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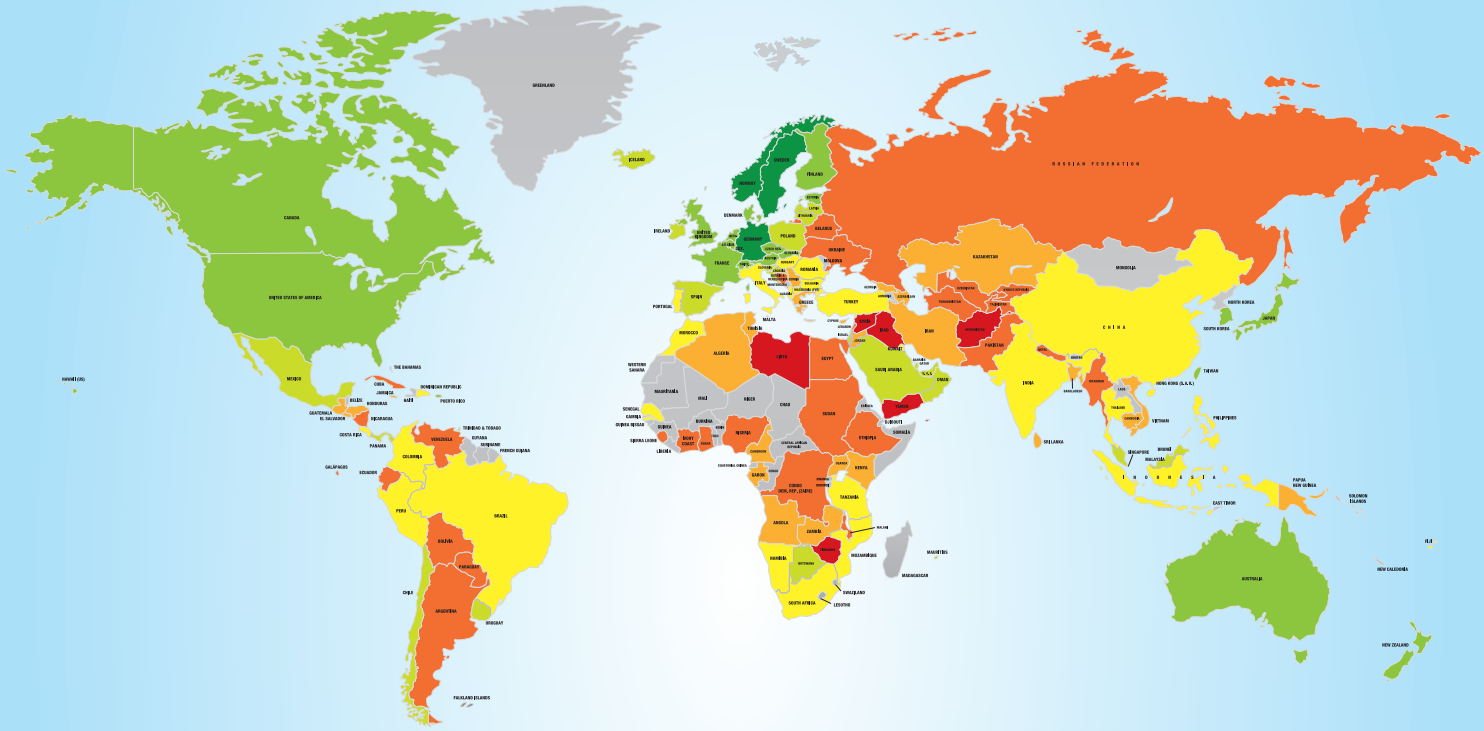

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Transition is once again in the spotlight. We know that transitional chaos is a topic that many readers have heard enough about. However, after fiscal consolidation in 2016, Serbia finally has the chance to escape more than a quarter-of-century long freefall due to transitionism (never-ending transition). As a result, in this edition of *Ekonomika preduzeća* we invited our most prolific and acclaimed authors to produce groundbreaking analyses on how to fix the economy in Serbia.

Breaking away from transitionism requires a complex reform agenda with three sets of activities: annulation of past failures, adaptation of the new policy framework and investment in structural changes. We intend to provide evidence-based answers by discussing all the relevant details from both macro and micro perspective, and their interconnections in particular. It is an attempt to create a framework from the ground up, primarily from the microeconomic viewpoint. To understand what causes growth, one must look inside industry structure and behavior of the main competitors, as well as to establish the framework from the ground up to adjust their risk appetites to the macroeconomic fundamentals.

In the *Introductory Paper*, after observing lessons learnt from previous mistakes and the emerging new normality, as well as megatrends in the global economy, *D. Đuričin* searches for the best ideas on how to restart Serbia's growth engine by employing the heterodox policy framework as a valuable alternative to the neo-liberal (or orthodox) policy framework. After fiscal consolidation, the author particularly emphasizes the complementarity of the industrial policy for tradable sectors and the pro-growth monetary and income-neutral fiscal policy. In the *Macroeconomics* section, *D. Vujović*, *P. Petrović et al.*, *M. Labus, J. Tabaković, D. Šoškić*, *S. Ranđelović* and *V. Vučković et al.* work jointly on the structural fault lines in the economy, as well as in the institutional setting for the sake of defining a sound and pro-growth economic policy platform necessary for escaping the transitional trap. Positive aspects of fiscal consolidation and monetary stability are presented, but some of the remaining pitfalls are brought to light in more detail.

Perhaps the most important insight into the problem, one which is based both on theory and real-life examples of fiscal consolidation, is offered by the Minister of Finance, *D. Vujović*. He provides a thorough analysis of the fiscal consolidation since 2015, reveals the main achievements and points to the accomplishments which yet remain to be attained. To provide a complete picture of the abovementioned reforms, *P. Petrović,* Chairman of the Fiscal Council, with two co-authors, *D. Brčarević* and *S. Minić,* as the voice of caution, indicates the gaps that Serbia still needs to fill in, despite the encouraging progress in economic and fiscal trends, in order to attain healthy public finances. The authors underline that the observed improvements rest primarily on short-term and unplanned factors that are easily exhausted. The reality will prove them right or invalidate

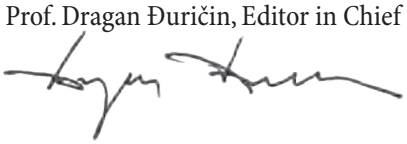
their statements. However, the results of the consolidation reform could be interpreted correctly only if they are measured in a correct manner. If we do not measure something, we cannot manage or improve it, the axiom holds. But if we measure things incorrectly, the results might be the same. The problem, as *M. Labus* demonstrates, is that we simply do not measure GDP in the proper manner. The author shows how nowcasting can provide timely GDP estimates one or two months after the end of the quarter. This is in stark contrast to the current methodology, providing reliable and revised estimates only at the end of the following year.

What does the Governor of the National Bank of Serbia, *J. Tabaković,* has to say about the monetary system? Quite a lot, as it turns out. The author elaborates the policy-measure set that reached the main monetary targets: inflation control, FX stability and stability of the financial system. Is there room for improvement in the domain of monetary policy and functioning of the financial system? In his paper, the former Governor of Serbia's central bank, *D. Šoškić,* intends to check the abovementioned paper's factsheets. The author analyzes specific problems of monetary economics and the financial system's status quo and offers recommendations. The following two papers examine the growth issue observed through the fiscal lens. *S. Randelović* examines the factors of well-established shadow economy in Serbia compared to other CEE countries and identifies key elements of the effective strategy aimed at boosting tax compliance and tax morale. Additional analysis of the fiscal policy and shadow economy comes from a trio – *V. Vučković*, *S. Vučković,* and *M. Stefanović*. The authors map out general directions of desirable tax administration reform and explore new regulatory solutions.

In the *Microeconomics* section, *A. Trbovich et al.*, *E. Jakopin*, *I. Vuksanović*, *Z. Mihajlović, S. Kisić-Zajčenko*, *D. Lončar et al.* and *G. Petković et al.* deal with different framework and sector-based analyses coupled with proposed policy measures. This section addresses competitiveness improvement from the industrial policy perspective, and its different horizontal layers, such as innovation, science and technology policy, building up entrepreneurial skills, as well as the vertical policies targeting manufacturing, transport, health care, trade, and tourism. Specifically, a trio of authors – *A. Trbovich*, *N. Savić* and *Z. Kukić* deals with digital transformation and technological development in Serbia with the emphasis on the ICT and software engineering education. Technical competence, educational background and working conditions of software developers in Serbia are in focus of the paper. *E. Jakopin,* guides us through RIS3 smart specialization process as a way for the government to foster innovation in the manufacturing sector. The role of the government in promoting economic activity and innovation in particular sectors of the economy, or in the economy as a whole, remains unclear as the debate on the topic is still ongoing. *I. Vuksanović* proposes a new approach to the industrial policy that reconciles opposing attitudes and clears away most of the stumbling blocks. A matrix approach where horizontal, framework-based policies are intersected with vertical, sector-based policies is applied to the Serbian case. In the block of more specialized papers, Deputy Prime Minister, *Z. Mihajlović* explores critical points of defining and realizing Serbian transport policy. In her paper, *S. Kisić-Zajčenko* analyzes preconditions for youth entrepreneurship, both on institutional and financial level, and provides guidelines for a horizontal policy aimed at enlarging entrepreneurial skills and the education base. *D. Lončar* and *F. Stojanović* provide a gap analysis of the health system in Serbia compared with the best practices in Europe, and offer a number of recommendations for improving the efficiency of spending public money. The last paper is dedicated to social trade and tourism. Trio of authors – *G. Petković, B. Knežević* and *R. Pindžo* introduces cases of socially responsible entrepreneurship in Serbia and Croatia. Responsibility toward society and toward nature are the final pillars supporting a circular economy that might be, from today's viewpoint, the very distant vision we are striving toward.

Accurate analysis unlocks an entire cascade of opportunities that will accelerate the pace of growth, a central issue of the future economic policy in Serbia.

Prof. Dragan Đuričin, Editor in Chief



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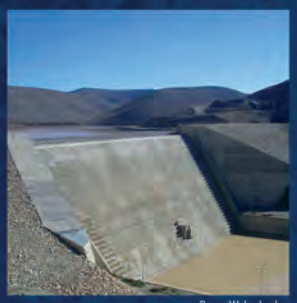

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INTRODUCTORY PAPER
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A SEQUENCED REFORMS AGENDA FOR SERBIA: TAILORING THE CONCEPTS AND INSTRUMENTS*

Redosled reformi u Srbiji – prilagođavanje koncepcija i instrumenata

Abstract

Impotent, import and debt-dependent Serbia's economy is the legacy of the geopolitical crisis in the 1990s, as well as of the misconceptions of the policy framework after the political changes in 2000. In a rapidly changing environment and without adequate remedies for failures, structural imbalances from socialism accumulated during transition. Namely, when the new normality and megatrends come into play, the existing structural imbalances are deepened. As a consequence, the risk of staying in regression is not mitigated yet, despite one-quarter-of-century intention to escape the middle-income trap through radical reforms toward democratic capitalism. However, in 2017, the chances to escape from the long-term freefall are greater than ever before. After fiscal consolidation, which was the result of a four-year-long implementation of hard macroeconomic policy regime, Serbia has reached a strategic inflection point on the path from crisis to recovery.

Even though the current Government is agile in terms of creating a balanced economy capable of growth (sustainable and inclusive), there is no smooth and painless movement away from import and debt dependence. Breaking away from the structural crisis requires a complex reform agenda with three sets of activities: a. quick annulation of past failures, b. adaptation of the new policy framework to the paradigm change in theory and policy, as well as to the new normality, and c. investment in structural changes in accordance with megatrends.

Our intention is to offer a conceptual paper. The leitmotif is to provide evidence-based answers to key questions by discussing all relevant details from both macro and micro (or business) perspective, particularly regarding their interconnections. However, it is an attempt to create a framework from the ground up, primarily from the microeconomic (or business) viewpoint. There is no intention to offer a diagnosis on lacking policy targets and unsolved challenges, or the repeated arguments "for and against", but rather to consider explanatory details and set up the problem-solving platforms. After all, the devil is in the detail. Proceeding from the new vision, through its macro (monetary and fiscal) articulation, we reach the industrial policy program for tradable sectors. While macroeconomic stability is maintained, the focus will be on the business perspective.

We hope that the arguments offered will zoom out a more profound view to the problem of transitionism in Serbia, with the intention to avoid repetition of misconceptions and overestimations. By doing this, we strive to extract value from past failures. Namely, our attention is to bring some explanations for Serbia's transition pattern of failures with the purpose to release some thoughtful ideas for repairing hidden fractures of the system and propose solutions compatible with the new normality and megatrends. In order to do that, analysis is structured in five sections, besides the introduction (the way backward) and the conclusion (the way forward). To get everything on the radar, in the first section we talk about Serbia's macroeconomic fact sheets. After observing the lessons learnt from previous mistakes in the second section, in the third and fourth section we are discussing the new normality emerging from the global economy and megatrends influencing the economic framework, respectively. Finally, in the fifth section we are dealing with the heterodox policy framework as a valuable alternative to the neo-liberal (or orthodox) policy framework.

Keywords: *middle-income trap, transition, multipronged reforms, heterodox economic policy platform, new normality, megatrends, strong macroeconomic policy regime, hybrid capitalism, industrial policy doctrine*

* This paper is part of the research conducted within the project financed by the Ministry of Education, Science and Technological Development entitled "Strategic and tactical measures to overcome real sector competitiveness crisis in Serbia", No. 179050.

Sažetak

Nemoćna, od uvoza i duga zavisna privreda Srbije predstavlja legat geopolitičke krize tokom 1990-tih godina kao i pogrešnih koncepcija iz okvira ekonomskih politika posle političkih promena 2000. godine. U brzomenjajućem okruženju i bez odgovarajućih rešenja za napravljene greške, strukturne neravnoteže iz socijalizma su se u tranziciji nagomilale. Sa pojavom novih normalnosti i mega trendova, postojeće strukturne neravnoteže su se produbile. Posledično, rizik ostanka u regresiji još nije otklonjen, uprkos više od četvrt veka nastojanja da se reši problem zamke srednjeg nivoa ekonomske razvijenosti kroz radikalne reforme, a u pravcu demokratskog kapitalizma. Ipak, u 2017. godini šansa da se izađe iz dugoročnog slobodnog pada je veća nego bilo kada do sada. Posle fiskalne konsolidacije, koja je bila rezultat četiri godine duge primene režima čvrste ekonomske politike, Srbija je došla u prevojnu tačku na putanji od krize prema oporavku.

Iako je sadašnja vlada agilna u smislu stvaranja izbalansirane ekonomije sposobne da ostvari rast (održiv i inkluzivan), ne postoji laka i bezbolna trasa prelaska sa privrede koja je zavisna od uvoza i duga. Izlazak is strukturne krize zahteva složen program reformi koji uključuje tri grupe aktivnoasti: a. brzo anuliranje grešaka iz prošlosti, b. primenu nove koncepcijske platforme u skladu sa promenom paradigme u teoriji i ekonomskoj politici kao i u skladu sa novim normalnostima i c. investicije u strukturne promene u skladu sa mega trendovima.

Naše nastojanje je da ponudimo koncepcijski članak. Laitmotiv je traženje odgovora koji su zasnovani na činjenicama u vezi sa ključnim problemima, kroz diskusiju svih relevantnih detalja iz makro i mikro (ili poslovne) perspektive, posebno u vezi njihovih međuuticaja. Ipak, u pitanju je nastojanje da se stvori okvir iz osnova, pre svega iz mikroekonomskog (ili poslovnog) ugla. Ne postoji intencija da se ponude samo dijaznoze o neostarivanju ciljeva politika i nerešivim problemima, ili da se ponavljaju argumenti "za" i "protiv", već da se daju detalji koji objašnjavaju problem i omogućavaju uspostavljanje platforme za rešenja. Polazeći od nove vizije, preko njene provere kroz makro (monetarnu i fiskalnu) perspektivu doći ćemo do programa industrijskih politika za sektore razmenljivih proizvoda i usluga. Dok se održava fiskalna ravnoteža, fokus može biti na industrijskim politikama.

Nadamo se da će ponuđeni argumenti omogućiti bolje zumiranje problema tranzicionizma u Srbiji sa namerom da se izbegnu povaljanja pogrešnih koncepcija i loših procena. Na taj način, bićemo u stanju da izvučemo koristi iz prošlih neuspeha. Naime, naša namera je da ponudimo objašnjenja za model neuspeha tranzicije u Srbiji sa ciljem da se daju korisne ideje za popunjavanje skrivenih pukotina sistema i predlože rešenja koja su u skladu sa novim normalnostima i mega trendovima. Da bi se to postiglo, analiza je strukturirana u pet delova, pored uvoda (pogled unazad) i zaključka (pogled unapred). Da bi se sve relevantno stavilo u radar, u prvom delu govori se o makro-ekonomskim činjenicama. Pošto se prouče lekcije dobijene iz prethodnih grešaka u drugom delu, u trećem delu i četvrtom delu biće analizirane nove normalnosti koje dolaze iz globalne ekonomije i mega trendovi koji utiču na okvir za vođenje ekonomskih politika, respektivno. Konačno, u petom delu bavićemo se heterodoksnim pristupom za vođenje ekonomskih politika kao korisnom alternativom za neo-liberalnu (ili ortodoksnu) koncepcijsku platformu.

Ključne reči: *zamka srednjeg nivoa razvijenosti, tranzicija, višekolosečne reforme, heterodoksna platforma za vođenje ekonomske politike, nove normalnosti, mega trendovi, čvrst režim makro-ekonomske politike, hibridne forme kapitalizma, doktrina industrijske politike*

The way backward

In today's global interactive transformative discontinuity, a clock speed of changes is moving much faster than ever before. To respond to changes, adhering to stereotypes, particularly if they are not fully applicable and with inherent misconceptions, is not a fertile approach for economic policy. One of the key questions in contemporary economics is the role of the government. In the new context, the government should be agile. The neo-liberal economics orthodoxy should not serve as an alibi for inert politicians any more.

The extent of government involvement in the economy stands as the critical difference between developed and developing economies. In a quest for a growth model and economic policy platform, a great majority of developing economies have relied on a substantial government portfolio made of industrial and financial organizations. R. Rajan [17, p. 47] refers to the model of capitalism based on the said relationship as "managed capitalism". This model is an alternative to the neo-liberal capitalism based on market fundamentalism and other versions of capitalism such as state capitalism, "two-trucks" capitalism (one country, two systems), people's capitalism, oligarch's capitalism, etc.

Under managed capitalism, the emerging state-owned organizations conducting business in the real economy and the financial sector do not operate in a vacuum. They require other organizations, mostly privately held, to provide inputs and to buy their outputs. Of course, market forces are another institutional choice which enables, through trial and error, an increase in the density of relevant business organizations. Last but not least, industrial and financial organizations, both state-owned and private, need the infrastructure and regulatory institutions to facilitate business transactions in a transparent manner, as well as the rule of law to provide safety of private property (the so-called "arm's length system") and life.

In the managed capitalism, domestic consumption is not a strong driver of growth. To win market share in the global market, national champions have to offer competitive products with attractive cost structure. They managed to do this in the tradable sectors, sectors that export or compete with the imports. Of course, the global market offers economies of scale, even though they service niche market segments owing to the effects of agglomeration. Moreover, since the size of the domestic market is no longer a constraint for profitable operations, they can choose a product portfolio based on the greatest comparative advantage. Sometimes the central bank provides a general subsidy by maintaining an undervalued FX rate. Another frequent safety measure is cash rebate for export and/or for import of equipment with the aim to create export.

Despite the enormous success in its primary objective of liberating the country from poverty, managed capitalism assumed a certain level of producer bias that was not easy to sustain. Moreover, starting from the export-oriented growth model, a developing economy faced fiercer competition in the domestic market compared to the developed countries, in part because the cost of transportation had fallen tremendously. The most serious threat is competitiveness decrease in the export markets because of the use of second industrial generation technologies. Under the pressure of global competition, both in export and domestic market, the favored industrial organizations, the "national champions", had to move up across the value chain. It means shifting focus to the cutting-edge technologies and more high-end products simultaneously. By doing so, the national economy is running the so-called "double macro deficits" (in current account balance and in capital account balance). Industrialization based on import technologies for tradable sectors does not lead to a sustainable balance of payments. Current account deficit is predominantly a consequence of the purchase of cutting-edge technology from abroad. Deficit in capital balance is a result of financing the said purchase. Two macro deficits reduce the speed of growth, and the developing economy enters the so-called "middle-income trap".

To escape the middle-income trap, it is primarily necessary to reduce the dependence on foreign borrowing. However, this is not possible without reducing technology purchase from abroad. Furthermore, *in situ* development of technology to maintain a high level of competitiveness of the domestic industry is a way to eliminate both types of macro deficits. The core challenge is the way a developing economy charts the path of technology development, not only as a beneficiary (leapfrogging), but also as an active participant in its development (*in situ* research and development). This is a complicated journey because it requires growth that is smart, as well as adequate science policy and education system which are adaptable to the requirements of new technologies. However, the results could be outstanding, because development of own technology in sectors reaching technological frontiers produces surpluses in current account and capital balance and their sustainability.

How does a developing country finance smart growth? An inside look into the structure of the current account provides the answer. Namely, the current account is just the difference between a country's savings and its investments. In case of emerging economies, M. Feldstein and Ch. Horioka [8] argue that the correlation between savings and investments is highly positive. Namely, the more a developing country finances its investment through domestic savings, the faster it grows, and vice versa. It is in contradiction with the neo-liberal orthodoxy that, as a financial market becomes global, the Internet simply stops recognizing national borders. Adhering to the previously mentioned economic orthodoxy in the real world leads to the paradox that a developing economy whose foreign debt to finance investments is on the rise, actually suffers from resource misallocation.

Where is Serbia's place in this story? After WWII, Serbia started implementing a model of growth based on industrialization, with the intention to climb the same ladder the developed economies had done, step-by-step, moving from the production or assembly segment of the value chain in low-end products, from labor and/or resource and/or energy-intensive industries to the high-end capital-intensive industries. To support industrialization, the government created state-owned enterprises and intervened in the functioning of the market to create space for picking winners so as to grow relatively unhindered by international competition. To strengthen motivation

inside the companies, the government transformed this type of ownership, moving from state-owned to socially owned, and introduced a participative management system, i.e. workers' self-management. Government subsidies and protection, combined with decentralization, have in some cases brought about rapid and profitable growth of favored companies and their transformation into "national champions". In the meantime, some companies which were best positioned in the global market distanced themselves from government interference and declared themselves as private in all aspects apart from ownership. These companies were pioneers in the "privatization from the inside" model [3] which was applied in Serbia's transition during the 1990s. After 2000, the privatization model was changed and the takeover from the inside was replaced by the sale option. Nevertheless, save for a few exceptions, companies which were privatized in the first wave of privatization are now viable private companies. Unfortunately, due to continuous government support, a great majority of grand projects remained unaffected by the positive effects of international competition. They ignored privatization by continuously looking toward the government. A great majority of state-owned companies in the commercial sector are now in the group of controversial businesses that operate at a loss (the list of "500+" companies in restructuring), posing a great financial burden to the state budget.

In the aftermath of the fall of the Berlin Wall in 1989, with the unfinished industrialization and the middle-income trap in the background, Serbia started its transition toward capitalism and full-fledged market economy. Although a typical manifestation of transition was marketization of the economy, the essence of this process in Central and Eastern Europe (CEE) was ideological, i.e. the escape from socialism to capitalism, as well as political integration with similar countries from the Western hemisphere. Contrary to the previous geopolitical inflection points, when Serbia was on the right side of history, in the 1990s Serbia's political leadership opted for a stuck-in-the-middle ideological position between the empowering capitalism and collapsing socialism. If you exchange something for nothing, you have disorder in geopolitics, finance and economy. This was exactly what Serbia did.

Misunderstanding the leading trends in geopolitics is a primary reason why Serbia still has not completed its economic transition, even though it started more than a quarter of a century ago. No doubt, dreams from the early days of transition have evaporated in the meantime.

In the previous articles [4], [5], [6], and [7] we have pointed out that the trajectory of Serbia's economic transition has been uneven. Its speed has varied. Due to an experimental and inconsistent policy framework, it has had its ups and downs, its zigs and zags. More than a quarter of a century of transition has been characterized by numerous fault lines influenced by misconceptions, overestimations and wrongdoings. Such a transition, contrary to intention to escape the middle-income trap, actually pushed Serbia into a transitional trap, a structural crisis called "transitionism" (the never-ending transition).

Causes of transitionism are not only more widespread, but also more hidden. The existence of the output gap in the 1990-2000 period and ignorance of the output gap as a priority tenet of transition strategy and economic policy after 2000, are some of the most important misconceptions. At present, the transitional output gap is about 1/4 of pretransitional output from 1989 in constant prices. The output gap is connected with unemployment. Virtually during the entire period after 2000, which is usually erroneously labelled as "real transition", with the exception of the last two years, the rebound in employment has typically lagged compared to the rebound in GDP. Jobless recovery made the poor macroeconomic performance caused by the output gap even worse.

The second fault line is connected with the so-called "non-arm's-length" system, the absence of transparency and enforceability of the contracts through the legal system. The contact between the arm's length system and the non-arm's length system creates fragility in the domestic system. When banks from the arm's length system enter the non-arm's length setting to finance investments, they hedge the risks by doing three things at once. Firstly, by releasing mainly short-term loans so that they can pull their money out on short notice. Secondly, by denominating payments in hard currency so that their claims cannot be reduced by inflation and/or a currency depreciation. Thirdly, they predominantly lend through the local banks so that if these

are not able to repay their debt, the government will be forced to support its banks to avoid a financial meltdown. By doing this, foreign investors secure themselves by getting an implicit government guarantee. With such a risk hedging, foreign banks in Serbia have little incentive to adequately screen the quality of projects financed. On the other hand, domestic banks which are managed by the government that vouches for them, have little ability to exercise adequate evaluation, especially when borrowers are climbing the ladder of cutting-edge technologies and/or investing in capital-intensive projects.

However, when projects start underperforming, foreign banks are quick to pull their money out. When it happens, the government has to go hat in hand to the multilateral financial organizations to ask for loans for structural adjustments. Instead of growth, debt leads to the destruction of growth, indebtedness and geopolitical dependency. Moreover, debt servicing, sooner or later, is connected with austerity, which is a major threat to the political stability of the system.

The third major hidden fracture of the system is connected with the dominance of politocratic mindset over the technocratic mindset in the governance of state-owned companies. The partocracy sector (state-owned companies in the network technologies business and natural monopolies, commercial state-owned companies in restructuring, public utilities and privatized companies with the government as a minority shareholder) is oversized. It dominates in assets and net equity. It is a true burden for the economy. Financial losses and profits lost due to mismanagement are triggering budget deficits and are passed on to public debt.

Buying time and gradualism in politics, as well as misconceptions in the reform framework are the true roots of transitionism. As a consequence, an out-of-tune economy runs the transitional output gap. Income level in Serbia is significantly lower than in the CEE economies. Furthermore, it is not converging with those in the EU, and there is still a long way to go before one can talk of parity. To achieve income convergence with the EU, Serbia needs to attain a compound average growth rate of 6% before 2030. Regardless of the agility of Serbia's government and its pushing forward with optimistic tenets, this achievement in the new context is almost unfeasible. Growth which is below the rate required for income convergence could be a cause of delay in integration with the EU and, perhaps, the trigger of strong political polarization and the crisis of political legitimacy.

After political changes in 2000, Serbia intensified its escape from a standstill in the geopolitical situation and clearly committed itself to the EU path. Every government, regardless of its political coloration, consistently declared to be doing everything in its power to help speed this journey up.

Accession process is a demanding roadmap, particularly from the economic perspective. Over the last period, the dominance of geopolitical tenets in Serbia's accession to the EU is quite visible (regional cooperation and relationship with the Russian Federation). Primarily, the accession process is being placed in the context of the Western Balkan cooperation. Serbia's commitment to the economic integration and regional cooperation does not rest on any dogma. It is a pragmatic expression of constructive realism to secure its rightful place in the EU as a country with a significant delay in economic transition. The neighboring countries are going to be the most decisive factor in this stage of Serbia's accession to the EU, particularly in a time when threats of terrorism and violent non-state actors are changing the global security landscape. Moreover, this is the way for promoting many initiatives with the aim to avoid encapsulation of the Kosovo issue.

The EU is a moving target for Serbia. In addition to the crisis of political legitimacy inspired by non-economic events such as the refugee influx and terrorism, growing popularity of anti-establishment politicians and concepts and confusion about soft Brexit, the list of economic challenges the EU is facing today is a long one. Fiscal deficits, growing indebtedness, rising income inequality, high unemployment rate, divergent approaches to rethinking the financial deepening, investment shortfall, particularly in real economy and technology development, growing regulatory costs inspired by climate changes and green economy are top challenges.

The EU is at a tipping point because the neo-liberal conceptual platform fundaments favoring open and globally integrated market economy are being strongly

challenged by the reality. Globalization produces two major effects in the EU. Firstly, the current account problem due to movement of goods (imports) and capital (outflows) triggers cheaper import and reduced domestic production due to outsourcing and/or downsizing. Secondly, economic immigration as the consequence of free movement of people triggers wage decrease of the native population, and exerts a growing fiscal pressure on the welfare state. In the global economy, the EU participates with 50% in social spending, while its participation is under-proportional in the share of population (7%) and GDP (25%).

There are two manifestations in the EU the trade-off between globalization and democracy: populism (or nativism) and plutocracy. Populism tries to preserve core democratic values while reducing exposure to economic consequences of globalization. Plutocracy tries to preserve globalization, particularly in case of financial markets, while sacrificing core elements of democratic capitalism by ignoring interests of the middle class regarding employment and income distribution. In the latter case, it undermines political democracy because rich people dictate the political agenda, finance politicians who protect their interests and lobby to make sure that the laws are passed in their favor. Such a political system remains democratic in its form (freedom of speech, the right of association and free election). However, with about 30,000 lobby groups in Brussels, it is plutocratic in essence.

The EU and the US reactions to the Great Recession addressed in different ways the problem of the trade-off between globalization and democracy. In the EU, nationalism dominates over plutocracy. In the US, the situation is a somewhat the opposite, although there is great uncertainty over the Trump effect in the post-election period.

Skepticism about globalization is growing dramatically after the intensification of terrorism, Brexit and the Trump effect. The EU is not broken, but it is in serious problems because certain social groups and countries in general feel like they are not benefiting from the integration any more.

Under such circumstances, it is not surprising that there are standpoints inside the EU suggesting that globalization, particularly political, is not a part of the solution but a part of the problem, which makes the said challenges even worse, and even that globalization is the primary cause of all economic problems or, at least, some serious ones, particularly when observed through the lens of the claim that modern EU is a "museum of imaginations". Those voices advocate a pause in the momentum for the EU enlargement, or even rolling it back. This is not an ideological battle between Left and Right in Europe, but between the deeply rooted intellectual platform favoring open society and integration (continuation of globalization) and the short-term pragmatism favoring a closed society and nativism (deglobalization).

If the era when globalization eventually becomes replaced by deglobalization, serious questions arise for Serbia. Given the echo effect of global economic turbulence since 2008, which is identified by the still sluggish growth in the EU and sharp slowdown in many large emerging economies in Asia, questions have arisen as to whether the convergence achieved by the majority of emerging market economies was an aberration and, consequently, whether a small and open late developer such as Serbia is destined to be a permanent hostage of the middle-income trap? And, most importantly, because this time the slowdown is primarily inspired by external reasons: Can Serbia's economy once again escape the stop-and-go conundrum?

We hope that the EU will survive. In that case, Serbia would have a chance to join the EU, because a more harmonious EU will require greater balance not only between North and East, but also between the quickly emerging CEE economies and slow-growing and even stagnant economies in the Western Balkans. Regardless of how long Serbia is to wait for political integration, compatibility of infrastructure (both physical and conceptual) and institutional setting with the EU, as well as rebooting the economy through structural reforms are the most important targets.

If succession is to end with success, a fine balance in the relationship between the EU and Serbia must be struck regarding three issues: growth in Serbia (the growth rate and character of growth), migration from Serbia to the EU and environmental sustainability in the EU. From the perspective of income inequality annulation, development

of a poor country such as Serbia and migration of young educated people to other countries are the same thing. Poor people become richer, either in their own country or somewhere else. From Serbia's perspective, there is no equivalency. In addition to this, in the era of global warning, the abovementioned tenet to increase people's income in their home country needs to be balanced by making sure that reindustrialization is ecologically sustainable.

Where is Serbia now?

Geopolitical crisis in the 1990s and misconceptions and overestimations in strategy of transition and economic policy platform after 2000 impacted the deindustrialization [4, p.293]. In the 1990-2010 period, industrial production dropped by 60% and the share of industrial production in GDP decreased from 30% to 15%. An economy which is actually in the preindustrial stage spends more than it produces. The general effect of the existing fractures in the system is a continuous insolvency threat. The latest near-death experience Serbia's economy underwent was in 2014, when the Ministry of Finance calculated that there were only 87 days before the country would default its debt. To escape the default, the usual action is to increase the debt. Raising the debt as a consequence of political pragmatism is not economically sustainable. Furthermore, it is neither ethical to sacrifice the future of new generations and to constantly monetize the erroneous doings of the present one.

However, the reforms' achievements in the last four years have shifted Serbia toward a strategic inflection point, from recession to recovery. As D. Vujović [21] pointed out, the policy of the so-called "expansionary austerity", as a conceptual platform for macro-management reforms in Serbia with the purpose to impose hard budget constraints without penalizing investments, delivered results. Hard budget constraint is a basic proposition in the hard macroeconomic policy regime.

Macroeconomic fact sheet for the period 2013-3Q 2016 is presented in Table 1. Trend analysis shows, first and foremost, that fiscal consolidation is nearly completed. In 3Q 2016 Serbia achieved fiscal balance. Fiscal deficit at the end of the year was 2.0%, which was twice less than in 2015. Fiscal deficit was decreased due to austerity measures, enhanced tax collection (tax revenue growth y/y was 7%), and costs reduction in utilities and other companies from the state-owned portfolio. For example, in the City of Belgrade, after implementation of crisis management measures during the last two years, public utilities are now operating without subsidies. Also, liquidity improvement is significant in state-owned companies operating in strategic sectors (energetics, telecommunication, gas, military). Fiscal discipline is the most important achievement of such policy, because fiscal imbalance always jeopardizes growth prospects.

Growth in the positive territory (2.6%), after three successive recessions after the 2008-global economic crisis is also a respectable macro-management achievement indicating a turnaround. The main drivers of growth, on the demand side, ware investment and export, while there were also smaller contributions of private and public consumption. On the supply side, growth was generated

Table 1: Macroeconomic indicators, 2013-3Q 2016

Indicator/Year	2013	2014	2015	3Q 2016
Budget deficit (%GDP)	-5.2	-6.3	-2.8	0
Real GDP growth (in %)	2.6	-1.8	0.8	2.6
CPI (in %)	2.2	1.7	1.5	0.6
Unemployment (in %)	22.1	19.2	17.7	13.8*
Current account (%GDP)	-6.1	-6.0	-4.7	-3.4
Public debt (%GDP)	59.6	70.4	74.6	70.8
External debt (%GDP)	74.8	77.1	78.3	76.0
FDI net, (mill. €)	1,298	1,236	1,800	1,532
FX rate	113.14	117.31	120.73	123.29

* Since the official unemployment rate of the Statistical Office of the Republic of Serbia have provoked an ongoing debate on its reliability and accurateness, the National bank of Serbia kept the figure from 2Q, while the Ministry of Finance gave the average figure for all three quarters (16%).
Source: National Bank of Serbia, Ministry of Finance of the Republic of Serbia, Statistical Office of the Republic of Serbia.

predominantly by manufacturing, infrastructure and infrastructure-related businesses, construction, agriculture and food processing.

Price stability is maintained in both components, core inflation and consumer price inflation (CPI). For example, the CPI y/y was 0.6%.

The FX rate is stable, and after years of appreciation it is gradually depreciating, which is expected to produce a further positive impact on the current account.

Public debt is shrinking, and in the 3Q 2016 it was on the level of 70.8% of GDP. Debt reduction is symbolic, but it is a step in the right direction.

Last year's improvements in macroeconomic fundamentals are followed by related performance improvements.

Unemployment is still high (13.8% of the ILO rate), but in the positive trend, particularly in the segment of youth unemployment, which is significantly reduced and is now at the level of 28.5%. Investment ratio is 4.0%. Share of export in GDP is increasing and it now amounts to 42.2%. In the first three quarters of 2016, export grew by 10%, while import was raised by 3%. External trade is almost entirely levelled with Europe (93%). Business climate is in the process of improvement, too. The World Bank has announced some improvements in the business climate (a nine-positions advancement in rank in the Ease of Doing Business list) and the World Economic Forum declared a certain improvement in the global competitiveness index (by 4 positions).

Another factor of a country's credibility is its credit rating. The City of Belgrade recently received Moody's credit rating B1/tendency positive. It is very important, because capital's contribution to the country's GDP is almost 40%. The same rating agency awarded Serbia with the exact same credit rating, which confirms the reasonable level of safety for global investors. Standard and Poor's and Fitch rating agencies changed their outlook from BB-tendency "negative" to BB- tendency "stable".

Recent successes of expansionary austerity policy could mask the deeply rooted fractures in the system.

Paradoxically, people's aspirations and expectations, particularly from groups not fully relevant for economic

Table 2: Vulnerability indicators, 3Q 2016

Indicators	Value	Reference value	Type of vulnerability
Transitional output gap	25.0%	0%	OPERATIONAL
Okun index (inflation + unemployment)	14.4%	<12%	
Gini coefficient	38.2%	<30%	
Macro deficits			
• Current account	3.4%	<5%	
• Consolidated budget deficit	2.9%	<3%	
Dependency ratio	1.1	>2	
Youth unemployment	28.5%	<20%	
Indebtedness			FINANCIAL
• Public debt/GDP	70.8%	<45%	
• External debt/GDP	76.0%	<90%	
• External debt/Export	153.4%	<220%	
Non-performing loans	19.5%	<10%	
Credit rating			
• S&P's	BB-/stable	ranking > BB+	
• Fitch	BB-/stable	ranking > BB+	
• Moody's	B1/positive	ranking > Ba1	
Export (goods)/GDP	42.2%	>50%	COMPETITIVE
Currency fluctuation (2015/2014)*			
• Nominal depreciation	2.53%	<5%	
• Real depreciation	2.54%	<0%	
Global Competitiveness Index	90 out of 138	65- CEE average	
Ease of Doing Business	47 out of 190	60- CEE average	

* September 2016

Source: National Bank of Serbia, Ministry of Finance of the Republic of Serbia, Statistical Office of the Republic of Serbia.

recovery such as pensioners and employees in the public sector, have in the meantime been rising faster than the real growth.

Vulnerability indicators for 3Q 2016 presented in Table 2 show a dual nature of Serbia's economic reality, the shining upside and the dangerous inside. Despite positive trends in macroeconomic performances, there are still many weak points and many reasons for concern.

Transitional output gap is still wide (25%). The Okun index (14.4%) is not in line with standards (<12%). Dependency ratio, on a very low level (1.1), still threatens the stability of the pension fund and, hence, the entire fiscal system. Despite notable official decline and some controversy about the level of unemployment, [15] and [16] vs. [2], the unemployment is still high.

Income inequality is maybe the most important indicator of the vulnerability of the system. According to [10], the Gini coefficient of disposable income (income after taxes and transfers) is 38.2%. This is the highest value in the Europe. For example, in the EU, the average value of Gini coefficient is 31%. The situation can only go from bad to worse since the natural demographic increase has not seen positive figures for many years and currently stands at – 5.3‰. With these figures, it would be overly unrealistic to assume that the inflection point could appear even in the longer term. In such an "old" country (average 42.2 years), youth unemployment (28.5%) is particular reason for concern if we know that the movement barriers are being lowered and the risk of brain drain threatens to become a major obstacle for future growth. When "citizenship rent" in terms of B. Milanovic [12] does not exists, departure of young well-educated people will increase the demographic risk and jeopardize the recovery prospects.

Despite the income gap *vis-à-vis* the developed countries, inequality between the rich and poor in Serbia which originated during transition is on the rise. Punitive taxation of the rich to achieve a more equitable distribution of income could be an alternative. However, effects of such a policy are not powerful enough because Serbia has a thin crust of the rich. Also, a smaller emphasis on redistribution would satisfy those who believe that high taxes have negative effects on growth. Moreover, implementation of such policy could be even counterproductive in a way that it could demoralize poor people with entrepreneurial agility in their intention to become rich. The situation concerning the income gap has been improving over the last four years, but wages generally do not increase *pari-passu* with growth due to austerity measures.

Although growth has been in the positive territory during last two years, it is actually the crawling growth that indicates that the economy is too sluggish for sustainability of employment. To cut it short, the economy is impotent. In 2016, after two successive years of positive growth, Serbia only recovered its GDP level from 2008. Public and external debt are decreasing, but they are still at a high level in comparison with the relatively low level of economic activity. The level of the FDI is volatile and not at a level that is high enough to foster a more dynamic economic growth. Also, stability of the financial system is still in danger because the level of non-performing loans (19.5%) did not drop fast enough compared to the previous year (21%). Progress in the share of export in GDP (42.2%) is evident but it is below the sustainability threshold of 50%.

Small improvement in investment ranking announced by the big international credit rating agencies means that the economy needs to pay lower interest rates for its debt. It is the lead indicator of the credibility of the government and attractiveness of the economy from global investors' perspective. Nevertheless, we must be realistic and know that the current investment ranking is only one step away from the speculative grade.

The FX rate is stable and slightly depressed, but this is orchestrated by open-market operations of the central bank. Such behavior is very expensive and leads to another paradox such as "the hard currency in a weak economy", as well as to crowding out the corporate sector from debt financing.

Inadequate level of financialization is another factor of vulnerability. The share of debt in GDP (56.5%) in Serbia is below the safety level (80-100%), which indicates the counterproductive character of capital markets. Also, the level of financialization is significantly below the comparative level in the global economy and Europe. Yet,

from Table 3 we can draw other valuable conclusions. It is expected for the capital markets to be less worth than the debt market, much less when compared to total bank assets. However, in Serbia, market capitalization accounts for 10% of GDP, compared to 83% and 75% of GDP in the world and Europe, respectively. Too thin for the country that hopes to achieve above-average rates of growth. The dangerous outcome is that, in an economy with barely breathing capital markets, the financial system becomes bank-centric and the economy can only pray that the cost of capital which is elevated for investment financing would be fair and economically acceptable. Something that was so far hardly seen in Serbia. To put words in numbers, when comparing crude ratios, the disproportion becomes obvious at first glance. It is virtually four times larger in Serbia than in the global economy, and more than twice larger in comparison to Europe. In a country with a significant level of household savings (21% of GDP), it is yet another contradiction of the system.

No doubt, the trends are good, but the macroeconomic performance improvement is not good enough. In Serbia's economic body there are many bleeding points, primarily subsidy releases to the "500+ list" companies, budget support to the pension fund as a consequence of the pay-as-you-go system, etc. At the same time, the economy desperately needs new investments because it is still impotent and without adequate earning power, as well as without density of relevant players to provide necessary funds not only for sustainable development, but also for a normal functioning of the state.

Development is more than growth. Development is a prerequisite for sustainability and it is synonymous with improvements in people's well-being. Right now, policymakers are looking for the answers to two key questions. Firstly, will fiscal consolidation in 2016 be sustainable? Secondly, will this year's growth be sufficient for sustainable employment?

Overcoming the structural crisis requires a multipronged reform agenda with three groups of activities: a. quick annulation of the past failures, b. implementation of the new policy framework in accordance with the paradigm change in theory and policy, as well as with the new normality, and c. investment in structural changes in accordance with the megatrends.

If Serbia intends to accelerate its growth, it must be capable to define adequate solutions for all the mentioned activities. A relatively easy way to do it is the emancipation of state-owned companies operating in the strategic sectors (natural monopolies, network technologies, military etc.). However, this requires two things at once: smart investment and full implementation of corporate governance. For the loss-makers in the commercial sector of the state-owned portfolio, many renowned economists are advocating bankruptcy as a solution. A soft budget constraint on microeconomic level jeopardizes the hard budget constraint on the macroeconomic level.

Concerning the annulation of certain failures from the past, particularly in the segment of restructuring the state-owned companies, we have observed some causes for optimism. This is an extremely sensitive political problem because rightsizing is connected with job cuts and the rising pressure on budget (voluntary leave program). The fact that after successful privatization of *JAT* (airline) and *Železara Smederevo* (steel plant), the state-owned giants in the commercial sector such as *Galenika* (pharmacy), *Petrohemija* (petrochemical industry), *Resavica* (mining) and *RTB Bor* (mining and smelting combine) are in the preparation stage for restructuring is encouraging. But there is a plenty of work to be done on restructuring (including termination) the loss-making state-owned

Table 3: Financialization benchmark: Serbia vs world (and Europe)

Y: 2013	GDP (USD Bln)	Stock market capitalization (USD Bln) (1)	Debt market (USD Bln) (2)	Bank Assets (USD Bln) (3)	Debt as a % of GDP	Debt + Bank Assets (% of GDP) (2+3)/GDP	Financial sector (% of GDP) (1+2+3)/GDP	Crude Ratio %(2+3)/1
World	75.500	62.600	97.300	126.700	128.87%	296.69%	379.60%	357.83%
Europe	16.700	12.600	30.000	48.700	179.64%	471.26%	546.71%	624.60%
Serbia	46	5	26	46	56.52%	156.52%	167.39%	1440.00%

Source: National Bank of Serbia and Belex.

commercial enterprises from the "500+ list". Successful restructuring of these companies will relieve the state budget by the amounts of subsidies and increase room for larger investments in infrastructure.

What can Serbia learn from previous failures?

The outcomes of the reforms will be dramatically worse if the fractures from the past are not bridged. By doing this, it is first important to specify the list of the main fault lines. And, most importantly, to identify what we can learn from them.

There are four obvious failures we can identify from the previous discussion on Serbia's macroeconomic fact sheet which need to be resolved.

1. Abandoning the geopolitical stuck-in-the-middle position
2. Definite withdrawal from the populist economic policy regime
3. Adequate list of economic policy tenets
4. Restructuring the companies from the state-owned portfolio

1. Abandoning the geopolitical stuck-in-the-middle position. After the fall of the Berlin Wall, political leadership in Serbia did not realize that the driving idea behind globalization is free-market capitalism (political democracy + market economy). An additional idea in the former socialist states from the CEE, the Trans-Atlantic integration, was geopolitical in nature. Misunderstanding these realities was the trigger of the breakup of Yugoslavia as the umbrella state of Serbia, and of its side effects such as the geopolitical crisis, destruction of the economy, demographic risk increase and significant delay in economic transition. It was the most dangerous period Serbia has ever experienced. In the meantime, other CEE countries, including two former Yugoslav republics, have enjoyed benefits of proper positioning *vis-à-vis the* new reality. Now they are recording better performances and they are more capable to struggle with the new normality and megatrends.

The American exceptionalism or the global economy domination by one superpower did not last long. Now it is obvious that the emerging global arena will be multipolar. Today, the US remains a leading economic power, but this time as a leader in decrease not only due to some inside regression tendencies, but also because of the rise of other powers. The basic values agreed upon for the world economy to flourish can no longer be based on the Western value system and concepts alone. The future world will not only be multipolar in terms of politics, but also multi-conceptual in terms of growth model and economic policy platform. Last but not least, all these changes lead to ideological and conceptual discourse. Instead of a neo-liberal blueprint, the new normality is the existence of many hybrid capitalist systems.

In the emerging world of multipolar geopolitical and conceptual regime and interconnected national economies, the ultimate goal is again growth, but this time growth which is sustainable and inclusive toward the people, as well as toward nature. Despite the omnipresent crisis in the EU inspired by financial meltdown, Brexit, policy on the refugees and the results of the last US election, there is a legitimate reason for hope that integration inside the EU and cooperation with the rest of the world will ultimately prevail.

A microscopic economy such as Serbia must understand the new geopolitical reality and position itself toward it. In today's world, complementarity between economic systems is critical. However, connectivity is crucial. Namely, it is more important to whom you are connected than who you are. Europe should be a priority for Serbia, at least because Serbia is geographically a part of it. Also, the EU is its largest trade partner. Nevertheless, inclusiveness toward the rising economic powers also makes sense.

2. Definite withdrawal from the populist economic policy regime. Absence of discipline to spend and borrow prudently when running large trade and budget deficits is a major indicator of populist economic policy (or soft budget constraint). It is a risky behavior to expand domestic spending rapidly through foreign debt financing, whether the expansion is through consumption or investment. In Serbia's recent history, including the period after political changes in 2000, there were three major drivers of soft budget constraint policy. Firstly, the Government spending through pension increase and wage increase in state-owned companies empowered by proceeds from

privatization. Secondly, credit expansion (primarily, cash loans and mortgages) which allowed people the possibilities for consumption and investment that their small income would otherwise not support. Use of loan as a populist palliative confirms that populism and loan are familiar bedfellows. Thirdly, loan guarantee offerings and subsidies release to loss-making state-owned enterprises, as well as favored local governments with the argument "too politically important to fail" is a manifestation of populistic economic policy, too.

Instead of controlling its spending, a populist government that has exhausted its ability to borrow domestically turns to foreign creditors to finance its growing debt. Trade deficit is the reason why demand for hard currency exceeds supply. Inspired by inflation control, the National Bank of Serbia (NBS) comes into play to defend the national currency in circumstances of high current account deficit by offering hard currencies from foreign exchange reserves. This policy is a primary reason why foreign exchange reserves are constantly being depleted.

3. Adequate list of ultimate economic policy tenets. Inadequate list of policy tenets is a serious fault line. After the year 2000, architects of transition in Serbia were explicitly guided by the neo-liberal doctrine. Privatization, deregulation and liberalization were the main pillars of such policy framework. Inflation targeting was the key policy tool in that wisdom.

Until 2013, primary goals of the economic policy and structural reforms were inflation (low and stable) and capital market development. In both cases, policymakers regularly missed the proclaimed targets. With the exception of the last two years, in the entire period, neither the target levels of inflation were reached, nor was the inflation corridor respected. As far as development of capital market is concerned, it was a total disaster. Namely, after privatization of the commercial part of real economy and almost the entire financial sector, capital market is not only thin, but also in retardation.

It is easy to be cynical about political motives, but hard to establish intentions, especially when the intent to increase inflationary pressure is something that the policymakers wish to deny. As we argued repeatedly in the previous articles [6] and [7], using the income from privatization was a Machiavellian plan to assuage anxious voters with salary and pension increase, as well the greedy bankers with the high yield.

The NBS bears certain responsibility for some experimental policies which are not neutral for different sectors of the economy. Some sectors were impacted in a positive, others in a negative way. In the middle run, the financial sector benefited, corporate sector suffered. Also, the NBS is responsible for some misconceptions. Typical example is the treatment of proceeds from privatization as a form of export, rather than divestment. It triggers an increase in money supply, artificially creates inflation pressure and leaves room for restrictive monetary policy measures, an outcome that unequivocally acts against the corporate sector. As a consequence, monetary policy concentrated on inflation actually influenced inflation through its own mistakes. Moreover, it led to an increase of the cost of capital and to a real appreciation of the domestic currency.

Paradoxically, maintaining the FX rate stable by selling currency reserves precisely to the buyers of securities that the NBS had issued to sterilize the liquidity surplus, proceeds from privatization ended up, via foreign banks, outside of the domestic monetary system. Costs of protecting the FX rate to keep the inflation under control approached the level of the FDI. Paradoxical as it is, such policy strengthened another contradiction, "strong currency in a weak economy". High cost of capital due to monetary policy exclusively guided by inflation (low and stable), as well as crowding out the corporate sector due to debt financing were the main causes of their low or even negative profitability.

Last but not least, strong departure of prices of different factors of production, including energy, from fundamentals is another indicator that deep structural imbalances still exist despite liberalization.

4. Restructuring the companies from the state-owned portfolio. If Serbia intends to continue its growth, it must be capable to catch up quickly with new investment opportunities. A relatively straightforward way to do this is the emancipation of state-owned companies in strategic sectors (natural monopolies, network technologies, military etc.).

This requires two things at once: smart investment and full implementation of corporate governance. However, intensification of investments without restructuring (rightsizing the assets, capital and number of employees) is a policy of "saddling a dead horse". The problem, of course, is not with the implementation of modern tools, but with professionalization of business management and corporate governance instead of appointment of political party nomenclature. For loss-makers in the commercial sector in the state-owned portfolio, many renowned economists are advocating bankruptcy as a solution. Soft budget constraint on microeconomic level jeopardizes hard budget constraint on a macroeconomic level.

Without state sector restructuring, public debt is becoming the tail wagging the dog.

The neo-liberal conceptual framework has been discredited by its inability to produce balanced and inclusive growth, even in high-income economies with developed capital markets and well-organized institutions. Replacing the old paradigm of value maximization economic agent with perfect information requires an important economic event to reveal the discrepancy between what the paradigm teaches us and how the real world works. This is precisely what global financial meltdown in 2008 did. The new paradigm that is being created from the new structural economics [18] and [20] will take some time to impose itself. However, once we start seeing economics through a new lens, we will not be able to go back to the old ways of thinking.

In the new policy framework, instead of inflation (low and stable), a more relevant tenet is going to be the output gap (low and stable). In the economic policy (and structural reforms), development of tradable sectors is a more relevant tenet than capital market development. In addition to this, to boost investment, the development of the arm's length financial system must be on the radar of the reformers.

The new growth model, with the focus on tradable sectors, must respect the microeconomic (or business) perspective, while not ignoring the macroeconomic one. Industrial policies must support expansion of tradable sectors. Cost leadership in sectors with comparative advantage and high-end products in sectors with competitive advantage are the ways to substitute import and expand export and, by doing that, to eliminate the solvency problem due to double macro deficits. In the new context, the government could not escape the responsibility in selecting tradable sectors and setting up adequate policy measures. An agile government may need to generate new core capabilities and invest in them to support important, forward-looking strategic sectors considering the dynamic feedback loops between them.

Development of qualified and credible labor force through retraining the workforce and creating skills a modern economy needs, including technological entrepreneurship, must be in the focus of the reforms, too. This also requires reforms in the education system aimed at lifelong learning. There is also space for improvement in research and development. The government invests about EUR 100 million per year in research and development projects which are not fully in line with economic needs. In a country with such a level of debt, the PPP could be one of the feasible solutions. Accession to the EU technological platforms also makes sense [11]. Redefinition of the project proposals selection is an issue that matters. Last but not least, health care has one more important component, basic human capital.

How to harmonize the previous requirements? A systemic approach is needed if the economy intends to escape a long and deep structural crisis. A model of growth based on tradable sectors' expansion and heterodox policy framework constitutes an adequate conceptual platform for meeting the abovementioned requirements. It brings in a new approach and tools for addressing and effectively solving failures from the past and for quickly responding to the challenges from the future.

New normality in the global economy

Today's economy and the world we live in are evolving at a faster pace than ever before. Also, changes are getting deeper, but not always in a good direction. In such an ambiguous time of hypercompetition for everything relevant, there are at least three certainties. Firstly, strategy for repositioning *vis-à-vis* the changing environment needs to be adapted constantly. Secondly, the players of

the competitive game at some point of time have to be agile if they plan not only to prosper but also to survive. Thirdly, in the process of repositioning toward leading trends, failures continuously happen.

The purpose of the strategy is recognizing the impeding change and capitalizing on it. The trick is to be sensitive enough, particularly toward the "weak signals" concerning the "big things", and to reconsider the ongoing strategy. The future is not a far-off point. It has to be considered that it arrives day-by-day. Attention to weak signals gives rise to nonlinear thinking which helps an organization, from company to national economy, to predict and execute various plausible futures. For a national economy, early evidence of emerging trends in (geo)politics, technology, demography, economic policy platform, environment, culture, etc. are weak signals. In the case of Serbia, picking up the weak signals enables proper geopolitical repositioning, speeding up the transition, catching up with emerging trends and acceleration of future growth through intelligent investments.

Because the clock speed of changes is becoming much faster than ever before, companies must be more agile. Agility is a prerequisite for responsiveness which begins with a clear understanding of the circumstances that favor or threaten an organization, or both. The future is mostly unpredictable because it is shaped by nonlinear changes and unlimited number of chance events which are sometimes called "strategic inflection points".

A quest for solutions demands creativity. However, the high risk-high return approach is connected with intensive failures. Creativity means the right to fail. Nevertheless, democratization of fear could be one of the purposes of the new mindset. People must be suitably prepared for changes, because when we live in an exponential time we must think exponentially.

Two normalities are observable in today's world:

1. Deglobalization
2. Industrial revolution 4.0.

1. Deglobalization. Recession and particularly anti-recession measures (primarily quantitative easing and negative interest rate policy) actually discredited the idea of universality of the growth model, economic policy platform and global integration.

The model that does not provide global growth exhibits certain deviations from the fundamentals. One of the most important deviations is deglobalization. The key reason for the shift toward deglobalization derives from the balance of economic power change. From 1960 to 2015, the growth rate in the developing countries averaged 4.7%, while in the developed economies the growth rate during the same period was 3.3%. As a consequence, the share of developing economies in global GDP rose from 34% in 1980 to 55% in 2015 [9, p. 279]. Search for new sources of values in the post-crisis period in the developed world that requires impact on other countries is a new phenomenon triggering dramatic changes in geopolitics.

Paradoxical as it is, the new trend toward deglobalization is initiated by the main promoter of globalization, the political elite from the West. A policy based on a plausible, but flawed theory which in practice favors the financial elite is a classic example of the distorted thinking caused by the imbalance of power.

Recession in developed countries, followed by a slowdown of emerging economies, provoked by the financial meltdown starting from the developed world, is a direct consequence of misconceptions of the neo-liberal growth model and the related economic policy regime. A growth model based on financialization and economic policy regime which relies on inflation targeting led to misallocation of resources, speculative bubbles (not only in the financial sector), slowdown and recession. Combination of deregulation, particularly in capital markets, privatization, liberalization and inflation targeting did not work well, particularly when it comes to the issue of balanced growth. Growth in the financial sector which is not aligned with growth in the real economy leads to financialization of the economy, perhaps a great pathology of the system. According to [13, p. 74], financialization is the increase in the influence of financial markets, institutions and elites over both the economy and other institutions of society, including the government.

Each economic crisis imposes costs on the government in the form of lost tax revenues and fiscal imbalance due to increased spending. Paradoxically, the largest financial intermediaries who were labelled as culprits for the crisis grew rapidly before the crisis, and got even bigger in the

post-crisis period. The fact that after the crisis the share in GDP and profit of the financial sector had grown despite the aftereffects of the crisis confirms that the players in the financial markets are both causes and beneficiaries of the financialization.

The fact that total financial assets are ten times the value of the global output confirms that the global economy is awash with capital. The leap in size and profits has also increased the financial sector's influence on governments, particularly on the ministries of finance and the central bank. A typical example of experimental policy push in the monetary sphere is the negative interest rate policy. Owing to such policy, the cost of capital is going to be insignificant. A dangerous analogy would be a combination of abundant and cheap fast food, which leads to the creation of two pathologies in human society, an epidemic in obesity and diabetes.

There are three major ways in which financialization undermines national economy. Firstly, misallocation of resources. National economy is pumping key resources, including human capital, into the financial sector, distancing them from real economy and the public sector. Secondly, a larger and more complex financial sector may be more exposed to volatilities, including crashes. Thirdly, as financialization increases, investments in financial assets tend to crowd out investment in real assets, because capital markets prefer short-term and liquid assets.

A growth model based almost exclusively on services, and predominantly on financial services, is not sustainable, because activities in services are distributive by nature. Rent-seeking is a typical behavior of a distributive mentality which involves trying to make profit by manipulating regulatory policies. Also, a significant share of transactions is zero-sum, instead of positive-sum. When national economy's most productive people transfer from entrepreneurial and public to rent-seeking sectors and from win-win to zero-sum activities, the victim is growth. Namely, in a financialized economy, the financial tail is wagging the economic dog. Dominance of rent-seeking inhibits investments in real assets, as well. Despite the historically low interest rate, corporations in developed economies are sitting on massive amounts of cash and failing to invest in capital expenditure and innovations that might foster growth, advocating yet another serious fracture of the system, high risk aversion. This brings us to the question of how this pattern of behavior is linked to overall economic sluggishness. Most theories of growth are developed at the macroeconomic level. This perspective is good for spotting correlations between capital expenditures and innovation and growth, because the outcome is their impact on growth. Nevertheless, to understand what causes growth, you have to crawl inside the industrial organizations and to form a framework from the ground up to adjust risk appetite to the market opportunities.

Wealth concentration is one of the weakest points of the neo-liberal model of capitalism. Despite global growth, relative income inequality has been on the rise. According to B. Milanovic [12, p. 22], not only have the income gaps between the top and the bottom widened in developed economies, but globalization has also favored those who were already better off. Namely, absolute income gain also exists. Between 1988 and 2008, the period coinciding almost exactly with the years from the beginning of transition in the CEE to the global economic crisis, the global top 1% (which includes about 70 million people) increased its share in global and in local income (in 24 out of 26 countries for which data are available). In this period of the so-called "high globalization", which also coincides with monopolar world order, one half of global plutocrats were American. According to Oxfam [14, p. xiii], almost half of the world's wealth is owned by the global top 1% of the population, and the bottom half owns as much as the richest 85 individuals.

Contrary to expectations, anti-crisis measures which are fully inconsistent with the neo-liberal orthodoxy lead only to the irreversibility of the crisis. Maintaining the status quo in the developed world with an inherited inefficiency of experimental policies was followed by a slowdown of the developing world, and even by deglobalization. The most important cause of deglobalization is the proliferation of economic sanctions as a foreign policy tool. Strengthening ties between trade and geopolitics changes the paradigm in terms of increase of trade and capital flows between emerging super economic blocks, both West-West and East-East, as well as the growing power of state wealth funds and state-sponsored projects, particularly in infrastructure and strategic sectors.

All these changes lead to an ideological discourse. Instead of the neo-liberal blueprint of capitalism during the 1990s, when there was no power to balance them, the new normality is the existence of many versions of a hybrid capitalist system. Now the question is: What are the inevitable components of these systems?

2. Industrial revolution 4.0. The situation with the new industrial revolution is ambivalent, not encouraging, but also challenging. In every development stage of humankind, technology is an enabler, the factor influencing opportunities (inclusive innovation) and threats (disruptive innovation), or both (structural changes). In the Industrial revolution 4.0, information and communication technologies bring about a profound and systemic change. They have the potential to revolutionize everything, including other technological fields. Breakthrough innovations are, actually, the amalgams from digital, physical and biological worlds. Also, today's competition is a struggle between amalgams of products and services. This will require that we master and lead in what might be termed as inclusive innovation (instead of disruptive innovations). Such approach creates double amalgams which are usable, available, affordable and accessible to the entire population.

In the context of the Industrial revolution 4.0, a great many of innovations might be the drivers of disruption, but it is up to us to address them and introduce the changes that are necessary. A number of disruptive innovations are leading to a technology-driven destruction of jobs. Some new technologies will affect jobs in any single category in exactly opposite directions, one creating jobs and other destroying them. We must shape the potential of disruptive innovations by transforming threats into opportunities. To do that, we need a new type of intelligence as combination of contextual, emotional, inspired and physical components [19, pp. 106-114].

There is general recognition that the ICT has the capacity to unleash a new era of industrialization. Without close integration of virtual innovations from the ICT and industrialization (implementation of physical innovations) through investment and the spillover of emerging amalgams across different industries, no national economy in the world has been able to close the development gap between itself and those at the frontier. Innovations in the ICT such as cloud computing and big data have the capacity to become an integral part of the product itself and formation of smart connected products. The phrase "internet of things" (IoT) has risen to reflect the growing power of smart connected products in modern economy.

As a consequence, one of the most important horizontal industrial policies must be aimed at the ICT sector. Spectacular digital transformation of our lives, the way we live, work, think and act due to the advent of mobile internet, automation of knowledge work and cloud technology is already there for us to see. Emergence of a smart physical world due to advances of the IoT, intelligent distribution, nanomaterials and additive manufacturing should be on the radar of policymakers. Also, life science and related industries matter. Last but not least, every national economy must consider the future energy technologies, particularly renewable energy, as well as energy storage.

No national economy escaped the influence of deglobalization and the latest industrial revolution. Living tactically while strategic changes take place is not an adequate response. To position itself and to navigate through the modern world complexities is a fundamental skill for a small, open economy and, what is more, an economy with significant delay in development. In today's world, the key question is not who you are, but to whom you are connected and how.

Megatrends affecting long-term economic prospects

In any stage of humankind development, there was a coexistence of social context and technology. Also, they are the main determinants of the management approach, both macro and micro and, consequently, of the economic development. This is applicable to all national economies, developed and developing, large and small, introvert and extrovert. The impact of social context on economic development is more diversified than the impact of technological change.

According to the partially modified source [9, pp. xxxvi- xxxviii], eight global trends can be isolated in the segment of social determinants of economic development until 2050. The trends are as follows.

1. Globalization of trade and investment. Certain instances of rethinking in the post-crisis period aside, globalization is too strong a force affecting everything ranging from our knowledge, impact of information asymmetries (information arbitrage), division of work, diffusion of innovations, factor income and employment prospects to availability of certain goods and costs of their production. Also, globalization introduces new rules pertaining to inclusivity toward nature, such as limitations on carbon emission or sustainability of growth, e.g. crackdowns in international tax evasion.

There is little doubt that, on the whole, globalization has proven beneficial even if losers in the process were inevitable. Despite certain expressions of deglobalization and slowdown factors, stability of globalization is evident. Continuation of the globalization process would permit a steady growth both for the developed and developing world, and contribute to geopolitical stability. However, global trade is growing slowly due to transition between the old trade world, based on national production and obstacles to trade protecting the producers, and the new trade based on transnational production and obstacles to trade protecting the consumers. For developing economies, integration of the domestic value chain and the global value chain through industrial policy measures is a great challenge.

2. Globalization of finance. Continuation of this trend could act as a positive factor for developed and developing economies, and will create more opportunities, particularly if the arm's length financial system functions well. It also creates many risk stressors, primarily regarding risky debt instruments. Prevention of reoccurrences of the financial crisis requires the reform of global macro-management in terms of monetary, financial and tax systems, as well as of the institutions.

3. Middle class expansion. It is a consequence of sustainable and inclusive economic growth. Economic history teaches us that the emergence of a large middle class is a powerful moving force for economic and social development. Moreover, the existence of a strong middle class adds pressure on politicians to keep their promises, deliver tangible results and be held accountable

4. Demographics. By 2050, the world will have 9.7 billion people, compared to 7.3 billion in 2015. More than one half of the net increase will happen in Africa. Population ageing and workforce shrinking will be observable in all geographies, except in Africa and the Middle East. Divergence in demographic trends and capacity for job creation will pose a challenge for the developed part of the world, far beyond the current level of emigration in the EU. Strictly from the economics perspective, demographic dividend is a strong driver of economic growth. Demographic dividend loss has a negative effect on growth prospects and on social services financing.

5. Urbanization. In Europe, North America and South America of today, 2/3 of the population live in urban areas. Between now and 2050, the pace of urbanization will accelerate in Asia and Africa. It is a powerful driving force for productivity enhancement, economic growth and improvements in standard of living. But this change also requires significant investments in low carbon emission, green economy, transportation, waste management and urban planning, not only because of the crawling growth derived from the last global recession, but also because of the structural change in the relationship between trade and GDP in the recent years toward growing power of domestic markets and import substitution.

6. Competition for finite natural resources. Reserves of natural resources are being depleted because economic growth is connected to the growing consumption thereof. According to one scenario concerning the reference [9], by 2050 people in as many as 84 countries could enjoy living standards equal or better than those in the CEE today. The key question is whether the world could sustain the demand of the resulting four billion, or more, new upper and middle-class members if they choose to replicate the current pattern of consumption of Western consumers, or would people throughout the world agree to move to different lifestyles that would demand far less from Mother Nature.

7. Rise of emerging economies. Two major shifts in economic power are under way, from West to East and from North to South. In the 1980s, the center of gravity of the global output was located between Europe and North America. By 2050, it will lie between India and China. By 2050, three quarters of the global output will be in the

emerging economies and over one half of them will be generated in Asia alone. As a consequence, the prospects for convergence, or economic catch-up of Asia with the Western economies, seem strong.

8. Emergence of violent non-state actors. Violent non-state actors are a relatively new phenomenon in the geopolitical landscape. They pose a serious threat to global security and economic development. This may interrupt the process of globalization, economic development and growth. Combating this serious threat requires actions to promote more inclusive growth models in order to raise people's faith in the rule of law and peaceful solutions of conflicting interests.

In the segment of technological change, according to the same source [9, pp. xxxvi-xxxviii], two megatrends can be expected to affect economic development. These are as follows.

9. Technological breakthrough intensification. As usual, the future is primarily driven by paradigm shifts in social context and technology. The origin of paradigm shift in technology fundamentally lies in scientific breakthroughs that took place in the recent or distant past. Advances in science will define the technologies of the future. Many attempts have been made to predict the future of technology, as well as the technology in our future. There is a general conclusion that technology has the potential to reshape humankind both in a positive and negative way.

Today's large scale innovations are changing the economic landscape. In the evolving technologies, new trends and possibilities emerge so quickly that it is sometimes difficult for businesses to keep up. The speed of changes is so high that "you go to bed as an industrial (or analog) company and wake up as a digital company". Technological breakthroughs have the potential to accelerate the pace of movement of the very global productivity frontier. Technological breakthroughs offer prospects for solving many human and societal problems, including quality of life, climate change, energy and food security, leapfrogging by the developing economies to catch up with the best global practices, etc. For this promising progress to occur in reality and to be sustained and inclusive over the longer term, higher priority must be given to education and science. Economic impact of certain crucial innovations from the last industrial revolution is potentially massive, and its effects could be highly disruptive across a wide range of sectors. For example, very low natural gas prices caused by rapid development of shale gas technology have fundamentally transformed the energy sector.

10. Climate change. Rapid progress often comes with greater instability. Global warming is a consequence of rapid industrialization. The average global temperature was steadily on the increase in the 1965-2015 period, rising from 13.85 °C to 14.65 °C. A substantially hotter world brings about significant changes in the global water cycle. It could be a trigger of extreme events such as heat waves, heavy precipitation, crop failure, water shortage, disease increase and geopolitical conflicts. It is the greatest global common threat inspired by uncontrolled implementation of technologies and unsustainable growth models. Its neutralization requires cooperative global efforts because it is in the best interest of all national economies.

Commitments of economists to implementation of green growth and circular economy have a great sense of urgency. Moreover, it is a moral debt that our generation owes to the future ones. Without greater progress and financing to contain global warming, all national economies will remain exposed to the systemic risks deriving from increasing incidence of extreme weather events.

The abovementioned trends are not standalone but interrelated. Sometimes they reinforce, and sometimes offset each other. The net effect of these trends on an individual national economy will vary on a case-to-case basis, it may change overtime and strongly depends on the starting position. All of them require specific attention. A great majority of megatrends, with the exception of climate change and threats from non-state actors, work to the benefit of agile national economies with strong macroeconomic policy regimes and intelligent industrial policies for tradable sectors. However, if not well-managed in the case of poor macroeconomic policy regime and ignorance of demands from tradable sectors, they could also prove to be major headwinds.

Today's geopolitical suit and conceptual framework are rather too tight for growing a body of global economy. However, the abovementioned megatrends will bring about

a return to globalization and related issues. In the 20th century, the dominant divide between political systems and the economic policy framework was along the lines of the invisible hand of the market and the visible hand of the state. In the 21st century, the dominant divide is between those economies that have open political systems and economic models and those that are closed. Hypercompetition and leading trends in geopolitics have created a series of hybrid models of capitalism around the world.

This argument could be a strong point for the emergence of a new leitmotif of surviving for a small and open economy with a delay in transition, a paradigm of the multipronged reforms. Such a new leitmotif would be a benefit on both macro and micro level. After annulation of failures from the past, implementation of the heterodox economic policy framework should be regarded as a stretch goal. The key component of this approach is the industrial policy. Industrial policy is a roadmap of how to reboot an impotent economy and prepare it for growth in line with the new normality in the global economy, as well as with megatrends.

New growth model and heterodox policy framework

There are two critical questions for an economy whose transition is inspired by democratic capitalism as a final destination of that journey. Do the fault lines of the neo-liberal growth model and the related economic policy platform which erupted in the 2008 global economic crisis threaten the credibility of that idea? And, more importantly: Is there another way?

The answer to both questions seems to be negative. Hegemony of capitalism as a worldwide socioeconomic system has no realistic alternatives to propose. Economic content of a capitalist system consisting of privately held capital, legally free labor, value creation motive and coordinating role of the state, particularly toward the externalities, nature and technological progress, will be dominant in the global economy for a foreseeable future. Also, the continuation of certain major deviations from fundamentals of capitalism as a reaction to the failures of their neo-liberal version is almost impossible. Precisely, it is not reasonable to assume that deglobalization, in terms of change from integration to localization and from free trade to protectionism will continue in the middle run because it would do away with much stronger motives that globalization is providing.

In the economics theory, since the global financial meltdown in 2008, there have been instances of major rethinking in the orthodox wisdom based on market fundamentalism. The new consensus is that resolving a crisis requires a proactive government, instead of one opting for passive behavior against what the market forces dictate. Moreover, anti-crisis measures confirmed that government interventions of providing lifelines to the economy were the only way to avoid collapse, even in the developed economies with high income and well-functioning capital markets. An additional factor toward the shift to the visible hand of the state is the unquestionable success of national economies that did not follow the neo-liberal doctrine based on the invisible hand of the market dictum. As a consequence, the convergence emerged between the neo-liberal doctrine and structural economics. Instead of the neo-liberal blueprint comprised of a set of rules such as the Washington Consensus, democratic capitalism needs to reinvent a new set of rules.

In the quest for a solution, the pendulum should not be shifted from the extreme institutional proposition that the market is the best regulator to the other, which assumes that the state is the only master. Hegemony of capitalism over alternative models does not mean that only one model exists, the neo-liberal one. Actually, there are many hybrid forms of capitalism. Managed capitalism based on tradable sectors is perhaps the most effective model of capitalism today. It is a feasible solution, particularly for developing countries. As far as economic policy platform is concerned, the reasonable alternative is a heterodox approach which realigns the development model and economic policy platform based on conceptually more complex economic policy approach of new structural economics. Cornerstones of this new wisdom are industrial policies for tradable sectors and automatic stabilizers for core macroeconomic policies (monetary and fiscal).

Is there a way out of the previous way? Serbia simply cannot remain on the same trajectory that it has followed in the past. Continuity would mean divergence from history in the wrong direction, failing to learn lessons from failures and stagnating at its current level, or even falling below its own recent achievements in fiscal balance by getting mired in the middle-income trap. The Government must definitely step out of its comfort zone of soft budget constraint and financing consequences of previous and ongoing failures by increasing the debt. In making a breakthrough, imposing the hard macroeconomic policy regime (fiscal discipline, austerity, rightsizing of the public sector) seems like a first step in the right direction. After significant improvement in 2016, including alignment of revenues and costs, as well as improvement in tax collection, in its future fiscal policy Serbia must implement a revenue-neutral pro-growth tax policy. Also, monetary policy must be pro-growth. The regulatory body must offer new measures for settling the NPLs. Rejecting a fixed and guaranteed annuity allows the financial intermediaries to be much more flexible and not to get stuck in a situation, as it happened in the past.

It is not controversial that annulation of past failures is the first step in the right direction. But what are the next frontiers? Looking forward, there are many other challenges in the future. Firstly, adjustment in the institutional setting by imposing an arm's length financial system as a level playing field compatible with the growth model encouraging new industrialization. Secondly, continuation of investments in infrastructure and infrastructure-related businesses, both physical and conceptual. Serbia is situated between the Middle East and Western Europe, as well as between southern and western parts of the EU. Transportation corridors are a prerequisite for economic corridors. Moreover, investment in infrastructure is the cost of accession to the EU. It adheres to the connectivity agenda and ensures compliance with the EU regulation. Infrastructure financing, including energy, requires new models. State bonds are an attractive type of financing when construction work is a greater cost component of investment, particularly in a country with a solid level of savings. Also, conceptual infrastructure (primarily broadband and e-governance) in the digital age is a significant priority due to its great potential for performance improvement. For example, a 10% growth in broadband infrastructure influences approximately 1% of growth in GDP. Last but not least, industrial policies for tradable sectors are an absolute must. Great priorities are the ICT, organic food production and health tourism. Instead of static macro-management concentrated on inflation control mostly through monetary measures, the new policy framework requires dynamic micro-management concentrated on investment, both in public and private sectors, and well-coordinated with macro-management measures. Output expansion in tradable sectors through industrial policies is a way to do that. The essence of a heterodox economic policy platform is the harmonization of industrial policies and macroeconomic (or core) policies. But this time, industrial policies lead, and macroeconomic policies follow. Namely, the core economic policies lubricate the industrial policies. In the new circumstances, the core policies, primarily monetary policy and tax policy, need to reinvent themselves. Core economic policies must follow the imposed hard policy regime. Automatic stabilizers in the monetary and fiscal spheres should enable the functioning of core policies formulated primarily as a support to tradable sectors. In monetary policy, a stable and real (possibly, a slowly depreciated) FX rate could play the role of automatic stabilizer. As for the fiscal policy, hard budget constraint (both macro and micro) is the key automatic stabilizer. Treating investment income as ordinary income could also be an automatic stabilizer.

In addition to this, horizontal industrial policies matter, particularly in conceptual infrastructure such as digitalization. In the ICT, Serbia has a relatively good set-up. In today's information society, asymmetries of information might lead to asymmetries of power. Cutting-edge technologies in the field of ICT increase inequality between people who understand and control these technologies and the less knowledgeable individuals who are actually passive users that do not understand technologies they are using. Serbia must close the gap in the ICT development if it intends to stay in the race for technological progress in other fields.

