations to the regulators and companies.

The work and results of the Commission for Protection of Competition practice

The implementation of the Law on Protection of Competition in Serbia is the exclusive responsibility of the Commission for protection of Competition, which began its activities in 2006. Based on the annual reports that the Commission regularly publishes (http://www.kzk.org.rs/), we have made a summary of the Commission's activities so far (Table 1).

Table 1 shows that the largest number of cases, presented before the Commission for Protection of Competition in Serbia, was related to concentration complaints. During the reporting period, the Commission initiated a total of 28 cases involving the abuse of a dominant position. In 10 cases, it was determined that there was the abuse of dominant position. Of 33 initiated procedures relating to prohibited agreements, the presence of prohibited agreements was determined in 17 cases. The Commission decided on 46 cases regarding exemption from the prohibition of restrictive agreements, while claims for exemption were declined in 13 cases.

A relatively small number of cases, 6% of the total number of initiated procedures, are directly related to the protection of competition. In other words, the Commission is predominantly exhausted by the cases of approval of concentration, and quite often ignores cases of abuse of a dominant position and restrictive agreements. One of the reasons for this type of practice by the Commission's is actually the fees that have to be collected in the approval procedures. According to the Tariff [25], the Commission, in a simplified procedure for each conclusion that enables concentration, charges 0.03% of the total overall revenue of all concentration members obtained in the previous report year. The maximum fee amount may not surpass EUR 25.000. Representatives of UNCTAD have underlined these fees as one of the highest in Europe, considering the revenues that companies achieve [26, p. 37]. This type of fee can be considered as a tax or duty of some sort. Considered this way, the Commission's role on the market of Serbia is mainly focused into collecting tax rather than being an actual market regulator that provides protection to consumers on the market, from abuse of dominant market position or implementation of cartels or other kind of restrictive agreements.

The Commission should devote more attention to cases involving the abuse of a dominant position, as well as

Table 1: Activities of the Commission for Protection of Competition in the period 2007-2011

	2007	2008	2009	2010	2011	Total
Concentrations						
Initiated procedures	125	137	116	75	114	**567**
Completed procedures	105	133	115	73	101	**527**
Abuse of dominant position						
Initiated procedures	13	3	2	6	4	**28**
Completed procedures	7	3	2	3	1	**16**
The existence of abuse	2	2	2	3	1	**10**
Prohibited Restrictive Agreements						
Initiated procedures	4	6	13	2	8	**33**
Completed procedures	2	2	7	4	7	**22**
Determined existence of a prohibited agreement	1	2	4	4	6	**17**
Individual exemptions from the Prohibition of Restrictive Agreements						
Initiated procedures	4	14	10	4	14	**46**
Completed procedures	3	10	8	5	8	**34**
Declined claims for exemption	1	7	2	1	2	**13**
Total number of initiated procedures	146	160	141	87	140	**674**
Cases that distort competition	4	11	8	8	9	**40**
Share	3%	7%	6%	9%	6%	**6%**
Number of staff members						
Total	15	21	26	29	31	**31**
Working on cases	9	13	17	17	20	**20**
Number of cases per staff member	10	8	5	3	5	

Source: Annual reports on the work of the Commission for Protection of Competition 2007-2011 detecting and preventing cartel agreements. It is therefore essential that the thresholds for reporting concentration are raised in order to relieve the administrative capacity of the Commission. In this case, it would create more room for the investigation of precisely these cases which restrict competition and which are inherently much more complex and extensive. By analyzing the many previous cases led by the Commission for protection of competition, the following conclusions can be made. Breaches of competition such as restrictive agreements have mostly been related to direct or indirect determination of purchase and selling prices. On the other hand, when it comes to abuse of dominant position, most of the uncovered breaches can be described as imposing of unfair business conditions and implementation of unequal terms of business on the same businesses with various members on the market.

We will analyze the work of the Commission's Council in 2012 based on provided daily agendas of all meetings that were held by the Commission's Council during 2012, in which 60 meetings were held (http://www.kzk.org.rs/sednice). At first, all activities of the Commission were divided into four categories: protection of competition, international cooperation, opinions and initiatives, while all other activities were categorized as current operations (see Figure 1). Most of the items, a total of 138, were about issues of competition protection (conclusions of restrictive agreements, dominant positions, exclusion from these articles and other). The second authority, for which the Commission's Council spent most of its time, 51 items and practically every fifth decision, was actually the field of international cooperation (participation at conferences, trainings abroad, reports from these events). Current operations (rent of space, financial reports) were items for which the Commission spent a tenth of its time and it brought conclusions for 23 items of the agenda related to this field.

Since 2009, the Commission for Protection of Competition has implemented (directly or through independent institutions) sector analyses, which allow it to monitor the situation on the market continually and systematically. In this way, the conditions of competition are examined and actions that may be contrary to the rules of the competition are registered. So far, the Commission has carried out the following analyses:

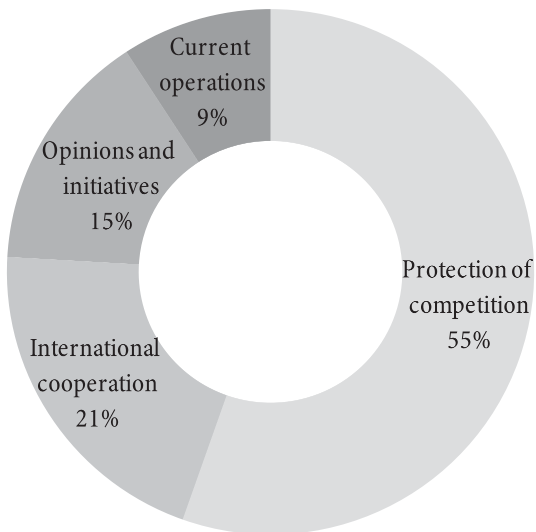
- Analysis of the conditions of competition in the liquefied petroleum gas market,
- The advertizing market analysis in Serbia,
- Market research of non-specialist retail sales, mainly of food, beverages and tobacco in the territory of the town of Kragujevac,
- Market analysis of cross-border money transfer services for individuals in the Republic of Serbia,
- Market analysis of import, processing, wholesale and retail of oil and petroleum products,
- Analysis of the state of competition in the dairy sector.

This is a good practice of the Commission and must be intensified and carried out continuously in the future.

During the analyzed period 2007-2011, the administrative capacity of the Commission increased significantly, which is encouraging. On the other hand, the process of administrative capacity building has still not been completed since the systematization provides for 54 jobs. Therefore, it is necessary to continue hiring new employees, especially from the field of economics, which should be given much more room in the analysis of specific cases of violated or restricted competition.

Transparency of the Commission's work increased significantly. On their official website, they regularly publish

Figure 1: Analysis of the Competition's Council activities in 2012



Source: http://www.kzk.org.rs/sednice

annual reports on their work, as well as all the procedures in progress. The only criticism related to reporting could be directed to the publication of the final decisions of the Commission, which are given in an abbreviated, not in their integral form. The Commission is also very active with respect to international cooperation with relevant organizations and regulatory bodies in various countries. The employees of the Commission are regularly sent to various trainings abroad, which significantly increases their expert capacity.

Although there were a large number of cases of concentration approval, none were effectively blocked. In the case of "Primer C" – "C market", the Commission initially adopted a negative decision regarding the implementation of the concentration. The court annulled the Commission's decision and remanded the case for retrial. Later, the Commission approved the concentration of the company Delhaize "The Lion" Nederland B.V. from the Netherlands affiliated with "Delta Maxi" d.o.o. from Belgrade [18], which also approved the previously mentioned concentration. Another decision of the Commission, which prohibits concentration in the case of "Sunoko" – "Hellenic" [20], was canceled by the Administrative Court. The court decision was officially criticized by the Commission, which does not constitute good practice.

Analyzing current practice of the Commission, we have observed a lot of weaknesses, both with regard to the procedure, and in terms of the content of the adopted decisions. Under the old Law on Protection of Competition, which was in force until 1 November 2009, the judicial control over these cases was exercised by the Supreme Court of Serbia. Thirteen cases were resolved unfavorably for the Commission [26, p. 51]. The Supreme Court always annulled the Commission's decision based on procedural deficiencies. The causes of the failure of the Commission before the Court may originate from the lack of clarity in the division of responsibilities between the Commission' Council and other organizational units of the Commission, as well as from the fact that the records on how the Council deliberated and voted were not submitted. In addition, certain cases did not contain statements from all the documents submitted by the parties. The Commission's decisions were most often criticized for their vagueness. Under the old law, only the Magistrates Court could impose fines of between 1 and 10% of the total annual turnover of the market participants. However, no fine was imposed by the judiciary. After 2009, the Commission has the right to directly impose measures aiming at protection of competition, and the Administrative Court takes over the function of judicial review. A significant number of the Commission's decision was annulled before the Administrative Court and the Supreme Court of Cassation so that only a small percentage of measures have actually been charged.

A great number of conclusions that had been brought by the Commission were canceled due to the 3 year obsolescence rule. According to 20 analyzed cases held before the Commission for protection of competition, we can conclude that the average time needed for completing each case in front of the Commission is longer than 3 years. The duration of a case can be divided into three phases (see Figure 2): time between commitment and first decision of the Commission for protection of competition, time between the Commission's decision and the Administrative Court's verdict and the time between the Administrative Court's verdict and the Commission's second decision. In average, it takes about the same amount of time to complete a process by the Commission and by the Administrative Court. However, additional weight to each case is the time needed by the Commission to bring a new conclusion after the Administrative Court's verdict. Even in cases in which the Court had just confirmed measures concluded by the Commission – another five months in average are necessary for each case. Out of this period of time, almost a month is necessary for each verdict to be officially delivered to the Commission.

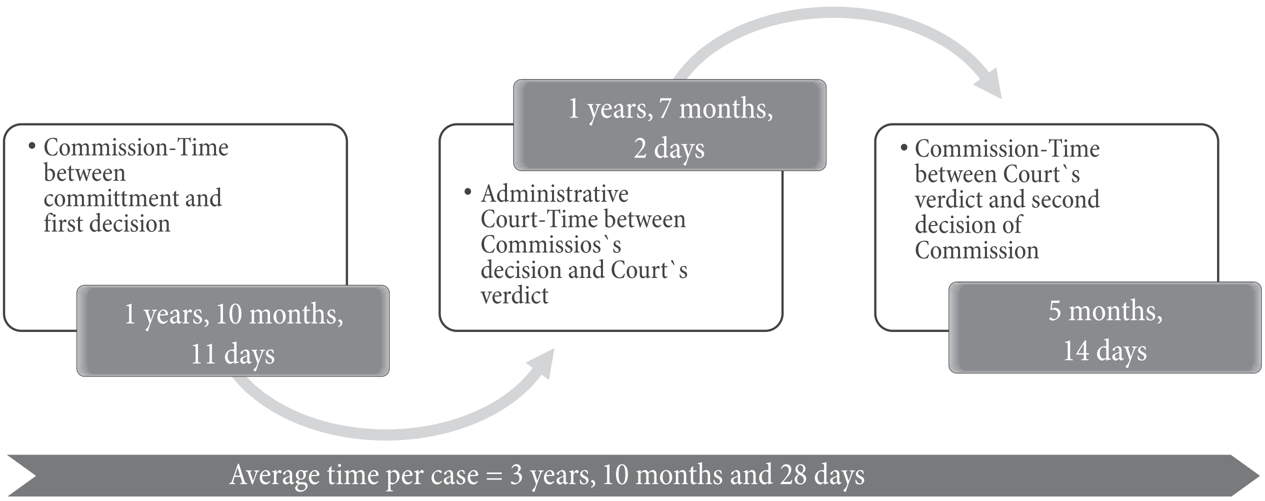
The decisions adopted by the Commission show that they greatly focused on the intent or aim of the companies to distort or limit competition, and much less on measuring the effects of the alleged anti-monopoly practices. Also, the Commission has not executed postmortem analysis of its decisions, i.e. analyzed the effects the application of its measures on the competitive dynamics in a particular market.

The Commission for Protection of Competition should be more active regarding the initiatives to have special training for the judges of the Administrative Court who will be deciding on the matters relating to the protection of competition. Under the new law, which came into force on 1 November 2009, the review of the decisions made by the Commission for Protection of Competition is executed by the Administrative Court, and the higher instance court being the Supreme Court of Cassation. However, the possible cause for significant problems in completing the procedures for protection of competition is the lack of judges who specialize in issues related to competition. The judicial procedure of court investigation is performed in accordance with the provisions of the Law on Administrative Disputes. Therefore, the Court investigates the legality of the Commission's decisions. Since the scope of judicial review is not defined by the Law on Protection of Competition, but by the Law on Administrative Disputes, it is unclear whether it also includes the assessment of complex economic analyzes performed by the Commission for Protection of Competition.

The Commission can be criticized for failing to react when Serbian government limited the trade margin for certain foodstuffs to only 10%. It can easily be determined that this percentage is not enough to cover the costs, and that in this case, small merchants are doomed to bankruptcy. Such a limitation by the Government can be seen as a form of institutionalized cartel. A similar case occurred in Hungary when the Ministry of Rural Development concluded an agreement with leading marketers not to sell watermelons above the price of 99 forints per kilogram in their retail stores. Hungarian body for protection of competition reacted only a month after the publication of such agreements and launched a formal investigation in relation to this case [24, p. 3].

The experience of the commissions worldwide shows that they are very actively involved in the idea of prevention of infringement of competition by promoting the development and implementation of corporate compliance programs. Some of the commissions, as is the case with the commissions of Australia, Canada, Japan or the Netherlands, print special guides for the introduction of compliance programs. Thus, for example, the Australian Commission in its ACCC guide suggests the introduction of compliance culture through three steps [13]. The first step is the decision to change the practice by showing a clear willingness to identify problems and allocate resources. The second step is to develop compliance know-how infrastructure. This includes training specialists (e.g. a compliance officer) responsible for the development and implementation of compliance programs. The third step is to promote the practice introduced as a regular part of all business decisions and processes. Other Commissions (Brazil, Korea) even have a certification program for good compliance programs, with subsequent regular monitoring of the implementation of such programs.

Figure 2: Average time needed for completing process of one competition case



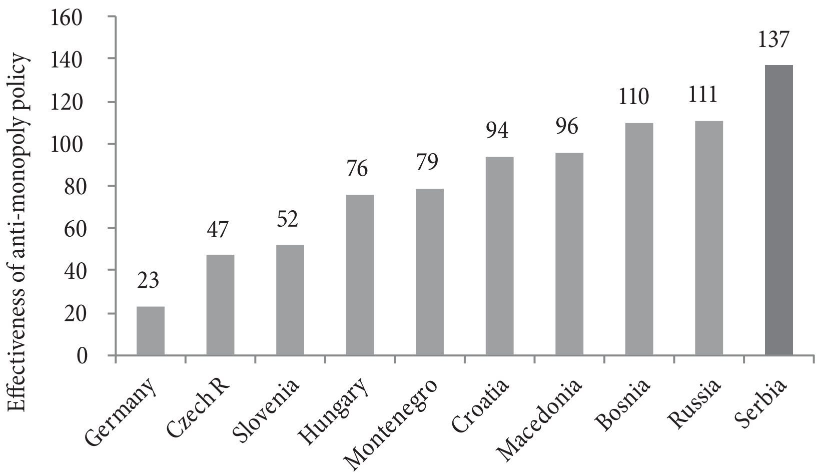
Source: http://www.kzk.org.rs/odluke/tipovi/povreda-konkurencije

Analysis of the effectiveness of anti-monopoly policy in Serbia

For the purposes of comparative analysis of the effectiveness of anti-monopoly policy, we have used the ranking indicators from the following sources: Global Competitiveness Report 2011-2012 [29], the Global Innovation Index 2012 [12] and Doing Business Report 2013 [28]. From these reports, we have selected a total of 15 indicators, which in some way reflect the competitive dynamics [21, p. 5]. One indicator relates directly to the evaluation and ranking of the effectiveness of anti-monopoly policy. Other indicators may in some way be related to market competition in the surveyed countries. These include: the existence of market dominance, the intensity of local competition, the rate of introduction of innovation, the room for cluster development and other. Our goal is to show which of the observed indicators has the highest correlation with the indicator of effectiveness of anti-monopoly policy in the surveyed countries.

Besides Serbia, the analysis also includes neighboring countries and a few developed countries in Europe. From the above listed reports, we first took individual rankings for each country according to the analyzed indicators. What we can notice immediately is that Serbia has the lowest ranking of the countries observed, when it comes

Figure 3: Effectiveness of anti-monopoly policy in the surveyed countries



Source: [29]

Table 2: Comparative analysis results

No.	Indicator	Germany	Czech R	Slovenia	Hungary	Montenegro	Croatia	Macedonia	Bosnia	Russia	Serbia	Correlating Effectiveness of anti-monopoly policy
	Effectiveness of anti-monopoly policy	1	2	3	4	5	6	7	8	9	10	
1	Intensity of local competition	1	2	4	3	7	6	5	9	8	10	0.93
2	Extent of market dominance	1	2	5	4	3	8	6	9	7	10	0.89
3	Global Innovation Index	1	3	2	4	6	5	9	10	8	7	0.87
4	Property rights	1	5	3	4	2	6	7	9	10	8	0.85
5	Judicial independence	1	5	4	3	2	7	8	6	9	10	0.84
6	Capacity for innovation	1	2	3	5	6	7	8	10	4	9	0.79
7	Prevalence of trade barriers	5	2	3	1	4	7	8	6	10	9	0.79
8	State of cluster development	1	2	3	6	9	5	8	4	7	10	0.75
9	Efficiency of legal framework in settling disputes	1	6	5	3	2	9	4	7	8	10	0.70
10	Ease of doing business	1	6	3	5	4	7	2	10	9	8	0.68
11	Regulatory environment	2	4	1	3	10	5	8	7	9	6	0.67
12	Business environment	4	8	2	5	6	3	1	10	7	9	0.38
13	Favoritism in decisions of government officials	1	9	7	5	2	6	4	3	8	10	0.33
14	Burden of government regulation	3	6	4	9	1	10	2	5	7	8	0.27

Source: Authors' calculations based on [29], [12] and [28] to the effectiveness of anti-monopoly policy (see Figure 3). It occupies the 137th place out of 142 countries observed. Further analysis has determined the origin of such a low ranking for Serbia and has identified the areas that need the most work in order to improve the effectiveness of Serbian anti-monopoly policy.