According to K. Aiginger [1], there have been attempts to integrate both approaches (vertical and horizontal)

that have merited critics and rejections in the past when implemented separately. The suggested approach is marked as a "matrix" approach, where one dimension represents individual sector policy lines, while framework policies define the other dimension. The intersections of the matrix show whether certain policy is important in specific sector and how it should be implemented.

Transitionism in Serbia will be over when aggregate demand and supply achieve balance and when prices of factors of production are in correlation with factor returns. After that, a rise of investment expectations could be anticipated. Harmonization of reform activities also requires alignment with the new normality and megatrends. A credibility test for the heterodox model is its ability to maintain these changes.

Instead of a conclusion: The way forward

In the concluding part of this article, we would like to go over some of the key subjects and messages already addressed. The following is partly a reminder of the main conclusions of the previous analysis, as well as a prediction of the future trends, and partly an agenda for change. The said elements are as follows.

*1. **Sequenced reforms agenda.*** Serbia is in a long and deep structural crisis. This crisis has no pause. It must be stopped. Evidence-based strategic audit of Serbia's position reveals a dangerous mix of the stuck-in-the-middle echo effect in geopolitics and structural imbalances in economics. Serbia is a landlocked country with no sincere friends in its immediate surroundings, without significant natural resources endowment and it is deeply stricken with demography risk. After a long period of deindustrialization, economy is almost at a preindustrial stage and out of tune in many aspects of its functioning. Serbia is a late developer with a delay in transition on a path to higher development. Deindustrialization, along with relatively high financialization, is the main contradiction of the system.

Due to transitionism that lasts for more than one quarter of a century, Serbia has lost a significant part of its possible output, demographic dividend, capacity for real-time technological catching up and political influence.

In an inefficient economy, state budget is squeezed due to insufficient contributions from the private sector and public sector on the earnings side, and due to populist economic policy on the expenditures side. The key problems are low economic base due to the output gap and weak economic policy regime. As a consequence, low performance economy burdened with debt is constantly experiencing an insolvency threat.

What lies behind such fault lines? The answer is: inertia from the past. Serbia must reform itself because it needs to survive. No more cash outflows should go wasted. No more brain drains of young educated people in the field of the ICT and other propulsive sectors. The latest improvement of macroeconomic fundamentals is encouraging, but it is also fragile, because many structural imbalances remain unsolved.

Is there a way out of the previous way? Yes, there is. Sequenced reforms agenda should start with transition completion. It requires, at first, transformation of strategic state-owned companies in the field of network technologies and natural monopolies, as well as the initiation of bankruptcy procedures for state-owned loss-makers in the commercial sector (the list "500 + "). Rightsizing the strategic state-owned companies in terms of ownership, capital, assets and employees has been a constant challenge. Emancipation of companies from the state-owned portfolio must be completed without increasing fiscal pressure. After fiscal consolidation, the future fiscal policy must be income-neutral. Monetary policy must be pro-growth. Also, transition completion means institutional setting adjustment in order to provide for the arm's length financial system.

The following step includes continuation of investments in infrastructure and implementation of industrial policies for tradable sectors. In that segment, a priority list of tradable sectors with coherent measures is critical. An absolute must is the ICT. These activities cover different companies, small and large, brownfield and high-tech, environmentally friendly and infrastructure, etc. This step also includes complementary horizontal industrial policies, particularly in education, science and health care, as well as the implementation of automatic stabilizers from the core macroeconomic policies.

2. Tailoring reform concepts and instruments. This paper has the intention to spell out a vision of a growth model and economic policy platform for a more prosperous and harmonious Serbia. However, to achieve such vision, Serbia's economy needs to be much efficient and more resilient than it is today. There are too many non-governmental agencies and think-tanks in Serbia. What is missing are the think-tools. The new rationale for industries based on science excellence and social innovations such as technological entrepreneurship in the form of Belgrade science parks, silicon Novi Sad, life science Niš, health tourism Belgrade, etc. must come from the Government.

To build up the necessary momentum for further changes, Serbia must address the main failures from the past and solve, instead of repeating them. Clear geopolitical positioning is an absolute must. The year 2017 will be a consequential year for Serbia concerning the said issue, because acceleration of accession to the EU is expected. However, 2021, the year forecasted as the end of the so-called "soft Brexit", will not only be a political milestone for the EU as a whole, but also for Serbia.

As far as the vision of the economic system is concerned, Serbia wants a policy framework that would enable efficient, sustainable and inclusive economy which is integrated in the global value chain, with a financial system without excessive risk and outrageous behavior. Today's world is full of hybrid models of capitalism. Serbia's version of managed capitalism, for example, could be based on tradable sectors (both anti-import and export), and infrastructure (both physical and conceptual) fully compatible with the EU could be a reasonable set of tenets to reach. In such a system, without close integration of virtual innovations from the ICT and new industrialization (implementation of innovations from physical technologies and biotechnologies) through investment, as well as through spillover of emerging amalgams across tradable sectors, no national economy has been able to close the development gap between itself and those at the frontiers. Somebody must take the lead. A proactive government is a reasonable choice.

This will be hard to achieve, but it will really be worthwhile. It requires that politicians understand the seeds of failures, the current economic context, the new normality and megatrends. Long-term economic growth is clearly essential for development. However, economic growth which is sustainable and inclusive is not an end in itself, but rather the means to achieve development. True development means improvements in the standard of living, not simply an improvement in the level of output, and includes education, health care and science as fields governed by the horizontal industrial policies.

3. Opportunities that could be capitalized on. The situation in today's environment is not only challenging, but also encouraging. There are two powerful reasons for hope. Firstly, the Industrial revolution 4.0 is continuously offering amalgams of innovative digital technologies and emerging physical and biotechnologies. Technological change is always a potential solution to the evolving challenges. It offers opportunity where accelerating growth and rising the average income has to be accompanied by a decrease in income inequality. Secondly, successful implementation of a heterodox economic policy platform based on a combination of new industrial policies for tradable sectors and strong macroeconomic policy regime while considering automatic stabilizers in core policies in a significant number of developing economies could encourage policymakers to opt for such a platform.

It is not controversial that annulation of past failures is the first step in the proper direction. But, what are the next frontiers? Looking forward, the future holds many other challenges inspired by the new normality and megatrends. The new conceptual framework must be able to take all of this into consideration. We do hope very much that the heterodox framework is a powerful and feasible idea on how to solve quickly the past failures and how to respond to future challenges.

A great majority of megatrends, with the exception of climate change and threats from the non-state actors, work to the benefit of agile national economies with strong economic policy regimes and intelligent industrial policies in tradable sectors. However, if not well-managed in the case of poor macroeconomic policy regime and ignorance of demands from tradable sectors, they could also prove to be major headwinds. Scientification of the economic policy and dissemination of technological entrepreneurship particularly in ICT really matter.

But even if such a policy regime was theoretically possible, and even if we had examples of countries that implemented it, that does not mean it would be implemented easily in an economy approaching to the EU. We must consider that the EU has for years been managed based on entirely different premises, and changing these in Serbia as a country in the process of accession to the EU will be extremely challenging.

Of course, there are no silver bullets. Reforms will require agility in terms of continuous analysis of the context, and sometimes tedious attention to details. We previously discussed a possible economic reform agenda framework. The main concern of the Government should be how to accelerate growth rate which would enable economic catching up with the EU. We firmly believe that in the near term, primary drivers of growth will be those extracted from industrial policies for tradable sectors, even if they progressively converge with the EU in the longer run.

Proper repositioning of Serbia influences not only the tradable sectors, but also infrastructure development and related industries as another priority for investment. Moreover, it is the cost of accession to the EU. Return on investment in this field is not impressive, but it does have an important investment multiplier. The fact that Serbia is a land-rich country produces an impact on investment in agriculture, food processing and waste management. Apart from that, these industries are not particularly profitable and require a certain amount of state subsidies. But they could easily reach anti-import goals.

A major investment challenge is the Industrial revolution 4.0. Serbia has the capacity to use new technologies in many tradable sectors (for example in the ICT, organic food and health tourism). In these industries, the Government must define pragmatic answers under the umbrella of vertical industrial policies for tradable sectors, as well as horizontal industrial policies in education, science and health care. In the future, somebody must take the lead. In the near future, an intelligent government has a key role to play.

Long-term prospects of Serbia's economy are difficult to predict and certainly cannot be taken for granted. But the author of this paper is cautiously optimistic that the vision of a more prosperous Serbia's economy offered here based on the new conceptual framework is both plausible and well-worth striving for. If the heterodox approach is implemented, it will fundamentally transform Serbia's economy and move it away from the path of regression. The related reforms will require a fundamental change in society – the way it lives, the way it grows and the way it makes choices.

In all components of the reforms, we advocate that the Government must not sabotage itself if it intends to make the other side in this interaction play fair. In the implementation of the reforms, the Government needs expert coaching. Reforms are always difficult to "sell" to the public and hence have little appeal to politicians. But without them, the existing fault lines will only deepen. As always, good economics cannot be divorced from good politics. This is why this field is sometimes called "political economy". Also, we have to recognize that institutions in such economy have influence only as long as politics is reasonably well-balanced. Deep imbalances can create a political groundswell that can overcome any constraining institutions. No matter how well-developed the institutions are, the economy will suffer of structural imbalances if politics becomes imbalanced.

The job of a good economist in the new context is to modernize the practice of economic policy by bringing in fresh approaches and tools compatible with the new normalities and megatrends. A good economist must be familiar with the forces and industries that will shape the future of the economy. Geopolitical, cultural and generational context which will give rise to key industries of the future such as robotics, life science, big data, cybersecurity, codification of money and capital markets, weaponization of code and the like, also must be on their radar.

Serbia needs to have a vision of change that is logical and based on evidence, not on theoretical predilections and political emotions. A vision brings light to a country in such a long and deep regression. Without this light, there is no space (or country). In such an illuminated space, politicians have a critical role to play. The role of technocrats is inescapable because promising change is not the same as delivering change. Technocrats can no longer be statistical record keepers who blindly follow the misconceptions and overestimations of politicians. They

need to be policy-setters. The essence is the manner in which political leadership effectively distributes power between social groups relevant to the process of change.

References

1. Aiginger, K. (2007). Industrial policy: a dying breed or a re-emerging phoenix. *Journal of Industry, Competition and Trade*, *7*(3-4), 297-323.
2. Arandarenko, M., & Aleksić, D. (2016). Not all jobs are created equal: How not to misread the labour force statistics in Serbia. *Ekonomika preduzeća*, *64*(3-4), 211-224.
3. Đuričin, D. (1994). *Economies in transition: privatizaiton and related issues*. Gornji Milanovac: Dečije novine.
4. Đuričin, D., & Vuksanović, I. (2013). Reindustrialization strategy of Serbia: How to get it and how to use it. *Ekonomika preduzeća*, *61*(5-6), 289-308.
5. Đuričin, D., & Vuksanović, I. (2014). Quest for new development model and economic policy platform for Serbia: The role of industrial policy. *Ekonomika preduzeća*, *62*(5-6), 229-250.
6. Đuričin, D., & Vuksanović, I. (2015). Think through strategy: New vision for industrialization of economy and modernization of society. *Ekonomika preduzeća*, *63*(1-2), 1-15.
7. Đuričin, D., & Vuksanović, I. (2016). The future of Serbia and how to survive it: Catching up and convergence with the EU. *Ekonomika preduzeća*, *64*(1-2), 15-36.
8. Feldstein, M., & Horioka, Ch. (1980). Domestic savings and international capital flows. *Economic Journal*, 90, 314-329.
9. Kohli H.S. (Eds.). (2016). *The world in 2050: Striving for a more just, prosperous, and harmonious global community*. Washington: Oxford University Press
10. Krstić, G. & Žarković – Rakić, J. (2017). Dohodna nejednakost u Srbiji: uzroci i preporuke za politiku. *Naučna konferencija "Ekonomska politika Srbije u 2017"*. Beograd: Ekonomski fakultet. (In press).
11. Mazzucato, M., Cimoli, M., Dosi, G., Stiglitz, J. E., Landesmann, M. A., Pianta, M., ... & Page, T. (2015). Which industrial policy does Europe need?. *Intereconomics*, *50*(3), 120-155.
12. Milanovic, B. (2016). *Global inequality: A new approach from the age of globalization*. London: The Belknap Press of Harvard University Press.
13. Mukunda, G. (2014). The price of Wall Street's power. *Harvard Business Review*, 92(6), 3-10.
14. Oxfam. Retrieved from www.oxfam.org
15. Petrović, P., Brčerević, D., & Minić, S. (2016). Economic recovery, employment and fiscal consolidation: Lessons from 2015 and prospects for 2016 and 2017. *Ekonomika preduzeća*, *64*(1-2), 53-73.
16. Petrović, P., Brčerević, D., & Minić, S. (2016). Fish that fly exist but are rare. *Ekonomika preduzeća*, *64*(3-4), 53-73.
17. Rajan, R. G. (2011). *Fault lines: How hidden fractures still threaten the world economy*. Princeton University Press.
18. Rodrik, D. (2004). *Industrial policy for the twenty-first century*. UNIDO.
19. Schwab, K. (2016). *The fourth industrial revolution*. Geneva: World Economic Forum.
20. Stiglitz, J. E., Lin, J. Y., & Monga, C. (2013). Introduction: The rejuvenation of industrial policy. In *The Industrial Policy Revolution I* (pp. 1-15). Palgrave Macmillan UK.
21. Vujović, D. (2016). Serbia: Fiscal consolidation: Program design and political economy issues. *Ekonomika preduzeća*, 64(1-2), 1-13.

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SERBIA: TWO YEARS OF FISCAL CONSOLIDATION – RESULTS AND MEDIUM-TERM SUSTAINABILITY ISSUES*

Srbija: Dve godine fiskalne konsolidacije – rezultati i pitanja srednjoročne održivosti

Abstract

Fiscal consolidation in Serbia was based on a comprehensive, multi-year program built on broad-based expenditure cuts, better revenue performance, and related structural reforms and pro-growth policies. During the first two year of implementation the actual fiscal performance substantially exceeded the original and revised deficit targets set in the IMF supported three-year precautionary program. In 2015, the actual deficit (3.7 percent of GDP) exceeded program target by 2.2 percentage points. In 2016 the implementation performance further improved as the actual deficit (1.36 percent of GDP) was 2.6 percentage points better than the plan. The result implies a 4.4 percentage point structural deficit adjustment which exceeds the program target one year ahead of schedule. In this, revenues contribute 3.5 percentage points, public wages 1.0, pensions 0.6 and reversals of structural expenditure savings take away -0.7.

The program had a beneficial impact on economic growth. The economy bottomed-out in the third quarter and started recovering in late 2014-early 2015 leading to a positive 0.8 percent growth for the entire year. The growth further recovered in 2016 (+2.8 percent) and is expected to reach 3 percent in 2017 and stabilize at 3.5 percent annually thereafter. With this performance Serbia may become a case of "expansionary austerity" which demonstrates that fiscal consolidation programs designed in line with sound principles and synchronized with key structural reforms and pro-growth policies can generate growth. Carefully selected expenditure cuts combined with pro-growth revenue collection efforts can have expansionary effect on growth even under most difficult circumstances.

The political economy issues of fiscal consolidation and structural reforms gain increasing importance in the last year of the program, two months ahead of presidential elections. Fresh thinking is needed to demonstrate that the completion of difficult reforms is a win-win for all, and most everybody loses if reforms are stalled or abandoned.

Keywords: *fiscal consolidation, fiscal deficit, fiscal stimulus, public debt, structural reforms, austerity, contractionary fiscal policy, expansionary fiscal policy, economic growth, expenditure cutting measures, revenue enhancing measures*

Sažetak

Program fiskalne konsolidacije u Srbiji zasniva se na sveobuhvatnom programu smanjenja rashoda, povećanju budžetskih prihoda i povezanim strukturnim reformama i politikama koje podržavaju ekonomski rast. Tokom prve dve godine programa ostvareni fiskalni rezultati prevazišli su originalne i revidirane ciljeve postavljene u MMF programu. U 2015. stvarni deficit (3.7 posto BDP) prebacuje cilj za 2.2 procentna poena. U 2016 realizacija je dalje unapređena tako da je stvarni deficit (1.36 posto BDP) bio za 2.6 procentnih poena bolji od plana. Ovaj rezultat sadrži strukturno poboljšanje deficita od 4.4 procentnih poena čime se prebacuje cilj programa godinu dana pre roka. U tome, prihodi doprinose 3.5 procentna poena, plate u javnom sektoru 1.0, penzije 0.6 a povecanje rashoda oduzima -0.7.

Program je dobro delovao na ekonomski rast. Pad je preokrenut u trećem kvartalu i oživljavanje je krenulo krajem 2014 i početkom 2015 tako da je za celu godinu ostvaren rast od +0.8 posto. Rast se dalje oporavio tokom 2016 (+2.8 posto), očekuje se da bude 3.0 posto u 2017. i da se stabilizuje na oko 3.5 posto nakon toga. Ovakvim performansama Srbija može da postane primer tzv. "ekspanzivne štednje" koji pokazuje

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da programi fiskalne konsolidacije napravljeni na zdravim ekonomskim principima i sinhronizovani sa važnim strukturnim reformama i politikama mogu da generišu ekonomski rast. Pažljivo odmeravanje smanjenja rashoda kombinovano naporima za povećanje prihoda mogu da imaju pozitivno dejstvo na rast čak i u najtežim uslovima.

Pitanja političke ekonomije programa fiskalne konsolidacije i strukturnih reformi dobijaju na značaju u drugoj godini programa, a posebno nekoliko meseci pred vanredne parlamentarne izbore. U tom kontekstu potrebno je kreativno razmišljati kako da se javnosti objasni da završetak teških i već započetih reformi predstavlja dobitnu kombinaciju za sve, dok gotovo svi gube ukoliko reforme budu zaustavljene ili napuštene.

Ključne reči: *fiskalna konsolidacija, fiskalni deficit, fiskalni stimul, javni dug, strukturne reforme, štednja, restriktivna fiskalna politika, ekspanzivna fiskalna politika, ekonomski rast, mere za smanjivanje rashoda, mere za povećanje prihoda*

Introduction – Recent history of IMF supported programs in Serbia

In the post-October 2000 period Serbia has had a series of stabilization, adjustment, economic reform, and crisis response programs supported by the IMF.

First Stand-By Arrangement (June 2001 – June 2002). Following a short post-conflict program implemented between December 2000 and March 2001, the first Stand-By Arrangement was approved in June 2001 with an aim of supporting the authorities in "… establishing market confidence, building broad support for reform, and ensuring its sustainability" … while allowing them "… to adhere to prudent macroeconomic policies, advance economic restructuring, and intensify efforts to catalyze external assistance, including debt relief". Given the difficult initial conditions burdened by a decade of sanctions, wars and economic destruction, significant progress was made in achieving program targets in reducing inflation, stabilizing the exchange rate, strengthening the foreign reserve position, and recovering output [28, p. 6].

Net domestic assets and public sector wages were the main nominal anchor under the program. A crawling peg regime provided a "visible" nominal anchor and helped reinforce disinflation through an ex ante defined rate of crawl. The immediate fiscal consolidation hinged on reduced monetization of fiscal and quasi-fiscal deficits enabled through greater revenue effort, increased foreign assistance, debt relief, and initial privatization receipts. This was supplemented by a standard set of structural reforms targeting revenue administration, bank restructuring and resolution, privatization of state enterprises and utility companies, and trade liberalization.

Extended Arrangement (April 2002 - February 2006). New three-year arrangement was signed in April 2002 to secure continuity of macro-policies and structural reforms as a basis for sustained growth and confidence levels of Paris and London club creditors. Initially, the EA program based on a quasi-peg exchange rate regime was successful in lowering inflation and strengthening GDP growth based on strong aggregate demand.

At the end of the first program year it became clear that structural reforms will face challenges in the medium run. Enterprise restructuring programs met immediate resistance from the unions and interest groups, further exacerbated by the apparent lack of fiscal resources needed to mitigate the social impact. At the same time strong capital inflows, grants, and remittances fueled already buoyant domestic demand. This led to inflationary pressures (especially in non-tradeables), widened external imbalances and undermined exchange rate based stabilization [34, p. 9]. As a result both the inflation and CAD targets were missed. Economic growth improved but turned out to be unsustainable both in terms of large external deficits and weak domestic supply response due to lagged privatizations and enterprise restructuring programs.

The program was extended twice, for almost a year (from May 2005 to February 2006), to enable the authorities to meet the macro and structural targets set in the program.

The emergence of vulnerabilities (February 2006 – December 2008). During the 2006-2008 period GDP continued to grow at close to 6% per annum based on domestic aggregate demand (absorption) financed predominantly from external sources. Albeit impressive, this growth could not be sustained since it generated growing current account deficits (from 9.6% in 2006, via 18.6% in 2007, to 21.1% in 2008) caused by high import dependence, required ample external financing, and induced weak domestic supply response mainly in non-tradeables. These vulnerabilities turned into binding constraints soon after the global financial crisis broke

out in September 2008 and the authorities requested a new stand-by program.

Second Stand-By Arrangement (January 2009 – April 2011). Despite early announcements that Serbia is well prepared to handle the global financial crisis, already in November 2008 Serbian authorities requested IMF support to sustain macroeconomic and financial stability and safeguard against the detrimental impact of an abrupt deterioration in global financial sentiments following the global financial crisis. Large financial buffers allowed, at least initially, a precautionary type of stand-by arrangement. In light of deteriorating global environment the program was converted from precautionary to borrowing, extended till April 2011 and significantly augmented (from 75 to 560 percent of the quota).

In substance, the second SBA remained focused on fiscal restraint and price stability built on managed currency float to pursue tighter inflation targeting goals set on CPI headline inflation. The overall objective was to quickly and effectively contain the twin deficits and accelerate structural reforms needed to boost domestic supply side and export potential.

The implementation of the second SBA program proved more difficult than expected as multiple downside risks materialized early in the process [28, p. 14], [32].

First, the size and scope of the global financial crises turned out to be more severe than anticipated which, in the absence of adequate financial crisis resolution framework, adversely affected the availability of bank financing; the effect was amplified by the risk-averse behavior of largely foreign-owned banks and the high level of corporate cross-border debt.

Second, the political ownership of fiscal consolidation and critical structural reforms was further weakened by diverse perceptions within the ten-party coalition; especially regarding sustainable levels of pensions and public sector wages, restructuring of state-owned enterprises and public utility companies, and the need for public administration (and public sector) reform (right-sizing).

Third, the adopted growth model based on externally financed aggregate demand stimulus generated unsustainable external imbalances, and failed to produce broader domestic supply response with positive impact on investment, creation of new jobs and growth of competitive exports.

Fourth, the initial conditions burdened by the cumulative effects or prior expansionary policies, severely limited the scope of fiscal policy design, de facto eliminating the possibility for countercyclical fiscal stimulus.

In the presence of these constraints, the fiscal adjustment targets broadly achieved under the second SBA relied mainly on short-term, ad hoc, one-off measures rather than structural improvements based on deeper reforms. Obvious examples were the emphasis on temporary freezing of pensions, public sector wages and new employment instead of deeper reform of the oversized public sector; or linear cuts in discretionary spending instead of seeking improved efficiency of public expenditures through results orientation based on key performance indicators.

At the same time, progress on enterprise restructuring (both SOEs and public utility companies) was disappointing, with an obvious direct negative fiscal impact and a detrimental indirect effect on the perception and ownership of reforms. Combined with very few structural (permanent) improvements of the fiscal balance, the reform program faced serious sustainability issues once the second SBA was concluded in April 2011.

By the end of 2011, the need for fiscal consolidation in Serbia became quite apparent as the debt-to-GDP ratio crossed the 45 percent benchmark (conservatively) set in the Budget System Law. The level was projected to increase to 55 percent at the end of 2012 and reach the Maastricht 60 percent rule by the end of 2013. Although one-off factors and external shocks associated with the global financial crisis worsened the debt situation, the real causes lie in the structural dis-balance between longer-run expenditure commitments (on pensions and public sector wages) and eroding revenue capacity adversely affected by the post-crisis recession and faltering performance of public sector companies [21].

An attempt to provide a timely fiscal consolidation response through a precautionary IMF stand-by arrangement in late September 2011 did not gain enough ownership in the coalition government. The program went off-track at the first review as the proposed 2012 budget failed to observe the agreed targets on new public debt (including

government guarantees) and domestically-financed projects. The IMF projected that the true fiscal deficit, including the so called below the line items, would significantly exceed fiscal consolidation targets and jeopardize medium-term fiscal and debt sustainability.

Although this sounded a red alert, the news did not attract much (or any) public attention consumed by the ensuing political cycle centered on the parliamentary and, as it turned out, presidential elections expected in May 2012. Worse, this and other burning macroeconomic and structural issues were further postponed until January 2014 when the backlog of pending EU accession issues were finally resolved.

As already detailed in our previous paper on the subject [40], repeated efforts to resume fiscal consolidation program did not produce appropriate response until the new government survived the flood disaster challenge and finally focused on supplementing its EU accession strategy with a sound fiscal and economic reform program.

In mid-September the Prime Minister Vučić announced government intention to embark on a fiscal consolidation and economic reform program centered on expenditure cuts, better growth-friendly revenue performance, and three pillars of structural reforms: the resolution of state owned enterprises in distress, improved efficiency of public utility/infrastructure companies, and public sector rightsizing. This marked a critical turning point in the political ownership of reforms. The program was discussed with and fully supported by the top IMF management in early October 2014. IMF mission visited Belgrade within weeks. On November 20, 2014 a staff level agreement was reached on the content of the program and detailed measures included in the draft 2015 budget. Due to short preparation time, IMF Board approval of the program, officially labeled a three-year precautionary stand-by arrangement, was scheduled for the second half of February 2015 to allow sufficient time for the implementation of the agreed policy measures and preparation of the initial programs underpinning structural reforms.

More than two years into the implementation of the full fiscal consolidation and economic reform program we have tangible empirical results to evaluate program design and performance, as well as the complex political economy issues that caused the initial 30-month delay in the adoption of the program and presently pose challenges in the continued implementation of critical structural reforms in public utility companies and in rightsizing the overall public sector.

In the next section we will discuss the relevant subset of principles and approaches leading the design of the current three-year fiscal consolidation and structural reform program. Section three will review some of the main results of the program achieved thus far and our realistic economic growth, fiscal and debt expectations for 2017 and beyond. Section four discusses political economy issues and other challenges of fiscal consolidation and structural reforms looming large two months before yet another round of (this time presidential) parliamentary elections expected in mid-April. Last section concludes and draws lessons from Serbia mixed experience with economic reforms and successes of the fiscal consolidation.

The design of fiscal consolidation program

Scope, types and quality of fiscal consolidation programs

Predictably, good fiscal consolidation programs follow some common principles but must be custom tailored to the characteristics and needs of a country. Blanchard's Ten Commandments of Fiscal Consolidation [12] are clearly intended for advanced economies. Most of them are also applicable in transition middle-income economies, but not all. More importantly, transition economies face additional challenges that need to be properly addressed within or in connection with fiscal consolidation program. Case in point are the necessary structural reforms of public sector companies, deep public administration reforms and development of missing market institutions, legal and regulatory framework.

The definition of fiscal consolidation implies an overarching objective of achieving sustainable levels of fiscal deficit and public debt (as discussed in our paper [40] or "achieving (or maintaining) external viability"

in the context of IMF institutional mandate. Over the years we observed a great variation in actual program objectives which can be grouped in three different types of programs [28]:

- Classic stabilization and adjustment programs aimed primarily at correcting the current account and fiscal imbalance (twin deficits) and restoring the foreign exchange reserves at safe levels;
- Capital account crisis programs aimed at restoring the confidence of international capital markets and preventing capital flight (i.e. sudden loss of private external financing); and
- Reform programs with a primary aim of achieving sustainable levels of fiscal deficit and public debt in support of structural reforms for economic growth and stability.

In each case the quality of the program was of paramount importance. Recent reviews of the IMF supported programs indicate that realism of program objectives and the composition of the policy interventions are critical for good performance and achievement of meaningful and sustainable results. In light of frequent implementation underperformance reported in IMF supported programs, it should be noted that calls for less ambitious goal setting may be justified only if it secures the achievement of higher order objective (i.e. sustainability, higher order growth path). The experience also indicates that tendency to set overoptimistic goals increases with time: empirical tests do not find a significant bias in short-run GDP growth projections, but over-prediction of growth dynamics increases as the time horizon extends beyond one year, irrespective of the program type [28] and [32].

Sources of divergence between projections and outcomes include:

- incomplete/insufficient information at the program design stage;
- imperfections of the (modeling/analytic) framework;
- gaps in institutional expectations of the governments and the IMF Executive Board;
- inaccuracies and errors in the preliminary statistical information used for program design and monitoring;
- bias in BoP projections driven by the available resources;
- theoretical/analytical inconsistencies between different modules and toolkits (financial programming, balance-sheet approach, vulnerability assessments, debt-sustainability analyses) in the absence of a model-based mutually consistent theoretical framework.

It is particularly noteworthy identifying the difficulty in adapting the financial programming framework to design reform programs since it takes growth and foreign financing as purely exogenous (rather than endogenous part connected to structural reforms or part of an empirical cross-country growth framework of reference).

Finally, a survey of past experiences indicates that the comparisons of program objectives and performance targets with actual outcomes confirms that more ambitious fiscal contractions are associated with better growth performance, while more ambitious monetary contractions are associated with worse outcomes. This holds both in the short and the longer run and the type of fiscal adjustment matters: current expenditure cuts are more conducive to growth, especially if capital expenditures (investment) are protected [28, Ch 5].

On the implementation side, the findings suggest that stronger political and institutional environment and stronger ownership of the program are conducive to better program implementation which in turn produces superior macroeconomic outcomes [28, Ch 15].

On the opposite side, program design and implementation is weakened by strong special interests in the parliament, lack of political cohesion, political instability, ethno-linguistic divisions and inefficient bureaucracies [28, Ch 10].

The design and content of Serbia fiscal consolidation program

Compared to a sequence of IMF supported programs after year 2000 described in the introduction, this reform program offers a more comprehensive coverage, medium-term three-year timeframe, stronger ownership/commitment to structural reforms, design realism, better implementation readiness and track record.

Formally, the present IMF-supported program represents a three-year precautionary stand-by arrangement

backed by a resource envelope equal to 150 percent of the quota. From the content side, Serbia fiscal consolidation program is embedded in a wider set of economic reforms with comprehensive coverage of three essential dimensions of a functioning market economy able to restore its growth potential and compete in the EU and global markets:

1. Macro-monetary and macro-fiscal/public debt block with an objective of sustaining macro-price and exchange rate stability, reducing budget/fiscal deficits and public debt to sustainable levels;
2. Financial sector block with an objective of providing adequate business and consumer financing at competitive interest rates by cleaning the books of banks through asset quality review and comprehensive NPL resolution scheme; and
3. Growth enabling micro/structural block with an objective of improving legal and institutional aspects of business environment/investment climate, and advancing the three pillars of structural reforms: (a) resolving the status of companies in the portfolio of Privatization agency through privatization or bankruptcy; (b) improving the performance of public utility/ infrastructure companies; and (c) reforming, modernizing and rightsizing the public sector including public administration and local government, military, police, health, education, social and other public services.

In each of the areas, some vital program elements rest on existing policy design and implementation mechanisms that continue to be used with little or no change. Best examples are monetary policy based on inflation targeting and managed foreign exchange float, the annual budget and the three-year fiscal strategy preparation process.

In other cases, policy design and implementation mechanism have been adapted, improved or changed to meet the program requirements. One such example are enhancements in the macro-fiscal policy block to secure expenditure cuts, and increased tax and non-tax revenues with neutral or positive impact on economic growth. More specifically: (a) the design and implementation of expenditures the necessary spending cuts, especially in the areas of large mandatory spending commitments on pensions and public sector wages, (b) better and more efficient tax administration, especially of VAT and excise taxes, to secure wider tax base and higher tax revenues based on existing tax rates, (c) smooth introduction of well targeted new tax instruments (such as electricity excise tax), fees, and charges that would secure structural improvements in revenues and maintain a clear pro-growth orientation of the program.

Finally, new policy design and implementation mechanism have been and will continue to be created to: (a) better target social protection and social assistance programs; (b) enable and facilitate structural reforms through transparent, just, well designed, and properly funded voluntary separation, redundancy, rightsizing, early retirement and similar programs; (c) improve the design of subsidies in agriculture to meet the EU standards and achieve rural development objectives; and (d) develop more robust subsidies and incentive schemes to support direct investment, job creation, production, export growth and regional development.

In short, fiscal consolidation is both the lead and the centerpiece of the broader comprehensive economic reform program [7] and [8]. Improved fiscal performance early in the program can only be sustained over time if structural reforms are properly planned, developed and funded. To do this, Serbia fiscal consolidation and economic reform program counts on close collaboration with and support from the World Bank, EBRD, EIB and other IFI's, bilateral donors as well as EU. Key examples are:

- the resolution of SOEs supported through two World Bank DPLs;
- restructuring and improved performance of public utility/infrastructure companies supported by one or more World Bank DPLs and EBRD loans;
- improved competitiveness through innovations, better labor market operations and improve policy analysis supported by World Bank results based funding loan;
- public administration reform supported by World Bank program-for-results loan and EU sector budget support financing; and
- numerous sector and thematic studies funded by bilateral donors and IFIs.

Results of the program: The first two years

Fiscal balance developments

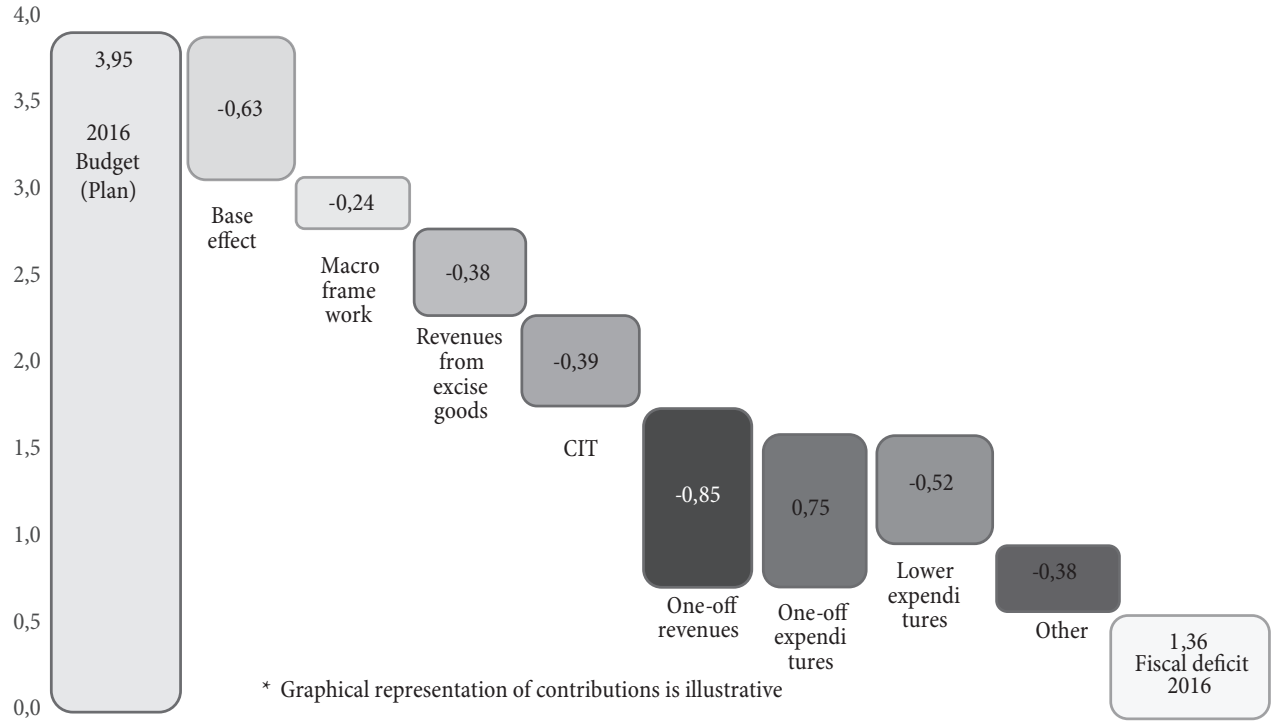
During the first two years of the program fiscal performance substantially exceeded the original and the revised deficit targets set in the IMF supported three-year precautionary program. In 2015, planned general government deficit was set at 232 billion dinars or 5.9 percent of GDP. Based on very good performance during the first six months, target deficit was revised down to 160 billion (4.0 percent of GDP), while the actual outcome for the year was still below (149.1 billion or 3.7 percent of GDP). This is 2.2 percentage points better than the planned deficit and 2.9 percentage points below the deficit recorded in 2014, indicating a huge improvement both on the revenue and expenditure side.

The over-performance in 2016 was even bigger: the nominal general government fiscal deficit was planned at 3.95 percent of GDP and the actual deficit turned out to be 1.36 percent of GDP, including the assumption of old debts, seasonal cost overruns and one-off elements. As detailed in Figure 1 below, the 2.6 percentage point better performance is owed to faster growth, improved tax revenues from excise goods and higher corporate profits, lower expenditures, and, on balance, somewhat larger one-off revenues than expenditures.

More importantly, permanent structural improvements in the fiscal balance stand at 4.4 percent after two years of the program. This exceeds the overall 4.0 percent total fiscal adjustment target one year ahead of the IMF program. Compared to the initial plan (50:25:25), this implies considerably stronger front loading (57.5:45:0) and allows more fiscal space for the implementation of difficult structural reforms in the last year of the program. In practice, the speed of fiscal consolidation [11] and policy credibility [12] were of lesser importance.

For the second year in a row the fiscal adjustment was spread evenly throughout the year as indicated in Figure 1 below. The improvements have been recorded in every single month. The December spike in expenditures and deficit remained albeit at a somewhat lower level (RSD 50.1 billion in 2016 versus RSD 83.7 billion in 2015, and RSD 88.4 billion in 2014). The December seasonality was caused by three main factors: (1) weaknesses of budget planning and execution which, predictably, lead to bunching of payments late in the year to compensate for prior delays in both capital and current non-wage costs;

Figure 1: Serbia - contributions to improved fiscal deficit in 2016, in % GDP



Source: Ministry of Finance.

Table 1: Serbia – improvement in fiscal deficit explained, in % of GDP

	2015	2016	Total
TOTAL ADJUSTMENT IN THE FISCAL BALANCE	**2.9**	**2.2**	**5.1**
Of which: permanent structural fiscal balance change	2.60	1.80	4.40
Total adjustment on the revenue side	**1.90**	**3.50**	**5.40**
Of which: permanent structural revenue changes			
Better revenue performance (VAT, excises, contributions)*)	1.0	2.5	3.5
Of which: revenue changes with one-off effects			
Extra dividends and profits of public companies	0.8	0.2	1.0
Increases in other non-tax revenues**)	0.1	0.8	0.9
Total adjustment on the expenditure side*)	**1.0**	**-1.3**	**-0.3**
Of which: permanent structural expenditure changes			
Pension reductions	0.6	0.0	0.6
Public sector wages reductions	1.0	0.0	1.0
Other expenditures permanent effect on fiscal balance****)	0.0	-0.7	-0.7
Of which: expenditure changes with one-off effects			
Interest payments	-0.4	0.0	-0.4
*Subsidies*****)	0.4	0.0	0.4
Capital expenditures	-0.4	-0.6	-1.00
Increase in expenditures	0.0	-0.7	-0.70
Assumed debts******)	-0.1	0.7	0.60

*) In 2016 includes 0.4% CIT, 0.7% VAT, 0.5% contributions, 0.2% excise taxes and 0.2% Telecom dividends.
**) Includes 0.3% effect of the change in methodology.
***) Positive number indicates reduction in expenditures i.e. positive fiscal impact.
****) Includes 0.3% goods and services, 0.1% social transfers, and 0.3% other expenditures.
*****) Includes reductions/changes in all subsidies.
******) Includes assumption of public company debts, recapitalization of banks and insurance companies, military pensions, ad ag-subsidies.

(2) precautionary pressures to advance transfers for wages and pensions from early January to December; and, most importantly, (3) opportunistic but justified behavior to assume portions of pending debts and thus utilize the space earned through better fiscal performance during the year.

As shown in the Figure 2, the first two factors (relocation of current and capital expenditures) amounted to RSD 7.3 billion in 2014, RSD 18 billion in 2015 and RSD 29.1 billion in 2016. The assumption of debts amounted to RSD 40.9 billion in 2014, RSD 43 billion in 2015 and RSD 13 billion in 2016. Although no payments are made in the current year, the amounts are recorded both as increased public debt and cash-based fiscal deficit. This departure from the cash-based fiscal accounting rules was requested in 2012 by the IMF to curb the scope for further public debt increases through the assumption of public company and bank debts. Despite possible methodological objections, this hybrid accrual-cash rule proved useful over the years and presently leads to opportunistic assumption of debts when the necessary fiscal space has been created.

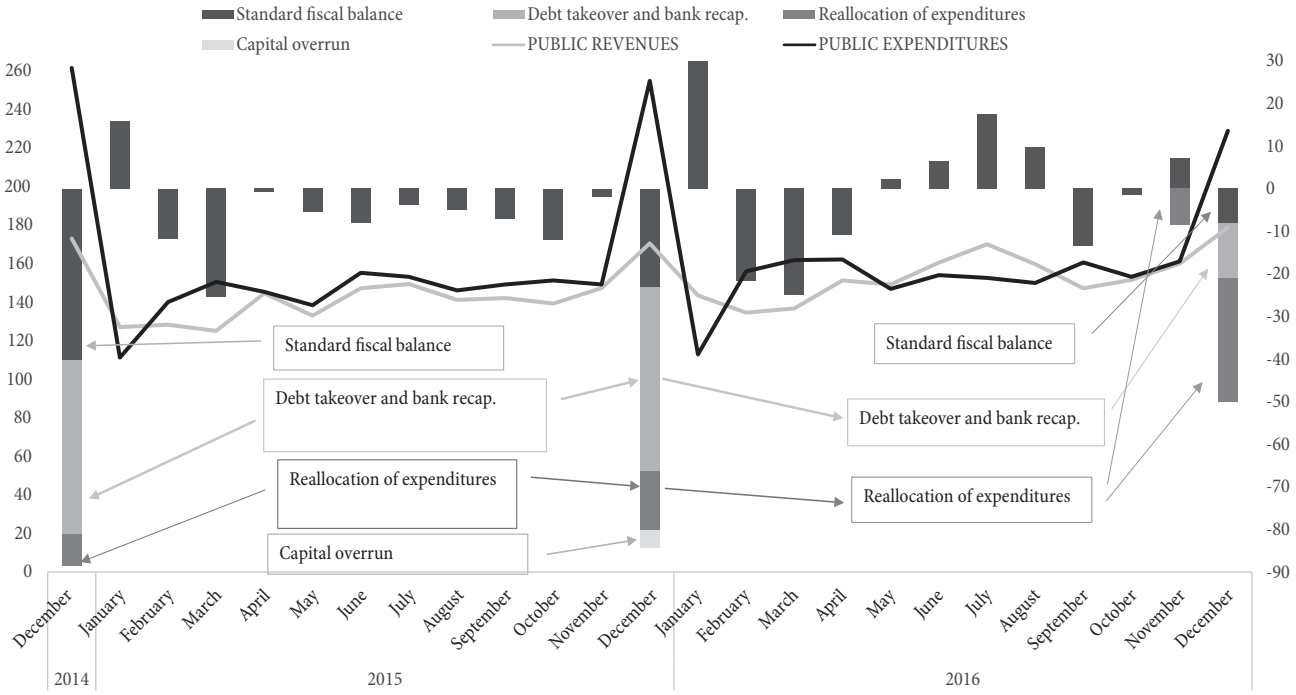
In short, fiscal consolidation was built both on broad-based expenditure cuts and better revenue performance. Out of 2.9 percent fiscal balance improvement over 2014, predominant part (2.6 percentage points or 89 percent of change) stems from permanent, structural improvements. In that, permanent expenditure cuts contribute 3/5 (1.6 percentage point) and structural revenue improvements 2/5 (1.0 percentage point).

Economic growth: Was there a recessionary impact of the program?

One of the major concerns of governments embarking on fiscal a consolidation program based on expenditure-cut was the potential recessionary impact [5] and [6]. These concerns were exacerbated in the presence of global recessionary pressures [15], external shocks [10] and multiple constraints to growth [18].

In Serbia, additional concerns regarding growth impact of a possible fiscal consolidation program came

Figure 2: Serbia - December seasonality explained, monthly fiscal balance 2014-2016



Source: Ministry of Finance.

from the fact that brief economic expansion in 2013 came from the introduction of FIAT production and exports. Although car production and exports continued, additional effects on economic growth were negligible and recessionary pressures resumed in the first quarter of 2014. The prevailing perception was that fragile growth could not withstand an additional shock from fiscal consolidation [12] and [14].

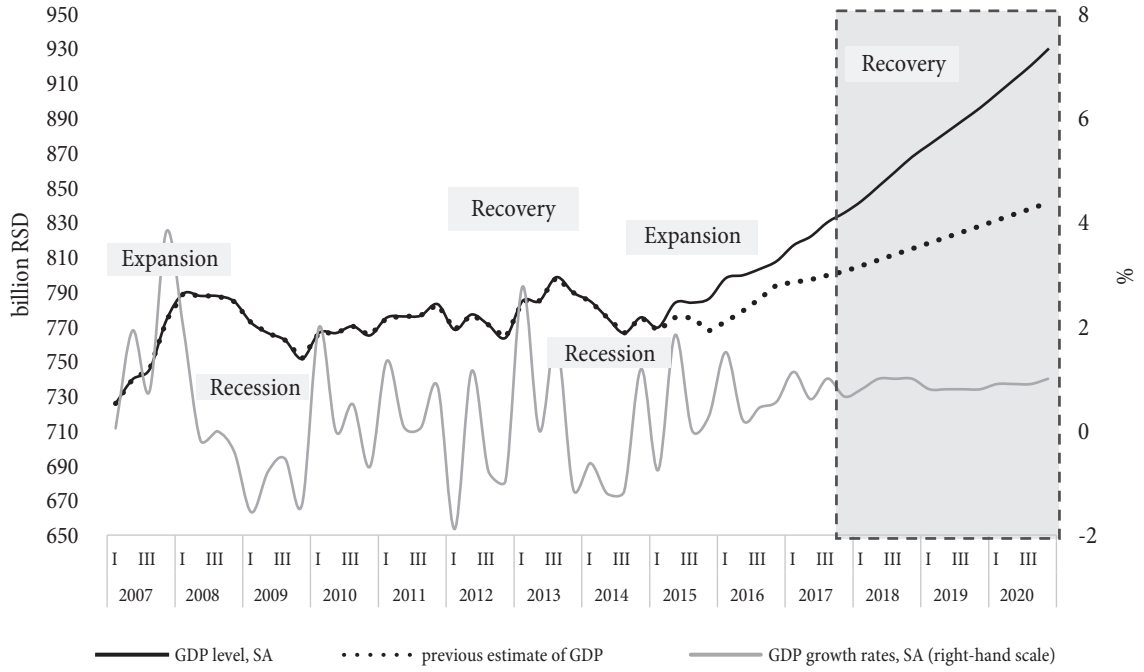
The negative impact of May 2014 floods on GDP growth demonstrated how fragile the un-restructured economy was and actually reversed the sentiments in favor of tough reforms that would ultimately create a more robust economy. It became apparent that the call for fiscal consolidation and economic reforms was not just an electoral pitch for more votes, but a sign of ownership and clear commitment to follow a difficult path out of decades long economic decay [4].

The turning point came in the third quarter and the economy started recovering in late 2014-early 2015. Despite conservative projections from the IMF and other IFIs that growth will remain negative throughout 2015 (between -0.5 and -1.0 percent), the economy dipped out of recession and reached a positive 0.8 percent growth for the entire year.

It appears likely that the strong growth recovery established in 2016 will continue throughout the 2017-2019 period covered by the latest Fiscal Strategy yielding a substantial difference in GDP and all related economic and welfare indicators. The difference is depicted by the area between the GDP levels predicted without the reform (dotted line) and with the reform (full line).

The case of Serbia may be getting close to what has been labeled as an "expansionary austerity" paradox. As explained by Alesina [1] and empirically demonstrated in Alesina et al. [4], Auerbach [5], [6] and Pescatori et al. [36], when fiscal consolidation programs are designed in line with sound principles summarized by Blanchard and Leigh [11] and [12] and synchronized with key structural reforms and pro-growth policies [20] and [33]. Carefully selected expenditure cuts combined with revenue collection efforts aimed at shadow economy described in Table 1 above show that initial fiscal adjustment does not have to be recessionary even under most difficult circumstances, despite ongoing debate [20], [24], [27] and persistent criticism [35], [12], [16], [19] and [39]. An upward 1.3 percent growth rate revision captures not only the "conservative buffer error" but also indicates

Figure 3: Serbia GDP level and growth rates, quarterly data



Source: Statistical Office of Serbia, Ministry of Finance Staff Calculations.

that there are positive behavioral changes and responses to persistent and comprehensive reform effort.

Public debt and program consistency

Stopping the growth of fiscal deficit and the buildup of public debt are the main reasons for embarking on a fiscal consolidation program. Achieving the sustainable levels of fiscal deficit and public debt are the desired outcomes of a well-designed fiscal consolidation program [26]. Figure 4 summarizes the developments in these variables since 2008. Fiscal deficit levels followed an expansionary trend from 2008 until the introduction of the fiscal consolidation program. The level of public debt (expressed as current debt-to-GDP ratio) followed the same pattern. The reduction in fiscal deficits already achieved in 2015 (3.7 percent) and 2016 (1.36 percent) could be the basis for a more ambitious planning targets in 2017 (1.7 percent) and convergence to sustainable fiscal deficits in 2018 and beyond.

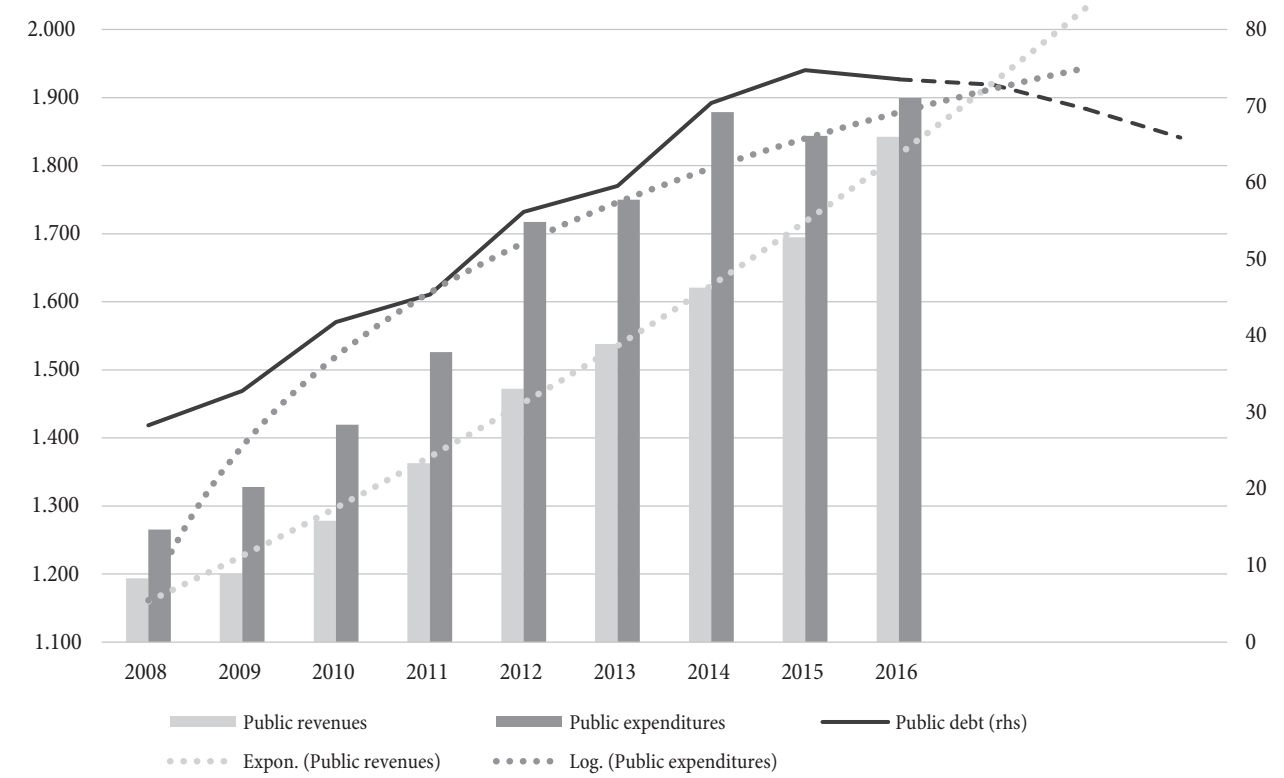
Fiscal surpluses implied by the intersection of fitted lines in Figure 4 below do not represent projections or requirement to secure a turning point in the debt-to-GDP ratio. With the prevalence of primary fiscal surpluses starting with 2016 (1.8 percent actual) and 2017 (1.4 percent projected), in tandem with declining cost of international borrowing and stable projected GDP growth rates (3 percent in 2017 and 3.5 percent in 2018-2019), the share of debt in GDP will be put on steady declining trend. Further reductions in borrowing costs are quite likely in line with continuously improving credit rating which will add to this tendency [13].

As indicated in Figure 5, increased country risk and large borrowing needs quickly increased the cost of public debt from 0.4-0.6 percent of GDP in pre-crisis years to 1.0-3.2 percent in the subsequent period. This tendency could not be changed quickly due to built-in lags. Starting with 2016 Serbia is reaping the first benefits of fiscal consolidation (and improved credit rating) through lower cost of borrowing. This will gradually narrow the difference between overall and primary fiscal balance and, together with stable GDP growth rates, help achieve long-run debt sustainability.

Program implementation issues

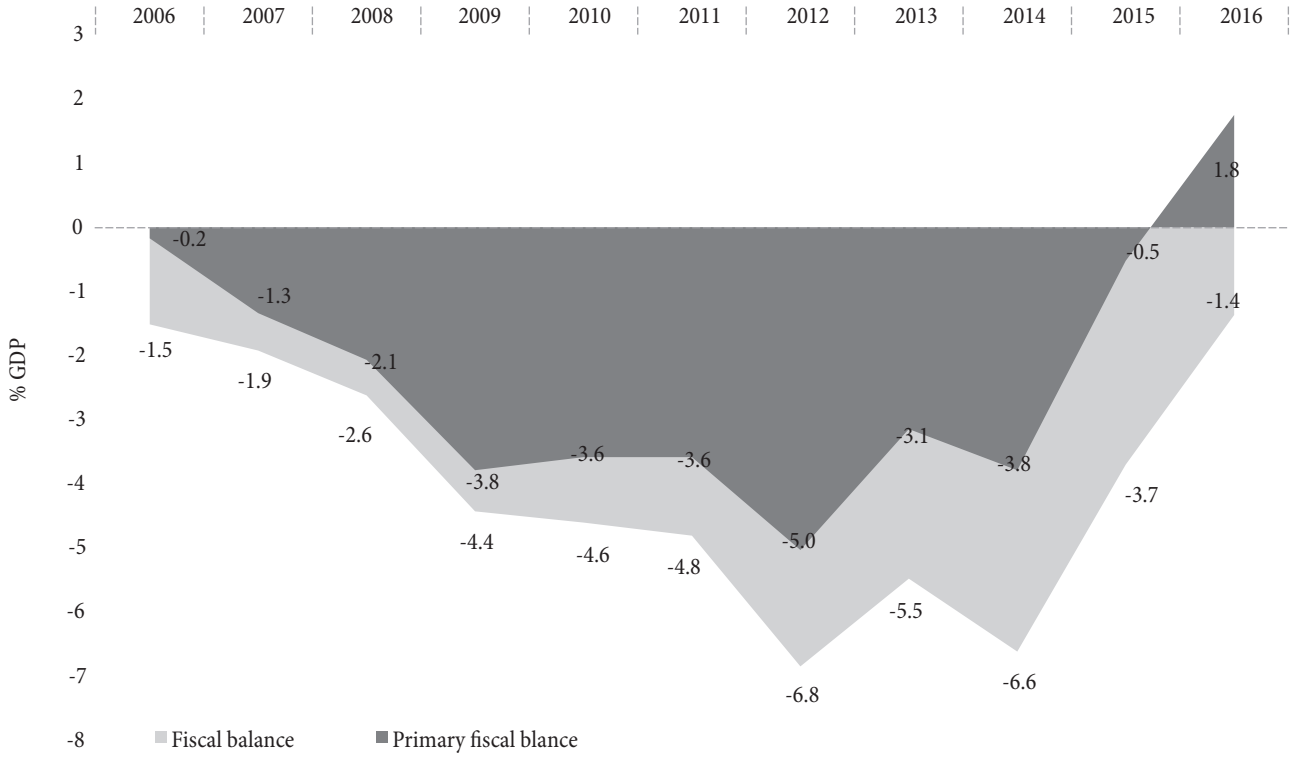
Based on previous track record of IMF-supported programs in Serbia and experience in comparator countries with similar reform programs, there was a notable tendency to include sizeable buffers in key aspects of the program. This became particularly obvious during the implementation

Figure 4: Serbia - public revenues, public expenditures, and debt-to-GDP ratios



Source: Ministry of Finance, Public Debt Department.

Figure 5: Serbia - primary and overall fiscal deficit: Sustainability issues



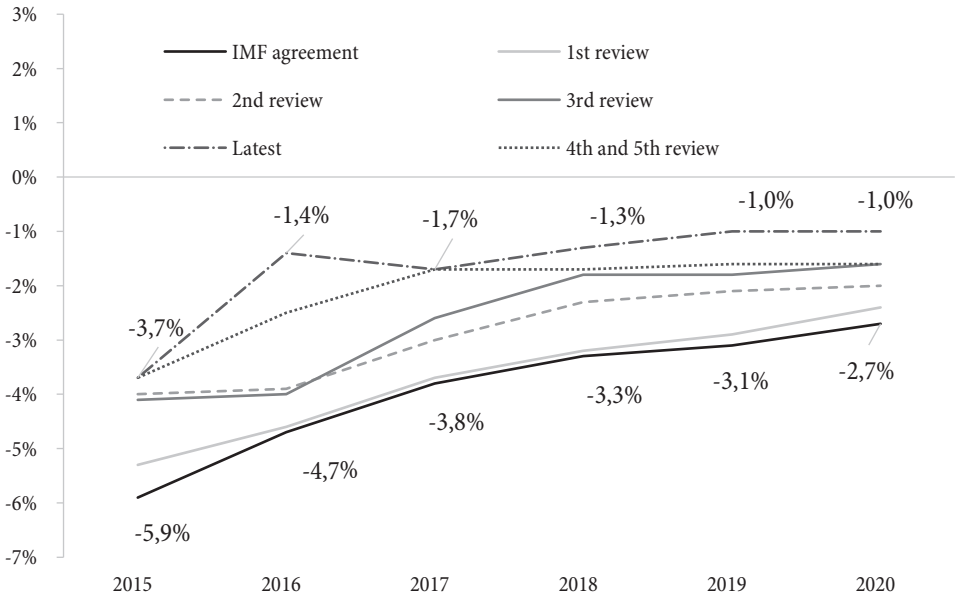
Source: Ministry of Finance.

of the ongoing program. As clearly visible in the figures below, there was a tendency to underestimate the size and scope of fiscal adjustment resulting in higher projected fiscal deficits. The gap was wider in the short run (between 2.2 and 3.3 percentage points for the following year, i.e. 2015 and 2016) and gradually narrowed in the longer-run (1.7 to 2.0 percent in 2019-2020).

Similar tendency is observed regarding the projected level of primary balances. The gap between initial program figures (produced in October 2014) and the latest revisions (done in late 2016) was as wide as 3.3 percentage points for 2016 and it substantially narrowed to only 0.4 percentage points for the medium run (2020).

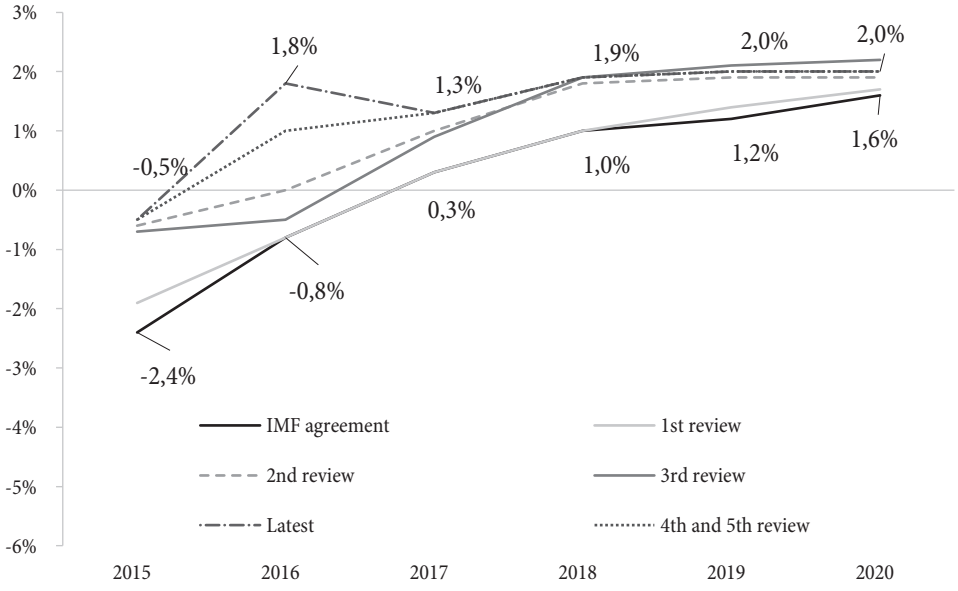
It is worth noting that almost all revisions represented improvements (lower fiscal and primary deficits, lower public debt and higher GDP growth rates), indicating a visible downward bias grounded in the history of consistently overly optimistic projections (especially

Figure 6: Serbia – general government fiscal balance, % of GDP



Source: IMF and Ministry of Finance.

Figure 7: Serbia – general government primary balance, % of GDP



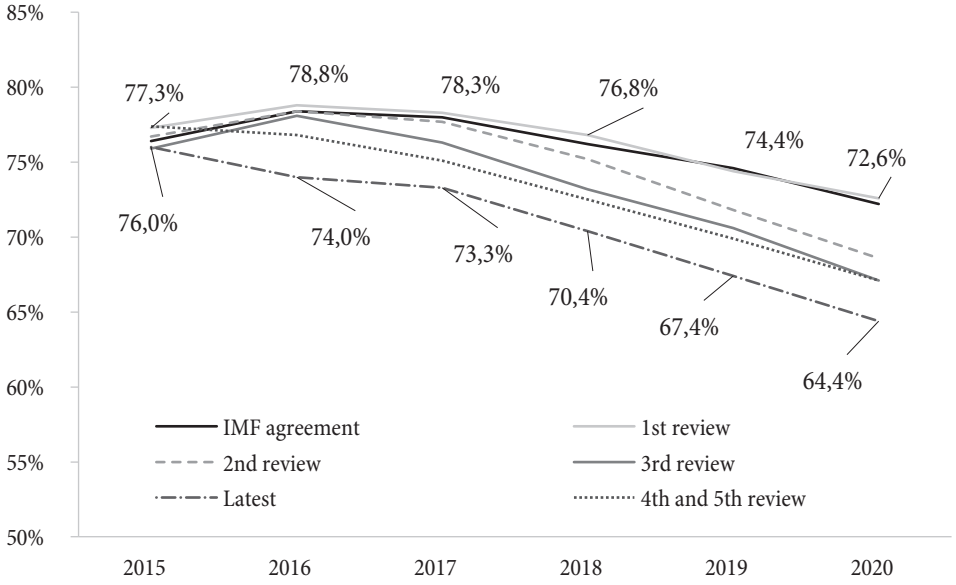
Source: IMF and Ministry of Finance.

regarding revenues and nominal GDP) and implementation underperformance (both on the fiscal front and in structural reforms). Whereas, despite visible improvements under this program, some reservations may be justified regarding the ownership and pace of structural reforms, we do not see sufficient justification for addressing possible downside risks through systematic downward bias in projected deficit, debt and GDP growth figures. Positive track record should be allowed to improve the accuracy of macroeconomic projections and devise separate risk mitigation measures if and when needed.

Remaining challenges faced by the program

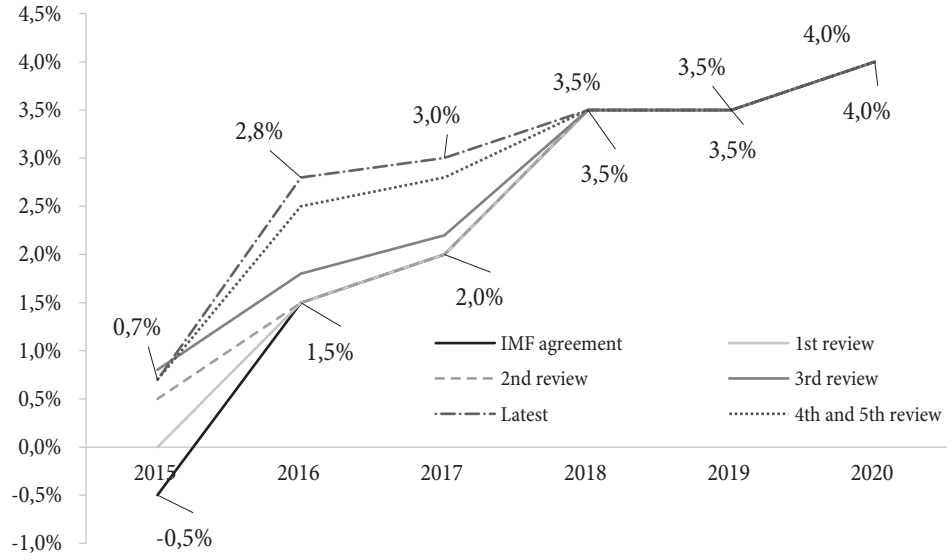
As previously discussed [40], the political economy issues grow in importance before the presidential elections expected in mid-April 2016. Last Parliamentary elections confirmed the broad reform orientation of the ruling majority coalition. But it also reopened some of the politically sensitive issues regarding the social cost of reforms stemming from the perceived (more than real) reform effects on pensions, public sector wages, and public sector jobs. The fact that the incumbent Prime Minister

Figure 8: Serbia – central government debt, % of GDP



Source: IMF and Ministry of Finance.

Figure 9: Serbia – GDP growth rates, % per annum



Source: IMF and Ministry of Finance.

won the elections and secured, with the usual coalition partners, a large majority in Parliament speaks clearly in favor of reforms and results achieved thus far. It also gave additional visibility and importance to promised pension and select public sector wage increases within the established structural (permanent) fiscal deficit improvements achieved in 2015-2016.

It looks like that the forthcoming Presidential elections will provide another opportunity to secure political and social support for continued efforts needed to resolve problematic SOEs and public utility companies. But this will not be simple in the midst of complex electoral politics and in face of growing reform fatigue among swing political factions and vulnerable groups.

As already discussed [40], fiscal consolidation has been postponed a few times and the 2011 SBA program ultimately rejected based on requests / expectations of special interest groups with significant political influence. Although the discussion of special interest groups in Serbia, their behavioral patterns, political alliances, and related political economy considerations goes beyond the scope of this paper, we will reiterate two examples that clearly indicate deep fiscal consequences of unresolved political economy issues in Serbia.

The first is the political strengthening of pensioners during the transition process. In close alliance with the Socialist Party of Serbia, they have openly resisted some of the key market reforms including efficient and full privatizations, protection of property rights, the development of efficient market institutions, to mention just a few. More importantly, they used their special political position critical for forming majority coalitions, to effectively change the share of pension expenditures vis-à-vis public sector wages and as share of GDP. As clearly shown in Figure 4 above, the share of pensions in public revenues jumped from 27.7 in 2008 to 32.3 percent in 2009. This increased the combined share of pensions and public sector wages to 62.0 percent and generated unsustainable expenditure commitments which significantly contributed to increased deficits and public sector debt.

The second was an apparent need of the government to raise more financing than needed to cover the fiscal deficits. This happened in six out of nine years prior to 2014 (see Figure 5 – years in which net financing-black full line, exceeds fiscal deficit – light line). Again, political economy reasons were critical in understanding these developments but fiscal consequences on growing debt service charges, especially interest payments as Serbia faced quite unfavorable lending terms during that period,

Present political economy issues can slow-down structural reforms

At this stage, fiscal consolidation measures have already taken solid ground. The effects of measures on fiscal deficit, economic growth, and longer-term public debt dynamic have been established and, although important implementation risks remain, Serbia is moving towards achieving or exceeding the fiscal targets set for the three year IMF supported program.

The key implementation risks are now on advancing structural reforms in resolving the status of enterprises in the Privatization agency portfolio, improving management and performance of public sector utility/infrastructure companies, reforming and rightsizing the public sector, and resolving NPLs in the banking sector. And each faces considerable push-back and obstruction from both workers and old management in general, labor unions which appear to be considerably stronger and protective of their privileges in public companies with large number of employees and, often, excessive overemployment. Resistance increases exponentially as the deadlines for inevitable reforms, rightsizing and restructuring plans come closer. The process is surprisingly misguided and stuck in positional bargaining "armed" with threats to strike or worse. Principled negotiations are practically non-existent. Deeper political divides behind the scenes make the whole process even more difficult. Pre-election sensitivities make this impasse almost impossible to handle rationally and effectively.

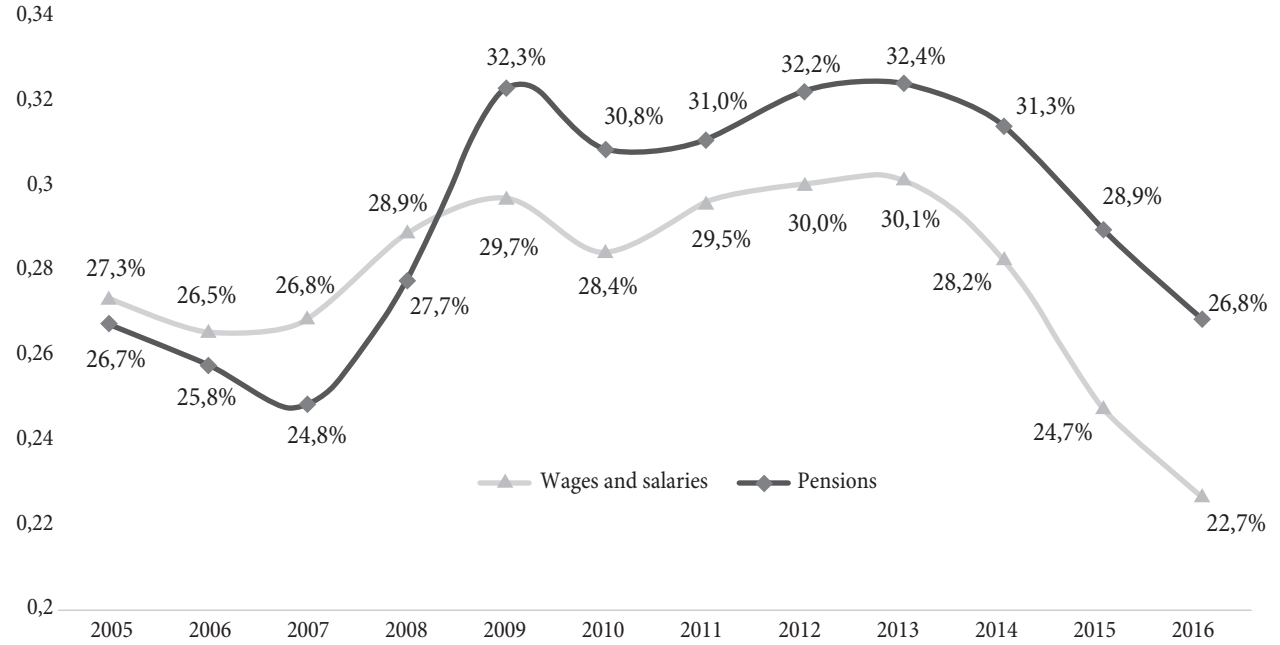
Most importantly, the complex political economy issues based on one-sided perception of status-quo interests could be misused by opposing political blocks to elevate the stakes in ensuing political campaign at the longer-term expense of the country. The country badly needs fresh thinking about dynamic trade-offs

where everybody wins in the medium run if reforms are completed, and most everybody loses if reforms are stalled or abandoned. This should be the back-bone of pro-reform and pro-EU campaign in Serbia. One can only hope that Serbian polity will see or feel that other political, economic and social alternatives offered at this time are inferior.

Conclusion

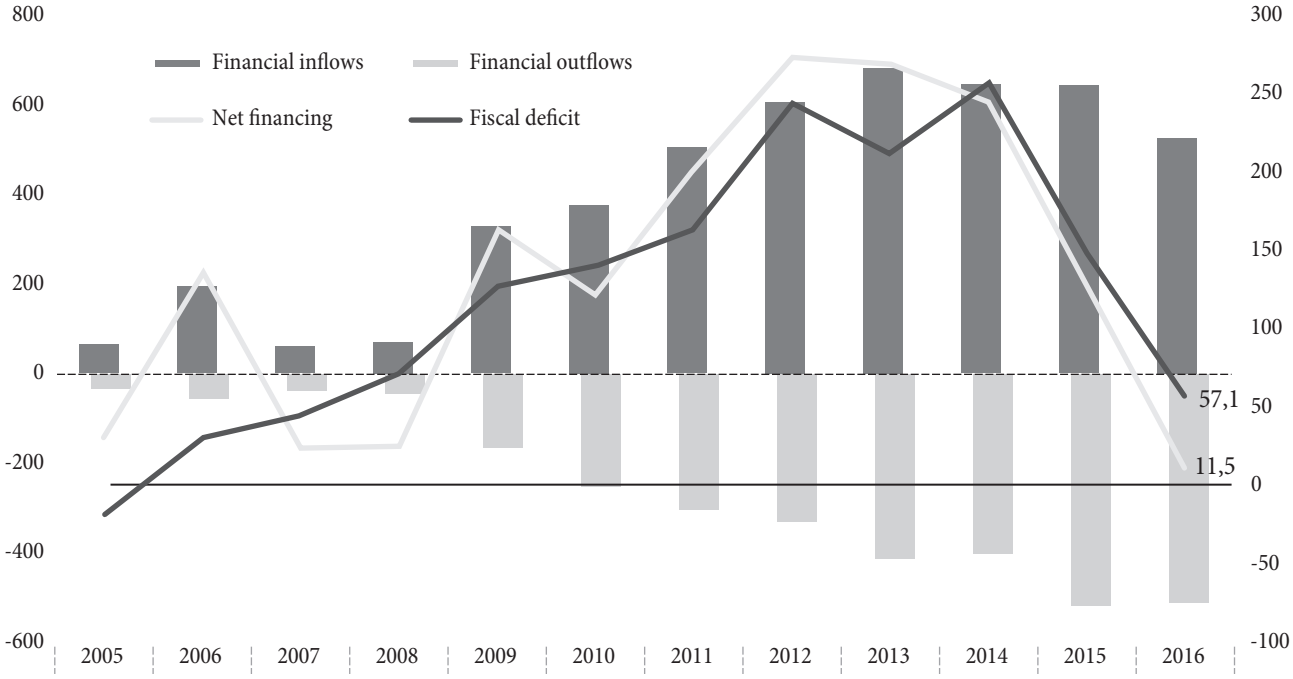
Fiscal consolidation in Serbia was based on a comprehensive, multi-year program built on broad-based expenditure cuts, better revenue performance, and related structural reforms and pro-growth policies. During the first two year of implementation the actual fiscal performance substantially

Figure 10: Serbia - share of public sector wages and pensions in revenues



Source: Ministry of Finance.

Figure 11: Serbia - financial flows, net financing, and fiscal deficit, in RSD billions



Source: Ministry of Finance.

exceeded the original and revised deficit targets set in the IMF supported three-year precautionary program. In 2015, the actual deficit of 3.7 percent of GDP represented a huge 2.9 percentage point improvement over the 6.6 percent deficit recorded in 2014, and a 2.2 percentage point over-performance vis-à-vis the program target. In 2016 the implementation performance further improved. The actual deficit of 1.36 percent of GDP was 2.6 percentage points better than the plan. The improved performance was achieved despite a sizeable assumption of old public company debts, and the absorption of seasonal spikes in expenditures.

This nominal result contains an even more impressive structural deficit improvement of 4.4 percentage points which exceeds the overall 4.0 percent total structural fiscal adjustment one year ahead of program schedule. The improvement was composed of 0.9 percentage points in permanent expenditure cuts and 3.5 percentage points in structural revenue improvements. This result is owed to substantial (2.6 percentage points) frontloading of public wage (1.0) and pension (0.6) adjustments on the expenditure side and better revenue performance (1.0). The second year structural improvement (1.8 percentage points) was owed to significantly stronger revenue performance (2.5) and reversal of structural savings on the expenditure side (-0.7) due to pension and wage adjustments.

The program had a beneficial impact on economic growth. The economy bottomed-out in the third quarter and started recovering in late 2014-early 2015 leading to a positive 0.8 percent growth for the entire year. The growth further recovered in 2016 (+2.8 percent) and is expected to reach 3 percent in 2017 and stabilize at 3.5 percent annually thereafter.