For the purposes of easier analysis and reasoning, we have restricted the ranking to 10 countries observed. The rankings taken from these reports were recalculated in the manner that the country that occupies the worst position according to the specified indicator gets the worst ranking 10. We have then performed correlation analysis for these rankings to determine which indicators have the strongest correlation with the effective implementation of anti-monopoly policy indicator in the countries observed. The results of the analysis are presented in Table 2.

After the analysis, we can conclude that from a total of 14 indicators observed, which reflect the competition and market dynamics to some extent, 9 have a strong positive correlation with the effective implementation of anti-monopoly policy indicator. This analysis confirms that the poor position of Serbia in relation to the effectiveness of anti-monopoly policy is not coincidental, and that there is ample room for improvement of the practice of the anti-monopoly commission in Serbia.

Is high concentration of market power always harmful?

The key question to be asked is – what is the source of competitive success of one company in relation to all other companies. In other words, is the source of a company's competitive success its competence, which is valued in the form of high market and financial performances gained through measures of fair competition, or is the source of its competitive success unauthorized practice which crowds the competitors out of the market, raises entry barriers in the industry and directly threatens the interests of final consumers.

Such an analysis requires in-depth approach to the effects or consequences of alleged violation of competition practice in terms of historical strategic dynamics between the competitors, cost trends, margins and selling prices, the companies' investment trends in research and development, marketing, capital goods and employees. Namely, if a company has invested significantly more money in the development of its businesses for years on end, and thus significantly improved its market position, the analysis of its alleged abuse of a dominant position must acknowledge that fact. At the same time, if the main competitors contributed to the strengthening of its market leader position through their own business mistakes, the leader cannot be charged with abuse of a dominant position and crowding the competitors out of the market. In other words, if competitors were not equally efficient competitors [9], the leader cannot be accused of crowding out competitors and abuse of dominant position.

Gaining leadership positions based on skills, knowledge, investment and risk taken is an appropriate reward for the company [11, p. 461]. Global anti-monopoly practice supports the idea that companies that have earned a dominant position retain the accrued value and are not inhibited in its creation. Economic reasoning lies in the idea of dynamic efficiency. Namely, dynamic effective anti-monopoly policy is the one that encourages companies to continuously invest in their businesses, to develop new products and services and to increase the efficiency of their transactions. This approach creates significant long-term benefits for the society in general. In the event of its absence, companies would not be motivated to invest and innovate. Perhaps a good example of this is patent protection in pharmaceutical industry, as a kind of legalized temporary monopoly, which in the short term is not in the interest of promoting competition, but in the long run stimulates large pharmaceutical companies to invest money in the development of new drugs.

A related question is whether it makes sense to apply carbon copy strategy in Serbia in terms of copying the European Commission practices. In fact, given the stage of the life cycle of Serbian economy and still fresh reflection of the privatization process, the question is who is responsible for the fact that there is a dominant player in almost every branch and is it possible to stimulate policy competitive fragmentation at this stage of the economy's life cycle and the narrowness of the market. In our opinion, each branch should be approached following the logics of a blank sheet of paper and see how radical trends (for example, privatization) influenced the creation of the current market situation. In other words, if the state has privatized a natural monopoly company or close to a natural monopoly company, is the purchaser guilty for becoming a dominant player in the market by purchasing the leader. Another related question is whether it makes sense to force fragmentation in certain branches, especially considering that narrow market, the logics of economies of scale and high entry barriers for investment allow only big players willing to take the risk to pass through the filter. Answers to these questions depend on the specific context of the business or industry being reviewed.

Also, in an attempt to answer this question we have used the logics of resource-partitioning theory. The essence of this theory is that there is a correlation between the growth of market concentration in mature industries and the emergence of a number of smaller specialists, which seems counterintuitive at a first glance [4]. This theory explains the simultaneous pairing of two trends within the same sector. General explanation is that generalists compete with heterogeneous resources while specialist position in the market by using homogeneous resources and that they are attracted by saturated markets dominated by generalists. A good example of how realistic this theory is can be found in the analysis of the beer market in the USA by Carroll and Swaminathan [3]. Namely, this study showed that the concentration ratio of the four leading companies in the sector rose from 10% in 1910 to 80% in 2000. In the meantime, a number of specialists or nichers appeared in the industry, covering the segments of micro-breweries, contract local breweries and small pubs.

If, for example, we observe the banking sector in Serbia, we can conclude that the level of concentration in this market has been on constant faster or slower growth path in the last ten years. Along with the impending consolidation of the banking market in Serbia [22], we can expect a higher level of specialization with the existing or new participants in the financial market.

The current situation in the banking sector is such that practically most players operate as universal banks, which means that they all offer commercial banking services to all groups of clients. Only Findomestic and ProCredit Bank are specialized to a certain extent, because the former operates mainly with private entities and offers them services and products specifically tailored for this retail segment, while the latter specializes in small businesses. The leading players (Intesa, Komercijalna banka, Raiffeisen, SoGe, Greek banks, Unicredit) are classic universal banks. Given the characteristics of the market (too small in scale compared with Western Europe, and the region), specialization has not been a rational option so far. An additional reason for this practice is the fact that they have invested heavily in the development of the branch network and if, for example, some banks decided to close the retail segment due to unprofitability, it would mean that a significant part of the investment was actually turned into sunk costs. However, a lot of pressure on the fixed costs side and drastically reduced amount of work since 2008 impose the need to explore all strategic options, including specialization, especially for smaller banks.

What are the possible directions of specialization? The organizational structure of banks follows two main lines: the type of client and the service/product that banks offer. Banks are generally divided into three major segments: Corporate (businesses) Retail (micro enterprises and individuals) and the Treasury (asset management, liquidity, FX, Money Market Operations and the like). The Corporate segment is further divided into Large, Middle and Small business, with the criteria being the turnover of the businesses and exposure of the bank to a particular client. The Retail segment is divided into the PI (Private individuals) and Micro Enterprises (entrepreneurs, shops, small businesses). The PI segment is further segmented into the so-called Affluent Clients (individuals with higher incomes or significant deposits) and Regular Clients (everyone else). Within each of the above listed groups of clients, there are specialized departments to deal with the development of products and services offered to these types of clients. Thus, for example, in Retail there are departments that deal with cash credits, then consumer loans, mortgages and the like. Then, in Retail, in the part related to Affluent Clients, there are Private Banking departments, which offer specially designed products and services to this group of clients, from loans and deposits, to managing their money in terms of advising on investments. In the Corporate segment, there are also departments that deal with Project Financing, Factoring, Trade Finance and the like. Specialization can occur on any of the lines listed above – that is, both according to the type of clients and according to specific products that are offered to a specific group of clients.

We should bear in mind the fact that the top banks in our market are foreign-owned and that strategic decisions about specialization should be made in their parent banks. This is important to note because most of these banks have already decided on their strategies. For example, Intesa San Paolo is the dominant retail bank in its domestic market and it would be logical to expect that their expertise in that part is premium and that they will try to use the know-how mostly in this segment. Another example is Sber bank, which acquired Volks International and will most likely primarily turn to financing infrastructure projects, where the Russians have their shares, even though they are primarily a retail bank in Russia.

In conclusion, the growth of market concentration and market power of individual players may not a priori mean restricting or crowding out competition, nor does it mean that this threatens the interests of the consumers in the long run.

Antitrust compliance programs

It is very important that all the employees in one company have at least basic knowledge and understanding of the anti-monopoly legislation and possible repercussions various practices can have on the position of the company itself. Except for a few multinational companies in Serbia, which automatically take their parent companies practices, other companies in Serbia do not pay sufficient attention to synchronizing their business practices with the good principles of competition protection. Many companies, including their legal departments, ignore the anti-monopoly regulatory risk, until the Commission for Protection of Competition becomes interested in the competitive practices of a specific company. And even then, many companies do not really understand what serious reputational and financial consequences can arise from the practices that directly or indirectly threaten or restrict competition in the market.

If companies are to develop antitrust compliance programs, they need to know what competitive practices are prohibited. From the perspective of regulation of competition, all the clauses in agreements can be divided into three groups: white, black and gray clauses. Based on this division, the decisions are made in terms of which agreements or clauses belong to block exemption, and which agreements or clauses are prohibited per se and are not exempt from the application of competition law [5, p. 138]. Black clauses are those relating to those agreements and practices that represent hardcore restrictions of competition. Black clauses generally involve practices such as price fixing, market division between competitors and bid rigging.

White clauses are those related to agreements or practices which are presumed not to prevent, restrict or distort competition in the market and are therefore generally in compliance with competition law [7, p. 50].

There are also clauses that are not prohibited per se (do not fall into the category of black clauses), but there is a possibility that in the particular circumstances they distort competition in the relevant market. These are clauses such as tying sales, blackmailing buyers to act according to our demand or there will be refusals to deal with such buyers, and price discrimination on different buyers of the same product or service. Such clauses are usually called gray clauses [6, p. 205] and require specific economic and legal arguments in order to prove in a procedure that they do significantly threaten competition in the relevant market.

Generally, recommended practices are the following. First, it is a participation in the competitive dynamics based on the skills and competitiveness, but without crowding out competitors or raising entry barriers in the industry. Second, promotion of honest and fair treatment of competitors, suppliers, customers and consumers. Third, encouraging contacting the legal department regarding those practices that can be regarded as a violation or threat to competition (whistleblowing) and the protection for those pointing to auspicious practices. Also, consultations with the legal department are recommended when preparing all important agreements or during the implementation of larger transactions (merger, acquisition, joint venture).

Practices that can be problematic from the point of view of anti-monopoly policy are as follows. First, it is not permitted to make agreements with competitors regarding prices, sales territory, customer base, distribution practices and exchange of information that may affect independent decisions. Second, it is not recommended to attend meetings with competitors at which prices are discussed. In such cases it is recommended to leave the meeting quickly and visibly to other meeting participants. Third, it is not permitted to try to harm a competitor by false statements about his products or services or other business practices. Fourth, any misrepresentation of products, prices and other characteristics of goods or business performance can be considered a violation of competition, but also misleading customers and end consumers. Fifth, it is advisable to be careful when communicating with the public and avoid statements such as "our new product will beat the competition" or "we will be able to raise prices whenever we want because of our dominant position in the market and high entry barriers." Sixth, industrial espionage and any other illegal channels to collect material non-public information about competitors are prohibited. Seventh, exclusive deal clauses should be avoided, especially to the extent where they significantly limit competition. Eighth, price, tariffs or rates fixing practices should be avoided at all cost, as well as an agreement to use the same pricing methodology, to limit the offer, and to postpone or abandon the introduction of new capacity to the market by one of the competitors. The practice of sending signals about what kind of pricing policy we are planning to lead in the near future is also problematic. Ninth, any resale price maintenance is illicit practice. Tenth, it has previously been stated that any division of market and customers among competitors would constitute black clause. The same goes for its version bid rigging by creating a virtual competition in a bidding procedure. Eleventh, we do not recommend collective boycott of an economic entity. Although the companies are allowed to choose who they work with, an agreement between companies to boycott the same customers is a prohibited practice. This would, for example, be an agreement between two manufacturers to boycott the same dealer who works with a third manufacturer in the industry. Twelfth, tying and bundling arrangements are not recommended. Tying is the situation when a vendor conditions the customer to purchase an additional product (tied product) if they wish to purchase their desired product. Bundling is the situation when a vendor requires simultaneous purchase of more products in a package, by offering a collective discount or rebate. Thirteen, pricing or promotional discrimination can be allowed if the categorized pricing conditions are known in advance to all categories of customers. Fourteenth, predatory pricing is not allowed. This is the practice of lowering prices below cost price, which wears the competitors out in the medium term. It is a practice usually used by larger competitors who have higher pricing umbrella and greater reserve to modify prices from other lines of business. Many other practices such as offering commercial bribery, intimidating competitors, suppliers or customers, and giving special incentives to dealers to exclude competitors from the range of products or services they offer are also prohibited or not recommended.

Each compliance program must emphasize that the above practices are prohibited or not recommended. Some unwritten rules say that a successful compliance program should have the following characteristics [27].

First, the program should have realistically defined goals. Many programs do not have clearly defined goals and a copy of the peremptory norms of the Law. It is very important to define user segments of such a program, i.e. whether they come from top management, sales operation or, say legal department. For example, clearly defined objectives of the program could be the education and training for sales staff, defining the relevant regulatory and reputation risks in the form of a special risk register and encouraging whistleblowing.

Second, the program should be justified from the perspective of the ratio between the expected effects and the costs borne. Good programs insist on personal responsibility and exposure, use the language of recommendation, as opposed to threats only, and identify anti-monopoly risks and real costs arising from a company's inadequate practice. Their core function is to make employees aware of possible consequences of their inappropriate behavior and actions.

As far as the costs for improper competitive behavior are concerned, they can be very high. If we consult the data from the US Department of Justice Antitrust Division, the fines paid in 2011 alone amount to over a billion dollars (see Figure 4). In 2011, one company alone, the Furukawa Electric, paid a fine amounting to 200 million dollars.

Third, a compliance program should be tailored to the specific needs of the company in question. Companies make a mistake by taking someone else's program, without any adjustments. Adjustments are important particularly in the identification of specific risks for a given type of company in a given industry. For example, for a company engaged in wholesale, specific risks are associated with contractual relationships with customers-retailers in the part related to formulating pricing and rebate policies, tied or bundle sales or giving free-on-loan refrigerators/freezers or racks. These, and other specific elements of business cooperation, should be included in a compliance program.

Fourth, the program should be supported by the top management of the company, not only in terms of verbal support, but also in terms of their active involvement in its implementation.

Fifth, the program should not be just a list of things that are prohibited. The program should include good practices that should be encouraged, especially in the area of fair treatment of the competitors, customers, consumers, suppliers and other relevant stakeholders.

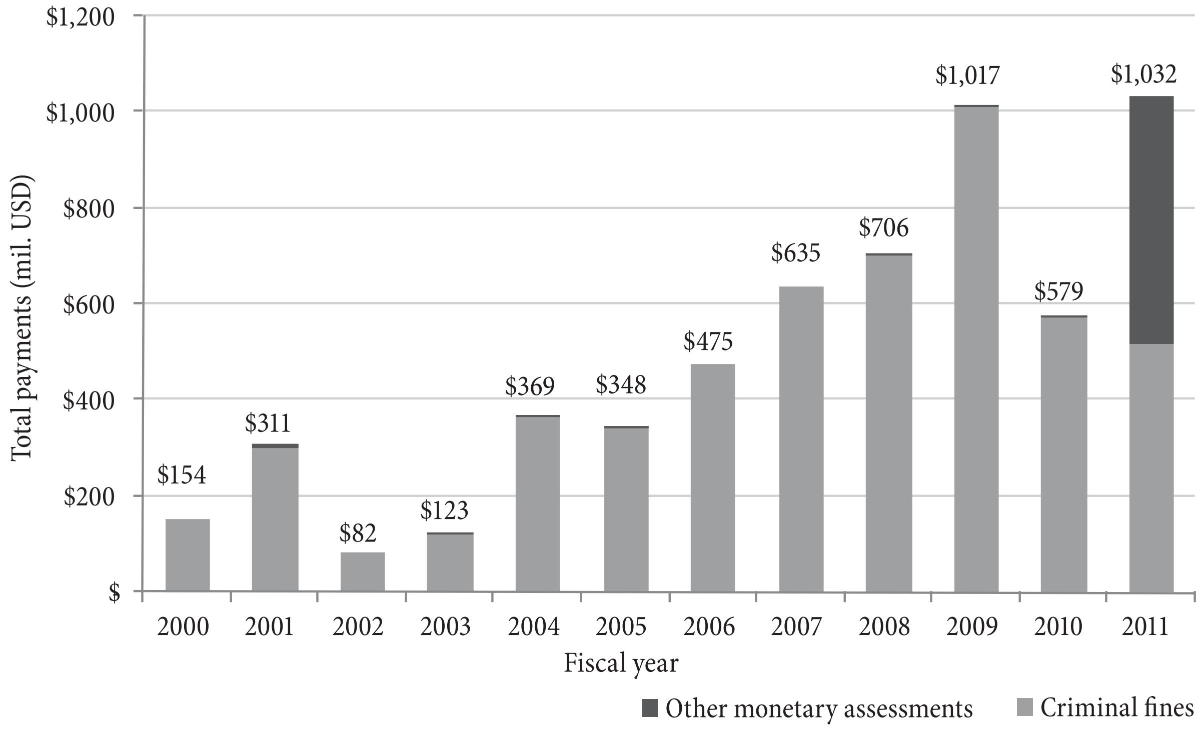
Sixth, the programs should reflect the multidisciplinary nature of the problem. It is a common mistake that compliance programs are written by legal advisors and that the economic assumptions and consequences of the practices which violate competition are completely ignored.

Seventh, the program should be written in plain language. Targeted trainings can help to clarify the doubts and uncertainties that employees may have in terms of what is allowed and in what situations such things may not be allowed. It is wrong to forward the program to the employees via circular e-mail, because this would then imply that the program bears no great significance for the company.

Eighth, the program should be supported by other company regulations, such as the rules on confidentiality, storage and archiving, email and Internet communication, the process of creating contractual clauses and the like.

Ninth, the program should be refreshed periodically due to changes in legislation and regulations or due to

Figure 4: Anti-monopoly fines in the USA



Source: [10]

changes in the competitive dynamics in the market. Periodical refreshments should be used to send a clear message to the employees that the program is extremely important for the company.

Tenth, the program should be sent to all the employees and be signed by all the employees. This gives it a higher profile and makes it more likely for the employees to read the document carefully and request clarification of relevant items.

Although compliance programs will not reduce the penalty due to possible distortion of competition, their value lies in preventing such things from ever happening [8]. On the other hand, the Commission should take as a mitigating circumstance the fact that the company had a compliance program that was not observed by one or more employees, although the company may not be relieved of responsibility due to the fact that it chooses its employees, gives them the authority to make appropriate decisions and monitors compliance with internal procedures [23].

The process of introducing a compliance program requires education and training in the first place. Commonly, the first step is to have an initial workshop with the top management and key employees. The aim of the initial workshop is to raise awareness of anti-monopoly risks and the consequences of their neglect. This is a good opportunity for everyone to get acquainted with all the key provisions of relevant legislation, jurisdiction of the Commission for Protection of Competition, allowed and prohibited practices in the field of cooperation with competitors, relationship with the suppliers and customers, pricing policies, and imposing the exclusivity principle.

The next step is to analyze the existing practices of the company and how adapted it is to the requirements of legislation. For example, the analysis may show that some of the contractual clauses that the company signs with its customers are problematic in terms of price discrimination, rebates or predatory pricing, which may indicate the need to correct the pricing policies and subsequently to adjust standard contracts.

The third step is to introduce regular reporting practices in the field of competition protection that would result from regular audits of the application of the compliance program. It is very important that there is an internal mechanism for reporting auspicious practices and that there is protection for the individuals pointing to such a practice.

Conclusion

The analysis of the anti-monopoly practice of our Commission has led to the following conclusions. First, the Commission is predominantly exhausted by the cases of approval of concentration, and quite often ignores cases of abuse of dominant position and restrictive agreements. The Commission should devote more attention to cases involving the abuse of a dominant position, and the detection and prevention of cartel agreements. Second, the Commission's good practice is the implementation of sector analyses. Namely, since 2009, the Commission for Protection of Competition has carried out, directly or through independent institutions, sector analyses, which allow it to monitor the situation in individual markets continually and systematically and, if necessary, to respond in a timely manner. Third, the Commission still lacks the employees skilled in economics. The existing economists in the Commission are still deeply overshadowed by the hegemony of the lawyers. However, the domination of legal interpretation of the economic analyses is not sufficient to defend the decisions in legal procedures before the court of law. On the other hand, the Commission's decisions do not comprise sufficiently deep analysis of the economic effects of the alleged prohibited practices. The decisions made by the Commission show that they greatly focused on the intent or aim of the companies to distort or limit competition, and much less on measuring the effects of the alleged anti-monopoly practices. Also, the Commission has not executed postmortem analysis of its decisions, i.e. analyzed the effects the application of its measures on the competitive dynamics in a particular market. Fourth, the transparency of the Commission's work has increased significantly, although there is still room to improve in the area of sharing important information with the public. Fifth, the Commission has been extremely active in terms of international cooperation, which should be further intensified given the fact that our practice in the area of competition policy is quite limited when compared with the developed countries of the world. Sixth, the Commission, although occasionally dissatisfied with the work of the courts, is not sufficiently active in initiatives to carry out special training for the judges of the Administrative Court who will be deciding on matters relating to competition protection. Seventh, the Commission does not show activism in promoting the development and implementation of the antitrust compliance programs of the companies.

Along with the previous analysis, we have also performed the analysis of the effectiveness of anti-monopoly policy in Serbia by observing standard indicators used by relevant international institutions. In terms of the effectiveness of anti-monopoly policy, Serbia occupies the 137th place out of 142 countries observed, which is quite worrying. After further analysis which included 14 indicators, we concluded that Serbian positions according to most of these indicators are very unfavorable. In other words, objective competition indicators confirm that the anti-monopoly policy in Serbia has been ineffective so far.

The third question discussed in this paper dealt with was related to anti-monopoly practices of the companies operating in Serbia. Except for a few multinational companies in Serbia, which automatically take their parent companies practices, other companies in Serbia do not pay sufficient attention to synchronizing their business practices with the good principles of competition protection. Many companies, including their legal departments, ignore the anti-monopoly regulatory risk completely and do not have antitrust compliance programs. The paper presents the arguments in favor of introducing these programs. Although compliance programs will not reduce the penalty due to possible distortion of competition, their value lies in preventing such things from ever happening. The process of introducing compliance programs requires education and training for the employees, an analysis of the existing practices in the company and its adaptation, as well as introducing regular reporting on the practices in the field of competition protection, which would result from regular audit of compliance programs.

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PRIORITIES IN COMMERCE AND TOURISM DEVELOPMENT POLICY

Prioriteti u politici razvoja trgovine i turizma

Abstract

The status and key operational challenges in Serbian commerce and tourism sector have been diagnosed in this paper. In last decade, these sectors have been the most resilient part of the whole economy, achieving above average performances. Their participation in the structure of GDP and total employment are constantly increasing. Both sectors, in principal, reflect the overall transition of Serbian economy and confirm the global tendency of strengthening the tertiary sector of the economy through its development. It is pointed out that a large part of the scientific and political circles have little or no understanding of the role of the commerce and tourism sectors and their importance to the overall economic and social development. In particular, the paper focuses on the argument that the positive development of two sectors has not threatened reindustrialization in Serbia. On the contrary, achieved development in these sectors had multiple positive effects on the industrial and agricultural development, as the important sectors of the economy. The analysis points out that the future positive effects of commerce and tourism will even more come out, especially after the elimination of apparent structural problems in the functioning of these sectors. The causes of neglecting the industrial and agricultural sectors should be sought in the wanderings among the many mistakes that were made in the privatization process as well as in the industrial and agricultural policies. At the end of this paper, the key proposals for the further dynamic development of commerce and tourism are given, with the conviction that they will have a positive influence on the overall economic and social development.

Key words: *economic sectors, service sector, commerce, retailing, tourism, hotel industry, market, competition, trade policy*

Sažetak

U radu se dijagnosticira stanje i ključni problemi u funkcionisanju trgovinskog i turističkog sektora privrede Republike Srbije. Naglašava se da su u poslednjoj deceniji posmatrani sektori bili najvitalniji deo ukupne privrede i da su ostvarene iznadprosečne performanse. Njihova učešća u strukturi bruto domaćeg proizvoda i u ukupnoj zaposlenosti stalno su u porastu. Posmatrani sektori u velikoj meri odslikavaju i ukupne procese tranzicije privrede Srbije i u velikoj meri potvrđuju zakonitosti u njihovom razvoju u sklopu jačanja tercijarnog sektora privrede. Ističe se i veliko nerazumevanje u određenom delu naučne, a posebno političke, javnosti po pitanju uloge i značaja trgovinskog i turističkog sektora u ukupnom privrednom i socijalnom razvoju. Posebno se apostrofira teza da pozitivan razvoj navedena dva sektora nije ugrožavao reindustrijalizaciju u Republici Srbiji. Naprotiv, ostvareni razvoj navedena dva sektora imao je višestruke pozitivne efekte na razvoj industrijskog i poljoprivrednog sektora privrede. Ističe se da će u narednom periodu dati efekti u još većoj meri dolaziti do izražaja, a naročito nakon otklanjanja izloženih strukturnih problema u njihovom funkcionisanju. Uzroke zapostavljenosti industrijskog i poljoprivrednog sektora privrede treba tražiti u lutanjima i brojnim greškama koje su učinjene u procesu privatizacije i vođenju industrijske i poljoprivredne politike. Na kraju se daju ključni predlozi za dalji intenzivniji razvoj trgovinskog i turističkog sektora, što treba da ima multiplikativne efekte na ukupan privredni i socijalni razvoj.

Ključne reči: *ekonomski sektori, uslužni sektor, trgovina, maloprodaja, turizam, hotelijerstvo, tržište, konkurencija, trgovinska politika*

DIAGNOSIS AND PROPOSALS FOR THE FURTHER DEVELOPMENT OF SERBIAN COMMERCE SECTOR

Among the most challenging problems in Serbian economy transition, the development of modern market economy stands out. We are witnesses that even the authorities of the European Union are preoccupied with the constant search of how to improve further market functioning and how to provide a clear vision of achieving a higher level of competitiveness and hence, higher economic growth and new jobs. Therefore, it is very important to make an accurate diagnosis of the current situation in Serbian economy and point out the basic guidelines for future development of the commercial sector in a process of building a modern market economy.

Approaching to the analysis, it is important to emphasize that commerce in total, and retailing in particular, have a key role in the development of market economy. Problems of commerce are at the same time problems of market functioning, and vice versa. Unfortunately, this thesis is not fully recognized in the current stage of transition. Having in mind the given concept, in this part of the paper we outline the following key statements:

- Commerce, and hence retailing, is treated by the politicians and public audience unfavourably, and wrongly in general;
- Commercial sector fully reflects numerous problems of Serbian economy and market; and
- Clear vision and guidelines, outlined in the "Strategy of the commerce development of the Republic of Serbia", adopted by the Government of the Republic Serbia, have not been followed [11].

Given the presented evaluation, we can assert that plenty of room for debate and a radical change in approach to the commerce sector in Serbian economy are opening.

The need for quite different approach to the commerce sector in Serbian economy

Misunderstanding of the new role of commerce (especially retailing) in the overall economic and social development

We have witnessed extremely negative attitude towards commerce and the commercial sector of the economy for a long time. Commerce, especially retailing, is treated as the main culprit for all the troubles in the economy and society. Any increase in prices of food or other products has been automatically attributed to retail. There is no objective analysis of this sector as it has been approached mainly from the pseudo-scientific and socio-demagogic points of view. The function of commerce and retailing in modern market economies is treated in a wrong way. Thus, it is essential to reveal the new role of commerce in modern economy from the scientific standpoint, and of course, to develop objective criticism of this sector.

Authors of this paper had opportunity to point out the new role of commerce in several other situations.[1] It has permanently been highlighted that a kind of commerce revolution is taking a place, changing completely the functions and position of commerce in the entire economic and market system. Unfortunately, this new approach has been received with reluctance in Serbian scientific and political circles. Furthermore, we have witnessed entirely non-scientific and non-professional approach to commerce, while new networked economy has been developing worldwide. This is particularly the case with the retail sector, which is changing significantly, taking over some vital marketing functions.

Retail actors on contemporary market are facing the big challenges that have emerged just recently. Internet appeared, generating different modalities of electronic commerce aligned with the globalization of retail activities, emerging new technologies and, particularly, ICT, transforming completely all phases of the market process. The fact that, for example, retail trade is the second employer in the USA, convincingly confirms its importance [4, p. 3]. Official acts of EU Commission stress that "the retail sector is driver for growth, competitiveness and jobs in Europe and plays a key role in reaching the goals of the EU 2020 strategy" [3, p. 17]. Further, it is stated: "the retail sector is a pillar of the European economy" [3, p. 12]. It is of a particular importance that "retail services act as a link between a multitude of upstream

1 Readers are advised to see new publications: [10], [12], [13] and [14].

and downstream markets, making it a key player in the European economy" [5, p. 3].

Therefore, it is certain that contemporary market asks for an entirely new role of commerce in economic and social development. In addition to traditional intermediary functions, commerce and retail in particular, are taking over a vast number of service and even manufacturing functions. The most important of these functions include financing, risk taking, sorting and product development, manufacturing standards improvement, marking products, marketing data collection and analysis.

Numerous factors of market development and functioning have contributed to strengthening role of retail in marketing channels. Taking into account its importance, however, the following factors stand out: "average retailer growth and consequently, increase of theirs buying power, intensive development and implementation of sophisticated advanced technologies, and, development and implementation of new marketing strategies" [18, p. 62]. It is to be emphasized that the commerce (especially retailing) is a driving force of market economy, so that blocking this sector inevitably leads to the collapse of the economy. Modern approach to retailing points out its role in enhancing customer value proposition. In that respect, modern retailing is defined as "set of business activities that add value to the products and services sold to the customers for their personal or use in their households" [9, p. 3].

New role of retailing in the integration of economy and inflation combating

It is well known that retailing directly integrates all marketing channels stakeholders from the manufacturing to final consumption. Retailers directly interact with final consumers. Retailers, depending on which functions they are performing, directly influence the quality of citizens' life. Retailers are taking an increasing responsibility for the final consumer's behaviour, becoming driving force of the economic development. In order to provide right "offer package", retailers maintain (inter)active relationships with a great number of stakeholders in global supply chains. Particularly, they maintain good relationships with the manufacturers, wholesalers and distributors, employees, real estate agencies, transport and logistic companies, banks and insurance companies, promotion and marketing agencies, security agencies, energy providers, etc.

Retailers and other marketing channel stakeholders create value for consumers through the exchange process that enables acquisition, spending and disposition of products and services. When it comes to consumer goods, the fact is that retailers act as a key player in marketing channels. The exchange paradigm is increasingly being replaced with the network paradigm. The theories of exchange that served marketing well for 40 years are giving a way to relational concepts [1].

Retail sector development has an automatic direct and indirect influence on other economic sectors and stakeholders. Modernization and growth of retail sector directly spill over to other sectors of an economy. Multifunctional and interactive nature of retail sector requires a complex approach to the development of policy and legal framework of retailing. This sector should not be considered only horizontally, but rather focusing on entire marketing channel and its participants.

Retail sector modernization and development encourage horizontal and vertical competition and directly contribute to combating inflation. Retailers in developed marketing environment are forced, but also motivated to provide better offer of goods and services to consumers at the lowest possible prices. In this way, retailers enable consumers to benefit from a kind of consumers' budget re-allocation and access to a wider choice of goods and services, which directly stimulates innovations and economic growth.

In the era of economic crisis and stagnation, retailers are implementing exposed policy and way of doing things in their operations. Hence, it is important to understand their need to permanently search for new opportunities to achieve economies of scale and economies of scope. The new business models, based on concentration and vertical integration and aimed at enhancing a negotiating power of retailers and introducing new retail formats and other innovations, are constantly emerging in the market environment. Research literature reveals that modernization of retailing sector contributes to the consolidation of manufacturing sector and of others stakeholders in the marketing chains, especially those in logistics and real estate sector. Productivity and efficiency improvement in vertically integrated chains achieved by retailers, developing new discount formats and own label, directly contribute to the inflation decrease and overcoming the economic crisis.

According to new modern model of retailing, it permeates the whole relationship between marketing channel members. Entirely new retail strategies are developed based on presented tendencies matching the increased channels complexity and phenomena such as inter-organization relationships, brand management, relationship marketing, CRM, etc. In this new model, an explosion of interest in relationship marketing is arising, becoming "core business activity directed towards setting up, improving, and maintaining successful relational exchanges with consumers, suppliers and even other businesses" [2, p. 585].

New retail business model, based on horizontal and vertical integrations and concentration, has doubtless positive effects on the entire economic and social growth. It, however, raises many questions in EU countries, but also in transitional countries, like Serbia, which are faced with the basic challenges of market economy development. New model of retailing business addresses new challenges from the local and regional development issues, to the position of consumers, small independent retailers, small and medium-sized farmers and agro-processors, employees and other stakeholders.

Diagnosis of the commerce sector in the Republic of Serbia

Vitality of the Serbian commerce sector

Serbian commerce sector is the most vital and resilient part of the economy. However, it is still in transition, like the other parts of Serbian economy. In last ten years, growth rates of the commerce sector were the highest, in comparison with other sectors. As a result, commerce share in GDP increased from 7% in 2002 to 11% in 2010.[2] The wholesale sector share in the structure of added value is the highest (42.3%), followed by retail sector (35.2%) and automotive sale and repair (22.6%). In this period, commerce increased its share in employment from 14.7% to 19.4%. Namely, each fifth employee in Serbia works in commerce.

Number of commerce enterprises that submitted annual reports for 2010 was 33,774. Namely, 43% of Serbian enterprises belong to the commerce sector. At the same time, 8,958 entrepreneurs in commerce were registered, accounting for 43.3% of the total number of entrepreneurs in Serbia. Participation of the entrepreneurs from the commerce sector in the total number of employees is lower and amounts to 34.4%.

Sale network in commerce consists of the 96,918 outlets, which is 7,000 outlets less than it was in 2008. Total retail space in 2009 was 4.4 million square meters, i.e. around 0.60 m^2 per capita. By comparison, in the EU it is over 1m^2 of selling space per capita. Modern retail formats like supermarkets, hypermarkets and cash and carry centres in Serbia achieve over 35% of the food products turnover, while in the EU countries it is over 80%.

The most intensive privatization tendencies were present in commerce, compared to other sectors of the economy (besides financial institutions). Foreign investors showed a great interest for commerce. The evidence of FDI in commerce has been confirmed by the fact that the biggest amount of foreign direct investment actually happened in the retail sector.

This vitality and attractiveness of the commerce sector are evident in the other East European countries that have finalized their privatization and the transitional processes and have already become EU members. The same tendencies characterise the retail sector in Serbia as well.

Lack of vision in the sector of commerce development

In recent period, there have been certain attitudes in Serbian academic and professional circles asserting that explosive growth of commerce sector tend to jeopardize the process of re-industrialization. This kind of speculation is wrong and as it hasn't been proven in research literature, nor in real evolution of developed markets. On the contrary, evolution of market indicators supports the thesis that modernization of the commerce sector has multiple

2 all data quoted from [15] and [23].

positive influences on the manufacturing and agricultural sectors. The answers to the question why manufacturing and agriculture sectors in Serbia have not been developed are to be found in the processes of privatization and sectors policies.

Intensive transformation and development of the commerce sector has been expected and has been foreseen in the Strategy of commerce development in Republic of Serbia [23]. Many suggestions that stem from the Strategy were embodied in the institutional framework that regulates market, trade and consumer protection. Unfortunately, full implementation failed in some stage, so that changes were made spontaneously and without clear vision and development policy. That led to the deepening of some structural problems in the commerce sector.

Under the influence of exposed quasi-scientific attitudes, supported by some political actors, many misunderstandings and controversies about the commerce sector manifested. These attitudes have absolutely nothing to do with the suggestions from the Strategy that emphasized commerce as an "engine" of manufacturing and agriculture development. Commerce was marked as the major culprit for economic and social problems. In order to avoid any confusion, authors of this paper do have list of critical remarks on the commerce performances and it will be elaborated in further analysis. But before that, it is important to reject traditional approach to economic and social development, which does not take into account market environment and active role that commerce has in it.

Experience shows that each attempt to replace command-based economy by market aligned with the suspension of middlemen freedom to act, could not resolve very complex problem of matching supply to individual personalized demand. Experience shows convincingly that state intervention cannot replace the market and that limitation of middlemen independence does not help to control market costs, i.e. efficiency of the channel between production and consumption. The practices such as adoption of regulation on fixing middlemen margins on food articles, without an adequate analysis, convincingly show the inefficiency of administrative measures in regulating market relationships. Arguments were clearly presented at the moment of regulation adoption, showing that fixing margins is an obsolete instrument in the market environment and that it will cause counter-effect harming market relationships.

Structural problems of Serbian commerce

Without a clear vision of development and vast number of ad hoc decisions, structural problems in the development and operations of the commerce sector are an inevitable output. It is possible to identify the following structural problems:

- Excessive number of commerce actors in all phases of marketing channel;
- Insufficient level of concentration, consolidation and integration of the wholesale and retail sectors of the economy;
- Overemphasized development of the wholesale sector compared to the retail sector. As an illustration, on one retail enterprise there are more than four wholesalers. In average market economy, this proportion is the opposite, usually in the range 1:3 in favour of retailers. However, this analysis does account for numerous retail entrepreneurs, but that fact does not put in question the above-mentioned deviation;
- Inadequate development of distributive and retail network space, bearing in mind macro and micro locations;
- Overemphasized number of small shops;
- Absence, in sufficient proportion, of cash and carry centres in wholesaling and discount outlets in retailing;
- Absence of small middlemen enterprises and entrepreneurs protection of any kind, so that they are left completely to the market; and
- Own-label and electronic commerce underdevelopment.