With this combined growth and fiscal performance Serbia may become a case of "expansionary austerity". As explained by Alesina [1] and Alesina et. al. [4], fiscal consolidation programs designed in line with sound principles summarized by Blanchard and Leigh [11] and [12] and synchronized with key structural reforms and pro-growth policies can generate growth. Carefully selected expenditure cuts combined with pro-growth revenue collection efforts can have expansionary effect on growth even under most difficult circumstances. An upward 1.3 percent growth rate revision captures the "conservative buffer error" and indicates that there are positive behavioral changes and responses to persistent and comprehensive reform effort.

The political economy issues of fiscal consolidation and structural reforms are increasing in importance ahead of Presidential elections. The key implementation risks will turn to securing progress of structural reforms in SOEs and public utility/infrastructure companies, reforming and rightsizing the public sector, and resolving remaining NPLs in the banking sector. And each faces considerable push-back and obstruction from labor unions, managers and other vested interest groups. Resistance increases exponentially as the deadlines for inevitable reforms, rightsizing and restructuring plans approach.

The resolution process is surprisingly misguided and stuck in positional bargaining. Deeper political divides threaten to further complicate the process. Fresh thinking is needed to demonstrate dynamic trade-offs where everybody wins in the medium run if reforms are completed, and most everybody loses if reforms are stalled or abandoned. This should be the back-bone of pro-reform and pro-EU campaign in Serbia. One can only hope that Serbian polity will see or feel that other political, economic and social alternatives are inferior.

References

1. Alesina, A. (2012). Cut deficits by cutting spending. *VoxEU. org*, *30*.
2. Alesina, A., & Ardagna, S. (2010). Large changes in fiscal policy: taxes versus spending. *Tax policy and the economy*, *24*(1), 35-68.
3. Alesina, A., C. Favero, and F. Giavazzi (2012). *The output effect of fiscal consolidations* (No. 18336). Cambridge, MA: National bureau of economic research
4. Alesina, A., Carloni, D., & Lecce, G. (2012). The electoral consequences of large fiscal adjustments. In *Fiscal Policy after the Financial Crisis* (pp. 531-570). University of Chicago Press.
5. Auerbach, A. J., & Gorodnichenko, Y. (2012). Fiscal multipliers in recession and expansion. In *Fiscal Policy after the Financial crisis* (pp. 63-98). University of Chicago Press.
6. Auerbach, A. J., & Gorodnichenko, Y. (2012). Measuring the output responses to fiscal policy. *American Economic Journal: Economic Policy*, *4*(2), 1-27.
7. Blanchard, M. O. J., Rogoff, M. K., & Rajan, R. (Eds.). (2016). *Progress and confusion: The state of macroeconomic policy*. International Monetary Fund.
8. Blanchard, O. (2011). Blanchard on 2011's four hard truths. *VoxEU. org*, *23*.

9. Blanchard, O. J., & Leigh, D. (2013). Growth forecast errors and fiscal multipliers. *The American Economic Review*, *103*(3), 117-120. (Revised from IMF Working Paper No. 13/1, 2013, Washington: IMF)
10. Blanchard, O., & Cottarelli, C. (2010). Ten commandments for fiscal adjustment in advanced economies. *VoxEU. org*, *28*.
11. Blanchard, O., & Leigh, D. (2013). Fiscal consolidation: At what speed?. *VoxEU 3*.
12. Buti, M., & Pench, L. (2012). Fiscal austerity and policy credibility. *VoxEU. org*, *20*.
13. Cafiso, G., & Cellini, R. (2012). Fiscal consolidations for debt-to-GDP ratio containment? Maybe... but with much care. *VoxEU. org*, *20*.
14. Christiano, L., Eichenbaum, M., & Rebelo, S. (2011). When is the government spending multiplier large?. *Journal of Political Economy*, *119*(1), 78-121.
15. Corsetti, G. (2010). Fiscal consolidation as a policy strategy to exit the global crisis. *VoxEU. org*, *7*.
16. Corsetti, G., & Müller, G. (2012). Has austerity gone too far?. *VoxEU. org*, *2*.
17. Corsetti, G., Kuester, K., Meier, A., & Müller, G. (2010). *Debt consolidation and fiscal stabilization of deep recessions*. CEPR Discussion Paper No. DP7649.
18. Corsetti, G., Kuester, K., Meier, A., & Müller, G. J. (2013). Sovereign risk, fiscal policy, and macroeconomic stability. *The Economic Journal*, *123*(566), F99-F132.
19. Cottarelli, C. (2012). Fiscal adjustment: Too much of a good thing?. *VoxEU. org*, *8*.
20. Cottarelli, C. (2012). The austerity debate: Festina lente. *VoxEU. org*, *20*.
21. Cournède, B. (2007). *The political economy of delaying fiscal consolidation* (No. 548). OECD Publishing.
22. Cugnasca, A., & Rother, P. (2015). *Fiscal multipliers during consolidation: Evidence from the European Union* (No. 1863).
23. DeLong, J. B., & Summers, L. H. (2012). Fiscal policy in a depressed economy. *Brookings Papers on Economic Activity*, *2012*(1), 233-297.
24. Escolano, J., Mulas-Granados, C., Terrier, G., & Jaramillo, L. (2014). *How much is a lot? Historical evidence on the size of fiscal adjustments* (No. 14-179). International Monetary Fund.
25. European Central Bank. (April 2014). *Fiscal multipliers and the timing of consolidation*. Monthly Bulletin. European Central Bank.
26. Eyraud, L., & Weber, A. (2013). *The challenge of debt reduction during fiscal consolidation* (No. 13-67). International Monetary Fund.
27. Gros, D. (2011). Can austerity be self-defeating?. *VoxEU. org*, *29*.
28. International Monetary Fund. (2011 July). *Republic of Serbia: Ex post assessment of longer-term program engagement and ex post evaluation of exceptional access—staff report* (Country Report No. 11/213).
29. International Monetary Fund. (2015 April). *Now is the time fiscal policies for sustainable growth*. IMF World economic and financial surveys. Fiscal Monitor.
30. International Monetary Fund. (2015 June). *Fiscal policy and long-term growth*. IMF Policy Paper.
31. International Monetary Fund. (2015 June). *Fiscal policy and long-term growth*. IMF Policy Paper.
32. International Monetary Fund. (2015 November). *Crisis program review*. IMF Policy Paper. Washington DC: IMF.
33. Jaramillo, L., & Cottarelli, M. C. (2012). *Walking hand in hand: fiscal policy and growth in advanced economies* (No. 12-137). International Monetary Fund.
34. Mody, A., & Rebucci, A. (2006). *IMF-supported programs: recent staff research*. International Monetary Fund.
35. Perotti, R. (2012). The "austerity myth": gain without pain?. *In Fiscal Policy after the Financial Crisis* (pp. 307-354). University of Chicago Press.
36. Pescatori, A., Leigh, D., & Guajardo, J. (2011). *Expansionary austerity new international evidence* (WP/11/158). International Monetary Fund.
37. Rodrik, D. (2015). *Economics rules: The rights and wrongs of the dismal science*. New York: WW Norton & Company.
38. Sutherland, D., Hoeller, P., & Merola, R. (2012). *Fiscal Consolidation: Part 1. How Much is Needed and How to Reduce Debt to a Prudent Level?* (No. 932). OECD Publishing.
39. Van Reenen, J. (2012). Fiscal consolidation: Too much of a good thing? *VoxEU. org, 27*.
40. Vujović, D. (2016). Serbia: Fiscal consolidation: Program design and political economy issues. *Ekonomika preduzeća*, *64*(1-2), 1-13.

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FISCAL CONSOLIDATION AND GROWTH IN SERBIA, 2015-2017: PROGRAM, ACCOMPLISHMENTS AND DRIVERS

Fiskalna konsolidacija i privredni rast u Srbiji 2015-2017 - plan, ostvarenja i pokretači

Abstract

Despite the encouraging progress in economic and fiscal trends in 2015 and 2016, Serbia is still far from high economic growth and healthy public finances. In this paper, we provide an in-depth analysis of the drivers of the economic recovery and the fiscal deficit decrease in the previous two years. In both cases, the analyses have shown that the observed improvements rest, to a large extent, on short-term and unplanned factors that are easily exhausted. Economic activity was under a significant impact of external growth drivers – a strong drop in oil and food prices, decreased interest rates and faster recovery of the region and the Eurozone. This is why practically all countries in the region, and not just Serbia, exceeded GDP forecasts by about 1 p.p. in 2015 and 2016. The fiscal deficit was decreased primarily through a surprisingly high public revenue collection, while for the most part, the planned savings were not achieved. Fiscal risks, particularly those pertaining to poor business performances of public and state-owned enterprises, practically remain the same in 2017 as they were in 2014. All this indicates that the improved economic and fiscal trends leave no room for complacency, but should be observed as a rare opportunity to implement structural reforms in a somewhat more favourable environment without a direct pressure of an impending crisis. If this opportunity is missed now, the reforms will have to be implemented in a far less favourable environment and will thus be far more difficult.

Keywords: *public debt, fiscal consolidation, fiscal deficit, tax collection, forecast errors, external drivers, investments*

Sažetak

I pored ohrabrujućeg napretka ekonomskih i fiskalnih kretanja u 2015. i 2016, Srbija je još uvek daleko od visokih stopa privrednog rasta i od uređenih i zdravih javnih finansija. U ovom radu detaljnije smo analizirali pokretače privrednog oporavka i umanjenja fiskalnog deficita u prethodne dve godine. U oba slučaja analiza je pokazala da uočena poboljšanja velikim delom počivaju na kratkoročnim i neplaniranim činiocima koji se lako iscrpljuju. Na privrednu aktivnost u prethodne dve godine znatno su uticali spoljni pokretači rasta – snažan pad cene nafte i hrane, smanjenje kamatnih stopa na zaduživanje u evrima i brži oporavak regiona i Evrozone. Zbog toga su praktično sve zemlje regiona, a ne samo Srbija, u 2015. i 2016. godini imale rast BDP-a za oko 1 p.p. veći od prognoziranog. Fiskalni deficit umanjen je, pre svega, iznenađujuće dobrom naplatom javnih prihoda, dok su planirane uštede uglavnom izostale. Fiskalni rizici, koji se naročito odnose na loše poslovanje javnih i državnih preduzeća, gotovo su nepromenjeni u 2017. u odnosu na 2014. godinu. Sve ovo ukazuje da bolji ekonomski i fiskalni trendovi nisu još uvek razlog za puno zadovoljstvo, već da ih treba posmatrati kao retku priliku za sprovođenje strukturnih reformi u nešto povoljnijem okruženju i bez neposrednog pritiska izbijanja krize. Ukoliko se ukazana prilika sada propusti, te reforme će sprovoditi u nepovoljnijem okruženju i samim tim biće daleko teže.

Ključne reči: *javni dug, fiskalna konsolidacija, fiskalni deficit, naplata poreza, greške prognoziranja, spoljni pokretači, investicije*

Introduction and main findings

Despite the encouraging progress in economic and fiscal trends in 2015 and 2016, Serbia is still far from high economic growth rates and well-organized and healthy public finances. In this paper, we provide an in-depth analysis of the drivers of the economic recovery and the fiscal deficit decrease from the previous two years. In both cases, the analyses have shown that the observed improvements rest, to a large extent, on short-term and unplanned factors that are easily exhausted. Economic activity was under a significant impact of external growth drivers in the last two years – a strong drop in oil and food prices, decreased interest rates for Euro-based loans and faster recovery of the region and the Eurozone. This is why practically all countries in the region, and not just Serbia, experienced GDP growths exceeding forecasts by about 1 p.p. of GDP in 2015 and 2016. The fiscal deficit was decreased primarily through a surprisingly high public revenue collection, while the planned savings were not achieved, for the most part. Fiscal risks, particularly those pertaining to poor business performances of public and state-owned enterprises, practically remain the same in 2017 as they were in 2014. All this indicates that the improved economic and fiscal trends leave no room for complacency, but should be observed as a rare opportunity to implement structural reform measures in a somewhat more favourable environment and without a direct pressure of an impending crisis. If this opportunity is missed now, the reforms will have to be implemented in a far less favourable environment and will thus be far more difficult.

In the first chapter, we analyzed economic growth drivers in Serbia in the last two years and GDP growth perspectives for 2017 and medium term. In 2016, Serbia achieved a GDP growth of 2.7%, the highest since the crisis of 2008 erupted. However, comparative analysis shows that other countries in the region have also enjoyed record-breaking growth in the post-crisis period, except that their growth was, on average, higher than Serbia's and amounted to 3.6%. Another common feature for almost all the observed countries, including Serbia, is that they achieved a far greater economic growth in 2015 and 2016 than forecasted. In Croatia, for example, GDP growth in 2015 was forecasted at 0.2%, while the achieved growth reached 1.6%; GDP growth in Romania in 2015 reached 3.7% instead of the expected 2.7%; in Hungary, it was 3.1% instead of 2.4% and in Bulgaria, instead of 0.8% which was forecasted, the achieved GDP growth reached as much as 3.6%. Similar positive deviations from forecasts reoccurred in 2016. This unexpected economic growth increase in almost all countries in the region indicates that domestic economic policy is not the only factor affecting the economic growth acceleration – but rather that this faster economic growth was also due to some favourable circumstance at the international level, which was not a part of the planned economic policies (drop in the price of commodities, especially oil and gas, interest rate decrease in Europe and a faster recovery of the Eurozone and the region).

Additional confirmation and quantitative qualification of the assumption that the unusually high economic growth in the countries in the region in 2015 and 2016 was strongly influenced by favourable circumstances on the international stage, was found in the uniform pattern in which individual GDP components in the countries in the region deviated from initial forecasts. The idea for this analysis came from a paper by Blanchard and Leigh (2013), in which the regular pattern in economic growth forecast errors for developed countries was used to assess their fiscal multipliers. In that paper, the deviation of the achieved growth from the forecasts was attributed to an unexpectedly large impact of fiscal consolidation on GDP. We believe that the reasons behind a systemic, positive deviation of GDP growth and its components from the forecasts in the countries in the region lie in the effects of unplanned external circumstances on all observed economies. Economic growth in the countries in the region in 2015 and 2016 exceeded forecasts due to an unexpected acceleration in real private consumption growth, by 1.7% compared to forecasts. However, the real private consumption growth did not spill over entirely to GDP growth acceleration, as a part of this larger consumption was covered by increased imports and not just by increased domestic production. In assessing the impact of the GDP components that showed a systemic

forecast error in 2015 and 2016, we can say with great certainty that the influence of external factors on economic growth acceleration in the region in the previous two years amounted to about 1 p.p.

Unlike in the region, it seems that there were two trends simultaneously driving the economic growth in Serbia during 2015 and 2016. A relatively successful implementation of fiscal consolidation, which brought about macroeconomic stability with the reformed Labour Law, Law on Planning and Construction etc., probably contributed to Serbia catching up to a certain extent to the economic growth of the countries in the region. However, the achieved growth in Serbia in 2015 and 2016 would most likely be about 1 p.p. lower, just like in the countries in the region, had it not been surprisingly accelerated by the favourable international factors.

Sooner or later the favourable international circumstances are bound to change, but Serbian economy is still not meeting the requirements for a high economic growth without the assistance of favourable external drivers. Another information that points out the structural weaknesses of Serbian economy which stand in the way of high GDP growth rates is the fact that since the end of the first wave of the world economic crisis of 2008, Serbian economic growth has been significantly lagging behind other comparable countries. Average GDP growth in Serbia in the period 2010-2016 was about 0.5%, while, at the same time, the average economic growth in CEE countries amounted to 2.5% and of the countries in the region, about 2%. Of all the CEE countries, only Croatia recorded a lower economic growth than Serbia in the last seven years.

The main structural obstacle to high and sustainable GDP growth rates in Serbia comes from extremely low share of investments in GDP of about 18%, which is among the lowest in the entire Central and Eastern Europe. To ensure high and sustainable GDP growth, share of investments in Serbian GDP would have to increase, at least, to the regional average of about 23% and probably more. The analysis shows that there are several different issues keeping the share of investments in the GDP at such a low level. The largest part of the gap between the actual and the needed investment level in Serbia (about 3% of GDP), of about 3% of GDP, pertains to the investments of the private sector. Insufficient private sector investments, by all accounts, are the result of a poor investment climate, also indicated by the low ranks Serbia holds in all relevant international research studies (WB, WEF, Transparency International). Within private sector investments, there are indications that domestic small and medium enterprises and entrepreneurs seem to be suffering the most, as they are the ones most affected by the poor business climate in Serbia. In addition to insufficient investments from the private sector, the government is also implementing public investments both inefficiently and insufficiently; they would have to increase by at least 1% of GDP. To add to that, poor management of public and state-owned enterprises has led to their investments falling short of the necessary level by at least 1% of GDP as well.

It would therefore be necessary to use this period of favourable international circumstances to implement comprehensive reforms and measures aimed at increasing investments. In terms of public investments, in addition to large capital projects (the realization of which is improving), more attention needs to be paid to the investments into local infrastructure which are often not as prominent in the public discussions (access to clean drinking water, sewer system, waste water treatment etc.). In the segment of public enterprises, low investments from *EPS* present a special cause for concern (they are kept at a level lower than the depreciation) since a lack of energy capacities could have long-term negative consequences on the country's economic growth. Delays in the resolution of the fate of state-owned enterprises, spanning several years, lead to this significant share of Serbian economy investing next to nothing. In some cases, the lack of investments from state-owned enterprises can also represent an environmental issue (rehabilitation of the tailings pond in copper mine company *RTB Bor*, for example). Finally, the largest influence of the Government on the increase of investment would have to be indirect, through the improvement of the bad business climate. In improving the investment climate, special attention should be paid to the issues of the rule of law and corruption, since Serbia has been rated particularly poorly in these indicators, by all relevant international institutions.

In the second chapter, we analyzed the results of 2015-2017 fiscal consolidation, which had two fundamental objectives: *first*, to reign in the uncontrolled public debt growth (and neutralize the direct danger of a public debt crisis); and the *second*, to successfully reform public finance in Serbia and thus set it firmly on a path that is sustainable in the long run. To meet the first objective, the Government planned to decrease the fiscal deficit from 6.6% of GDP in 2014 to 3.8% of GDP in 2017, which was supposed to stabilize the public debt at the level of about 78% of GDP at the end of the period. Even though we are just at the beginning of the last year covered by the initial plan, it is clear that this specific fiscal objective is practically already fulfilled, and even surpassed. The general government deficit in 2017 should amount to 1.7 % of GDP, which is by about EUR 750 Mln less than planned at the end of 2014. In addition, the public debt growth was stopped already in 2016 and the latest forecasts indicate that it will amount to about 73% of GDP at the end of 2017 – which is a whooping 5 p.p. of GDP, or EUR 1.8 Bln less than envisaged. However, what casts a shadow over these indisputable fiscal improvements is the fact that less than a modest progress has been made in the implementation of the reform part of the fiscal consolidation (primarily the reform of public and state-owned enterprises). Successful implementation of the reform was supposed to ensure a significant improvement in the structure of public expenditures and adjust their level to the strength of the national economy, to reduce future fiscal risks and support a high and sustainable economic growth in the medium and long term – but our analyses show that for the large part this has not yet occurred.

The fiscal consolidation of 2015-2017 would surely have failed had it truly relied on the expenditure austerity measures (from the 2014 plan), which were aimed at decreasing the excessive public expenditures (and rightly so). Namely, only a little over a half of the initially planned savings have been achieved, which is why the public expenditures will exceed the initial plan by about EUR 650 Mln in the last year of the programme implementation. General government downsizing was particularly unsuccessful, as it is likely that not even a third of the planned savings will be achieved – even though the number of employees was supposed to be decreased by 75,000, the latest data show that the actual decrease was a mere 17,000. The savings from the planned salary and pension freeze in the period of 2015-2017 have not been achieved, either. Not only has the decision on the salary and pension freeze already been suspended twice (in 2016 and 2017), but the expected savings from the decrease of salaries and pensions in real terms were further decreased by the fact that the inflation remained far below the forecast throughout the entire period. Due to insufficient implementation of the planned austerity measures on the expenditure side, the structure of public expenditure will deviate significantly in 2017 from what was originally planned (and optimal). Some of the basic budget imbalances are still present: although decreased, wage and pension bill still exceeds the sustainable level, subsidies will be larger by about 1 p.p. of GDP than in comparable countries, while public investments are insufficient and should be increased by at least 1 p.p. of GDP.

However, the fiscal consolidation was actually rescued by a surprisingly good public revenue collection, exceeding the initial forecast by EUR 1.4 Mln in 2017 – which makes up more than enough for all the missed saving opportunities. The largest contribution to such a strong public revenue growth comes from a more efficient tax collection (EUR 700-800 Mln), due to well targeted *ad hoc* grey economy suppression measures, implemented by the Tax Administration in the field. In addition, a better than forecasted macroeconomic environment, especially the more favourable labour market trends, will lead to an increase in social contribution revenue of about EUR 400-500 Mln above the plan. Finally, non-tax revenues also increased by about EUR 200 Mln in 2017, relative to the plan, due to increased transfers from public and state-owned enterprises into the budget, on the grounds of the made profit – which are questionable from the view point of economic justifiability. Having in mind the magnitude of the operational issues some of these enterprises face (such as EPS or Telekom), the short-term benefit that the government is to achieve from the increased withdrawal of their liquid funds, could be smaller than the damage that could arise if these enterprises are excessively financially drained.

Contrary to the original intentions, practically 50% of the permanent fiscal deficit decrease has been achieved through unplanned public revenue growth and, to a lesser extent, some non-systemic savings in public expenditures – the sustainability of which will still be in question if they are not supported by reforms. Namely, the tax collection increase was achieved with the existing (inadequate) Tax Administration capacities: average age of employees is unfavourable, there is an insufficient number of tax inspectors, analytical capacities are weak, organisational structure and information system are outdated etc. This is why we believe that there is a pronounced risk that the achieved collection rate will not be maintained without the modernization of the Tax Administration. Even though unsuccessful general government downsizing, certain savings have been achieved nevertheless, due to natural outflow of the retiring employees combined with the employment ban. Moreover, previous attempts to decrease the number of general government employees (IMF arrangements 2002-2006 and 2009-2010) have shown that most often these effects were only short-lived. Statistics show that soon after the arrangements ended the number of general government employees bounced back to the previous level, or even exceeded it. To prevent similar situations from repeating in the following years, it is necessary to initiate a reform of the largest public systems, primarily healthcare and education as soon as possible. One of the outcomes of these reforms would be a clearly defined number and structure of the employees needed, which would prevent an excessive and unjustified increase in employment once the employment ban has been lifted.

Fiscal risks are threatening to annul all that has been accomplished thus far, as other reform goals have not been met as well. This is especially true for the reform of public enterprises and the completion of privatization of state-owned enterprises as it is seriously overdue, even though it was one of the main objectives of the initiated fiscal consolidation. *Serbian Railways* are practically the only public enterprise in which necessary measures have been undertaken: the enterprise has been divided into four independent companies, a new manner of subsidizing increases efficiency, a large downsizing has been planned etc. There are certain problems and delays in the implementation of the planned reform measures, but despite this, *Serbian Railways* are the public enterprise that has went the furthest in the restructuring process. On the other hand, essential reforms of the *EPS* have been delayed for years, even though the enormous debt of this enterprise (in excess of EUR 1 Bln), which could fall to the budget, represents the largest fiscal risk. *Srbijagas's* performance depends directly on the resolution of problems in enterprises that are failing to pay for the delivered gas (petrochemical companies *Petrohemija, Azotara, MSK* and others), which has not yet occurred, so these companies continue to accumulate debt. Therefore, it is probably a matter of time before Srbijagas runs into liquidity problems again, which will require the issue of new guarantees for loans – regardless of the fact that the government has explicitly undertaken not to do that anymore. Finally, after the first and encouraging wave of resolving the status of enterprises undergoing privatization in 2015, it seems that the process has ground to a halt in 2016 (with the exception of the sale of the steel mill *Železara Smederevo* to the Chinese company *Hesteel*). There are no sustainable solutions on the horizon for the remaining enterprises from this group (copper mine *RTB Bor*, pharmaceutical company *Galenika*, agricultural corporation *PKB*, coal mine *Resavica*, furniture company *Simpo* and others), so the fiscal risk from their poor business performances keeps increasing.

When it is all summed up, it is important to note, once again, that the fiscal consolidation of 2015-2017 successfully resolved some acute issues in Serbian public finances – a high deficit of 2014 was decreased more than it was originally planned, while the strong growth of public debt was stopped a year earlier than expected. However, with the public debt currently reaching about 75% of GDP, Serbia is still a highly indebted country – a single external "shock" would be sufficient to bring it back to the brink of a public debt crisis. In order to lower the public debt to a safer level (about 50% of GDP), additional savings have to be made which would lower the deficit to 0.5% of GDP and maintain it at that level in the long run. Our analysis shows that this can be achieved in an economically desirable manner. It would be necessary to

keep decreasing total public expenditures and achieve a fiscal balance at a level lower than the present 44-45% of GDP, with fine-tuning the structure of public spending (increase in public investments combined with a decrease of, e.g. subsidies). Together with a Tax Administration reform that would allow additional improvements in public revenue collection, this would open up some room for incentives to economic growth through a moderate reduction of the tax burdens on the economy.

Economic growth in Serbia: external vs. internal drivers

Serbian economic growth cannot be observed in isolation from the economic trends in the region. In 2015 and 2016, growth in the countries in the region reached the highest value since the outbreak of the 2008 crisis, amounting to about 3.5%, on average. A larger economic growth in the region also had a positive effect on Serbian economy, as economies in the region are closely connected (Serbia places a third of its export into the countries in the region). In this chapter, we analyzed the reasons behind the accelerated growth in the region (and in Serbia) in the last two years. Comparative analysis has shown that the countries in the region enjoyed a strong positive effect from external drivers, which increased their economic growth in the last two years by about 1 p.p. on average. These favourable exogenous economic growth drivers were a sudden drop in food and oil prices, low interest rates and Eurozone recovery.

Since the outbreak of the crisis, Serbian economic growth has been lagging well behind the average growth, not only among the countries in the region, but in the entire CEE as well. The reasons for the lag can be found in internal structural problems of the Serbian economy, reflected in the extremely low share of investments in the GDP of about 18%. On the other hand, average share of investments in the GDP in the CEE countries is 22%, and in the countries in the region, almost 23%. Low investment share is influenced as well by a poor investment climate, indicated by the poor ranking of Serbia in the relevant studies of competitiveness and corruption (WB, WEF, Transparency International) Due to a poor climate, the private sector in Serbia, and especially small and medium enterprises and entrepreneurs, invest far less than those in other comparable countries. In addition, we discovered that the direct influence of the government on the overall low level of investment, is stemming from insufficient funds being used for public investments, as well as from the poor management of public and state-owned enterprises that, instead of having a positive impact on economic growth, waste their resources and threaten the fiscal stability with their losses and debts.

In the first and most comprehensive section of this chapter, we analyzed economic growth in Serbia in 2015 and 2016 in a regional context. We showed that a significant part of the economic recovery has come from outside, due to favourable effects of international economic drivers. In the second section, we point out the main structural weaknesses of the Serbian economy, which stand in the way of a high and sustainable economic growth. In this section we also discuss the necessary economic policies for a permanent increase of Serbian economic growth.

Economic growth in Serbia and the region in 2015 and 2016: results exceed expectations under the influence of favourable circumstances at the international level

The preliminary results for 2016 show an economic growth in Serbia of 2.7%, compared to 0.8% in 2015. GDP growth rate of 2.7% in Serbia in 2016 is the largest since the crisis that erupted in the second half of 2008 and, with this growth, the pre-crisis production level has finally been exceeded, after eight years. In addition, in both observed years (2015 and 2016) the achieved GDP growth was far better than initially planned. For 2015, it was expected that the Serbian economy would undergo a mild recession; in 2016, expectations were that it would achieve a 1.5-2% growth, meaning that the achieved growth in both 2015 and 2016 was about 1 p.p. larger than originally forecasted.

However, put into the regional context, the achieved GDP growth in Serbia in the last two years is not as spectacular as it may seem at first glance. GDP trends from 2013 onwards in all countries in the region (and in the Euro zone) are presented in Table 1. The Table shows

that Serbian growth in 2016 remained below average in comparison with the neighbouring countries, despite the significant acceleration. This is because the economic activity in the region has shown significant acceleration in 2015 and 2016, compared to 2013 and 2014 and thus the region continues to maintain its advantage over the economic growth in Serbia. With the latest acceleration, the achieved GDP in the countries in the region amounts to about 3.5%, therefore just like Serbia, the region has also experienced a record economic growth since the outbreak of the 2008 crisis.

The question we now raise is – what was the cause of the acceleration in the economic activity in the region (and in Serbia) during the past two years. The answer is important, as it will determine, to a large extent, the perspectives for regional growth in the upcoming years. One possibility is that the growth acceleration of 2015 and 2016 came only from internal factors in individual countries (structural reforms, increased price competitiveness etc.). In that case, the economic growth acceleration would be sustainable; the growth could even increase further in the upcoming years. The second option is that the economies in the region were spurred on, to a significant degree, by the external factors as well. In such a case, the observed acceleration of economic activity would most likely be limited in duration, as the international circumstances are subject to change.

To ascertain the nature of the economic boom in the region, we used the (modified) basic idea from Blanchard and Leigh (2013) [3]. In that paper, authors investigate the relation between growth forecast errors and fiscal consolidation during the crisis. The authors observed that the achieved GDP growth rates were somewhat lower than forecasted in the developed countries that had implemented stricter fiscal consolidation programmes. They then concluded that the fiscal multipliers in those countries were higher than previously perceived. In this paper, we also analyzed the GDP growth forecast errors, but with a slightly different purpose. Namely, some of the significant external factors that could have influenced economic growth in the region in the last two years came as a surprise – which means they could not have been included in the previous GDP forecasts. This is why a systematic difference between the achieved and the forecast GDP growth should be expected, if such external factors truly did play a significant role. For example, a sharp drop in oil prices in 2015 was not envisaged at the end of 2014, so it could not have been included in the GDP forecasts for 2015. If the oil price drop did not have a significant effect on the economies in the region, differences between the achieved and the forecasted GDP of individual countries in 2015 should be small and random. However, if the low price of oil galvanized economic growth in the region, there should be a common, systemic increase in GDP

Table 1: GDP growth in Serbia and in the surrounding countries, 2013-2016 (in %)

Country	2013	2014	2015	2016[1)]	average growth 2013-2014	average growth 2015-2016
Serbia	2.6	-1.8	0.8	2.7	0.4	1.8
Neighbouring countries (weighted average)	2.3	2.5	3.3	3.6	2.4	3.4
Albania	1.0	1.8	2.8	3.2	1.4	3.0
Bosnia and Herzegovina	2.4	1.1	3.0	2.0	1.8	2.5
Bulgaria	1.3	1.5	3.6	3.1	1.4	3.4
Croatia	-1.1	-0.4	1.6	2.6	-0.7	2.1
Hungary	1.9	3.7	3.1	2.1	2.8	2.6
FYR Macedonia	2.9	3.5	3.7	2.4	3.2	3.1
Montenegro	3.5	1.8	3.4	2.7	2.7	3.1
Romania	3.5	3.0	3.7	5.2	3.2	4.5
Eurozone	-0.3	1.1	2.0	1.7	0.4	1.9

Source: EU Commission, IMF, statistical offices of the observed countries.
1) Assessment of the EU Commission (Autumn Economic Forecast 2016); for BH, the assessment is based on the data of the Statistical Office of Bosnia and Herzegovina because the EU Commission does not publish data for this country; for FYR Macedonia, the growth assessment has been corrected to a higher value because the data of the EU Commission deviates significantly from the data of the Macedonian Statistical Office.

in 2015 compared to forecasts. More precisely, the GDP components that are not influenced by a low price of oil in the short term (e.g. investments) should not deviate much from the original forecasts, but there should be significant and uniform deviations from the forecast values of those GDP components that the oil price drop could have an impact on (private consumption).

In the last two years, the differences between the achieved and forecasted GDP growth rates in the region were quite pronounced and mostly positive. Serbia, therefore, was no exception in that it achieved growth rates significantly higher than originally forecasted in 2015 and 2016. In Croatia, for example, GDP growth in 2015 was forecasted at 0.2%, while the achieved growth reached 1.6%; in Romania GDP growth in 2015 reached 3.7% instead of the expected 2.7%; in Hungary it was 3.1% instead of 2.4% and in Bulgaria as much as 3.6% instead of the forecasted 0.8%. Although the data for GDP trends in the region in 2016 are not final yet, they unambiguously show that the described phenomenon of growth acceleration compared to expectations occurred again in 2016, but to a somewhat lesser extent than in 2015. Forecasts and achieved growth rates in the countries in the region are presented in Table 2.

Table 2 shows that the countries in the region on average had a significantly larger GDP growth than forecasted – by 1.1. p.p. in 2015 and by 0.65 p.p. in 2016. To determine whether such deviations are unusual, we analyzed forecast errors for the previous period (2010-2014), for the same group of countries. Notable forecast errors in the observed period had occurred, but were random. GDP growth in the region was lower than expected in three out of five years prior to 2015, and in two years it was larger. The year 2013 is an interesting year for comparison with 2015 and 2016; in 2013, the growth also exceeded the forecast by about 1 p.p., just like in the last two years. However, a more detailed data analysis for 2013 reveals that large errors were made in growth forecasts only for the two largest economies in the region, Romania and Hungary. By excluding those two countries, the growth in the remaining economies in the region in 2013 would have been somewhat smaller than forecasted. This was not the case in 2015 and 2016, when the achieved growth was higher than forecasted even when the two largest economies were excluded. In addition, in 2013, there was no pattern in the growth of individual GDP components. GDP growth increase in Hungary, compared to forecasts, was the consequence of a growth in investments of over 11%, despite the fact that they were originally projected to be stagnant; in Romania, export deviated by almost 20% from the forecasts while the investment growth came in lower than it was expected.

Table 2: GDP forecast errors in Serbia and in the surrounding countries, 2015-2016

Country	Forecasts 2015[1)]	Forecasts 2016[2)]	Growth 2015	Growth 2016[3)]	Forecasts errors 2015	Forecasts errors 2016
	%				*p.p.*	
Serbia	-0.3	1.6	0.8	2.7	+ 1.1	+ 1.1
Neighbouring countries (weighted average)	2.2	3.0	3.3	3.7	+ 1.15	+ 0.65
Albania	3.0	3.2	2.8	3.2	- 0.2	0.0
Bulgaria	0.8	1.5	3.6	3.1	+ 2.8	+ 1.6
Croatia	0.2	2.1	1.6	2.6	+ 1.4	+ 0.5
Hungary	2.4	2.1	3.1	2.1	+ 0.7	0.0
FYR Macedonia	3.5	3.3	3.7	2.4	+ 0.2	- 0.9
Montenegro	3.0	4.0	3.4	2.7	+ 0.4	- 1.3
Romania	2.7	4.2	3.7	5.2	+ 1.0	+ 1.0
Eurozone	1.3	1.7	2.0	1.7	+ 0.7	0.0

Source: EU Commission, statistical offices of the observed countries.
1) 2015 forecast – EU Commission Winter Forecast 2015 [6].
2) 2016 forecast – EU Commission Winter Forecast 2016 [7].
3) Preliminary assessment, EU Commission Autumn Economic Forecast 2016, growth forecast for FYR Macedonia corrected to a higher value because the records of the EU Commission deviate significantly from the records of the Macedonian Statistical Office.
Note: as BH is not a candidate country, EU Commission does not provide forecasts, so we have left it out of this analysis.
4) EU Commission forecast (Autumn Economic Forecast 2016) [8].

Unlike 2013, forecast errors in 2015 and 2016 in the region were not only more widely distributed by countries, but also followed a certain pattern. Increase in private consumption in real terms, which surpassed the forecasts to a significant extent, was the common motor of the irregular GDP acceleration in the previous two years. Practically in all observed countries, in both years, private consumption was notably higher than forecasted, on average by about 1.7 p.p. per year (Table 3). Since private consumption contributes to the GDP with 60%, on average, in the countries in the region, this change had a critical impact on the growth of GDP beyond what was expected.

Tables 2 and 3 imply that the unplanned growth of real private consumption did not fully feed into the acceleration of GDP growth. However, this is completely expected. A larger consumption growth does not increase domestic output at the same rate, as a part of this increase is covered through higher imports. This is exactly what happened in the countries in the region in 2015 and 2016. Import growth, in real terms, in the region in the last two years was notably higher than expected, amounting to 6.7% in 2015 (compared to the 5.2% envisaged) and 7.4% in 2016 (compared to the forecast of 6.2%). Finally, an increased import in the countries in the region also drives a somewhat increased export, as these countries trade with each other. For example, if Romanian import shows an unusual increase, this encourages a somewhat greater export from Bulgaria, as Romania is one of Bulgaria's largest export markets. In 2015, export growth in the region, in real terms, was forecast at 5.4% and came in at 6.7%, whereas in 2016, it was forecast at 5.6% and came in at 5.9%. The remaining GDP components, public consumption and investments, did not significantly deviate from the original forecasts in the observed years.

Therefore, the analysis of forecast errors for individual GDP components shows that there is a common pattern of deviation during 2015 and 2016, in almost all countries in the region. The main reason for this error is the unexpected acceleration of real private consumption by about 1.7 p.p. relative to forecasts, for both years. This then reflected on an unexpected import increase and, to a somewhat lesser extent, greater export growth in the countries in the region, while the remaining GDP components showed no significant deviation from forecasts. This result is especially indicative when it is noted that the countries surrounding Serbia are extremely heterogeneous (diverse in size, development level, production structure, some are EU members, some are not). Presence of a common pattern, which shows that GDP components of very diverse countries deviated from the original prognosis indicates that common, external factors had a great impact on the increase in economic growth in the last two years, affecting all observed economies in a similar way.

Using this method, it is impossible to calculate precisely just how much of an influence the external factors have had on the acceleration of economic growth

Table 3: Private consumption forecast errors in Serbia and in the surrounding countries, 2015-2016

Country	Forecasts 2015[1]	Forecasts 2016[2]	Growth 2015	Growth 2016[3]	Forecasts errors 2015	Forecasts errors 2016
	%				*p.p.*	
Serbia	-1.8	0.5	0.5	1.2	+ 2.3	+ 0.7
Neighbouring countries (weighted average)	2.3	4.4	4.0	6.1	+ 1.7	+ 1.7
Albania	2.9	2.4	1.0	2.8	- 1.9	+ 0.4
Bulgaria	0.8	1.4	4.5	3.2	+ 3.7	+ 1.8
Croatia	0.0	1.8	1.2	2.7	+ 1.2	+ 0.9
Hungary	2.8	3.2	3.4	4.9	+ 0.6	+ 1.7
FYR Macedonia	2.3	2.4	3.2	2.4	+ 0.9	0.0
Montenegro	2.1	1.5	2.2	3.3	+ 0.1	+ 1.8
Romania	3.0	6.9	5.1	9.0	+ 2.1	+ 2.1

Source: EU Commission.
1) 2015 forecast - EU Commission Winter Forecast 2015.
2) 2016 forecast - EU Commission Winter Forecast 2016.
3) EU Commission forecast (Autumn Economic Forecast 2016).

in the previous two years. Namely, some favourable circumstances at the international level were perhaps already known at the time GDP was forecasted, which would mean they had no bearing on the forecast error even though they perhaps did have an effect on GDP growth. At that, precise estimation is additionally complicated by the fact that certain external factors impacted GDP in 2015 on a one-off basis, while others were more permanent in nature etc. Still, when we assess the impact of the three GDP components that showed a systemic error in 2015 and 2016 forecasts (consumption – import + export), we can say with great certainty that the influence of external factors on economic growth acceleration in the region in the previous two years amounted to about 1 p.p. This, then, means that the observed economic growth acceleration in the region, from about 2.5% in 2013 and 2014 to about 3.5% in 2015 and 2016 (Table 1) came primarily from the impact of external factors – and not as a consequence of reforms implemented in the observed countries.

In Serbia, the situation is different only to a certain extent being that, all things considered, there are two simultaneous trends pushing the economic growth. A relatively successful implementation of fiscal consolidation, which brought about macroeconomic stability, with the reformed Labour Law, Law on Planning and Construction etc., probably contributed to Serbia catching up to the economic growth of the countries in the region, to a certain extent (Table 1). However, the growth in Serbia in 2015 and 2016 would most likely be about 1 p.p. lower, just like in the countries in the region, had it not been surprisingly accelerated by the favourable international factors.

At the end of this section, we shall discuss briefly about the most important external factor that affected the surprising economic growth acceleration in Serbia and the countries in the region in 2015 and 2016. Since the increase in private consumption, in real terms, has been identified as the strongest channel through which external factors have acted, it shows that the largest impact on economic growth acceleration in the region probably came from the global drop in the prices of commodities (oil, gas, food). This price drop had an effect on the increase in the disposable income among the population, which was able to consume more, in real terms, with the same income; i.e. there was an unplanned increase in consumption, in real terms. Table 4 shows the trends of average prices of oil and wheat in the last three years, as illustrations for the commodity price trends in 2015 and 2016. The same Table also presents the IMF's forecasts on future trends in the prices of these commodities at the time of GDP forecasting for the countries in the region.

In addition to this (apparently most important) channel that affected economic growth acceleration in the region in the previous two years, data analysis shows that during 2015, the region experienced a one-off positive effect of the somewhat accelerated growth in the Eurozone. GDP growth in the Eurozone amounted to 2% in 2015 which was faster than the average growth from the several preceding years (Table 1). Among the GDP components in the Eurozone, import growth stands out as it amounted to 6.4% in real terms. This import increase most likely induced the relatively high real export growth of the countries in the region in 2015, in the amount of 6.7%. The growth of export in the region, however, slowed down already in 2016 to 5.9%; this was probably also due to the effects of the decreased import of the Euro zone, in real terms, down to a mere 3%. The last exogenous factors that we believe had an impact on a somewhat faster economic growth in the region, especially in 2016,

Table 4: Average annual price of oil and wheat, forecast and realization, 2014-2016

Commodity	2014	Forecast 2015[1)]	Achieved 2015	Forecast 2016[2)]	Achieved 2016
			USD / barrel		
Oil (Brent)	99	80	52	50	44
			USD / MT		
Wheat	243	220	186	175	143

Source: IMF.
1) IMF, Commodity Price Outlook & Risks, November 2014.
2) IMF, Commodity Price Outlook & Risks, November 2015.

are low interest rates. For the time being, this is reflected in the increased borrowing among the population in the region, in 2016 (which also lead to a larger consumption growth, in real terms, than was expected); for the time being, corporate borrowing is not catching up with this trend. The last regional IMF report for Central, Eastern and South-Eastern Europe [9] from November analyzes the initiated recovery of loan activities in the CIE and forecasts further acceleration of this trend.

Perhaps with a few exceptions, external factors that contributed to a somewhat faster recovery of the region and Serbia in 2015 and 2016 will probably be exhausted quickly in the upcoming years. Oil and food prices have already started bouncing back, while interest rates in the USA are slowly rising (there are still no hints of that for the Euro zone). This is why further economic growth acceleration in Serbia will increasingly depend on its internal drivers. The problem, however, is that the structure of domestic production still fails to meet the requirements for a high and sustainable economic growth exceeding 4%. In the next section, we shall look in more detail at the analysis of the main internal obstacles that stand in the way of a high economic growth in Serbia.

Insufficient investments – the main obstacle to Serbian economic growth

In this section, we shall look at internal weaknesses of Serbian economy, which have prevented high GDP growth rates in the period since the end of the first wave of the world economic crisis. Namely, since 2010, economic growth in Serbia has been very low and lagged far behind the other countries of Central and Eastern Europe (including countries in the region). Average GDP growth in Serbia in the period 2010-2016 was about 0.5%, while, at the same time, the average economic growth in CEE countries amounted to 2.5% and of the countries in the region, about 2%. Of all the CEE countries, only Croatia recorded a lower economic growth than Serbia in the last seven years.

The main structural cause of the low economic growth in Serbia and the lag behind other CEE countries lies in the insufficient share of investments in the GDP, which has been present for years. For a high and sustainable economic growth in Serbia, the share of investments in the GDP should be about 25%, i.e. at least at the level of the regional average, which is 23% (Table 5). However, Serbian economy (including both the public and the private sector) has been investing, on average, only about 18% of the GDP since 2010. Insufficient investments are not only a direct obstacle to economic growth, but they contribute to macroeconomic imbalance as well. This can also be seen from Table 5, where we compared the GDP structure by consumption components in Serbia and in CEE and countries in the region. Table 5 shows that, in addition to the low share of investments, Serbian economy also deviates from the CEE average by a low share of export and a high share of private consumption. A strong increase in investments, especially investments into the production of tradable commodities, would not only directly lead to economic growth acceleration, but would also improve the overall GDP structure. In other words, the growth of investments would significantly accelerate the growth of export. Through a high and sustainable economic growth based on investments and export, Serbian economy would gradually increase their share in the GDP, lowering the excessive share of the private consumption.

To analyze investments in Serbia, we have classified them into *public investments*; investments of the *public and state-owned enterprises* and investments of the *private sector.* The analysis shows that the government is implementing *public investments* both inefficiently and insufficiently; they would have to increase by at least 1% of GDP. In addition, poor management of *public and state-owned enterprises* has led to their investments falling short of the necessary level by at least 1% of GDP as well. Nevertheless, the largest gap in investments, of about 3% of GDP, pertains to the *private sector.* Within investments of the private sector, there are indications that the situation varies among the different enterprises. Investments of domestic, small and medium enterprises and entrepreneurs, by all accounts, seem to be suffering the most, as they are the ones most affected by the poor business climate in Serbia. On the other hand, large domestic and foreign enterprises find it easier to invest and thus invest more. Economic policies favouring investment

Table 5: GDP structure by consumption in CEE and the countries in the region in 2015

% of GDP	Private consumption (C)	Public consumption (G)	Gross fixed capital formation (I)	Exports, goods and services (X)	Imports, goods and services (M)
Serbia	74.7	16.2	17.7	46.7	56.4
CEE (weighted average)	57.4	17.7	22.0	61.1	58.7
Neighbouring countries (weighted average)	59.9	16.4	22.7	57.2	56.8
Albania	80.0	10.9	27.2	27.2	44.5
Bosnia and Herzegovina	80.5	21.0	17.3	33.9	53.5
Bulgaria	62.5	16.1	21.0	64.1	64.0
Croatia	58.8	19.7	19.5	50.0	47.2
Hungary	49.3	20.0	21.7	90.7	81.8
FYR Macedonia	67.7	16.7	23.0	48.5	64.8
Montenegro	79.2	19.4	20.3	42.5	61.1
Romania	61.4	13.5	24.7	41.1	41.6

Source: European Commission, IMF, Office of Statistics of Bosnia and Herzegovina.
Note: Data on GDP structure of the CEE countries by consumption for 2015 were taken from the EU Commission report (Autumn Economic Forecast 2016) for EU member states and candidate countries. For BH, the data were taken from the records of the Office of Statistics of Bosnia and Herzegovina. Weights by countries have been determined based on IMF's data on GDP (PPP) of the individual countries in 2015.

increase (and economic growth acceleration) therefore pertain to: 1) increase in the share of public investments in the GDP (by at least 1% of GDP) 2) improvement of the performance of public enterprises and resolution of the fate of state-owned enterprises (investment increase by at least 1% of GDP); and 3) improvement of the investment climate to foster private investment, primarily from small and medium enterprises (by about 3% of GDP).

Public investments

Public investments have a double significance for the achievement of a high and sustainable economic growth in Serbia. Namely, while they are being implemented, public investments have a positive impact on GDP and represent the public expenditures of the highest quality (greatest impact on GDP growth). However, public investments do not spur economic growth only in the short term, but also in the medium term, as they improve the quality of infrastructure in the country, which, at the moment, is not satisfactory. Even though public investment increase represents the best anti-recession state policy, in the previous years, Serbia held the infamous record with the lowest share of public investment in GDP in the entire CEE (Table 6).

In 2016, there was an encouraging growth of public investments in Serbia, reaching 3.3% of GDP in that year. However, the average share of investments in GDP in CEE countries is about 4.5%, while in the countries in the region, that percentage is even higher, about 4.8% of GDP (Table 6). Therefore, the increase that occurred in Serbia in 2016 is still insufficient. Analysis of public investments in Serbia shows that the main reason for their poor implementation lies in the inefficiency of the administration, as other preconditions for public investment growth have been met: 1) there are indisputable investment priorities (construction of road and railway corridors, local infrastructure, i.e. water supply and sewers, clinical centres etc.); 2) the current state of infrastructure in Serbia has been rated as poor in all relevant research studies, so there is a great need for government investments; and 3) for a large number of projects, funding has been provided from international institutions under favourable conditions.

Therefore, Serbia should increase the share of public investments from the current level (in 2016) of 3.3% of GDP by about 1% of GDP in the upcoming years, to close the gap to the CEE average. Almost a half of this increase should come from large projects at the national level, which are mostly known and often mentioned in public (road corridors etc.). However, we would like to note that the other half of the public investment increase (of at least 0.5% of GDP) should be implemented at the local level, which the public does not get to hear about as often. Serbia is one of the rare European countries in which the local governments are still failing, in the second decade of the

Table 6: Share of public investment in GDP in Serbia, CEE and countries in the region, 2013-2015

% of GDP	2013	2014	2015	average 2013-2015
Serbia	2.2	2.5	2.8	2.5
CEE (weighted average)	4.1	4.5	5.0	4.5
Neighbouring countries (weighted average)	4.3	4.7	5.4	4.8
Albania	4.8	4.3	4.3	4.5
Bosnia and Herzegovina	5.0	5.3	3.5	4.6
Bulgaria	4.0	5.2	6.6	5.3
Croatia	3.7	3.6	3.2	3.5
Hungary	4.4	5.4	6.6	5.5
FYR Macedonia	3.3	3.3	3.3	3.3
Montenegro	3.9	5.5	8.1	5.8
Romania	4.5	4.3	5.1	4.6

Source: Eurostat, IMF, ministries of finance of individual countries.

21st century, to provide access to basic services to their population, in line with their competencies. Thus, for example, only 70% of the public water supply networks in Central Serbia comply with all quality requirements; in Vojvodina, this percentage is as low as 16%. Only about 60% of the population is connected to the sewers, compared to the European average exceeding 80%. As an additional illustration of the impermissibly low quality of local infrastructure, a very low share of waste water in Serbia (only about 10-15% of the overall discharge) is treated, while almost the entire quantity of waste water in Europe undergoes treatment.[1]

Investments of public and state-owned enterprises

The second part of investments under direct government control, which are not being implemented to a satisfactory degree, pertain to investments of public and state-owned enterprises. Many years of poor management have led these enterprises to become indebted loss-makers, instead of using their profit and investments to drive economic growth. As a good illustration of the problem of insufficient investments from public and state-owned enterprises, we have presented data from financial reports of the largest public enterprise, EPS, pertaining to its investments and depreciation, in Table 7. The Table shows that EPS has not invested sufficiently for years, keeping its investments well below the depreciation. Not only is such a business model unsustainable for the enterprise itself, but it can act as a large impediment for economic growth in the upcoming years: with such low investments from EPS, Serbia will not have the energy capacity to support this growth.

Table 7: Investments and depreciation at EPS, 2013-2015

(in mln rsd)	2013	2014	2015
Investments	17,556	24,210	25,184
Depreciation	37,354	38,775	39,592
Investment gap (depreciation - investments)	19,798	14,564	14,408

Source: EPS Financial reports 2013 – 2015.

Table 7 indicates that EPS alone should be investing 0.5% of GDP more than it currently does, to bring its investments above the level of depreciation, i.e. to increase production capacities instead of decreasing them. EPS, however, although it is the largest enterprise, is not the only public or state-owned enterprises with insufficient investments. The situation in large state-owned enterprises (*RTB Bor, Azotara, Petrohemija* etc.) is especially alarming, as in some places, the lack of investments also represents an environmental hazard (rehabilitation of the mine tailings of RTB Bor, for example). We therefore estimate that there is a gap in investments in Serbia of at least 1% of GDP, as a consequence of poor business performance of public and state-owned enterprises. Thus, important

1 Data from the Fiscal Council report "Fiscal trends in 2016, consolidation and reforms 2016-2020" from June 2016, based on the research on health and safety of the drinking water in public water supplies and water facilities in the Republic of Serbia in 2014, by the Institute of Public Health "Dr Milan Jovanović Batut" and the research of the SORS entitled "Waste water from settlements in the Republic of Serbia" from 2014.

leverage for investment increase and economic growth acceleration in Serbia encompasses: 1) reform of public enterprises; their problems have been known for a long time, but the resolution keeps getting delayed; and 2) resolution of the fate of failing state-owned enterprises that should be privatized or undergo bankruptcy. In this context, there is a problem with the Government's policy from the previous years, reflected in collection of large dividends from public enterprises into the budget (with the funds ending up, for the most part, in current expenditures) instead of encouraging these enterprises to increase their investments.

Private sector investments

By increasing public investments, reforming public enterprises and privatizing state-owned enterprises, the Government could directly affect the share of overall investments in Serbia, increasing it from the current level of 18% of GDP to 20-21% of GDP. This would be an important step in closing the gap to the desired level of investments in Serbia, which is 25% of the GDP; however, the largest share of the necessary increase would have to be implemented in the private sector. The role of the administration in encouraging private investment is indirect, but very important and pertains primarily to improvements in the business climate in Serbia, which has been rated very poorly by the relevant international institutions. The best rank Serbia holds, the 47th place, is on the Doing Business List of the World Bank, on which Serbia has climbed by 7 ranks in the last year. However, on the list of the World Economic Forum (WEF), which is more comprehensive than that of the World Bank, Serbia ranks at the very poor 90th position, with a modest improvement of 4 positions in the last year. Finally, according to the Index of Corruption Perception, measured by Transparency International, Serbia has been stagnating for several years at the quite low, 72nd position.

In all of the observed lists, Serbia ranks particularly poorly in institutional efficiency and the rule of law. In Figure 1, we have presented some of the characteristic indicators from all three relevant research studies pertaining to corporate legal protection, i.e. protection of their property rights, contract enforcement, court efficiency and corruption perception – where Serbia is among the lowest ranking CEE countries in all research studies.

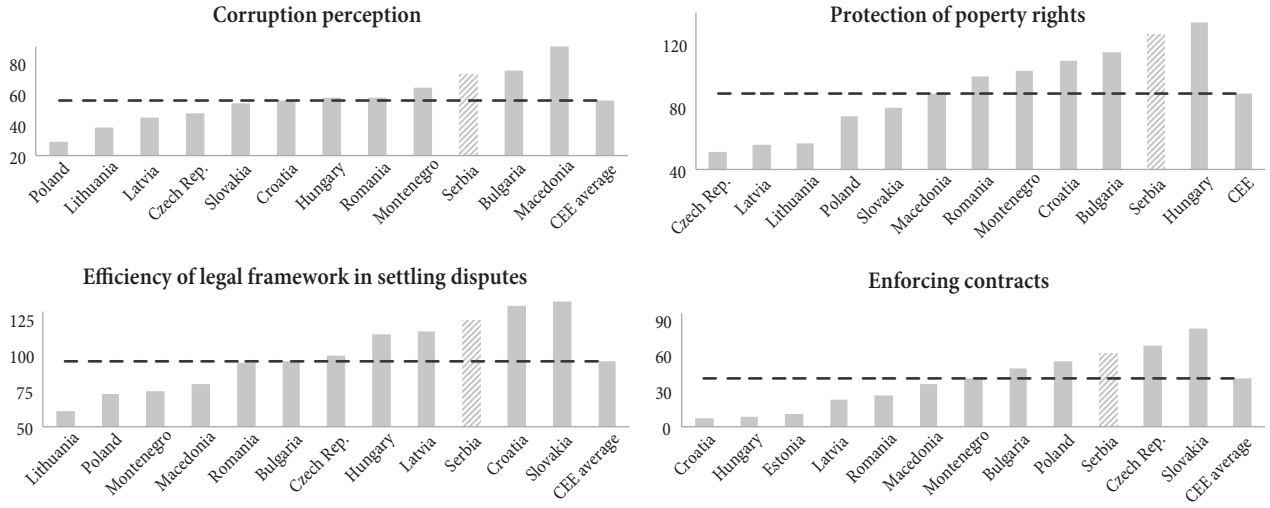
Although Serbia holds a low 90th rank in the overall WEF competitiveness ranking list, on the Protection of property rights it ranks even worse, at 126th position, and in Efficiency of legal framework in settling disputes, at the 132nd position (Figure 1). The situation is similar when it comes to the Doing Business List and its Enforcing contracts[2] indicator, where Serbia is ranked far lower than its overall rank in the 47th position – it holds the 61st position. According to World Bank research, the time to resolve a dispute, counted from the moment the plaintiff files the lawsuit in court until payment amounts to 635 days in Serbia, which is 150 days longer than the average in the region according to World Bank classification (Europe and Central Asia). In addition, the costs of such procedures are almost double in Serbia; while the quality of court decisions is significantly lower than average in the corresponding region.

There are indications that the issues with poor business climate have the highest impact on low investments of domestic, small and medium enterprises and entrepreneurs (SMEEs), while foreign and large domestic enterprises have an easier time finding ways to invest in Serbia. This is indirectly suggested by several different indicators. For example, SMEEs participate with a share of about two thirds in the number employees and in the turnover of the non-financial sector of Serbian economy – but their investments fall far short of that, i.e. over a half of the investments from the non-financial sector comes from the large enterprises.[3] An indicator that indirectly shows that foreign enterprises find it somewhat easier to invest in Serbia than the domestic enterprises is the net FDI in Serbia, which amounted to 5.4% of GDP in 2015, a little above the average of the countries in the region (only Montenegro and Albania have higher foreign direct investments relative to GDP). Although this topic

2 The enforcing contracts indicator measures the time and cost for resolving a commercial dispute through a local first-instance court, and the quality of judicial processes index, evaluating whether each economy has adopted a series of good practices that promote quality and efficiency in the court system.

3 Source: Ministry of Economy, 2015, "Report on small and medium enterprises and entrepreneurs for 2014".

Figure 1: Serbia and CEE – selected indicators from competitiveness studies



Source: Corruption perception – Transparency international 2016, Protection of property rights and Efficiency of legal framework in settling disputes – WEF The Global Competitiveness Report 2016–2017, Enforcing contracts – WB Doing business 2017.

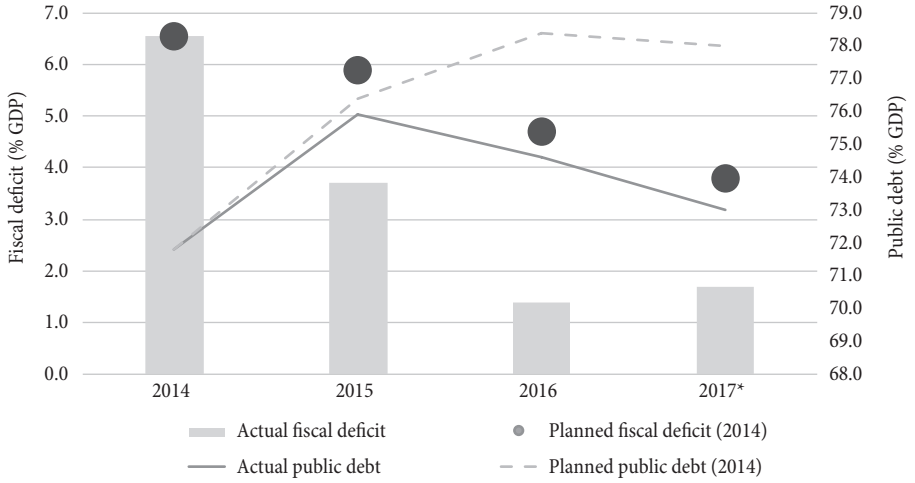
warrants additional research, the indicators point to a logical conclusion – that the poor business environment has the largest negative impact on the investments of the domestic SMEEs, while large and foreign enterprises find it somehow easier to overcome the barriers to investments, even in poor investment climates.

Fiscal consolidation 2015 – 2017: key findings

The end of 2014 marked the beginning of a three-year period of fiscal consolidation. Its objective was to reign in an uncontrolled public debt growth first and then to set Serbian public finances firmly on sustainable grounds. To meet the first objective, the Government planned to decrease the fiscal deficit from 6.6% of GDP in 2014 to 3.8% of GDP in 2017, which was supposed to stop the public debt growth at the level of about 78% of GDP [14]. Although we are only at the beginning of the third (and final) year that the initial plan pertains to, it is already clear that the core fiscal objectives have been fulfilled, and even surpassed. Namely, in the budget plan for 2017, forecast for the general government deficit is 1.7% of GDP this year (in our view, it is realistic) [15], which is about EUR 750 Mln less than originally planned. As fiscal deficits through the entire period 2015-2017 will be smaller than their initially targeted values (from 2014 plan), public debt trend will also be more favourable (see Figure 2). A mild shift in the growth of public debt occurred already in 2016, while the latest forecasts show that at the end of 2017, public debt will amount to about 73% of GDP. This means that at the end of the three-year fiscal consolidation programme, the national public debt will be smaller than initially forecasted by about 5 p.p. of GDP, or EUR 1.8 Bln.

In the first part of this chapter, we analyzed the surprisingly good fiscal results and showed that they are founded, for the large part, on the strong unforeseen increase in public revenue, rather than on the expenditure austerity measures from the initial fiscal consolidation plan for 2015-2017. In the second part of the chapter, we focused on the issues of sustainability of the achieved results and showed that approximately a half of the permanent fiscal deficit decrease would still hang in the balance – if it not supported by the appropriate structural reforms. Finally, we showed that due to unsatisfactory results in the implementation of the reform segment of the programme (primarily the reforms in public and state-owned enterprises), Serbian public finance is still under threat from the same fiscal risks that could practically annul all the results achieved so far. Taking all this into consideration, as well as the fact that a public debt of 75% of GDP is still too high for a country like Serbia, a somewhat more restrictive fiscal policy accompanied by a far more decisive implementation of structural reforms in the years to come has no true alternative.

Figure 2: Republic of Serbia – planned and actual fiscal deficit and public debt, 2014-2017



Source: Ministry of Finance.
Note: Data on the real deficit and public debt in 2017 are actually the latest official forecasts for this year and have been taken from the Fiscal Strategy for 2017 with forecasts for 2018 and 2019.

Why have fiscal results exceeded expectations?

The initial fiscal consolidation plan from the end of 2014 envisaged austerity measures primarily aimed at the decrease of the unsustainably high public expenditures – according to the three-year plan of the Government, by EUR 1.7 Bln (over 5% of the GDP).[4] These austerity measures were designed to address the largest sources of fiscal imbalance – excessive wage and pension bill, as well as very generous subsidies compared to similar countries, relative to the economic power of the national economy. As early as at the end of 2014, there was a linear cut of public sector salaries exceeding RSD 25,000 by 10% and a progressive pension cut (approximately equivalent to a linear cut in the amount of about 5%). Additional savings on the largest items in budget expenditures were supposed to come from a salary freeze in the period 2015-2017 (i.e. a decrease in real terms) and from a very ambitious plan of general government downsizing by about 5% annually (in total, encompassing about 75,000 employees). The remaining permanent fiscal deficit decrease was supposed to be ensured by several smaller measures, such as a subsidy cut for agriculture and public media services (companies *RTS* and *RTV*) and an introduction of excise on electricity and a gas transit fee. While the aforementioned austerity measures were expected to mitigate the existing structural imbalance between public expenditure and public revenue, the second pillar of fiscal consolidation (reform of public and completion of privatization of state-owned enterprises) was supposed to ensure the sustainability of such savings. Bad performance of state-owned enterprises and the spill-over of their enormous losses to the public finance was recognized as the largest fiscal risk, by far, exactly because this had been the reason behind the failure of the first fiscal consolidation attempt in the period 2012-2014 [13].

Although the set objectives were in principle adequate, at the end of 2014 the Fiscal Council assessed that the initial plan of fiscal consolidation for 2015-2017 lacked plausibility, as some of the austerity measures were not well designed.[5] This assessment pertained in particular to the planned cut of the wage bill of almost 30% in real terms in only three years, which was assessed not only as difficult, but also as economically questionable. For example, this would transform Serbia, in a very short time period, from a country spending about 2 p.p. of the GDP more than the comparable countries on these purposes,

4 To achieve the planned permanent fiscal deficit decrease by about 3 p.p. of GDP, it was necessary to ensure savings in public expenditures exceeding 5% of GDP. Namely, in the 2015-2017 period, increases were expected in interest expenditures (of about 1 p.p. of GDP), public investment expenditures (by about 0.5 p.p. of GDP) as well as a decrease in VAT revenue by 0.7 p.p. of GDP due to rebalancing of the economy (consumption cuts combined with increased investments and export).

5 An additional objection of the Fiscal Council was that the planned fiscal deficit decrease to 3.8% of GDP was, in principle, insufficient to stop the growth of public debt, without an optimistic assumption of a relatively strong appreciation of the dinar.

to a country spending 1 p.p. of GDP less than the CEE average. However, it was completely unrealistic to expect that the number of general government employees would be decreased by 15% in a three-year period without prior sectoral analyses, which would identify precisely where these superfluous employees were. The plan for the real decrease in salaries and pensions based on their freeze until 2017 was not too plausible either – after they had already been cut in November 2014. One of the austerity measures envisaged that, starting from 2015, the budget would no longer cover the losses of state-owned enterprises by issuing new guarantees; it too was not supported by adequate reforms in the largest public (Srbijagas, EPS, Železnice Srbije) and state-owned (RTB Bor, Petrohemija, Azotara, MSK etc.) enterprises. Without a clear reform plan, it was just a matter of time when the need for state aid, in the form of direct or indirect subsidies to one of the loss-making enterprises, would arise again.

Analysis of the fiscal plans for 2017 reveals that only slightly over a half of the originally planned savings have been accomplished. As can be seen from Table 8, public expenditure decrease, relative to GDP, was smaller than planned, so in the last year of programme implementation, public expenditures are expected to exceed the initial plan by about EUR 650 Mln.. The largest savings were achieved on the wage and pension bill, primarily due to the salary and pension cut from November 2014; in addition, the parametric pension reform[6] from 2014 also brought somewhat larger savings than had been planned. However, the remaining austerity measures, aimed at decreasing the largest budget expenditures, have failed to yield the desired results. According to the latest data, the number of general government employees has been decreased by a mere 17,000 (the downsizing planned for this year calls for an additional 5,000), meaning that not even a third of the originally planned savings is likely to be achieved. In addition, a decrease in salaries and pensions planned for the period of 2015-2017, in real terms, practically has not happened at all, as the inflation was significantly lower than forecasted, but also because the decision on the salary and pension freeze has already been suspended twice.[7] Consequently, the expected wage and pension bill in 2017 is EUR 450-500 Mln larger than planned at the end of 2014. Significant savings have been achieved through a decrease in subsidies for agriculture and public media services, even though these measures were implemented with a certain delay. Introduction of a gas transit fee was expected to yield EUR 60 Mln in annual revenue for Srbijagas (which was the amount by which budget expenditures for the activation of guarantees for this public enterprise were to be decreased); however, the revenue collected on these grounds fell short of a half of the planned amount.

Taking into consideration all the missed opportunities for savings, fiscal consolidation 2015-2017 would surely have failed had it rested exclusively on the austerity measures from the 2014 plan. However, this was not the case. Public revenue collection was a very positive surprise, so the fiscal deficit in 2017 will actually be significantly lower than planned at the beginning of the fiscal consolidation – 1.7% of GDP instead of 3.8% of GDP. As was shown in Table 8, total public revenue in 2017 is expected to exceed the initial plan by about 4 p.p. of GDP (EUR 1.4 Bln), which is more than sufficient to make up for the missed savings on public expenditures, of about EUR 650 Mln. A more detailed analysis shows there are three basic sources of public revenue increase beyond the original expectations: a strong growth in one-off non-tax revenue, partly as a result of decisions at the discretion of the Government, more favourable macroeconomic trends and a visible increase in the tax revenue collection efficiency.

In 2017, non-tax revenue will exceed the level envisaged in the initial fiscal consolidation plan by about 0.6 p.p. of GDP or about EUR 200 Mln. This will continue the trend of surprisingly large non-tax revenue, established in the previous two years, as the plan for 2015 was exceeded by 1 p.p. of GDP, and in 2016, by as much as 1.6 p.p. of GDP. Unusually high revenues coming from the profit

6 All things considered, a gradual increase of the age of retirement for women (from 63 to 65) and an introduction of actuarial penalties for premature retirement seems to have slowed down the increase in the number of pensioners (and pension expenses) more than it had been expected.

7 In 2016, salaries were increased, by 2.5% on average (including the parts of general government where there was no increase), pensions were increased by 1.25%, while in 2017, these increases were even somewhat larger: salaries increased, by about 4% on average and pensions by about 1.5%.

of public and state-owned enterprises (including local public enterprises) and other one-off payments into the budget contributed significantly to a greater decrease in the fiscal deficit in 2015 and 2016 than originally planned.[8] Seeing as how there are no significant one-off payments planned for 2017 on other grounds, the EUR 200 Mln increase in non-tax revenue, compared to the original plan, rests predominantly on a greater withdrawal of liquid assets from public and state-owned enterprises. Taking into account the performance reported by some enterprises, the planned amount of non-tax revenue may be achievable, but its economic justification is questionable. Namely, the largest payments are expected to come from *EPS* and *Telekom* – two large enterprises owned by the state, which have been underinvesting for years (with *EPS* heavily indebted, as well). EPS's investments are often insufficient to cover depreciation, slowly diminishing the energy capacities, which can be a significant obstacle to acceleration of economic growth in medium and long term. Telekom's problems are perhaps not as obvious, but this state-owned enterprise is facing sharp competition in the telecommunication market and is continually losing its market share. With all this in mind, the short-term benefit that the general government is to achieve from the unusually high payments, coming from the profit of these enterprises, could be smaller than the damage that could arise if these enterprises are excessively financially drained.

A more favourable macroeconomic environment than forecasted at the end of 2014, especially the more favourable labour market trends, will lead to an increase in public revenue in the amount of EUR 400-500 Mln compared to the initial plan. Employment and average wage trends have significantly exceeded expectations on which the fiscal consolidation programme was drafted, leading to very positive trends in collection of revenue from social contributions and income taxes. In total these tax revenues were planned to come to about 16.3% of GDP in 2017, meaning that the initial plan will probably be exceeded by about 1.5 p.p. of GDP. It is indisputable that in part, this improvement comes as a result of a stronger recovery of the private sector, but it is important to emphasize that an inconsistent implementation of some of the fiscal consolidation measures has contributed, to a certain extent, to the larger collection of this type of revenue. First of all, the total number of employees in economy has not been decreased to the planned extent due to the fact that the general government downsizing has fallen short of its aim and because of the delay in reforms of the public enterprises and the resolution of the fate of enterprises undergoing privatization. In addition, selective salary increase in the public sector in 2016 and 2017 had an impact, albeit a modest one, on the increase of average salaries in the entire economy compared to the original plan, which was based on the assumption that the salaries would remain frozen for three years. Bearing all this in mind, it could be said that a part of the unaccomplished fiscal adjustment of public expenditures has been compensated by the consequentially larger social contribution revenue and income tax revenue.

Still, it was the more efficient tax revenue collection that probably contributed the most to the increase in public revenue compared to the initial plan (EUR 700-800 Mln), which can primarily be seen in VAT and excise revenue. Furthermore, in VAT revenue, almost the entire overperformance compared to the original plan comes from improved collection (in excise revenue, the increase is partially due to favourable macroeconomic trends and subsequent amendments in the legislation). Namely, even though the domestic consumption in the period 2015-2017, in real terms, was truly a positive surprise, the inflation was significantly lower than expected – meaning that the tax base (nominal domestic consumption) did not fundamentally deviate from the original forecasts. In Figure 3, we have shown the trend of the coefficient of relative collection efficiency (c-efficiency), which is obtained by correlating the actual amount of revenue collected from VAT with a hypothetical amount that would have been collected assuming perfect collection. This indicator firmly corroborates the previous conclusion, that after a sharp dive in VAT collection efficiency in 2013, over the last several years there has been a trend of improved collection

8 The revenue from the 4G network license sale (about RSD 13 Bln), repayment of old EPS's debt to the central government through the Agency for Deposit Security (in total, exceeding RSD 10 Bln) and revenue from the sale of construction land in Novi Sad (RSD 4 Bln) are only a few of the larger one-off payments into the budget in the previous two years.

Table 8: Fiscal consolidation 2015-2017 – initial plan vs execution

	IMF Program Scenario				Execution 2014-2016			Plan*
in % of GDP	2014	2015	2016	2017	2014	2015	2016	2017
Revenue	40.9	40.3	39.2	38.5	41.5	41.9	43.8	42.4
Taxes	36.6	35.6	34.7	34.1	36.8	36.2	37.7	37.3
Personal income tax	3.7	3.6	3.4	3.4	3.7	3.6	3.7	3.7
Social security contributions	12.9	12.2	11.7	11.5	13.0	12.5	12.5	12.6
Taxes on profits	1.9	1.9	1.9	1.9	1.9	1.5	1.9	1.8
Value-added taxes	10.4	10.1	9.8	9.6	10.5	10.3	10.8	10.6
Excises	5.5	5.7	5.8	5.6	5.4	5.8	6.3	6.2
Taxes on international trade	0.8	0.7	0.7	0.7	0.8	0.8	0.9	0.9
Other taxes	1.4	1.4	1.4	1.4	1.5	1.6	1.6	1.5
Non-tax revenue	4.1	4.5	4.3	4.2	4.4	5.5	5.9	4.8
Grants	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
Expenditure	48.4	46.2	43.9	42.3	48.1	45.6	45.2	44.1
Current expenditure	44.7	42.2	40	38.7	43.4	42.0	40.9	39.9
Wages and salaries[1]	11.8	10.7	9.7	8.9	11.7	10.4	9.9	9.9
W&S without severance payments	11.8	10.4	9.3	8.5	11.7	10.4	9.8	9.8
Goods and services	7.8	7.6	7.4	7.4	7.9	7.5	8.1	8
Interest	3	3.5	3.9	4	2.9	3.2	3.1	3.1
Subsidies	4	2.6	2.3	2.4	3.0	3.3	2.7	2.4
Transfers	18.1	17.8	16.7	16	17.8	17.6	17.1	16.5
of which: Pensions[2]	13.1	12.4	11.8	11.3	13.0	12.1	11.8	11.6
Other transfers[3]	5	5.4	4.8	4.7	4.8	5.4	5.3	4.9
Capital expenditure	2.6	3.1	3.1	3	2.5	2.8	3.3	3.3
Net lending	0.3	0.1	0.1	0.1	1.4	0.1	0.1	0.1
Amortization of activated guarantees	0.8	0.8	0.7	0.5	0.8	0.7	0.9	0.8
Fiscal balance	-7.5	-5.9	-4.7	-3.8	-6.6	-3.7	-1.4	-1.7
Real GDP growth	-2	-0.5	1.5	2	-1.8	0.8	2.7	3
GDP nominal (billions of RSD)	3881	3967	4191	4450	3908	4043	4203	4397
Average consumer price (%)	2.1	2.7	4	4	2.1	1.4	1.2	2.4
Gross debt (% of GDP)	69.9	76.4	78.4	78	71.9	76	74.5	72.9

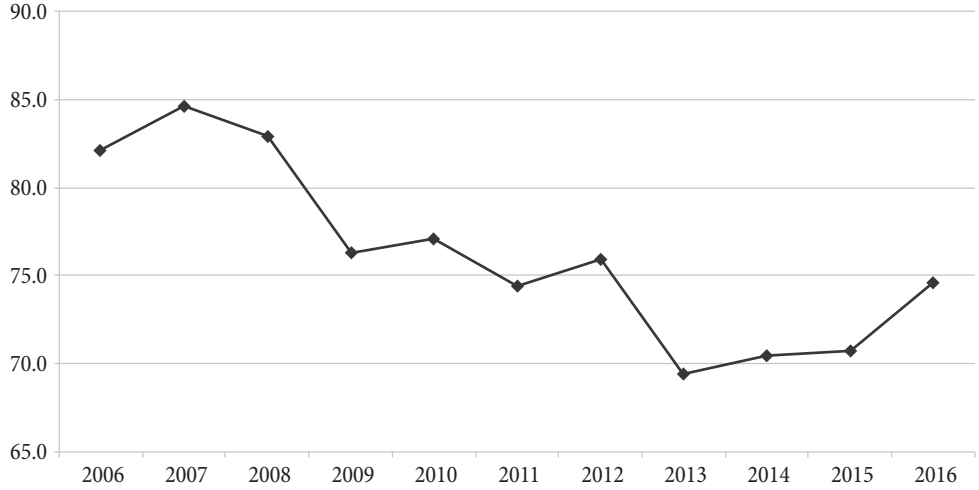
* Plan, Sixth review under the IMF stand-by arrangement (December 2016).
[1] Including contributions paid by employer, also including severance payments.
2 Excluding one-off payments for pensioners in December 2016 (which are included in Other transfers).
[3] Including Transition fund, also military pension arrears in 2016.

efficiency, which was most pronounced in 2016.[9] There are quite clear indications that these additional tax revenues has been collected through *ad hoc* measures that the Tax Administration implemented in the field, without having its capacities strengthened or its organisational structure modified. However, since a "normal" VAT collection rate from the period 2009-2012 has almost been matched in 2016, it is likely that the positive effect of these grey economy suppression measures has been exhausted for the most part.

A slower growth of interest expenditure is another contributor to the expectation-exceeding fiscal result, as in 2017 this category of expenditure will be by about EUR 300 Mln (0.9 p.p. of GDP) lower than originally planned. Being that one of the determinants of interest expenditure is the level of public debt, one part of the achieved savings (slightly under 0.2 p.p. of GDP) can be explained by the fact that the public debt will be smaller than expected at the end of 2017 (about 73% of GDP instead of 78% of GDP). However, the majority of savings on interest expenditure (over

9 The final data on the domestic consumption in 2016 is still not available, which is why this assessment is only preliminary. However, large and unexpected changes in the domestic consumption trends in the final quarter of 2016 that would have a quantitative impact on this conclusion are highly unlikely.

Figure 3: Collection efficiency of VAT (C-efficiency)



Source: Author's calculations.

0.7 p.p. of GDP) come from significantly more favourable lending conditions in the period 2015-2017, compared to expectations. The initial fiscal consolidation plan from the end of 2014 envisaged a gradual increase in implicit average interest rate on Serbian public debt from 4.2% at the time to 5.1% in 2017, but this did not occur – the implicit average interest rate remained at the level of about 4.2%. Even though this was probably somewhat supported by the decrease in country risk premiums, due to a successful beginning of fiscal consolidation and signing of the arrangement with the IMF, the main reason certainly lies in the global interest rate decrease. Due to interest rates that are at a historical low in the developed countries, investors looking for greater returns increased their demand for securities of developing countries, significantly lowering the price of lending for all countries in the region, including Serbia. It remains to be seen, however, how long such favourable lending conditions will last. It is expected that the American FED will accelerate the increase of the reference interest rate in 2017, which will certainly influence the interest rates in the rest of the world.

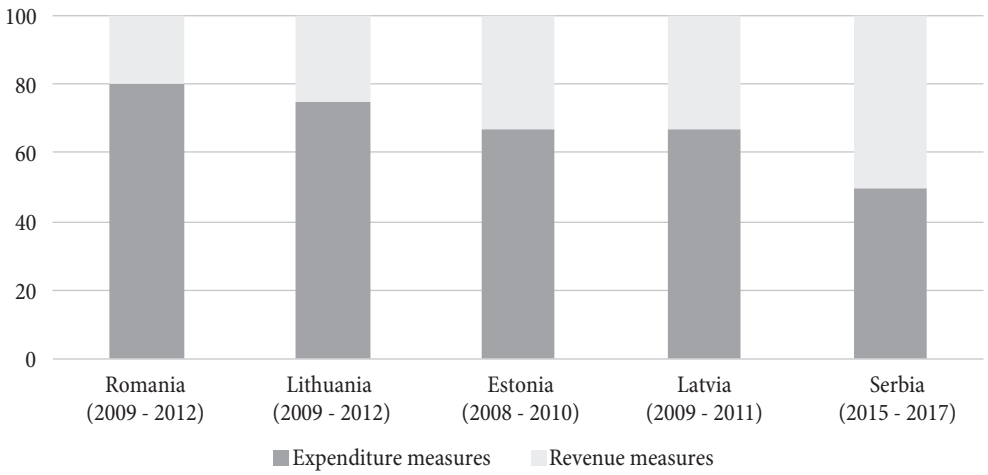
How sustainable are the achieved results?

Realization of the quantitative objectives of 2015-2017 fiscal consolidation (decrease of the fiscal deficit and arrest of the public debt growth) was more than successful, but it was achieved in a manner that is far different than originally planned. The issue of fiscal adjustment quality often takes the back seat, but the structure of the achieved savings is very important for the sustainability of the achieved results and a lasting recovery of public finance. Namely, empirical research strongly suggests that fiscal consolidations founded mostly on austerity measures on the expenditure side (preserving the level of expenditures for public investments) have several important advantages compared to fiscal consolidations based on revenue measures: they are more plausible, their results are more permanent and if they are supported by structural reforms, they have a more favourable impact on economic growth in medium and long term [1], [2]. We analyzed experiences of four Central and Eastern European countries (Romania, Lithuania, Estonia and Latvia) which, in the period following the outbreak of the economic crisis in 2008, were successful in implementing very ambitious fiscal consolidations. Without exception, the permanent fiscal deficit decrease was achieved thanks to savings on public expenditures, which account for between 2/3 and 4/5 of the fiscal adjustment (see Figure 4).

Although the Serbian fiscal consolidation of 2015-2017 was initially envisaged to achieve the largest part of the permanent fiscal deficit decrease through austerity measures on the expenditure side, the success was lukewarm.[10] Contrary to the original intentions, almost

10 After the increase of general VAT rate from 18% to 20% and the lower VAT rate from 8% to 10%, as well as the profit tax from 10% to 15% in the period from 2012-2014, it was estimated that there was no more room for new tax rate increases.

Figure 4: Fiscal adjustment: expenditure vs. revenue measures (in percent of total)



Source: Author's calculations.

50% of the fiscal deficit decrease was achieved thanks to an unplanned growth in public revenue. The final result is a public revenue and expenditure structure in 2017 that deviates significantly from that which was originally planned and would be optimal, which casts a shadow over the achieved fiscal adjustment. Namely, some of the basic imbalances in the budget remain: although decreased, wage and pension bill still exceed the sustainable level, subsidies will be larger by about 1 p.p. of GDP than in comparable countries, while public investments are insufficient and should be increased by at least 1 p.p. of GDP. It's good that the strong growth of interest expenditures has been stopped, but that too could prove to be a temporary success if there is a significant deterioration in lending terms for countries like Serbia in the years to come. Another consequence of an altered fiscal adjustment structure is that the level of public expenditure of about 45% of GDP is pretty high compared to the strength of Serbian economy. However, a much larger problem at the moment is that the fiscal deficit decrease achieved through better tax revenue collection and some non-systemic savings on public expenditures may not be maintained, if it is not supported by the necessary structural reform.

As we already mentioned, improvement in tax revenue collection in the previous two years mostly relied on grey economy suppression using well-targeted *ad hoc* measures that the Tax Administration implemented in the field. This is a commendable result, bearing in mind the inadequacies of tax administration capacities: average age of employees is over 50, salaries are not competitive compared to the private sector, analytical capacities are weak, organisational structure and information system are outdated etc. [9]. It is especially alarming that there are only about 500 tax inspectors, while international experiences indicate that a country like Serbia should have at least 1,000 adequately qualified tax inspectors.[11] Hence, we believe that there is a pronounced risk that the current tax revenue collection level will not be maintained without the modernization of the Tax Administration, which would put all achieved results of the fiscal consolidation in serious jeopardy. A good plan for thorough Tax Administration reform for the period 2015-2020 has been in existence for several years, but its implementation is very slow. We also emphasize that a successful modernization of the Tax Administration is not only necessary to secure the results achieved in tax revenue collection, but also to ensure additional revenue from grey economy suppression in the upcoming years. Being that not all objectives of fiscal consolidation have been achieved according to plan, this could be of crucial importance for the continuation of the fiscal consolidation and a lasting recovery of Serbian public finance.

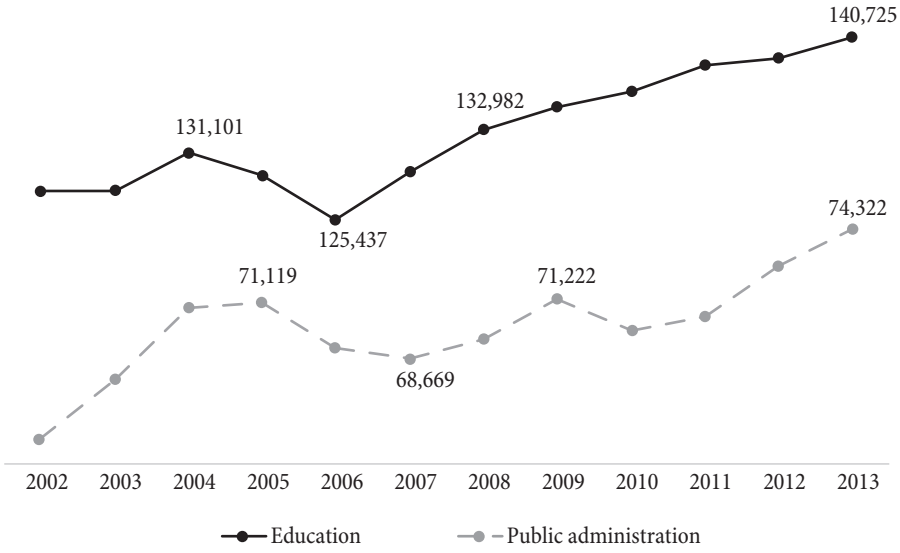
Even though general government downsizing was unsuccessful, certain savings (0.2-0.3% of GDP) have nevertheless been achieved, due to natural outflow of the retiring employees with a very restrictive replacement

11 Moreover, Serbia has the fewest tax inspectors per capita compared to the countries in the region.

rate (5:1). Being that the targeted lay-offs based on precise analyses that identify superfluous employees have not taken place, these savings were not in essence systematic and are most probably unsustainable – as both productive and non-productive employees are retiring. In the long run, too strong a reliance on the natural outflow through retirement and on the new employment ban represents a serious hazard for the functioning of some important systems (e.g. education or healthcare sectors), as it could lead to a drop in the quality of service they provide [5]. Moreover, previous attempts to decrease the number of general government employees have shown that the effects were, most often, only short-lived. To illustrate this, the previous arrangements between Serbia and the IMF also lead to a linear downsizing (2002-2006 and 2009-2010). However, soon after the Arrangement ended, statistics show that the number of general government employees bounced back to the previous level, or even exceeded it (see Figure 5). To prevent similar situations from repeating in the following years, it is necessary to initiate a reform of the largest public systems, primarily healthcare and education, as soon as possible. One of the outcomes of these reforms would be a clearly defined number and structure of the employees needed, which would prevent an excessive and unjustified increase of employment once the employment ban has been lifted (most likely at the end of 2017).

Fiscal risks are threatening to annul all that has been accomplished thus far, as other reform goals have not been met as well. This is especially true for the reform of public enterprises and the completion of privatization of state-owned enterprises as it is seriously overdue, even though it was one of the main objectives of the initiated fiscal consolidation. *Serbian Railways* are practically the only public enterprise in which necessary measures have been undertaken: the enterprise has been divided into four independent companies, a new manner of subsidizing increases efficiency, a large downsizing has been planned etc. There are certain problems and delays in the implementation of the planned reform measures, but despite this, *Serbian Railways* are the public enterprise that has went the furthest in the restructuring process. On the other hand, essential reforms of the *EPS* have been delayed for years, even though the enormous debt of this enterprise (in excess of EUR 1 Bln), which could fall to the budget, represents the largest fiscal risk. *Srbijagas's* performance depends directly on the resolution of problems in enterprises that are failing to pay for the delivered gas (petrochemical companies *Petrohemija, Azotara, MSK* and others), which has not yet occurred, so these companies continue to accumulate debt. Therefore, it is probably a matter of time before Srbijagas runs into liquidity problems again, which will require the issue of new guarantees for loans – regardless of the fact that the government has

Figure 5: Number of employees in education, state administration and Ministry of the Interior, 2002-2013



Source: National Office for Statistics.

explicitly undertaken not to do that anymore. Finally, after the first and encouraging wave of resolving the status of enterprises undergoing privatization in 2015, it seems that the process has ground to a halt in 2016 (with the exception of the sale of the steel mill *Železara Smederevo* to the Chinese company *Hesteel*). There are no sustainable solutions on the horizon for the remaining enterprises from this group (copper mine *RTB Bor*, pharmaceutical company *Galenika*, agricultural corporation *PKB*, coal mine *Resavica*, furniture company *Simpo* and others), so the fiscal risk from their poor business performances keeps increasing.

Bad performance of public and state-owned enterprises already represents too great a burden on public finance, and since the hot-spots have not been addressed, new expenditures to cover their losses are almost inevitable. Namely, analysis of the Budget of the Republic of Serbia for 2017 reveals that the repayment of old debt of public and state-owned enterprises (made prior to 2015) comprises the largest part of the planned fiscal deficit in this year. In the overall total, these expenditures have reached the amount of RSD 40 Bln or 0.9% of GDP, while the total fiscal deficit is planned at RSD 75 Bln (1.7% of GDP). Without competition, the largest part of these expenditures comes from activated guarantees of Srbijagas (about EUR 200 Mln), together with Železnice Srbije (EUR 35 Mln), Air Serbia (EUR 10 Bln), Galenika (EUR 10 Mln), Železara Smederevo (EUR 5 Mln), subsidy for RTB Bor (RSD 2 Bln). What is problematic is that the well-known mechanisms that generate these expenditures are repeating in 2016: state-owned enterprises, local public enterprises and local governments have accumulated arrears, to Srbijagas and EPS of around 160 m Euros in that year alone. We emphasize that this is a problem in the making, which threatens to increase public expenditures in the future – whether through the issuance of a new guarantee to Srbijagas, to be repaid by the government, or through financial exhaustion of the EPS, the debts of which can also be transferred to the budget (despite the fact they were not covered by guarantees).

Finally, almost every year there are unplanned one-off expenditures that increase the fiscal deficit, which, as it seems now, will continue in the years to come. The main source of these expenditures also lies in the poor performance of public and state-owned enterprises, but it is not the only source. Thus, in 2016 the government took over the payment of Petrohemija to NIS (about EUR 100 Mln); in 2015 it was the debt of Srbijagas, also to NIS (about EUR 200 Mln) as well as army pensions arrears, in line with the decision of the Constitutional court (about EUR 75 Mln); in 2014, it was JAT's debt (about EUR 170 Mln) etc. Although it is hard to forecast the magnitude of these expenditures and the exact time they accrue, it is already possible to identify a few obligations that may fall to the budget in the future. For example, it is well known that RTB Bor's debt to NIS amounts to over EUR 40 Mln, whereas Galenika has an unguaranteed debt to banks in the amount of about EUR 70 Mln – which, just as is the case with some other enterprises, can be taken over as public debt at any time. We would also like to point out the problem of healthcare institutions accumulating arrears (hospital, health centres, pharmacy etc.), which have grown to almost RSD 12 Bln by February 2017 (the annual increase amounts to RSD 2-3 Bln). Payment of the accumulated arrears in healthcare has already fallen to the budget, when in 2013 obligations in the amount of about RSD 5 Bln were taken over, so it would not be a great surprise if it was to happen again. There is a similar problem in some local governments, and it is estimated that the arrears of the local administrations surpass RSD 10 Bln. A special risk comes from potential expenses grounded in disputes that the state is losing in international courts. For example, the International Court of Human Rights in Strasbourg has, in deliberating on the lawsuit filed by those with savings in Invest banka in Bosnia and Herzegovina, decided that Serbia is obliged to pay out the old foreign currency savings, in the amount estimated to about EUR 200-300 Mln.

When it is all summed up, the fiscal consolidation of 2015-2017 successfully resolved some acute issues in Serbian public finance – a high deficit of 2014 was decreased more than was originally planned, while the strong growth of public debt was stopped a year earlier than expected. Although it is an undisputedly good result, the general condition of public finance is still far from good – which is why it is dangerous that the general, and

a part of the professional audience, form an opinion that the fiscal consolidation has practically been completed. Namely, with the public debt reaching about 75% of GDP, Serbia is still a highly indebted country – a single external "shock" would be sufficient to bring it back to the brink of a public debt crisis. This is why it will still be necessary, in the upcoming years, to implement a somewhat more restrictive fiscal policy and to permanently decrease the fiscal deficit down to 0.5% of GDP. Even with such a small fiscal deficit, it would take almost an entire decade to bring the public debt down to about 50% of GDP, which is the level of debt that would allow Serbia to await the next crisis relatively prepared – and this next crisis will surely happen in the long run. Our analysis of the fiscal consolidation 2015-2017 shows that this is possible in an economically desirable manner. It would be necessary to keep decreasing total public expenditures and achieve a fiscal balance at a level lower than the present 44-45% of GDP, with fine-tuning the structure of public spending (increase in public investments combined with a decrease in e.g. subsidies). Thus, together with a Tax Administration reform that would allow additional improvements in public revenue collection, some room would be opened for incentives to economic growth through a moderate reduction of the tax burden on the economy. However, none of it will be possible unless the resolution of accumulated problems in the unreformed public sector (primarily in public and state-owned enterprises) is accelerated, as expenditures that could fall to the budget could quite easily neutralize the results achieved so far.

References:

1. Alesina, A., & Ardagna, S. (2013). The design of fiscal adjustments. *Tax Policy and the Economy, 27*(1), 19-68.
2. Alberto, A., Carlo, F., & Francesco, G. (2012). *The output effect of fiscal consolidations*. NBER Working Paper, (18336).
3. EU Commission. (2015). *European economic forecast, Winter 2015*. European Economy, 1, 2015.
4. EU Commission. (2016). *European economic forecast – Autumn 2016,* European Economy, 3, 2016.
5. EU Commission. (2016). *European economic forecast – Winter 2016*. European Economy, 1, 2016.
6. Fiscal Council of the Republic of Serbia. (2014). *An overview of successful fiscal consolidation programmes in Europe: Measures, effects and lessons*.
7. Fiscal Council of the Republic of Serbia. (2016). *Assessment of the Law on Budget of the Republic of Serbia for 2017 and Fiscal Strategy for 2017-2019*.
8. Fiscal Council of the Republic of Serbia. (2016). *Evaluation of fiscal trends and structural reforms in 2016*.
9. IMF. (2016). *Central, Eastern and Southeastern Europe: Effective Government for stronger growth*. Regional Economic Issues. Retrieved from: https://www.imf.org/external/pubs/ft/reo/2016/eur/eng/pdf/rei1116.pdf.
10. Kickert, W. J., Randma-Liiv, T., & Savi, R. (2015). Politics of fiscal consolidation in Europe: A comparative analysis. *International Review of Administrative Sciences, 81*(3), 562-584.
11. Leigh, D., & Blanchard, O. J. (2013). *Growth forecast errors and fiscal multipliers*. Working Paper 13/1, Washington, DC: International Monetary Fund.
12. Mirdala, R. (2013). Lessons learned from tax versus expenditure based fiscal consolidation in the European transition economies. *Journal of Applied Economic Sciences (JAES)*, (1 (23)), 73-98.
13. Leigh, D., & Blanchard, O. J. (2013). *Growth forecast errors and fiscal multipliers*. Working Paper 13/1, Washington, DC: International Monetary Fund.
14. Republic of Serbia, Ministry of Finance. (2015). *Fiscal Strategy for 2015 with projections for 2016 and 2017.*
15. Republic of Serbia, Ministry of Finance. (2016). *Fiscal Strategy for 2017 with projections for 2018 and 2019*.

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GDP REVISIONS AND NOWCASTING IN SERBIA[1]

Revizije i brze procene BDP-a u Srbiji

Abstract

This paper addresses the issues of Quarterly National Accounts compilation and Gross Domestic Product (GDP) revisions as well as GDP short-term forecasting based on available monthly series of economic and financial indicators. If GDP is promptly and properly measured, policy makers and the general public can closely monitor implementation of the fiscal consolidation program. Reputation of the program depends on achievements that should be beyond any doubt. Since figures on quarterly GDP and its components are provisional until autumn of next year, and subject for revision over the next two years – which is a standard ESA 2010 methodology – accuracy of data might interfere with prompt availability. Additionally, nowcasting can provide timely estimates of current GDP. Figures on this quarter GDP are available two months after the end of the quarter. Flash estimates of GDP are available one month after the end of the quarter. The nowcasting technique can substantially shorten this gap. However, the challenging issue is related to a choice of the monthly series that should be included in Mixed Data Sampling econometrics. We address both of these issues in this paper.

Keywords: *GDP compilation, implicit price deflators, nowcasting*

Sažetak

Mi se bavimo u ovom članku pitanjima vezanim za obračun kvartalnih računa, njihovu reviziju i instant procenu bruto domaćeg proizvoda (BDP) na bazi raspoloživih mesečnih ekonomskih i finansijskih indikatora. Ako se BDP pravovremeno i tačno meri, tada nosioci ekonomske politike i javnost mogu pouzdano da prate šta se dešava sa primenom programa fiskalne konsolidacije. Reputacija ovog programa, izmedju ostalog, zavisi od njegovih rezultata u koje javnost neće da sumnja. Kako su, medjutim, konačni podaci o BDP i njegovim komponentama poznati tek najesen iduće godine, a podložni su revizija ne samo do tada nego i u naredne dve godine – što je standardna metodologija ESA 2010 koju primenjuje Evrostat u Evropskoj uniji – pouzdanost ocena BDP može da trpi štetu zbog potrebe da ocene budu napravljene što hitnije. A što se tiče potrebe za brzim informacijama, brza procena BDP može da bude od koristi. Preliminarni podaci o BDP iz tekućeg kvartala raspoloživi su tek dva mesena po njegovom završetku. Brza procena BDP može da skrati taj period, čak i u odnosu na fleš ocenu BDP koja je raspoloživa mesec dana nakon završetka kvartala. Naravno, pravi izazovi kod brze procene BDP postoje kod pitanja koje mesečne serije uključiti u njenu analizu. Naš članak posvećen je svim ovim navedenim pitanjima.

Ključne reči: *obračun BDP-a, implicitni BDP deflator, brze procene BDP-a*

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Introduction

The ruling orthodoxy is that fiscal policy, at the macro level, can contribute to attaining macroeconomic stability, which is one of the essential prerequisites for long-term growth. At the micro level, fiscal policy can boost growth by altering work and investment incentives, improving labor market functioning, and enhancing total factor productivity [15]. We discussed potential micro effects of fiscal policy on growth at three earlier occasions within the Kopaonik Business Forum [17], [18], [19]. The Government, however, adopted an alternative policy to the one we recommended, which was not aimed at enhancing total factor productivity, but to improve tax collection and reducing some public spending. That policy had some success in 2016. General government revenue increased by 1.9% of GDP, while corresponding expenditure reduced by 0.4%, which together pushed down fiscal deficit to 1.4% of GDP. On the other side, expected growth increased from the initial estimate of 0.5% to the final estimate of 2.7%. Hence, both the fiscal deficit reduced and growth accelerated in 2016 beyond any expectation.

The question remains whether this was an outcome of macroeconomic stability, fiscal consolidation or of some other factors. The importance of having the right answer is obvious. If growth can continue without fiscal reforms that have micro consequences, there is no need to optimize tax and expenditure policies, since other driving factors will promote recovery and long-term development. Alternatively, fiscal reform is still on the table. The purpose of this paper is not to discuss fiscal policy stance, but to address some technical issues related to compiling, estimating and forecasting GDP. The motivation is twofold. Firstly, if GDP is promptly and properly measured, policy makers and the general public can closely monitor fiscal development and react on time to potential challenges and deviations from the target. Secondly, implementation of the fiscal consolidation program in 2016 surprised with early positive achievements and elevated expectations about growth. Official revisions of GDP figures, which would be routinely accepted under other circumstances, raised some doubts about whether the growth was authentic or artificial. That puts on the table the issue of reliability of statistical figures parallel to sustainability of the fiscal consolidation policy. Since reliable estimates of GDP and its components are indispensable for conducting any fiscal policy, we believe it is worth writing a few pages on compilation and revision of GDP figures in Serbia. Additionally, we address the issue of short-term forecasting, i.e. nowcasting in order to show how useful as well as challenging it is to forecast GDP in a timely manner.

The paper is organized in the following way. In the first part we discuss methodology of compiling GDP and how accurate the revisions of GDP were in the past three years. In the second part, we extend this discussion to Implicit Price Deflators (IPD) and compare them with the Consumers Price Index (CPI) that is a headline measure of inflation. In the third part we present alternative ways of compiling real GDP growth rates. And finally, in the fourth part, we provide an example of nowcasting GDP based on the MIDAS econometric technique (Mixed Data Sampling). Finally, we conclude in the last part.

GDP revisions

Annual National Accounts (ANA) are compiled by using three independent methods of collecting and processing source data: output or production method (the supply side), final expenditure method (the demand side) and income method (the distribution side). However, GDP is not independently estimated using the income approach in the Serbian national accounts. The reason for this is that there are no direct data on or independent estimates of the operating surplus, which is instead derived from the output approach as a residual after all corrections to business accounts have been made, including necessary balancing of accounts. The final expenditure method is widely used for QNA, but it is also not complete since quarterly data on changes in inventories are not available. Hence, QNA have to compile GDP only from the output or production side. To this end, QNA collect and use data on value-added at the current prices created in the economy. The Statistical Office of the Republic of Serbia (SORS) surveys 88 divisions according to NACE Rev 2 classification of activities, which are later aggregated into 21 sections. Data are further combined into 10 high-level

aggregates for publication in QNA[2]. We index them as i = 1,…,n. The gross value-added ($GVA_{i,t}$) of each aggregate is defined as the difference between output value ($Y_{i,t}$) and intermediate consumption ($Z_{i,t}$):

(1) $$GVA_{i,t} = Y_{i,t} - Z_{i,t}$$

where subscript t indicates annual frequency. Intermediate consumption at quarterly frequency is not available, and instead of this, the following formulae is used for its estimation (the second term in equation (2)):

(2) $$GVA^{q}_{i,t} = Y^{q}_{i,t} - \frac{Z_{i,t-1}}{Y_{i,t-1}} Y^{q}_{i,t}$$

under the constraint of accounting balance:

(3) $$GVA_{i,t} = \sum_{q=1}^{4} GVA^{q}_{i,t}$$

where superscript q indicates quarterly frequency. The quarterly GDP obtained in this way at current market prices is a sum of all sectoral gross value added corrected for net indirect taxes ($tax^{q}_{i,t}$):

(4) $$GDP^{q}_{t|t} = \sum_{i=1}^{n}(1 + tax^{q}_{i,t}) GVA^{q}_{i,t} \qquad i = 1,2,3, \dots, n$$

The SORS collects data on output through a survey known as the *Enterprise quarterly structural report on doing business* (SBS-03 formulary)[3]. Those data are complemented with a set of indicators that are regularly obtained by the statistical system on the value of construction work, sale and purchase of agricultural products, retail trade and wholesales, catering services, registered employment and wages, CPI and prices of production. The National Bank of Serbia (NBS) supplies data on deposits, credits, and insurance premium. The Ministry of Finance (MoF) provides data on fiscal revenue and expenditure, including custom tariffs and subsidies. All those indicators are monthly data that are further aggregated into quarterly series[4]. They are used for improving estimates of GDP compiled from the output or value-added side.

Estimates of quarterly GDP at current prices obtained in this way are provisional. The sum of four quarters of GDP represents provisional annual GDP for that year. It is, however, available no earlier than in February of the following year. In the very same next year the SORS is able to collect and process *Annual Financial Reports* of undertakings (AFR) instead of *Enterprise quarterly structural report on doing business,* which were processed during the current year. It is important to underline that only AFR provide accurate data on value-added for the previous year and facilitate correct and final estimates of the annual GDP. When the accurate annual GDP is compiled or the provisional annual aggregate is revised, the annual benchmarking is applied to revise the corresponding quarterly figures. The more accurate annual GDP are published in September next year for the previous year. According to ESA 2010, the SORS has to revise GDP series backward for the current year and two preceding years. November of the next year is the time when the final quarterly GDP series for this year will be available, as well as the provisional estimates for the next year. We can compare at that time the final and provisional QNAs for this year. Differences are inevitable due to accuracy of data sources, extended coverage and additional statistical information. For sure, the size of differences is a test of how well ANA and QNA are compiled.

We keep record of the sequential releases of QNA high-level aggregates for Serbia in the past several years[5]. This facilitates comparisons of provisional and final estimates of GDP. Table 1 reports differences between provisional and final estimates of nominal and real

2 A Agriculture, forestry and fishing; B, C, D and E Manufacturing, mining and quarrying and other industry; F Construction; G, H and I Wholesale and retail trade, transportation and storage, accommodation and food service activities; J Information and communication; K Financial and insurance activities; L Real estate activities; M and N Professional, scientific, technical, administration and support service activities; O, P and Q Public administration, defence, education, human health and social work activities; R, S, T and U Other services. See [5, p.43].

3 The SBS-03 formulary collects the following data: proceeds from selling commodities and services; returns on investments, proceeds from insurance premium, subsidies, donations and similar revenue (rents, interest payments, membership fees etc.), purchasing value of commodities subsequently sold, raw material and energy costs, labor costs and other employment compensations, costs of providing business services, costs of intangible assets. See [21].

4 However, there are few series, as construction, purchase and sale of agricultural products, wholesales and insurance revenue that are compiled in the opposite way as temporal disaggregation of the annual estimates. Temporal disaggregation is a method of interpolation applied to flow variables. The interpolated series at a higher-frequency (monthly or quarterly) is obtained by relating a higher-frequency indicator series to a lower-frequency benchmark series (quarterly or annual) by minimising the first difference function under constrain that sum of interpolated series over the specified period is equal to the benchmark for that period. If the reference series is absent (strictly speaking it is replaced with 1 in the interpolation process) this procedure is termed benchmarking.

5 Up-to-date QNAs are available at the official web site of the SORS, which always overwrite the previously published data.

GDP since the first quarter of 2014. The release of GDP for the third quarter of 2016 is taken as the benchmark against which all differences are calculated. As a rule the further back the year, the lower the adjustment required. The most recent estimates of GDP are subject to larger modifications. The size of difference for real GDP falls in the interval between + 0.4% and – 0.3%. The error interval for nominal GDP is wider: between + 0.4% and – 2.4%. On average, all real GDP revisions had a positive sign, while nominal GDP revisions had a negative sign. That means, the recent revisions slightly increased real GDP growth and reduced nominal GDP growth, which points to the conclusion that GDP IPD were overestimated.

We report in the annex Tables 1A to 5A where corresponding figures are provided for each component of the GDP. Slightly larger differences are recorded for real imports, which were initially overvalued[6], and real investments, that were originally underestimated, but all of them are within the accepted statistical error corridor.

Parallel with the estimation of QNA at the current prices, an estimation of national accounts at the constant prices is compiled. As for GDP at constant prices, a similar data compilation is applied, but prices from the previous year are used instead of the current prices. A few notes are useful here. Agriculture production is split into crops production and livestock production. Data for the livestock production are approximated by the series of sale and purchase of agricultural production deflated by the prices of production in agriculture. The crops production is highly seasonal with the harvest in the third quarter. Temporal disaggregation of the annual output in agriculture at constant prices is based on quarterly dynamics of the sales and purchase of agricultural products at constant prices, and fixed proportions of production costs over the quarters (20% in the first quarter, 25% in the second quarter, 30% in the third quarter and 25% in the fourth quarter, according to international recommendations). The more accurate the prediction of the annual agricultural output, the better the compilation of GDP. Also, value added in the real estate sector is obtained by imputed annual rentals that have to be temporally disaggregated using the number of employed persons in real estate as the reference series. Outputs of government sector, health and education in terms of the previous year prices are temporal disaggregates of the corresponding annual output at production costs (compensations of employees plus intermediate consumption plus consumption of fixed capital plus other taxes on production paid) by using the number of employed persons in those sectors as reference series for benchmarking.

Table 1: Percentage difference between final and provisional GDP estimates

	Real GDP			Nominal GDP		
	Dates of revision			Dates of revision		
Time	Q4Y15	Q1Y16	Q2Y16	Q4Y15	Q1Y16	Q2Y16
Q1Y2014	0.4%	0.3%	0.3%	0.1%	0.4%	0.4%
Q2Y2014	0.2%	0.1%	0.1%	0.2%	0.3%	0.3%
Q3Y2014	-0.3%	-0.1%	-0.1%	0.0%	0.0%	0.0%
Q4Y2014	-0.2%	-0.3%	-0.3%	-0.3%	-0.7%	-0.7%
Q1Y2015	0.3%	0.3%	0.3%	-1.4%	-1.1%	-1.1%
Q2Y2015	0.1%	0.0%	0.0%	-2.0%	-1.8%	-1.8%
Q3Y2015	-0.3%	-0.1%	-0.1%	-1.6%	-1.7%	-1.7%
Q4Y2015	-0.1%	-0.2%	-0.2%	-2.0%	-2.4%	-2.4%
Q1Y2016		0.0%	0.3%		-1.7%	-1.5%
Q2Y2016			0.1%			-1.8%
Average	0.00%	0.00%	0.04%	-0.88%	-0.96%	-1.03%

Source: SORS, author's calculation based on the own database

There are regular revisions of QNA with slightly different figures on real and nominal quarterly GDP, but these provisional estimates of GDP and growth fit ESA 2010 standards. Let's quote it: "The purpose of quarterly national accounts is different from that of annual national accounts. Quarterly national accounts focus on the short-term movements of the economy and provide a coherent measure of such movements within the national accounts framework. Emphasis is placed on growth rates and their characteristics over time such as acceleration, deceleration or change in sign. The annual national accounts' emphasis is on levels and the structure of the economy, as well as growth rates." [6, p. 313]. The main purpose of QNA is to provide a picture of current economic developments sooner than that provided by the ANA and more comprehensive than that provided by individual short-term indicators.

6 A part of the problem is related to the fact that the SORS does not have data on import prices by export countries, and has to estimate them by relying on many second-source indicators.

Implicit Price Deflators

As we already mentioned QNA are subject to regular revisions during the accounting year and the next two years. Revisions are performed twice in-the-year and twice after-the-year. Each revision updates the previous ones and slightly changes estimated quantities and implicit price deflators at the high frequency level. This creates uncertainties and doubts that users would like to avoid. They need robust figures on GDP and its components in order to analyse economic structure and business fluctuations as well as to forecast future developments. Since QNA revisions are inevitable, it would be useful to assess whether there is a regularity in relation between implicit National account deflators and closely related inflation measures or there are differences between them as a result of compilation errors. Figure 1 below compares the inflation rates based on Consumers Price Indices (CPI), which is a measure of the headline inflation, and the inflation rates based on the implicit price deflator of GDP for the period 2007-2016.

The implicit quarterly GDP deflator is not obtained as a ratio between nominal and "real" GDP, since there is no "real" GDP in ESA2010 methodology. Instead of this, it is obtained by a means of volume measures of the economy's Gross Value Added (GVA). We term $GDP^{q}_{t|t}$ quarterly GDP at the current prices as a sum of the volume measures of $GVA^{q}_{t|t}$, presented in monetary terms, in the quarter q at the current prices in t year (hence the subscript is t|t) and net indirect taxes. $GDP^{q}_{t|t=base}$ are the chain-linked volume measures of GVA, presented in monetary terms, at quarterly frequency referenced to the nominal level in the base year 2010 (the subscript is t|t=base) corrected for net indirect taxes[7]. Hence, the implicit price deflators (IPD) are:

$$IPD^{q}_{t|t=base} = \frac{GDP^{q}_{t|t}}{GDP^{q}_{t|t=base}} \tag{5}$$

Equation (5) points out to the implicit inflation rates as:

$$\pi^{GDP}_{t|t=q} = \left(\frac{IPD^{q}_{t|t=base}}{IPD^{q}_{t-4|t=base}} - 1 \right) \cdot 100 \tag{6}$$

It is clear from Figure 1 that we have had in Serbia considerable differences in inflation indicators for the past ten years. Table 2 summarizes these differences in terms of RMSE (Root Mean Squared Error), co-movements in terms of coefficients of correlation, and volatility in terms of coefficients of variation. Headline inflation was very closely related to consumption IPD with the coefficient of correlation of 0.9522 and RMSE of 1.5757. Its movement with GDP IPD was similar, but not so close. Coefficient of correlation between headline inflation and GDP IPD is 0.8552 with RMSE 2.2368. This might be a subject of misuse. For example, success of fiscal consolidation depends on fiscal deficit reduction. Fiscal revenue and expenditure are reported in nominal terms. If policy makers need to know what the corresponding fiscal deficit is as a percent of GDP, they should know the corresponding level of nominal GDP. In order to avoid inflationary bias and non-stationarity of data, they estimate GDP in terms of real growth rate. Then they have to go back to the price level for

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7 In equation (5) the most important part is denominator $GDP^{q}_{t|t=base}$. In order to explain how it is compiled, we have to start with $GDP^{q}_{t|t-1}$, which is the volume measures of GDP presented in monetary terms in the q quarter at the prices of the previous year t-1. It is obtained by deflating $GDP^{q}_{t|t}$. In order to start chain-linking, we need to create indices. The corresponding index of GDP ($I^{q}_{t|t-1}$) in the quarter q at t time is expressed in terms of the average GDP at the prices of the previous year:

$$I^{q}_{t|t-1} = \frac{GDP^{q}_{t|t-1}}{\frac{1}{4}\sum_{q=1}^{4} GDP^{q}_{t-1|t-1}} \cdot 100$$

For the index of the starting year (t = first), it has to refer to the previous year (t = first-1):

$$I^{q}_{t=first|t=first-1} = \frac{GDP^{q}_{t=first-1|t=first-1}}{\frac{1}{4}\sum_{q=1}^{4} GDP^{q}_{t=first-1|t=first-1}} \cdot 100$$

In the case of Serbian data series, the starting year is 1996, while the previous year is 1995. The index is a transformation of the index in the sense that it is chain-linked to its average value from the previous year. Before we define it, let's note that there is no a value of this index in the first year of the chain-linking. Therefore, we apply the following identity in the first year:

$$\tilde{I}^{q}_{t=first|t=first} \equiv I^{q}_{t=first|t=first-1}$$

After the first year, the index is regularly chain-linked to its average value from the previous year:

$$\tilde{I}^{q}_{t|t} = I^{q}_{t|t-1} \cdot \frac{1}{4} \cdot \sum_{q=1}^{4} I^{q}_{t-1|t-2} / 100$$

Then it is additionally linked to the base year (2010) as:

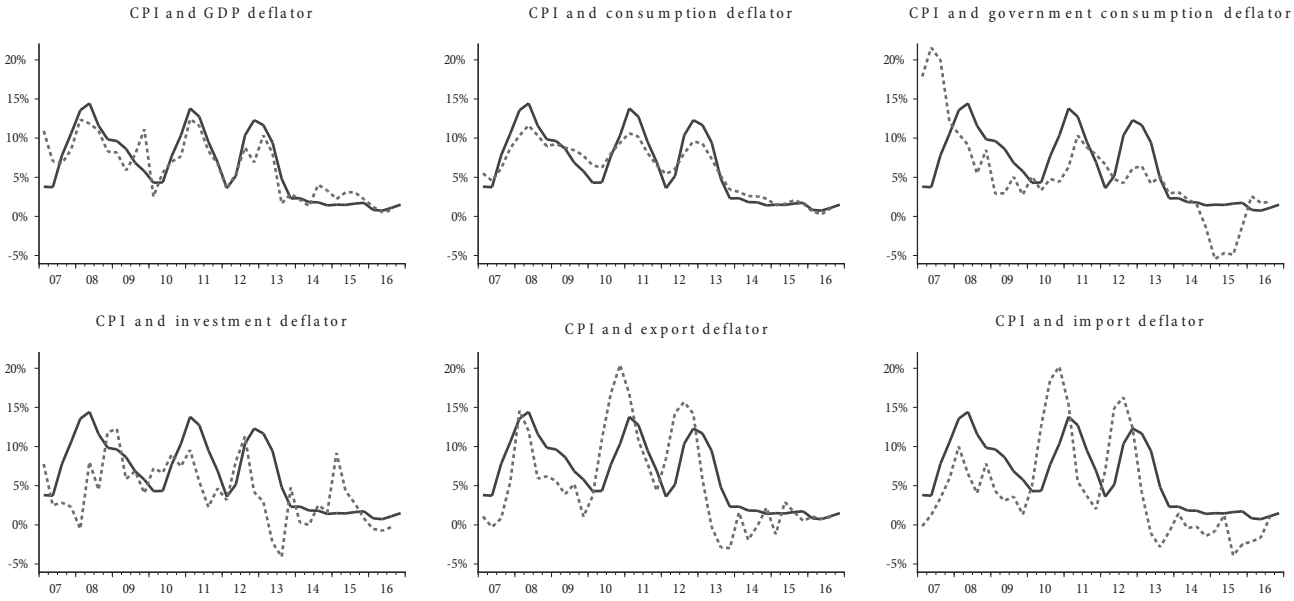
$$\tilde{I}^{q}_{t|t=base} = \frac{\tilde{I}^{q}_{t|t}}{\frac{1}{4} \cdot \sum_{q=1}^{4} \tilde{I}_{t=base|t=base}} \cdot 100$$

This finally gives:

$$GDP^{q}_{t|t=base} = \frac{\tilde{I}^{q}_{t|t=base} \frac{1}{4} \cdot \sum_{q=1}^{4} GDP^{q}_{t=base|t=base}}{100}$$

which is the quarterly chain-linked volume GDP series. IMF uses a different method to index GDP series [14].

Figure 1: CPI (solid line) and implicit price deflators of QNA components (dotted lines)



which they usually use forecast of headline inflation. If the economy is stable and inflation is low, CPI and GDP IPD are close to each other as Figure 1 shows. In this case the approximation of GDP IPD by CPI is correct. However, for higher inflation, this approximation might be misleading. In the periods of high inflation in Serbia, GDP IPD was lower than corresponding IPC and the estimated fiscal deficit, as a percent of GDP, was lower than it really was.

As already mentioned, final estimates for ANAs (QNAs) for this year are available in September (November) next year. As it happened in praxis, data are not timely available, there are measurement errors, some figures are subject to revisions. Hence, differences are present and they should be eliminated by a statistical reconciliation.

Under an ideal situation, changes in GDP IPD ($\pi^{gdp}_{t|t-q}$) are a weighted average of changes in GDP IPD's components. This is represented in equation (7), where symbol lambda (λ) represents shares of corresponding components in the GDP, symbol pi (π) changes in IPDs, respectively, t stands for time and C, G, I, X, M and IE for private and government consumption, investment, export, import and changes in inventory cum errors and omissions.

$$\pi_t^{GDP} = \lambda_t^C \cdot \pi_t^C + \lambda_t^G \cdot \pi_t^G + \lambda_t^I \cdot \pi_t^I + \lambda_t^X \cdot \pi_t^X - \lambda_t^M \cdot \pi_t^M + \lambda_t^{IE} \cdot \pi_t^{IE} \quad (7)$$

However, this is not exactly the case for QNA in Serbia for two reasons. Firstly, there is a missing component of quarterly GDP that is not compiled in a direct way. This is change in inventories or the term ($\lambda_t^{IE} \cdot \pi_t^{IE}$) in equation (7). Data on quarterly changes in inventories are still not directly estimated by the statistical system[8]. Inventories are treated as a residual after nominal and real GDP is compiled from the production side and the final use side. Due to residual property, this estimate encompasses not only inventories, but measurement errors as well, corrected for disposals of valuables and potential statistical discrepancy. Secondly, GDP IPD is obtained in QNA from the production side dividing the nominal GDP at current prices with the chain-linked volume of GDP series. ESA 2010 has replaced estimates of real GDP by using the constant prices with estimates of GDP at the prices of the previous year that should be chain-linked to a reference year by applying the annually-averaged chain Laspeyres formula. It has the consequence that additivity is missed, except for the reference year and the following year (Eurostat, 2013). That effects calculation of shares (λ_t^C, λ_t^G, λ_t^I, λ_t^X and λ_t^M). Additionally, CPI is a Paasche-type index, and it is well known that it gives a different result comparing to the Laspeyres-type index.

CPI and the household final consumption expenditure implicit price deflator (HFCE IPD) both relate to household

8 There is a cell in the SBS-03 formulary on the inventory level, but this information is not sufficient for direct compilation of changes in inventories. Additional source data are needed in order to allocate changes in inventories to a specific quarter, since the level of inventories can last for several accounting periods.

Table 2: Differences and co-movements between CPI and IPD

	Coefficients of Correlation		Root Mean Squared Error		Coefficient of Variation
Indicators	GDP deflator	CPI	GDP deflator	CPI	Percentage
CPI	0.8552	1.0000	2.2368	0.0000	69%
GDP deflator	1.0000	0.8552	0.0000	2.2368	58%
Consumption deflator	0.8689	0.9522	1.7896	1.5757	54%
Government consumption deflator	0.5301	0.4292	4.9006	5.6226	110%
Investment deflator	0.4175	0.3557	4.4896	5.1326	92%
Export deflator	0.5467	0.6720	5.2091	4.6603	114%
Import deflator	0.4665	0.5918	5.8059	5.4153	140%

Source: Statistical Office RS, author's calculation

consumption, but the definitions, scope and index formulae of the two price indices differ: CPI is constructed as a Laspeyres-type index and HFCE IPD is a Paasche-type index; CPI measures the prices of expenditures in the domestic territory, while HFCE IPD measures the prices of consumption by residents wherever it occurs (for our tourist who purchase touristic services abroad the weighted average of CPIs of the five leading destination countries is used); HFCE IPD includes the prices of goods and dwelling services produced by households for their own use, but the CPI only measures the prices of market transactions; CPI measures the prices of actual explicit payments made for financial and insurance services, while the HFCE IPD measures the prices of financial and insurance services provided, including those for financial services indirectly measured (FISIM)[9].

Export and import implicit price deflators have a huge distance from CPI with RMSE of 4.6603 and 5.4153, respectively. Therefore their coefficients of correlation are rather low: 0.6720 and 0.5918, respectively. They are also very volatile with coefficients of variation of 114% and 149%, respectively. All these results are mostly, but not exclusively the consequence of a very volatile nominal exchange rate. Of course, export IPD does not cause changes in CPI, but import IPD influences CPI through the channel of imported consumer goods. It is interesting to notice that the distance between export and import IPDs and GDP IPD is even further away than the corresponding distance with CPI. RMSE are 5.2091 and 5.8059, respectively and coefficients of correlation are 0.5467 and 0.4665, respectively.

Investment implicit price deflator is very peculiar for measuring. Underlying quantities are split into three categories: real estate and buildings, productive equipment and remaining investment in fixed assets. Each category is further subject to statistical and mathematical techniques of compiling data known as temporal disaggregation or benchmarking. Temporal disaggregation means that the annual accounts data are extrapolated for the current year by using quarterly reference indicators. The applied technique should minimize the forecast error for the current year providing that the provisional annual estimates correspond as closely as possible to the final figures. The common property of different investment processes is that they last for several accounting periods. Hence, the compilation cannot goes from the bottom to the top, but vice versa, from the annual estimates to quarterly data.

The quarterly reference indicator for the IPD of real estate is the value of construction work at current prices compared to the same level in the previous year. Investment in real estate compiled at constant prices uses benchmarked nominal investment quarterly data and deflated them by a special composite price index, which encompasses prices of production of related industrial commodities for domestic market and average gross wage rate in the construction sector. *Mutatis mutandis* IPD for productive equipment and remaining investment in the fixed assets are compiled. Finally, all quarterly data should fulfil the time consistency requirement - the sum of the four quarters of a year should be equal to the corresponding annual figure for investment. When ANA provide the accurate annual figures on investment, the

9 [7, p. 287], [21, str. 14].

entire benchmarking procedure should be repeat using those data instead of the preliminary source data.

Having said this, there is no surprise that investment time series with quarterly frequency were subject to considerable revision each year[10]. Notice that the final adjustment in this process should be done when the accounting requirements are checked - the sum of the quarterly components, including investments, should be equal to the corresponding quarterly value for GDP both on the expenditure and output side.

Government consumption implicit price deflator is obtained by dividing nominal non-market output of the general government sector with its output at constant prices. The nominal non-market output is the sum of the public wage bill, government purchases of goods and services (public intermediate consumption), amortisation of public fixed assets, transfer payments in kind and other taxes on production minus revenue received from the public output that has market value. The nominal non-market output is the annual figure that should be temporally disaggregated according to the above defined benchmarking procedure in order to get corresponding quarterly figures. The reference series are appropriate quarterly data for each input cost category. For example, the reference series for government consumption is quarterly compensation for public employees. The average public wage rate is used for deflating nominal government consumption in order to compile the same output at constant prices. The government IPD is not well correlated with GDP IPD since the coefficient of correlation is 0.5301 and RMSE 4.9006. Surprisingly, it is highly volatile with the coefficient of variation of 110%.

This analysis explains why implicit price deflators of GDP components change as regular revisions of QNA are performed. It also demonstrates that CPI is a good proxy of GDP IPD, but it is not a perfect substitute. This proxy can be used whenever proper GDP deflator is not available. However, policy makers should be aware of its properties and potential assessment errors.

It is not a rare case that GDP IPD and CPI substantially differ. If this is the case, it is difficult to decide which rate a central bank should target in the inflation targeting monetary system. A World Bank study emphasised that the GDP deflator measures the price change of value-added, and does not include the rise of import prices or exchange rate devaluation[11]. Hence, there might be substantial differences between the GDP IPD and CPI. For example, CPI outperformed GDP deflator for 9.5% and 4.2% in 2015 in Russia and Norway, respectively, or underperformed for 4.3% and 3.9% in Iceland and Ireland, respectively [23, p.20].

When inflation was high in Serbia (between 2007 and 2013) CPI was higher than the GDP deflator. In the moderation time (between 2014 and 2015) the GDP deflator was higher than CPI. In the last year both measures of inflation were rather close to each other[12].

Real Growth rates

The estimated annual growth rate for 2016 was 2.7%, which was much higher than the initial expectation of 0.5%. The year started with the unexpected high growth rate of 3.7% at the first quarter. This immediately raised expectations for the whole year based on annualizing the seasonally unadjusted quarterly growth rate, on one side, and doubts about the official statistical estimates, on the other. For sure, that particular figure of 3.7% is subject to revision, similar to anyone quarterly estimates. In the meantime, it will be useful to clarify methodology, which provides the estimation.

GDP quarterly growth rates (g_t^q) are obtained by the following equation (8), which is based on the quarterly chain-linked volume GDP ($GDP^q_{t|t=base}$):

$$g_t^q = \left(\frac{GDP^{\,q}_{t|t=base}}{GDP^{\,q-4}_{t|t=base}} - 1 \right) \cdot 100 \tag{8}$$

10 However, estimates of real import series are even more revised.

11 This is not quite correct. If we recall equation (2), it is evident that intermediate productive use of resources includes imported goods not only domestically produced goods. Hence, exchange rate movements indirectly influence value-added in the country domestically produced. This is the reason that ESA 2010 requires double deflating value-added, i.e. one deflator for output and the other for intermediate goods consumption. However, QNA use only the single deflator for practical purposes.

12 Of course, CPI is calculated as a quarter average value in order to compare it with GDP IPD that has quarterly frequency. Kovačević and Stamenković [16] claim that the GDP deflator should be in-between CPI and the foreign trade deflator. This was mostly the case in the period 2008-16 but not completely, since there were some sub-periods in which GDP IPD was outside the corridor outlined by those measures of inflation.

The quarterly chain-linked volume GDP series correspond to the "real GDP" series according to ESA2010 methodology. We explained its compilation in footnote 7. It is a rather complex compilation and, according to ESA 2010, can be done by applying other index formulae, not only the Laspeyres index. However, the said compilation is recommended by the Eurostat as the best practice, and consequently applied by the SORS. The reason for complexity is that GDP series are not compiled at the constant prices from the base year, but instead of it at the current prices and the prices from the previous year. Therefore there is a need for serially linking QNA from different years to the same prices and making a volume chain index that refers to the referent year.

If someone is not satisfied with the way the chain-linked volume index of GDP is compiled, he/she can use data on GDP at the current prices and at the prices from the previous year, and compile an alternative growth rate that we termed the unchained growth rate[13]. The unchained growth rates do not reference a base period, and can be obtained in the following way:

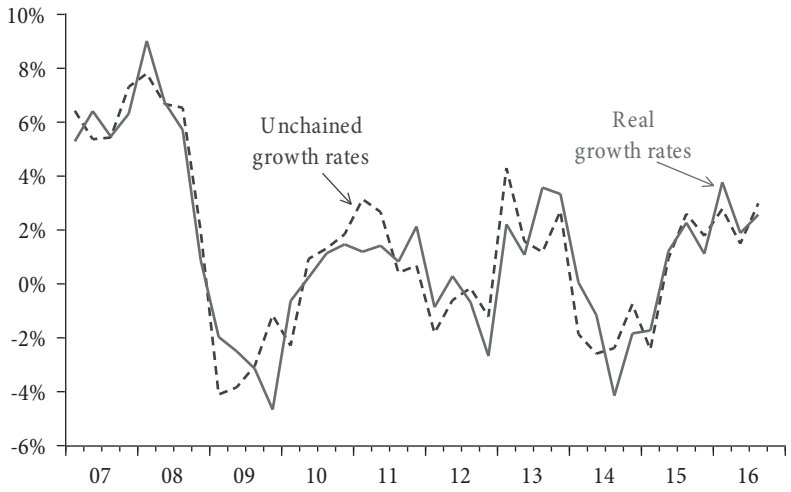
$$\gamma_t^q = \left(\frac{\widehat{GDP}^q_{t|t-1}}{\widehat{GDP}^q_{t-1|t-1}} - 1 \right) \cdot 100 \qquad (9)$$

For compiling the unchained GDP growth rate (γ_t^q), where t refers to time in terms of years, one needs the series of GDP volume measures at the prices of the previous year (nominator in equ.9) and the series of quarterly GDP volume measures at time t-1 measured at the current prices at that time, i.e. t-1 (denominator in equ.9). Since prices are the same, a ratio between the volume measures provides the base for compiling "real" growth rates. The series are not seasonally adjusted, and the estimates of unchained GDP growth rate are highly seasonally volatile. Therefore, the series should be seasonally adjusted before equation (9) is applied[14]. Hats over the variables in equation (9) indicate that series are seasonally adjusted. Results are plotted in Figure 2 and compared the unchained growth rates (γ_t^q) to the real GDP growth rates derived from the chain-linked volume indices (g_t^q). Both series of "real" GDP growth rates are rather close to each other with some discrepancies over the quarters. Those discrepancies are offset during the year, and the annual average growth rates overlap one another. Hence, whatever method of compiling real quarterly growth rates is applied, there is always a level of uncertainty. We need to notice again that QNA is designed for detecting trends and turning points in a business cycle, not for a point estimate that is robust and beyond any modification.

Nowcast

QNA are available two months after the end of the quarter. This is a considerable delay for policy makers if they want to steer the economy between Scylla and Charybdis of the business cycle. There are few econometric technique that might be useful to bridge the gap between official figures

Figure 2: Quarterly GDP chain-linked and unchained real growth rates



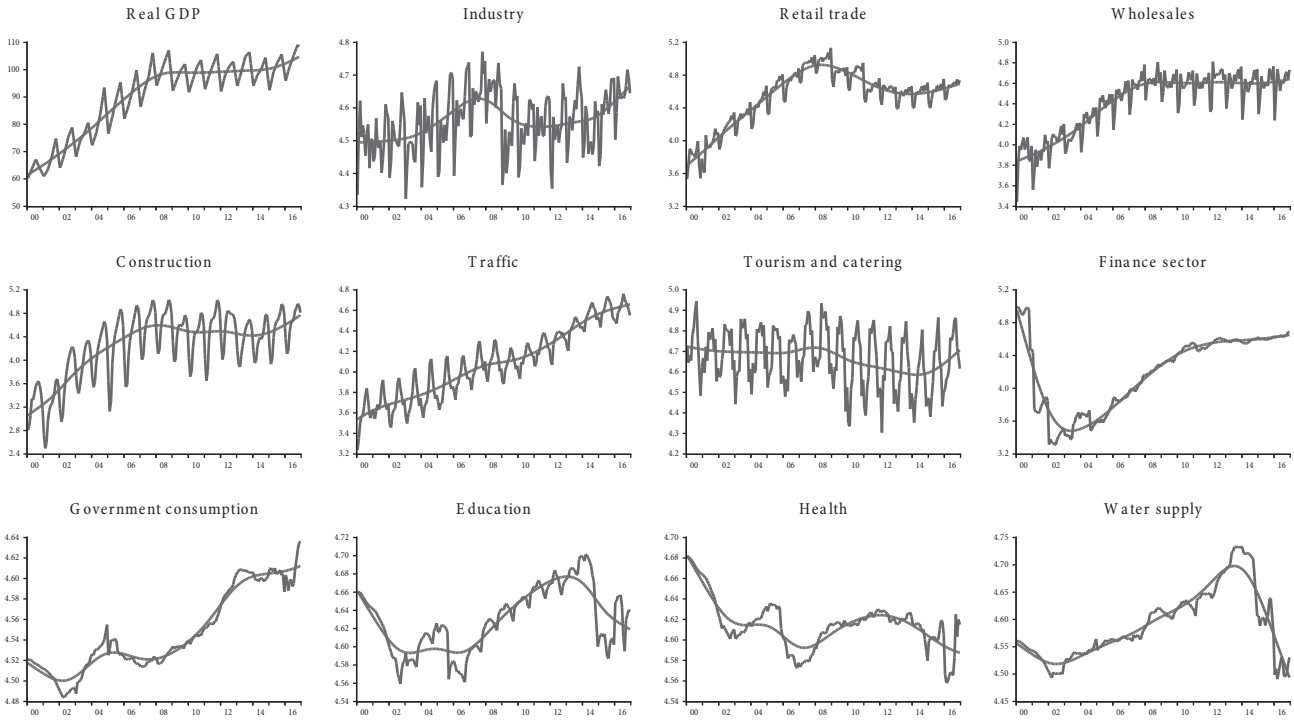
13 The SORS regularly publishes all underlying data.

14 Alternatively, a 4-quarter moving average filter may be applied to seasonally not adjusted growth rates.

and urgent needs to have GDP updates. All they refer as nowcasting. We will demonstrate how to nowcast GDP growth rates of the current quarter by using monthly data on various GDP components available before the SORS officially releases corresponding figures. Data in general might be hard data on real business activity collected by the SORS or soft data obtained through business surveys. Data, also, may refer to the supply side of GDP or the demand side of GDP. We will demonstrate in this paper how monthly indicators from the supply side of GDP can be used for nowcasting. They are selected according to their timely publication in order to get early information for the quarter of interest. Those data are monthly indices on: industrial production, construction activity, retail trade, wholesales, government activity, traffic and telecommunication, tourism and catering, education, financial sector, health and the water supply[15].

We report in Figure 3 monthly time series for the period 2000-2016 that are used for MIDAS estimation. In order to compare the time series of real GDP at quarterly frequency with the supplementary monthly series, we indexed GDP to 100 for 2015 year and benchmarked it according to Denton [4]. The GDP trend line had a break in 2008. Before that time growth was strong, but afterwards it considerably slowed down until somehow recovered in the last two years. Industry strongly declined between 2008 and 2012 and resumed growth in the last three years. The trend line of the wholesales was flat since 2008, while the retail trade suffered much and not yet fully recovered. Construction was following the trend pattern of the GDP, while traffic and communication, contrary to all other series, had a strong growth all the time. General government increased since 2008 as a consequence of the policy stimuluses designed to cure recession. It temporarily shrank during the fiscal consolidation, but expanded at the end of 2016. The financial sector suffered even before the Great Recession, but since then it was slowly and steadily recovering. Education, health and water supply had downside trends in the recent years. As expected, tourism and catering had a strong seasonal component with a positive short-time trend. These supply-side indicators are differently correlated with the GDP and had conflicting effects on GDP growth. Construction strictly correlated with GDP (0.75), while slightly weaker correlation have tourism and

Figure 3: Monthly time series from GDP supply side: Original series as zig-zag line, trend series as smoothed line



15 As we already mentioned, few of those monthly series are compiled by benchmarking quarterly or annual estimates.

catering and industry (0.65), and wholesales, traffic and communication (055). Retail trade, general government and financial activity have positive, but low correlation with GDP (between 0.18 and 0.22). Water supply, health and education have low and negative correlation with GDP (between -0.03 and -0.18). That makes nowcasting a little bit more complex than otherwise it would be.

One of the early approaches to deal with mixed-frequency data focuses on bridge equations, which link the low-frequency variables (quarterly), such as real GDP, to high frequencies time-aggregated indicators (monthly), such as industrial production or retail sales [1]. Forecasts of the high-frequency indicators are provided by specific high-frequency time series models, then the forecast values are aggregated and plugged into the bridge equations to obtain the forecast of the low-frequency variable. The bridge model technique allows computing early estimates of the low-frequency variables by using high frequency indicators. They are not standard macroeconometric models, since the inclusion of specific indicators is not based on any theoretical relations, but on the statistical fact that they contain timely updated information. Therefore, the bridge model to be estimated is represented by two alternative equations:

$$y_t^q = \alpha + \sum_{i=1}^{j} \beta_i x_{i,t}^q + \varepsilon_t^q \tag{10}$$

and

$$y_t^q = \alpha + \sum_{i=1}^{j} \sum_{k=1}^{n} \beta_{i,k}(L) x_{i,t}^q + \varepsilon_t^q \tag{11}$$

where is a lag polynomial of length k, and are the selected monthly indicators (i= 1,…,j) aggregated at quarterly frequency. Equation (10) is a simple linear model where time-aggregated high frequency series are related to GDP as a low frequency time series. In equation (11) we use distributed lag polynomial of length k in order to reduce the number of parameters to be estimated.

The bridge equations set the ground for MIDAS approach. In order to take into account mixed-frequency data, Ghysels et al. (2004) introduce the Mixed-Data Sampling approach, which is closely related to the distributed lag model, but in this case the dependent variable , sampled at a lower-frequency (quarterly), is regressed on a distributed lag of , which is sampled at a higher-frequency (monthly). A general representation of MIDAS model looks like this [10], [8]:

$$y_t^q = X_t^{q'} \beta + f(\{X_{t,S}^m\}, \theta, \lambda) + \epsilon_t^q \tag{12}$$

where

- y_t^q is the dependent variable, sampled at a low frequency, such as quarterly frequency, at the time t,
- $X_t^{q'}$ is a n-dimensional transposed matrix of regressors sampled at the same low frequency (quarterly) as , at time t; it may include lagged dependent variables y_{t-1}^q, y_{t-2}^q, …, as well as other regressors,
- $\{X_{t,S}^m\}$ is a set of regressors sampled at a higher frequency (monthly) with S values for each corresponding low frequency unit; the S values may include values corresponding to lagged low frequency values as well ,i.e. at time, t, t-1, t-2, t-3, ...

f is a function describing the effect of the higher frequency data (monthly) in the lower frequency (quarterly) regression; it may take the form of a distributed lag polynomial or some other forms (for instance, step functions, where the distributed lag pattern is approximated by a number of discrete steps),

- β, θ, λ are vectors of parameters to be estimated,
- ε_t^q is the vector of estimation errors.

It is possible to augment the MIDAS regressions with the factors extracted from a large dataset to obtain a richer family of models that exploit a large high-frequency dataset to predict a low-frequency variable. While the basic MIDAS framework consists of a regression of a low-frequency variable on a set of high-frequency indicators, the Factor-MIDAS approach exploits estimated factors rather than single or small groups of economic indicators as regressors. In the basic Factor-MIDAS approach the explanatory variables used as regressors are estimated factors.

We applied the MIDAS regression to nowcast GDP growth rate for the fourth quarter of 2016, and consequently, for the whole year 2016. In equation (12) vector y_t^q is logarithms of seasonally not adjusted quarterly GDP levels. Vectors $X_t^{q'}$ are logarithms of seasonally not adjusted quarterly GDP levels lagged for one and four quarters, and seasonally dummies variables elsewhere. $\{X_{t,S}^m\}$ is the set of monthly growth rates of eleven indicators from the supply side that were presented in Figure 2. Quarterly GDP levels

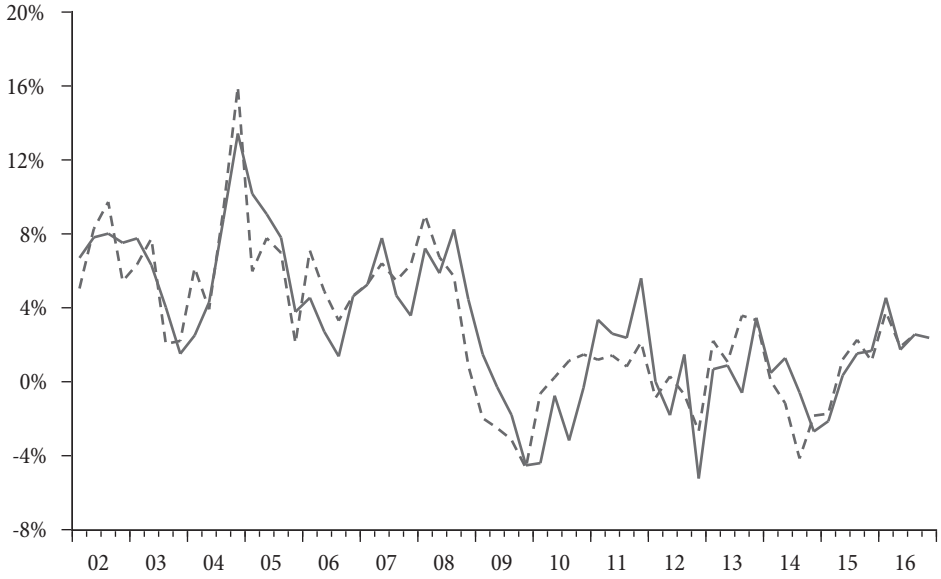
are transformed into logarithms in order to remove the underlying linear trend. That series is stationary and does not need any further transformation. However, logarithms of the supply side indicators are non-stationary and needed to be transformed into first differences, which approximate monthly growth rates. All these series are lagged for one month in order to create a dynamic regression model fit for doing out-of-the-sample forecast. The actual and forecasted GDP series are presented in Figure 4. Nowcast for the growth rate for the fourth quarter is 2.4%, which gives 2.8% for the entire year of 2016. Mean absolute forecast error for the entire period is 0.94.

Nowcast is one out of many econometrics techniques for short-term forecasting GDP. What is usually missing is the awareness that forecast results depend on the methodology for compiling QNA. Let us take one simple example. Ona can use ARIMA procedure to forecast GDP in the fourth quarter in 2016. The best-fitted ARIMA model for forecasting quarterly "real" GDP based on data in the period Q1Y1996:Q3Y2016 is (4,3)(0,0). The forecasted GDP growth rate in the fourth quarter 2016 is 1.01%. However, the chain-linking methodology for compiling the "real" GDP, as it was explained in footnote 7, would require ARIMA forecasting GDP at the current prices and GDP at the prices of the previous year. The best-fitted ARIMA models for those two nominal GDP series are (4,0)(0,0) and (4,3)(0,0). If one did that, he/she should proceed with the chain-linking these series in order to compile the "real" GDP. Based on these models and the chain-linking, the forecasted "real" GDP growth rate in the fourth quarter 2016 is 2.01%. This figure is much closer to the one we obtained by using nowcasting technique, than what can be get by a direct ARIMA forecasting method.

Conclusion

The paper addresses the issues of QNA compilation and GDP revisions as well as its short-term forecasting based on prompt available monthly series of economic and financial indicators. Our conclusion is that official figures on QNA are fairly reliable, including their revisions, and estimated in accordance with ESA 2010 standards. Users of these statistics, however, expect that they are more robust and invariant. Short-term QNA are made to provide data for assessing acceleration and deceleration in GDP growth rates as well as to detect turning points in the business cycle. Their accuracy is lower than ANA figures, and this is the price that must be paid for getting early indicators of business cycle fluctuations. Our finding on differences between provisional and final estimates of real GDP falls in the interval between + 0.4% and – 0.3% for the last three years (from Q1Y2014 to Q3Y2016). The error interval for nominal GDP is slightly wider: between + 0.4% and – 2.4%. On average, all real GDP revisions had a positive

Figure 4: Estimation errors:
Actual growth rates (dashed line) and forecasted growth rates (solid line)



sign, while nominal GDP revisions had a negative sign. This means that recent revisions slightly increased real GDP growth and reduced nominal GDP growth since the GDP deflator was overestimated.

We also provide an example showing how to perform nowcasting in Serbia, and conclude that this is a useful econometric technique for assessing current GDP two months before the SORS releases official figures and one month before flash estimates are available. As always, the real challenge is which monthly series should be included in the MIDAS equation. In Serbia, there are still a limited number of business surveys and stock exchange data that might improve GDP nowcast, and nowcasting must rely on monthly series from the real sector of economy, not all of which have high correlation with GDP.

References

1. Baffigi, A., Golinelli, R., & Parigi, G. (2004). Bridge models to forecast the euro area GDP. *International Journal of Forecasting*, *20*(3), 447-460.
2. Banbura, M., Giannone, D., Modugno, M., & Reichlin, L. (2013). Now-casting and the real-time data flow. *Handbook of Economic Forecasting*, *2*, 195-237.
3. Chow, G. C., & Lin, A. L. (1971). Best linear unbiased interpolation, distribution, and extrapolation of time series by related series. *The review of Economics and Statistics*, 372-375.
4. Denton, F. T. (1971). Adjustment of monthly or quarterly series to annual totals: an approach based on quadratic minimization. *Journal of the American Statistical Association*, *66*(333), 99-102.
5. Eurostat. (2008). *NACE Rev 2, Statistical classification of economic activities in the European Community*. Brussels: European Commission.
6. Eurostat. (2013). *European System of Accounts, ESA2010*. Brussels: European Commission.
7. Eurostat. (2013). *Handbook on quarterly national accounts*. Brussels: European Commission.
8. EViews 9. (2015). *User's Guide II*, *Chapter 28: MIDAS Regression*. Irvine CA: HIS Global Inc.
9. Foroni, C., & Marcellino, M. G. (2013). A survey of econometric methods for mixed-frequency data. *Norges Bank Research*, *6*, Norges Bank.
10. Ghysels, E. (2015). *MIDAS Matlab Toolbox*, version 2.2. Retreived from https://www.mathworks.com/ matlabcentral/ fileexchange/45150-midas-matlab-toolbox.
11. Ghysels, E., Santa-Clara, P., & Valkanov, R. (2004). The MIDAS touch: Mixed data sampling regression models. *Finance*, 1-32.
12. Ghysels, E., Santa-Clara, P., & Valkanov, R. (2006). Predicting volatility: getting the most out of return data sampled at different frequencies. *Journal of Econometrics*, *131*(1), 59-95.
13. Ghysels, E., Sinko, A., & Valkanov, R. (2007). MIDAS regressions: Further results and new directions. *Econometric Reviews*, *26*(1), 53-90.
14. IMF. (2014). *Update of Quarterly National Accounts Manual: Concepts, Data Sources and Compilation*, Chapter 8, Price and Volume Measures, Washington, D.C.
15. IMF. (2015). *Central, Eastern, and Southeastern Europe: Reconciling fiscal consolidation and growth* (Regional Economic Issues). Washington, D.C.
16. Kovačević, M., & Stamenković, S. (2010). Methodological basis for macroeconomic projections in countries exposed to pressures and shocks: Example of Serbia. *Panoeconomicus*, *57*(2), 225-243.
17. Labus, M., & Labus, M. (2016). From fiscal consolidation to fiscal optimization. *Ekonomika preduzeća, 65*(1-2), 37-53
18. Labus, M. (2016). Fiskalna devalvacija i monetarno popuštanje. In Mekerević, D. *Ekonomije malih zemalja u uslovima pojačanih globalnih izazova*, Banja Vrućica, Republika Srpska, 7-24.
19. Labus, M., & Labus, M. (2015). Policy mix for fiscal consolidation in Serbia: Conditional forecast approach. *Ekonomika preduzeća*, *63*(1-2), 17-31.
20. Labus, M. (2014). Fiscal consolidation and total factor productivity. *Ekonomika preduzeća*, *62*(1-2), 35-46.
21. Republički zavod za statistiku. (2015). *Kvartalni nacionalni računi Republike Srbije, Izvori i metode obračuna*. Beograd.
22. Republički zavod za statistiku. (2016). *Kvartalno poslovanje privrednih društava 2015*. Radni dokument, 97.
23. World Bank. (2016). *The Impact of China on Europe and Central Asia*. Europe and Central Asia Economic Update, Office of the Regional Chief Economist, Washington D.C.

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Annex

Table 1A: Differences between provisional and final QNA estimates

	Real consumption			Nominal consumption		
	Q4Y15	Q1Y16	Q2Y16	Q4Y15	Q1Y16	Q2Y16
Q12014	-0.1%	0.1%	0.1%	-0.1%	0.0%	0.0%
Q22014	0.2%	0.3%	0.3%	0.2%	0.2%	0.2%
Q32014	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Q42014	-0.1%	-0.4%	-0.4%	-0.1%	-0.3%	-0.3%
Q12015	-1.1%	-0.9%	-0.9%	-1.2%	-1.1%	-1.1%
Q22015	-0.8%	-0.7%	-0.7%	-1.1%	-1.0%	-1.0%
Q32015	-1.0%	-0.9%	-0.9%	-1.3%	-1.2%	-1.2%
Q42015	-0.8%	-1.2%	-1.2%	-1.0%	-1.2%	-1.2%
Q12016		-1.1%	-0.9%		-1.5%	-1.3%
Q22016			-0.4%			-0.9%
Average	-0.47%	-0.53%	-0.50%	-0.58%	-0.67%	-0.68%

Table 2A: Differences between provisional and final QNA estimates

	Real investment			Nominal investment		
	Q4Y15	Q1Y16	Q2Y16	Q4Y15	Q1Y16	Q2Y16
Q12014	0.1%	0.9%	0.9%	-0.1%	0.7%	0.7%
Q22014	-0.4%	0.1%	0.1%	-2.1%	-1.5%	-1.5%
Q32014	-0.7%	-0.7%	-0.7%	0.0%	-0.1%	-0.1%
Q42014	1.0%	-0.1%	-0.1%	1.8%	0.8%	0.8%
Q12015	1.0%	1.8%	1.8%	-3.2%	1.2%	1.2%
Q22015	2.5%	2.8%	2.8%	0.4%	0.0%	0.0%
Q32015	2.3%	2.6%	2.6%	1.9%	1.2%	1.2%
Q42015	3.7%	2.6%	2.6%	2.9%	0.7%	0.7%
Q12016		2.7%	3.2%		2.8%	2.5%
Q22016			3.3%			0.6%
Average	1.18%	1.41%	1.63%	0.21%	0.66%	0.62%

Table 3A: Differences between provisional and final QNA estimates

	Real government consumption			Nominal government consumption		
	Q4Y15	Q1Y16	Q2Y16	Q4Y15	Q1Y16	Q2Y16
Q12014	-0.2%	0.0%	0.0%	-0.8%	-0.6%	-0.6%
Q22014	-0.1%	0.0%	0.0%	-0.6%	-0.4%	-0.4%
Q32014	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
Q42014	0.2%	0.0%	0.0%	1.1%	0.8%	0.8%
Q12015	0.2%	0.4%	0.4%	1.8%	2.0%	2.0%
Q22015	0.3%	0.5%	0.5%	2.5%	2.6%	2.6%
Q32015	0.4%	0.4%	0.4%	3.0%	3.0%	3.0%
Q42015	0.3%	0.0%	0.0%	2.8%	2.7%	2.7%
Q12016		1.0%	1.0%		2.4%	2.1%
Q22016			1.0%			2.5%
Average	0.14%	0.24%	0.33%	1.25%	1.39%	1.47%

Table 4A: Differences between provisional and final QNA estimates

	Real export			Nominal export		
	Q4Y15	Q1Y16	Q2Y16	Q4Y15	Q1Y16	Q2Y16
Q12014	2.5%	0.5%	0.5%	-0.1%	-0.1%	-0.1%
Q22014	-0.2%	0.4%	0.4%	-0.1%	-0.1%	-0.1%
Q32014	-0.7%	-0.1%	-0.1%	0.0%	0.0%	0.0%
Q42014	-1.4%	-0.8%	-0.8%	0.2%	0.2%	0.2%
Q12015	-1.3%	-1.4%	-1.4%	0.4%	0.6%	0.6%
Q22015	-2.4%	-2.4%	-2.4%	0.2%	0.2%	0.2%
Q32015	-2.4%	-2.4%	-2.4%	0.5%	0.2%	0.2%
Q42015	-2.6%	-2.6%	-2.6%	0.5%	0.4%	0.4%
Q12016		-2.0%	-1.9%		0.7%	0.8%
Q22016			-3.3%			-0.7%
Average	-1.05%	-1.18%	-1.38%	0.20%	0.24%	0.16%

Table 5A: Differences between provisional and final QNA estimates

	Real import			Nominal import		
	Q4Y15	Q1Y16	Q2Y16	Q4Y15	Q1Y16	Q2Y16
Q12014	3.4%	0.9%	0.9%	0.0%	0.0%	0.0%
Q22014	0.1%	0.6%	0.6%	0.0%	0.0%	0.0%
Q32014	-0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Q42014	-2.3%	-1.3%	-1.3%	0.0%	0.0%	0.0%
Q12015	0.5%	-2.6%	-2.6%	0.0%	-0.2%	-0.2%
Q22015	-4.6%	-3.6%	-3.6%	0.0%	0.2%	0.2%
Q32015	-4.9%	-4.1%	-4.1%	0.0%	-0.2%	-0.2%
Q42015	-5.2%	-4.1%	-4.1%	0.1%	0.2%	0.2%
Q12016		-2.8%	-2.8%		-0.2%	-0.2%
Q22016			-2.7%			-0.2%
Average	-1.73%	-1.89%	-1.96%	0.01%	-0.02%	-0.03%

MAXI Tempo SHOP&GO
Ponosna članica

Ahold Delhaize

REVIEW ARTICLE
UDK: 336.711(497.11)
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CENTRAL BANK POLICY AFTER THE CRISIS: EXAMPLE OF SERBIA

Politika centralnih banaka u periodu nakon krize – slučaj Srbije

Abstract

The aim of this paper is to provide a detailed analysis of how the monetary policy of the National Bank of Serbia has been conducted, actively changed and adjusted in the post-crisis period, particularly in the circumstances of increased volatilities in international financial and commodity markets, and also to what extent we have been successful in achieving the legislative mandates – price and financial stability. Particular assessment was made as to whether the instruments that the National Bank of Serbia has used after the global economic crisis, especially after 2012, were appropriate in succesful achieving of those objectives, taking into account current and expected market developments.

Achieving and preserving price and financial stability, though facing headwinds from the international environment, undoubtedly confirm that the current framework of monetary and macroprudential policy of the National Bank of Serbia was properly applied and that it delivered desired results. Through all key channels of transmission – the decline in interest rates on new and existing loans, increased availiability of loans and accelerated credit activity, provided relative stability of the exchange rate and well anchored inflation expectations – monetary policy contributed to more favorable business and investment conditions, household consumption and saving, and therefore to sustainable economic growth.