The aforementioned and similar structural problems cause many negative effects in everyday operations in commerce sector. The result is visible or invisible barriers to enter the market, insufficient competition among the market middlemen and low level of efficiency and profitability. It can be said that commerce (especially retailing) is still not capable of fully performing all the tasks in the process of connecting industry and consumers on the market and it is still far away from playing the major, "driving engine" role in the process of revitalization of Serbian economy.

Importance of cross-sector and multifunctional character of the commerce understanding

Commerce is diversified business sector that affects many points in economic and social structure. In order to develop a clear vision and define commerce development policy, it is necessary to identify differences in following segments of the commerce sector:

- *Urban and rural commerce.* The fact is that market cannot adequately regulate development and operations of commerce in rural and underdeveloped areas. Thus, it is necessary to support retailers that cover these areas. Simultaneously, in urban areas, on daily basis, specific issues emerge that request active state involvement in order to be solved;
- *Food and non-food retailing.* There are notable differences between two sectors, based on the consumer treatment of its core assortment. It is important to know that negative market deviation effects hurt food retailing more than the non-food sector;
- *Huge and small shops.* There is big difference in the potential for achieving economies of scale in big objects, in comparison with the small ones. These differences generate external effects, like different cost level and structure, benefits for the consumers, etc. Appearance of big shops can influence the competition, which might require intervention by regulators. On the other hand, small shops might need some conditions that are not necessary for the big ones;
- *Big and small commerce enterprises.* It is obvious that interests of big and small businesses are different. Large companies often seek the support for the investment activities (tax reduction on investments, in general or for special areas). Small enterprises usually need support for daily business (lower interest rates for the IT equipment, grants for the staff training); and
- *Local and foreign commerce enterprises.* In this area, key questions are concerning profit destination, relationships with the manufacturers (suppliers), local or foreign management, etc.

Cross-sector nature of commerce is also evident, particularly given that similar managerial methods are used in product and services commerce. Modern retailing offers more and more services, such as financial, tour-operating, (para) medical and others. Awareness that the commerce sector stretches across several sectors leads to understanding of the changes. Some subsectors are innovative in different ways, they show changes under different market conditions and so, lead to differentiated expression of a vast number of stakeholders' interest.

Proposal of the platform for key solutions

Starting point for the new key orientation is that state regulators should intervene only if it is in the public interest and when the consumer rights are threatened. The current crisis is obviously threatening the public interest. State intervention in the commerce sector should follow the next principles:

- To encourage new development of commerce that will not cause public expenses, i.e. to provide the mechanism for active management of the development of new commerce on new locations;
- To provide all groups of consumers with equal access to commerce (retail) services. In general, market complies with this requirement, but in some cases it is necessary to undertake intervention in order to protect some minority consumer groups;
- To limit appearance and misuse of dominant position in commerce (especially, retailing). It is well known that monopolistic position generates extra-profit at the expense of other actors;
- To limit inequalities in market power of certain actors in the supply chain, i.e. prevention of the situation in which some of the participants take advantage over the others in marketing channel; and
- To provide relatively harmonized and fair relationships among the market players, and particularly, relationships with consumers.

In order to implement the presented solutions, it is important to take into consideration the following:

- Experiences from the international theory and practice, and especially of EU countries and the countries that have successfully carried out the transformation of commerce as well as the process of transition of the entire economy;
- Clear orientation toward development of the modern market economy and modern commerce in the Republic of Serbia;
- Current level of the Serbian commerce development with its structural and operational problems;
- The need for an intensive modernization and structural transformation of Serbian commerce in accordance with the European Union model;
- The need for integration and harmonization of Serbian commerce and the whole economy with European and global trends;
- Incentivising foreign commerce enterprises to enter Serbian market; and
- Incentivising local chains to develop their formats over the national borders.

Key principle should be as high as possible level of liberalization in the commercial sector and as high as possible level of competition among trade partners. Intervention should be in favour and not against the market, except in the situation when spontaneous development departs from the above-mentioned key principles.

Key solutions proposals

Definition of a clear vision for the competitive development of the commerce sector

In this stage, it is necessary to have radical turnaround in respect to the commerce sector and its role in economic and social development. State administration needs to adopt the attitude that commerce, and retailing in particular, is the key driver of the economic growth and competitiveness on the local and international market. Commerce is an important factor in social problems resolving, and, particularly, it is a respectable employer in the labour market. The role of modern retailing is to provide efficient buying experience and diversified offer to consumers. Not only to consumers, but also to other stakeholders, including manufacturers and farmers, financial institutions, logistics providers, builders as well as the other business and non-business actors that are interested in the retailing development. The fact is that no other sector of the economy is so interconnected with the different stakeholders, as is the case with the retailing.

Key principle of all state institutions as well as the business actors should be to provide more efficient, more equal and fairer operations of retail market in the interest of consumers and all other stakeholders. Manufacturers and retailers clearly play a crucial role in enabling more efficient, transparent and balanced retail market.

State institutions should perform an entirely different and fully proactive role in the confirmation of the retailing mission in cross-sector economic development. Retail sector should have key enabling role in the Serbian market. On the other hand, state institutions should be more responsible for the retail sector. These institutions should be active in the process of institutional development in order to provide efficient, transparent and balanced market operations. General rules on the national market should provide free flow of goods and services on the entire market of the Republic of Serbia.

Mission and vision of the competitive commerce development is of the interest not only to state institutions in charge of commerce, but also to the state institutions in charge of manufacturing sector, agriculture, financial sector, and other business sectors. Also, this should be of interest to the state institutions accountable for ecology, social policy, etc. Relevant stakeholders also include local governments, retail and business associations, as well as the non-profit associations and institutions.

New solutions and incentives

Clear vision and national consensus should be a starting point for defining the key solution proposals for the new role and status of the retail sector in overall economic and social development. Proposals should take into account interests of all relevant stakeholders, and especially consumers and manufacturers. National rules should comprise wide institutional regulations on free flow of the goods and services, such as regulations on the quality and packaging of goods, obligations, financial services, electronic commerce, entrepreneurship and, above all, unethical activities. Using statistical tools and national information systems can help to ensure market transparency and provide consumers, traders, manufacturers, and other stakeholders with the possibility of comparing prices of goods and services. Based on the presented, following measures and solutions are proposed in order to achieve more competitive retail sector of the economy:

- Key measures should be directed towards removal of all barriers to free flow of goods and services on Serbian market. It means that free entrepreneurship, competition, and consumer protection should be supported;
- In transitional countries, the priorities must be given to stimulation of small enterprises development, urban regeneration, environment protection, small corner shops protection etc. A vast number of measures and solutions should be directed towards easy and free retail business development. Set of solutions and measures are to be undertaken in the area of small retail enterprises and entrepreneurs development. The measures are as follows:
    1. Support to easier establishment and development of new commerce businesses;
    2. Promoting changes in management of the existing small commerce companies in order to increase their profitability;
    3. Providing information on good business practice and benchmarking in commerce enabling comparison among companies;
    4. Provision of incentives for investment;
    5. Encouraging education and training programmes in order to increase creativity and capabilities of the employees in commerce;
    6. Provision of an adequate financial support to small enterprises in commerce along with the tax reliefs;
    7. Provision of the support in the area of retirement and health insurance for small retailers;
    8. Providing assistance to entrepreneurs, particularly in well-defined urban areas, in the process of obtaining credits for financing their key projects and locations. Here, giving some discounts on the full price of development space is important;
    9. Incentives for empowering creativity of entrepreneurs in order to develop e-business, and especially, e-commerce; and
    10. Provision of support in the area of integration or business cooperation of the small enterprises, and particularly support in development of the franchising. Research literature shows that firm cooperation and connections contribute on average 3% increase of profit margin for all participants in the integrated supply chains [9, p. 265].
- Spontaneous development very often does not provide optimal spatial distribution of the logistic and selling capacities. On the contrary, it can put some retailers into monopolistic position or jeopardise the equal rights of some consumers to enjoy retail services. As an illustration, it is enough to recall huge differences in the development of retail network in urban vs. rural and less-developed areas. There are obvious differences in retail formats, their size and location. Even in urban areas, older, or socially disabled individuals from central parts of the city not possessing a car, do not have access to big box retailers or shopping centres offering low prices and better services and assortment. In many situations, different interests of different segments can be identified in considering different retail formats. These arguments lead to the understanding that planned approach to the retail network spatial development is necessary. That is why it is suggested to local, regional or city authorities, to incorporate in planning documents modern solutions, well known in urban planning of the commercial capacities. By using this planning process to prevent monopolies and lack of competition in certain territories, it will be possible to enable full level of consumer service and diversification of the retail formats;
- New solutions and measures should stimulate electronic commerce development. This issue is very important for the development of competition and multiple marketing channels. Global statistics

show that in 2011 electronic commerce participated in turnover 13%, taking into account enterprises with 10 and more employees. Also, it is interesting to notice that the share of final consumers using Internet for the shopping increased from 20% to even 37% in European Union [16]. In Serbia, electronic commerce and the multiple marketing channels are at the very beginning stage of development;

- Technology innovations in the process of retail sector modernization should be stimulated in the future. Modern IT and data exchange should be stimulated as a priority, including scanning, computerized stock management based on hand held devices, RFID technologies, smart phones and the other Internet based technologies[18, pp. 90-94];
- In order to successfully cope with the foreign competition, and in order to achieve better efficiency level in retail sector, it is necessary to stimulate horizontal and vertical integration in marketing channels. This process should enhance efficient and effective value creation and consumer needs satisfaction [20]. Retailers and their suppliers are becoming partners more and more, creating superior network for the value adding and delivering to the consumers in global market;
- It is important to stimulate a further internationalization of the retailing sector through different measures. The fact is that modern retailing is a global industry [9, p. 11]. Knowing that, it is good to encourage the entrance of global retailers in Serbian market, but also the development of national chains in other markets;
- It is important to stimulate own label development in order to create more competitive retail market. This strategy provides many rationalizations in distributive chain, enabling that products that are competitive in price and quality come to the market;
- All solutions and measures should be directed to encourage free and fair competition, freedom in making business contracts and business environment suitable for the implementation of these contracts. Commission for Protection of Competition should perform a critical role in this respect, providing the protection to smaller businesses against the unfair conditions imposed by big retailers or manufacturers;
- The last but most important proposal is directed to the Ministry that is in charge of the commerce. It should have proactive rather than passive observing policy in order to create a proper competitive structure of the market. Pre-condition for this role of the Ministry, but also for enabling proper functioning of the above-mentioned Commission for the Protection of Competition is developed information system as the resource necessary for decision making. This IT system should enable proper cost analysis, processes of value creation, turnover, prices, margins, etc. Only with this data, it is possible to run proactive and healthy policy for competition enhancement.

At the very end of this part, it is important to understand that process of modern market creation and fair competition among traders could be very lengthy. It is rather sensitive task to build a modern market, especially bearing in mind retailing and its role on the market. It is clear that retailing deserves new approach in government development policy and policy toward increase of national competitiveness. Annual conferences on retailing and marketing channels would be very helpful and almost necessary, especially when it comes to food retailing and agriculture. All key stakeholders should participate and discuss market problems, have access to publicly prepared and available data, as well as propose and discuss key development decisions.

NEW CYCLE OF TOURIST SECTOR DEVELOPMENT

Global tourism trends

Global trends in tourism development are positive and they are improving after a slight stagnancy due to the economic crisis in 2008 and 2009 [7]. The number of international tourists worldwide grew by 4% in 2012, compared to 2011, reaching 1.035 billion, according to the UNWTO World Tourist Barometer [29].

With an additional 39 million international tourists, up from 996 million in 2011, international tourist arrivals surpassed 1 billion for the first time in the history in 2012. "This growth is a very positive result in view of the global economic situation. We must remain cautious, however, as we have also observed some weaker months during the year, a trend that might return in the remainder of the year," said UNWTO Secretary General, *T. Rifai*. Despite the volatility of international economy, tourism sector managed to remain stable with the prospects for a modest rise in the future. This forecast is confirmed by the UNWTO Confidence Index, compiled poll of opinion among over 300 experts worldwide, which shows 124 points for the 2013, compared with 122 for the 2012.

UNWTO expects growth of 3% to 4% for the year as a whole, while forecasting a slight slowdown in demand for 2013 (+2% to 4%). However, it is necessary to notice that forecasts from UN WTO are always moderate and usually outreached later on. This statistics is, however, incomplete, since the system of UN WTO statistics does not present domestic tourism indicators. This lack of information is recognized and there are some activities in order to fill this gap.

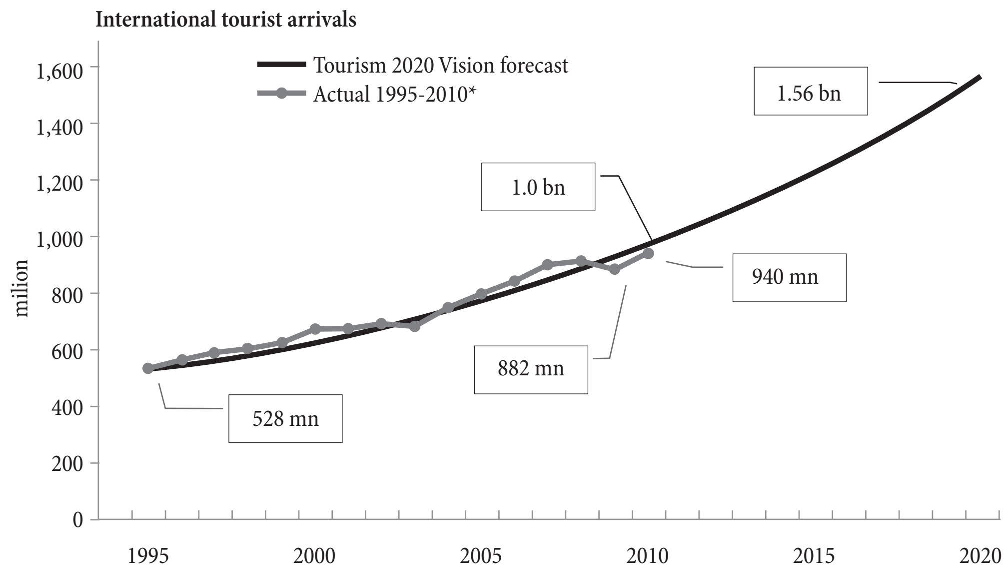
In 2011, receipts from international tourism, including international passenger transport, (exports from tourism) totalled US$ 1.2 trillion or on average, tourism generated 3.4 billion USD daily. With this turnover tourism sector, including traffic and accommodation receipts, generated close to 6% of the world's exports of goods and services, or 30% of the world's export of services. Tourism is globally ranking as the fourth export sector, only after fuel, chemical and food [28]. One of the twelve jobs, worldwide, is connected in some way with the tourism.

Among the major destinations with positive trend there are Hong Kong (China) (+16%), the USA (+10%), the UK (+6%) and Germany (+5%), with some new, emerging destinations, like Japan, South Africa, India, S. Korea and Sweden. Looking at the Europe, Mediterranean countries did not follow the positive trends and North and South East European countries made better results, in general. Top ten destinations, measured by arrivals, in 2011 were France, USA, China (which in 15 years outreached all the following in the list), Spain, Italy, Turkey (with significant increase in last 10 years), UK, Germany, Malaysia and Mexico. This is similar rank list having the receipts as the measure of result, with some differences where USA and Spain made better results and Malaysia weaker [27].

Globally, international tourism results have so far not been seriously affected by economic volatility, with growth continuing above average of 3.8% a year projected for the decade 2010-2020 according to UNWTO's long-term forecast Tourism Towards 2030. Some global trends, according to the quoted knowledge platform source, will influence further evolution of tourism sector:

- Demographic trends – population will increase from 6.9 bn (2009) to 8.3 bn (2030); at the same time,

Figure 1: Actual trend vs. tourism 2020 vision



Source: [7]

population is getting older, particularly in Europe where it is expected that segment of 65+ participate with 25% by 2015;

- Strong increase in travel – international arrivals are expected to reach 1.6 bn by 2020; travel is more and more considered as a given right;
- Global competition – new emerging destinations are competing for their market share, but also new tourist products, new ways of entertainment, relaxation etc. Top five destinations (USA, Canada, Italy, France, Switzerland) in 1950 accounted for 71% of global tourism turnover, in comparison with only 31% of top 5 in 2010 (France, USA, China, Spain, Italy).
- Sustainability – tourism sector recognizes its dependence on the environment; on the other hand, it strives to find the synergy between environmental issues and the development;
- Innovation and technological change – information are globally accessible, travellers are far better informed and the role of traditional actors in marketing channels is changing.

There are several predictions about further development of tourism sector and the actions that will be performed by the best actors, including countries, destinations or even corporate sector.

- Creativity – Spanish Prime Minister *M. Rajoy*, in his keynote opening speech at the Exceltour's Sixth Tourism Leadership Forum [17] stressed what is known in contemporary strategic management literature: strong competitions search for creative strategies. Even more, it is important when the representative of the administration recognizes this;
- Knowledge sharing – UNWTO experts predict this would be the basic requirement for a further success in tourism sector. Changes in consumer demand, travel opportunities, new technologies make this exchange of knowledge, acquired by different stakeholders to be precondition for further success;
- Political cooperation – as a rising proportion of the world population considers the travelling as the given right, it becomes more and more important for political leaders to find the way how to enable development of multilateral and bilateral relationships;
- Sustainability – all three pillars of sustainability appear to be equally important: environment as the pre-condition for the survival of mankind but even more focused, as the basic motive for the travelling; economic sustainability as the leverage for developing economies to find their role in global economy, and social sustainability enabling the members of many weak groups to enjoy travelling;
- Public-private cooperation – like in the many other sectors, cooperation between governments and private sector brings the mutual benefits. Private sector can contribute to the achievement of certain governmental goals such as regional development, new working places, and increased portion of value added services in GDP. Public sector can provide it, in return, with better business environment for more efficient investments, better infrastructure serving tourist sector as well as the public needs, etc.

These characteristics of the global tourism form the framework for the Serbian tourism sector development. However, this development is influenced by both global and local factors.