Keywords: *monetary policy, price stability, financial stability, key policy rate.*

Sažetak

Cilj ovog rada bio je da se detaljnije sagleda kako se nakon krize, u uslovima prisutnih volatilnosti na međunarodnom finansijskom i robnom tržištu, aktivno menjala i prilagođavala monetarna politika Narodne banke Srbije, kao i u kojoj meri smo bili uspešni u ostvarivanju zakonskog mandata – cenovne i finansijske stabilnosti. Posebno je analizirano da li su instrumenti koje je Narodna banka Srbije koristila nakon svetske ekonomske krize, posebno nakon 2012. godine, bili primereni uspešnom ostvarivanju ovih ciljeva, a uvažavajući aktuelna i očekivana tržišna kretanja.

Postignuta i očuvana cenovna i finansijska stabilnost u uslovima prisutnih rizika iz međunarodnog okruženja nedvosmisleno upućuju da je primenjeni okvir monetarne i makroprudencijalne politike Narodne banke Srbije bio adekvatno postavljen i da je dao željene rezultate. Preko svih ključnih kanala transmisije – pad kamatnih stopa na nove i postojeće kredite, veća dostupnost kredita i rast kreditne aktivnosti, obezbeđena relativna stabilnost deviznog kursa i usidrenost inflacionih očekivanja – monetarna politika bitno je doprinosila povoljnijim uslovima za poslovanje i investiranje, za potrošnju i štednju stanovništva, a samim tim i ekonomskom rastu na održivim osnovama.

Ključne reči: *monetarna politika, stabilnost cena, finansijska stabilnost, referentna stopa.*

Introduction

Until the outbreak of the global economic crisis, a large number of central banks, both of advanced and emerging countries, adopted price stability as the primary objective of monetary policy. They opted to achieve this objective through the inflation targeting regime, adapted to the specificities of their respective economies. A consensus was almost reached that this regime enables monetary policy to give the strongest contribution to macroeconomic stability. Central banks have had a single primary objective – low and stable inflation in the medium run, and a single primary instrument – the key policy rate [6, p. 4]. The inflation target was achieved through the impact on expectations, the yield curve and long-term interest rates, and thus on aggregate demand. In the initial years following the introduction of the inflation targeting regime (the early 1990s), assessments prevailed that the inflation targeting regime, as a monetary policy framework, was compatible only with a freely floating exchange rate. More precisely, allowing a free float was considered a test of commitment to the inflation targeting regime. At the same time, the necessary stability of the financial system and prevention of excessive risk assumption by economic agents was ensured through prudential and supervisory measures. Macroeconomic policy, in its present-day shape, was yet to come.

However, the financial crisis that escalated in 2008 and the ensuing recession shifted the focus of policies of the leading central banks to tackling the issue of a drastic reduction in liquidity, heightening mistrust among market participants and economic contraction. Responding to the crisis, central banks of advanced economies embarked on robust monetary accommodation and, as a consequence, key policy rates were reduced to exceptionally low levels. Convergence of the key policy rate to levels close to zero (zero-bound) blocked the interest rate channel, leading to the introduction of non-standard instruments by central banks, with the aim of supporting credit and economic activity, and bringing inflation close to targeted or desirable levels [1, p. 31]. Many of these instruments are still used today.

Within the global financial architecture, what turned to be an important lesson of the crisis was that central banks should systematically analyse and calibrate instruments to be used for resolution/mitigation of risks in the financial system and for the prevention of new risks. In fact, the crisis confirmed what had been clear even before it – the preservation of financial stability is an important precondition for ensuring overall macroeconomic stability [2, p. 4], [5, p. 6], [7, p. 70], [10, p. 4], which contributed to global shaping of macroprudential policy.

When it comes to emerging economies, the pursuance of countercyclical monetary policy has often been limited by the high share of foreign currency and foreign currency-indexed liabilities in total liabilities and the generally more significant currency mismatches in the non-financial sector balance sheet. Restrictions were also the result of the pronounced exchange rate effect on inflation, the underdeveloped financial market and procyclical fiscal policy. Decision-making of central banks of emerging economies was additionally aggravated by external shocks and volatile capital flows [8, p. 14], which were influenced also by non-standard measures of the leading central banks and expectations as to the start of application of exit strategies and their dynamics. In such circumstances, central banks of emerging economies inevitably stepped up the assessments of the impact of developments in the international environment and measures of the leading central banks on trends in the domestic market. As a logical choice, central banks of emerging economies adjusted their measures and instruments of monetary, microprudential and macroprudential policies and began to apply a mix of policies in the manner which most efficiently ensures the preservation of price and financial stability, by providing contribution to economic growth, without prejudice to the achievement of stability objectives. However, in general terms, during the most recent crisis, central banks of emerging economies could pursue countercyclical policies to a greater extent than during the earlier crises, i.e. monetary policies were eased in order to encourage economic recovery. The reasons behind this were the already initiated financial sector reforms in the prior period, better anchored inflation expectations owing to higher transparency and enhanced credibility of monetary policy, as well as better coordination with fiscal policy.

This paper elaborates in more detail on changes and adjustments to monetary policy of the National Bank of

Serbia after the crisis, against the backdrop of volatilities in the international financial and commodity markets, as well as on how successful we have been in achieving our statutory objectives – price and financial stability and supporting credit and economic activity. This assessment is preceded by several key "lessons" of the crisis relating to central bank policies, particularly for small and open economies such as Serbia's. Given that the process of decision-making by the central bank and the choice of an adequate mix of instruments are determined both by domestic fundamentals and developments in the international environment, a separate section is devoted to macroeconomic conditions on the eve of and after the crisis. A focus is placed on the analysis of the impact of the model of repo auctions withdrawing liquidity on interest rates in the credit market and absorption of a part of effects of short-term shocks on the foreign exchange market. Finally, several challenges of monetary policy of central banks in the coming period are examined.

Lessons of the global economic crisis on economic policies of emerging economies

With the globalisation of the financial crisis of 2008, the ensuing recession and mounting deflationary pressures, the focus of monetary policy shifted from inflation to tackling the issue of a drastic reduction in liquidity, heightening mistrust among market participants and economic contraction. Responding to such developments, central banks of advanced economies embarked on robust monetary accommodation through standard and non-standard measures, in order to ensure necessary support to economic recovery.

Several years later, global growth has still not fully recovered. It is uneven and further constrained by geopolitical tensions. Depressed demand in commodity markets has brought the economy on the verge of deflation. Eight years later, uncertainties in the international financial market still persist and monetary policies of the leading central banks are assuming a divergent character due to a varying pace of recovery of their economies. This further amplifies the volatility of capital flows, which affects all economies, particularly those with pronounced needs for additional capital.

The crisis has taught us, i.e. it has confirmed that turbulences in the international financial and commodity markets may have significant negative effects on financial stability and economic growth in emerging economies. These effects can be particularly strong once monetary policies of the leading central banks no longer have an accommodative character, provided the prior period is not used to strengthen the domestic economy. The countries with pronounced internal and external imbalances and strong reliance on external sources of funding are most exposed to consequences of contracted capital flows, which represents an additional challenge for their economic policies, as well as their economic agents. On the macroeconomic plane, this entails from economic policy makers in small and open economies to plan and pursue responsible fiscal policy, and to implement structural reforms in order to eliminate macroeconomic imbalances, while at the same time amplifying the necessity for full coordination of monetary and fiscal policy measures and provision of reserves to amortise potential outflows in future. In microeconomic terms, all economic agents must adjust their balance sheets.

The global financial crisis has further emphasised the importance of financial stability and the need to observe price and financial stability as a single whole. It has transpired that, even against the backdrop of low and stable inflation, mounting tensions in the financial system may trigger macroeconomic instability – both directly in the form of high fiscal costs of remedying problems, and indirectly through rising costs in the real economy. Therefore, a consensus has almost been reached today that central banks should target not only price, but also financial stability. This does not imply the abandonment of the inflation targeting regime, but its natural evolution. In 2014, to mark the 25th anniversary of inflation targeting, the Governor of the Reserve Bank of New Zealand, which is a pioneer of the regime, said that the inflation targeting regime has resulted in low and relatively stable inflation and higher certainty for market participants. The level of interest rates has declined on account of a reduction in the inflation premium. However, contemporary conditions of doing business have unequivocally pointed out to the need for developing and implementing measures of

macroprudential policy, as a complementary policy [9, p. 3], [9, p. 15].

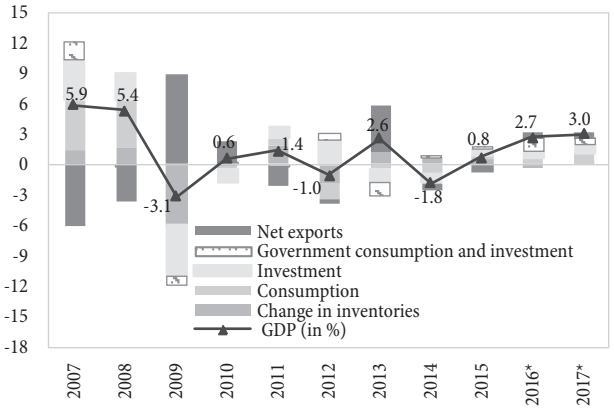
Consistent with this, the concept applied before the crisis – a single objective and a single instrument for a central bank, is slowly being abandoned. A consensus is practically reached among central banks about the necessity to apply an optimum mix of instruments of monetary, microprudential and macroprudential policies, appropriate for the current, expected and desired market developments. They are expected to continuously and pre-emptively take measures in order to preclude situations that may jeopardise not only price, but also financial stability. Furthermore, in the period after the crisis, central banks in countries of Central and Eastern Europe had a special task to monitor the process of adjustment of the domestic system to the deleveraging of banking groups from the European Union. They were expected to ensure that the process would be gradual, in accordance with the possibilities of adjustment of the domestic economy.

The experience gained during the crisis also revealed the need for reforming banking regulations in the European Union, so as to make the financial system safer and more resilient to shocks. The introduction of capital buffers and raising liquidity requirements are only some elements of the new banking regulations, aimed at creating reserves that could be used in crisis situations. New instruments for systemic risk monitoring are also being developed, as well as instruments for calibration of macroprudential policy that should prevent risk build-up. Increasingly stronger integration into international financial flows and more frequent turbulences in the international financial market have also indicated the need for changing the process of supervision and regulation of the financial system also in countries where banks with majority foreign capital from the European Union operate, such as Serbia. Global interlinkages and financial innovation mandate that regulations be harmonised with international regulations in the field, and that cooperation be strengthened at the international level.

Macroeconomic conditions of pursing monetary policy in Serbia on the eve of and during the crisis, inclusive of 2012

In the years immediately preceding the global economic crisis, Serbia's economic growth was such that attempts were made to compensate for the large gap of the 1990s. However, although it was relatively high (around 5.5% annually from 2001 to 2008), on the production side economic growth relied excessively on a rise in services (with reduced shares of the industry and agriculture), while on the expenditure side it relied on final consumption (Figure 1). Growth in domestic demand exceeded GDP growth and the difference was covered by imports, notably of consumer goods, which was financed by privatisation receipts, domestic loans and cross-border borrowing of the private sector. In 2008, such developments culminated in a record high external trade and current account deficit (Figure 2). In such circumstances, monetary policy measures were aimed primarily at limiting credit growth

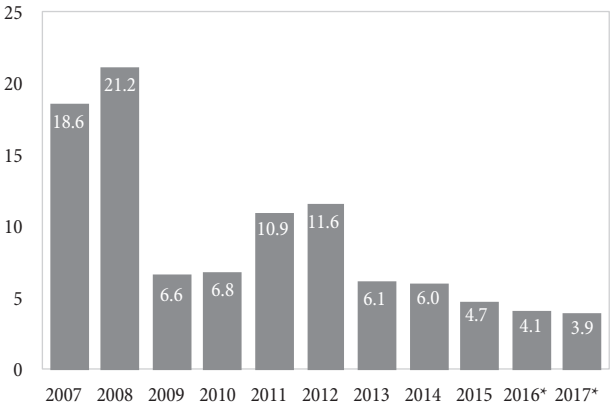
Figure 1: Economic activity movements (in %)



* NBS estimate.

Sources: SORS and NBS calculation.

Figure 2: Current account deficit (in %)



* NBS estimate.

Source: NBS.

and anchoring inflation expectations in order to curb inflationary pressures from that source.

Such economic growth model was viable while sufficient foreign capital flowed in to cover the current account deficit. Nonetheless, the global crisis triggered a major reversal in capital flows in 2008–2009. Capital inflows in respect of FDIs contracted sharply, which was followed by banks' deleveraging to parent banks. All this coupled together had a negative impact on the availability of sources of funding of economic growth. It became obvious that the continuation of economic growth led by consumption was no longer sustainable in the long run and that Serbia had to shift to the model of growth based on investments and exports. The relatively strong and certainly elicited balance of payments adjustment was conducted already in 2009, with an unselective drop in domestic demand and economic contraction.

Economic recovery over the following four years (2009–2012) was relatively slow, or more precisely, two of these four years were recording negative growth rates. Positive effects of a higher degree of expansiveness of fiscal policy on economic activity did not take place as the major portion of fiscal stimuli spilled off to imports, which influenced the gradual, but cumulatively significant deepening of external and fiscal imbalances (Figures 2 and 3). In such conditions, public debt soared, the country's rating deteriorated and risk premium increased.

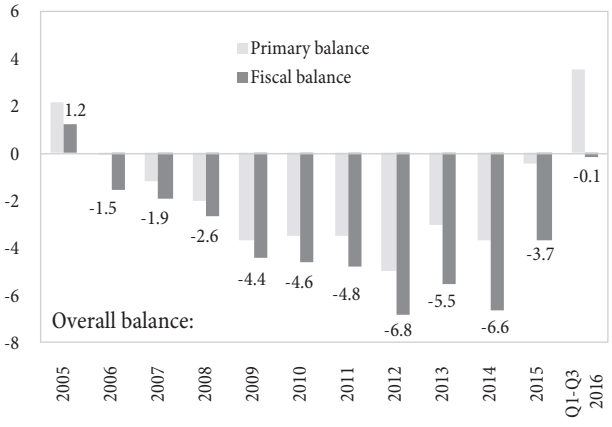
Due to such macroeconomic environment, monetary policy also faced strong challenges. Monetary policy easing in Serbia during the first years following the crisis could not be applied to a greater extent given the persistently relatively strong external shocks and volatile capital flows toward emerging economies, prevailing inflationary pressures and accumulated internal and external imbalances. With the first effects of the crisis, reduced foreign capital inflows and withdrawal of foreign currency (FX) deposits from the banking system, the dinar depreciated, despite significant interventions. This put an additional upward pressure on already high inflation expectations.

In early 2009, responding to the crisis, the National Bank of Serbia introduced a number of changes to regulations, now with a view to stimulating credit activity and enabling more favorable credit repayment terms. The three years that followed saw alternate periods of monetary policy easing and tightening. Monetary policy tightening was necessary as 2010 and 2012 experienced a vigorous rise in prices of primary agricultural commodities, which spilled over to food prices and inflation expectations of economic agents, which, in combination with depreciation pressures, caused a relatively strong rise in year-on-year inflation (Figure 4). In general, inflation in that period was volatile, mainly reflecting volatile food prices with a relatively high share in the consumer price index.

Monetary policy measures in Serbia as of 2012

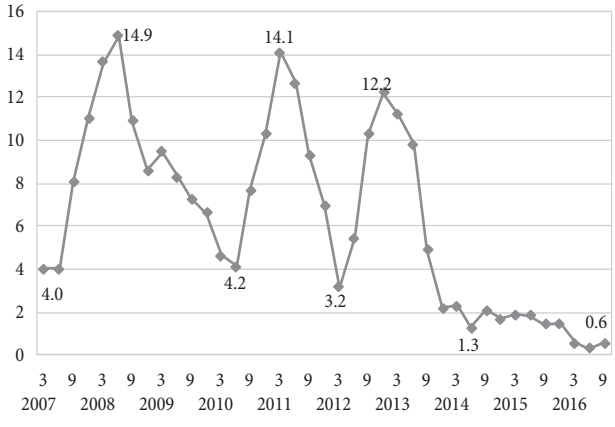
It was only when inflationary pressures were curbed on a more durable basis owing to restrictive monetary policy measures taken in the period June 2012-February 2013, relative stability of the exchange rate, adoption of the fiscal consolidation program and full coordination between monetary and fiscal policies, that the cycle of monetary

Figure 3: Fiscal deficit (in %)



Source: Ministry of Finance.

Figure 4: Year-on-year inflation rate (in %)



Source: SORS.

policy easing could ensue, with monetary policy supporting credit growth and economic recovery to a greater extent.

In that period, the global financial and economic crisis only further confirmed the magnitude of impact of external shocks and volatile capital flows, showing how easily the turmoil from the global financial and commodities markets can pass on to other countries, particularly those with pronounced internal and external imbalances. Being a small and open economy, Serbia is also exposed to external shocks which, by definition, it cannot control. However, the extent to which external shocks will affect us depends on whether we will respond in a timely and adequate way, i.e. on the type of measures we will take and on how effective they will be. For this very reason, the National Bank of Serbia carefully monitors and assesses developments in the international environment, reactions of other central banks and calibrates its own decisions, taking into account the effects not only on the achievement and preservation of low and stable inflation, but also on the preservation of financial and overall macroeconomic stability. This is why we combine our instruments – the key policy rate, open market operations, the reserve requirement ratio and interventions in the FX market in the manner ensuring a reduction in volatility and market stability, while at the same time contributing to the preservation of price and financial stability, and supporting the Government's economic policy to the extent this does not jeopardise the achievement of stability objectives.

Interest rates of the National Bank of Serbia and the importance of the model of liquidity absorption auctions, applied as of December 2012

The primary monetary policy instrument used by the National Bank of Serbia in the inflation targeting regime in order to achieve the inflation target is the key policy rate applied to one-week reverse repo transactions (liquidity absorption). From November 2012 to end-2016, the inflation target equalled 4±1.5%[1]. In November 2016, following detailed analyses and consultations with the Government of the Republic of Serbia, the National Bank of Serbia made the decision to lower the inflation target to 3±1.5% starting from 2017[2].

Decisions on changing the key policy rate are made based on the assessment of economic developments and the inflation projection, taking into account the time lag, i.e. the full effects on inflation are visible after around a year. Also, practice has confirmed that the most efficient inflation targeting regime is the one where temporary deviation from the defined target is allowed, in order to avoid sharp changes in monetary policy which can trigger macroeconomic shocks. This relates to cases of deviations caused by major and unexpected changes in prices of, for instance, primary commodities or products and services under direct or indirect influence of Government's decisions.

In parallel with its commitment to use the key policy rate as the primary monetary policy instrument, as many other central banks, the National Bank of Serbia also applies open market operations, a symmetric interest rate corridor aimed at better streamlining the movement in short-term interest rates in the interbank money market, required reserves and interventions in the FX market.

The primary function of open market operations conducted by central banks is to ensure an adequate degree of liquidity and an impact on money market rates, whose effect will depend on: the criteria for participation in auctions, i.e. choice of participants; the type of transaction – repo or outright; transaction maturity – shorter or longer; type of operation – a fixed or variable interest rate; scope of operation – limited or unlimited; securities that may be subject to trading and overall collateral policy; auction frequency – regular and extraordinary. The choice of each of these elements can determine the impact of operations on the management of liquidity and short-term money market rates.

In general, since the introduction of the new monetary policy framework (September 2006), interest rates in the domestic interbank money market fluctuated around the key policy rate, while the overnight Beonia moved below the key policy rate, reflecting the position of excess liquidity in the domestic banking system. On the other

1 See the National Bank of Serbia's Memorandum on Inflation Targets until 2016 at http://www.nbs.rs/internet/english/30/memorandum_ciljevi_do_2016_eng.pdf

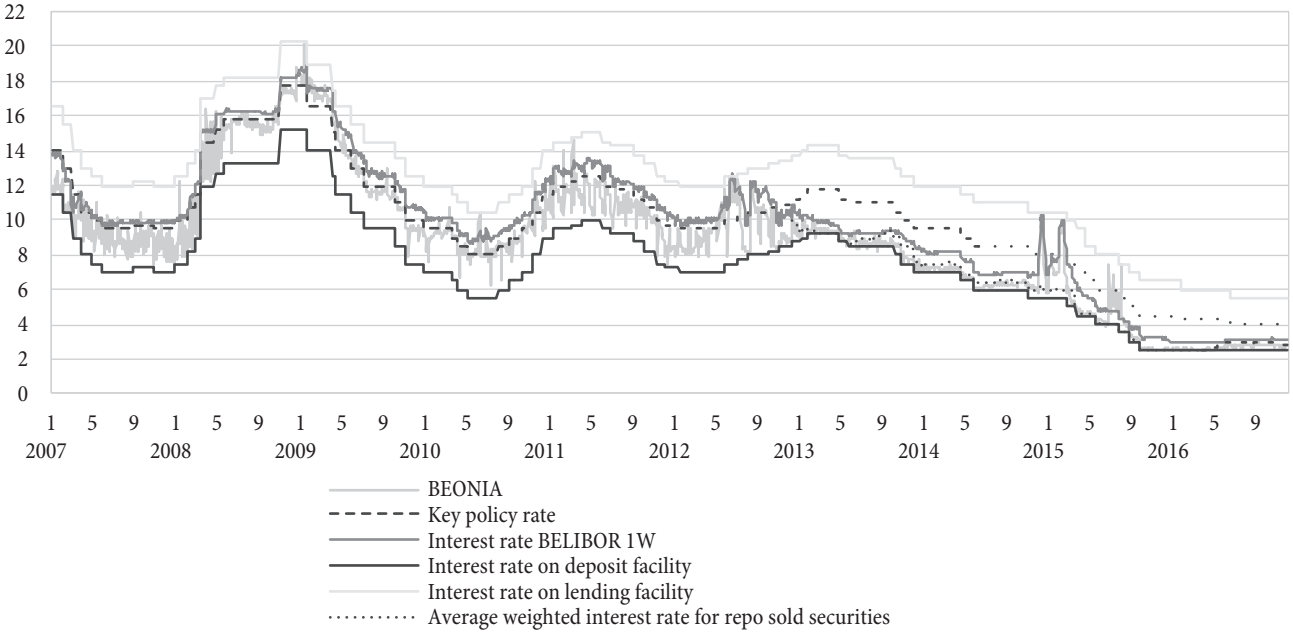
2 See the National Bank of Serbia's Memorandum on Inflation Targets until 2018 at http://www.nbs.rs/internet/english/30/memorandum_ciljevi_do_2018_eng.pdf

hand, interest rates of other maturities fluctuated evenly above the key policy rate due to embedded liquidity premia linked to longer maturities.

A shift in movement in money market interest rates ensued in June 2012 when, due to sterilisation of dinar liquidity through changed currency structure of required reserve allocations, some banks faced a temporary shortfall of dinar liquidity. Interbank rates recorded a rise, whereas Beonia exceeded the key policy rate, but remained within the upper half of the interest rate corridor. At the same time, longer-maturity rates came closer to the upper bound of the corridor (Charter 5). In July that year, the National Bank of Serbia reversed the direction of its main operations – it switched to liquidity provision operations. In addition to reversing the direction (from liquidity absorption to provision), it also changed the auction model – from fixed-rate to variable-rate auctions (the key policy rate being the minimum rate). Furthermore, instead of full allotment auctions, the National Bank of Serbia now declares the maximum amount at an auction (in this case the maximum amount to be ensured). Due to relatively high demand for funds at the first repo, liquidity provision auctions, from mid-August to mid-September the weighted average rate was significantly higher than the key policy rate. This affected the movement in Belibor rates in that period.

However, in the period that ensued, the government contributed to a significant rise in dinar liquidity of banks, which is why banks expressed almost no demand at repo auctions held in November and December. The absence of demand at auctions and elevated dinar liquidity that threatened to put pressure on the FX market (toward weakening of the dinar) led to a turnabout in mid-December, when the National Bank of Serbia reversed back to one-week repo liquidity absorption operations as its main open market operations. This, however, did not imply a shift to the erstwhile model of fixed-rate auctions and meeting of all banks' offers, but instead, the model of multiple-rate auctions was applied with a limited volume of liquidity absorbed. In such model of liquidity absorption auctions, the key policy rate is the maximum rate that could be accepted at an auction. Through this auction model, competition among banks is encouraged and a favorable impulse provided for lower money market rates. Truly, after that period, i.e. after a new shift to liquidity sterilisation operations, the banks' demand at auctions was almost constantly higher than the central bank's offer, whereas the rate achieved at auctions was at the levels close to the deposit facilities rate, so the desired effect on rates in the money market and the dinar credit market has been achieved. Belibor rates have moved from the upper half of the interest rate corridor into the lower half of the

Figure 5: Movements in the key policy rate and interbank money market rates (daily data, annually, in %)



Sources: Thomson Reutersand NBS.

corridor (Figure 5). In other words, if the vigorous decline in Belibor rates which ensues can be correlated with the changed central bank auction method, and it certainly can, one may conclude that by designing its instrument, the central bank contributed to the lowering of interest expenses for sectors with dinar loans linked to interbank money market rates.

In addition, due to the fact that not the total amount of dinar liquidity offered by banks is withdrawn at all times, banks are motivated to lend a portion of liquid funds to corporates and citizens, or to invest it into government securities. In the ensuing years, especially as of 2015, interbank competition has strengthened particularly in the market of household loans in dinars, undoubtedly as a result of a combination of factors – low interest rate environment, the achieved macroeconomic stability and the model of repo auctions.

Not less importantly, by switching to repo operations of withdrawal of liquidity at a variable interest rate and with a limited volume of liquidity withdrawn, the NBS was in a position – by carefully assessing and calibrating the key auction variables - the maximum amount of liquidity withdrawn and interest rates to be accepted at the auction – to absorb one part of the effects of short-term shocks on the FX market even more effectively. We will illustrate this by several episodes (November – December 2013, May 2014, March and May 2015, May and June 2016), when the National Bank of Serbia reacted to heightened volatility of capital inflows to Serbia by increasing the amount of liquidity withdrawn and the maximum rate accepted at auctions, thus alleviating the short-term pressures on the dinar exchange rate. In this way, the flexibility of this model of liquidity mop-up auctions increased the strength of this channel in alleviating excessive short-term volatility of the exchange rate in both directions, and the availability of a range of options is very important in conditions of volatile foreign capital inflows. Also important in this process is the liquidity projection based on all relevant factors (including among other, the assessment of influence of autonomous factors during two required reserve maintenance periods), and the result of the liquidity projection is the starting point in determining the maximum amount of liquidity to be withdrawn at auctions. As in all other cases, expert judgment is an additional important factor in decision making and calibrating auction parameters. Models, no matter how sophisticated they may be, cannot fully substitute for the complementary role and importance of expert judgment.

Given that banks' demand at repo auctions almost always exceeded the NBS's offer, which is actually the goal, the average auction rate was by some 2 pp lower than the key policy rate, except that the spread narrowed in time with the narrowing of the interest rate corridor. Also, given that from the start of application of the variable rate method at liquidity mop-up auctions (December 2012) interest rates in the interbank money market fell by 1.5 – 2 pp, mirroring the average repo rate[3], interest expenses of household dinar loans, whose rates are linked to interest rates in the interbank money market[4] embarked on a downward path, and this happened almost half a year before the National Bank of Serbia launched its monetary policy easing cycle (May 2013).

It is important to emphasize that the maximum effect of the auction model was used both for interest rates in the dinar lending market and for strengthening the effects of this channel in alleviating the short-term pressures on the FX market, especially the ones arising from volatile capital flows. One of the forthcoming analysis of the National Bank of Serbia will focus exactly on the assessment of strength of the interest rate channel. Owing to the symmetric corridor of interest rates on lending and deposit facilities, within whose boundaries the interbank money market rates actually move, the change in the key policy rate is always followed by the change in the average interest rate achieved at repo auctions. The process of cutting the key policy rate, down to its lowest, was followed by the narrowing of the interest rate corridor – from ±2.5 pp in 2012 to ±2.0 pp (May 2015), followed by two additional corrections, by 25 bp each, to 1.5 pp relative to the key policy rate (February and July 2016). These measures were

3 The exception are the first three months of 2015 when, due to temporary shrinking of banks' excess liquidity, interest rates in the interbank money market went up. In the period from 18 February till the beginning of April, repo auctions were not held. Lesser deviations which ensued resulted from the narrowing of the interest rate corridor and, in some periods, also from the effort to amortize pressures in the FX market.

4 BELIBOR interest rates moved from the upper half of the interest rate corridor to the lower half, i.e. they fell below the key policy rate.

a logical consequence of a more sizeable lowering of the key policy rate and the National Bank of Serbia's efforts to additionally strengthen the transmission of monetary policy measures through the interest rate channel in the dinar market which is gradually expanding. The interest rate corridor should ensure stability without limiting the development of the interbank market. Bearing in mind the level of the key policy rate, we may say that the existing corridor of interest rates enables efficient transmission of monetary policy signals, without limiting the development of the interbank market.

Required reserve – brief chronology of changes

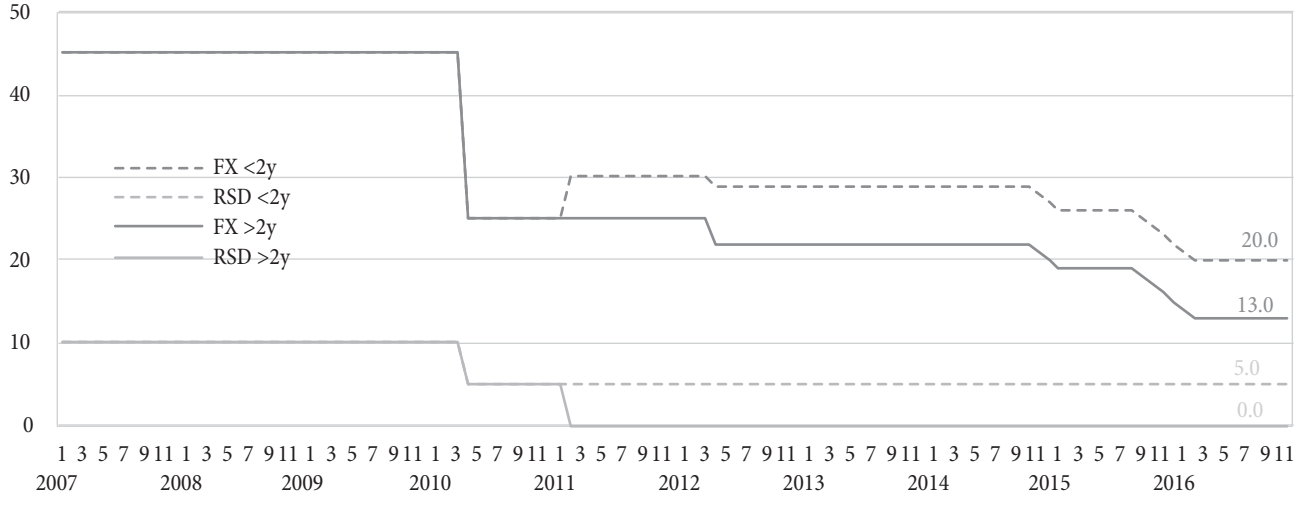
In Serbia, pre-crisis, required reserve ratios applied to FX reserving base were rather high (Figure 6), reflecting the market conditions prevailing in that period and movements in the lending market. The buffers created in that period enabled the release of the needed liquidity during the crisis by means of lowering the required reserves, and thus alleviating the negative effects entailed by the crisis. The lowering of the required reserve ratios started in April 2010 and as of February 2011, the National Bank of Serbia put in place the policy of differentiating required reserve ratios by maturity of sources of funding – to those up to and over two years.

The policy of differentiating required reserve ratios by currency and maturity of sources of funding favours dinar and long-term sources of funding, i.e. supports the dinarisation of the financial system and more stable sources of funding. Such design of the instrument is aimed at preserving financial stability of the system.

Since 2014 we applied two cycles of lowering required reserve ratios, including the change in the structure of dinar allocations. The first cycle was applied from November 2014 until January 2015, when required reserve ratios were lowered in three iterations by 1 pp each (the total of 3 pp), with concurrent increase of required reserve allocations in dinars. The second cycle of required reserve relaxation was implemented from September 2015 until February 2016, when required reserve ratios were lowered in six iterations by a total of 6 pp. After the last round of ratio cuts, the required reserve ratio on banks' FX sources of funding with maturity up to two years is 20%, and to sources with maturity over two years – 13%. In this way, the freed foreign currency and dinar liquidity of banks amounted to nearly EUR 1 bln.[5] This strengthened the effect of continuous lowering of the key policy rate which the National Bank of Serbia applied since May 2013. The main goal of adopted measures was to support the growth of lending by freeing banks' credit potential. In emerging economies where the key policy rate and required reserve ratios were high, central banks were able to use standard monetary policy instruments in attaining financial stability objectives and did not have to resort to non-standard measures.

The required reserve ratio applied to dinar reserving base is much lower than the ratio applied to FX base, as part

Figure 6: Required reserve ratios on dinar and FX reserving base (in %)



Source: NBS.

5 The release of dinar liquidity was the result of a requirement to allocate dinar portion of required reserves.

of support to the strategy of dinarisation of the domestic financial system and equals 5% for bank's liabilities with maturity up to two years, while tno reserve requirements are applied to liabilities maturing in over two years.

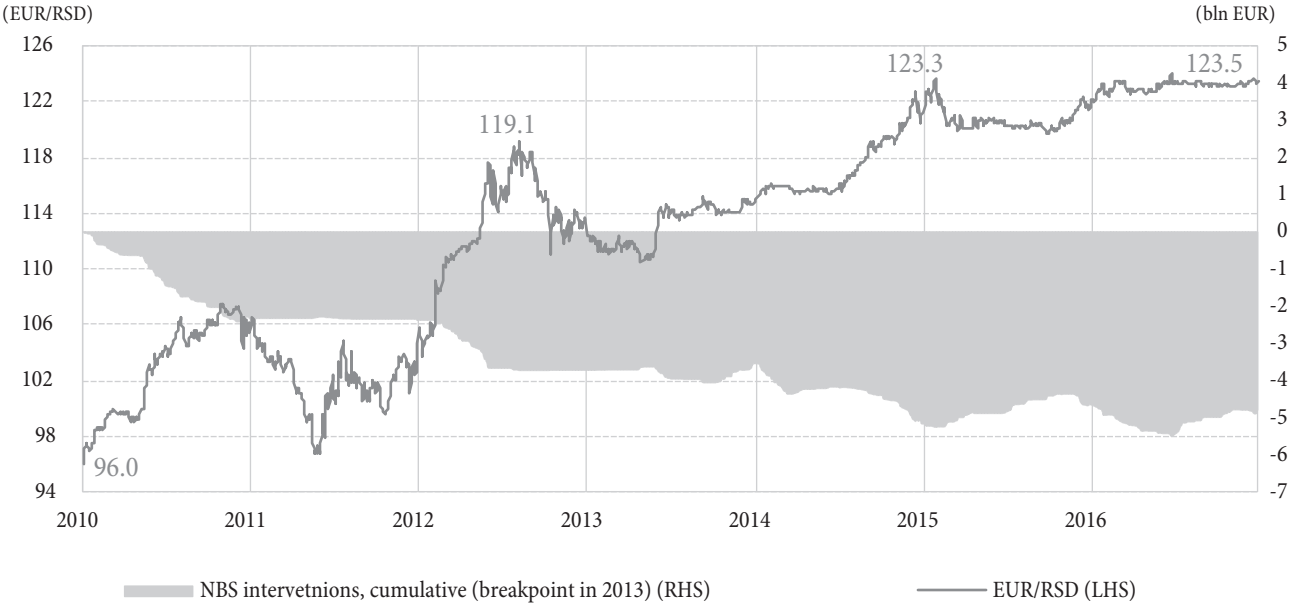
Interventions in the FX market – a few notes

Like many other central banks, the National Bank of Serbia uses interventions in the FX market as an auxiliary monetary policy instrument in the inflation targeting regime. However, new business conditions and lessons learned during the crisis have led to a view on a global level, where movements in the FX market are not observed exclusively in the context of their influence on inflation (the pass-through effect of the exchange rate is particularly pronounced in dollarised/euroised economies), but also in terms of their effect on the financial and thus the overall macroeconomic stability.

Therefore, in making monetary policy decisions we take into account the fact that in an euroised economy any significant changes in the exchange rate in terms of currency depreciation entail numerous negative effects such as: effects on company business and investment; increase in dinar equivalent value of household and corporate liabilities which are predominantly foreign currency-indexed; credit risk to a bank – in terms of reduced ability of clients to meet their liabilities. Also, in cases when the FX market is shallow, even smaller changes in the volumes of foreign currency demand/supply (which may result from numerous factors) may push the exchange rate strongly in either direction. That is why the movements in the FX market are carefully monitored and assessed, i.e. we carefully evaluate the character and intensity of pressures on the exchange rate – assessing primarily whether those are temporary shocks or pressures of a long-term nature. We do not intend to defend by FX interventions any predetermined level of exchange rate or to impact the trend of currency appreciation or depreciation. We try to alleviate the consequences of temporary shocks and to reduce short-term oscillations of the exchange rate, intervening in both directions, both by buying and selling foreign currency in order to make business conditions more stable and predictable for market participants. More lasting pressures on the exchange rate may arise only in case of a severe disturbance of external balance. It is clear that in such circumstances the problem could not be solved by interventions, but only by structural reforms aimed at additional strengthening of the competitiveness of the domestic economy.

History has taught us that the undervaluation of the dinar, an alleged universal solution not so rarely brought up in various circles, is not a recipe for growth sustainability (it is generally known that there is no such panacea,

Figure 7: Exchange rate trends and interventions of the National Bank of Serbia in the IFEM



Source: NBS.

except stability, and the advocates of the aforementioned solution offer no rationale for their proposal), given that it contributes to a reduction of external imbalance only in the short run, as was the case in 2009. In other words, it is only growth in productivity, together with new investment, that can help us stay on the path of sustainable growth and rise in employment.

It is evident that the exchange rate volatility decreased over the last four years (Figure 7), which is the result of a combination of reduction in internal and external imbalances and determination of the National Bank of Serbia to conduct a consistent policy of interventions in the FX market and to alleviate the excessive short-term oscillations of the exchange rate in both directions. This is evidenced by the fact that, in the course of 2015, the National Bank of Serbia net bought EUR 520 mln in the FX market, while during 2016, which was characterised by turbulences in the international financial market, it net sold EUR 160 mln. In total, during those two years, it net bought EUR 360 mln. It should also be noted that the trend of moderate depreciation of the dinar, in place since mid-2014, has been neither reversed nor discontinued in this way.

Impact of monetary policy measures on inflation and economic activity

The primary objective of the National Bank of Serbia is the achievement and maintenance of price stability. Without prejudice to its primary objective, the National Bank of Serbia contributes to maintaining and strengthening of the stability of the financial system. Without prejudice to these objectives related to stability, the National Bank of Serbia supports the pursuance of economic policy of the Government of the Republic of Serbia, operating in accordance with the principles ofmarket economy (Article 3 of the Law of the National Bank of Serbia[6]). These are at the same time the key criteria for evaluating the results and support which the central bank provides in improvement of the business ambience and smooth operation of the financial system.

6 See the Law on the National Bank of Serbia at http://www.nbs.rs/internet/english/20/laws/law_nbs.pdf.

The impact of monetary policy measures on inflation and economic activity may be better comprehended and evaluated through the key monetary policy transmission channels, i.e. through their impact on interest rates, exchange rate, credit activity and expectations of economic agents. The cost effect of monetary policy measures on inflation and economic activity is realised through effect on the exchange rate and interest rates, the demand effect is realised via the credit channel, while the effects through the expectations channel are realised through both costs and demand.

Achieved and maintained low and stable inflation

The National Bank of Serbia embarked on a cycle of monetary policy relaxation in May 2013, when the key policy rate measured 11.75%. The decision to cut the key policy rate by 50 basis points was guided by lower inflationary pressures owing to past restrictive monetary policy measures, a drop in prices of primary agricultural commodities in the international and domestic markets, low domestic demand, the achieved relative stability of the exchange rate and lower inflation expectations. In addition, it was expected that the fiscal consolidation programme that had been adopted in October would yield more visible results and contribute to lowering of year-on-year inflation in the period ahead. Owing to this, after the key policy rate cut by 50 basis points in May and another cut in June by 25 basis points, monetary policy easing continued in the last three months of 2013 by monthly cuts of 50 basis points each, so that since May 2013 the key policy rate was lowered by a total of 275 basis points.

Monetary policy easing continued in 2014, with due caution, bearing in mind possible negative effects of heightened uncertainties in the international financial markets on the emerging economies, including Serbia. Uncertainties were mainly driven by the expectations that the FED would gradually reduce the volume of its quantitative easing. In the course of 2014 the key policy rate was cut three times, by 50 basis points each – in May and June in response to relatively strong disinflationary pressures of low aggregate demand and low cost pressures, and then again in November, to 8%, after the Government's decision to reduce public sector wages and pensions.

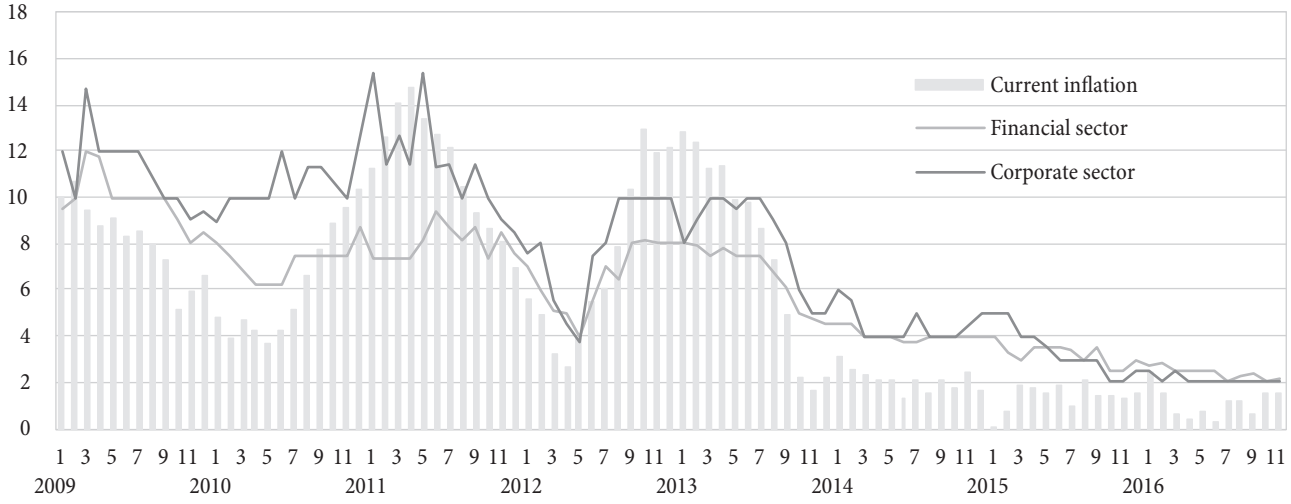
A more significant monetary policy easing in 2015, when the key policy rate was lowered by a total of 350 basis points (to 4.5%) was enabled by: low inflationary pressures stemming from the majority of domestic factors, successful implementation of the fiscal consolidation programme adopted in late 2014 and the conclusion and successful implementation of a standby precautionary arrangement with the IMF. Such easing, despite turbulences in the international financial market due to diverging monetary policies of leading central banks and news on the slowdown of the Chinese economy, was also possible owing to the strong drop in global oil prices and prices of primary agricultural commodities. The undertaken fiscal consolidation measures and structural reforms, as well as the full coordination of monetary and fiscal policy, contributed to the reduction of internal and external imbalances and improvement of conditions for sustainable economic growth.

Trimming of the key policy rate continued in 2016, with due caution, bearing in mind primarily the effects of the past monetary policy easing, the expected inflation movements in the period ahead and the prevailing uncertainties in the international environment. During this period, the key policy rate was cut down by a total of 50 basis points, to 4%, its lowest level since the introduction of the inflation targeting regime.

By a cautious monetary policy and, later on, also by its successful coordination with the fiscal policy, in the course of one year inflation was lowered by 10 percentage points – from 12.2% at end-2012 to 2.2% at end-2013. Over the next three years, we continuously maintained low inflation. Thus, according to the achieved price stability, Serbia became comparable with other European countries. As already noted, low inflationary pressures in the period observed resulted from a majority of domestic factors, primarily restrictive fiscal policy, ensured relative stability of the exchange rate and low and anchored inflation expectations of economic agents, as well as low cost pressures from the international environment. Low inflation is not only the result of a drop in prices of oil and other primary commodities as evidenced by the fact that some countries (which did not reduce their imbalances) have recorded high inflation in the same period, mainly because of the depreciation of their national currencies amid geopolitical tensions, macroeconomic imbalances and higher volatility of capital flows.

Owing to low inflationary pressures, inflation expectations of the financial and corporate sectors (both one and two years ahead) were lowered and anchored within the inflation target band (Figure 8). And vice versa, stable and anchored inflation expectations facilitate the maintenance of low and stable inflation. The fact that inflation expectations of the financial and corporate sectors have been moving between 2% and 3% for quite some time was one of the factors in favour of the lowering of the inflation target to 3%±1.5 pp as of 2017.

Figure 8: Current inflation and inflation expectations 12 months ahead* (y-o-y rates, in %)



* Ninamedia agency since December 2014, and Ipsos and Gallup in the prior period. The survey was not conducted in November 2014.

Sources: Gallup, Ipsos/Ninamedia and NBS.

By carefully analysing and judging the effects of change of the inflation target on economic trends in Serbia, the National Bank of Serbia, in coordination with the Government of the Republic of Serbia, assessed that necessary conditions were in place for lowering the inflation target for 2017 and 2018 from 4% to 3%, while keeping the target tolerance band unchanged (±1.5 pp). The key arguments in favour of the lowering of the inflation target are the following:

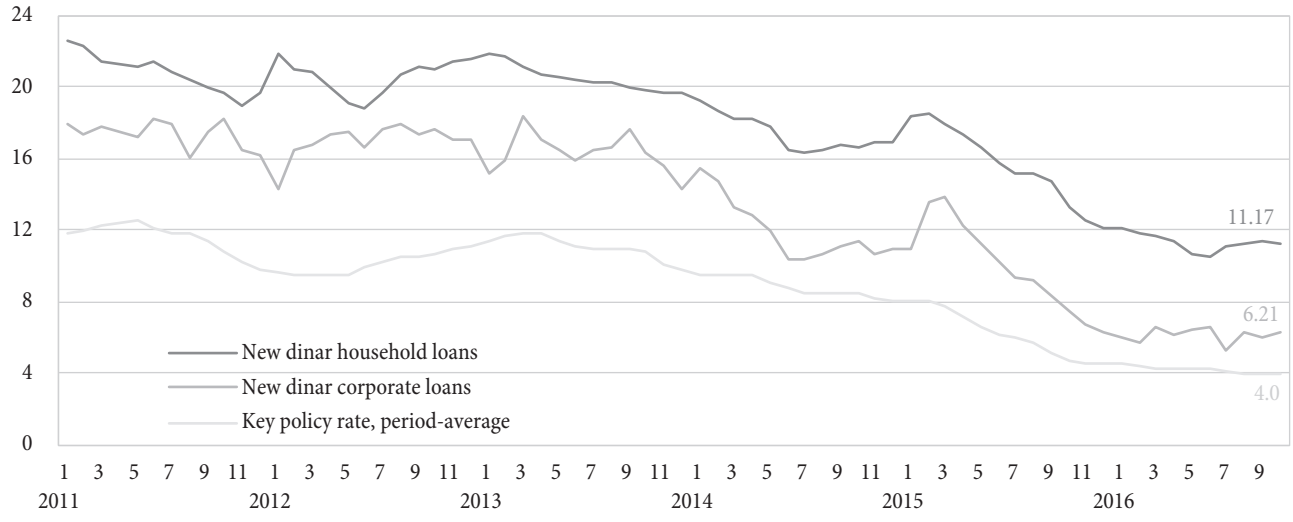
- over the past three years inflation was consistent with the proposed target (3±1.5%), and in some periods, it even moved below the target;
- the financial and corporate sectors already expect that inflation will move around 2-3% in the following two years, which is close to the proposed target and facilitates its achievement;
- administered price growth was much slower than expected. Since 2013 they grew mainly at around 10%, adding some 2 percentage points to inflation. Over the last two years, administered price growth decelerated significantly and could move around 2% in 2016, with a 0.4 percentage points contribution to inflation. Since this change is the result of the commitment of the Government of the Republic of Serbia to resolve inefficiencies in the operation of public enterprises primarily by reducing operating costs, we believe that relatively low growth of administered prices will continue in the coming period;
- stability in the FX market and lower inflationary pressures on that account resulted from a significant reduction of external and internal imbalances, and lower risk of investment in Serbia, which was achieved by a successful coordination of monetary and fiscal policy, and particularly by the successful implementation of fiscal consolidation.

The width of the target tolerance band (±1.5 pp) should ensure the necessary flexibility of monetary policy, i.e. stability of monetary conditions. In our case, uncertainties are mainly generated by external factors. This primarily concerns the volatility of global prices of primary commodities, especially energy and agricultural commodities, which may induce higher volatility of headline inflation in Serbia. In addition, being a small and open economy, Serbia remains vulnerable to external shocks, which, by affecting the risk premium and exchange rate, may impact inflation. For these reasons, the target tolerance band was kept unchanged at ±1.5 pp.

Support to lending

The cycle of key policy rate cuts initiated in May 2013, coupled with lower macroeconomic uncertainties and risks, was the key factor that contributed to the lowering of interest rates on corporate dinar loans by around 10 pp since 2013 (Figure 9). Since the fall of interest rates on dinar loans was sharper than the key policy rate cut, one part of this fall undoubtedly resulted from the

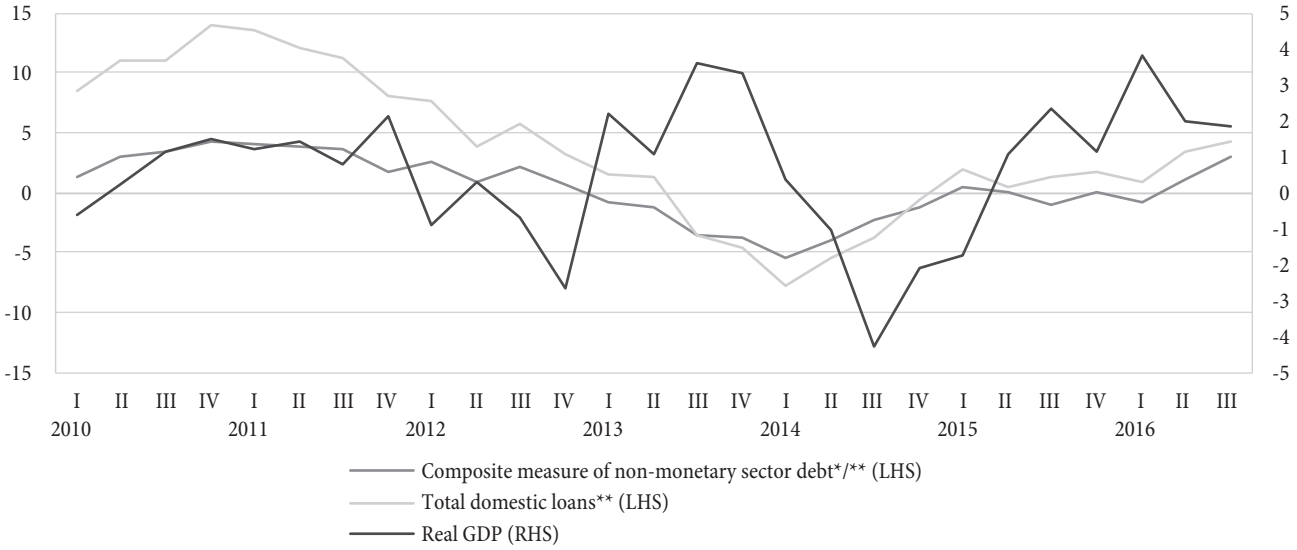
Figure 9: Interest rates on dinar loans approved to private sector (annually, in %)



* Excluding revolving loans, current account overdrafts and credit card debt.

Source: NBS.

Figure 10: Credit activity of banks and GDP (y-o-y rates, in %)



* As an indicator of total borrowing, it includes domestic loans to the private sector, public enterprises and local authorities, and cross-border borrowing of enterprises and households.

** Excluding the exchange rate effect.

Sources: NBS and SORS.

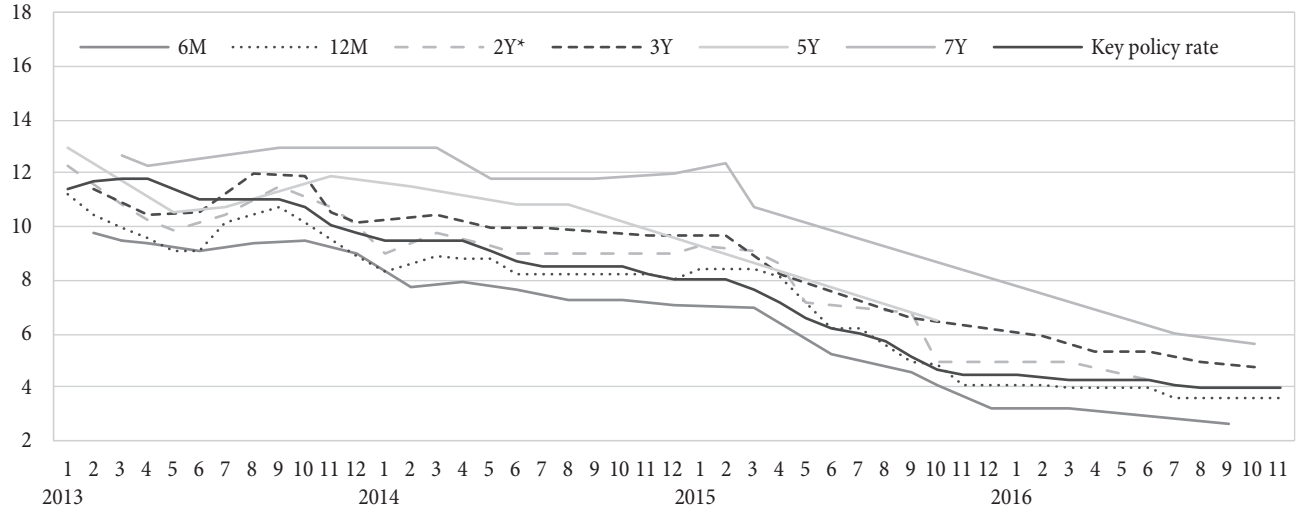
strengthened confidence in macroeconomic fundamentals and increased interbank competition. Lower interest rates in the international money market, lower country risk premium and reduction of required reserve ratios led to the fall in rates on FX loans, by more than 4 pp. Judging the effects of monetary policy measures on economic activity, it is important to note that the fall of interest rates in the domestic and international money market reflected not only on the price of new loans, but also on lower costs of financing of existing loans. From the standpoint of the corporate sector, the fall in interest rates means lower costs of doing business and contributes to the improvement of the financial result and raising funds for new investment. From the standpoint of households, lower interest rates mean higher disposable income and consequently, higher spending. This is a direct effect of the interest rate channel through which the National Bank of Serbia contributed to lower costs of doing business and,thus, also to a gradual reduction of the negative output gap of the economic activity and lowering of the deflation risk.[7]

A sharp drop in interest rates on loans, together with the funds released on account of reductions in reserve requirements (see section 4.2), facilitated the recovery of lending which gained 1.8% (above our expectations) in 2015. Lending continued to increase in 2016, accelerating to 3.9% y-o-y in November. Growth was recorded primarily owing to the effects of past monetary policy easing and faster-paced economic growth, and despite more intensive activities of banks to resolve the issue of NPLs through the sale and write-off of some of the receivables. By contrasts, banks' increased engagement on NPL resolution today means lower bank provisioning for this purposes in the future, which increases potential for new lending.

Growth in investment loans to corporates, whose volume doubled in 2015 relative to 2014, is seen as an extremely favorable tendency in the loan market, especially in the context of support to the economy. A high level of these loans was recorded in 2016 as well, which is why their share in the stock of loans approved to corporates edged up from 31% (2014) to 34% (2016). Considerable growth in new investment corporate loans suggests that the rise in private investments is now financed from bank loans more than it was before. Together with macroeconomic stability, growth and higher diversification of FDI, and improvement of the business and investment ambience

7 High degree of correlation of interest rates on new dinar loans to corporates and households and interest rates in the interbank money market, amounting to over 95%, clearly confirms that the interest rate channel is working in Serbia. The fact that the correlation was somewhat above 50% until end-2012, while reaching over 95% in the period thereafter is a confirmation that the channel has strengthened in over the last few years.

Figure 11: Interest rates in the primary market of government securities – annually, in %



* Excluding coupon securities with the rate linked to the NBS key policy rate.

Source: Ministry of Finance.

after the adoption of reform laws, this helped private investments to become the main driver of economic growth in 2015 and 2016, with expectations that the trend will continue into the coming years. Paving the way for lower interest rates and releasing a portion of the credit potential, while at the same time ensuring and maintaining price and financial stability, the National Bank of Serbia gave full contribution to the creation of favorable business and investment environment.

Owing to the National Bank of Serbia's trimmed key policy rate, considerable fiscal adjustments and the government's reduced need for funding, narrowing of external and internal imbalances, and decline in the country's risk premium, the costs of the government's dinar borrowing were gradually reduced, most notably since the beginning of 2015. Since that time, within a period of less than two years, interest rates on dinar government securities recorded a fall of around 5 pp (Figure 11), which reflected positively on the government's fiscal deficit and the country's lower risk premium. This is certainly an example of true synergy and full coordination of monetary and fiscal policy measures.

Stability of the financial system is preserved, results of the NPL Resolution Strategy are visible

Despite turbulences coming from the international environment, the domestic financial system remained stable and resistant to shocks, which means that the National Bank of Serbia has met its legal objective.[8] Despite numerous challenges, the Serbian financial sector is stable and resistant to turbulences coming from the local and international environment, as confirmed by the stress-testing, which the National Bank of Serbia conducts regularly (quarterly), applying extremely unfavorable scenarios.[9] Banks in Serbia have a satisfactory level of liquidity, as confirmed by the movements of main liquidity ratios and the maturity structure of assets. The average monthly liquidity ratio of the banking sector remained above 2 during 2016 (1.0 being the regulatory minimum), while liquid assets accounted for 35.9% of total balance sheet assets as at 30 November 2016. The domestic banking system is highly capitalised, as attested by the capital adequacy ratio of around 21%, which is considerably above the level prescribed by both the international and domestic regulatory frameworks, and among the highest in the region. Through complex Special Diagnostic Studies (SDS), implemented during 2015 in cooperation with international financial institutions, the asset quality review was conducted in Serbia. The SDSs were based on the methodology used for asset quality review in the territory of the European Union,

8 Without prejudice to its primary objective, the National Bank of Serbia shall contribute to maintaining and strengthening of the stability of the financial system.

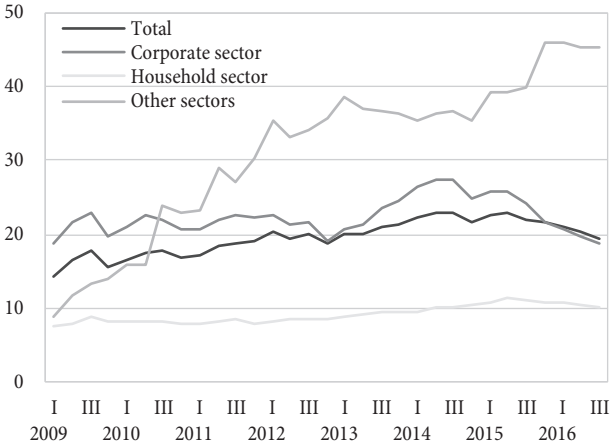
9 See the part on the function of financial stability at http://www.nbs.rs/internet/english/90/fs.html.

conducted in 2014 by the European Central Bank, though it was additionally tailored to adjust for local specificities. Overall, after all corrections were implemented, the SDSs did not identify capital shortfalls in any of the 14 banks included in the studies, which accounted for 88% of the banking sector assets. This additionally confirmed the high capital adequacy of the Serbian banking sector and its resistance to shocks.[10]

A key risk in the financial system of the majority of countries is the relatively high level of NPLs. Serbia entered the crisis with the NPL share in total loans of around 11% (Figure 12), while as soon as 2009 this share exceeded 14%. The ensuing growth in NPLs during the crisis was relatively similar to that of the neighbouring countries, but because of the higher starting point, the share exceeded 20% in the first quarter of 2012. Although the current level of NPLs is not a threat to financial stability, owing to the high coverage with loan loss provisions (Figure 13), NPL resolution required a systemic and proactive approach which followed in 2015. Therefore the Serbian Government and the National Bank of Serbia, together with international financial institutions, worked hard to create conditions for an efficient resolution of NPLs. To this end, the NPL Resolution Strategy was developed and adopted by the Serbian Government in August 2015. At the same time, two action plans for the implementation of the Strategy were drafted, of which one is the action plan of the National Bank of Serbia. The National Bank of Serbia implemented all activities from the action plan – all of them within the deadline, and some even before. The implementation of the Strategy gave results and over the past year, the share of NPLs was cut by more than 3.0 pp to 18.9% in November, which is the lowest NPL share in almost four years. Such pronounced fall in the NPL share can be linked both to direct effects of the measures in the Strategy, the aim of which is to reduce NPLs, and to its indirect effects such as creating room for higher credit growth which was additionally initiated by accelerated economic activity. The decline in the NPL share was particularly evident in sectors which were hit the hardest during the crisis (such as manufacturing and construction). In the period ahead, we expect the share of NPLs to continue on the downward path, even more so bearing in mind the improved financial position of the corporate sector and the anticipated growth in credit activity on account of faster economic growth.

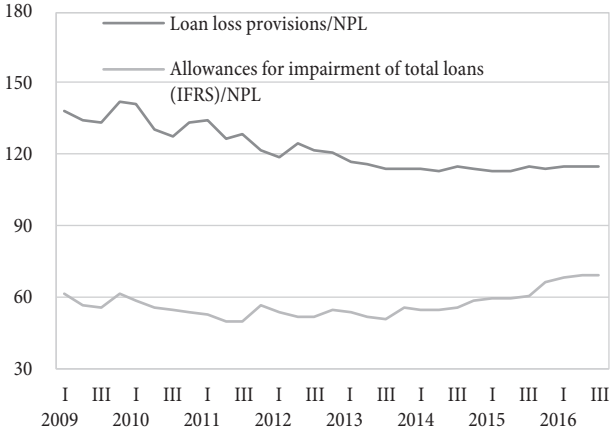
The National Bank of Serbia, as the banking system regulator, constantly monitors and analyses how banking regulations are developing, and what the future might bring. On this path, we strive to align our regulatory framework to the greatest degree possible with the EU *acquis communautaire* and the best international practice and standards. With this goal in mind, in 2016 we stepped up the efforts on establishing a regulatory framework in compliance with Basel III standards, i.e. with provisions of the relevant EU regulations on credit institutions (CRR and CRDIV). Having conducted a gap analysis and a quantitative impact study of the effect on

Figure 12: Share of NPLs in total loans (in %)



Source:NBS.

Figure 13: NPL coverage (in %)



Source: NBS.

10 For more on SDSs see http://www.nbs.rs/internet/english/55/55_0/index.html.

capital and liquidity, in December 2016 a set of regulations was adopted implementing Basel III standards in Serbia.

In addition to the fact that stability has been maintained and a set of reform regulations adopted, it should be noted that the financial system expanded during 2016. Once the Bank of China Srbija was granted the operating license, the Serbian baking system gained the 31st bank, whose owner is the fourth largest credit institution in China and one of the five top banks in the world by the volume of its market transactions. The plan is to make the bank a hub for the Balkans, and Eastern and Western Europe. One domestic institution was the first to be granted a license for electronic money issuance, while o eight more licenses were issued for payment services provision, thereby introducing a new type of payment service providers in the Serbian market.

As financial stability is an extremely important segment of the overall stability, and as this function has constantly been improved over the past four years, in one of the future papers we will discuss in more detail this function, its development, systemic risk monitoring, calibration of macroprudential policy instruments[11]and the need to raise public awareness of the pre-emptive role of certain instruments and measures.

At the end and at the beginning – dinarisation

The nexus of the interests of all – those who borrow and those who save, exporters and importers, investors and consumers, is stability. The greatest contribution of the National Bank of Serbia to the local economy is the maintenance of price and financial stability. As a responsible regulator, we dedicate special attention and efforts to the factors that contribute to stability and a further increase of monetary policy efficiency – increasing the degree of dinarisation, keeping inflation expectations anchored and strengthening the credit channel on account of the lowering of NPLs.

In order to endorse the use of the local currency in the domestic financial system, the Serbian Government and the National Bank of Serbia signed the Memorandum on the Strategy of Dinarisation in 2012, which has three pillars.[12] Measures within the *first* pillar include activities aimed at establishing a macroeconomic environment characterised by low and stable inflation, stable financial system and sustainable economic growth. Measures within the *second* pillar focus on actively promoting dinar instruments and markets, with an emphasis on the development of the market of dinar securities. Developing the dinar yield curve is the backbone of this pillar. The *third* pillar aims to improve the existing foreign exchange hedging instruments in the non-banking sector and prevent further strengthening of those risks.

The first pillar, made up of monetary and fiscal policy measures geared at strengthening the macroeconomic environment by delivering low and stable inflation and durable economic growth – is the most important one. It is also the pillar within which continuous results have been recorded, which reflected on the rise in dinarisation of both loans and deposits.

On the side of *lending activity*, the rise in dinarisation is best perceived through an increase in the share of dinar loans to households from 35% at end-2012 to around 47% in November 2016. Dinarisation of household lending was particularly intensive during 2015 with more than two-thirds of new loans approved in dinars, only to accelerate further in 2016, when more than 75% of new loans to households were in dinars. The last months of the year were characterised by the development of dinar products. Banks started offering dinar housing loans with a 30-year repayment period and the interest rate of below 5% which, until only recently, were the rates for FX-indexed loans. With the economy recovering further and inflation remaining low and stable, with a relatively stable exchange rate, we expect that corporates too will rely increasingly on dinar loans (currently accounting for around 22% of total corporate loans).

On the *deposit* side, dinar savings of households almost tripled in the last four years and now amount to almost RSD 50 bln, while the degree of dinarisation of total deposits increased by 6 pp (from 8.8% at end-2012 to 15.0% at end-November 2016). As far as the corporate

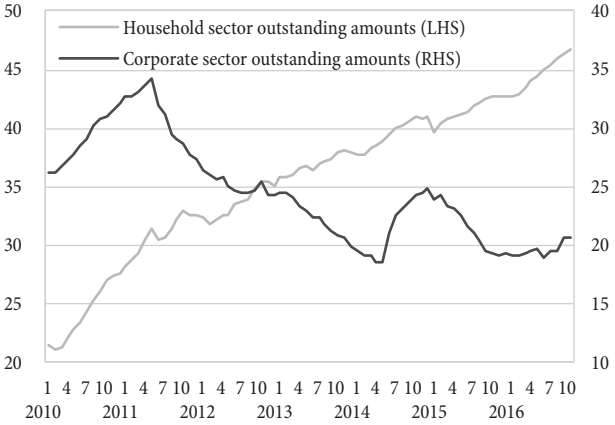
11 See the Macroprudential Framework at http://www.nbs.rs/internet/english/18/18_5/index.html.

12 See the Memorandum on the Strategy of Dinarisation at http://www.nbs.rs/internet/english/30/MemorandumVladaDinarizacija_20120406_eng.pdf.

sector is concerned, dinar deposits have for xsome time already accounted for around 50% of total deposits. Thanks to the government's commitment to increasing the issuance of dinar securities, the share of the dinar in the currency *structure of public debt* is today much larger than before the crisis (the share of the dinar rose from around 2.5% in 2008 to 21.5%), and the dinar yield curve has been extended to ten years. An important step in the development of the dinar capital market and the process of dinarisation is the fact that the EBRD issued the first dinar bond in the domestic market with a three-year maturity, and the funds secured in this way will be used for extending dinar loans to corporates.

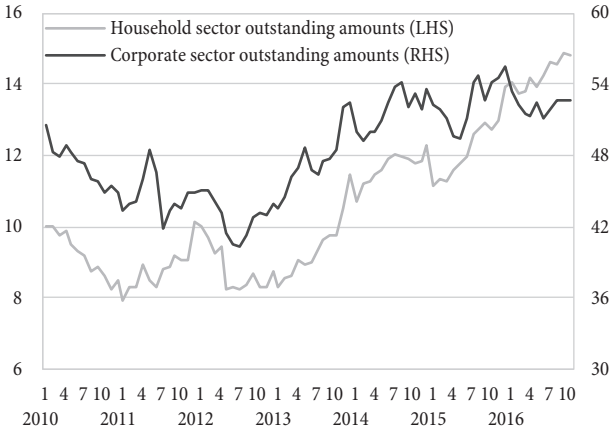
The achieved and preserved relative stability of the exchange rate has been and will remain one of the important pillars for the improvement of the business and investment ambience. Although pressures toward increasing the fluctuations of the nominal exchange rate are possible in the short term on account of volatility in the global financial and commodity markets, which can reflect on capital flows, market liquidity, the price of money, and economic growth of developed and developing countries, they can be counteracted by available FX reserves which, according to all criteria, are at the adequate level.[13] We emphasise that this is only short-term, because it is certain that the leading central banks and, in general, bearers of economic policy in those countries would react should there be any indications of a situation which would imply long term instabilities. In addition, the relative stability of the exchange rate in Serbia is also supported by narrowed external imbalances and the recovery of the private sector, i.e. increased production and export (FX) inflows.

Figure 14: The share of the dinar in total bank receivables from corporates and households (in %)



Source: NBS.

Figure 15: The share of the dinar in total bank deposits from corporates and households (in %)



Source: NBS.

As dinarisation is one of the strategic projects which has already produced first results, we believe it is extremely important to continue the process. Because of its significance, in one of the future papers we will look more closely into this topic in an effort to use this manner, in addition to other forms of communication, to bring attention to the importance of dinarisation and investment possibilities in the dinar market, which has already been recognised by those citizens who tripled their dinar savings over the past four years, banks which included in their offer dinar housing loans with a 30-year repayment period and considerably lower interest rates (below 5%), as well as international financial institutions which issued the first three-year dinar bond.

Conclusion

Risks from the international environment will remain a key challenge to the monetary policy of emerging countries in the coming period. Global growth has not recovered yet; it is uneven and unfolding against the backdrop of unstable financial and commodity markets and amidst geopolitical tensions. Another unknown factor is the pace of the recovery of prices of primary commodities, notably oil, in the period ahead. Following a meeting in late

13 See the part on the function of financial stability at http://www.nbs.rs/internet/english/90/fs.html.

November, at which OPEC members agreed to scale down production, some increase in oil price ensued. However, the pace of its recovery will depend on the offer as well as on global demand, which is still recovering slowly.

Monetary policies of the leading central banks are divergent and it is still not possible to perceive their effects on the global financial infrastructure in the coming period. Uncertainty in the international financial markets is such that it can have an adverse effect on capital flows toward emerging countries, Serbia included, making them unpredictable and volatile. There are uncertainties regarding the movement of inter-currency ratios, liquidity in the global market, relevant spreads in the money market, yields in the capital market. Ratios between all of these variables are complex and their mutual effect must be taken into account. In the global financial architecture, one of the important lessons the crisis taught us turned out to be that central banks should systemically approach the calibration of instruments they will use to mitigate risks in the financial system and prevent the occurrence of new risks. It is certain that global risks may force us to contemplate a more global approach to designing measures for the reduction of vulnerability of developing countries, given that they are exposed to similar challenges.

Because of such future ambience, and in order to enable Serbia to successfully meet the challenges that the bearers of monetary policy will face, it is paramount that we continue to boost domestic macroeconomic fundamentals, reduce internal and external imbalances and improve the local business ambience. This is the only way to ensure sustainable resilience of the Serbian economy to shocks from the international environment, and reduce the sensitivity to the availability and the price of foreign sources of funding.

In terms of maintaining price and financial stability, results achieved confirm that over the past three years the National Bank of Serbia was successful in attaining its legally defined goals. Inflation was maintained low and, in year-on-year terms, it did not exceed 2.1%. Bearing in mind the challenges that marked the post-crisis period, especially in the international environment, achieving those results was no easy task. We estimate that in the coming years, inflation in Serbia will remain low and stable and move within the bounds of the new, lower target tolerance band of 3%±1.5 pp.

The achieved and preserved price and financial stability in conditions of risks from the international environment most certainly indicates that the implemented framework of the National Bank of Serbia's policies was adequately structured and has yielded desired results. The high degree of correlation of interest rates on new dinar loans to corporates and households and interest rates in the interbank money market of over 95% confirms beyond doubt that the interest rate channel in Serbia is functioning. Inflation has been low and stable for three years, interest rates on new and existing loans fell sharply since May 2013, loan availability increased and lending rose, relative stability of the exchange rate has been secured and inflation expectations anchored – all of this confirms that the National Bank of Serbia's measures have contributed significantly to the creation of more favorable conditions for running businesses and investing, for household consumption and saving, thereby enabling sustainable economic growth. Dinar housing loans with a 30-year repayment period and more favorable interest rates (below 5%), as well as international financial institutions which issued the first three-year dinar bond, attest to the participants' confidence in the long-term sustainability of achieved stability.

References

1. Bech, M. & Malkhoyov, A. (2016). How have central banks implemented negative policy rates? *BIS Quarterly Review.*
2. Bernanke, B. (2011, October). The effects of the great recession on central bank doctrine and practice. In B. Bernanke (Chair), *Long- term effects of the Great Recession.* Keynote address at the Federal Reserve Bank of Boston 56th Economic Conference. Boston.
3. Blanchard O. (2011, March). Monetary policy in the wake of the crisis. In A. Posen (Chair), *Macro and growth policies in the wake of the crisis.* Presentation on IMF Conference, Washington.
4. Blanchard, O., Romer D., Spence M., & Stiglitz J. (2012). *In the wake of the crisis.* Cambridge, Massachusetts: MIT Press.
5. Blanchard, O., Dell'Ariccia G. & Mauro P. (2013). *Rethinking macro policy II: Getting granular.* IMF Staff Discussion Note, 13/03, April, Washington.
6. Blinder, A., Ehrmann M., Haan J., & Jansen D. (2016). *Necessity as the mother of invention: Monetary policy after the crisis.* DNB Working Paper, No. 525/October, De Nederlandische Bank.

7. Brunnermeier, M. and Sannikov Y. (2014, May). Monetary analysis: Price and financial stability. In V. Constancio (Chair), *Monetary policy in the new regulatory environment.* Paper presented at the ECB Forum on Central Banking: Monetary Policy in a Changing Financial Landscape, Penha Longa, Sintra, Portugal.
8. Ostry, J., Ghosh A. & Chamon M. (2012). *Two targets, two instruments: Monetary and exchange rate policies in emerging market economies*. IMF Staff Discussion Note 12/01, February, Washington: International Monetary Fund.
9. Wheeler, G. (2014). Reflections on 25 years of inflation targeting. A speech delivered to a Reserve Bank of New Zealand and International Journal of Central Banking conference in Wellington.
10. Woodford, M. (2012). *Inflation targeting and financial stability*. NBER Working Papers 17967, National Bureau of Economic Research.