General business environment in Serbia

Since 2006 Serbia has implemented significant structural reforms in some parts of the economy. Facilitated by a reform process involving privatization and consolidation, the banking sector has revived and it is continuing to evolve. Although inflows have declined in past two years, significant level of foreign investment has been attracted over the decade and the economy is becoming considerably more integrated into the international system. However, it remains in transition from essentially a command-based to market system with the privatization programme including hotels and other tourism facilities still uncompleted. Notwithstanding the progress in enterprise restructuring and privatization, a high percentage of economic activity remains in the hands of the state.

In order to capitalise on these advantages, a National Investment Plan was adopted in 2010 which aimed to quadruple exports over ten years and investment in the basic infrastructure. To help finance this ambitious programme and fund an increasing budget deficit, Serbia agreed in September 2011 to a two year IMF $1.5 billion "Stand By" loan facility. However, the conditions of the loan constrained the use of stimulus to revive the economy, while concerns about inflation and demand for exchange rate stability precluded the use of an expansionary monetary approach. Accordingly, the options for direct intervention in tourism development have been limited. Delays in the implementation of reforms, change of Government, and an increasing public sector deficit have complicated the receipt of further IMF support.

Progress made towards EU membership has been considerable and important for tourism. Following the "Stabilization and Association Agreement" in 2008 and implementation of the Interim Trade Agreement in 2010, candidate status was approved in March 2012. Implementation of the radical structural reforms to ensure the country's long-term viability is now commencing; it has previously been largely stalled due to the onset of the global financial crisis.

Major challenges including high government expenditures, increasing budget deficits; and stagnant levels of foreign direct investment remain, and they have undermined the prospects for the private business sector. Since 2006 the socio-economic outlook has worsened and the environment for doing business has gradually become less attractive. Recent years have been characterised by contractions in population, employment, and incomes. The 2011 national census recorded a fall of 5% compared with 2002, and inter-census estimates indicate a continuation of the trend, with deaths exceeding births and increasing number of people availing of the abolition of visa requirement for EU travel to emigrate.

Table 1: Population and national income figures

Year	Population ('000)	GDP per person (€)	GNI (€ billion)
2002	7,498		
2007	7,382	3,857	27,866
2008	7,350	4,445	31,755
2009	7,321	3,955	28,502
2010	7,291	3,781	26,949
2011	7,121		

Source: [21]

An analysis of employment and vital statistics suggests that a large number of people are emigrating, adding to the estimated two to three million Serbs now living outside of the Balkans. Without the safety valve of emigration, unemployment would be significantly higher than current rates and could cause unsustainable social strains. However, emigration will continue to cause increasing problems if jobs are not created. With a well-educated and mainly articulate young workforce, the losses through emigration will continue and accelerate EU accession.

The extent of the employment can be seen from Table 2. Over a quarter of a million jobs have disappeared since 2007, including 100,000 in manufacturing and approximately 4,000 in accommodation and catering. Given the other information on rising number of new and renewed capacities, it seems like a rising number of workers are engaged as self-employed or in the grey area.

Inflation and currency depreciation continue to cause difficulties for business and particularly for businesses involved in international tourism. However, competition in the sector caused a slower increase of prices. In spite of the fact that the number of employees (registered) decreased, number of the completely new or refurbished outlets increased. This higher level of competition triggered better quality of service. However, limited local demand, due to the economic crisis, combined with the competition, caused the inability of the catering trade to match consumer price increases in this period.

Although administrative and procedural constraints continue to cause difficulties for entrepreneurs in

Table 2: Employment and unemployment rates

Year	Total ('000)	Manufacturing ('000)	Accommodation/ catering ('000)	Public Sector ('000)	Unemployment
2007	2,002	381	24.3	68.7	19%
2008	2,000	360	23.6	69.4	15%
2009	1,890	329	22.5	71.2	17%
2010	1,796	301	20.9	69.9	20%
2011	1,746	295	20.4	70.5	24%

Source: [21]

Table 3: Price changes

Year	Consumer Prices	Catering Trade
2006	100.0	100.0
2007	105.5	106.6
2008	121.2	116.4
2009	131.1	129.3
2010	136.1	135.9
2011	154.9	141.6

Source: [21]

establishing and operating businesses, the situation has improved. As measured in the annual WB/IMF Doing Business surveys, it is now easier to set up and register a business in terms of the numbers of days involved. In the case of registration, the reduction of 90% from 111 to 11 has been dramatic and indicates what can be achieved to bring "business freedom" up to EU levels.

Procedures for getting credit (as opposed to availability of credit) have always been positive and, to some extent, have further improved in recent years, as a small factor in countering the impacts of the international financial crisis drastically reducing credit activity. Otherwise, the WB/IMF surveys show a challenging position. In short, despite some progress in streamlining the process for launching a business, requirements remain time-consuming. In addition, a fully functioning modern labour market has not developed and the informal sector remains significant.

While the level of business taxation remains favourable, the procedure for payment was tortuous and not business-friendly particularly to small businesses. Ranking Serbia among the most bureaucratic countries in the world, the WB/IMF indicates that it takes 279 hours and 66 transactions to pay annual taxes. An area of significance for tourism development is the difficulty in obtaining building permissions. While the cost involved has been reduced, the time has increased; in 2009 it rose to 279 days. Some recent changes in taxation system improved position of micro enterprises, but still, there are opportunities to improve this area significantly.

The summary situation as measured by the World Bank for its 2012 Doing Business Survey is shown in Table 4 of rankings for 13 countries out of a total of 169 surveyed.

The annual surveys of the WB/IMF also identify in a comparative and detailed manner the constraints which are impacting adversely and frustrating private initiatives. While a number of issues might be regarded as subjective, the broad thrust of the criticisms must be regarded as accurate.

Tourism sector in Serbia

Tourism in Serbia until recent years was dominated by the domestic market. Proportion is changing in recent years. In 2010 domestic tourists accounted for 77% of arrivals in registered accommodation; in 2011 the percentage fell to 67% and figures for early months of 2012 point to a continuation of the downward trend. The evolution of Serbian tourism sector had several stages. The combination of tight control on travel abroad in the Yugoslav years, followed by years of strife cutting off the

Table 4: Relative strengths of Balkan Countries compared with leading source markets, in "Doing Business"

Country	Doing business	Starting business	Building permits	Property registration	Getting credit	Protecting investors	Paying taxes	Enforcing contacts	Resolving insolvencies
Germany	19	98	15	77	24	97	89	8	36
Macedonia	22	6	61	49	24	17	26	60	55
Switzerland	26	85	46	14	24	166	12	23	43
Slovenia	37	28	81	79	98	24	87	58	39
Slovakia	48	76	50	10	24	111	130	71	35
Hungary	51	39	55	43	48	122	117	19	66
Montenegro	56	47	173	108	8	29	108	133	52
Bulgaria	59	49	128	66	8	46	69	87	90
Czech	64	138	68	34	48	97	119	78	33
Romania	72	63	123	70	8	46	154	56	97
Croatia	80	67	143	102	48	133	32	48	94
Serbia	92	92	175	39	24	79	143	104	113
Bosnia/Herzeg.	125	162	163	100	67	97	110	125	80

Source: [25]

traditional Adriatic coastal resorts and onerous foreign visa requirements, supported the development of a home grown sector servicing a captive (domestic) market. Restricting competition and modernising influences from abroad resulted in standards falling. In the same period, the development of international tourism (apart from Belgrade for invention tourism) was neglected in favour of coastal areas and laterally, political turmoil scared off foreign tourists and investors. The implications of these events is that Serbian tourism in terms of its quality, the products it offers and its marketing needs to be brought up to levels characteristic of EU countries.

The process of European integration presents Serbian tourism with opportunities and challenges. In addition to the adverse effects of the extended financial and economic crisis, the introduction of visa-free EU travel for Serbs facilitated the pent-up demand for foreign travel and so further depressed domestic demand. Some tourist centres (including Kopaonik, Bukovička Banja and Stara Planina) adapted rapidly by improving services, competitive pricing, better marketing and introduction of new tourism products. The same happened in Belgrade, major centre, both for the business and city break tourist demand. Other centres improved gradually (Zlatibor, Palić, and Djerdap destination). Many of the important destinations missed this improvement initiative.

Notwithstanding some growth in recent years, international tourism in the country is still on the modest level compared to other European countries. In 2010 foreign arrivals of all categories including daily visitors, transit visitors and tourists coming for a variety of reasons, are "guest mated" at two million or higher. The comparable figure for Croatia and Hungary is over nine million, Bulgaria six million, Montenegro over million, Bosnia and Herzegovina 365.000 and Macedonia 262.000 [26]. Serbia in this table had 683.000, meaning that many visitors were either not retained to sleep in Serbia (daily and transit visitors) or were not registered while sleeping in some unregistered accommodation.

Tourism revenue and numbers

Inadequacies in measuring tourist numbers, categories and spending were identified when drafting the national tourism strategy, during 2006. The situation is still unchanged and constitutes a major difficulty in appraising tourism performance, planning and optimum use of resources.

According to the National Bank of Serbia foreign exchange earnings from tourism for 2011 is EUR 0.7 billion, a not inconsiderable sum to the total foreign earnings. However, identifying tourism spending in national accounts is always fraught. As can be seen in Table 5, a certain degree of estimation is involved; for the two years shown, "Other Spending" which is simply "estimated" amount approached 40% of the total.

Apart from broad indications from National Household Budget Surveys on spending on two categories, leisure and hotels/restaurants and stays in registered accommodation, no information is available on the incidence of holidays taken by Serbian residents. Nor is there information on foreign visitor arrivals (where from, where to, why they came). The squeeze on household incomes is visible in the data from National Survey on household spending [22]. When adjusted for CPI, incomes in 2011 were 6% lower

Table 5: Composition of foreign exchange inflows from tourism 2010 & 2011

Composition	2010 €(.000)	2011 €(.000)
Health care for tourists (Spas medical treatment)	25	29
Settlement of card payments	275	325
Repurchase of cheques from non residents	1	1
Repurchase of foreign cash from non-residents	24	24
Services of tourist agencies (remittances by travel agencies including advance payments, services provided by hotels, other accommodation agencies and restaurants.	33	41
Tourists – Sale of goods and other services to foreign persons – tourists, Sale of domestic currency abroad. Cover received for currency received cash withdrawals from savings accounts of non nationals, etc.	15	22
Other spending (Estimated)	232	268
Total	605	710

Source: National Bank of Serbia

on average than in 2007; the logical consumer reaction was to cut back on the three areas, transport, hotels and restaurants and finally, recreation and culture. Spending in real (2007) terms in these tourism related areas fell by 17% with an even greater fall probable for domestic holidays, compared with spending on visa free foreign trips.

Tourism development goals

Main objectives of Tourism strategy set by the document from 2006 [24], along with the comments on some achieved results are the following:

Stimulation of the economic growth, employment and life quality of the population – tourism has not, at least formally, contributed to this basic goal. Tourism sector recorded increase in total number of arrivals from 1.986 thousand in 2005 to 2.069 thousand by 2011 (although the number of foreign arrivals increased in the same period by 69%, the number of local visitors stagnated). Also, despite the rising investment in tourism capacities, the number of employees decreased by 20%, which is an apparent contradiction. Foreign exchange income increased from less than 300 ml in 2005 to 991 ml in 2011, despite the recommendation given at the beginning of this period that a special attention should be paid to tourism and transport [8]. In conclusion, overall goal is only partially achieved.

Development of the internationally positive country's image through tourism – this goal is also partially achieved. Some of the events in Serbia (Guča, Exit) have achieved very positive international image. Promotional efforts of Serbian stakeholders have been well received – Belgrade tourism Fair increased its scope gathering participants from 47 countries, "Soul Food" video spot won 7 international prizes. Still, the budget for this promotion is so small, so that overall positive impact is very limited.

Long term protection of natural and cultural resources – some of the destinations are positively influenced by tourism investment in visitor and interpreting centres (Emperor Palace – Sremska Mitrovica, Lepenski vir neolith archaeological site, etc.). Some interventions in signage and routes have been initiated in Zasavica, Kopaonik national park, Mokra gora reserve area. However, it seems that main efforts are to be undertaken;

Achievement of the international quality standards – new classification system in Serbian accommodation industry has been introduced in 2010 [19]. This rulebook has been developed in line with the good European practice, according to the HOTREC (Hotels, Restaurants, Cafés Association) standards. Process of the tourist agencies registration was displaced from the Ministry to specialized Agency for business registers, cutting the time of registration from over 30 to maximum 5 days.

Protection of the tourist consumers, in accordance with the best European practices – Law on Tourism and belonging law act on the travel guarantee type and condition are in line with the EU directives on consumer protection. However, this area is questionable worldwide and further improvements in Serbian regulations are under process.

Establishment of these goals was aimed at enhancing three types of expenditures (actually, three types of economic effects) [30]: a) direct expenditures, made by tourists on goods and services in hotels, restaurants, shops and other tourist facilities; b) indirect expenditures, made by hotel and restaurant purchases, investments in tourism facilities and government spending on "collective" marketing and tourism enhancement; c) induced expenditures, made by tourism workers purchases of goods and services. Statistical Office of Republic of Serbia still does not collect these data, so these indicators only can be estimated. Estimates by World Travel and Tourism Council said that the direct contribution of tourism sector to GDP was in 2011 around 1.7% (rank 157), and in total 6.0% (rank 133). It is relatively small impact, compared with the world average of 5.2% and 14% respectively. However, keeping in mind that for the same 2011 Serbia was ranked 50th by the level of Travel and Tourism Investment, with the growth of 7.2%, it is to be evaluated what impact these investments will have on the tourism sector development.

Some, indirect effects of these investments can be seen in the accommodation capacities improvements. Accommodation sector in Serbia passed, from 1995 two stages of evolution. In the first stage, until 2004, great number of beds (5.500) disappeared from the market. Most of those beds were in private accommodation. Structure of beds in hotels was not favourable: 17% non categorized, 7% one star, 32% two stars, 33% three stars, 8% four stars

Table 6: Number of beds in private accommodation

01/01/2007	01/01/2008	01/01/2009	01/01/2010	01/01/2011	31/09/2011
16,185	20,338	25,529	29,403	29,780	30,701

Source: Internal evidence of Tourist inspection, Ministry of Finance and Economy

and only 3% beds in five stars hotels [6]. Opposite trends have been present from 2004. For example, according to the records of tourist inspection, number of beds in private accommodation rose strongly, being almost doubled in the period of less than six years.

Number of hotels and number of units (rooms) in these hotels also rose. At the same time, quality of the accommodation was also improved. In the first part of the second period, hotels with 5 and 4 stars started to open rapidly. However, with the market correction, rising number of the solid 3 star business hotels was opened. In the last period of development, number of new or refurbished 1 and 2 star hotels was opened, as well as the vast number of hostels (only in Belgrade around 70).

From the former table it is easy to understand that accommodation sector had strong rise in this period of evolution. With the certain time lag, it is reasonable to expect the rise of the business indicators, i.e. in turnover (arrivals and income).

Pitfalls and chances for the tourism sector

Tourism has several challenges that can turn out to become the pitfalls or open chances for the further development of this economic sector. These issues are:

Administrative barriers – like visa procedures and other restrictions of border crossings still remain one of the most influencing restrictions for the contemporary tourism. Political and economic differences, as well as the threat of terrorism enhance and maintain these administrative barriers. Having in mind possible consequences, many governments worldwide were (and some of them still are) rather restrictive in the opening their national borders to the citizens of certain countries. This issue is a frequent topic of the bilateral negotiations between governments, but also is discussed at the meetings of multilateral organizations, such as UN World Tourism Organization. General attitude is that nobody can be against security procedures and control of the undesired migrations. However, modern technology, communications and data bases can facilitate more efficient procedures. This efficiency is the only way to achieve two goals simultaneously – regular flow over the borders and high level of security. However, many countries lack one of the two things. The first is budget, necessary to improve custom and border procedures, to equip and train their staff and to implement new organization in their administration. The second is lack of readiness and ability to change bureaucratic habits and "well-known way of doing things", which is often hidden under the cover of the care for security. Removal of such barriers (pitfall) could give a strong impetus to the accelerated development of tourist turnover in certain areas (chance). This is the case with Serbia, as well. Particularly, it is the case with the potential visitors from China, Hong Kong, India, some Latin American destinations or, for example, Middle East countries. Additional issue that Serbia needs to resolve,

Table 7: Number of hotels in Serbia

	Number of hotels	%	Number of units (keys)	%	Number of beds	%
2005	212		-	-	-	-
2006	217	102.4%	13995	-	22143	-
2007	225	103.7%	14426	103.1%	24900	112.5%
2008	239	106.2%	14134	98.0%	27786	111.6%
2009	231	96.7%	14558	103.0%	23613	85.0%
2010	251	108.7%	15537	106.7%	24186	102.4%
2011	262	104.4%	16250	104.6%	26384	109.1%
2012	297	113.4%	16723	102.9%	28296	107.2%
Total increase for the period		140.1%		119.5%		127.8%

Source: Internal evidence of the Tourism sector, Ministry of Finance and Economy concerns its business and investment environment. Besides many incentives that improve investment climate, investors, including those in hospitality industry, are facing the complicated and ever changing procedures in the area of construction permit obtaining, but also in some other important areas of business operations.

Financial crisis – caused fall in tourism turnover during 2009 and to somewhat extent stagnation in 2010. However, indicators, as shown before, recovered quickly on the global level, with particularly strong rise in some parts of the world such as South East Asia (namely Japan, India, Hong Kong, etc.). Crisis did not hit all the parts of the world equally. Crisis in European market, followed by the political turbulences, caused significant stagnation or fall of the market in the Mediterranean basin, on both European (Greece, France) and African (Tunis, Egypt) coast. On the other hand, it opened window of opportunity to specific countries like Spain and Croatia to some extent, and particularly to Turkey. Financial crisis hit domestic tourism in Serbia. The number of domestic arrivals fell from 1,61 ml in 2007 to around 1.3 ml in 2011 and remained on the same level in 2012. Foreign arrivals compensated this fall partially, but still, economic turbulences influence in a negative manner total performances of Serbian tourism.