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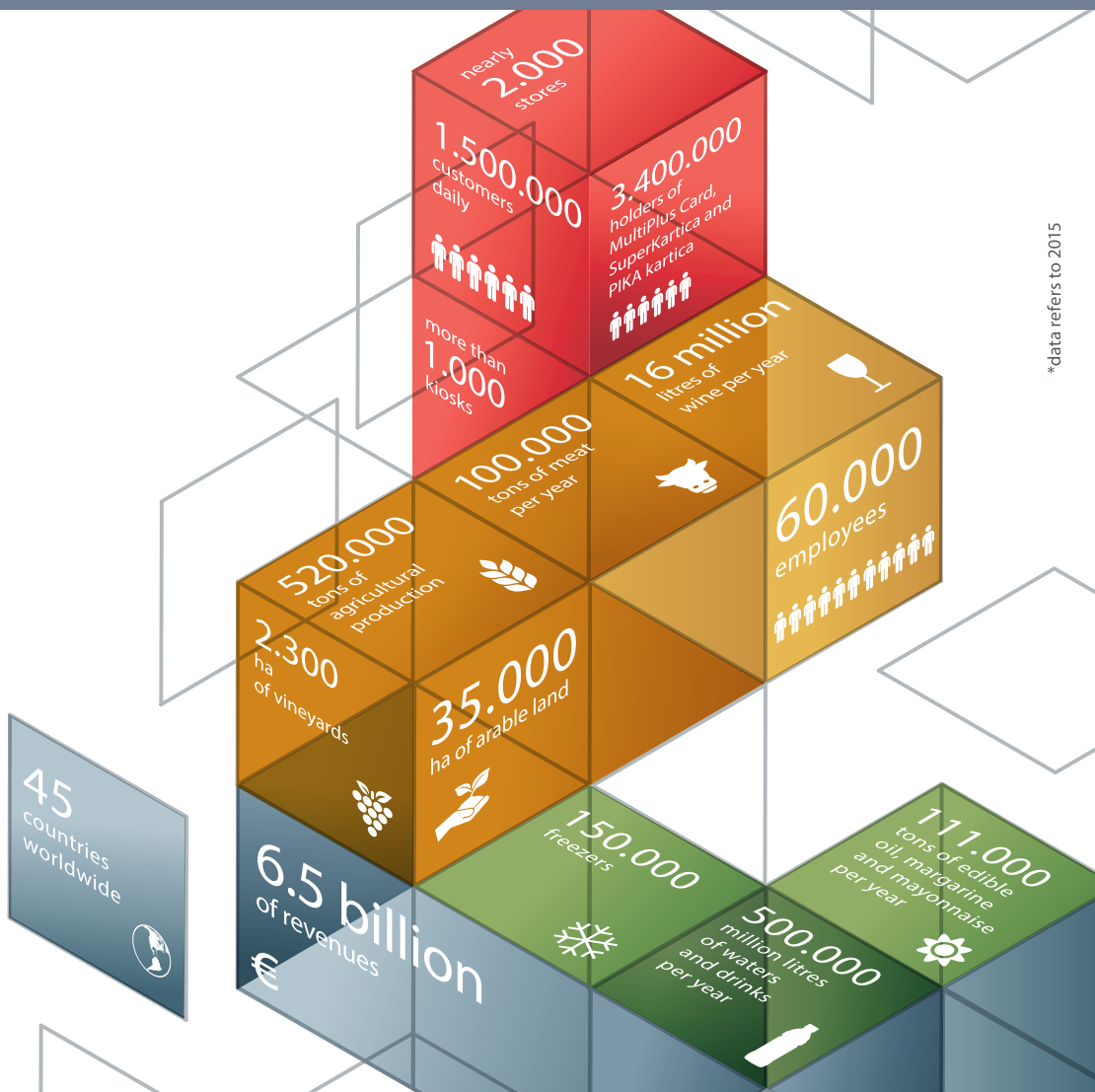

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MONETARY AND FINANCIAL PREREQUISITS OF HIGHER GROWTH RATES IN SERBIA*

Monetarne i finansijske pretpostavke viših stopa privrednog rasta u Srbiji

Abstract

Serbia is in a process of a fundamental shift in its economic structure. Prior growth model has ended with the global financial crisis of 2007/2008 which has revealed an unsustainable nature of import and consumption based economic growth that has been in place since the beginning of the century. A shift towards investments and exports, with higher competiveness and most of the growth coming from tradable part of the GDP is needed. Ever since 2008, however, Serbia is in, more or less, economic stagnation, with three recessionary years. Investments are still inadequate and growth is below expectations. Fiscal consolidation has started to give important results in 2016, with growth gradually recovering but still below regional average. Is there room for improvement in the domain of monetary policy and functioning of the financial system that can give additional impetus to this new growth model? This paper is attempting to shed more light on these issues and to analyze specific problems of monetary economics and financial system status quo in Serbia. Specific recommendations are given for each area of possible improvements that could lead Serbia's economic growth towards higher and sustainable rates in the following years.

Keywords: *monetary policy, financial system, sustainable economic growth, investments.*

Sažetak

Srbija je u procesu fundamentalne promene svoje privredne structure. Prethodni model privrednog rasta završio se sa globalnom finansijskom krizom 2007/2008 koja je otkrila neodrživu prirodu rasta baziranog na uvozu i potrošnji koji je bio na delu od 2000-te godine. Potreban je preokret u pravcu investicija i izvoza, uz veću konkurentnost i glavninu rasta u razmenljivom delu BDPa. Od 2008. godine, međutim, Srbija je manje-više u privrednoj stagnaciji,prošavši od tada kroz tri recesione godine. Investicije su još uvek nedovoljne i privredni rast je ispod očekivanja. Fiskalna konsolidacija je tokom 2016. godine počela da daje važne rezultate, uz postepeno oživljavanje rasta ali još uvek ispod regionalnog proseka. Postoji li prostor za unapređenja u domenu monetarne politike i funkcionisanja finansijskog sistema, koja mogu da daju dodatni podsticaj novom razvojnom modelu zemlje? Ovaj rad ima nameru da se bavi ovim pitanjima i da analizira konkretne probleme trenutnog stanja monetarne politike i finansijskog sistema u Srbiji. U radu se daju konkretne preporuke za svaku oblast mogućih unapređenja koje bi srpski privredni rast mogle podstaknudi u pravcu viših i i održivih stopa u narednim godinama.

Ključne reči: *monetarna politika, finansijski system, održivi ekonomski rast, investicije.*

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Introduction

Serbian growth model from 2000 – 2008 was inadequate and unsustainable. Predominantly it was consumption based and import led economic model backed by inflow of capital. When this capital inflow (donations, FDI from privatization, etc.) eventually started to diminish, this economic model was temporarily financed by gradual but persistent increase in debt. Growth of GDP was far too much based on non-tradable sectors, with high current account deficit, and relatively low competitiveness of the local economy additionally hampered by currency overvaluation and substantial trade liberalization. Obviously, this model had a predictable outcome: economic stagnation, unemployment and increase in indebtedness.

As a consequence, rising public debt and risk of bankruptcy, with its urgency for action, naturally came into the spotlight since Serbian public debt has risen from 28.3 % at the end of 2008, to 74.7 % [20, p.69] at the end of 2015. In 2016 important initial results in fiscal consolidation have been achieved. Public debt has stopped its continuous rise against GDP[1], partly since the growth rate was above expectations for this year[2]. It is essential to continue with fiscal consolidation in the following years, but it is equally, if not more, important to maintain and increase rate of economic growth in Serbia. This time, however, this growth needs to be sustainable in the long run, meaning that it needs to be based on competitive industries from the tradable sectors of the GDP. Serbia, finally and irreversibly, needs to shift from imports and consumption to investments and exports. But not all investments (or Gross fixed capital formation, as in Table 1) are the same.

This shift towards investments needs to be biased towards investments in tradable sectors of Serbian Economy with relatively high and sustainable multiplying positive effect on future growth, investments and new employment.

If we look at investments as part of the GDP in Serbia (Gross fixed capital formation (GFCF), in Table 1), we see that they have been declining from 2012 level of 21.2% to 17.2% in 2013 and 16.7% in 2014. Modest recovery occurred in 2015 to the level of 17.7%, and for 2016 estimates are that investments are slightly above 18% of GDP. For comparison with similar countries, according to the World Bank in 2015[3] level of investments (GFCF) per GDP in Slovakia was 23.0%, Romania 24.7%, Czech Republic 26.3%, Montenegro 20.6%, Albania 26.3%, Macedonia 25.0%, Hungary 21.7%[4]. In global perspective, China invests 44% of its GDP, Australia 27%, Switzerland 24%, US about 20%. World average investments (GFCF) to GDP ratio for 2015 was 23.215%[5].

1 And dropped from 74.7% of GDP at end 2015 to 73.5% of GDP at end of 2016 according to the estimates of Ministry of Finance (http://www.mfin.gov.rs/pages/article.php?id=12914).

2 According to the Statistical release of Statistical office of Republic of Serbia on 29/12/2016, estimated real rate of GDP growth for Serbia in 2016 was 2.7%. (http://www.stat.gov.rs/WebSite/public/PublicationView.aspx?pKey=41&pLevel=1&pubType=2&pubKey=3968).
However, According to the so called "flash estimate" of Statistical office of Republic of Serbia published on 31/01/2017 real growth rate in 4th quarter of 2016 compared to 4th quarter of 2015 was 2.5%.
(http://www.stat.gov.rs/WebSite/public/PublicationView.aspx?pKey=41&pLevel=1&pubType=2&pubKey=4010).
This might suggest decrease in economic growth in 4th quarter of 2016 compared to the average in first three quarters of the same year.

3 Data is for 2015, since final official GDP figures for 2016 were not available at the time of publishing of this paper.

4 Data taken from http://data.worldbank.org/indicator/NE.GDI.FTOT.ZS?year_high_desc=true.

5 http://data.worldbank.org/indicator/NE.GDI.FTOT.ZS?year_high_desc=true.

Table 1: GDP of Serbia 2001-2015: Growth rates, debt to GDP, and GDP exp. structure

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
GDP real growth %	5.0	7.1	4.4	9.0	5.5	4.9	5.9	5.4	-3.1	0.6	1.4	-1.0	2.6	-1.8	0.8
Debt to GDP %	97.7	68.3	61.7	52.6	50.2	35.9	29.9	28.3	32.8	41.8	45.4	56.2	59.6	70.4	74.7
structure % GDP	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Final consumption expenditure	96.1	96.9	95.5	96.6	95.2	95.3	95.2	94.7	96.5	96.5	95.3	95.7	93.1	93.4	90.9
Gross fixed capital formation	**12.9**	**16.2**	**18.3**	**20.5**	**20.1**	**22.3**	**25.3**	**24.9**	**19.7**	**18.6**	**18.4**	**21.2**	**17.2**	**16.7**	**17.7**
Changes in inventories	6.3	5.0	3.8	9.3	4.7	2.8	3.8	5.4	-0.2	-0.1	1.7	-0.2	0.4	0.8	1.2
Exports of goods and services	22.4	20.6	22.0	24.2	27.1	. 303	28.4	29.1	26.8	32.9	34.0	36.9	41.2	43.4	46.7
Imports of goods and services (-)	37.7	38.7	39.6	50.6	47.1	50.6	52.7	54.1	42.7	47.9	49.4	53.6	51.9	54.2	56.4

Source: Statistical office of Republic of Serbia, and National Bank of Serbia.

However, literature suggests that investments on their own are not a guarantee of future high levels of sustainable growth [9], [1]. As we see from Table 1. Serbia has experienced relatively higher rates of investments from 2006 to 2008, but most probably with unfavorable structure (non-tradable sectors), low efficiency [11], and limited positive multiplying effects. It is important to have in mind also that very much concerning future growth relies on the quality of investments, on availability of skilled labor and infrastructure, on overall strength of institutional framework and favorability of business environment, etc. And these important aspects should not be neglected, on the contrary. However, simple truth is hard to ignore: low investments = low (or no) growth.

This is also reflected in regional comparison of growth rates in Serbia and our immediate neighborhood (Table 2). As we can see from Table 2, it is unfortunately obvious that Serbia is, in terms of GDP growth, lagging behind regional average in past three years, and is also predicted by the IMF to be below non EU SEE[6] average in 2017[7]. At the same time projections for Serbian growth are also below projections for global growth, since IMF projects global growth rate for 2017 on the level of 3.4%[8]. Therefore, obviously for Serbia in the following years, besides fiscal consolidation, growth is job number 1.

In most successful episodes of increased GDP growth and convergence to advanced peers in various countries in past decades (Italy (1960-80), Spain (1980-09), Japan (1966-97), Korea (1988-10), and Taiwan (1968-08)) rapid growth episodes of these countries were manly based on several common factors [13], [5]:

- ambitious large scale reform package,
- increase in total factor productivity,
- initial increase in share of investments in GDP,
- financial deepening, ie. development of financial system.

In initial stages of rapid growth episodes in these countries investments as part of GDP were above 25%, and in some countries even above 30% of GDP [13, p. 20]. This initial stage needs to be followed by financial deepening, i.e. further development of financial system. Therefore, it is obvious that Serbia needs much more investments. But in addition, these investments, unlike Serbian 2001-2008 growth episode, need to be dominantly channeled to tradable GDP, to competitive companies and to products and services with better positioning within global value chains [10]. Alongside, further development of Serbia's financial system is also needed. This is, obviously, easier said than done.

Foreign Direct Investments (FDI) are currently relatively low and not easy to attract. However, FDIs should not realistically even be an expected predominant source of growth in Serbia. Growth substantially needs to be endogenous. Literature suggests that FDI alone cannot be more important for growth compared to developed institutional framework and sound economic policies. Carkovic and Levine [8] argue that sound economic policies may spur both growth and FDIs, but also conclude that FDIs do not exert a positive impact on growth that is independent of other growth determinants. In other words, relying only on FDIs, without improvements in business environment does not lead to higher sustainable rates of growth. In any case, in the near future it is unrealistic to expect substantial increase in FDIs before occurrence of robust economic recovery in developed economies of our main trading partners, most of all in Europe.

As for government investments, to a certain extent, in Serbia their potential is limited due to fiscal consolidation effort in the following years. Investments in capital infrastructure financed from the government, and with

Table 2: Growth rates in non-EU South East Europe

	Real GDP growth in %			
	2014	2015	2016	2017
Non EU SEE average	0.3	2.2	2.9	3.2
Albania	1.8	2.8	3.4	3.7
B&H	1.1	3.2	3.0	3.2
Macedonia	3.5	3.7	2.2	3.5
Montenegro	1.8	3.2	5.1	3.6
Serbia	-1.8	0.7	2.5	2.8
EU average	1.6	2.3	1.9	1.7

Source: IMF Regional Economic Issues, Nov 2016.

6 Countries of South East Europe not members of the EU.

7 IMF data for rate of growth in Serbia in 2016 of 2.5% is their estimate at the time of publishing of this report (November 2016), and is lower than 2.7% which was the estimate of Statistical Office of Republic of Serbia published on 29/12/2016.

8 According to World Economic Outlook Update of January 16th 2017 available on http://www.imf.org/external/pubs/ft/weo/2017/update/01/pdf/0117.pdf.

potential cooperation with private investors (through PPPs, risk sharing, concessions etc.), should be as high and as effective as possible, but without posing a risk to fiscal consolidation in the following years. Still worth noting, literature suggests that public investments have relatively weak influence on long term growth, especially in low income countries [26]. However, their short term impact on growth, and long term indirect impact on productivity can hardly be disputed.

Therefore, without neglecting the importance of FDIs and government investments, endogenous growth based on domestic investments and increased entrepreneurship has to be in focus of growth based reforms and economic policies in Serbia. This means that substantial improvements in business environment in all of its aspects (institutional development, corruption, rule of law, skilled productive workforce, access to finance, cost of business administration etc.) are vital for future growth in Serbia.

This paper will focus on part of the "improving business environment" agenda that has an impact on availability and cost of financing of investments for sustainable growth in Serbia. We will focus on five important reform areas, two in the domain of monetary policy improvement and three in the domain of financial system development. All of these improvements support investments (domestic, but also FDIs, portfolio investments and government investments) and economic growth.

Monetary policy improvements

For long time now it is known that monetary policy cannot do much directly for economic growth, and that its greatest contribution is to provide stable environment and prevent overheating and inflation [12]. Without structural reforms, monetary policy cannot do much for growth, and we see this in EU as we speak, where quantitative easing (monetary expansion) by ECB does not produce higher growth rates in Eurozone.

However, certain aspects in conduct of monetary policy may have an impact on elements of the risk premium in the structure of average interest rates, and therefore contribute to higher interest rates and all required rates of return, lower investments, and therefore, lower economic growth then otherwise possible. We will focus on two such elements of monetary policy conduct in Serbia that influence upward pressure in interest rates, and therefore lower investments and growth.

Decrease in euroisation

Euroisation can be defined as high use of Euros in functions of money: for payments (medium of exchange), for savings (store of value), for credits and repayments, and as a measure of value and unit of account. Serbia has one of the highest levels of euroisation among the countries that does not use Euro as an official currency[9]

Negative effects of Euroisation on investments and growth in Serbia are obviously not fully understood. Otherwise it would be hard to explain that since signing of Memorandum on Dinarization between National Bank of Serbia and Government of Serbia in April 2012, besides official mentioning of the issue, practically no active policy has been done in this respect. It seems as if there was not for the IMF to remind us, we would not bother dealing with this issue.

However, we should not forget that an important component of Serbia's active program with the IMF[10] is to increase dinarization i.e. to decrease euroisation. And it is not by chance that IMF has put this as part of the program with Serbia that fosters to increase financial sector resilience and economic growth.

Why is decrease in euroisation (dinarization) important for investments and growth in Serbia?

High level of euroisation in Serbia has a direct negative impact on effectiveness of monetary policy and on financial stability in the country. As a consequence, reference interest rate set by the central bank is, as a rule, more volatile and higher on average. In addition, due to euroisation, Serbian banking system is burdened with high risk of conversion of FX risk to credit risk [2] and creation of additional NPLs. Frequently forgotten but nevertheless true, current high level of NPLs that burdens Serbian banks

9 For detailed results in measurement of euroisation in Central, Eastern and Southeast Europe, see yearly surveys conducted by Austrian central bank - OeNB Euro Survey.

10 http://www.imf.org/external/12/images/news/serbia.jpg.

is to a large extent due to previous euroisation. This risk created by euroisation demands creation and maintenance of high loan loss provisions and high capital adequacy ratios in Serbian banks. These loss absorbing cushions are expensive and both push interest rates up. In addition, maintenance of high euroisation creates additional risks for future NPLs in banks.

Simply put, euroisation creates number of additional risks in Serbian financial system and exerts pressure to increase interest rates on loans. By doing so, euroisation decreases credit activity, investments, and current and future economic growth.

A lot can be done in decreasing euroisation in Serbia [6] , [26]. Immediate results in this area are not realistic, but gradual systematic improvements are quite feasible. There is no excuse for not trying.

Increase in credibility

Globally, Inflation targeting (IT) as a monetary policy regime was first introduced in New Zealand in 1990[11]. Officially, in Serbia Inflation targeting is in place since end of 2008[12].Since its inception Inflation targeting it has spread throughout the world among developed and emerging markets, and it has prevailed as a most widespread monetary regime around the globe.

Inflation targeting is based on five elements:

1. Anouncement of numerical goal for inflation;
2. Institucional comitment of the central bank to price stability as its primary goal to witch all other goals (exchange rate stability, employment, etc.) are subordinated;
3. Includes monitoring movements of monetary agregates (money), exchange rate and other variables in deciding on monetary policy;
4. Transparency and comunication of central bank with public and financial markets on plans, targets and decisions;
5. Credibility development based on fulfilment of inflation targets [19].

"Inflation targeting is a framework for monetary policy characterized by the public announcement of official quantitative targets (or target ranges) for the inflation rate over one or more time horizons, and by explicit acknowledgement that low, stable inflation is monetary policy's primary long-run goal" [4, p. 4].

Therefore, Inflation targeting has a long run goal of low and stable inflation, but it also has a tactical goal of achieving the inflation target. This tactical goal is clear and easy to follow by the public and financial markets. Success of monetary policy in Inflation targeting regime is easy to measure by level of achievement of its tactical goal set by inflation target. Level of success in fulfillment of inflation target is basis for credibility development by the central bank.

Let us focus on a clear causal relationship: lack of credibility pushes risk premium upward, higher interest rates (and all required rates of return) decrease investments and economic growth.

In context of monetary policy in Serbia, here we will focus on two credibility issues.

First. According to NBS [20], Inflation is outside inflation target band (4% +/- 1.5%) continuously for three years, i.e. since February 2014. In the same period, inflationary projections of NBS, stated in regular quarterly Inflation reports, unfortunately continuously prove not to be precise in predicting real movements in inflation in the following period. In truth, this is not a unique case nowadays. Many Inflation targeting central banks are facing deflationary pressures and are missing their target from the down side. Also, predicting inflation is not easy, as much as it is very important for Inflation targeting central bank. However, what is unique is that in case of continuous missing of its tactical target, inflation targeting central bank issues positive statements about success of its monetary policy to the public and international financial markets[13]. As we

11 Reserve Bank of New Zealand Act of 1989, Section 8, Public Act No. 157, December 20th 1989.

12 Unofficially it was introduced since 2006 but officially implemented by Agreement on Inflation targeting between Government of Serbia and National Bank of Serbia (adopted on the Government of Serbia session on December 19th 2008).

13 As was many times the case in press statements by NBS officials but also in official printed materials, for instance: "The three-year track record of inflation moving at around 2% indicates that Serbia is on the right path towards permanent stabilisation of inflation at a low level." [21, p. 4.].

see, this sharply contradicts above mentioned rule 4 and 5 of Inflation targeting monetary model.

Second. Certain restrictive monetary policy measures (buying dinars from FX reserves) in certain periods of time with inflation below target, low inflation expectations, and low growth, cannot be explained within Inflation targeting model. Such monetary policy conduct has led literature on this issue to conclude that Exchange rate stability is effectively a predominant goal of monetary policy in Serbia [24]. As we see, this sharply contradicts above mentioned rule 2 and 4 of Inflation targeting monetary model.

These two issues are sending wrong and unfavorable signals to international financial markets concerning credibility of our monetary policy and our central bank. As was mentioned before: lower credibility pushes risk premium upward, higher interest rates (and all required rates of return) decrease investments and economic growth.

This should be changed in one of possible two directions: full and sincere implementation of Inflation targeting, or official implementation of another monetary regime. Status quo may deter investments and lower economic growth.

Financial system development

Financial system of Serbia is predominantly based on banks. Banking sector takes 91.2% of financial sector assets, and other non-banking institutions take only 8.8%[14]. However, overall financial sector is underdeveloped. Total assets of financial assets in Serbia take 83.9% of GDP, and are lower than in 2010[15].

How does this compare to developed market economies of the EU?

Banks in Eurozone have assets which are 3,1 times larger than Eurozone GDP. Other financial intermediaries (mainly mutual funds) have assets in amount of 1,4 times Eurozone GDP. If we add Pension funds with 18% and Insurance companies with 71% of GDP, we have a total of Eurozone financial sector assets to GDP of 540%[16]. In other words, it is fair to say that Eurozone in relative terms has six and a half times more developed financial system compared to Serbia.

Therefore, financial system in Serbia is vastly underdeveloped with huge room for growth and development. In current status Serbian financial system is underdeveloped, stagnant and incapable of supporting this necessary change towards a new dynamic and sustainable growth model. There is obvious room for improvement and developing in banking and non-banking (credit and securities) institutions.

Improvements in banking institutions

Banking system improvements are possible in, at least, several areas: NPLs, credit risk guarantees, collateral valuation, regulation and supervision. Improvements in these areas would support credit growth, investments and economic growth.

Decrease in bank NPLs

Non-performing loans pose a serious obstacle for credit growth. Their high level has been addressed with stricter regulation in terms of loan loss provisioning and capital requirements. By doing so, regulation has decreased immediate risk to financial stability, but has not initiated credit growth. Problem of NPLs has not been solved.

Banks themselves are becoming more conservative in times of rising NPLs, low economic growth and strict regulation by the regulators.

This is the reason why high NPLs have to be taken very seriously in terms of their negative credit growth and economic growth.

Basic principles in dealing with this issue could be the following:

- government (and Central Bank) initiative in coordination with parent banks of local banks and their supervisors;

14 Data from NBS Quarterly Review of the Dynamics of the Financial Stability indicators of Republic of Serbia, December 2016. http://nbs.rs/internet/english/18/pregled_grafikona_e.pdf.

15 Ibidem.

16 Data from ECB, Report on Financial Structures, 2015, October. https://www.ecb.europa.eu/pub/pdf/other/reportonfinancialstructures201510.en.pdf.

- Largest banks should commence NPLs cleansing in a relatively short clearly defined time frame;
- Regulatory and tax incentives for NPL decreasing procedures conducted by banks;
- No taxpayers' money involvement, i.e. private market solution for NPL problem.
- Involvement of private equity, distressed financing and other non-traditional institutions in the process;
- Credit biro keeps records of exposures until repayment, conversion into equity or other financial transformation that eliminates obligation of the borrower.

Substantial decrease of NPLs in banks is essential for new credit growth and full support of banks in an overall effort of achieving higher and sustainable rates of economic growth.

Credit risk guaranties for new bank credit growth

Old subsidies need to die off. New, effective, targeted support frameworks for new competitive sustainable growth need to be established. Government needs to be open for risk sharing with banks, in generating sustainable economic growth. Credit risk guaranties with no initial payments from the budget, could be a cost effective way to initiate faster shift in GDP to tradable sector projects, companies and growth. Banks have the financial capacity. What they do not have is the capacity to absorb additional risks.

Credit risk guarantees issued by the government or a government agency, may be one of the models with high potential to increase sustainable growth in Serbia. Credit risk guarantees should be issued only to tradable sector projects. With these guarantees companies should approach banks and expect decrease in interest rates from three sources:

- Credit risk with a guarantee goes down, and so should the interest rate;
- Risk weight for this credit line goes down, so does the needed capital based on risk weighted assets – interest rate should go down;
- Loan loss provisions should go down even in case of default with a guarantee – interest rate should go down.

If well-organized, credit risk guarantees can substantially decrease the cost of borrowing and enable viability to many projects and companies that would otherwise stay undeveloped. They can be treated as an indirect public support to sustainable development. Important is to limit this support to entities and projects in tradable sector of GDP. This would then contribute not just to economic growth and growth in employment, but would also contribute to achievement of sustainable external macroeconomic balance. That would at the same time also be a path of increasing national economy's competitiveness.

An important element of this new credit guarantee public support should be a well-designed and effective potential post default process that could include private equity, distressed financing and other non-traditional private institutions. The aim of the post default process should be to minimize any taxpayers' loss in medium term. Therefore, this mechanism should basically allow for government balance sheet borrowing with no immediate government costs, and minimal potential costs in the future.

Improvements in collateral valuations for bank lending

Imprecise collateral valuation presents a very important issue for bank and even non-bank access to finance. Imprecise collateral valuation hampers credit growth through denial of credit lines, increase in interest rates, requirement of additional credit risk mitigants, imposition of restrictive loan-to-value (LTV) ratios, requirements of higher required loan loss reserves (LLRs) by the regulator, and lower bank interest in dealing with their NPLs based on overvalued collateral.

Therefore, more precise collateral valuation in Serbia could decrease or eliminate all of the mentioned weaknesses in collateralized lending and could improve access to finance. If combined with improvements in mortgage lending regulations and foreclosure enforcement, this could substantially improve the nature of collateral lending and open additional sources of investments in the country.

More precise and credible collateral valuation for financing purposes can increase the credit quality of borrowers and, with adequate regulatory treatment of loans with precisely-valued collateral, may further decrease the cost of borrowing. Therefore, improved collateral valuation may increase both demand and supply of bank credits and support faster economic growth in Serbia.

Improvements in bank regulation and supervision

Current regulation and supervision of banks should be reassessed on grounds of new realities. Low growth, deflationary pressures, high NPLs, procyclical behavior of banks, and dominant importance of bank activity in overall financial system operations, require new approach in regulation and supervision of banks. New impetus has to be given to bank credit growth with renewed existing and new countercyclical measures.

Supervision should be made more capable in terms of effective preventive actions, early detection of bank problems, and early intervention. In such circumstances, regulatory burden on banks could be additionally less heavy (costly). Without compromising overall financial stability, effort should be made to promote financial activity. Reserve requirements, loan loss provisioning, classification of assets, risk weights, eligible collaterals and other elements of regulation and supervision should be reassessed.

If improvements have also been made in previously mentioned areas like decrease in euroisation, NPL decrease, better collateral valuation practices and credit risk guarantees, room for additional improvements in bank regulation and supervision would be much larger since all this would substantially change the risk profile of a banking sector. So, without compromising financial stability, combined overall effect of these measures on credit growth, and therefore economic growth, could be substantial.

Creation of non-banking credit institutions

We should be realistic not to expect that non-banking credit institutions can be as important as banks or securities markets. But these institutions (savings banks, saving and loan associations, credit unions, microfinance companies etc.) could be an important missing link in retail finance supporting households and micro and small business entities. These institutions can be specifically important for individuals and business without real previous access to finance.

It is important to introduce a good legal framework for these institutions and to provide adequate regulatory and supervisory capacity on national level prior to their introduction. Since, officially Serbia does not have any of these institutions, first it would be important to define what types of institutions within this group we want to see developing in our financial system. After that, we should regulate their operations with laws and bylaws, and, finally, we should designate or develop an institutional capacity capable of regulation and supervision of these institutions.

These institutions, by its nature, cannot represent a major pillar of a financial system, but can have their modest but adequate contribution to savings, investments and growth in the country.

Development of securities (capital) markets

Securities markets and institutions have been introduced twenty or so years ago with great expectations but with very slim results so far. They represent far less than normal, and almost negligible portion, in overall gross fixed capital formation capacity of our national financial system. To put it differently, this channel of financial system almost does not generate investments. Therefore it is not really put in its role of supporting growth. It is vital to start unlocking this potential. Credibility, disclosure, competence, and institutional independence are core ingredients necessary for these markets to grow and to take their fair place and role in overall financial and economic development in Serbia. Improvements are possible, at least, in several areas.

Regulation. Existing relevant laws and bylaws should be reassessed and improved.

Institutional capacity development. Institutional capacity of market institutions, regulators and supervisors in terms of independence, competence, and overall credibility should be substantially increased. This includes Securities and Exchange Commission, Stock Exchange, but

also Association of brokers and dealers. It is important to create an environment that can attract quality personnel from within the country but also from abroad. Initial government support in this effort would most probably be crucial.

Improvements in disclosure requirements. It is vital to create substantial improvement in quality of so called publicly available information on securities. This is the basis for any sound investment decision in securities, and without quality in disclosure of relevant information, securities markets cannot exist. This requires full standardization with international standards and substantial improvement in quality of financial reporting and auditing. This might also imply certain regulatory improvements. In this context it might be important to increase the existing capacity of so-called self-regulatory organizations (Association of auditors, Association of accounting professionals, Association of brokers and dealers etc.) so to understand and support this process.

Government support. At this new inception of securities market, government support could be very important in several areas.

First type of support is already going on in terms of government bond issuance and their secondary trading on Belgrade stock exchange. This should develop further with introduction of new securities with longer maturities and from municipalities as well.

Second type of support could be in tax and other regulation that could be improved to support issuance and investments in local currency denominated securities.

Third type of support could be in the form that some of the profitable government companies decide to raise part of their capital through IPOs, with subsequent listings of their shares on the Stock Exchange. This could serve as a catalyst for private sector IPOs and listings.

Finally, regulation, establishment and supervision of a national rating agencies could be very important especially for further development of local bond market and institutional investors based on this type of security (private pension funds, insurance companies, etc.).

If Serbia follows good examples of Poland and Romania, securities markets could develop significantly and support investments and growth of the economy.

Conclusion

Serbia has to pull out of the vicious circle of recession and low growth, and to start caching up with the developed countries. Higher sustainable rates of economic growth are not possible on low levels of investments in the past years. All types of investments need to be increased parallel with substantial improvements in overall business environment (institutional development, corruption, rule of law, skilled productive workforce, access to finance, cost of business administration etc.).

This paper has focused on possible improvements in monetary and financial aspects of our financial system. These improvements can have positive effect on all types of investments (foreign, domestic, and government) and can substantially contribute to the rise in future rates of economic growth in Serbia.

Improvements in monetary policy conduct can reduce risk premium in required rate on return and support investments and growth in our country. Banking system can be significantly freed from existing burdens and guided to support higher rates of sustainable growth without creation of future NPLs. Non-banking credit institutions could be ignited to do their part of savings and investments that has so far been without proper reach from existing financial institutions. And securities markets and institutions should be reset and put in place to support investments and growth as is the case in some successful post transition countries. A lot can be improved to support future growth in Serbia.

References

1. Acemoglu, D., Johnson, S., Robinson, J., & Thaicharoen, Y. (2003). Institutional causes, macroeconomic symptoms: volatility, crises and growth. *Journal of monetary economics*, *50*(1), 49-123.
2. Božović, M., Urošević, B., & Živković, B. (2009). On the spillover of exchange rate risk into default risk. *Economic Annals*, *54*(183), 32-55.
3. Beck, R., Jakubik, P., & Piloiu, A. (2013). *Non-performing loans: What matters in addition to the economic cycle?* European Central Bank, Working Paper Series No 1515, February.
4. Bernanke, B. S. (2001). *Inflation targeting: lessons from the international experience*. Princeton University Press.
5. Buera, F. J., & Shin, Y. (2013). Financial frictions and the persistence of history: A quantitative exploration. *Journal of Political Economy*, *121*(2), 221-272.

6. Chailloux, A., Ohnsorge, F., & Vavra, D. (2010). *Euroisation in Serbia*. European Bank for Reconstruction and Development Working Paper (No 120).
7. Calvo, G. A., & Mishkin, F. S. (2003). The mirage of exchange rate regimes for emerging market countries. *The Journal of Economic Perspectives*, *17*(4), 99-118.
8. Carkovic, M. V., & Levine, R. (May 2002). *Does foreign direct investment accelerate economic growth?* Department of Finance Working Paper.
9. Cheung, Y. W., Dooley, M. P., & Sushko, V. (2012). *Investment and growth in rich and poor countries* (No. w17788). National Bureau of Economic Research.
10. De Backer, K. & Miroudot, S. (May 2014). *Mapping Global Value Chains*. (No 1677). European Central Bank, Eurosystem.
11. De Gregorio, J., & Guidotti, P. E. (1995). Financial development and economic growth. *World Development, 23*(3), 433-448.
12. Friedman, M. (1968). The role of monetary policy. *The American Economic Review*, *58*(1).
13. IMF. (May 2016). *Central, Eastern and Southeastern Europe: How to get back on the fast track*. Regional Economic Issues.
14. IMF. (November 2016). *Central, Eastern and Southeastern Europe: Effective Government for stronger growth*. Regional Economic Issues.
15. Jonas, J., & Mishkin, F. S. (2004). Inflation targeting in transition economies experience and prospects. In *The Inflation-Targeting Debate* (pp. 353-422). University of Chicago Press.
16. Klein, N. (2013). *Non-performing loans in CESEE: Determinants and impact on macroeconomic performance*. (WP/13/72). International Monetary Fund.
17. Kovač, O., & Šoškić, D. (2014). Could the Serbian banking sector be improved by introducing, trough national legislation, the principles and mechanisms of the EU banking union. *Megatrend revija*, *11*(4), 31-40.
18. Kuzmanović, M., & Sanfey, P. (2014). *Diagnosing growth constraints in Southeastern Europe: The case of Serbia* (No. 167). Working Paper.
19. Mishkin, F. S., & Posen, A. S. (1998). *Inflation targeting: Lessons from four countries* (No. w6126). National Bureau of Economic Research.
20. National Bank of Serbia. (November 2016). *Inflation Report*. National Bank of Serbia.
21. National Bank of Serbia. (2015). *Annual Report on activities and results*. National Bank of Serbia.
22. OECD and EU. (2010). *Improving new investment finance options in the Western Balkans*. OECD.
23. OECD. (2013). *SME and entrepreneurship Financing: The role of Credit Guarantee Schemes and Mutual Guarantee Societies in supporting finance for small and medium-sized enterprises*. Centre for Entrepreneurship, SMEs and Local Development.
24. Petrović, P. & Nojković, A. (2015). Monetary policy rule in inflation targeting emerging European countries: A discrete choice approach. *Journal of Policy modeling*, *37*(4), 577-595.
25. Šoškić, D. (2015). Inflation targeting challenges in emerging market countries: The case of Serbia. *Economic annals*, *60*(204), 7-30.
26. Šoškić, D. (2016). Ka jednovalutnom sistemu u Srbiji: značaj i mogući modaliteti. In D. Šoškić & M. Arsić (Eds.) *Ekonomska politika u Srbiji u 2016 godini*. Beograd: Ekonomski fakultet.
27. Warner, A. (August 2014). *Public investment as an engine of growth*. (No. 148). International Monetary Fund.

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HOW TO BOOST TAX COMPLIANCE AND TAX MORALE IN SERBIA?

Kako podići stepen naplate poreza i poreski moral u Srbiji?

Abstract

Shadow economy in Serbia is estimated at approx. 31% of GDP, which is by one sixth above the Central and Eastern Europe (CEE) average, suggesting that tax compliance and tax morale in Serbia are low, with severe effects on public finances sustainability, quality of goods provided by the public sector, and doing business environment. This paper examines the factors of high shadow economy, i.e. the drivers of low tax compliance in Serbia compared to other CEE countries, and identifies key elements of the effective strategy aimed at boosting tax compliance and tax morale. Tax compliance decision depends on fundamental factors (level of taxes, penalties and probability of detection), as well as on other factors shaping taxpayers' willingness to pay taxes voluntarily (tax morale). The results suggest that the level and structure of tax burden, along with the tax penalties policy in Serbia do not differ significantly from other CEE countries, while probability of detection of non-compliance is most likely lower than in other countries. In terms of tax morale drivers, Serbia performs as good as other CEE countries in terms of tax compliance costs, while frequent tax amnesties and low quality of public goods and services (compared to other CEE countries) have adverse impact on tax morale and tax compliance. Effective strategy to boost tax compliance and tax morale should entail a thorough reform of the Tax Administration, credible commitment that tax amnesties will not be repeated and a set of measures aimed at improving the quality of basic goods and services provided by the public sector.

Keywords: *shadow economy, tax evasion, tax compliance, tax policy, economic policy*

Sažetak

Siva ekonomija u Srbiji se procenjuje na oko 31% BDP-a, tj. za oko jednu šestinu iznad proseka zemalja Centralne i Istočne Evrope (CIE), ukazujući na visok nivo utaje poreza i nizak nivo poreskog morala, što ima ozbiljne posledice po održivost javnih finansija, kvalitet dobara koja pruža javni sektor i uslove poslovanja. U ovom radu se analiziraju uzroci visokog nivoa sive ekonomije i utaje poreza u Srbiji u poređenju sa drugim državama CIE i identifikuju se ključni elementi efektivne strategije za suzbijanje utaje poreza i povećanje poreskog morala. Siva ekonomija i utaja poreza zavise od fundamentalnih faktora (visina poreza, kazni i verovatnoće otkrivanja), kao i od drugih faktora koji utiču na spremnost obveznika da dobrovoljno plaćaju porez (poreski moral). Rezultati ukazuju da visina poreza i struktura poreskog opterećenja u Srbiji, kao i kaznena politika, ne odstupaju značajno od proseka CIE, dok je verovatnoća otkrivanja utaje poreza verovatno niža. U pogledu determinanti poreskog morala, Srbija ostvaruje rezultate uporedive sa prosekom zemalja CIE u domenu troškova primene poreskih propisa, dok česte poreske amnestije i nizak kvalitet dobara i usluga koje pruža javni sektor (u poređenju sa drugim državama CIE) ima negativan uticaj na poreski moral i utaju poreza. Efektivna strategija za suzbijanje utaje poreza i podizanje poreskog morala bi trebalo da bude zasnovana na temeljnoj reformi Poreske uprave, kredibilnom obavezivanju države da će se prekinuti sa praksom poreskih amnestija, kao i na skupu mera za unapređenje osnovnih dobara i usluga koje pruža javni sektor.

Ključne reči: *siva ekonomija, utaja poreza, primena poreskih propisa, poreska politika, ekonomska politika*

Introduction

Shadow economy[1] encompasses legal economic activities conducted informally (i.e. not disclosed in official records). There are different motives for economic agents to engage in informal economy, with evasion of taxes and avoidance of other regulatory costs being the most significant. Shadow economy narrows the tax base, thus plummeting the tax revenues and potentially triggering deterioration of quality of public goods and services and their availability, consequently impeding long run growth. Widespread shadow economy also has a negative impact on doing business environment, since it violates the level playing field, by making more competitive those economic agents which operate informally in comparison with the agents operating in the formal sector [23].

Although tax evasion is the main motive (and the main consequence) of shadow economy, neither shadow economy nor tax evasion may be observed or precisely measured, but they can rather be estimated, using different statistical and econometric methods, applied to the data from national accounts or micro surveys [13]. Shadow economy and tax evasion are larger in the Central and Eastern European (CEE) countries than in developed countries of Western Europe [22]. According to the recent studies, the CEE average shadow economy is close to 27% of GDP, which is by more than 7% of GDP higher than the EU-27 average, Bulgaria, Serbia, Romania and Lithuania being the top-ranking countries in terms of size of shadow economy. Further to the same study, shadow economy in Serbia is estimated at approximately 31.4% of GDP, which is by one sixth above the CEE average and by more than 70% above the EU-27 average [13].

Since tax evasion is the main motive for economic agents to conduct their business transactions in an informal sector, fundamental determinants of shadow economy are those that drive tax evasion/tax compliance decision. In economic literature, tax evasion behavior is regarded as a matter of rational choice under uncertainty, suggesting that tax evasion decision is made based on the marginal costs and marginal benefits [1]. If marginal benefits of tax evasion (underpaid taxes) exceed the marginal costs (expected fine to be paid if discovered by the Tax Administration), economic agent would be incentivized to evade, i.e. to conduct business transaction in an informal sector. This means that the level of tax burden, statutory fine for tax evasion and probability of detection are the fundamental determinants of tax evasion/shadow economy decision. However, according to economic literature, other (non-financial) factors may also affect the tax compliance decision. These factors are referred to as tax morale, which represents willingness of taxpayers to pay taxes, i.e. to comply with tax legislation. The level of tax morale in a country may be driven by numerous factors, the most important being tax compliance costs, sense of equity of enforcement of tax legislation and tax compliance costs.

As shadow economy and tax evasion in Serbia are larger than in most other European countries, with significant consequences on public finances sustainability and doing business environment, the aim of this paper is to analyze the reasons for widespread shadow economy, i.e. the factors behind low tax compliance and tax morale in Serbia, and to identify effective policy mix which should result in boosting tax compliance and tax morale in Serbia to the CEE average by the end of the current decade. The results suggest that the taxes in Serbia are close to (or slightly below) the CEE average, both in terms of the level of tax rates, structure of tax mix and tax compliance costs. It has also been concluded that the penalty policy for tax non-compliance in Serbia is comparable with the prevailing practice in Europe. This means that the higher level of shadow economy and tax non-compliance in Serbia, compared to the CEE countries, cannot be attributed to these features of the tax system. On the other hand, the results of comparative analysis show that Serbia is lagging behind considerably in terms of tax collection efficiency (probability of detection of tax non-compliance), due to a lack of resources and their inefficient use. It is also estimated that repeated tax amnesties may have had negative impact on the overall tax moral, thus contributing to non-compliance. Benchmark analysis also indicates that Serbia is performing more poorly than most other CEE countries, in terms of quality of public goods and services. Effective policy mix aimed at tackling shadow economy and boosting

1 Informal economy, grey economy, unofficial economy are synonims.

tax compliance and tax morale should entail, inter alia, a thorough reform of the Tax Administration, credible commitment of the government that tax amnesties will not be repeated and systemic approach to improvement of availability and quality of goods and services, provided by the public sector.

The rest of the paper is structured as follows. In section 2, fundamental factors (the tax policy, penalties policy and tax enforcement efficiency) related to the extent of the shadow economy and tax evasion in Serbia are analyzed. Section 3 addresses the impact of indirect factors on tax non-compliance, i.e. tax morale determinants in Serbia, including the tax compliance costs, tax amnesties and quality of public goods. Section 4 provides concluding remarks and policy recommendations.

Section 2: Fundamental drivers of tax compliance in Serbia

Further to the Allingham-Sandmo seminal model [1], tax evasion decision is a matter of trade-off between marginal costs and marginal benefits from evasion, suggesting that the level of taxes (or more broadly – features of the tax system), penalties policy and tax enforcement efficiency (probability of detection of evaders) are the fundamental drivers of tax evasion and tax compliance.

Tax policy and tax compliance

Both the theoretical and empirical economic literature suggests that several features of the tax system may have an impact on shadow economy/tax compliance and economic growth, including the level of tax burden and the structure of tax system (tax mix). Therefore, in order to assess whether the features of the tax system may have contributed to a relatively higher shadow economy than in other CEE countries, comparative analysis of the tax systems should be conducted.

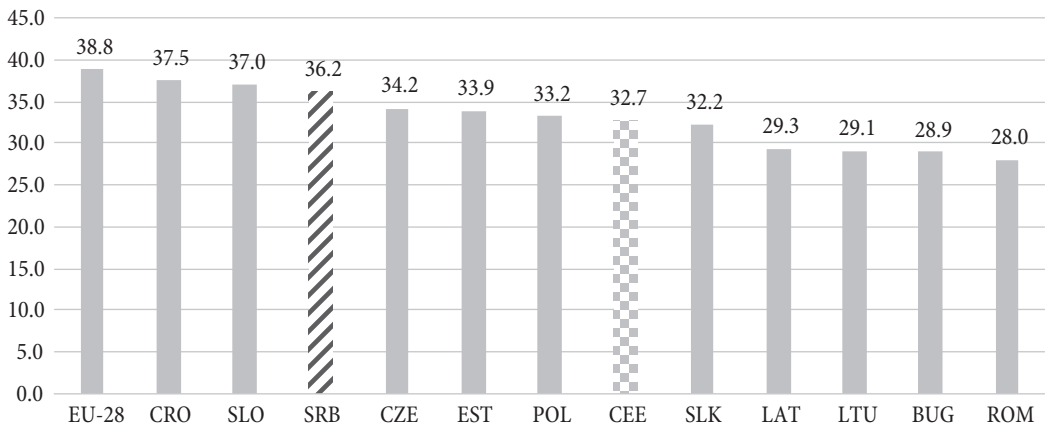
Level of tax burden

Higher taxes imply higher reward (marginal benefit) from tax evasion (non-compliance), which means that the level of tax burden is one of the main determinants of tax evasion. Level of taxes may be measured using comprehensive indicators, such as tax-revenues-to-GDP ratio. However, the level of this ratio may be influenced not only by the level of taxes, but also by the structure of the economy, which is why additional measures of the level of tax burden, such as the level of particular tax rates, may be used.

The total tax revenues in Serbia in 2015 amounted to approx. 36.2% of GDP, which is by 2.5% of GDP higher than the CEE average, but at the same time by 2.6% of GDP lower than the EU-28 average (Figure 1). The total tax burden in Serbia is comparable with the level of tax burden in Slovenia and Croatia (still somewhat lower), the Visegrad group of countries having slightly lower tax burden, while the lowest tax burden is posted in the Baltic countries, as well as in Bulgaria and Romania.

The amount of tax revenues depends on the level of particular taxes and the structure of the economy, which means that a higher level of total tax revenues in Serbia

Figure 1: Total tax revenues in the CEE in 2015 (% of GDP)

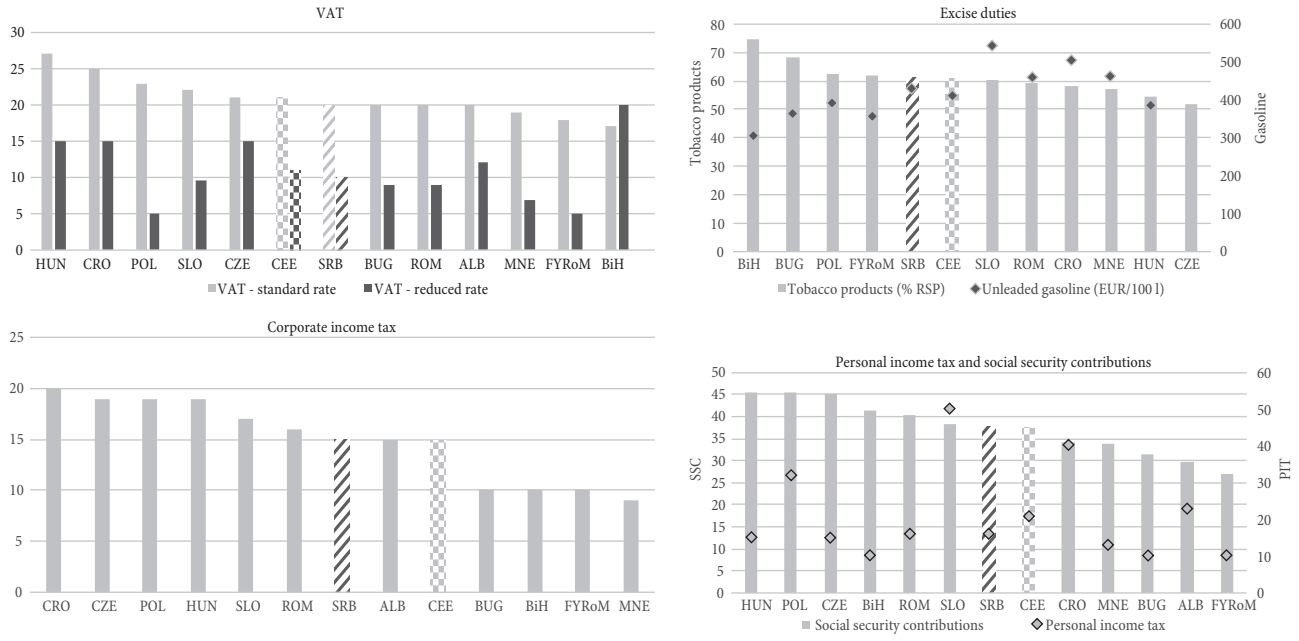


Source: [9].

than the CEE average may be the consequence of higher tax rates, as well as of the difference in the structure of GDP. Therefore, in order to answer the question whether the taxes in Serbia are higher than in other CEE countries, it is necessary to compare and analyze main taxes and the structure of the economy. VAT, excise duties, social security contributions, personal income tax and corporate income tax account for more than 93% of tax revenues in Serbia. Standard VAT rate of 20% and the lower VAT rate of 10% in Serbia are by one percent point lower than the CEE average (21% and 11% respectively), Serbia being the median CEE country based on the level of the VAT rates. Excise duties on gasoline in Serbia (EUR 427 per thousand liters of unleaded gasoline) are only slightly above the CEE average (EUR 415 per thousand liters), four out of 11 CEE countries having higher excise duties wedge on gasoline than Serbia. Situation is similar in terms of excise duties on tobacco products, since the effective excise duties wedge on cigarettes in Serbia (61.3% of retail selling price) is very close to the CEE average (61% of retail selling price). Serbia was the first CEE country to cut the corporate income tax (CIT) rate to 10%, in 2005, in order to attract FDI. However, this has then triggered strategic reaction of the other CEE countries, which is why now many of them apply the CIT rate of 15% or less. In the course of fiscal consolidation, Serbia has increased the CIT rate to 15% in 2013. However, this is still almost equal to the average CIT rate in the CEE, six out of 11 CEE countries still having higher CIT rates than Serbia. Similar case is with regards to the personal income tax rates and social security contributions, since the total social contributions rate in Serbia (37.8%) is slightly below the CEE average (38.2%), while in case of personal income tax, the top marginal tax rate in Serbia (16%) is considerably below the CEE average (20.8%). This comparative analysis suggests that main tax rates in Serbia are close to or below the CEE average, in most cases Serbia being ranked as the median or below the median country.

Serbia's growth model in the 2000s was based on rise in consumption (and import), which are subject to consumption taxes (VAT, customs duties and excise duties), while export and investments (exempted from consumption taxes) were low. Thus, the total investments in Serbia in 2016 are estimated at 19% of GDP, which is by one fifth lower than the CEE average, while the total export in Serbia is still below 50% of GDP comparing to almost 80% of GDP in the CEE. Comparative analysis of the tax rates and the structure of GDP suggest that buoyant tax revenues in Serbia are not the consequence of high taxes, but rather the consequence of the structure of the economy, since the share of taxable components of GDP (personal and government consumption and import) in

Figure 2: Tax rates: Serbia vs CEE



Source: [9] and websites of national ministries of finance.

Serbia is higher than in other CEE countries, while the share of tax exempted categories (export and investments) is below the CEE average. Therefore, it may be concluded that the tax burden in Serbia is not effectively higher than in other CEE countries, which means that larger shadow economy in Serbia when compared to the CEE average may not be attributed to the level of taxes.

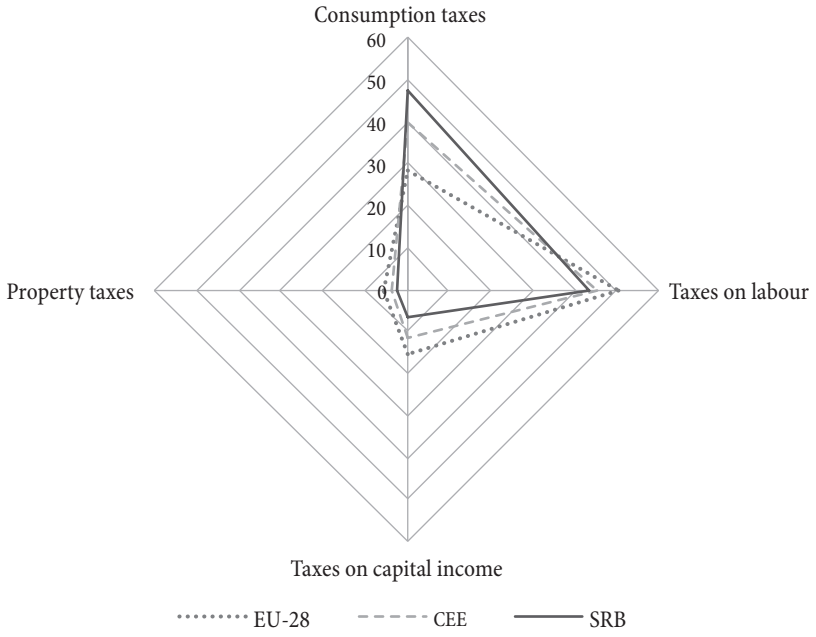
Tax mix, shadow economy and economic growth

Developing countries tend to rely more on consumption taxes rather than on taxes on production factors. One possible explanation is that consumption taxes (which are usually linear) are easier to enforce than income taxes (which are often non-linear), due to several reasons [10]. First, enforcement of non-linear taxes is more demanding in terms of data collection and administration sophistication. Second, consumption taxes are often self-enforced (which is the case with VAT and excise duties in Serbia as well as in other European countries). Third, there are fewer collection points for consumption taxes (firms) than for income taxes (individuals). According to 2015 data, CEE countries are relying more heavily on consumption taxes than other EU countries, while the old EU Member States rely more on taxation of labor, capital income and property. This is also the case in Serbia, where approx. 47% of tax revenues come from consumption taxes, comparing to 40% in the CEE countries and 28% in the EU-28, while reliance on taxation of labor and capital is proportionally lower (Figure 3). If consumption taxes are less easy to evade than income taxes, it may be concluded that the tax mix in Serbia is more discouraging for shadow economy and tax evasion than in other CEE countries, including the rest of Europe.

According to the endogenous growth models, taxation may have an impact on economic growth, by affecting both labor utilization (employment and labor supply) and labor productivity (physical and human capital accumulation and the total factor productivity). On the other hand, shadow economy/tax evasion may also influence economic growth by means of the level playing field factors and via availability and quality of public goods and services. Taxes affect a households' decision to save, work, invest in human capital, as well as a firm's decision to produce, create jobs, invest and innovate. However, impact of particular taxes on economic behavior is not uniform, but rather differentiated, which means that tax structure may have an impact on economic growth.

Consumption taxes are mostly neutral to saving, since they do not alter the (after-tax) rate of return to savings. However, they may affect employment and labor supply decision, because they may lower the purchasing power of wages or increase the labor costs, the extent of these

Figure 3: Share of taxes in the total tax revenues in 2015 (%)



Source: [9] and the Ministry of Finance of Serbia.

effects being dependent on the labor market settings. Differentiated consumption taxation (e.g. introduction of taxes on consumption of goods complementary with leisure) may promote labor supply and/or yield positive effects on environment. On the other hand, from the annual income perspective, these taxes are perceived as regressive. *Personal income taxes* (as well as the social security contributions) may affect both labor utilization and productivity. Namely, labor taxes (if borne by employee) may curb labor supply, provided that substitution effect prevails over the income effect, as usually suggested by empirical literature [14]. They can also lower labor demand, if the tax burden is borne by employer [16]. Capital income taxes may affect investment in physical and human capital, thus consequently also affecting the total factor productivity. If capital income and labor income taxation is differentiated, this could also trigger reallocation of inputs within or between industries, in an efficiency-harming manner, thus lowering the total factor productivity. *Corporate income tax* directly lowers the net-of-tax rate of return, thus having a negative impact on capital accumulation and (domestic and foreign) investments, a small open economy being more likely to experience larger negative effects. Thus, empirical literature suggests that reduction of the statutory corporate income tax rate from 35% to 30% would increase investment-to-capital ratio by 1.9%, the elasticity of investments to the user cost of capital being estimated at 0.7 [24]. In addition, corporate income tax may have a negative impact on the total factor of productivity, by altering the relative factors prices (which triggers capital reallocation), by increasing tax compliance costs, reducing incentives for investment in research and innovation, and by discouraging FDI [11]. *Property taxes* (on land and buildings) have a small negative impact on economic growth, since they do not affect labor utilization, while their impact on physical capital accumulation and the productivity is limited. On the other hand, these taxes, if designed properly, may promote usage of underdeveloped land.

Although all taxes affect economic growth drivers, empirical literature suggests that particular types of taxes differ significantly in terms of size of these effects. Thus, results of empirical analyses suggest that recurring property taxes are least distortive in terms of long-run growth, followed by consumption taxes, with the negative impact of personal income taxes being stronger and the corporate income tax having the strongest negative effect on economic growth (Johansson et al, 2008). Furthermore, the empirical literature suggests that shift of 1% of tax revenues from personal income to consumption and property may increase GDP per capita by 0.25-1 percent point [6].

As presented in Figure 3, the share of consumption taxes in the total tax revenues in Serbia is considerably above the average in other CEE and EU countries, while the share of taxes on labor, capital and property is lower. This means that the space for growth-enhancing restructuring of the tax mix, by cutting labor taxes and increasing consumption taxes, is limited. However, since the consumption tax rates in Serbia are still somewhat lower than in other European countries, there is still some space for shift of tax burden from labor to consumption.[2] Such reform would promote investment and export-led growth, as the cut in labor costs would improve external cost competitiveness of Serbian companies (due to decline in labor costs), while additional burden would be put on import and consumption, which means that exporting companies would not be directly affected. Taking into account that consumption taxes are easier to enforce than labor taxes, such reform could also bring positive effects on tax compliance. The tax reform would need to be designed and conducted in a revenue-neutral manner, i.e. to keep the total tax revenues at the same level (before behavioral reaction to reform occurs). It would be risky and costly (from macroeconomic stability point of view) to design the tax reform in a revenue-negative manner, expecting that a cut in labor taxes would induce formalization and activation, which would be sufficient to compensate for direct losses in tax revenues, as there are

2 Such tax reform was initially proposed (and rejected) in Serbia in 2010, when the fiscal space was much larger, since VAT rates (18% and 8%) and excise duties rates were considerably lower [7]. In 2013, the Minister of Economy at that time proposed the tax reform which implied sharp decline in labor taxes and shift of tax burden to property taxation. Property tax revenues in Serbia amount to approx. 1% of GDP, which is below the EU-28 average, but at the same time by 40% higher than the CEE average. Property taxes revenues are much lower than the labor tax revenues, which makes such reform politically and practically non-viable (e.g. a cut in labor taxes by 20% would need to be accompanied by an increase in property taxes by three times).

no strong evidences on the magnitude of formalization and activation effects. If the tax reform triggers formalization of economic activity and accelerates economic growth, thus yielding additional tax revenues, a cut in some taxes could be considered in the next round.

Serbia is expected to open the Chapter 16 on taxation in the EU accession negotiations in 2017. In terms of tax policy at the EU level, the coordination is mostly focused on parameterization of some taxes, aimed at enabling free flow of goods and services within the single market. Therefore, the EU legal framework in taxation consists of detailed harmonized rules for parameterization of consumption taxes (VAT and excise duties) and only a few provisions on direct taxes, targeted at elimination of distortions of business operations within the single market. Further to the Screening report on Chapter 16 – Taxation, Serbia's VAT system is to a large extent aligned with the EU directives, so in a due course only slight further amendments need to be made in order to achieve full harmonization (cancelling VAT exemptions for purchase of new flats, dropping housings from the list of goods taxable at the lower VAT rate, etc.). In terms of excise duties, more considerable changes will be required. The reforms should entail changing the way the excise duties on alcoholic drinks are stipulated, by making the tax rates a function of the percent of alcohol. In addition, excise duties on fuel oil, kerosene, natural gas, coal and oak should be introduced, while in terms of tobacco products, excise duties will need to be further increased from below EUR 50 per 1,000 pieces of cigarettes to at least EUR 90 per 1,000 of cigarettes (to reach the EU minimum total excise duty). In terms of direct taxes, Serbia will need to ensure alignment with the Parent Subsidiary Directive on the common system of taxation applicable in the case of parent companies and subsidiaries of different Member States. The elimination of double taxation will have to be guaranteed by the adoption of provisions offering tax credits or exemptions to resident companies receiving dividends from other EU Member States which have already been subject to taxation, while regarding dividends distributed by the Serbian resident companies, a system of direct exemption must be adopted. Upon accession to the EU, Serbia will also need to make some changes to its company legislation and corporate income tax legislation, in order to align with the Merger Directive and the Interest and Royalty Directive. Serbia will be also required to align its future tax policy measures with the Code of Conduct for Business Taxation and to abstain from harmful tax competition behavior. The aim of the harmonization of the tax system with the EU directives, which is supposed to take place in the course of the EU accession, is to enable full integration of Serbia into the single market following accession. Therefore, impact of the EU accession negotiations on design of the tax mix in Serbia would be limited, due to a lack of common rules in this area.

Tax penalties and tax compliance

According to the standard tax evasion model [1], tax evasion is negatively related to the level of penalties, the hike in penalty rate lowering the reward for tax evasion, thus discouraging non-compliance. While the empirical literature on the impact of tax rates and probability of tax audit on tax evasion is rich, the empirical evidence on the impact of penalties on tax evasion is limited, with most of empirical papers suggesting that the penalty rate is important deterrence from tax evasion [3], [4].

Until 2014, fines and penalties for breach of tax legislation in Serbia were regulated by means of numerous sectoral laws (e.g. the Law on VAT, the Law on Personal Income Tax, the Law on Corporate Income Tax, etc.), as well as by the framework Law on Tax Procedure and Tax Administration, with penalty-related provisions of the sectoral laws often not being aligned with provisions of the framework law. This was creating ambiguities and legal uncertainty, both from the tax administration and taxpayer perspective, since it was a matter of judgment as to which provisions are to apply in a particular case. In 2014, a major reform of the tax penalty system in Serbia was conducted – penalty provisions were removed from the sectoral laws, while the penalty-related provisions of the framework law were extended and restructured, the manner in which penalty rates are defined being changed (shift towards ad valorem penalties) and the penalty rates being effectively increased. Therefore, after the 2014 reform, all penalties for breach of tax legislation were anchored in

the Law on Tax Procedure and Tax Administration, while penalty rates became considerably higher than prior to the reform. At the same time, the interest for late payment of taxes was redefined, so as to be equal to the policy rate of the National Bank of Serbia increased by 10 pp. The 2014 tax penalties reform has aligned the tax penalties scheme in Serbia with the Europe's best practice, creating one of the prerequisites to tackle shadow economy and tax evasion more efficiently. However, due to public pressure of various interest groups, in 2016 a part of the reforms was reverted, penalty rates for some forms of non-compliance being effectively reduced.

In the EU, there is no harmonized approach to tax penalties system, which means that it is up to the Member States to define tax penalties policy in the way they find suitable. At the same time, to the best of our knowledge, there is no comprehensive comparative overview of tax penalties system in Europe, which is why the comparative analysis is usually performed using available data and information on a limited group of countries. Further to the available data, interest rates for late payment of taxes in Europe vary from 1.8% in Hungary, to 14% in Serbia, the mean late interest penalty rate being close to 7%. Interest for late payment of taxes is often attached to the central bank policy rate, in order to make it attached to inflation and keep the real late interest rate penalty positive. The purpose of the late interest penalty is not to punish taxpayer for evading taxes, but rather to make the financing strategy which relies on late payment of taxes even (in terms of borrowing costs) with the financing strategy relying on borrowing at the market. At the time the tax penalty scheme in Serbia was reformed, the average interest rate on dinar-denominated borrowings to the companies was by 10-15 pp above the central bank policy rate. Taking into account that interest rates on borrowings from the banks in Serbia are still higher than in other European countries, and that in the past the inflation rate was higher and more volatile than in the peer countries, the late interest penalty rate equal to the policy rate increased by 10 pp can be regarded as adequate.

Table 1: Tax penalties in selected European countries

	Late interest penalty	Fine (% of underpaid tax)		
		% of underpaid tax	Ceiling in EUR	Max. years of imprisonment
AUT	2.25%	2-200	5,000	3
BEL	7%	10-200	500,000	10
CRO	12%		65,616	10
FRA	4.8%	5-80		7
GER	6%	50-100	1,800,000	5
HUN	1.8%	20 -200	1,710	2
ITA	2.5%	30 -240		10
LUX	7.2%	10-4,000		3
NED	3%	2 -100	4,920	6
POL	10%		670	25
SLO	9%	45		12
SRB	14%	10 -100	16,200	10

In the most European countries, tax evasion penalty rates are attached to the amount of underpaid tax (ad valorem), while often the top and bottom floors are stipulated (in the absolute amount). Tax penalty rates in 11 selected European countries (Table 1) range from 2% to 4,000%, the mean range being from 18.4% to 134%[3], which is slightly higher than in Serbia, but still comparable. For severe breach of tax legislation (such as introduction of sophisticated tax evasion schemes, resulting in evasion of large amounts of taxes) usually imprisonment penalties are stipulated. Maximum imprisonment penalties range from 2 years (in Hungary) to 25 years in Poland, the sample average being 8.5 years, which is slightly lower than the maximum sentence stipulated by the Serbian tax law (10 years).

The comparative analysis of the tax penalty schemes in Serbia and 10 other European countries suggests that tax penalty scheme in Serbia is to a large extent harmonized with the practice in other countries, tax penalties structure and levels being close to the average. This may suggest that larger shadow economy and tax evasion in Serbia, when compared to other countries, are not caused by low statutory penalty rates. In practice, many tax audit cases end up in court, the initial assessment and fine imposed by the Tax Administration being revised downwards, which may suggest that, in some cases, this is due to inappropriate assessment by the Tax Administration, while in other cases it may also be due to general practice of Serbia's judiciary system, that courts tend to assess the sentence close to the lower bound. Therefore, in order to tackle non-compliance more effectively, no significant changes to tax

3 Upper limit in Luxembourg has been dropped from calculation of the mean range, as an outlier.

penalties legislation are required, but rather considerable improvement of enforcement of the penalties.

Tax enforcement efficiency and tax compliance

Impact of probability of detection on tax evasion behavior was subject to many empirical studies, almost all of them suggesting strong negative impact of tax audit probability on tax evasion [3], [17], [25], some of them showing that impact of probability of detection on deterrence from tax evasion is stronger than impact of the marginal tax rates and penalties [19].

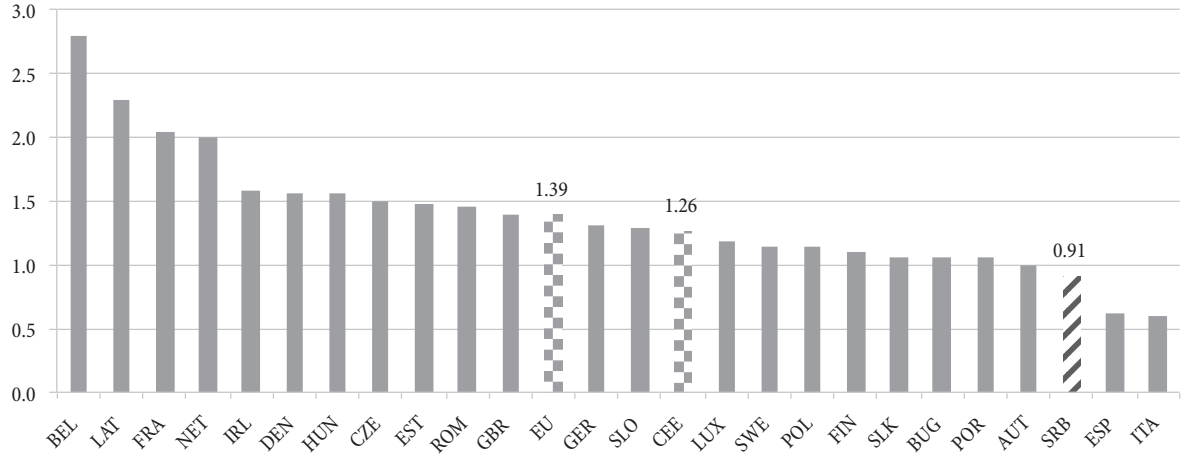
According to the survey conducted on the representative sample of 1,251 companies in Serbia, in October 2012, close to 53% of respondents perceive the probability of being caught for tax evasion as low, while only 14% of them perceive that probability as high. Probability of detection is strongly associated with the efficiency of the Tax Administration. Therefore, the reasons behind the low probability of detection for tax evasion in Serbia are related to human resources issue within the Tax Administration (understaffing and low salaries), lack of financial resources and various organizational issues.

Further to the 2015 data, the Tax Administration in Serbia had approx. 6.5 thousand employees, i.e. 0.91 employees per thousand inhabitants, which is, in relative terms, considerably below the CEE average (1.26 employees per thousand inhabitants) and the EU average (1.39 employees per thousand inhabitants).These data suggest that the Tax Administration in Serbia is considerably understaffed. In addition to that, the structure of the staff is worse than the CEE average, since the average age is close to 50, while only 55% of staff hold a university degree – comparing to the CEE average of 70%. The picture on the education structure of the Tax Administration staff would look even less favorable, if the quality of degrees was taken into account, due to widespread practice of hiring or promoting people with the low-quality university degrees, usually obtained in a few months' time. In addition to that, the salaries of the Tax Administration staff are relatively low, ranging from EUR 200 per month (net) for junior tax inspectors to EUR 1,100 per month for the director of the Tax Administration, with net monthly salary of a senior tax inspector amounting to less than EUR 500 per month. Such compensation scheme does not make the Tax Administration the employer of choice for young graduated professionals, at the same time crowding out experienced professionals with language and IT skills, since the market rates are a few times higher.

Besides the human resource challenges, the Tax Administration in Serbia is also facing the lack of financial resources. Tax Administration expenditures in Serbia account for only 0.5% of tax revenues collected by that institution, while the CEE average is close to 1%. This is to some extent the consequence of the mentioned understaffing problem and low salaries, but it also reflects underinvestment in fixed assets, IT equipment, literature, training and education.

The most important organizational issues contributing to low probability of detection are related to the organization

Figure 4: Number of Tax Administration staff per 1,000 inhabitants



Source: [26] and Fiscal Reform and Economic Governance website (www.fiscalreform.net).

of business processes (and related allocation of staff) and the system of planning of tax audits. Out of the total number of the Tax Administration staff, only around 10% of them are engaged in audit operations (approx. 600 tax inspectors), while the rest are dealing with administrative, technical and supporting activities. Such structure is inherited from the past, when the tax returns were submitted and processed manually. In 2013, the Tax Administration has started to introduce electronic filing of tax returns, and it is expected that by the end of 2017 a full shift toward e-filing will be achieved. This will make a large number of staff, who were working on tax returns processing, available for other, more productive operations. In 2015, the Tax Administration has trained a few hundreds of administrative staff for simple tax audit operations (e.g. audit of issuance of fiscal receipts, etc.). Similar can be done with additional few hundreds of employees, who will become available upon completion of introduction of e-filing system. This will make educated and trained tax inspectors available to deal with more complicated tax audit cases. A rise in the number of field controllers and the number of tax inspectors will result in increase of perceived probability of detection. In addition to that, the risk assessment unit should be strengthened by adding highly qualified staff with strong quantitative background that would be in charge of creating and applying the complex risk assessment models and preparing the effective tax audit plans, thus focusing the limited tax audit resources to the taxpayers which are most prone to evasion.

Bearing in mind the fact that probability of detection is one of the crucial determinants of shadow economy and tax evasion, and that the probability of detection in Serbia is seen by taxpayers as relatively low, the strategy aimed at effectively tackling shadow economy should put the reform of the Tax Administration at the top of the agenda. In that respect, the reform of the system of selection, promotion and compensation is fundamental. Fully merit-based selection and promotion system should be established. At the same time, supply of graduates with relevant knowledge and skills in economics, finance, law and IT is limited, which means that the strategy should also stimulate higher education institutions to adapt their curriculums, so as to be able to offer graduates with such knowledge and skills mix. After the selection and promotion system is fully aligned with the good corporate (merit-based) practice, the salaries of the Tax Administration staff should be considerably increased, so as to make it attractive for skilled professionals. Increase in wages, without prior reform of the system of selection and promotion could even yield negative effects, since it would make the Tax Administration more attractive for non-merit based hiring and promotion (partisanship, nepotism, etc.). Relatively unfavorable age structure of employees is at the same time a window of opportunity, since the Tax Administration will be able to offer a few hundred new jobs every year. An effective system of selection, promotion and staff compensation could result in considerable rise in efficiency in tax collection in the mid run.

Section 3: Tax morale and tax compliance

Tax morale may be defined as taxpayers' willingness to pay taxes. As such, tax morale reflects other (non-fundamental) factors that shape taxpayers' attitude toward tax compliance, the most important being tax compliance costs, the sense of equity of tax policy enforcement and the quality of public goods and services.

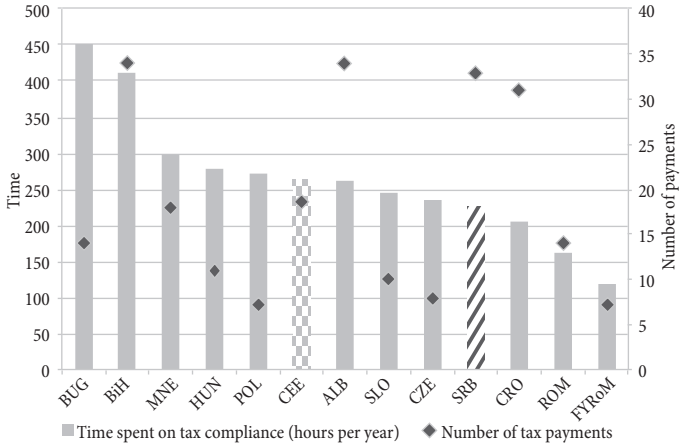
Tax compliance costs

Compliance costs encompass all related non-tax costs, associated with tax compliance operations, including preparation and submission of tax returns, payment of taxes, refund claim submission and processing, activities related to tax audit, etc. Compliance costs add to the marginal benefits of tax evasion, thus making non-compliance/tax evasion more appealing.

Paying Taxes study, published annually by the World Bank, provides comprehensive benchmark analysis of the tax compliance costs across the world. In addition to regular tax-compliance costs, which reflect all procedures undertaken until submission of the tax return, the post-filing index has been introduced, reflecting the time to comply with VAT refund and CIT audit, and the time to obtain VAT refund and to complete the CIT audit conducted by a tax administration.[4]

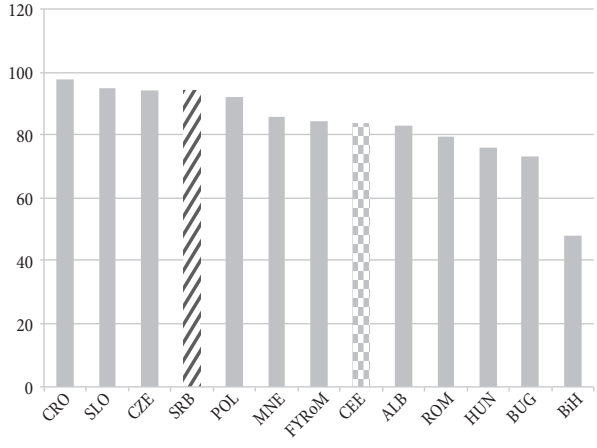
4 Post-filing index may range from 0 to 100, the higher value of index indicating higher efficiency and lower costs.

Figure 5: Tax compliance costs: Serbia vs. CEE



Source: [18].

Figure 6: Post-filing index: Serbia vs. CEE



Source: [18].

Total time to comply with tax legislation in Serbia is estimated at 226 hours per year, which is by 15% less than the CEE average, suggesting that tax compliance process in Serbia is relatively efficient. This is to a large extent the result of successful implementation of e-filing and e-payment system by the Tax Administration. However, Serbia performs much worse in terms of the number of tax payments, as on average a taxpayer in Serbia needs to make 33 tax payments per year, while the CEE average is below 19. This indicates the need for a revision of the Law on Tax Procedure and Tax Administration, as well the sectoral tax laws, triggering reduction in the number of tax payments (e.g. to cut shift to monthly payment of excise duties, biannual payment of property taxes, etc.).

According to the Paying Taxes 2016 study, Serbia also performs slightly better than the most other CEE countries in terms of efficiency of post-filing procedure. However, various business surveys suggest that companies in Serbia identify lack of consistency and predictability of tax enforcement system as one of the key risks for investing and doing business. In particular, they point out the issue of inconsistent interpretation of tax legislation by the Ministry of Finance (by means of legally binding rulings) and by tax inspectors in the course of tax audit.[5] In that respect, the Tax Administration and the Ministry of Finance should put more resources on development of their training and education capacities in order to tackle the problem of (mis)interpretation of tax legislation.

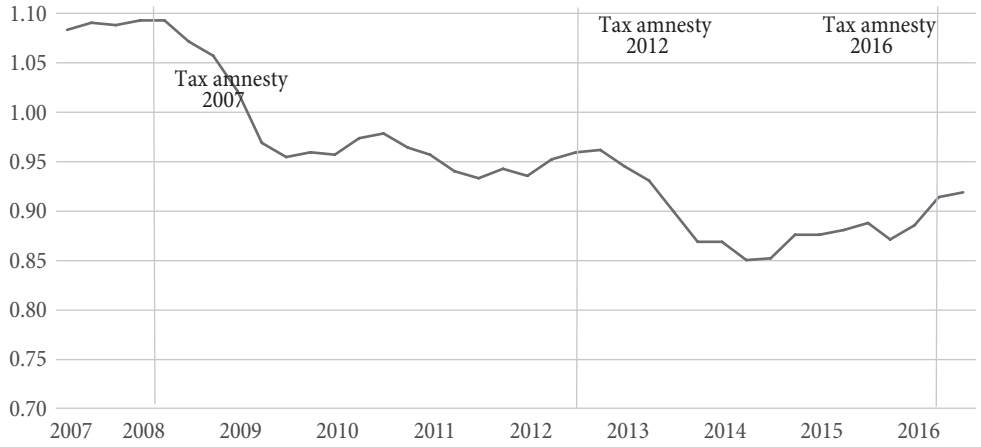
5 Almost 60% of respondents claim that the operations of the Tax Administration have negative impact on their businesses [26].

Tax amnesties and sense of equity

Many countries, including the USA in the eighties, were implementing the tax amnesties schemes in order to promote tax collection, by removing or reducing the burden of penalties for those taxpayers who self-report their past tax liabilities [5]. Namely, tax amnesty program normally means that a taxpayer is given a window of opportunity (usually lasting a few weeks or months) to report their past tax liabilities and to settle them (including the late payment interest) without payment of fines for non-compliance in the past. Theoretical models [5] suggest that tax amnesty has no positive impact on tax compliance, because it allows evader to become compliant, although she/he has initially preferred non-compliance. The models therefore suggest that, for amnesty to matter, some of the relevant circumstances (marginal benefits and/or marginal costs of non-compliance) should change, such as unexpected, considerable increase in fines. On the other hand, tax amnesties may have an adverse impact on tax morale, since it is perceived inequitable, as it makes compliant taxpayers relatively worse-off in comparison with their non-compliant counterparts. The results of empirical studies, mostly on the U.S. data, find no significant, positive effects of tax amnesty on tax compliance [2], [15], while the empirical study on India finds that repeated implementation of tax amnesties had negative effects on tax compliance [8].

In the last ten years, there were three waves of tax amnesties in Serbia (end of 2007, end of 2012 and beginning of 2016), which were aimed at promoting tax compliance

Figure 7: Annualized C-efficiency ratio in Serbia



Source: Author's calculation.

and generating additional tax revenues, by reducing the burden of accumulated tax debt and related late payment interest. Tax amnesty programs in Serbia have often entailed writing-off (at least a part) of the late payment interest and rollover of accumulated tax debts for a few years. The programs were usually introduced before the elections, under pressure of the interest groups, arguing that the tax debts were non-performing anyway, and that the allowances would enable some of taxpayers to clear their accounts and start paying taxes in accordance with the law. On the other hand, by writing-off part of the late payment interest, government makes the late payment of taxes a cheaper financing instrument for a taxpayer than borrowing at the market, thus incentivizing taxpayers to go after such financing strategy. In addition to that, by writing-off a part of the tax debts and late payment interest, the government implicitly penalizes compliant taxpayers by bringing them into the less competitive position compared to non-compliant taxpayers. Therefore, the question is whether these programs have had positive or negative effects on tax compliance and tax revenues.

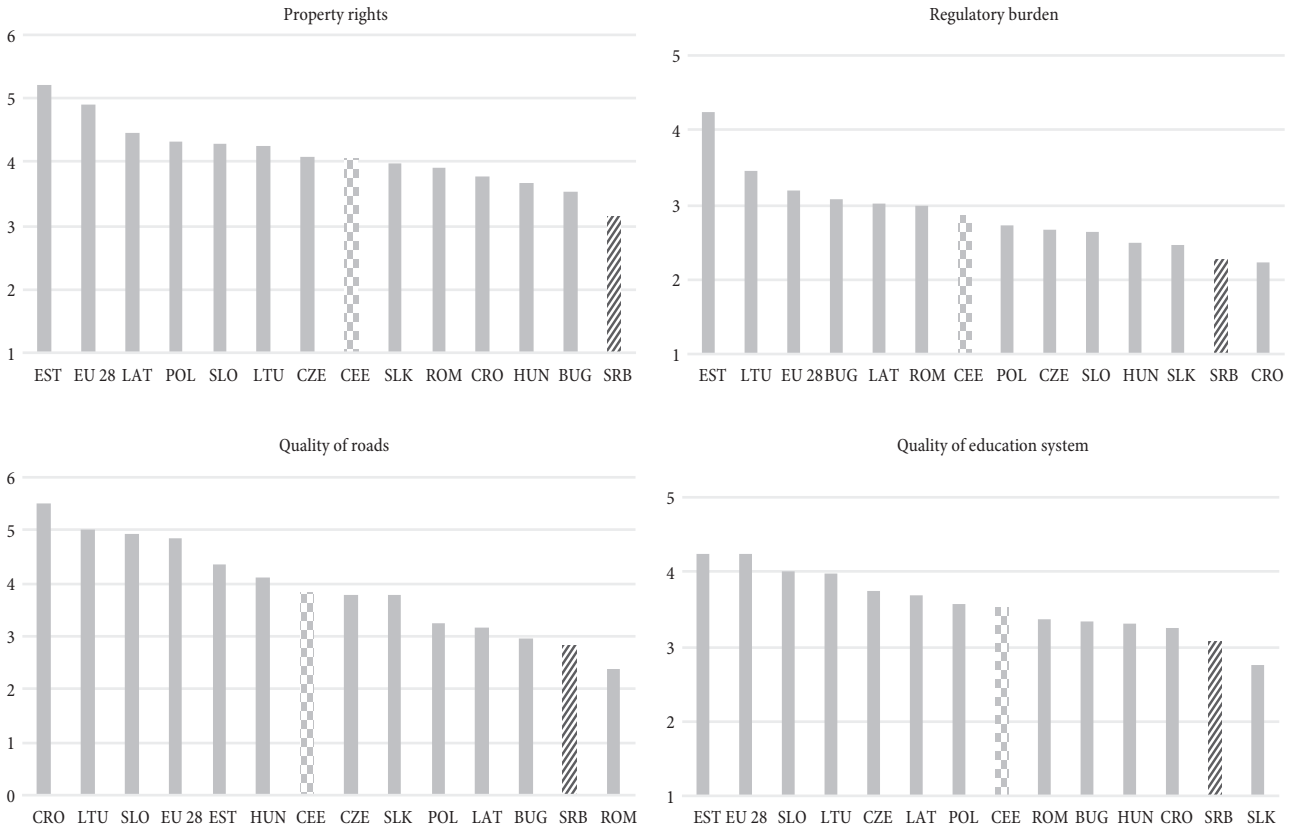
To answer this question, the data on efficiency of tax collection are required. Since tax collection efficiency in Serbia is not continuously monitored, the C-efficiency ratio is to be used as a proxy.[6] The data presented in Figure 7 show that, after the 2007 and 2012 tax amnesties, the VAT collection efficiency declined, while to evaluate the effects of 2016 tax amnesty program, the VAT revenues trends for a few more quarters need to be observed.[7]

Although it cannot be concluded (without prior econometric analysis) that decline in C-efficiency ratio in 2008 and 2013 was primarily caused by tax amnesties, the trends presented may indicate that the effects of tax amnesties were not as positive as expected by the policymakers. Repeated tax amnesties, usually before the elections, make such practice relatively predictable, thus additionally deteriorating incentives for tax compliance. Tax amnesties are part of the general "second chance" paradigm of public governance in Serbia (together with several waves of ex-post legalization of buildings constructed without the permit and similar practices), which has negative impact on taxpayers' confidence in the government institutions and the rule of law, thus undermining the tax morale and tax compliance. Therefore, in order to tackle shadow economy and tax evasion systemically, the government should give credible commitment that "second chance" will be abandoned and reaffirm the credibility of such statement by acting accordingly in the future.

6 C-efficiency ratio is an indicator of the VAT collection efficiency, calculated at the ratio of expected VAT revenues (computed by multiplying the total personal consumption and the average VAT rate) and the actual VAT revenues [12]. As such, C-efficiency ratio reflects the level (and dynamics) of shadow economy/tax evasion, as well as the financial discipline (efficiency of collection of reported taxes).

7 Theoretically, C-efficiency ratio ranges from 0 to 1. However, the actual VAT revenues also encompass revenues from taxation of part of government consumption and investments, which is not taken into account in estimation of expected VAT revenues, which is why this ratio can also be larger than 1. Therefore, C-efficiency ratio should not be interpreted as the indicator of the scale of tax non-compliance, but rather as the indicator of trends in non-compliance.

Figure 8: Quality of public goods and services: Serbia vs. CEE (2012-2015 average)



Source: Global Competitiveness Index database.

Quality of public goods

Although tax-related factors may explain to a large extent the size of tax evasion and shadow economy, empirical studies suggest that unexplained part is not negligible, which means that also other factors, in addition to tax rates, fines and efficiency of tax administration, determine the size of shadow economy. Both theoretical and empirical literature suggests that people are willing to pay taxes also because they value public goods that their taxes finance [4]. More particularly, empirical studies show that increase in the quality of public governance and public goods, such as efficiency of administration, rule of law, protection of property rights and other public goods, encourage tax compliance [20], [21].

In most of international studies dealing with doing business conditions and competitiveness, Serbia was ranked rather low compared to the other countries from the CEE and the Western Balkans. Although in 2015 and 2016 Serbia improved its ranking at many relevant international lists, it still performs below the CEE average. Thus, from 2012 to 2015, in terms of property rights protection, Serbia was the worst performing out of 11 CEE countries, while in terms of regulatory burden, Serbia was ranked second from the bottom, with only Croatia having a weaker rank. Similar performance is posted in terms of quality of roads (only Romania had a lower rank than Serbia) and the quality of education system (only Slovakia was behind Serbia).

Taking into account the results of empirical studies showing that quality of public goods and services does play a role in shaping tax compliance behavior, and the results of international studies indicating that Serbia has weaker performance than most other CEE countries in terms of the main types of public goods and services, it can be concluded that effective strategy to tackle shadow economy and tax evasion should also entail measures for improvement of the quality of public goods and services. At the same time, it is necessary to improve the outreach activities aimed at educating people on the importance and quality of goods and services provided by the government, since these are often neglected, taken for granted or undervalued.

Section 4: Concluding remarks and policy recommendations

According to the empirical studies, shadow economy in Serbia in 2012 stood at approx. 31% of GDP, which is by one sixth above the CEE average, indicating low tax compliance and tax morale. High shadow economy has negative effects on the public finances sustainability, availability and quality of public goods and services, as well as on the doing business environment, as it violates the level playing field principle. The size of the shadow economy in Serbia surged in 2013 and at the beginning of 2014, contributing to widening general government balance to -6.6% of GDP in 2014. In 2014 and 2015 a set of reforms aimed at tackling shadow economy and boosting tax compliance has been implemented, resulting in the rise in tax collection by more than 1% of GDP in 2015 and 2016. Some of these reforms were systemic (reform of tax penalties policy, labor market reforms, introduction of the new Law on Inspection Oversight, introduction of e-filing of the tax returns and tax payments, etc.), while the other were ad hoc (increase in the number of tax officers who conduct control of issuance of the fiscal cash receipts, strengthened control of VAT refund claims, etc.).

Given that Serbia registered a strong rise in the shadow economy and tax non-compliance in 2013 and 2014, while in 2015 and 2016 this issue has been tackled to some extent, it is estimated that at the end of 2016 the shadow economy and tax compliance were close to the 2012 level, which is also suggested by dynamics of the C-efficiency ratio (Figure 7). This means that there is still considerable space for improvement of tax enforcement and tax compliance, in order to reach the CEE average level. Reaching the CEE average level of shadow economy and tax compliance would yield additional tax revenues of approx. 1% of GDP, which is a realistic goal in the mid run (3-5 years), while in the long run (10 years' time) Serbia should strive to the EU average level of shadow economy and tax compliance, which would bring additional tax revenues of approx. 1% of GDP [13]. In order to meet these targets many systemic reforms aimed at curbing the benefits and increasing the costs of tax non-compliance should be implemented, the most important being: i) thorough reform of the Tax Administration (including its organization, risk assessment, system of selection, promotion and compensation, increase in financial resources, training and education of tax administration staff for consistent and equitable application of tax legislation, etc.), ii) finalization of shift to e-filing of all tax returns, iii) strong commitment of the government to cease with the tax amnesty practice, iv) introduction of financial incentives to local self-governments for registration of immovable property in their tax books, v) promotion of non-cash payments (e.g. through reduction of the banking fees for credit card payments), vi) enforcement of the cross-check of incomes and wealth legislation, vii) publication and systemic dissemination of the civil budget to the citizens, in order to inform them on use of tax revenues, *viii)* systemic work on increase in availability and improvement of quality of basic goods and services provided by the public sector, including administration, judiciary, education, healthcare and infrastructure.

References

1. Allingham, M. G., & Sandmo, A. (1972). Income tax evasion: A theoretical analysis. *Journal of Public Economics*, *1*(3-4), 323-338.
2. Alm, J., & Beck, W. (1993). Tax amnesties and compliance in the long run: A time series analysis. *National Tax Journal*, 53-60.
3. Alm, J., Jackson, B. R., & McKee, M. (1992). Estimating the determinants of taxpayer compliance with experimental data. *National Tax Journal*, 107-114.
4. Alm, J., McClelland, G. H., & Schulze, W. D. (1992a). Why do people pay taxes?. *Journal of Public Economics*, *48*(1), 21-38.
5. Andreoni, J., Erard, B., & Feinstein, J. (1998). Tax compliance. *Journal of Economic Literature*, *36*(2), 818-860.
6. Arnold, J. (2008). Do tax structures affect aggregate economic growth?
7. Arsić, M., Altiparmakov, N., Ranđelović, S., Bućić, A., Vasiljević, D., & Levitas, T. (2010). *Tax policy in Serbia–looking forward*. Foundation for the Advancement of Economics, Belgrade.
8. Das-Gupta, A., & Mookherjee, D. (1995). *Tax amnesties in India: an empirical evaluation*. Boston University, Institute for Economic Development.
9. Eurostat–European Commission. (2012). Taxation trends in the European Union. *Data for the EU Member States, Iceland and Norway*.
10. Johansson, Å., Heady, C., Arnold, J., Brys, B., & Vartia, L. (2008). *Taxation and economic growth*. OECD Economics Department (No. 620). OECD Publishing.
11. Johansson, Å., Heady, C., Arnold, J., Brys, B., & Vartia, L. (2008). Taxation and economic growth.

12. Keen, M. M. (2013). *The anatomy of the VAT* (No. 13-111). International Monetary Fund.
13. Krstić, G., & Schneider, F. (2015). *Formalizing the shadow economy in Serbia: Policy measures and growth effects*. Springer.
14. Meghir, C., & Phillips, D. (2010). Labour supply and taxes. *Dimensions of tax design: The Mirrlees Review*, 202-74.
15. Mikesell, J. L. (1986). Amnesties for state tax evaders: The nature of and response to recent programs. *National Tax Journal*, 507-525.
16. Nickell, S. (2004). *Employment and taxes*. CEP Discussion Papers dp0634, Centre for Economic Performance, LSE
17. Park, C. G., & Hyun, J. K. (2003). Examining the determinants of tax compliance by experimental data: A case of Korea. *Journal of Policy Modeling*, *25*(8), 673-684.
18. Paying Taxes 2016, World Bank Group.
19. Pommerehne, W. W., & Weck-Hannemann, H. (1996). Tax rates, tax administration and income tax evasion in Switzerland. *Public Choice*, *88*(1-2), 161-170.
20. Razmi, M. J., & Jamalmanesh, A. (2014). How political indices affect the shadow economy. *Romanian Economic and Business Review*, *9*(1), 45.
21. Ruge, M. A. R. C. U. S. (2012, February). Public governance and the shadow economy. In German Institute of Economic Research, *Shadow Economy Conference*.
22. Schneider, F., & Kearney, A. T. (2013). *The shadow economy in Europe, 2013*. Johannes Kepler Universitat, Linz.
23. Schneider, M. F., & Enste, D. (2000). *Shadow economies around the world: Size, causes, and consequences* (No. 0-26). International Monetary Fund.
24. Schwellnus, C., & Arnold, J. (2008). *Do corporate taxes reduce productivity and investment at the firm level?* OECD Economics Department Working Papers (No. 641). OECD Publishing.
25. Slemrod, J., & Yitzhaki, S. (2002). Tax avoidance, evasion, and administration. *Handbook of public economics*, *3*, 1423-1470.
26. Tax Administration in OECD and Selected Non-OECD Countries: Comparative Information Series, (2008). OECD, Paris.
27. USAID 2016, 1000 Business Survey, Belgrade.

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TAXES AND TAX ADMINISTRATION: THE COURSES OF REFORM AND CERTAIN TAX CONTROL ASPECTS

Porezi i Poreska uprava – pravci reforme i neki aspekti poreske kontrole

Abstract

Good results notwithstanding, the fiscal consolidation is not complete – the public debt is extremely high and the fiscal deficit has not yet been fully reigned in. In addition to the public enterprise reform, future fiscal results will depend on the collection of public revenue. A potential tax reform – tax rates changes – would not have a crucial impact on public revenue increase and grey economy suppression, as tax rates are not the key obstacle to doing business in Serbia. The key role in grey economy suppression is that of the Tax Administration. In this paper, we shall map out the general directions of desirable Tax Administration reforms, such as the changes in the organisational structure, number and structure of staff, development of an adequate information system, etc. In a separate chapter, we shall address the new regulatory solutions pertaining to inspections, which should, in the field, lead to the achievement of the desired public revenue collection objectives.

Keywords: *public revenue, tax administration, grey economy, tax rates, inspection oversight*

Sažetak

Fiskalna konsolidacija, i pored veoma dobrih rezultata, nije završena – javni dug je izuzetno visok, a fiskalni deficit nije stavljen pod potpunu kontrolu. Pored reforme javnih preduzeća, fiskalni rezultati će u budućnosti zavisiti od prikupljenih javnih prihoda. Potencijalna poreska reforma – izmene poreskih stopa – ne bi mogla presudno da utiče na povećanje javnih prihoda i smanjenje sive ekonomije, pošto poreske stope nisu ključna prepreka poslovanju u Srbiji. Ključnu ulogu u suzbijanju sive ekonomije ima Poreska uprava. U radu ukazujemo na osnovne pravce poželjnih reformi u Poreskoj upravi, kao što su promena organizacione strukture, broj zaposlenih i struktura zaposlenosti, izgradnja odgovorajućeg informacionog sistema i drugo. U posebnom delu osvrćemo se na nova regulatorna rešenja iz oblasti inspekcijskog nadzora, koja treba na terenu da omoguće postizanje željenih ciljeva u oblasti prikupljanja javnih prihoda.

Ključne reči: *javni prihodi, poreska uprava, siva ekonomija, poreske stope, inspekcijski nadzor*

Introduction

At the end of 2014, Serbia embarked on an ambitious three-year public finance consolidation programme, as a response to extremely unfavourable fiscal trends and the increasingly likely public debt crisis. A high fiscal deficit, which has been growing since the outbreak of the global economic crisis in 2008, reached 6.6% of GDP in 2014 (the highest in Europe), while the public debt reached whopping 72% of GDP – which were obvious signals that the national public finance was on the path that would be unsustainable in the long term. Fiscal consolidation results achieved thus far unambiguously show that many basic quantitative objectives (fiscal deficit decrease, arrest of public debt growth in 2017) have been achieved, and surpassed, in many ways. Namely, the overall permanent fiscal adjustment of about 4 p.p., planned for the three-year period, was achieved as early as in 2015 and 2016, which allowed for a slight public debt decrease in 2016 already (from 76% of GDP at the end of 2015 to 74.6% of GDP). This neutralised the direct danger of a public debt crisis a year earlier than was planned, which is certainly an excellent result.

There are several reasons why it would be too early and potentially dangerous to proclaim the initiated fiscal consolidation successfully complete at this point. Firstly, a strong fiscal deficit decrease in 2015 and 2016 was not achieved entirely by cutting public expenditure to a level suitable for the strength of the national economy, as originally planned. Since excessive current expenditures (primarily for pensions and salaries) and excessive budget support lent to an unreformed public sector had been identified as the main causes of the existing discrepancy between the public revenue and the public expenditures, fiscal consolidation measures were designed so as to resolve these key imbalances in Serbian public finance. However, except for a nominal pension and salary cut (comprising about 40% of the achieved permanent deficit decrease), the remaining austerity measures on the expenditure side of the budget mostly failed to yield the planned savings that would be of significance for the overall balance sheet. This is particularly true of the almost negligible effects that general government downsizing had on the budget, which should have been one of the basic pillars of the fiscal adjustment. Despite the failure to achieve a significant share of the budget savings planned, at the end of 2016, the overall deficit was decreased more than had been envisaged (to mere 1.4% of GDP) – thanks to surprisingly high collection of tax and non-tax revenues. The increase in non-tax revenue in the last two years was mostly temporary (unusually high payments of dividends from public and state-owned enterprises, one-off revenue from the sale of 4G licence, etc.), while the collection of the tax revenue exceeding the plan stems from favourable macroeconomic trends and additional revenue coming from the suppression of grey economy. Overall, more efficient collection of tax revenue and some non-systemic savings on the expenditure side afforded about 50% of the overall permanent fiscal deficit decrease in 2015 and 2016 (approximately 2 p.p. of GDP) – which could easily turn out to be unsustainable if not supported by reforms.

The key for the successful collection of the planned tax revenue in 2017 and the years to come lies in the consistent and determined implementation of the Tax Administration reform. In 2015 and 2016, very good results were achieved in tax revenue collection (greatly surpassing the original plans), in large part due to the successfully implemented measures of grey economy suppression. Keeping the tax revenue collection at a level similar to that in 2016 and perhaps some additional improvements in the years to come would be among the key factors for the success of the entire fiscal consolidation programme. The analysis of the tax revenue growth achieved so far shows that it was predominantly the result of certain *ad hoc* measures in the field, implemented by the Tax Administration (inspections of businesses, more rigorous control of VAT refunds, excise refunds, etc.). There are, however, indications that the measures from 2016 have, for the time being, exhausted room for further increase in tax revenue. In addition, since the increase of revenue collection efficiency in 2016 was not rooted in the systemic reforms of the Tax Administration, the question is whether the achieved collection rate can even be maintained in 2017. To preserve tax collection efficiency from 2016 and to improve it in the years to come, a comprehensive reform of

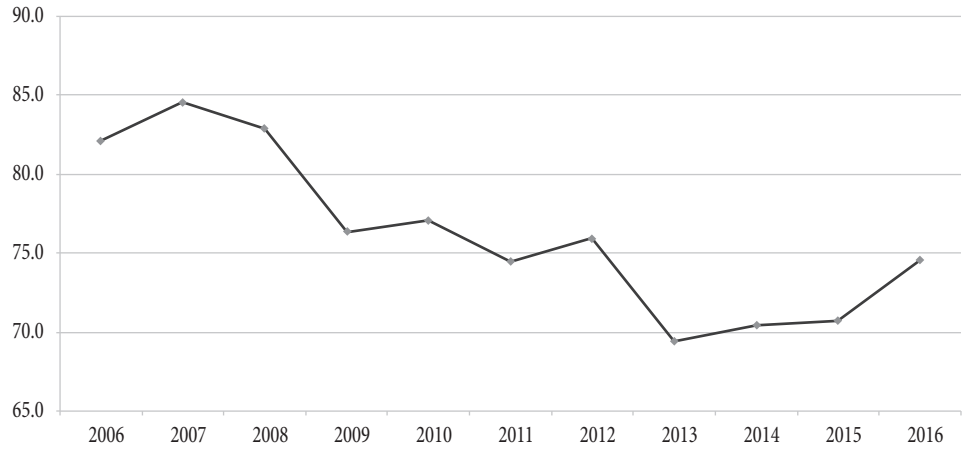
the Tax Administration – its modernisation and capacity increase – is an absolute priority.

The issue of grey economy

First of all, the informal sector is a systemic problem; permanently high level of grey economy indicates the existence of structural problems within the economy, inadequacy of the legislation, as well as lack of institutional capacities for its implementation. The complexity of grey economy is primarily reflected in: its multidimensional character, as it appears in various forms and at all levels of economic activity; its capillarity, i.e. the fact that the harmful effects of grey economy are usually the consequence of activities of a large number of small, individually irrelevant, players; and its propensity for expansion, as it is impossible for businesses that conduct their activities entirely in line with the law to compete with those that do business partially or entirely in the grey zone and thus, in the medium term, they must either lose their market share and cease their activities or move a portion of their business into the informal zone. These properties of the informal sector exclude, in large part, the possibility of finding swift and easy solutions and require a systemic approach to the resolution of this problem, over several years.

In the last decade, there have been several bouts of significant growth of grey economy and a consequent drop in tax collection efficiency [3, p. 36]. The first wave of grey economy growth was caused by the global economic crisis in 2009, while the second came in 2013 as a result of internal factors, primarily due to the decrease in tax administration capacities. The decline in tax discipline was stabilised in the first half of 2014; in the second half of that year, certain increase was observed in tax collection and this positive trend continued throughout 2015. There is still room to increase the efficiency of VAT collection in the years to come, which was recognised in the Fiscal Strategy, but there are also risks that it may decrease (as was seen in 2013). The efficiency of the value added tax collection can be monitored using the indicator called C-efficiency. This indicator basically compares the overall revenue collected to the level that should have been achieved based on the corresponding macroeconomic aggregates, assuming flawless collection. This indicator shows an increase in VAT collection rate starting from the last quarter of 2014, which is a consequence of the successful implementation of certain measures aimed at suppressing grey economy. In 2016, there was also somewhat accelerated growth of VAT collection efficiency, bringing it almost to the level from 2012 (prior to the steep drop that came in 2013). Still, achieving the collection level from 2012 would be just the first step in restoring the collection efficiency from the period prior to the economic crisis in 2008. There is definite room for the VAT revenue to keep growing, above the planned level, in 2017 and the years to come. This possibility was recognised in the Fiscal Strategy for 2017, with forecasts for 2018 and 2019. However, without a comprehensive Tax Administration reform, there is a risk that the growth of tax collection efficiency may grind to a halt, or even be overturned, just like in 2013.

Figure 1: Tax collection efficiency



Source: [4, p. 53].

The Fiscal Strategy for 2017 [8] estimates that the VAT revenue could be increased by about 1.8% of GDP in the upcoming four years, which is a difficult, but not an impossible goal. The Fiscal Strategy for 2017 states that there is great room for additional improvement in tax revenue collection. In fact, it emphasises that VAT collection increase alone, in the period 2017-2020, could result in additional revenue of about 1.8% of GDP for the general government. To achieve this goal in practice, the VAT collection efficiency would have to be restored to the pre-crisis level (2007) or even be increased to a somewhat higher level. Even though the presented assessment of the potential effects of VAT collection increase is not impossible, other independent studies on the subject of grey economy show somewhat more conservative estimates. For example, one relevant study estimates that in the medium term (three-year period), the suppression of the informal sector could lead to an overall increase in tax revenues of about 1% of GDP [6]. The fact that fundamental Tax Administration reforms have so far been implemented at a slower pace than was planned speaks in favour of the more conservative estimates. Successful suppression of grey economy requires decisive implementation of systemic measures for the improvement of the efficiency of tax authorities, over a period spanning several years (as evidenced by the prior experiences in the country, but also by the relevant international studies). Namely, grey economy is a systemic problem; if it is maintained at a permanently high level, it indicates the existence of structural problems within the economy, inadequacy of the legislation, as well as lack of institutional capacities for its implementation – which is why there are no quick and easy fixes to this issue and to the increase in revenue collection on these grounds.

Are tax laws the cause of grey economy?

It is frequently said that the tax rates, especially regarding income tax and contributions, are higher in Serbia than in the neighbouring countries. The data in Table 1 shows that the tax rates in Serbia are actually lower than the average tax rates in other Eastern European countries [1] (the tax loads in Western Europe are higher than in Eastern Europe, but for a country in transition with a large informal sector, the most relevant comparison is with other countries in Eastern Europe). One of the possible sources of confusion is the fact that in Serbia, taxes and contributions are commonly expressed as a percentage of net salaries, while the standard European practice is to express taxes and contributions as a percentage of the overall expenditures of the employer, consisting of net salary, taxes, contributions paid by the employee and contributions paid by the employer (the so-called gross-2 salary). An identical amount of income tax and contributions will appear relatively smaller if compared to the higher gross-2 tax base, than if compared to the smaller net salary. Thus, the common way of expressing income tax and contributions in Serbia as 64% of the average net salary actually means that, according to the standard European methodology, the taxes and contributions amount to 64% / (100% + 64%) = 39% of the overall expenditures of the employer, i.e. 39% of the gross-2 salary. We will observe the common practice in Serbia, expressing tax and contributions for all countries exclusively as a percentage of the net salary.

It is important to note that, even though tax rates in Serbia are lower than the average in the region, the estimated level of grey economy is significantly higher than the average in Eastern European countries. The examples of Macedonia and Bulgaria show that even a decrease in income taxes and contributions cannot guarantee a drop in grey economy, if tax administration capacities are not strengthened. In addition, as can be seen from the examples of the Czech Republic and Slovakia, in the presence of a good tax administration and adequate social and economic environment, it is possible to have a far smaller informal sector than is the case in Serbia, even with significantly higher rates of income tax and contributions. Hence, the question is whether it would be rational to consider the drafts of comprehensive and demanding tax reforms without a prior development of adequate tax administration capacities in Serbia.

Even though income tax and contributions in Serbia are lower than the SEE average, the fact is that they are higher than in Macedonia and Bulgaria – our closest neighbours and direct competitors for attracting foreign investments.

Therefore, a reduction in tax and contributions rate could make Serbia more attractive for investments. However, a significant decrease in income tax and contributions is not realistic as a stand-alone reform measure. For example, a decrease from the current 64% to 50% of the net salary, which is one of the proposals that are being discussed in public at large, would yield a budget deficit increase of 2.4% of GDP, neutralising the positive fiscal consolidation effects achieved so far and landing Serbia back on the path of public debt growth. Significant relaxation of income tax and contributions would only be realistic as a part of a wider tax reform that would include an increase in the VAT rate to compensate for the loss of budget revenues and avoid a deficit increase [2].

The necessary changes to the tax administration

An in-depth reform and development of the Tax Administration are of key importance for efficient economic environment and for the suppression of the informal sector. International experience and examples from Serbian practice strongly indicate that the development of adequate tax administration capacities, primarily the Tax Administration itself, is of key importance for suppressing grey economy and improving business climate. Serbia has the smallest number of tax officers per capita of all the countries in the region, their salaries are not competitive compared to the private sector (especially in the case of more experienced tax officers), while the Serbian Tax Administration is also burdened with a large number of non-tax related competencies (software legality, real estate valuation, VAT refund on baby products, etc.). Particularly alarming is the situation with tax inspectors, of which there are only 500, even though international experience calls for at least 1,000 (qualified) tax inspectors for a country like Serbia. Strong social and political support, dedication over several years, expert support and increase in funds allocated for tax administration will be necessary for the resolution of the accumulated systemic problems of tax collection.

Improving tax control efficiency requires an in-depth reform of the key segments of tax administration. In the current organisation of tax authorities, there are many challenges and obstacles that must be overcome and reformed to establish an adequate legal and organisational framework for efficient detection of tax evasion. Specifically, the national organisational structure of the Tax Administration would have to be thoroughly modified and human resources improved and organised in a way that would maximise tax revenue. In addition, an integrated information system would have to be developed to allow for efficient resource management and risk-based identification of tax evasion. These issues have also been recognised in the publication of the International Monetary Fund [5].

Tax Administration downsizing and centralisation should be one of the priorities for reform. The idea of Tax Administration rationalisation and aggregation of its organisational units have been discussed among the expert public for over a decade. Thus, for example, when the VAT system was being introduced in 2005, it was decided that only 55 of the (largest) tax offices would be equipped for work with VAT taxpayers. Even though this step was meant to represent an introduction into the

Table 1: Tax rates and the assessed level of grey economy in Eastern Europe, in %

Country	Income tax and contributions	VAT	Profit tax	Grey economy (% of GDP)
Bulgaria	52	20	10	32
Czech Republic	74	21	19	15
Croatia	62	25	20	25
Hungary	93 (70)	27	19	22
FYR Macedonia	47	18	10	~30
Romania	77	20	16	30
Slovakia	74	20	22	16
Slovenia	74	22	17	24
SEE Average	**69**	**22**	**17**	**24**
Serbia	**64**	**20**	**15**	**30**

Source: [5].
Note: In Hungary, income tax and contributions comprise 93% of the net salary for workers with no dependents, i.e. 70% in case of two dependents, due to significant tax exemptions.

rationalisation of the tax offices network, no additional reform steps were made in this segment in the last decade. This is why organisational rationalisation is one of operational priorities within the efforts to increase the efficiency of tax authorities.

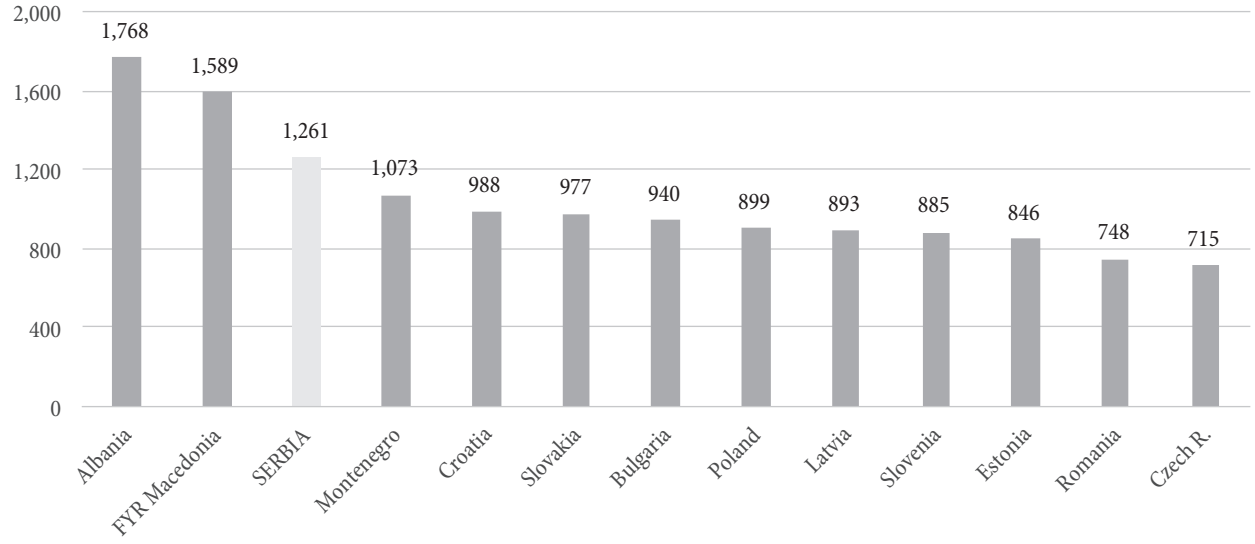
The breakdown of organisational units into smaller units has a negative impact on human resource management, as it hinders the transfer of knowledge and career advancement of the employees and endangers the uniformity of tax procedures in practice. Namely, the taxpayers are distributed among organisational units according to the territorial principle and it is unrealistic to expect that all offices will be able to develop adequate capacities for the wide range of services and controls performed by the Tax Administration, especially since certain types of control require a certain level of industrial specialisation. In addition, local tax procedures without an adequate information supervision system significantly increase the risk of errors, but also open opportunities for abuse and corruption.

The number of Tax Administration staff is among the lowest in the group of comparable countries in the region. Even though it is the largest system in the Ministry of Finance, with over 6,200 employees, Serbian Tax Administration has fewer employees per capita than comparable countries. Figure 2 shows that Serbia has one Tax Administration employee per 1,261 inhabitants, while the average in the observed sample is lower by 18%. Therefore, it cannot be said that the Tax Administration has a problem with excess employees, unlike other public administration sectors.

Inadequate educational and age structures of the staff make it more difficult to increase the efficiency of tax authorities. According to available data, only 55% of the employees in Tax Administration received higher education, while the average in the comparable countries is 12 p.p. higher. At the same time, the average age of Tax Administration staff is over 50, while the average in the comparable countries is 44. High average age of Tax Administration staff can lead to a high natural workforce outflow in the upcoming period, which, combined with the existing employment limitations in the public sector, could seriously jeopardise Tax Administration's ability to perform its tasks. In addition, unfavourable age and educational structures represent an additional aggravating factor in the process of modernisation of the information infrastructure and training of staff for its efficient use.

Inadequate staff allocation by sectors additionally undermines the efficiency of tax authorities. This is reflected primarily in the fact that a small number of staff is engaged in the basic functions, i.e. control and revenue collection, while the majority work on support tasks such as administration, human resources, receipt and processing of tax returns, etc. Thus, the Tax Administration has at

Figure 2: Tax Administration employees per capita



Source: [1].

its disposal around 600 field control inspectors, which is about 10% of the total staff and well below the international recommendations that inspectors should comprise about 25% of the total staff. Amendments to the Law on Tax Procedure and Tax Administration in 2014 introduced the position of a tax controller. Around 300 employees were subsequently transferred from administration to work on simpler inspection tasks, such as employee registration control and issuing fiscal receipts in retail shops. This resulted in a significant increase in field controls; however, it is clear that the tax controllers cannot serve as an adequate or sustainable replacement for the shortage of qualified tax inspectors. Additionally, there are indications that a disproportionately large number of tax inspectors is engaged in the control of small and medium taxpayers, whereas optimal allocation would call for a greater focus on large and medium taxpayers, responsible for the dominant part of tax revenues. This is why special attention needs to be paid to the establishment of adequate capacities within the Centre for Large Taxpayers in the upcoming tax administration reform.

The lack of a unified information system represents a large obstacle to more efficient operation of tax authorities. Currently, Serbian Tax Administration does not have an adequate, comprehensive and modern information system at its disposal. Instead, relevant data and information are fragmented in several ways. There is organisational fragmentation, as there is no central database that would, in a uniform manner, store the detailed data available in individual organisational units. In addition, there is no adequate centralised database that would aggregate, in one place, tax information from separate databases pertaining to different forms of tax, such as VAT, corporate income tax, personal income tax, etc. The development of a modern and comprehensive information system is, therefore, one of the operational prerequirements for Tax Administration modernisation in the upcoming years.

Successful suppression of grey economy requires several years of decisive implementation of the measures for improvement of the efficiency of tax authorities, increased likelihood of tax evasion detection and adequate implementation of penal policies. A well-known result from economic theory shows that economic actors (rationally) compare the potential profit they could achieve by doing business in the grey zone and the potential damage and fines they would suffer if they were caught in tax evasion. This is why it is important to direct the reform efforts towards: 1) increasing the likelihood of detecting tax evasion and 2) implementing suitable penal measures for businesses evading taxes.

The legislative framework prescribes (relatively) suitable sanctions for tax evasion, but it is necessary to improve the implementation of this legislation in practice. The penal provisions prescribed by the Law on Tax Procedure and Tax Administration can be regarded as relatively adequate when it comes to tax evasion and operating in the grey zone. However, there are numerous examples showing that relevant institutional capacities must be improved, both in tax administration and within prosecutorial and judicial bodies, to ensure adequate implementation of penal provisions in practice. Thus, for example, many tax evasion cases that the Tax Administration filed in the past never got adequate closure in the court. In addition, there were numerous cases in which sanctions prescribed by the courts for serious evasions were excessively mild – which does not contribute to the prevention of, nor does it serve as a deterrent for future tax evasion.

In addition to more adequate implementation of penal measures, more efficient detection of tax evasion (i.e. increased detection likelihood) would represent a key prerequirement for the reduction of grey economy in the upcoming period.

If taxpayers see that the tax authorities have started performing more efficient controls and detecting a larger number of tax evasion cases, they will (rationally) conclude that they would more likely be caught in tax evasion and will thus be more encouraged to report their business activities legally. However, more efficient detection of tax evasion requires in-depth, decisive reform within the Tax Administration.

The Government's tax administration transformation programme

The Government's Tax Administration Transformation Programme for 2015-2020 [7] is a suitable first step in the

suppression of the informal sector. The Government of Serbia adopted the Transformation Programme in the first half of 2015, followed by an Action Plan, which generally allows for an in-depth reform of the Tax Administration and the development of a modern institution capable of efficient detection and prosecution of tax evasion. Specifically, the Transformation Plan allows the Tax Administration to thoroughly reform its key operational shortcomings, such as the irrational organisational structure with a large number of small and inefficient offices, weak and insufficient human resources and fragmented and obsolete information systems which do not allow for efficient resource management and risk-based tax evasion identification.

There are certain improvements in the implementation of the Tax Administration Transformation Programme, but significant delays have been registered in certain segments. Although certain improvements have been made after the adoption of the Government's Transformation Programme, the key improvements in the development of adequate staff capacities of the Tax Administration are not being implemented in line with the original plans. According to the available data, it seems that the largest progress has been made in establishing the Tax Administration's e-services; it is expected that in 2017, it will be possible to submit digital returns for all types of taxes. On the other hand, planned hiring and training of the new staff have only just begun. Namely, in September 2016, a competition was open for the hiring of 100 junior inspectors; the competition has not been definitely closed, even though it is of utmost importance for the operation of this institution, bearing in mind the unfavourable age distribution of the staff and the trend of retirement of the most experienced employees. A serious obstacle to the reinforcement of Tax Administration's human resources lies in the uncompetitive salaries when compared to the private sector, which is why it is extremely difficult to keep the best staff. Even though this problem has been known for a long time, nothing has practically been done to resolve or at least mitigate it. Relevant state bodies must recognise the significance of the Tax Administration in the success of grey economy suppression and support the Tax Administration in implementing the key elements of the Transformation Programme.

Tax control and the Law on inspection oversight

The Law on Inspection Oversight came into full effect on April 30, 2016. The Law regulates content, types and forms of inspection, as well as the inspection procedure, competencies and obligations of the participants in the inspection process and other issues relevant for the subject matter of inspection. Inspection is defined as a task of the state administration, the content and meaning of which are prescribed by the law regulating the operation of state administration, with the aim of acting preventatively or prescribing measures to ensure the lawfulness and safety of business operations and actions of the subjects of inspection. Inspection is also defined as a body within an internal organisational unit, or an internal organisational unit itself, or inspectors of a state administration body or the administration body of the autonomous province or unit of local government, or any other entity with public competencies, which performs the act of inspection; the subject of inspection is defined as a legal person, entrepreneur and natural person, organisational form through which a natural or legal person is performing business activities for which no obligation of registration has been prescribed, as well as an entity with public authorisations as prescribed by the law.

The Law also applies to tax control, i.e. tax inspection, which is performed by the Tax Inspection – Sector for Control within the Tax Administration.

Applicable legislation

The Tax Inspection, in performing inspection (tax control) activities, implements a specific (sectoral) law – Law on Tax Procedure and Tax Administration in the first place; then the Law on Inspection Oversight as a general (systemic) law regulating inspection; and finally the Law on General Administrative Procedure. The Law on Tax Procedure and Tax Administration comprehensively regulates the procedure of determination, collection and control of public revenue subject to the law (the tax procedure), rights and obligations of taxpayers, registration of taxpayers and tax felonies and misdemeanours, while at the same time representing a special law compared

to the Law on Inspection Oversight, with regards to the provisions regulating tax control and tax inspection. Article 4 of the Law on Inspection Oversight prescribes that, in the process of inspection regulated by a special law, the provisions of the special law are to be applied directly if the special law regulates inspection in the said field in a different manner. Therefore, the Law on Tax Procedure and Tax Administration, as the special law, applies to any issue regulated in the Law on Tax Procedure and Tax Administration in the manner different from the Law on Inspection Oversight. Therefore, the Law on Tax Procedure and Tax Administration, as the special law, applies to any issue regulated differently in the Law on Tax Procedure and Tax Administration than in the Law on Inspection; the Law on Inspection pertains to the remaining issues. When an issue is not regulated in the Law on Tax Procedure and Tax Administration or in the Law on Inspection Oversight, the next legislation to consider is the Law on General Administrative Procedure, as the law regulating the administrative procedure in general, as well as other general legislation regulating public administration. The Law on Inspection Oversight is, therefore, an "intermediate level" law, between the Law on Tax Procedure and Tax Administration, as a special law, and the Law on General Administrative Procedure, as a general law.

Monitoring

Tax Inspection collects information and monitors and analyses the state of affairs within its competence. These operations include the collection and analysis of data received through checklists, direct data collection, data collected from state bodies, statistical and other data, as well as the collection and analysis of inspection, administrative, judicial and business practices within its field of inspection and other relevant operations.

On its official web page, the Inspection publishes the list of entities that have been inspected, based on the data collected using checklists, and for which it has been established that they have achieved the highest level of compliance of business practices with the legislation and other regulations, as well as the list of those that have not made their business practices and operations compliant with legislation and other regulations at all. This provides positive and negative examples and incentives for legal business operation and action, which yields multiple benefits, while illicit behaviour yields multiple negative consequences.

In terms of the least compliant entities, Article 7, Paragraph 7 of the Law on Tax Procedure and Tax Administration prescribes that the Tax Administration shall publish, on its official web page, twice a year – on the last day of the respective six-month period, the name, TIN and amount of tax debt for tax debtors owing the amount equal to or exceeding 20,000,000 dinars (for legal persons) or 5,000,000 dinars (for entrepreneurs); such disclosure does not constitute a breach of the obligation of safeguarding confidential information. We believe that this is a concrete embodiment and a special legal regulation of the legal institute from Article 8, Paragraph 5 of the Law on Inspection Oversight, which brings advantages in terms of implementation; in this manner, the provisions of Article 8, Paragraph 5 of the Law on Inspection Oversight are meaningfully applied to the aforementioned parties (tax debtors).

As for those that demonstrate the highest compliance with the law, we believe that disclosure of the list of such entities does not constitute a breach of the obligation of safekeeping confidential information in tax proceedings. Namely, Article 7, Paragraph 5 of the Law on Tax Procedure and Tax Administration prescribes that the obligation of safekeeping confidential information is only breeched if the aforementioned documents, facts or data are used or disclosed in an unauthorised manner. Publishing the list of inspected legal entities that have achieved the highest degree of compliance with the law and other regulations, in our opinion, does not constitute an unauthorised disclosure, or any other type of unauthorised disposal of such data; on the contrary, this is an authorised activity of the tax authorities, grounded in law. The authorisation for this activity is, therefore, contained in the law itself, i.e. its source of law is the Law (legal authorisation), more specifically, Article 8, Paragraph 5 of the Law on Inspection Oversight. A positive comparative example of disclosing taxpayers who have achieved the highest level of compliance with the law is the activity of the

Tax Administration of Montenegro which publishes the "White list" – the list of taxpayers that have demonstrated the highest degree of fiscal discipline, adherence to tax regulation and fulfilment of tax obligations.

Risk assessment

The Law on Tax Procedure and Tax Administration prescribes that the tax control is to be performed based on an annual plan, or a special plan, adopted by the Director of Tax Administration, which is based on the assessment of task risk and tax significance of individual taxpayers. Risk assessment is comprised of several elements, the most significant of which are the probable severity of harmful consequences and the likelihood of such consequences occurring, as well as criteria used to assess them, steps undertaken and techniques applied during assessment, and other relevant factors. The severity of harmful consequences is to be assessed starting from: the nature of harmful consequences (stemming from the type of business activity of the legal entity in question, or the properties of the goods) and the scope of harmful consequences (the higher the turnover and, thus, the public revenues derived from it, the greater the severity of the likely damage, which means that the risk increases). As far as we know, tax inspection uses several criteria for risk assessment and control prioritisation in its work: the turnover achieved; activity – especially whether the activity in question is a so-called high-risk industry (such as, e.g. real estate development); results of previous controls; the total amount of the newly discovered public revenue; size of the taxpayer; related entities; whether the legal representative of the taxpayer undergoing control had also been the legal representative of other taxpayers, the control of which had revealed irregularities and breeches of law; whether the legal representative of the taxpayer undergoing control had also been the legal representative of other taxpayers which had been stripped of their TIN; late tax returns; frequent changes of the business seat, documentation pertaining to cash payments, etc. According to the Tax Administration's assessments, newly established legal entities carry higher risk, especially in the first year of doing business. There are several aspects to this risk – newly established businesses, as a rule, have no experience in complying with their tax obligations, so omissions are more likely; there is insufficient data on their operation (they are insufficiently known, i.e. they have no "history"); newly established businesses have very high expenditures (procurement of equipment, goods, etc.), which are not equally matched by turnover; and they file for the refund of previous taxes, raising doubts as to possible abuses, etc. These criteria are checked against those prescribed by the Law on Inspection Oversight by analysis and comparison.

Inspection plan, regular and special tax controls

The Law on Tax Procedure and Tax Administration prescribes that the tax control is to be performed based on an annual plan, or a special plan, adopted by the Director of Tax Administration, which is based on the assessment of tax significance and task risk of the observed taxpayer. This is regular supervision (regular control).

The Law on Inspection Oversight prescribes that the Inspection Plan shall be based on the ascertained state of affairs in the field of inspection and on the risk assessment. The Inspection is obliged to implement the Inspection Plan, except in specific, justified exceptional circumstances that prevent it from doing so. The Inspection is obliged to elaborate a strategic plan (for a period spanning several years) and an annual Inspection Plan. The Annual Inspection Plan is implemented through operative (biannual, quarterly and monthly) inspection plans. An Inspection Plan must comprise: frequency and scope of inspections, by field and by risk level; overview of the legal entities that shall be subject to inspection, i.e. activities that shall be supervised, if it is impossible to identify the legal entities that shall be inspected or if they are too numerous, with the information relevant for inspection and identification of legal entities that shall be subject to inspection; risk assessment for supervised entities inspection, or for supervised activities; territory on which, as well as the period of time during which, inspections shall be carried out; information on the forms of inspection that shall be carried out; information on the Inspection resources that shall be allocated for the performance of these inspections. Therefore, in case of

a large number of supervised entities, the supervised entities may be designated descriptively in the plan. In such a case, they are not identified, but are identifiable, i.e. can be identified based on the adequate parameters.

In addition to regular inspection, special inspections are also performed in cases in which there have been certain disturbances in the market, or if there are indications that the volume of illegal trade has increased. The examples of special tax controls are controls of turnover records through fiscal cash registers and controls of games of chance, as well as procedures for revoking authorisations for the performance of currency exchange activities at the request of the authorised exchange office. The reports (tip-offs) initiating tax control are submitted through the Tax Administration's call centre, the "Tax Alarm" web page or directly, in writing. These reports have the legal effect of an initiative to open proceedings and those submitting such initiatives are not parties to the proceedings that may be opened based on these initiatives. The risk stemming from each submission (report) is analysed. In our opinion, each instance of supervision that has not been planned in the annual plan, or the operative plan for the implementation of the annual plan, represents a special inspection and can be classified under one of the reasons for special supervision prescribed by the legislation.

As for the frequency of control, it was prescribed that the frequency of inspection shall be determined based on risk assessment, by the line Minister, who, for tax control, is the Minister of Finance, within 90 days of the day this Law comes into effect. However, this regulation (Rulebook) has not been adopted yet, even though the deadline for its adoption expired at the end of July 2015.

In addition to the regular (planned), there are special (unplanned) tax controls, depending on specific circumstances and risks. These concrete circumstances and risks may serve as grounds for special control for the period of time that has already been checked as part of a regular control, if the Tax Administration harbours sufficient doubt that a breach of legislative obligations has taken place, i.e. if it assesses that there is a significant risk of illegal tax evasion (e.g. unfounded VAT refund requests, other types of tax fraud and abuse, etc.). We find that, as a rule, legality and regularity of the fulfilment of tax obligations of a particular taxpayer in a particular time period, which had been inspected through an already conducted supervision in which no irregularities or breeches had been found, should not be subject to a new tax control. However, in exceptional circumstances this can take place through special inspection, when the Tax Administration, based on the data at its disposal, deems it necessary to establish material facts.

Checklists

A checklist is a document comprising a list of priority issues for control and other actions within the competencies of the Inspection, identified in line with the severity of the possible harmful consequences in a given field in line with the rules of risk assessment; as well as the subject and scope of such control. The inspection is obliged to use checklists within the regular inspection procedure. Inspector, acting within the scope of the subject of inspection from the inspection order, undertakes such procedures and actions as are listed in the checklist. The inspector can undertake other verification procedures and actions that are within their authorisations, if they find, in the course of performing the inspection, that it is necessary to undertake them for the purposes of complete identification of the facts of the case and to assess whether the given entity's operation and actions were legal and safe, in cases when such verification procedures and actions are aimed at preventing or neutralizing direct hazards to human life and health, environment, flora and fauna. The Law on Inspection Oversight prescribes the obligation to use checklists within regular inspections, whereas their use is not mandatory for special supervision. Therefore, within the procedure of special supervision, the checklists can, but do not have to be used. Namely, the nature of the regular supervision is such that it should be a planned, systematic, comprehensive endeavour aimed at forming a complete picture of the state of affairs and determining the degree of risk; for this purpose, checklists are used. On the other hand, the nature of special supervision, as a rule, is thematic and aimed at neutralizing a concrete hazard, in a situation in which the risk is increased, etc. However, despite the fact that the use of checklists in special

supervision is not mandatory, we are of the opinion that it is possible, suitable and useful to use them.

The entity being inspected can submit a self-check report to the Inspection, on meeting the requirements from the checklist and on risk self-assessment conducted in line with the items of the checklist and the risk assessment rules. Along with this report, the supervised entity also submits the pertinent documentation, or other materials (photographs and such) that corroborate the findings in the report.

Prevention

The Law on Inspection Oversight prescribes that, in order to fulfil the objectives of inspection, the Inspection is obliged to act preventively. Preventative action of the Inspection is accomplished through transparency, especially: by publishing relevant legislation, inspection plans and checklists; by informing the public on amendments to the legislation and rights and obligations of the entities subject to inspection that stem from such amendments; by informing the public that the inspection has learned of serious risks to human life or health, valuable property, environment or flora and fauna and of the measures and actions undertaken to neutralise or mitigate such risks; by providing expert advice and support to the entity undergoing inspection or to a person seeking to materialise their rights within, or pertaining to, the entity undergoing inspection, including by issuing documents on the application of the legislation and by official advisory visits; by undertaking preventative inspections and other activities aimed at encouraging and supporting the legality and safety of business activities and at preventing the occurrence of harmful consequences to goods, rights and interests protected by law or other regulations, especially when the early signs that these are likely to occur have been observed.

The positive examples of preventative action of the Tax Administration include the publication of the Guide to Value Added Tax (VAT), publication of the explanations pertaining to the control of software legality, invitation of the taxpayers that have failed to file tax returns for a certain period, to file such returns in line with the legislation, etc.

The Law on Inspection Oversight defines official advisory visits as a form of preventative action. Establishing the practice of Tax Administration advisory visits, primarily to micro, small and medium enterprises, in order to acquaint them with their tax obligations, is envisaged in the Corporate Strategy of the Tax Administration for the 2013-2018 period and in the National Programme for the Suppression of Grey Economy from 2015. In addition, the Tax Administration Transformation Programme for 2015-2020 pays significant attention to the activities aimed at encouraging voluntary compliance of taxpayers with tax legislation. If the inspection observes, during their advisory visit, an omission, shortcoming or irregularity in business activities or actions of the visited business, it shall, within eight days of the visit, elaborate and submit to this business a letter comprising the recommendations on how to rectify the said omission, shortcoming or irregularity, to ensure legal and safe business activities and conduct, and the time period in which this correction needs to be made. The business then informs the inspection on whether – and how – it has acted on these recommendations, within the deadline prescribed in the letter.

Conclusion

Fiscal consolidation is going in the right direction, but the macroeconomic stability is not guaranteed in the medium and long term. The results achieved in the field of public finance will depend on cost-limiting reforms (expenditures for public enterprises, pensions and salaries) and on the public revenue collection dynamic. Serbia's experience over the last ten years indicates a pronounced instability of public revenue, i.e. a trend independent of macroeconomic fundamentals and tax rates. Tax collection and the scale of grey economy depend on the work of the Tax Administration. The fiscal results will depend on its capacity and ability to tackle future challenges. In addition to active field controls, future operation of the Tax Administration will also depend on the reforms of this institution itself. Serbia has a small number of tax officers per capita, the salaries in the Tax Administration are not competitive compared to the private sector and the institution is burdened with a large number of non-

tax competencies. The organisational structure of the Tax Administration should be modified (network of offices), the educational and age structures of the staff should be improved and an integrated information system needs to be developed, to allow for efficient resource management and identification of tax evasion based on risk assessment. The Law on Inspection Oversight regulates the content, types and procedures of inspection, competencies and obligations of the participants in the inspection process and other issues relevant for the subject matter of inspection. This is an "intermediate level" law, between the Law on Tax Procedure and Tax Administration, as a special law, and the Law on General Administrative Procedure, as a general law. The inspection publishes the list of the entities undergoing inspection which have been found to have achieved the highest level of compliance of business practices with the legislation, as well as the list of those that have not made their business practices and operations compliant at all. Tax control is performed based on an annual plan and a special plan, which are grounded in the assessment of the tax significance and the tax risk of the individual taxpayers. The Minister of Finance prescribes the frequency of inspections based on risk assessment, but the appropriate regulation (Rulebook) has not been adopted yet. To reduce the arbitrary character of control, we believe it would be suitable and useful to use checklists (lists of critical issues to check) in instances of special supervision as well. More weight should be given to preventative measures. Even with the good examples of preventative actions implemented by the Tax Administration (publication of the Guide to Value Added Tax, publication of explanations pertaining to the control of software licences, for example), the development of a partnership with the business sector requires stronger preventative action (advisory visits would be one possible form of cooperation).

References

1. Altiparmakov, N., Minić, S., & Ugrinov, S. (2017). Fiskalne perspektive Srbije u srednjem roku. *Ekonomska politika u 2017. godini*. Beograd: Naučno društvo ekonomista Srbije. In press.
2. Arsić, M., Altiparmakov, N., Ranđelović, S., Bućić, A., Vasiljević, D., & Levitas, T. (2010). *Tax policy in Serbia - looking forward*. Belgrade: Foundation for the Advancement of Economics.
3. Fiskalni savet. (2015). *Fiskalna konsolidacija u 2015. godini i osnovni reformski izazovi*. Fiskalni savet.
4. Fiskalni savet. (2016). *Ocena Predloga zakona o budžetu za 2017. godinu i Fiskalne strategije za period 2017-2019*. Fiskalni savet.
5. International Monetary Fund. (November 2016). *Central, Eastern, and Southeastern Europe: Effective government for stronger growth*. Regional Economic Issues.
6. Krstić, G., Schneider, F., Arandarenko, M., Arsić, M., Radulović, B., Ranđelović, S., & Janković, I. (2013). *Siva ekonomija u Srbiji – novi nalazi i preporuke za reforme*. Beograd: USAID Srbija i Fondacija za razvoj ekonomske nauke.
7. Ministarstvo finansija – Poreska uprava. (2015). *Program transformacije Poreske uprave za period 2015-2020. godine*. Ministarstvo finansija Republike Srbije.
8. Ministarstvo finansija. (2016). *Fiskalna strategija za 2017. godinu sa projekcijama za 2018. i 2019. godinu*. Ministarstvo finansija.

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SOFTWARE EDUCATION AND DIGITAL ECONOMY DEVELOPMENT IN SERBIA*

Obrazovanje programera i razvoj digitalne ekonomije u Srbiji

Abstract

The concept of digital transformation, or the use of technology to improve performance, is analysed in the context of sustainable economic development and technological preparedness of Serbia. The authors further focus on the role of software engineering education. Software developers are key enablers of new information technologies, providing programming services behind the adapted and new business models. The first assessment of current technical competencies, educational background and working conditions of software developers in Serbia was the subject of an empirical study conducted in October 2015, which is discussed in this article. The findings concur with global research, which discerns a shift away from formal education, in part as a result of a gap in the classic curricula and the market demand for agile programming and project management. This gap needs to be supplemented with non-technical skills in addition to teaching innovative programming, and this could be a subject of further study. Additional research is required to understand the low level of digital adoption by the business sector in Serbia, as well as to investigate the impact that European integration and foreign investments produce on this process. In Serbia, one important positive trend is a high level of openness to entrepreneurship among software developers, and this may be the source of new innovations. A further challenge is to link developers as technical enablers with the traditionally organised businesses in Serbia to facilitate a wider digital transformation and creation of a true digital economy.

Keywords: *digital economy, transformation, education, software developers, ICT, Serbia*

Sažetak

Pojam digitalne transformacije, odnosno upotrebe tehnologije radi unapređenja učinka, proučava se u kontekstu održivog ekonomskog razvoja i tehnološke spremnosti Srbije. Autori se dodatno usredsređuju na ulogu obrazovanja u oblasti softverskog inženjerstva. Programeri su ključni nosioci procesa primene novih tehnologija, pružajući tehničku podršku stvaranju prilagođenih i novih poslovnih modela. Stoga članak razmatra rezultate prve studije tehničkih kompetencija, obrazovanja i uslova rada srpskih programera, koja je sprovedena u oktobru 2015. godine. Nalazi potvrđuju međunarodna istraživanja koja uočavaju udaljavanje od formalnog obrazovanja, delom zbog jaza između etabliranih nastavnih planova i potreba tržišta za agilnim programiranjem i upravljanjem projektima. Ovaj jaz treba popuniti ne samo učenjem inovativnog programiranja, već i netehničkim kompetencijama, što može da bude tema daljih istraživanja. Pored toga, treba proučiti razloge za nizak stepen prihvatanja digitalnih tehnologija u poslovnom sektoru u Srbiji, te ispitati ulogu evropskih integracija i stranih ulaganja u ovom procesu. Jedan značajan pozitivan trend u Srbiji predstavlja velika otvorenost programera prema preduzetništvu, što može da bude izvor novih inovacija. Dodatan izazov je kako spojiti programere sa tradicionalnim preduzećima da bi se omogućila šira digitalna transformacija i stvaranje istinske digitalne ekonomije.

Ključne reči: *digitalna ekonomija, transformacija, obrazovanje, programeri, IKT, Srbija*

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Introduction: Digital transformation and new competencies

Although the term "Digital Economy" was coined as late as in the mid-1990s [21], referring to a concept that is also termed e-business and e-commerce, and essentially describing doing business in part by using the Internet, just two decades later it coincides with the majority of the economy. Most businesses today use the Internet, and competitiveness becomes determined by the extent to which the Internet and other advanced information technologies (IT), such as mobile and cloud applications, and most recently blockchain, are embraced, transforming the business models. Therefore, the concept of digital transformation, or the use of technology to improve performance, is one that deserves more attention, especially in relation to the study of sustainable economic development. Companies transform the way they are doing business to benefit from the low and potentially zero marginal cost provided by the digital platform for trade in their intangible products. Likewise, the public sector transforms its service delivery, and the economy benefits from its increased efficiency and transparency.

Digital transformation reduces a range of costs, especially those relating to labour. It alters the way in which market research is performed, with abundant and often current or even real-time data availability. Wu and Brynjolfsson [27] further emphasise that the availability of such data enables easier predictions of consumer behaviour and preferences. Indeed, the collection and analysis of this kind of data is a business model for many technology companies, notably Google. Yet, authors such as David Rogers [13] convincingly argue that the essence of digital transformation for businesses does not lie in updating the technology but in "upgrading strategic thinking" and reshaping business models. According to Westerman, Bonnet and McAfee [26], new digital technologies not only create new entrepreneurial opportunities, but impact the organisational structure and often lead to a shift from physical products alone to service-based or service-complemented products. Together with Karen Dillon, Taddy Hall and David S. Duncan [4], Clayton Christensen further contends the established notion that understanding the customer is the crux of innovation. Instead, the said authors argue that products are purchased to do a job and that "understanding customers does not drive innovation success, but understanding customer jobs."

Indeed, digital transformation is the core of management consulting services today, dominating their research and public presentations. This only seemingly contrasts with the view of Shapiro and Varian, who maintain that companies need to return to the fundamental market-driving forces in economics to understand the digital market, and that market rules have not changed to the same extent as has the technology [17, pp. 1-2]. In essence, digital transformation strategies are adapted corporate growth and restructuring strategies. For instance, based on case research of 20 large companies in North America and Europe across different industries, investigating the effects of new information technologies (NIT) in transforming industries and value chains, Andal-Ancion, Cartwright and Yip [1] concluded that the deployment of NIT ultimately resulted in three types of strategies to achieve digital transformation: a) reducing layers of intermediaries, such as distributors, which separate the company from its customers (termed classic disintermediation); b) embracing intermediaries (remediation), and c) building strategic alliances and partnerships with new and existing market participants in a tangle of complex relationships (network-based mediation).

Brynjolfsson and McAfee [3, p. 62] highlight two significant consequences of digitisation: "new ways of acquiring knowledge (in other words, of doing science) and higher rates of innovation." This has led to changes in the formal education system and a concurrent increase in self-learning, facilitated by the new information technologies. Software developers are key enablers of NIT application, providing programming services behind the new and adapted business models. The first assessment of current technical competencies and educational background of software developers in Serbia is the subject of the empirical study discussed in this article. The study is placed in the context of Serbia's technological preparedness.

Productivity, sustainable growth and Serbia's preparedness for digital transformation

Stephen S. Roach [12] has revived the intense discussion on the "productivity paradox" from the late 1990s, referring to the phenomenon of massive IT investments that did not deliver significant productivity gains. Today, new markets are created (digital media and computerised wearables), as well as new services (energy management and DNA sequencing), products (smartphones and robotics) and technology companies (Alibaba and Apple), but the growth is not (sufficiently) visible. As Roach suggests, "it is possible that all America has accomplished are transitional efficiency improvements associated with the IT-enabled shift from one technology platform to another." Yet, he also insists that the quality-of-life improvements have not been captured in official statistics, and more importantly, "the undercounting of work time associated with the widespread use of portable information appliances". This argument may counter the pessimism of Barry Eichengreen [8], who deduced that growth of the TFP (total factor productivity), the combined measure of capital and labour productivity, was essentially zero for three consecutive years, concluding: "If the rate of TFP growth has in fact fallen from its historical norm of 1.5% per year to near zero in countries like the United States, then the living standards of today's young adults will rise much more slowly than those of their parents". Nonetheless, as emphasised by Eichengreeen, "Any increase will depend entirely on improvements in education and training, which are absent from the data, and from investment in equipment and structures, which is depressed relative to historical levels." Education is still perceived as a principle factor to buttress productivity and sustained growth.

Recognising the strong correlation between digital transformation and sustainable development, the World Bank devotes increasing resources to this topic. The most recent World Development Report focuses on digital development, and it is called Digital Dividends [25]. It turns attention to automation and potential employment loss that could affect the developing countries, as well as to possibilities of job creation. Education is analysed both in the context of the use of technology, where the findings are inconclusive because some of the most advanced education systems such as the Finnish model use limited technology in classrooms, and in the context of acquiring new skills. As noted in the report, "Modern labor markets require creativity, teamwork, problem solving, and critical thinking in ever-changing environments — skills that traditional education systems do not teach and that are the hardest to measure" [25, p. 32]. As a consequence, many countries are adapting their approach to education, which is encouraged by the World Bank, as is more overall investment in information and communications technologies (ICT) education. Importantly, the World Bank reiterates that there are high returns for individuals investing in education, especially in tertiary ICT education: "Returns to tertiary education are the highest, at 14.6 percent; tertiary education is the only educational level for which returns have not fallen since the early to mid-1990s. That reflects strong demand for advanced skills, especially among women. Returns to education are higher and have been rising more rapidly in ICT-intensive occupations compared to the rest of the economy" [25, p. 112].

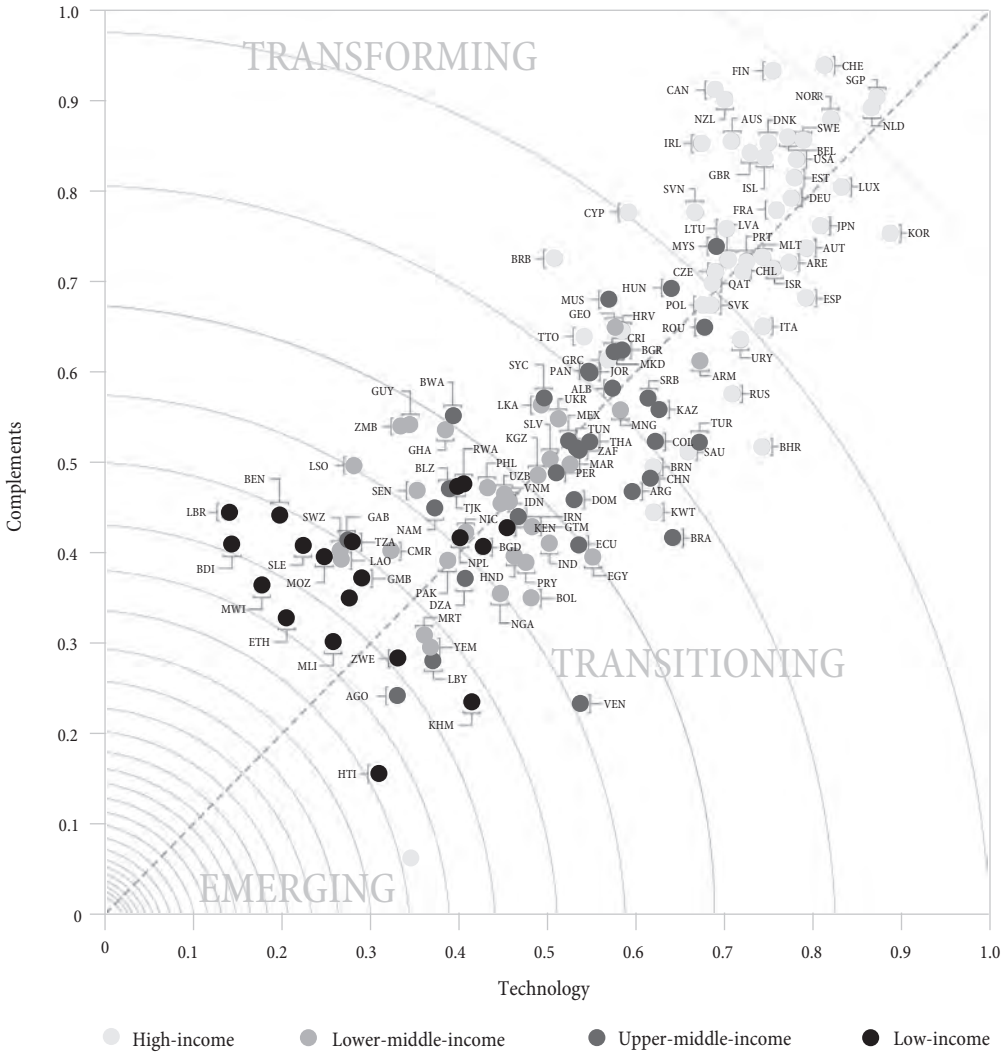
In the framework of the report, the World Bank has constructed the Digital Adoption Index (DAI) in cooperation with the Microsoft Corporation to measure the global spread of digital technologies across three segments of the economy: businesses (3G coverage, download speed and number of secure servers), people (Internet and mobile access at home), and governments (online public services, digital identification and core administrative systems). Each subindex is the simple average of several normalised indicators measuring the adoption rate for the relevant groups. Similarly, complements, as defined by the World Bank's team, are the average of three subindicators: starting a business; years of education adjusted for skills; and quality of institutions. Serbia's DAI is at 0.61, and while the Government's DAI is ahead of Europe and Central Asia region average, it is lagging in terms of adoption by the people, with the most significant lag in adoption by businesses (0.41). In comparison, a country of comparable size from the same region and a European Union member, Hungary, has a DAI of 0.64, with business adoption at 0.5, while Germany, one of the most dynamic economies in Europe, has a DAI of 0.78 and business adoption index

of 0.66. On a global spectrum, Serbia is an outlier in the group of transitioning countries. The World Bank report ranks Serbia among upper-middle-income countries which are still in the process of transition towards universal Internet use, with only 4-5 percent of its gross domestic product (GDP) coming from digital economy. According to the report, priorities of such countries in the field of digital economy should be to "build effective competition regulation and enforcement capacity, teach advanced cognitive and socio-emotional skills that complement technology, and move toward effective e-government system" [25 p. 30].

The analysis of the state of innovation infrastructure in Serbia based on aggregate data collected by the World Economic Forum [22], [23], [24] indicates that in 2008 Serbia's innovation infrastructure was at a higher stage of development when benchmarked against other countries globally than in 2012 or 2016. Specifically, in two of the indicators, "Country's capacity to retain talent", and "Country's capacity to attract talent" (previously integrated under one heading - "Brain drain"), Serbia has consistently been at the bottom of the global rankings over the last decade (in 2016, it held the 137th position out of 144 countries, for both of these indicators). This is an alarming result.

By analysing the most recent Global Innovation Index (GII) published by Cornell University, INSEAD and WIPO [5], [6], [7], we affirm the trends discussed in earlier work [15], [16]. Notably, we deduce that the countries in the Central and Eastern Europe (CEE) and South East Europe (SEE) regions are sub-optimally exploiting their potential for commercialising innovation, since they

Figure 1: The quality of complements and technology is increased exponentially to income



Source: [25].

rank more highly in terms of innovation than in terms of GDPpc PPP. Furthermore, together with Bosnia and Herzegovina and Macedonia, Serbia still lies at the lower end of the SEE region's performance in terms of effective innovation output.

Methodologically, the Global Innovation Index (GII, 2016) relies on two subindices: (i) the Innovation input subindex, measuring factors that enable innovative activities; and (ii) the Innovation output subindex, which is based on innovative activities within the economy. In Figure 2, we graphically present the effectiveness of the GII outputs based on the available inputs for Serbia. The derived results in 2016 are poorer compared to 2012, especially when assessing "Market sophistication", "Knowledge and technology output" and "Creative outputs". The Innovation Infrastructure ranking of Serbia is 87, with the Skills subindex of 75, and Innovation subindex of 95. In two of the indicators within the Skills subindex, "Quality of management schools" (105) and "Quality of the educational system" (103), Serbia holds a particularly unsatisfactory position. At the same time, in 2016 Serbia scored considerably well for "Tertiary education enrolment rate" (46), "Quality of math and science education" (46), "Utility patents per million population" (50), and "Quality of scientific research institutions" (60).

Another very important indicator of innovation and ICT is the Networked Readiness Index (NRI), which measures the propensity of countries to exploit the opportunities offered by information and communications technologies (ICT) [2, p. xi].

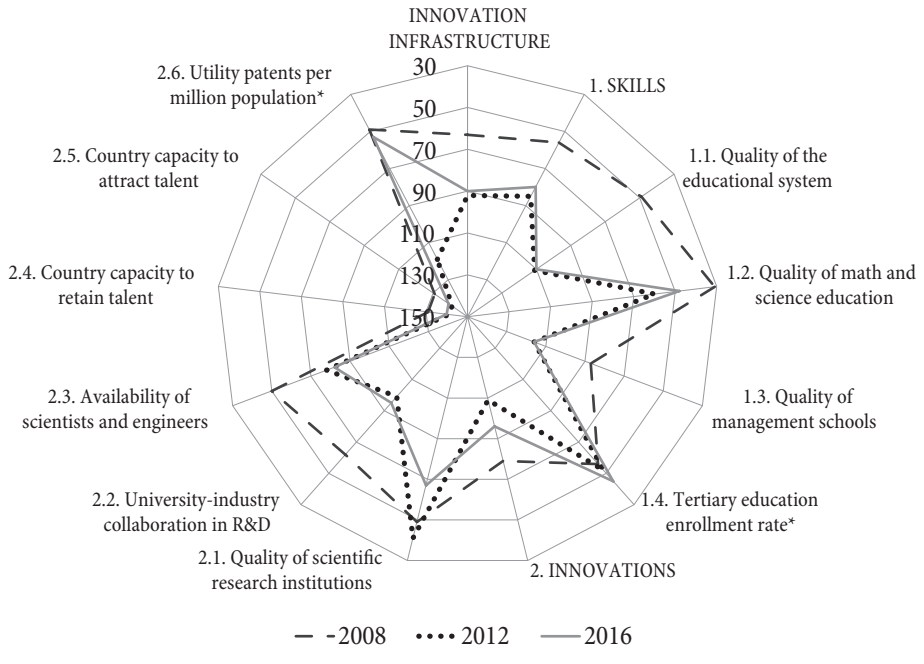
Figure 3 illustrates positions of Serbia according to the NRI in 2012, the first year when such data became available, and in 2016.

Serbia has steadily improved its ranking in terms of the NRI Index, finding itself at the 75th position (out of 139 countries) in 2016, which is a leap of 20 places compared to the 95th position in 2012. The current ranking of Serbia corresponds to its GDPpc PPP.

The NRI consists of four subindices: i) Environment subindex, (ii) Readiness subindex, (iii) Usage subindex and (iv) Impact subindex.

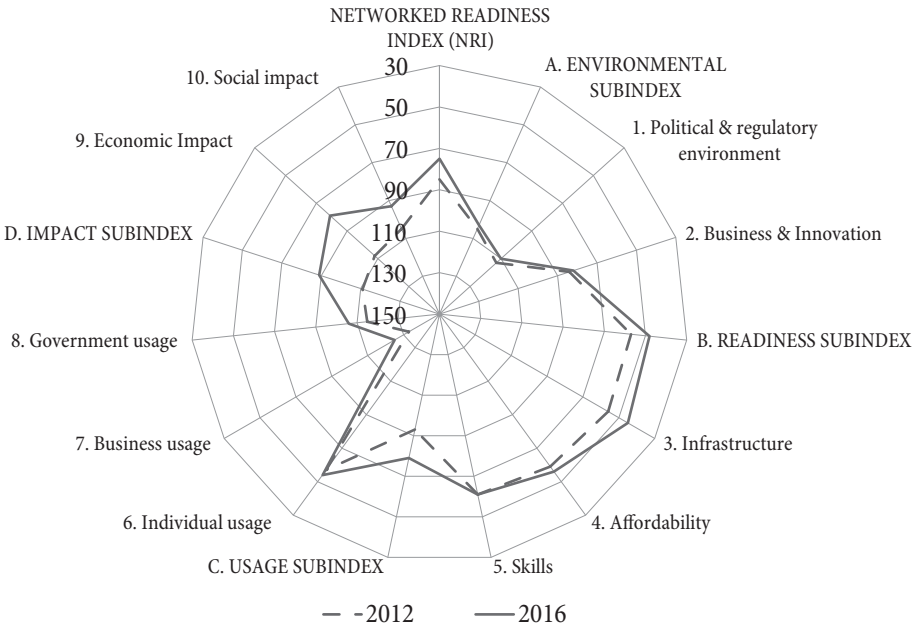
Serbia scored particularly well in the Readiness subindex (48), especially in the Infrastructure (45) and Affordability segments (56), but also faring relatively well in the Skills segment, observed on average (61). Serbia was also well ranked in some segments of the Usage subindex, specifically in the Individual usage (54). Poor results are recorded in the Environmental subindex (103), the Business (125) and Government usage (106) indicators of the Usage subindex (79), and to an extent in the Impact

Figure 2: Innovation Infrastructure in Serbia



Source: [22], [23], [24].