Environmental barriers – global warming, pollution and disappearance of species are some of the basic problems of civilization. Strong warning is necessary in order to correct many patterns of traditional behaviour. New technologies, like green and renewable energy solutions, energy and fresh water saving, waste management are positive outputs of this pressure focused on the business community. Sustainable development, based on balanced three pillars, environment, social aspect and economic development, is the right answer. However, it is challenged by two major forces: business motives to expand activities at the lowest possible costs and protectionist's motives to conserve and prevent any further activity. Conservation is dangerous, particularly aligned with low capacity to enforce it, causing many unplanned activities with the irreparable damages. Capacity building, in relationship with political attitude development, in local destinations, but also in country's administration, and even in big multilateral specialized agencies, which sometimes act within the very narrow focus, is necessary worldwide. Tourism is supposed to be contributor to the environmental issues problems, not to be the source of the problem. On one hand, tourism can provide economic resources for the environmental activities. On the other, natural attractions are one of the strongest motivators to travel, so there is natural interest of those who live from tourism to preserve these attractions in order to maintain and develop business in the future. Less-developed countries, like Serbia, are facing these confrontations even more than the countries that have passed more stages of social milieu evolution. There is, almost, no need to say that environmental pitfall can easily be converted into the opportunity to develop new businesses in renewable energy, water and solid waste management, new tourism product activities (photo safari, hiking, cycling …) but also into the opportunity to protect and maintain under the efficient control new areas that deserve special care and protection.

Consumer protection – during the short period of time, consumers were exposed to a great number of different happenings that changed their planned travel and stay: bird's flu (2007 and again 2012), swine flu (2009), eruptions on Iceland (2010), wars in Middle East area (2011), particularly in, Tunis, Egypt and Libya, political turbulences in Athens (2012), etc. In many cases, tourists were either pressed to leave the destination, breaking their unfinished holidays, or were trapped in, without mean to leave tourist destination. Enormous costs were caused on these occasions: trapped tourists (or somebody else, for their sake) needed to pay extra cost of accommodation and transport; hotels and tour operators covered part of these costs and also suffered loss of not receiving new visitors; airlines and airports lost significant part of their expected traffic, as well as all service and accommodation providers in tourist destinations. Visitors became reluctant to travel, insurers to cover the travelling risks and hoteliers and carriers to wait for postponed payments. UN World Tourism Organization, governments and business associations are discussing new ways of consumer (and business) protection. Serbia is no exception in this respect, having in three consecutive years, from 2010 to 2012, groups of tourists in Egypt and Greece, left out of the accommodation and transport services.

Mobility of different groups – elder, younger, handicapped people, mothers with the babies or people who travel with the pets. Mass movement of people causes that special needs of different segments became more and more visible. Understanding the possibility to travel as a right instead of the opportunity, opens many practical questions how this right to be exercised and not limited, even prevented. Many initiatives are converting this pitfall into the chance. Low cost carriers and hostels and budget hotels enable the young, financially weak segment of travellers to visit attractive destinations. Development of accessible tourism standards enables both wheelchairs as well as parents with baby carriages to enter hotels and restaurants, but also to places of interest. Expansion of these standards stimulates visits to the new destinations and encourages travelling of those that did not consider it at all. Serbian standards for hotel classification recognized some of these special requirements and further fine-tuning is to be done during evolution of this rulebook in 2013.

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PRIVATIZATION THROUGH THE SALE OF EQUITY – CONCEPTUAL FRAMEWORK AND ACHIEVED RESULTS IN SERBIA

Privatizacija putem metoda prodaje – konceptualni okvir i ostvareni rezultati u Srbiji

Abstract

Following the political changes in 2000, Serbia aggressively accelerated its process of economic transition, which initially started in 1990. As a key element of its transitional strategy, a new privatization model was defined in order to radically change the ownership structure of the Serbian economy. Based on characteristics of the Serbian economy in 2001, the new model stipulated the sale of socially- and state-owned enterprises through tenders, auctions, and auctions on financial markets to strategic and financial investors. As methods of privatization, tenders were used for the privatization of large, while auctions were used for the privatization of medium and small size enterprises. By analyzing the results of implementation of the new privatization model, this paper confirms a hypothesis that the method of sale was the most adequate privatization model in late transition. In addition, it also confirms that tenders were the most suitable method of privatization for large, while auctions were the most suitable method of privatization for medium- and small-size enterprises.

Key words: *economic transition, privatization, methods of sale, public tenders, public auctions*

Sažetak

Nakon političkih promena 2000. godine, Srbija je agresivno ubrzala proces tranzicije, koji je bio započet još 1990. godine. Kao ključan element tranzicione strategije, definisan je novi model privatizacije sa ciljem radikalne promene svojinske strukture srpske privrede. Uzimajući u obzir karakteristike srpske privrede 2001. godine, novi model je podrazumevao prodaju kapitala društvenih i državnih preduzeća putem tendera, aukcija i aukcija na finansijskom tržištu zainteresovanim strateškim i finansijskim investitorima. Putem tendera su se privatizovala velika, a mala i srednja preduzeća putem aukcija. Kroz analizu ostvarenih rezultata u primeni novog modela privatizacije, ovaj rad potvrđuje hipotezu da je izabrani model prodaje bio najadekvatniji model privatizacije u uslovima zakasnele tranzicije. Takođe, potvrđuje se i hipoteza da je tender bio najbolji metod privatizacije velikih preduzeća, a da je aukcija, kao metod privatizacije, najbolje odgovarala privatizaciji malih i srednjih preduzeća.

Ključne reči: *ekonomska tranzicija, privatizacija, metodi prodaje kapitala, javni tenderi, javne aukcije*

Introduction

Privatization represents the "initial trigger of transition" [5, p. 12], and its essence relates to the choice of the prevalent privatization model and the range of privatization. In literature dealing with privatization, this term is defined in various ways. Some authors define privatization only as the disposal of the state-owned property. For example, *Kikeri*, *Nellis* and *Shirley* define it as the transfer of a majority ownership in state-owned enterprises to the private sector, through the sale of equity or assets following liquidation [10, p. 14]. *Ramamurti* defines the privatization process as the sale of all or parts of a government's equity stake in state-owned enterprises to the private sector [12, p. 225]. Finally, World Bank defines privatization as the divestiture by the state of enterprises, land or other assets [15].

Other authors, however, consider privatization in a broader context, seeing it as a phenomenon connecting the activities which reduce the level of the state ownership and its control over the business to the activities which promote participation of the private sector in management of the state-controlled enterprises. *Vickers* and *Wright* regard privatization as a common denominator for a larger number of diverse activities directed towards the strengthening of the market and reducing the state's influence [13, p. 1-15]. *Hartley* and *Parker* define privatization as "creation of a market economy with the aim of allowing companies to do business on a commercial basis" [9, p. 11]. *Cook* and *Kirkpartick* define the privatization process as a range of policies designed to shift in balance between the public and private sector and the services they offer [3, p. 3]. Finally, *Blommestein*, *Geiger* and *Hare* view privatization as "any transfer of ownership of a state enterprise to other agents which results in their effective private control of the business" [1, p. 21]. These authors argue that the privatization does not necessarily require a state to sell a majority stake in its enterprises and that a state agency, such as the ministry of finance, may still retain some ownership in privatized companies.

In transition economies, the larger the private sector was, the less complex the transition process was [4, p. 2]. Besides, without a radical change in ownership structure, it was hardly possible to change the economic system [7, p. 11].

Privatization in Serbia was carried out throughout the whole process of transition. The process was initiated back in 1990 by the enactment of the Law on Socially-Owned Capital, and continued by the enactment of the Law on Conditions and Procedure for Conversion of Socially-Owned Property into Other Forms of Property, and the Law on Ownership Transformation. Since 2001, privatization has been carried out in accordance with the provisions of the Law on Privatization.

For purposes of this paper, the privatization process may be defined in a broader sense as the transfer of the state- or socially-owned property or capital to the private sector, followed by the market liberalization designed to stimulate competition.

The literature offers arguments both for and against privatization. Some of the arguments in favor of privatization are that (a) privatization increases the size of the private sector and thus the growth rate, (b) privatization contributes to the technological development and entrepreneurship, (c) private enterprises are more efficient than the state-owned ones, and (d) the privatization process is beneficial for the state budget [2, p. 25]. On the other hand, the same author presents the following arguments against privatization: (a) privatization leads to increase in costs, (b) privatization decreases the employment rate, and (c) privatization leads to loss of quality. In spite of all of the stated arguments, the author concludes that experience has shown that private enterprises are more efficient than the state-owned ones, while the remaining arguments are more theoretical and not well researched.

According to one group of authors, the advantages of privatization are increase in the scope of investments, better quality of services, innovations and savings of tax payers' money [14, p. 352].

Transition to the market economy represents one of the very important and complex processes, and privatization is one of its key elements. All apparent aspects of market economy are manifested through the privatization process, from the initial causes that cause change to the means of establishing the institutions and mechanisms of the market economy [4, p. 2].

At the macroeconomic level, privatization should lead to a greater balance of the major aggregates of the national economy, such as investments and production, income and consumption. At the microeconomic level, privatization should ensure better economic performance of companies (lower operating costs, better competitiveness, lower prices, etc.) [8, p. 522].

If the aim of privatization is to rehabilitate economy and to create more successful economic entities capable of generating profit, which would be beneficial not only for these entities and their owners but also for the state, than the real benefit of the ownership transformation is creation of profitable enterprises. In transition economies which have also undergone the privatization process, the growth rate in productivity in the period from 1995 to 2005 was 30% higher than the growth rate of productivity in old European economies [5, p. 7].

Privatization in Serbia until 2001

In the period from 1989 until 2001, privatization in Serbia was carried out pursuant to the following three laws: Law on Socially-Owned Capital, Law on Conditions and Procedure for Conversion of Socially-Owned Property into Other Forms of Property, and the Law on Ownership Transformation.

In that respect, the privatization process in Serbia may be divided into several stages:

1. The first stage (1990-1991) is characterized by the enactment of the Law on Socially-Owned Capital which was very liberal, where the privatization process was decentralized and the role of the state was nearly eliminated.
2. The second stage (1991-1994) was carried out pursuant to the Law on Conditions and Procedure for

Conversion of Socially-Owned Property into Other Forms of Property of the Republic of Serbia. Under this Law, the enterprises of strategic significance to the state were nationalized and excluded from the privatization.

3. The third stage (1994-1997) was characterized by the annulment of the whole privatization effort that was previously carried out. Nearly 500 enterprises which had initiated the privatization process by 1994, demanded protection before the Commercial Court at the time, while the participation of share capital in economy was reduced from 43% to only 3%.
4. The fourth stage (1997-2001) was based on the implementation of the Law on Ownership Transformation. For the first time, it was possible to distribute a major portion of the enterprise's equity (60%) free of charge. Privatization was carried out for the most part by enterprises themselves. The state, however, was not prepared to bring the process to its completion.
5. The fifth stage (from 2001 to present) is characterized by the enactment of the new Law on Privatization, Law on Privatization Agency, Law on Share Fund, and the supporting bylaws. This law envisages sale of state- and socially-owned companies to interested investors, which enables ownership concentration and more efficient corporative control. During this period, the state has shown determination to complete the privatization process.

The privatization methods used in Serbia until 2001 were internal privatization, external privatization, and free-of-charge share distribution to general public. The predominant privatization model until the enactment of the new Law on Privatization in Serbia was the employee share ownership model.

General characteristics of all the previously mentioned laws were the following: eligibility for acquiring shares was based on the years of employment in either the state- or socially-owned enterprises; the decision to initiate the privatization process depended on the enterprise itself; and, finally, there was no time limit defined for the process to be completed.

The first characteristic favored employed and retired persons. Depending on the years of employment, employees would acquire either shares or the right of their repayment under preferential conditions (under the Laws of 1991 and 1994) or would acquire shares for free (under the Law of 1997).

The second characteristic allowed the legal entity being privatized to decide for itself whether it would initiate the privatization process or not.

Finally, the third characteristic was the absence of a time limit or an obligation set to carry out the procedure. Therefore, the legal entity being privatized was under no obligation to undergo the privatization process. Under the currently valid Law on Privatization, the legal entities being privatized are not free to decide whether they do or do not want to initiate the privatization process; rather, the period of time within which the privatization process is to be completed is defined by the Law.

Up until the mid 2000, about 10% of the socially-owned capital in Serbia was privatized. The privatization results by November 2000 are shown in Table 1.

Table 1: Privatization results in Serbia as of November 2000

	Number of enterprises
Initiated privatization	428
Registration completed in the first round	284
Registration completed in the second round	246
Completed privatization	18

Source: Report of the Enterprise Value Assessment Agency, Belgrade, 2000

Based on the above data, it could be concluded that the results achieved by the end of 2000 were rather modest. This was the result of not only the adverse external circumstances but also the characteristics of the selected model, since the employee share ownership model proved to be just another unsuccessful alternative to the social ownership.

Privatization after 2001

Conceptual framework

As we have shown thus far, the total effect of privatization in Serbia until democratic changes in 2000 was minimal, primarily due to the absence of clear determination of the political elite in power at the time to implement the reforms and transition to the market economy.

Due to the country's isolation, the condition of the Serbian economy as a whole as well as the state- and socially-owned enterprises was rather poor by the beginning of 2001. On the other hand, Serbia's opening to the world and the institutional changes in 2001 contributed to its image as more attractive destination for direct foreign investments. This, in turn, enabled the privatization process to be based on the sale of state- and socially-owned enterprises to interested investors. In that respect, a new Law on Privatization was enacted in 2001, with a new privatization concept defined as a sale of equity of the socially- and state-owned enterprises to interested investors through public tenders and public auctions.

Advantages of the sale model were significant and they suited the needs of Serbia at that time. Firstly, the straight sale of enterprises would ensure the best possible management which, from the point of view of economic efficiency, is the most important issue in any privatization process. A healthy and an efficient economy, capable of long-term economic growth require sound management of the enterprises being privatized. Alternative models, such as voucher privatization and employee share ownership, failed to ensure good enterprise management. Secondly, the sale of state- and socially-owned enterprises generated much needed revenues for the state, which were then used to reduce the debt burden, cover the fiscal deficit, reduce the level of taxes and contributions, and provide welfare financing.

In the meantime, the Law on Privatization has been changed and amended three times: in 2003, 2005 and 2007. The adopted changes and amendments to the Law were designed to enable a more efficient completion of the privatization process, while the basic concept remained unchanged.

Under the new Law, the object of privatization is the socially- and state-owned equity in enterprises and other legal entities, as well as the assets of the legal entities being privatized. Natural resources and assets of general importance are not subject to privatization. Besides that, privatization also refers to the change of ownership over the remaining part of the socially- or state-owned equity in enterprises which had partially carried out the ownership transformation in accordance with the provisions of earlier privatization laws.

The Law on Privatization envisages *two basic privatization models*: the sale of the socially- and state-owned equity and assets, as well as the transfer of the socially- and state-owned equity without compensation. The sale model relates to the sale of majority stake in equity directly to interested investors through public tenders or public auctions. The transfer of the remaining minority equity stake without compensation is carried out in the following two ways: by the transfer of shares to the employees of the legal entity being privatized, in accordance with the criteria set under the Law, and by the transfer of shares to the general public. Also, in accordance with the new legislation, the general public is also entitled to cash compensation from the funds generated by the sale of shares which are registered in the Privatization Register.

Sale of equity or assets of the legal entities being privatized is carried out by the following *two methods*: public tenders or public auctions. Both methods envisage transparency and competitiveness during the privatization process. Even though it is not explicitly set under the Law, it can be inferred that all large enterprises are to be privatized through a tender process while the privatization of the medium and small size enterprises is carried out through public auctions. Both methods are carried out by the Privatization Agency. The two privatization methods, as stipulated in the new Law, are depicted in Figure 1.

As shown in Figure 1, the object of privatization is equity of the socially- and state-owned enterprises. Using two privatization methods – public tenders and public auctions – up to 70% of equity is sold, while the remaining stake is transferred without compensation. In case of sale of equity through public auctions, 30% of equity stake is transferred to employees without compensation. In the case of sale of equity through public tenders, 15% of equity stake is transferred to employees with the remaining 15% to the Privatization Register. The implementation of these two privatization methods may be preceded, if necessary, by the restructuring of the enterprises, in order to increase their attractiveness in the privatization process.

Table 2: New privatization model results as of December 31, 2011 (in EUR 000)

	Number of public announcements	Number of companies offered for sale	Number of privatized companies	Success rate	Book value of equity	Sales proceeds	Price/Book	Required investments	Social program
Tenders (T)	301	217	128	59%	1,320,993	1,619,750	1.23	1,185,405	278,731
Auctions (A)	4,064	2,459	2,155	88%	1,333,097	1,388,870	1.04	281.79	-
T+A	4,365	2,676	2,283	85%	2,654,090	3,008,620	1.13	1,467,195	278,731
Auctions on financial markets (Tk)		2,699	1,662	62%	682,997	684,342	1.00	5,902	-
Total T+A+Tk		5,375	3,945	73%	3,337,087	3,692,962	1.11	1,473,097	278,731

Source: Privatization Agency (www.priv.rs)

Model implementation results

From 2002 until the end of 2011, a total of 3,945 enterprises have been privatized with the total sale proceeds amounting to EUR 3.7 billion. Besides, the required capital investments guaranteed by the buyers for further development of privatized enterprises amounted to around EUR 1.5 billion.

Table 2 summarizes the effects of the new privatization model in Serbia since 2001 until the end of 2011.

The aforementioned results are further analyzed in more detail. The criteria used for the analysis were the number of privatized enterprises, ratio of offered for privatization vs. privatized enterprises, sale proceeds,

Figure 1: Privatization methods under the new Law on Privatization

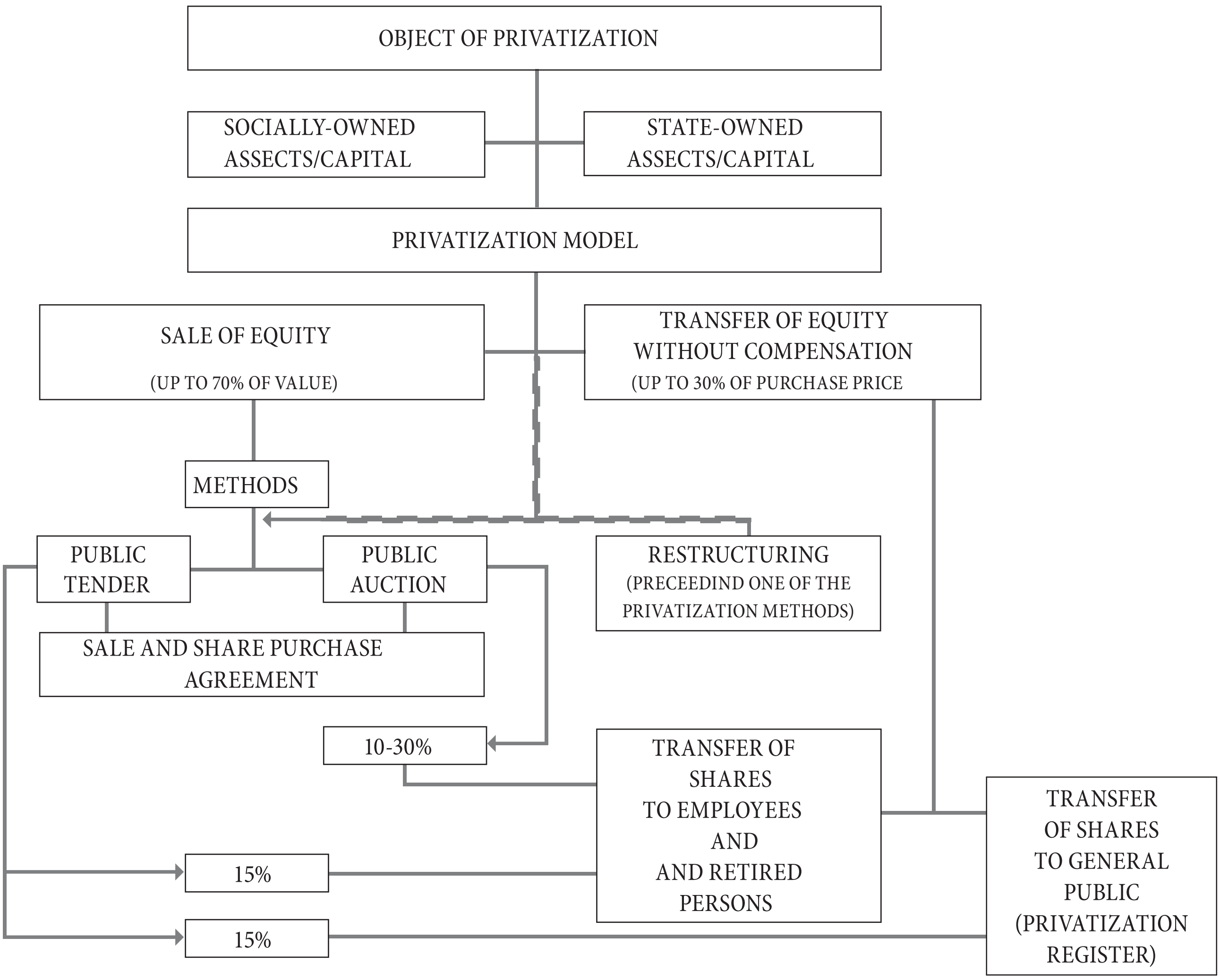


Table 3: Total number of privatized enterprises (2002-2011)

Privatization method	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Tenders	12	19	9	16	25	17	19	7	2	2	128
Auctions	206	681	254	201	209	282	226	69	25	2	2,155
Auctions on fin. markets	48	116	65	295	307	352	254	109	54	62	1,662
Total	266	816	328	512	541	651	499	185	81	66	3,945

Source: Privatization Agency (www.priv.rs)

price to book ratio (P/B), required investments, and the structure of buyers.

Number of privatized enterprises

Table 3 shows the number of companies that were privatized through public tenders and public actions from 2002 until the end of 2011. As shown in the table, the number of privatized companies increased in 2003, especially the ones sold through the public auctions. In 2004, that number decreased significantly, due to the parliamentary elections and the long process of selecting the new government. Since 2009, the number of enterprises being privatized has been decreasing gradually, with the least number of companies privatized in 2011.

Figure 2 shows the number of privatized companies through public tenders and public auctions. It can be concluded that the largest number of enterprises was privatized through the public auctions and auctions on financial markets (56% and 41% respectively), while only 3% of the companies were privatized through public tenders.

The presented results are logical since most enterprises offered for privatization were small and medium size companies that were intended to be privatized through public auctions.

Ratio of offered for privatization vs. privatized enterprises (success rate)

Table 4 shows the relationship between the number of companies offered for privatization and the number of privatized companies from 2002 to 2011. A high success rate (calculated as a ratio of offered for privatization to number of privatized companies) was realized during the first couple of years of the new model implementation. With the passage of time, this rate gradually decreased since the remaining companies for privatization were less attractive.

Until the end of 2007, the success rate was higher in the privatization through public auctions than public tenders, while in 2010 and 2011 this rate was higher for public tenders.

Figure 2: Total number of privatized enterprises (2002-2011)

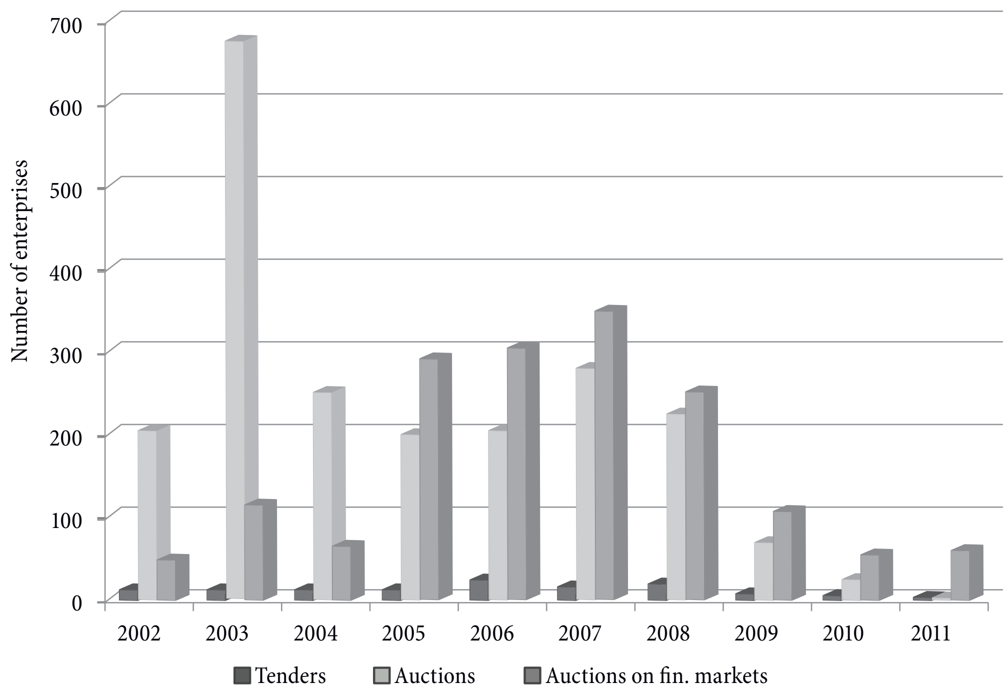


Table 4: Ratio of offered for privatization vs. privatized enterprises

Privatization method	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Tenders	46%	50%	82%	76%	86%	38%	73%	78%	40%	50%	59%
Auctions	100%	96%	85%	89%	93%	95%	74%	58%	38%	29%	88%
Auctions on fin. markets	80%	105%	31%	88%	79%	68%	76%	38%	28%	24%	62%
Total	91%	95%	64%	88%	84%	76%	75%	44%	31%	25%	73%

Source: Privatization Agency (www.priv.rs)

Table 5: Total sales proceeds from privatization (in EUR 000)

Privatization method	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Tenders	200,771	600,361	15,205	96,586	101,202	81,956	491,673	31,525	450	1,021	1,619,750
Auctions	60,425	272,441	120,059	172,547	161,736	358,984	191,676	43,968	6,923	111	1,388,870
Auctions on fin. markets	82,968	67,778	52,219	125,195	70,108	162,148	84,778	10,465	11,646	17,037	684,342
Total	344,164	940,580	187,483	393,328	333,046	603,088	768,127	85,958	19,019	18,169	3,692,962

Source: Privatization Agency (www.priv.rs)

Sale proceeds from privatization

Table 5 shows the level of sales proceeds that was realized from the sale of privatized companies in the period from 2002 to 2011.

The highest level of proceeds was achieved in 2003, while the figure for 2010 and 2011 was rather low. Figure 3 presents the breakdown of realized sales proceeds for different privatization methods. As shown, proceeds realized from public tenders are higher than proceeds from public auctions.

Around 44% of the total proceeds were realized from public tenders, 38% from public auction and the remaining 18% through the auctions on financial markets.

Price to book ratio (P/B)

One of the key indicators of the success of the new privatization model is the relationship between the purchase price for equity compared to its book value (P/B ratio). Table 6 shows the price to book ratio for different privatization methods from 2002 to 2011.

On average, for the analyzed period, the P/B ratio for public tenders amounted to 1.23, indicating that the realized price for equity offered for privatization was higher than its book value. The P/B ratio for public auctions was lower but still higher than 1.

It is important to emphasize that, in general, the book value of equity of socially- and state-owned companies

Figure 3: Total sales proceeds for different privatization methods

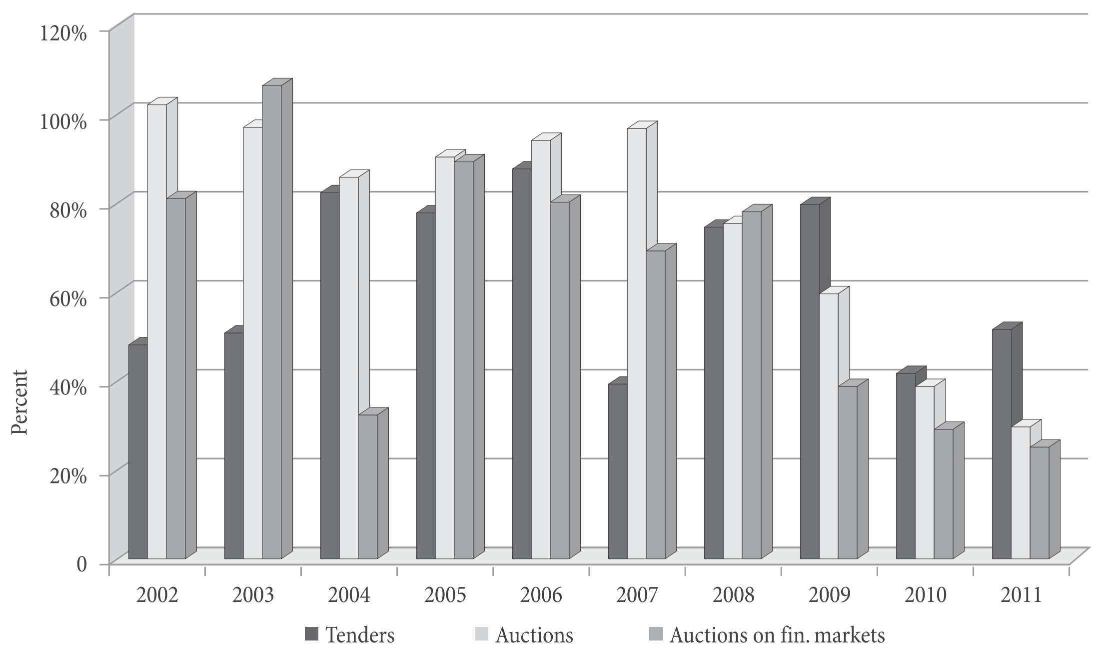


Table 6: Price to book ratio (P/B) analysis

Privatization method	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Tenders	1.25	1.36	0.23	0.8	1.76	0.89	9.71	0.1	0.03	0.16	1.23
Auctions	0.74	0.76	0.59	1.2	1.07	1.4	2.31	0.95	0.92	0.4	1.04
Auctions on fin. markets	2.76	0.78	0.8	1	0.91	1.04	0.95	0.54	0.78	0.83	1
Total	1.27	1.06	0.56	1.02	1.16	1.2	3.47	0.23	0.48	0.67	1.11

Source: Privatization Agency (www.priv.rs)

is undervalued. There are more explanations for this, the major one being that the value of companies' assets is usually understated and well below its market value. This would lead us to conclude that the real average P/B ratio is probably below 1 for all three privatization methods. If, however, value of required investments and social programs is added to the price paid for shares (as an indicator of the total transaction value), the P/B ratio would probably be even higher than shown in Table 6.

Amount of required investments

One of the indicators of the success of the new privatization model is the required investments into privatized companies that were guaranteed by the buyers. As already mentioned, one of the major goals of the new privatization concept was to attract investors who would bring management, new equipment and technologies, know-how, etc., thus increasing the efficiency of the privatized companies. In that respect, apart from the purchase price, the buyers were required to guarantee a certain level of capital investments as well as the social programs. Table 7 shows the amount of required capital investments that were guaranteed by the buyers to be invested into privatized companies from 2002 to 2011.

The highest figure of required investments was realized in 2003 for both public tenders and public auctions. If these figures are compared to the total numbers of privatized companies, it can be concluded that the average amount of required investments per companies privatized through public tenders was EUR 9,261,000, while the average amount of required investments per companies privatized through public auctions was EUR 131,000.

Table 8 shows the relationship between the amount of required investments and the book value of equity in the privatized companies from 2002 to 2012.

As stated in the table, the ratio of required investments to book value of equity for companies privatized through public tenders was higher than for public auctions. This result is a consequence of the fact that the companies privatized through public tenders were large and required more additional capital investments in absolute terms.

Structure of buyers

In the analyzed period of time from 2002 to 2011, most of the buyers in the privatization process were domestic investors from Serbia. Those investors usually participated in public auctions acquiring smaller companies. Less than 7% of all investors that participated in the privatization process under the new Law were foreign investors. Out of 1,600 enterprises that were privatized until 2006, around 130 were bought by foreign investors [11, p. 126]. It should be noted, however, that foreign investors mostly participated in the privatization of large enterprises through public tenders.

Table 7: Amount of required investments (in EUR 000)

Privatization method	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Tenders	305,152	318,612	75,007	73,719	206,463	85,122	80,939	31,493	4,598	4,300	1,185,405
Auctions	14,297	61,548	47,746	42,379	42,503	49,291	11,092	11,544	1,345	45	281,790
Total	319,449	380,160	122,753	116,098	248,966	134,413	92,031	43,037	5,943	4,345	1,467,195

Source: Privatization Agency (www.priv.rs)

Table 8: Ratio of required investments to book value of equity

Privatization method	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Tenders	1.91	0.72	1.16	0.61	3.60	0.92	1.60	0.10	0.27	0.69	0.90
Auctions	0.17	0.17	0.23	0.29	0.28	0.19	0.13	0.25	0.18	0.16	0.21
Total	1.32	0.48	0.46	0.44	1.19	0.39	0.69	0.12	0.24	0.67	0.55

Source: Privatization Agency (www.priv.rs)

Table 9: Privatization results achieved through public tenders (2002-2011)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Number of public announcements	49	46	14	29	41	60	35	15	5	4	301
Number of companies offered for privatization	26	38	11	21	29	45	26	9	5	4	217
Number of privatized companies	12	19	9	16	25	17	19	7	2	2	128
Number of nullified contracts	1	3	3	7	11	11	7	2	0	1	46
Number of employees	11,977	15,927	11,984	9,372	21,633	12,271	9,675	2,963	178	578	96,588
Average number of employees	998	838	1,332	586	865	722	509	423	89	289	6,651
Book value of equity in 000 EUR	160,016	441,199	64,867	119,949	57,416	92,379	50,607	311,565	16,751	6,244	1,320,993
Sales proceeds in 000 EUR	200,771	600,361	15,205	95,586	101,202	81,956	491,673	31,525	450	1,021	1,619,750
Required investments in 000 EUR	305,152	318,612	75,007	73,719	206,463	85,122	80,939	31,493	4,598	4.3	1,181,109
Social program in 000 EUR	147,069	129,025	2,587	50	-	-	-	-	-	-	278,731

Source: Privatization Agency (www.priv.rs)

Privatization results achieved through public tenders

Table 9 provides a detailed summary of the privatization results achieved through public tenders, including the number of public announcements, number of companies offered for privatization and privatized companies, number of employees, book value of equity, sales proceeds to the state, amount of required investments and social programs, etc.

As shown in the table, the total number of companies that were offered for privatization through public tenders from 2002 to 2011 was 217, out of which 128 were successfully privatized (the success rate of 59%). The largest number of tender privatizations occurred in 2006, while the least in 2010 and 2011. Of all the privatized companies, 46 contracts with the buyers have been nullified in the meantime.

Figure 4 shows the number of tender privatizations that occurred in period 2002-2011. As already mentioned, the largest number of companies was sold in 2006 (a total of 25 companies), while the least number was privatized in 2010 and 2011 (only two companies in each year).

If we compare the number of companies offered for privatization to the number of privatized companies, as shown in Figure 5, it can be concluded the highest success rate was achieved in 2006 (86%), while the lowest rate occurred in 2007 (38%).

Total sales proceeds from public tenders amounted to EUR 1.62 billion. The price realized for the sale of equity was significantly higher than the book value of equity,

Figure 4: Number of enterprises privatized through public tenders (2002-2011)

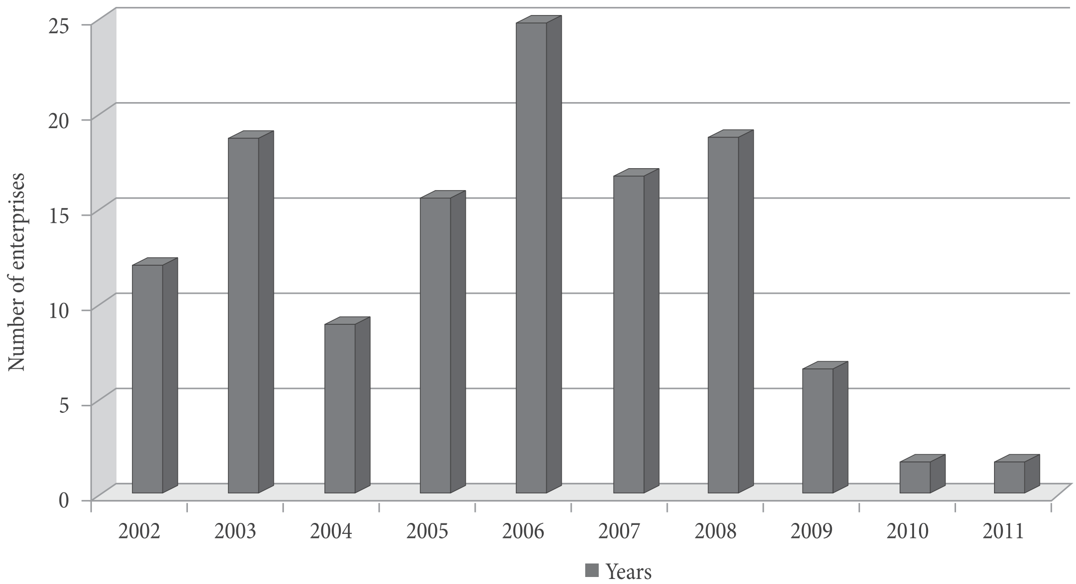
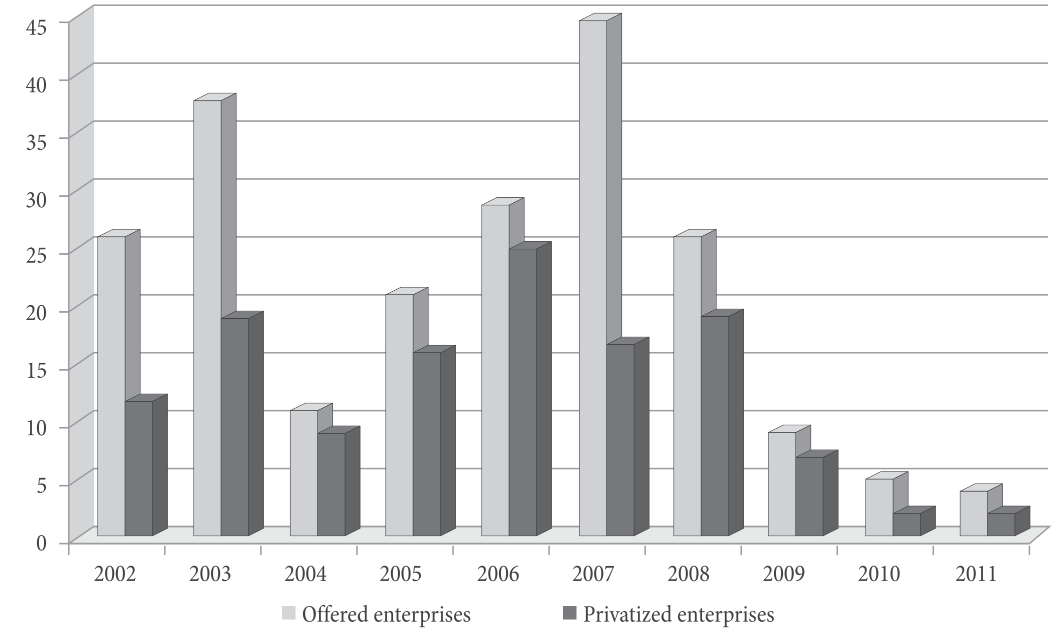


Figure 5: Ratio of offered for privatization vs. privatized enterprises through public tenders



with the price to book ratio (P/B ratio) of 1.23. The highest proceeds were realized in 2003, while the lowest occurred in 2010. The total number of employees in the companies that were sold through public tenders was 96,558.

Based on the above-mentioned results, the privatization model through public tenders was very important for the development of the Serbian economy as a whole and the achieved results have been impressive. Since these companies, because of their size, needed more time to find appropriate buyers, lesser number of socially-owned companies was offered for sale through public tenders compared to public auctions but now they represent the leaders in their respective industries. The high success rate indicates that public tenders are the appropriate privatization method for large enterprises while the low number of contracts that were later nullified indicates that the process was well organized and that the selected buyers/investors were appropriate. The price to book ratio is higher for public tenders than for public auctions, which also indicates the effectiveness of this privatization method.

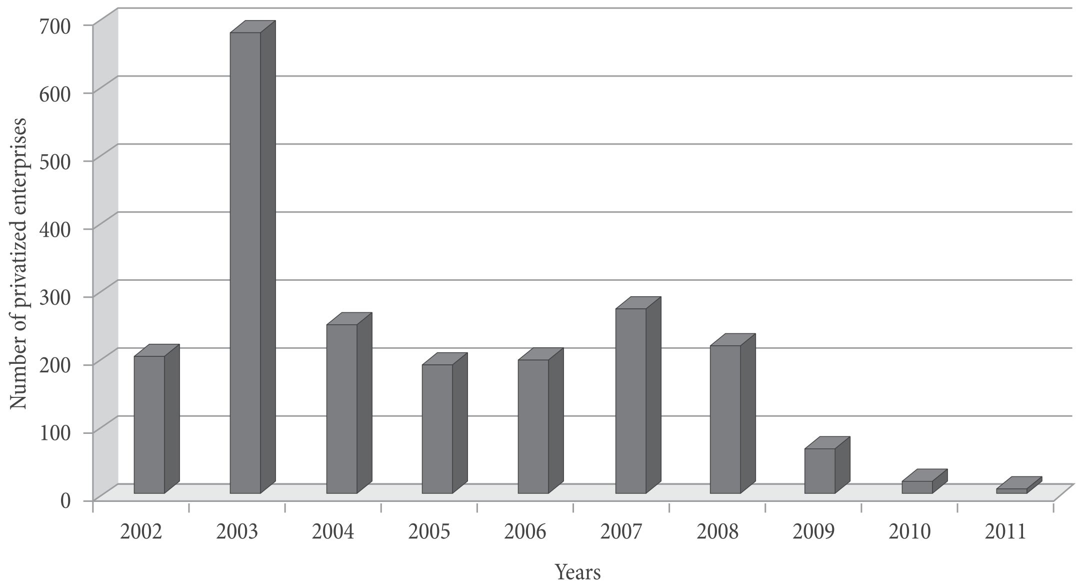
In addition, the public tenders' method required from the buyers to guarantee a certain level of investments ("required investments") as well as to provide a social program to resolve the excess workforce. From 2002 to 2011, total required investments amounted to almost EUR 1.2 billion, while the investments in social programs amounted to EUR 279 million. Through the required investments, the public tenders' method attracted strategic investors that introduced new technologies and know-how, increased productivity and improved corporate governance in privatized companies. Additionally, by providing additional investments in social programs, buyers enabled the government to use the privatization proceeds for other purposes, namely macroeconomic stability and infrastructure projects.

Table 10: Privatization results achieved through public auctions (2002-2010)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Number of public announcements	409	1014	492	406	449	461	536	211	70	16	4,064
Number of companies offered for privatization	207	709	298	227	225	296	306	119	65	7	2,459
Number of privatized companies	206	681	254	201	209	282	226	69	25	2	2,155
Number of nullified contracts	55	166	72	43	54	113	89	23	7	0	622
Number of employees	15,125	59,935	27,651	22,662	21,845	26,610	7,517	3,160	689	112	185,306
Average number of employees	73	88	109	113	105	94	33	46	28	56	745
Book value of equity in 000 EUR	81,890	357,831	204,868	143,961	151,480	255,957	82,928	46,376	7,529	277	1,333,115
Sales proceeds in 000 EUR	60,425	272,441	120,059	172,547	161,736	358,984	191,676	43,968	6,923	11	1,388,770
Required investments in 000 EUR	14,297	61,548	47,746	42,379	42,503	49,291	11,092	11,544	1,345	45	281,790

Source: Privatization Agency (www.priv.rs)

Figure 6: Number of enterprises privatized through public auctions



Privatization results achieved through public auctions

Table 10 provides detailed analysis of the privatization through public auctions from 2002 to 2011. The selected criteria for analysis include the number of public announcements, number of companies offered for privatization as well as the number of privatized companies, number of employees, sales proceeds, book value of equity, etc.

From 2002 to 2011, a total of 2,459 companies was offered for privatization through public auctions, out of which 2,155 were sold, representing a success rate of 88%. The biggest number of companies was sold in 2003, while the least number of companies was privatized in 2011, as shown in Figure 6.

Table 11 shows the success rate of the public auctions from 2002 to 2011.

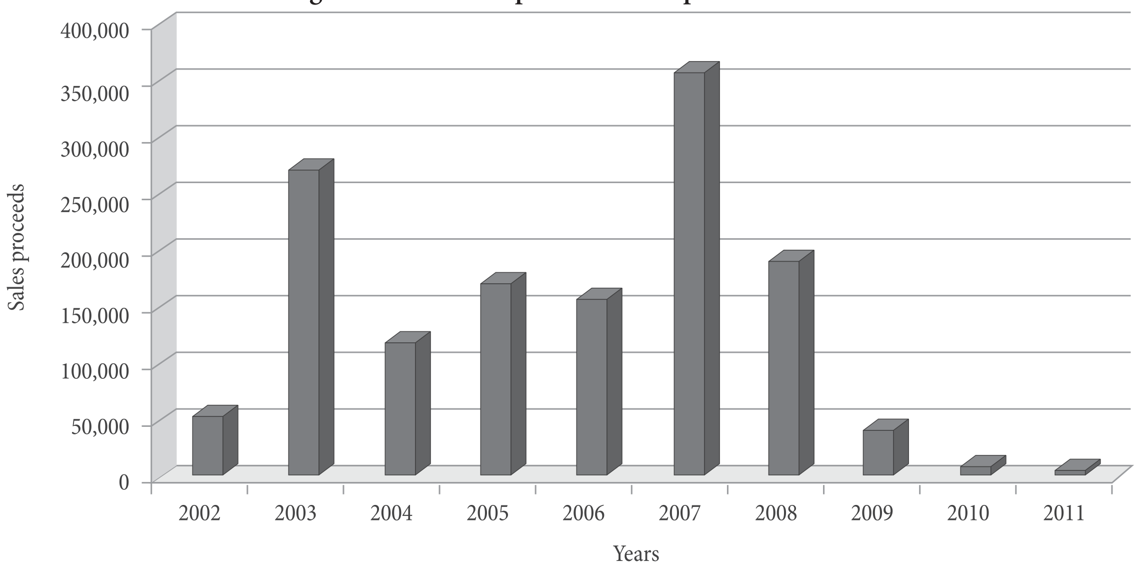
The highest success rate in the privatization process

Table 11: Ratio of offered for privatization vs. privatized enterprises through public auctions

Privatization method	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Auctions	100%	96%	85%	89%	93%	95%	74%	58%	38%	29%	88

Source: Privatization Agency (www.priv.rs)

Figure 7: Total sales proceeds from public auctions



through public auctions was realized in 2002 (100%), while the lowest rate occurred in 2011 (29%). Figure 7 shows the amount of realized sales proceeds from public auctions from 2002 to 2011.

Total proceeds from public auctions equal EUR 1.39 billion and are slightly higher than the book value of equity that was offered for privatization (EUR 1.33 billion), thus indicating the price to book ratio of 1.04.

As shown in Figure 7, the highest level of proceeds was realized in 2007, while the lowest occurred in 2011, with only two companies sold through public auctions in that year. Total number of employees in companies that were privatized through public auctions was 185,306.

In summary, compared to public tenders, far greater number of companies was privatized through public auctions. This comes as no surprise since there were many more small and medium size companies that entered the privatization process through public auctions. In addition, the success rate (calculated as a number of companies offered for privatization compared to the number of privatized companies) is higher for public auctions compared to public tenders (88% vs. 59%) in the period from 2002 to 2011.

In spite of larger number of companies privatized through public auctions, total sales proceeds from public auctions were lower compared to public tenders, both in absolute terms and per individual companies. In addition, the amount of required investments is lower for companies privatized through public auctions than through public tenders. Finally, the price to book ratio is also lower for public auctions (1.04), compared to public tenders (1.23).

Although the sales proceeds were lower compared to public tenders, public auctions have proven to be effective and efficient method of privatization of small and medium size companies in a relatively short period of time.

Conclusion

In conclusion, we would like to summarize the results achieved by the implementation of the new Law on Privatization in order to test the hypotheses defined in the introduction. Firstly, we shall determine whether the sale of equity of socially- and state-owned enterprises, as a privatization method, is the most adequate one in the period of delayed transition. Secondly, we shall prove the hypothesis that the public tender is the most adequate privatization method for sale of large enterprises, while the public auctions are best suited for the privatization of small and medium size enterprises.

Serbia restarted the privatization process in 2001 – at the time when this process was nearly completed in other Central and Eastern European countries. This fact presented an advantage for Serbia to define a new privatization model in such a way to avoid mistakes made by other countries in the privatization processes. Besides, Serbia entered the privatization process with an economy which, after the years of sanctions and isolation, was on its knees and required not only fresh foreign capital, know-how and new technologies but also a clearly identified owner who would take responsibility for the enterprise's business. All these elements had an impact on the definition and selection of the appropriate privatization model, which was then defined under the new Law on Privatization in 2001.

Based on the implementation results shown in this paper, in can be concluded that ten years after the beginning of the implementation of the new Law, a total of 3,945 enterprises have been privatized, out of which 128 through public tenders, 2,155 through public auctions and 2,699 through auctions on financial markets. The largest number of companies was privatized during 2003 and 2007, while the highest sales proceeds were achieved in 2003 and 2008.

In addition, the success rate defined as a ratio of number of offered vs. number of privatized enterprises is rather high. This rate amounts to 59% in case of public tenders while the figure for public auctions is even higher and equals 88%.

The price to book ratio (the ratio between the sales price and the book value of equity) for all privatization methods cumulatively equals 1.11, indicating that the method of sale was successful to achieve price for equity that was higher that its book value.

The amount of required investments that buyers guaranteed through the privatization process was largest in 2002 and 2003. In the analyzed period, the ratio between the amount of the required investments and the book value of equity was 0.9 and 0.21, for public tenders and public auction respectively. The higher ratio for the tender privatization is the consequence of larger companies requiring more investments in absolute terms.

In summary, ten years following the day of initiation of the privatization process under the new Law, it can be concluded that the results of the new model are much better than the results achieved under the Law on Ownership Transformation of 1997, as indicated in Table 12.

Firstly, the number of enterprises sold under the new Law is far greater than the number of enterprises privatized under the Law on Ownership transformation, even though the number of enterprises sold is not taken as the prevalent criterion for the assessment of the privatization success. In addition, the enterprises sold under the Law of 2001 generated substantial cash revenues for the state, with additional investment and social programs what were financed by the buyers.

Secondly, because of its transparency, the selected method was acceptable to both foreign and local investors who brought in their capital, knowledge and technology to the privatized enterprises thus contributing to the increase in their competitiveness.

Finally, the method of sale enabled the state to generate substantial budget revenues (as opposed to the privatization method of free share distribution), which it later used for macroeconomic stability and infrastructure projects.

The above results support the *first hypothesis* of this paper that the selected privatization method – the method of sale – is the most adequate method of privatization in delayed transition. The new method contributed to both the privatization of a large number of enterprises in a relatively short period of time and the attraction of the "right" investors who improved business of the privatized enterprises. Additionally, implementation of the new model ensured a large influx of funds into the state budget and contributed to the improvement of macroeconomic stability in Serbia.

Privatization results presented in this paper also prove the *second hypothesis*, namely that public tender is the most adequate privatization method for large enterprises while public auctions are best suited for the privatization of small and medium size companies. Privatization through public tenders is a more complex process than privatization through auctions, considering the size of the privatized companies as well as the government's goal to attract strategic investors that usually need more time to decide whether to invest or not. In case of public auctions, on the other hand, companies are smaller, the due diligence process is shorter and the buyer is not necessarily from the same line of business. In that respect, revenues generated from public tenders as well as the amounts of required investment and social programs are far greater than those generated from public auctions. Privatization through public auctions, however, is faster and results in a greater number of privatized enterprises.

It would be unrealistic to expect the privatization process alone to bring prosperity to a nearly devastated economy such as Serbian, in a relatively short period of time. Besides, privatization is only one of the factors contributing to the success of the transition process as a whole. It is, however, hard to dispute that the new privatization concept was well suited to the political and economic circumstances that prevailed in Serbia in 2001 and that the results achieved in the meantime are impressive. The privatized enterprises are now at the forefront of the economic activity and employment in Serbia.

Table 12: Comparative overview – Law of 2001 vs. Law of 1997 (in EUR 000)

	Number of enterprises sold	Sales proceeds	Required investments	Social program	Number of employees
Tenders (T)	128	1,619,750	1,185,405	278,731	96,558
Auctions (A)	2,155	1,388,870	281.79	-	185,306
Auctions on financial markets (Tk)	1,662	684,342	5,902	-	141,839
Total (T+A+Tk)	3,945	3,692,962	1,473,097	278,731	423,703
Law on Ownership Transformation (1997)	775	-	-	-	198,632

Source: Privatization Agency (www.priv.rs)

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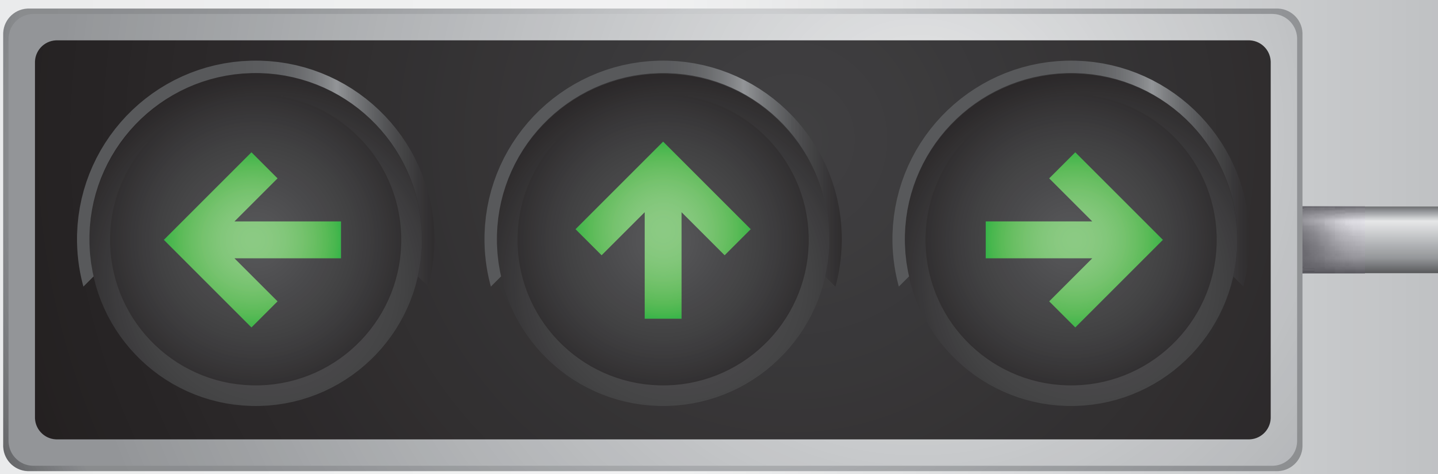

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