Figure 3: Networked Readiness Index (NRI)



Source: The Global Information Technology Report, 2016 and 2012.

subindex (89), particularly regarding the Social impact indicator (93).

When investigating the Skills pillar in further detail, we notice that the quality of math and science education is highly ranked, as noted above, but that the overall quality of education is at 110, which is of concern, as is the firm-level technology absorption (127) and the extremely low capacity of businesses for innovation (131) and staff training (134).

Empirical study of Serbian software developers: Methodology and discussion of results

To determine the level of education, skills and compensation of software developers in Serbia, who are the key enablers of digital transformation, a study was undertaken from October 8-26, 2015. The methodology was devised by one of the authors of this article, structurally following the questionnaire design of the "Mom Test" framework developed by Robert Fitzpatrick [9], and covering the following segments:

a) Demographics;
b) Current and desired skills;
c) Educational background and resources;
d) Working conditions;
e) Career plans.

The target audience for the survey were software developers in Serbia. The research question was formulated to define "Who are software developers in Serbia," assessing both the current status and future plans of programmers. The umbrella organisation conducting the survey was SEE ICT, a non-profit organisation founded in Belgrade, Serbia in 2010, with a mission to create a supportive environment for the development of start-up culture and community. To enhance the survey reach, SEE ICT cooperated with other organisations that are active in the Serbian information technology, including the following:

1. Agile Coaching Serbia,
2. DaFED (largest information technology organisation in the city of Novi Sad),
3. Drupal Srbija (association of Drupal developers in Serbia),
4. Hadoop Srbija (association of Hadoop developers and data scientists in Serbia),
5. HeapSpace (one of the first and largest association of information technology professionals in Serbia),
6. Honorarci.rs (association and online platform dedicated to freelance software developers in Serbia),
7. IT Serbia Podcast (podcast dedicated to Serbian information technology ecosystem),

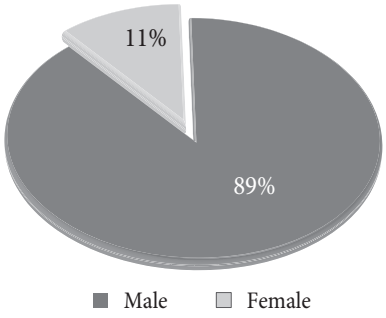
8. JS Belgrade (association of front-end and JavaScript developers in Serbia),
9. LevelUp (association of game developers in Serbia),
10. PHP Srbija (association of PHP developers in Serbia),
11. Silicone Drinkabout (Serbian branch of a global organisation for technology and start-up community gatherings),
12. Startit.rs (largest technology and start-up media in Serbia, part of SEE ICT),
13. Unity Srbija (association of Unity developers in Serbia),
14. WP Srbija (association of WordPress developers in Serbia),
15. Webinarium (online channel with video lessons and webinars for the regional start-up and information technology community).

All of the organisations noted above sent direct email requests to their members, posted the information on their websites, promoted the survey through their social media channels and at the events hosted throughout the survey period. The platform used for the online survey was the SEE ICT website, while TypeForm tool was used to collect anonymous responses from survey participants.

The questionnaires were designed in the form of closed-ended questions, permitting yes/no or graded (scaled) responses. Several questions included an option to add a comment in order to encourage respondents to provide additional valuable insight. The questions appeared one at a time, and the subsequent question was conditioned by the respondent's previous answer. This structure enabled a survey of 190 questions to be more accurate in terms of final results, while reducing the time required for completing the survey and increasing the response rate.

A total of 1,670 programmers completed the survey, which is estimated to be about 20% of all programmers in Serbia [14], [19]. The majority of respondents were male (89%), whereas 11% were female. The apparent gender gap is even more striking than the global ICT employment statistics, with "men 2.7 times more likely than women to work in the sector and 7.6 times more likely to be in ICT occupations" [25, p. 106], although similar results were obtained in the StackOverflow Developer Survey [18].

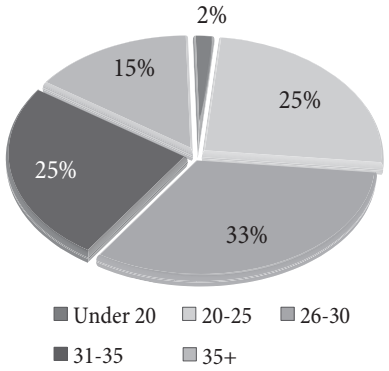
Figure 4: Respondents by gender (% share)



Source: Authors' Analysis of the Serbia Developers Survey conducted in October 2015.

Average age of the respondents was 29.7. Most of the respondents were between 26 and 30 years of age, while more than three quarters were between 20 and 35 years of age.

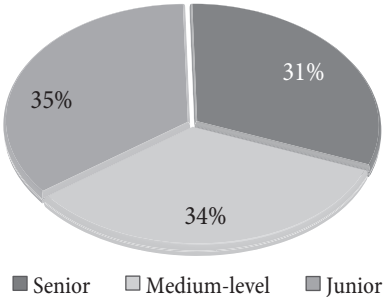
Figure 5: Respondents by age (% share)



Source: Authors' Analysis of the Serbia Developers Survey conducted in October 2015.

Interestingly, although they are of relatively young age, almost a third of the respondents identified themselves as senior developers (31%), and the three groups, including junior and medium-level developers, were almost evenly distributed.

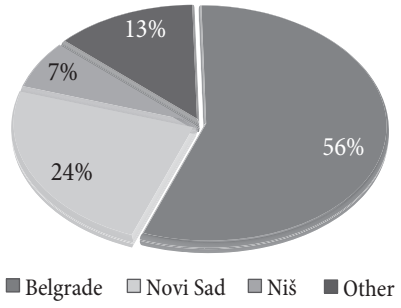
Figure 6: Respondents' level of experience: senior, medium-level and junior (% share)



Source: Authors' Analysis of the Serbia Developers Survey conducted in October 2015.

Majority of the respondents came from the largest, capital city of Belgrade (56%), followed by Novi Sad (24%) and Niš (7%), which are also the main university centres in Serbia. About 13% of respondents were from other cities (Subotica, Kragujevac, Čačak, etc.), and each of these towns was identified as a place of residence by up to 2% of the respondents.

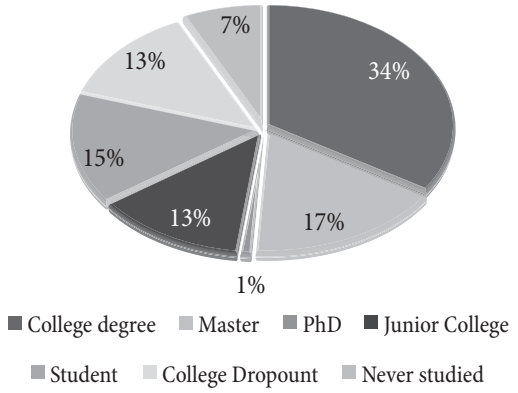
Figure 7: Respondents' location



Source: Authors' Analysis of the Serbia Developers Survey conducted in October 2015.

We shaped the survey questions to examine the level of formal education, which led to the most significant result of the study, which is that only 52% of software developers in Serbia completed formal undergraduate (34%) and graduate education (17% hold a master's degree and 1% a PhD degree), with 13% having completed junior colleges and 15% still in the course of studying. One fifth of all respondents either dropped out (13%) or never enrolled in undergraduate study programmes (7%).

Figure 8: Respondents' level of education



Source: Authors' Analysis of the Serbia Developers Survey conducted in October 2015.

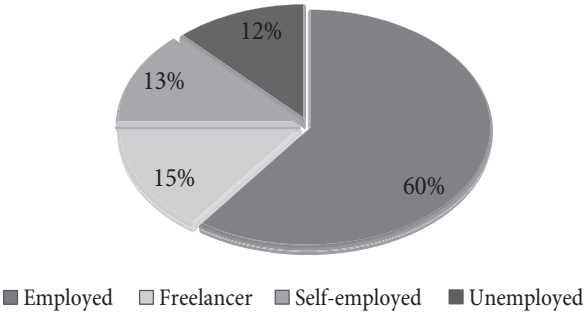
Another significant finding was that among those with a formal degree, more than a third did not obtain it from a technical undergraduate study programme, i.e. 62.7% of the respondents who completed formal education programmes hold an engineering or another relevant technical degree. This reduces the total number of respondents with a formal technical education to 32.2%. These results coincide with the global statistics. Namely, the most representative global developer survey conducted by StackOverflow reveals the same trends: 48% of the respondents never received a degree in computer science and 33% of respondents never attended a university course in computer science [18]. The World Bank World Development Report [25, p. 106] brings out similar statistics: "In developing countries, on average, half of all workers in the ICT sector have a tertiary education, compared with one-quarter elsewhere."

Among educational alternatives, both formal and informal, Serbian developers mostly rely on self-learning and learning on the job, options that are graded with 4.73 on a scale of 1 to 5. The least attractive options for current programmers are formal education (2.69/5) and informal trainings (2.51/5).

When asked about the programming languages that they would like to learn, a high 90% of the respondents expressed a desire to learn at least one additional programming language, and 65% reported two or more additional languages, which reveals both a knowledge gap and a desire to obtain additional skills.

Precisely 60% of software developers who participated in the survey are employed, with additional 13% who are self-employed and 15% freelance programmers. Only 12% of the respondents are unemployed, and these tend to be junior developers (91.7%).

Figure 9: Respondents' employment status



Source: Authors' Analysis of the Serbia Developers Survey conducted in October 2015.

Among those who are employed, the average net salary is EUR 1,250, which is 3.5 times higher than the

average salary in Serbia (estimated at about EUR 360 net during the survey period in 2015, according to the official statistics). The following graph displays salary levels in different towns (Belgrade, Novi Sad, Niš and other towns, respectively), based on the level of work experience (defined as junior, medium-level and senior programming experience):

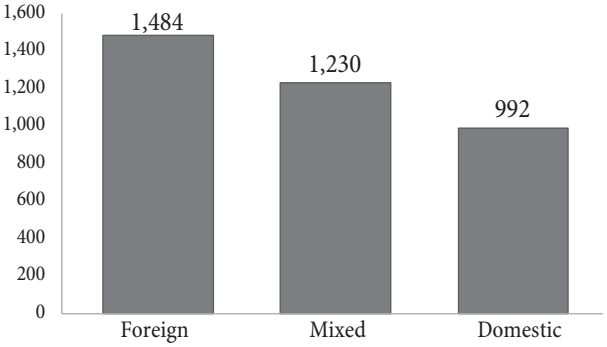
Almost two thirds of the employed developers are engaged via standard labour contracts (65%), 17% are contracted through their registered sole proprietorship agencies, and another 12% work under a standard contract, but receive a part of the compensation in cash as a form of unregistered payment. Another 5% receive unregistered cash payments or are paid via their virtual accounts (e.g. Skrill) or work under some other form of contract (e.g. part-time consulting agreement). This leads us to the conclusion that the grey economy is on the decrease, but this actually might be the result of underreporting.

Job satisfaction is rated relatively high, with a grade of 3.8 on a scale of 1 to 5. The most common reasons for changing jobs are the following: a) desire to obtain new skills and experience (45%), b) higher salary (29%), and c) better working conditions (17%).

Interestingly enough, education does not produce a significant impact on the salary level. Those with a formal degree receive only 4% higher salaries than those without formal education. However, there is a gender salary gap. Average salary for male developers is EUR 1,265, while women earn 24% less, with an average salary of EUR 965. To further accentuate the gap, every single female respondent attended a formal education programme, with a higher percentage of completion rate and a higher portion of master's and graduate degrees compared to the average respondent results. A total of 66.5% hold a formal degree, the majority of which obtained a Bachelor of Science degree (46.5%), followed by a Master's degree (16.7%), PhD (3.3%) and another 7.7% with a junior college degree. The dropout rate is at 7.7%, and 18.1% are still studying.

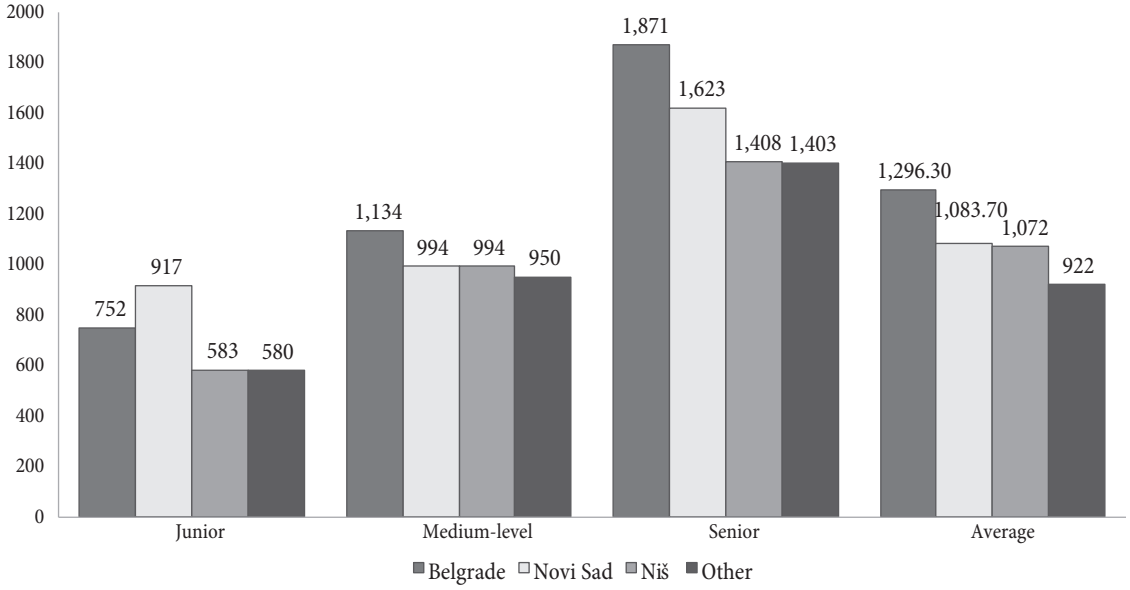
Company ownership structure also has a high impact on the salary level, i.e. foreign employers pay the largest salaries.

Figure 11: Respondents' salary level by company ownership



Source: Authors' Analysis of the Serbia Developers Survey conducted in October 2015.

Figure 10: Respondents' net salary by location and level of experience

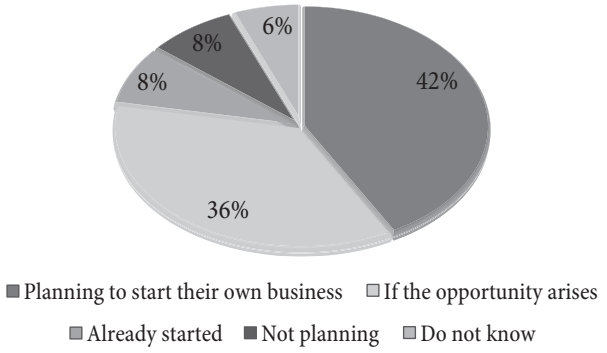


Source: Authors' Analysis of the Serbia Developers Survey conducted in October 2015.

The data also indicates that foreign ownership dominates the industry in Serbia. Foreign markets are also the primary source of employment for freelance programmers. The majority regularly works with clients from the USA (59%), Western Europe (42%) and Central Europe (24%). Top ways for them to obtain work are freelance platforms (UpWork, Elance, etc.) (41%), upon recommendation (38%), and by working mostly with the same clients (17%).

Nonetheless, there appears to be a shift in the mindset, possibly stemming from valuable employment experience, with an increasing number of programmers considering entrepreneurship. When we exclude the ones who are already running their own business, a high 42% of the respondents are planning to start a venture of their own, while 36% would do so if the opportunity arises. This means that 75% are open to the entrepreneurial work perspective.

Figure 12: Respondents' propensity for entrepreneurship



Source: Authors' Analysis of the Serbia Developers Survey conducted in October 2015.

To further stimulate digital transformation as project managers and/or entrepreneurs, programmers need to possess additional, non-technical skills in management and in designing innovation. Based on international best practices stemming from Europe and Asia, both the curricula and the teaching methods in software engineering education should be adjusted. Innovation and entrepreneurship education for engineers should be additionally reinforced, and the faculty should include a combination of academics and practitioners [11]. Furthermore, authors such as Armando Fox argue that the so-called massive open online courses (MOOOCs) need not be an alternative to traditional teaching, but that they could be integrated in formal education. He proposes the example of the University of California at Berkeley, which revised its software engineering course to teach agile programming and allow students to develop a new app that matches the requirements of non-technical customers while employing the same tools and techniques that professionals use. As he concludes, "by experiencing the whole software lifecycle repeatedly within a single college course, students learn to use and appreciate the skills that industry has long encouraged. The course is now popular with students, rewarding for faculty, and praised by industry" [10]. There is also an increasing discussion on including the study of ethics in software engineering (see, for instance [20]). The skills gap between traditional and agile software development should be further investigated, and the study undertaken for Serbia followed by a broader study researching a spectrum of competencies, including those that are non-technical.

Conclusion

The low level of Serbia's digital transformation, especially in the business sector, should become an increasing concern for both researchers and policymakers if sustainable growth is to be achieved and the development gap bridged more successfully. Further research is required to understand the low level of digital adoption by the business sector, as well as to investigate the impact of European integration and foreign investments on the said process. The empirical study conducted to investigate the level of education and working conditions of programmers, as enablers of digital transformation, reveals not only that this is a perspective market segment in need of additional programmers, but also that the formal education programmes need to be adapted. As indicated by our research results, the software engineering curriculum ought to be supplemented with non-technical competencies that lead to the reshaping of traditional businesses and the creation of new business models.

In Serbia, one important positive trend is the high level of openness to entrepreneurship among software developers, and this may be the source of new innovations. A further challenge is to link developers as technical

enablers with the traditionally organised businesses in Serbia to facilitate a wider digital transformation and creation of a true digital economy.

References

1. Andal-Ancion, A., Cartwright, P., & Yip, G. S. (2003). The digital transformation of traditional business. *MIT Sloan Management Review*, *44*(4), 34-41.
2. Baller, S., Dutta, S., & Lanvin, B, Eds. (2016). *The global information technology report 2016: Innovating in the digital economy*. New York: World Economic Forum and INSEAD.
3. Brynjolfsson, E., & McAfee, A. (2014). *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. New York: WW Norton & Company.
4. Christensen, C. M., Dillon, K., Hall, T., & Duncan, D. S. (2016). *Competing against luck: The story of innovation and customer choice.* New York: Harper Collins.
5. Cornell University, INSEAD & WIPO (2009). *The global innovation index 2008-2009*. Retrieved from https://www.globalinnovationindex.org/userfiles/file/GII-2008-2009-Report.pdf.
6. Cornell University, INSEAD & WIPO (2014). *The global innovation index 2014*. Retrieved from https://www.globalinnovationindex.org/userfiles/file/reportpdf/gii-2014-v5.pdf.
7. Cornell University, INSEAD & WIPO (2016). *The global innovation index 2016*. Retrieved from http://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2016.pdf.
8. Dutta, S., & Bilbao-Osorio, B, Eds. (2012). *The global information technology report 2012: Living in a Hyperconnected World*. New York: World Economic Forum and INSEAD.
9. Eichengreen, B. (2015, December). *Today's productivity paradox*. Retrieved from https://www.project-syndicate.org/commentary/productivity-paradox-disruptive-innovation-by-barry-eichengreen-2015-12?barrier=accessreg.
10. Fitzpatrick, R. (2014, May 31 - June 7). *The mom test: How to talk to customers and learn if your business is a good idea when everyone is lying to you*. CreateSpace Independent Publishing Platform.
11. Fox, A. (2014). Using MOOCs to reinvigorate software engineering education (keynote). In *Companion proceedings of the 36th International Conference on Software Engineering*. Hyderabad, India.
12. Motta, G., & Wu, B. (2014). *Software engineering education for a global e-service economy: State of the art, trends and developments*. Zug: Springer International Publishing.
13. Roach, S. S. (2015, June). *America, China, and the productivity paradox*. Retrieved from https://www.project-syndicate.org/print/america-china-output-per-worker-productivity-paradox-by-stephen-s--roach-2015-06.
14. Rogers, D. (2016). *The digital transformation playbook: Rethink your business for the digital age*. New York: Columbia University Press.
15. Serbian Investment and Export Promotion Agency. (2015). *Serbia - A smart solution – ICT sector*. Retrieved from http://ras.gov.rs/uploads/2016/02/ict-industry-in-serbia.pdf.
16. Savić, N., Pitić, G., & Trbović, A. S. (2015). Innovation and creative industries as a basis for Serbian reindustrialization. *Ekonomika preduzeća*, *63*(1-2), 67-81.
17. Savić, N., Pitić, G., & Trbović, A. S. (2016). Smart, connected products as a new competitive advantage: Challenges for Serbia. *Ekonomika preduzeća*, *64*(1-2), 143-155.
18. Shapiro, C., & Varian, H. R. (2013). *Information rules: A Strategic guide to the network economy*. Harvard Business Press: Boston, MA.
19. StackOverflow Developer Survey. (2015). Retrieved from http://stackoverflow.com/research/developer-survey-2015.
20. StartIt. (2016, February). *Ratovi (budućih) zvezda: Koliko je veliki srpski IT – i tržište i stručnjaci?* Retrieved from http://startit.rs/zaposlenost-it-programeri-primanja-istrazivanje/.
21. Sethy, S. S. Ed. (2015). *Contemporary ethical issues in engineering*. Hershey, PA: IGI Global/Engineering Science Reference.
22. Tapscott, D. (1996). *The digital economy: Promise and peril in the age of networked intelligence* (Vol. 1). New York: McGraw-Hill.
23. World Economic Forum. (2008). *Global competitiveness report 2008-2009*. Retrieved from http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2008-09.pdf.
24. World Economic Forum. (2014). *Global competitiveness report 2014-2015*. Retrieved from http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2014-15.pdf.
25. World Economic Forum. (2016). *Global competitiveness report 2016-2017*. Retrieved from http://www3.weforum.org/docs/GCR2016-2017/05FullReport/TheGlobalCompetitivenessReport2016-2017_FINAL.pdf.
26. World Bank Group. (2016). *World development report 2016: Digital dividends*. Retrieved from http://documents.worldbank.org/curated/en/896971468194972881/pdf/102725-PUBReplacement-PU BLIC.pdf.
27. Westerman, G., Bonnet, D., & McAfee, A. (2014). *Leading digital: Turning technology into business transformation*. Cambridge, Massachusetts: Harvard Business Press.
28. Wu, L., & Brynjolfsson, E. (2014). The future of prediction: How Google searches foreshadow housing prices and sales. In Goldfarb, Avi, Shane M. Greenstein & Catherine E. Tucker (Eds.), *Economic analysis of the digital economy*. Chicago and London: University of Chicago Press.

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Zoja Kukić

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Department of Economic Development
Belgrade

SMART SPECIALISATION OF MANUFACTURING INDUSTRY: RELYING ON ONE'S OWN STRENGTHS AND TARGETED ATTRACTION OF FDI

Pametna specijalizacija prerađivačke industrije – oslonac na sopstvene snage i ciljano privlačenje SDI

'I do not think there is any thrill that can go through the human heart like that felt by the inventor as he sees some creation of the brain unfolding to success... such emotions make a man forget food, sleep, friends, love, everything.'
(Nikola Tesla, 1896)

Abstract

The manufacturing industry remains the crucial driving force of the total economic growth and development and of the formation of industrial economy. The previous transformation of the economic system did not create new economic structures. The decline in employment is the consequence of the structural adaptation.

The essence of smart specialisation can be found in radical innovations, which are the result of creative combination of technology and the processing sectors. Model RIS3 accelerates entrepreneurial discovery processes.

The state should govern the process of smart specialisation; systematic assumptions for the application of RIS3 model are necessary. RIS3 is a continuous process; it is not just an optimal choice at a certain moment.

Economic messages are directed in a few directions: firstly, the application of RIS3 concept presents a developmental opportunity for Serbia to catch up with other contemporary industrial flows; secondly, fast-growing domestic companies are relying on their own strengths and are the pioneers of a new economic structure (a research on dynamic entrepreneurship has shown that in Serbia there is 1.7% of companies, i.e. 1,551 companies and 270 gazelles, with the growth potential); thirdly, FDI should be targeted - the advantages of FDI are not automatic and they depend on the characteristics of domestic economy, absorption abilities of domestic companies, sectors and on the whole economy. Joining global value chains is a very significant factor of structural transformations.

Keywords: *smart specialisation of manufacturing industry, effects of economic transformation, competitiveness of the manufacturing industry, relying on one's own strengths – fast-growing companies, entrepreneurship, targeted attraction of FDI.*

Sažetak

Prerađivačka industrija ostaje ključna pokretačka sila ukupnog i ekonomskog rasta i razvoja i nastajanja industrijske ekonomije. Dosadašnja transformacija privrednog sistema nije bila u funkciji stvaranja nove privredne strukture. Pad zaposlenosti je posledica strukturnog prilagođavanja.

Suština pametne specijalizacije leži u radikalnim inovacijama, koje su rezultanta kreativne kombinacije tehnologije i prerađivačkih sektora. Model RIS3 ubrzava preduzetničke procese otkrića.

Država treba da upravlja procesom pametne specijalizacije, neophodne su sistemske pretpostavke za primenu modela RIS3. RIS3 je jedan kontinuiran proces, on nije samo optimalan izbor u određeno vreme.

Ekonomske poruke u radu su usmerene u nekoliko pravaca: prvo, primena koncepta RIS3 predstavlja za Srbiju razvojnu šansu da se priključi savremenim industrijskim tokovima; drugo, brzorastuće domaće kompanije predstavljaju oslonac na sopstvene snage i začetnik su nove strukture privrede (istraživanje dinamičkog preduzetništva je pokazalo da u Srbiji posluje 1,7% preduzeća, odnosno, 1551 preduzeće i 270 gazela, sa potencijalom rasta); i treće, SDI treba da budu ciljane – prednosti SDI nisu automatske i zavise od karakteristika domaće privrede, od apsorpcionih mogućnosti domaćih kompanija, sektora i kompletne privrede. Uključivanje u globalne lance vrednosti je veoma bitan faktor strukturnih transformacija.

Ključne reči: *pametna specijalizacija prerađivačke industrije, efekti transformacije privrede, industrijska konkurentnost, oslonac na sopstvene snage – brzorastuće kompanije, preduzetništvo, ciljano privlačenje SDI.*

Introduction

The promotion of the concept of smart specialisation of the manufacturing industry of Serbia is in the focus of this study. The EU concept of smart specialisation RIS3 (Research and Innovation Strategies for Smart Specialisation) is based on investing in crucial national, i.e. regional priorities, challenges and needs for knowledge-based development, comparative advantages and potentials for each country/ region to become excellent, stimulating technological innovations, with the aim of promoting investments in the private sector (Table 1). RIS3 concept is significant for the future of Europe, since the development of economy is based on knowledge and innovations and it remains the biggest challenge for EU. Furthermore, RIS3 is important for achieving sustainable growth, as investments and innovations are necessary for the efficient management of resources. Finally, smart specialisation contributes to well-balanced regional development, the strengthening of territorial cohesion and managing of structural changes, creating economic opportunities, better work places and social innovations.

Apart from the concept of smart specialisation, the study also promotes the research of dynamic entrepreneurship and tests the research results.

Sustainability of economic growth in the SEE area

Sustainability of economic growth in the SEE is facing ever-increasing risks. Economic disproportions between SEE on one hand, and the EU-15 (the most developed groups of EU states) and the EU-10 (the group of states which joined the EU in 2004), on the other hand, are getting bigger. Transitional countries of the EU-10 group doubled their GDP per capita in the 1990-2016 period, while the average growth of SEE states was 52.7%. The overall weight of economic disproportions in the European area and the depth of economic periphery are illustrated by low standard of living during the transitional period and constant economic gap between SEE and the developed EU states. While at the beginning of the transition in 1990 the economic gap measured as GDP per capita between the EU-15 and SEE was 7:1, in 2000 it increased to 10:1, while in 2008 and 2016 it remained stable at 7:1.

Table 1: Short SWOT analysis of smart specialisation of the manufacturing industry

Strengths	Weaknesses
• Varied structure of economic potential • Good R&D potential in the public sector • Educated workforce, with the knowledge of foreign languages and eager to learn • Well-developed Internet access • Well-preserved biodiversity, natural resources and cultural heritage • Gradual raising of consciousness of changes in connection with innovations and structural changes in the economy	• Few domestic powerful industrial systems with a critical mass for innovations • Insufficient budgetary allocations for R&D and innovations • Low level of internationalisation of science and high education • Particular number of inventions is not sufficient for the transfer to innovations • Insufficient connectedness between science and economy • Unused potentials of cultural and creative industry • Weak institutional capacities in the state for the systematic promotion of innovations in entrepreneurship
Threats	**Opportunities**
• Brain drain, especially of young, educated, enterprising and experienced people, both in the economy, and in public administration, with obviously aging population • Capital flight, companies go to other regions and countries • Huge competition in the region in the attraction of foreign investments • Strong centres of knowledge in the region • The risk of infrastructural lagging • Perception of SEE as European outskirts, as an uncompetitive and unrestructured area, with plenty of political turbulences	• Smart specialisation of industry, reorganisation of the international value chains and new industrial policy • Favourable position for well-defined FDI, especially those based on a higher added value • Keeping talented people in the country • Green business operations and materials for the production and energy efficiency • Strengthening of integration instruments at EU level • Programmes for cross-border cooperation with the centres for specialisation and knowledge economy • Visibility in the form of well-preserved nature, cultural heritage, gastronomy, sport, etc. • Traditional presence of Serbian economy on developing markets (South-East Europe, Russia, the Near East, etc).

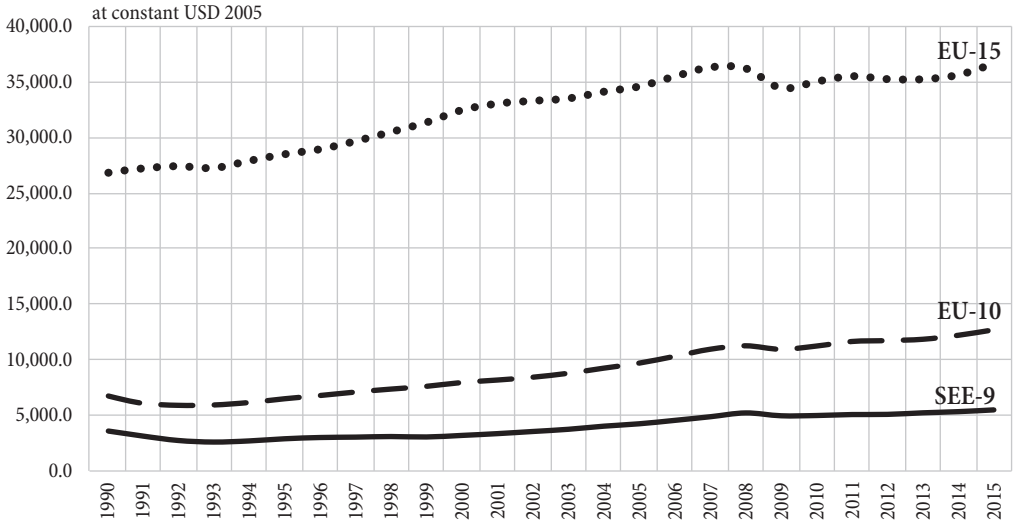
Correspondingly, the gap between the EU-10 and SEE increased (Figure 1), from the initial 1.9:1 (1990), to 2.5:1 (2000); however, it was slightly smaller under the influence of recession 2.3:1 (2016). Regional and social cohesion in Europe is getting weaker, SEE area is increasingly facing various types of poverty and falling behind (the unemployment rate was three times higher). SEE area with more than 53 million people (10% of EU citizens), makes less than 2% GDP of the European Union.

The effects of transformation

The consequences of the application of the transformation model to the Serbian economy, after a decade of economic distortion and late pre-transitional start, have been manifested not only in structural imbalance and the deformation of the system, but also in all developmental dimensions, from demographic regression to industrial devastation, educational gap, and institutional underdevelopment.

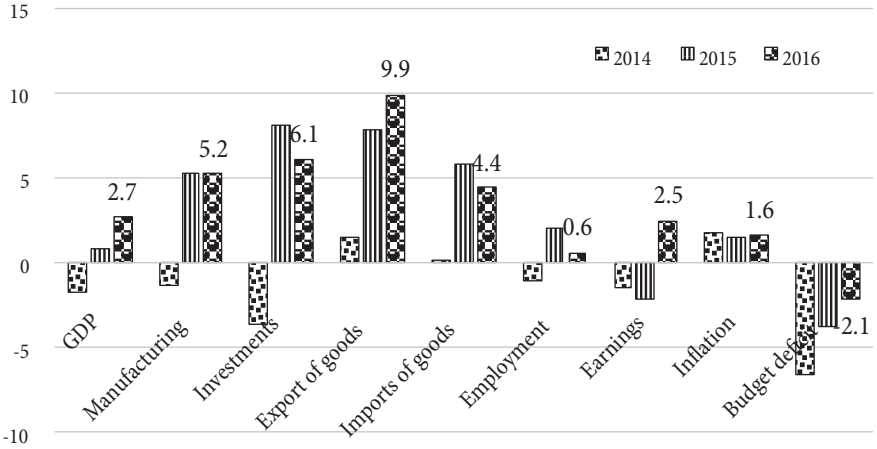
Thanks to the application of the new model of economic growth, which is based on essential structural reforms, in the 2014-2016 period macroeconomic performances of the economy of Serbia have been improved, the recovery of economic activities has been intensified (Figure 2). Consistent implementation of the fiscal consolidation, together with the initiated structural adaptation, has positively affected the investment atmosphere. The industrial production has significantly recovered, while foreign trade exchange has increased. The favourable structure of the initiated recovery has been additionally

Figure 1: GDP per capita - the growth trend of the economic gap in Europe



Source: Author's calculations on the basis of the Eurostat.

Figure 2: The macroeconomic performance of the economy of Serbia 2014-2016 – growth rates



Source: Author's calculations on the basis of the RSO, MF and NBS.

confirmed by positive labour market trends. Balance of payment deficit has declined, and the targeted inflation is low and stable. The most influential international rating agencies improved the credit rating of Serbia, which sends positive signals to international investors.

Serbia is in the group of the most underdeveloped countries of SEE, and its economic position compared to other countries in the region has not changed. In the countries of the region GDP per capita, as a measure of standard of living, has remained at a similar level as in 2008. According to the size of this indicator, Croatia and Hungary have significantly higher values (around 10,000 EUR per capita, Table 2), whereas other countries have the value from 3,500 EUR to 5,500 EUR (Bosnia and Herzegovina, FYR Macedonia, Albania, Montenegro).

Table 2: GDP per capita trends

	2001	2008	2009	2014	2015
Bulgaria	2,000	4,800	4,800	6,159	6,300
Hungary	5,900	10,700	9,300	11,035	11,100
Romania	2,000	6,900	5,900	8,030	8,100
Croatia	6,000	11,200	10,500	10,434	10,400
Serbia	1,700	4,600	4,200	4,616	4,700

Source: Eurostat, RSO.

Macroeconomic vulnerability has been greatly affected by the constant growth of foreign debt from 2008. The foreign debt of Serbia was 25.8 billion EU at the end of 2016, and it is the result of high foreign indebtedness. The share of the foreign debt in GDP was about 77% in December 2016.

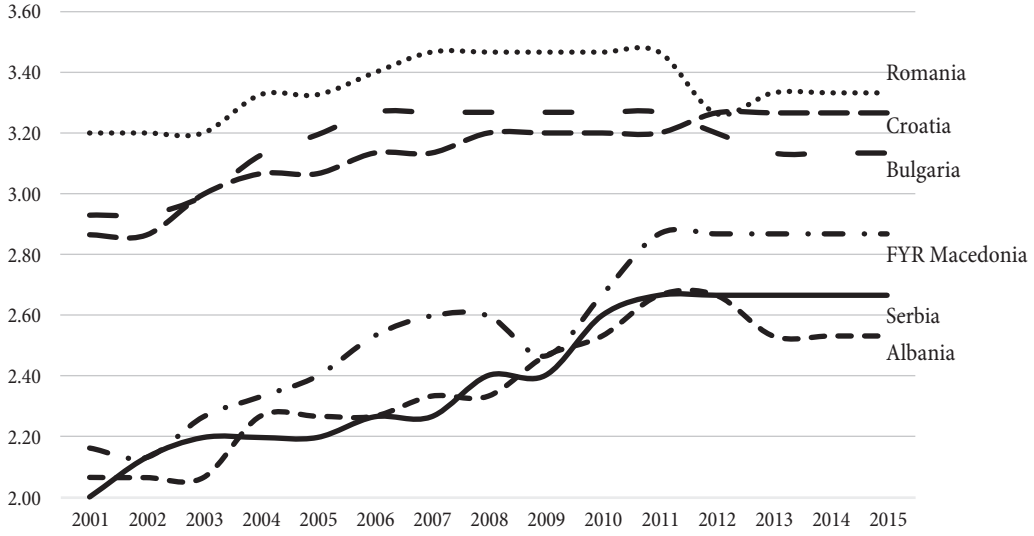
The speed of reforms

The analysis of experiences with the reforms of successful economies reveals that transitional results depend on both the speed of reforms and the initial position. Generally speaking, economic growth was greater in those transitional economies where reforms were faster than in those which had a strategy of gradual development. The results of the measuring of 'lap time' of the reform activities of transitional countries show that global recession slowed down the reform activities in the whole SEE region in 2015. The reports from EBRD, World Bank, IMF and European Commission show current positive movements and signs of recovery in Serbia in 2015 (Figure 3).

In its "Doing Business List 2016/2017", the World Bank ranked Serbia 47th in the world among 190 countries, which is 12 positions better than in 2015/2016 or, according to the new methodology, improvement by 7 positions (the 54th position in 2015/2016). The progress of Serbia in the "Doing Business List" in a two-year period is huge, since Serbia was on the 91st position in the world.

According to the Report of the World Economic Forum for 2016, Serbia was ranked 90th on the list which comprises 138 countries. In comparison with the previous year, GCI index for Serbia increased by 0.10, which led to positive changes of the position of Serbia on the list by 4 positions (from position 94 to 90 on the list). With its GDP per capita of 5,119.8 USD Serbia is on the 26th place among 30 countries (Phase 2 Efficiency-driven economies).

Figure 3: Different speed infrastructure reforms – EBRD indicators



Source: EBRD Transition reports 2001-2016.

The effects of privatisation

In the 2001-2016 period, more than 2,400 companies were privatised in the Republic of Serbia by means of tender and auction models of privatisation, selling minor share parcels on the capital market, and by means of selling properties and capital, which resulted in the privatisation income of 2.6 billion EUR and contracted investments of 1.0 billion EUR (not including almost 700 cancelled contracts). 1,600 companies were sold by means of tender and auction models of privatisation (2,284 companies before the contract was cancelled), which made an income of 1.8 billion EUR and provided 1.0 billion EUR for investments. Furthermore, minor share parcels were sold from the state portfolio in more than 1,800 companies. The Privatisation Agency, which was responsible for about 4,000 companies in the 2002-2015 period, successfully finished the sale of the state capital in 2/3 of companies, whereas more than 1,000 companies (about 27%) with the state capital went bankrupt.

The effects of privatisation are measured by the level of improvement of basic business performances of a company and the growth of their influence on the economic development. Companies from the Privatisation Agency portfolio privatised (2,414 companies) until May 2016 employed 110,725 employees in 2014, generated 10.1% of income, 10.1% of the profit and 15.7% of the loss of the economy. In comparison with 2002, the share of all observed indicators decreased, and positive tendencies noted in the 2002-2009 period through the growth of the share of these companies in profit gaining (from 15.5% to 17.4%), i.e. a decline in the stated loss of the Republic (from 21.9% to 14.6%), were interrupted during the period of crisis. Privatised companies in 2014 generated 12.3% of accumulated loss (3.3 billion EUR) and 10.8% of liabilities of the economy (7.2 billion EUR). Total liabilities exceeded capital value 1.5 times, while accumulated loss took part in 69.6% of capital (in 2002 – liabilities 70.2%, and accumulated loss 35.4% of the capital value). Due to the influence of the recession and impossibility of fast and efficient adaptation to market conditions, about 300 companies ended in bankruptcy or were removed from the register for active economic entities. On the other hand,

Table 3: Privatised enterprises – Financial performance indicators, in millions EUR

	2002		2009		2014		Real growth/decline in%	
	The value	% of the economy	The value	% of the economy	The value	% of the economy	2002-2009	2009-2014
No. of employees	368,976	28.2	171,133	16.0	111,725	11.5	-53.6	-34.7
Fixed assets	6,552.7	18.7	7,418.7	12.7	6,057.4	9.5	-15.8	-27.9
Capital	7,289.1	19.2	6,018.2	13.9	4,784.4	9.6	-38.6	-29.8
Total income	7,351.1	20.7	9,291.7	13.8	7,615.8	10.1	-6.0	-27.6
Profit	138.6	15.5	524.92	17.4	350.2	10.1	181.5	-41.1
Loss	343.3	21.9	599.8	14.6	720.7	15.7	29.9	6.1
Liabilities	5,120.4	20.8	7,457.2	12.7	7,235.8	10.8	8.3	-14.3
The cumulative loss	2,576.9	20.1	1,908.5	10.9	3,329.7	12.3	-44.9	54.1

Source: Author's calculations on the basis of the BRA.

Table 4: The effects of privatisation to foreign buyers

	The economy			Privatised enterprises					
				Domestic buyer			Foreign buyer		
	2014	Growth/ decline 2002-2009	Growth/ decline 2009-2014	2014	Growth/ decline 2002-2009	Growth/ decline 2009-2014	2014	Growth/ decline 2002-2009	Growth/ decline 2009-2014
Number of employees	971,171	-17.9	-9.4	75,600	-56.5	-38.2	36,125	-44.2	-26.0
Fixed assets, mil. EUR	64,054	23.9	-3.0	3,946	-17.2	-25.6	2,111	-13.3	-31.7
Capital, mil. EUR	49,818	-15.3	1.6	3,129	-36.2	-31.3	1,655	-42.9	-26.6
Total income, mil. EUR	75,628	40.6	-0.8	4,108	-18.2	-30.8	3,507	16.3	-23.5
Profit, mil. EUR	3,471	149.6	1.8	182	225.2	-42.3	167	144.3	-39.7
Loss, mil. EUR	4,601	94.8	-0.8	381	-4.0	6.5	339	113.9	5.7
Liabilities, mil. EUR	67,301	77.0	1.5	4,702	38.1	-8.5	2,533	-19.0	-23.4
The cumulative loss, mil. EUR	27,073	1.7	36.2	2,060	8.3	47.9	1,269	-70.9	65.3

Source: author's calculations on the basis of the BRA.

more than 50 companies have been merged, having changed their status, and became a part of successful business systems of connected companies which do business in the country and abroad (Sunoko Sugar Refinery, United Serbian Breweries, Delhaize, etc.).

Briefly, during the transformation period 2001-2016, employment in privatised companies decreased by more than 70%, the capital decreased by 2/3, the loss doubled, liabilities were higher by 50%, accumulated loss by 30%, the total income remained at the same level (Table 3).

The analysis from the aspect of the ownership structure shows that economic-financial performances are slightly better if foreign buyers are involved, rather than domestic. Companies privatised after they had been bought by foreign buyers (176) employ 3.7% of employees, making 4.6% of the total income, 4.8% of the profit and 7.4% of the loss of the economy in 2014 (Table 4).

Comparing the levels of privatised companies one can notice their huge impact on the achieved results: 13.7% of companies employ 1/3 of employees, and make 47.9% of profit and 47.1% of the loss of privatised companies.

In 2014, compared to 2009, activities of companies privatised by foreign capital were fewer by 23.5%, they employed 26.0% employees less, gained smaller profit (-39.7%), while loss was 5.7% higher. However, the rate of change of financial indicators (although negative) is more favourable than the average of privatised companies altogether.

From the regional point of view the greatest number of privatised companies is from the territory of Vojvodina (867; 276 – South-Bačka area) and the City of Belgrade (608). In Šumadija, West, South and East Serbia there are 38% of privatised economic entities doing business (8.0% in Zlatibor and Nišavska region).

Privatised companies from Vojvodina region have the largest share in almost all analysed financial indicators of economy, apart from the loss. The influence of privatised companies on the business operations of the region is the most noticeable in South and East Serbia, where 3.7% of companies (387) employ 17.7% employees and generate about 20% of income, profit and accumulated losses. Financial performances of this region are concentrated in just a few companies.

The effects of restructuring of large economic systems and PCs (public companies)

In 2015, 310 large companies (0.3% of companies of the economy of Serbia) employed 296,593 workers (29.9% of the economy), generated 43.1% of the income, 37.6% of the profit and 33.3% of the loss of the Serbian economy. Activities of general interest were performed by 485 public companies, which were founded by the Republic of Serbia, autonomous province or local self-government units. In this segment of economy, there were 115,113 workers employed (11.6% of the economy), 6.4% of the income was made and about 6.0% of the profit and loss of non-financial sector (Table 5). The profit grew (24.6% in PCs and 0.8% in large companies) and the loss decreased (-41.3%; -71.9% and -58.3%) compared to 2014, which reflected on profitable business operations of the observed companies – positive net financial result of public companies – 8.3 billion dinars, of large companies 67.8 billion dinars (143.8 billion dinars in the economy).

Large companies, by size, as well as public companies, by the type of organization, are the generators of growth, but they are loss-bearers too, and their business operations have been defining economic trends for years.

Table 5: Indicators of business of large companies (LCs) and public enterprises (PEs) in 2015

Indicators	Participation in the economy (%)		Growth rates 2015/2014 (%)		
	PEs	LCs	The economy	PEs	LCs
No. of companies	0.5	0.3	0.3	4.5	-5.2
Number of employees	11.6	29.9	2.2	21.1	-1.8
Total income	6.4	43.1	1.3	5.2	-3.1
Liabilities	9.9	38.7	1.1	0.1	-7.1
Net profit	5.8	37.6	12.5	24.6	0.8
Net loss	5.8	33.3	-41.3	-71.9	-58.3
The cumulative loss	12.0	41.8	7.4	15.6	-0.02

Source: Author's calculations on the basis of the BRA.

Fourteen companies that employ more than 250 employees, and make the fifth of the profit and loss in the Serbian economy (18.5% and 20.5%, respectively) can be singled out as the bearers of economic activities. The oil industry of Serbia, after the privatisation in December 2008, made loss (37.6 billion dinars) just in 2009, and in the 2010-2015 period it continuously made profit (14.6 billion dinars in 2015). The greatest loss-makers are the companies of infrastructural importance (JP Srbijagas, Železnice Srbije [The Railways of Serbia], JP Putevi Srbije [PC The Roads of Serbia]) and companies which have been included in the perennial restructuring (Petrohemija Pančevo, RTB Bor [MTB Bor Mines], Azotara Pančevo [Pancevo Fertilizer Plant], Simpo Vranje).

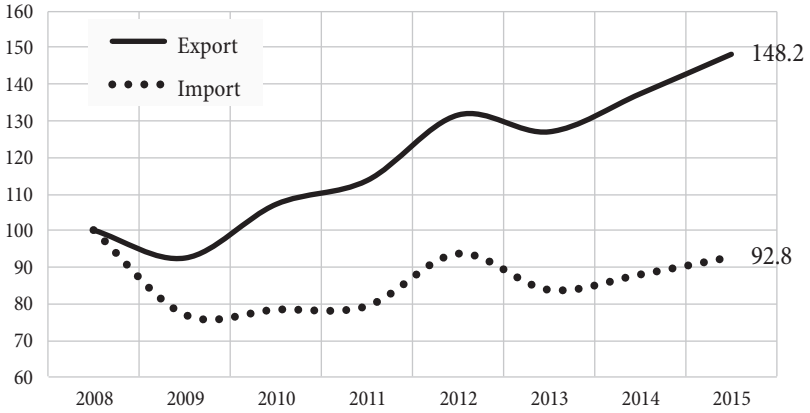
Industrial, export, technological and factor competitiveness

How big the importance of the manufacturing industry is can be seen in its foreign-trade performances (Table 6). The greatest sector share in the foreign-trade economic exchange in 2015 was the share of the manufacturing industry (61.6%), which achieved 76.8% of the total export, 50.2% of the import and recorded the surplus of 1.2 billion EUR. Large companies dominate in the structure of foreign-trade exchange of the manufacturing industry (64.3%), and particularly in export, where their share is 66.2% (and in import where their share is 62.0%). Positive progress has been noticed in foreign-trade exchange in 2015, surplus was recorded in large companies, as well as in the entrepreneurial sector of 50.3 million EUR.

Import/export ratio of the non-financial sector (Table 6) is constantly increasing (in 2015 it was 74.9%). Although import/export ratio increased in SMEs sector and large companies, it is significantly bigger in large companies (96.2% in 2015) compared to the SMEs sector, where the ratio between import and export was 58.4% (Figure 4).

Better oriented foreign-trade economy is indicated by higher percentage of the total turnover made by export. Constant increase of the export share in the turnover is recorded by large companies and SMEs sector, whereas two times greater value of the coefficient in large companies indicates better export orientation compared to SMEs sector.

Figure 4: Foreign trade balance of the entrepreneurial sector (2008=100)



Source: Author's calculations on the basis of the RSO.

Table 6: Manufacturing – export competitiveness indicators

	2008	2009	2010	2011	2012	2013	2014	2015
Foreign trade balance, in millions RSD	-643,651	-483,363	-520,764	-546,872	-641,230	-458,015	-488,724	-483,201
The coverage of imports by exports, %	48.2	53.0	58.5	60.1	60.4	72.4	72.5	74.9
The participation of exporters in the total no. of enterprises, %	4.4	4.0	4.0	4.1	4.2	4.4	4.3	4.5
Participation of importers in the total no. of enterprises, %	7.6	6.6	6.3	6.3	6.6	6.8	6.5	6.6
The share of exports in turnover, %	8.5	8.5	10.2	10.4	11.2	13.5	14.1	15.2
Exports per employee, in thousands RSD	427.8	417.2	597.2	684.5	812.3	1,015.1	1,098.9	1,179.9
Imports per employee, in thousands RSD	888.0	786.7	1,021.4	1,138.2	1,345.7	1,401.6	1,514.8	1,575.9

Source: Author's calculations on the basis of the RSO.

Table 7: The coverage of imports by exports by enterprise size and technological complexity in %

	2008			2014			2015		
	Total	SMEs	LCs	Total	SMEs	LCs	Total	SMEs	LCs
The economy	48.2	36.5	66.1	72.5	57.0	93.2	74.9	58.4	96.2
Manufacturing	100.1	73.9	125.8	124.3	96.3	147.0	114.5	101.7	122.4
Low-tech	98.8	105.3	91.4	136.6	136.6	136.6	140.4	139.5	141.3
Medium low-tech	112.4	70.3	136.6	116.3	87.0	143.1	91.5	95.7	89.3
Medium high-tech	123.6	75.4	170.6	133.9	78.2	157.4	130.9	88.4	147.1
High-tech	29.9	14.5	81.0	56.6	27.2	130.1	57.4	26.2	110.6

Source: Author's calculations on the basis of the RSO.

Relative trade balance[1] of the manufacturing industry in 2015 declined in comparison with the previous year (6.8% compared to 10.8%), and it reveals a slight improvement of industrial competitiveness. The surplus which was made by the commodity exchange of large companies has a significant impact on industrial competitiveness. Entrepreneurial sector of the manufacturing industry made a surplus of 12.3% just in low tech branches, particularly companies in the area of foodstuff production and furniture production. Furthermore, SMEs which do business in the production of basic metals and production of metal products, except machines (medium-low tech), as well as companies from the electrical equipment area (medium-high tech) are export-competitive.

Subsector analysis of the manufacturing industry shows that the positive value of RTB of SMEs sector was recorded just in the following areas: Production of foodstuff products (40.2%), Production of clothing items (12.1%), Production of leather and leather products (20.0%), Wood processing and wood products, except furniture (29.0%), Production of furniture (1.5%), Production of basic metals (34.3%), Production of metal products, except machines (0.5%), Production of electrical equipment (3.5%), Production of machines that are not mentioned above and equipment (15.8%) and Production of other means of transport (24.7%). SMEs sector is the most competitive in high-tech area: Production of computers, electronic and optical products (-58.8%) and Production of basic pharmaceutical products (-53.6%).

Products of low or medium and low technological complexity (62.4%) dominate in foreign trade balance of the manufacturing industry, while the situation is better in SMEs sector, where these products have the share of 72.8% (56.8% in large companies). The situation is similar with the export of the manufacturing industry, where products of lower technological complexity have the share of 62.0% (78.0% of SMEs, 53.8% of large companies).

In spite of positive results in 2015, export competitiveness of SMEs sector is still unsatisfactory. However, indicators of the manufacturing industry have been showing a slight improvement: export/import ratio in technological complexity increased, minimal positive change in structure of export and import according to the intensity factor, but indicators of foreign-trade activity according to SITC, as well as a low coefficient of the restructuring of the export of the manufacturing industry, are still unsatisfactory.

Thanks to the export competitiveness of large companies, the manufacturing industry produces a surplus in foreign-trade exchange. However, the structure of total exchange and particularly of export is not favourable. The growth of Serbian export in the period of transition was not followed by a significant increase of its quality structure (Table 7), it was achieved thanks to the production based on low technology, unqualified work force and significant share of primary raw materials.

Unsatisfactory level of low competitiveness of the Serbian export is displayed in the structure of import according to the intensity factor (Table 8). Products from a lower phase of finalisation and smaller value added (raw materials, labour-intensive and resource-intensive products) dominate in the export of the entrepreneurial sector, which is characteristic for less developed countries. In order for competitiveness to improve, it is necessary to

1 Relative Trade Balance (RTB) stands for the ratio between foreign-trade balance and the volume of foreign-trade exchange, shown in %. Positive value of RTB indicates comparative values (surplus in commodity exchange).

Table 8: Exports and imports, according to factor intensity 2015 in %

Goods	Export		Import	
	SMEs	Total	SMEs	Total
A Raw materials (agricultural and primary products)	39.0	30.4	17.8	26.5
B Labour and resource-intensive products	18.6	14.4	13.7	11.9
C Professional and low-tech products	9.2	7.6	8.0	5.8
D Intermediate professional and tech products	15.6	30.7	24.1	23.9
E Highly professional and tech products	11.9	12.0	25.6	21.4
Unclassified goods	5.7	4.9	10.8	10.6

Source: Author's calculations on the basis of the RSO.

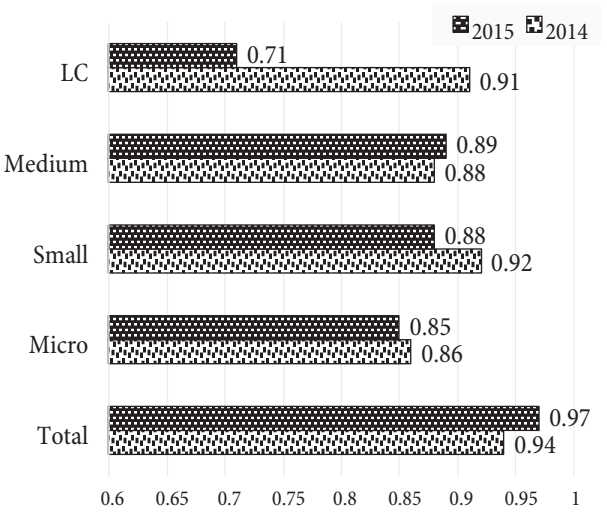
change the structure of export in favour of competitive products (competitive due to their prices and quality) incorporating a higher level of processing (finalisation), which is possible only by investing in modern technologies which lead to the increase of offer, decline in production costs, efficient use of production factors, improvement of product characteristics and growth of export income.

Sector analysis according to SITC rev.4, reveals that the greatest part of export (66.3%) takes place in sectors 0, 6 and 7, while the largest part of import takes place in sectors 5, 6 and 7 (67.0%). Products of these groups have a high export and import, so that their export/import ratio is unfavourable, as well as trade balance. Export/import ratio has significantly increased in food and livestock sector, which at the same time produce surplus in the commodity exchange of tobacco, smoke and animal and vegetable fat. Within SMEs sector, export/import ratio has been recorded in the following commodity groups: food and livestock, raw materials except fuel and animal and vegetable oil. The value of RTB increased in almost all groups of products except the products from group 4. The greatest increase was noticed in groups 1 and 3, which reveals that the strengthening of export competitiveness is most widely spread with products of low technological complexity.

According to the coefficient of export restructuring,[2] SMEs increased the speed of adapting to the market demands compared to the previous period (Figure 5), but they change their export structure more slowly in comparison with large enterprises, which increased their export and range of goods offered to foreign markets by means of restoring and improvement of the production. High value of coefficient indicates slow change of unfavourable structure of export and low import competitiveness of domestic industry and SMEs. Large enterprises adapt their production to the demands of foreign market faster, probably because of larger investments.

More significant economic growth and employment increase in the long run is possible only through the strengthening of export and total competitiveness of the economy, which would enable further strengthening of export growth with the rise in foreign-trade activities. In order to improve export competitiveness of the Serbian products, it is necessary to work on the change of export structure (which is to a great extent based on export of metal – steel, raw materials, a small number of industrial products and food) in favour of technologically more

Figure 5: Coefficient of restructuring the export manufacturing



Source: Author's calculations on the basis of the RSO.

2 It is based on Finger-Kreinin Index of structural similarity, used for various structural comparisons of foreign-trade exchange. Coefficient of export restructuring is calculated as the sum of minimum pairs of the share of the same type of export products according to SITC in the years of analysis. Lower value of coefficient indicates faster changes, that is, maximum value 1 means totally identical trade structure in the years of analysis.

complex products of high finalisation, which create higher value added per product unit. The change of export structure should be followed by greater geographical export diversification and strengthening of the positions in current export markets. Strengthening of export competitiveness through the transformation of export structure is possible only via significant growth of business and investment activities of domestic and foreign companies which base their business activities on high technology, knowledge and innovations.

The concept of smart specialisation - RIS3

The process of accession of Serbia to the European Union emphasises the importance of the necessity of the strategic concept of developmental priorities and models of their realisation, the importance of replacing previous ad hoc solutions with strategic long-term goals. Although economies of small countries such as Serbia are exposed to extreme numerous challenges, this should not be an excuse for the lack of strategic thinking and consensus of political elites on strategic economic goals of economic development of a state.

Strategy of smart specialisation presents a frame for better recognition of the needs of economy by the scientific sector, as well as a connection of research areas with these needs, an efficient transfer of innovations and new technologies into the economic sector, and the creation of conditions for intensifying such cooperation by public policy makers.

The European Commission affirmed the concept of smart specialisation (RIS3) in 2011, in order to help Member States and the EU regions to design their research and innovation for smart specialisation. Smart specialisation (RIS3) is a strategic approach to economic development through a targeted support to research and innovations. The concept involves the process of vision making, identifying economic areas that are of the greatest strategic potential [7, p. 3]. For example, 80% of investments should be channelled through energy efficiency of renewable resources in developed regions, competitiveness of small and medium enterprises and R&D. In less developed regions this goal is 50%.

Facing the loss of competitive position on the global market, European Union started the initiative for developing strategies for smart specialisation, as a new approach to economic development which is based on targeted support to the research and development activities and innovations. The very Member States concentrated on creating new model of economic growth which will increase total competitiveness and decrease inter-regional differences among Member States.

One of the conditions of new EU Cohesion Policy for the programming period 2014 –2020 is that Member States have to identify areas of specialisation that suit their innovation potential the most, with the aim of efficient use of European funds in research areas, technological development and innovations.

The basic concept of smart specialisation is technological specialisation of the economy, above all, through public and private investments in the research, technological development and innovations. The concept is based on the "bottom-up principle", that is, through the cooperation and mutual effort of public, scientific research and business sector, and through the entrepreneurial discovery process one's own strengths and competitive advantages are identified.

The concept of smart specialisation does not present a unified model which is the same for all countries, it is an entrepreneurial process based on making use of one's own capital and innovations, according to a higher value added and activities based on knowledge.

Basic elements of the concept of smart specialisation:

- Prioritisation, investing in key national (regional) priorities as a response to the needs for the knowledge-based development;
- Assessment of one's own strengths, competitive advantages and potentials for excellence in research and development;
- Creating systematic instruments which stimulate technological development and innovations in the private sector;
- Coherence of the whole process within the global context, where territorial specialisation is a part of the global value chain.

Methodologically, the RIS3 concept is based on elements of business strategy [2], [3]. RIS3 is different, depending on the territorial capital; in certain situations, the model of local economy is more efficient than the model of the location economy (sector specialisation); in other situations, it is the model of urbanisation economy (sector diversity), or their combination and balance [9, pp. 685-697]. In the long run, the model of territorially connected diversity is the most optimal [1, pp. 289-311]. In all RIS3 models (Table 9) crucial importance is given to the phenomenon of "entrepreneurial discoveries" [7, p. 5].

The views of the European Commission particularly indicate that in the very application of RIS3 concept, states are focused on a wide scope of activities in order to find the most optimal model of balance between specialisation and diversification. In any case, RIS3 is connected to the territory (a place-based policy), which constantly points out the importance of territorial capital and knowledge specialisation.

The concept of smart specialisation is becoming more and more popular in recent years [5], [6]. Apart from the European Commission, independent academicians and institutions, World Bank and OECD pay special attention to the improvement of the concept [14, pp. 1291-1302].

The concept of RIS3 and Industry 4.0 concept lead to radical changes in economic development and work organisation. Model Industry 4.0 changes basic patterns: the central management of production will be replaced by decentralised processes which are managed, smart products, machines and resources communicate with each other [16, pp. 1-6]. Digitalisation of industry provides the integration of the whole value chain in real time. Industry 4.0 is a real revolution in the area of sustainability and efficiency, whose effects should be connected with RIS3 concept.

Relying on one's own strengths – fast-growing companies

In each economy the segment of fast-growing companies creates new economic structure; these are companies with the growth potential (dynamic enterprises and gazelles); they use their own resources most efficiently in market environment, they continuously increase employment, improve their balance positions, they react fast on market signals and, accordingly, make fast business decisions. Companies with growth potential, i.e. dynamic entrepreneurs are characterized by: creativity and originality, long-term orientation towards market and buyers, morale and business culture, the ambition of the perennial success and capital profit, the ability to predict a risk and adaptability, as well as a noticeable orientation to problem solving.

The strengths of the entrepreneurial sector in Serbia

During the transformational 2001-2016 period in Serbia, the sector of small and medium-sized companies and entrepreneurs grew into a significant segment of economy. Although entrepreneurial sector contributes to the GDP of Serbia with just 1/3, other crucial parameters indicate ever increasing share of this sector in the economy: in 2015 entrepreneurial sector (SMEs sector) with about

Table 9: Main characteristics of entrepreneurial discovery

CHARACTERISTICS	CHECKLIST	ASPECTS TO CONSIDER
Window of opportunity	*Does it have a clear market orientation at international level?*	• *Marketing period at short, medium or long term* • *Geographic scope: national, European and international*
Regional helix	*Does the "entrepreneur" arise and /or is supported by the quadruple helix?*	• *Companies* • *R&D and innovation agents* • *Government* • *Users/clients*
Technological hybridization	*Are different knowledge/technology domains combined?*	• *Sector-Sector (non technological innovation)* • *Sector-Technology* • *Technology-Technology (technological innovation)*
Specialized diversification	*Does it contribute to the diversification of the current regional specialisation pattern?*	• *Incremental improvement* • *New product/service generator of new activities*

Source: [11].

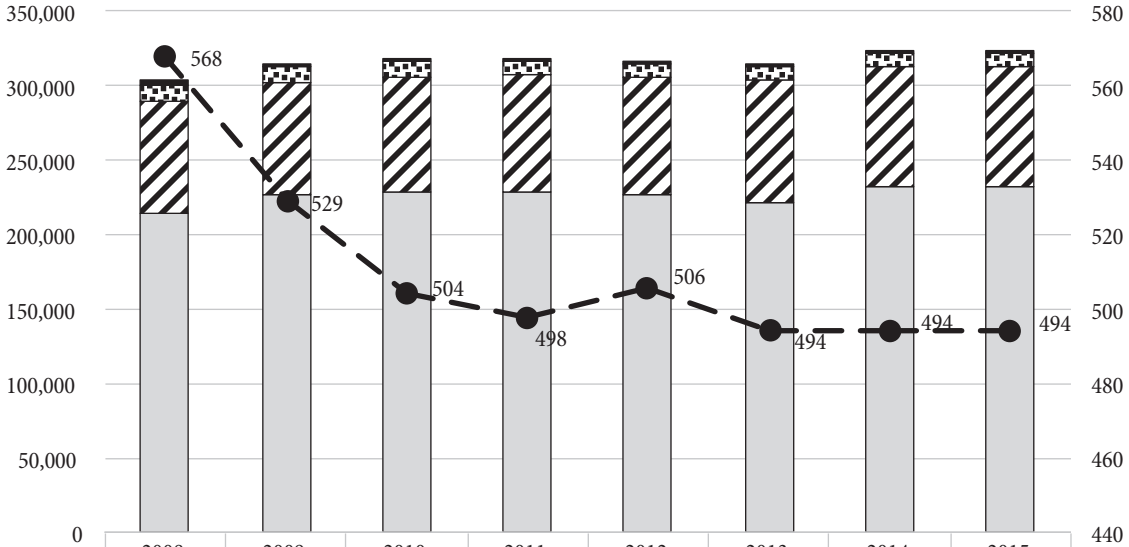
325 thousand companies and entrepreneurs in Serbia (Figure 6), produced 58% of newly created value and 2/3 of the turnover, 44% of export and 57% of import. If we compare it to 2008, which was the year before the crisis, the number of entrepreneurs increased by 21,151, but the number of the employed decreased by 138,440 workers, and newly created value (GVA) declined by 1.2 billion EUR.

The waves of recession particularly hit entrepreneurial sector, not only in Serbia but in whole SEE. Slowed dynamics of recessional recovery of the entrepreneurial sector has a particular weight, since entrepreneurial sector (324,600 of total 325,094) in 2015 retained a high share in forming main indicators of doing business of the non-financial sector of the economy of Serbia. Compared to 2008, in 2015 this segment of non-financial sector recorded lower created gross value added by 16.2%, and employment by 14.7%, which had an influence on reduced productivity of 1.7% (Figure 7). Significantly, during the analysed period, the growth of the net profit was not in accordance with the productivity growth. However, entrepreneurial sector had continuously below-average gross profit (88% in 2008, and 93% in 2015 of the economic average), while profit made by sectors of large companies was continuously higher than the average of the economy (by 24% in 2008, and by 13% in 2015).

Positive trends in recent years illustrate the increase in employment and better foreign-trade performances of this sector. In 2015, the employment rose in micro companies (2.2%), small companies (3.1%), medium-sized companies by 2,561 employees. Business activity increased in medium-sized companies (by 6.6%), entrepreneurs (by 6.5%) and small companies (by 1.4%), while in micro companies' business activity declined by 2.2%. The number of companies in foreign-trade exchange increased – the number of exporters increased by 4.3%, and the number of importers by 1.7%. The trend of the increase of the export/import ratio in SMEs has continued – 58.4% (57.0% in 2014; 55.3% in 2013; 51.3% in 2012; 36.5% in 2008).

The greatest problems are unfavourable sectoral and regional concentration of entrepreneurial sector – dominant influence of unexchangeable sectors (81.8% of companies, 65.4% of employees, 67.1% of turnover and 68.1% GVA of SMEs sector in 2015). The manufacturing industry dominates within exchangeable sectors –15.7%

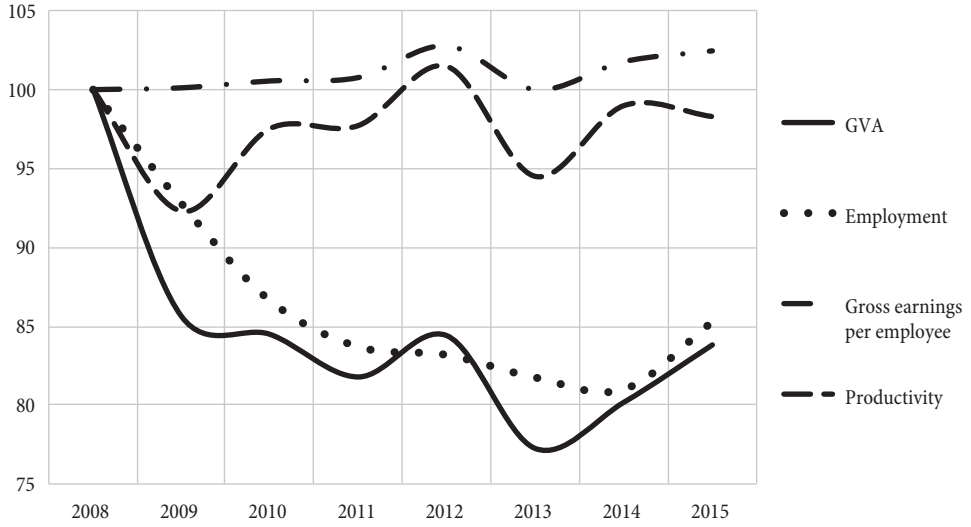
Figure 6: The structure of the economy by the size of enterprises 2008-2015



	2008	2009	2010	2011	2012	2013	2014	2015
Medium	2,675	2,470	2,257	2,218	2,142	2,132	2,131	2,182
Small	10,415	9,873	9,614	9,656	9,699	9,353	9,198	9,531
Micro	75,540	76,243	77,989	78,890	79,189	81,775	81,327	80,122
Entrepreneurs	214,819	226,241	228,680	228,540	226,132	222,152	231,616	232,765
Large	568	529	504	498	506	494	494	494

Source: Author's calculations on the basis of the RSO.

Figure 7: Entrepreneurship in Serbia 2008-2015, basic indicators of business (2008=100)



Source: Author's calculations on the basis of the RSO.

of companies, 27.9% of the employed, 27.5% of turnover and 25.1% of GVA of the SMEs sector in total.

The concentration of entrepreneurship was the greatest in the most developed region of Belgrade, which in 2015 had a share of 1/3 in number and import, with 1/5 in employment, and with 1/4 in the turnover and GVA and with 14.8% in the export of the non-financial sector. According to GVA per employee, SMEs from the region of Belgrade are two times more productive in comparison with SMEs from the South and East Serbia region, 1.7 times compared to SMEs from Šumadija region and West Serbia, and 1.4 times compared to SMEs from Vojvodina region. Great disproportion in the level of the development of SMEs sector exists at the level of regional areas as well, since the ratio of GDP per person employed in SMEs in the most developed (Belgrade) area and in the least developed (Pčinja) area is 2.3:1, which indicates great unevenness in the achieved level of development area in Serbia.

Fast-growing companies with the growth potential – structural and regional characteristics

Fast-growing companies with the growth potential are present in all types of economy, both in the period of growth and in the recession period. From state to state, their maximum number is 3-5% of all companies, they have above-average profit and employment growth, they are the bearers of smart specialisation, innovations and sustainable development. These companies should be in the focus of economic policy, they change economic structure and they contribute to the strengthening of economic competitiveness [18].

According to a conducted research of fast-growing companies with the growth potential in the 2010-2015 period, it can be concluded that these companies present a moving force of the growth of domestic economy, being a connection to the developed western market.

The research that was carried out was the third research of that kind in Serbia, conducted according to the same methodology[3]. The first research of the dynamic entrepreneurship was conducted for the 2006-2010 period, and the second for the 2009-2013 period [13].

In the 2010-2015 period in Serbia, 1,551 dynamic enterprises were doing business, out of which 270 gazelles (the most dynamic companies), which endured the recession waves and which presented an economic dam from the implosion of the economic system. The potential for the growth of dynamic enterprises is above average. 1,551 fast-growing companies in Serbia 2010-2015 (Figure 8):

3 The main methodological frame: number of the employed >2 in 2015 compared to the initial 2010; business profit >65,000 EUR (7,850,000 dinars) in 2015; they really made more than three times bigger business profit in 2015 compared to 2010; they recorded profit in 2010 and 2015; social and public companies are excluded; companies from L, O, S, T, U sector are excluded; dependent companies which are a part of an economic whole are excluded.

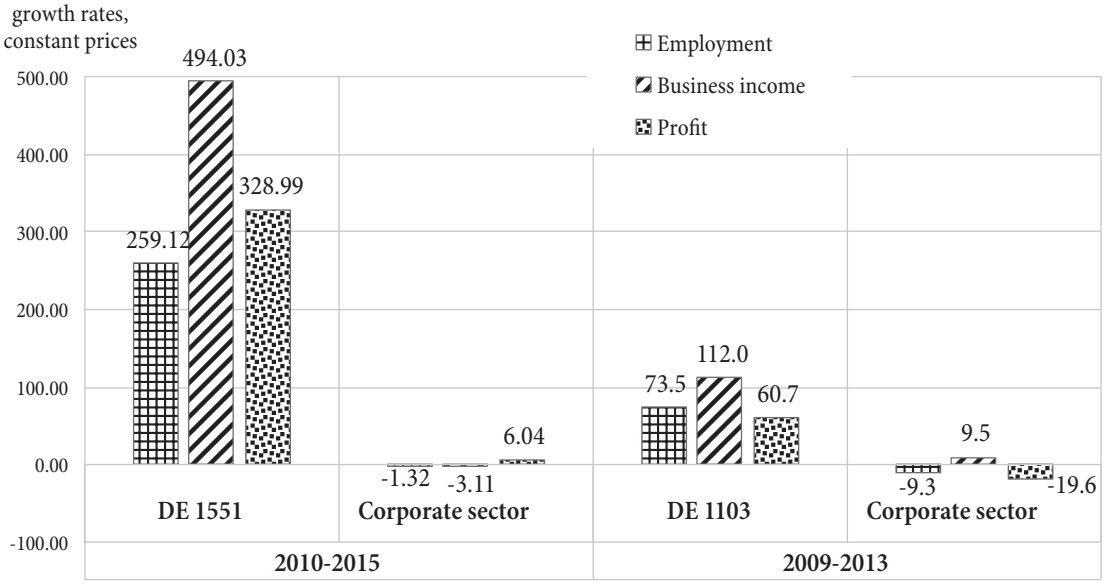
- created 25,000 new work places in the economy (3.56% of total employment in the economy), while in the economy the employment decreased (-1.32%).
- compensated the total decline of the business profit of the economy (-3.11%) with its growth (growth rate 494.03%);
- generated more than 50% of growth in the economy.

Dynamic enterprises increased their contribution to the economic growth in all the dimensions of the research. The increase of the influence of 1,551 fast-growing companies in the 2010-2015 period, in spite of recession waves, is at least three times bigger in all relevant indicators (Table 10):

- The growth of the share of employment from 0.98% to 3.56% (from 9,815 employees to 35,248);
- Growth of the share of the business profit from 0.71% to 4.34%;
- Growth of the profit from 0.99% to 4.02%.

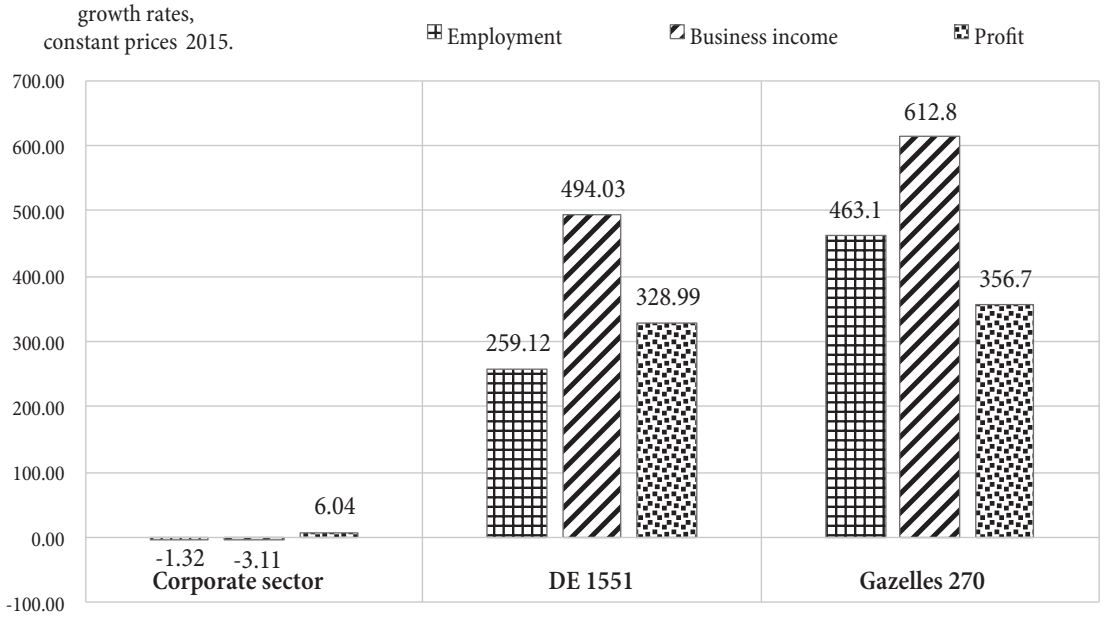
The movement of the share of 270 Serbian gazelles in the economy is much faster than the share of dynamic companies (Figure 9), the greatest contribution is to the reduction of unemployment and to the alleviation of social

Figure 8: Dynamic enterprises (DE) 2009-2013 and 2010-2015, growth rates



Source: Author's calculations on the basis of the RSO.

Figure 9: Dynamic enterprises and gazelles - growth rates



Source: Author's calculations on the basis of the BRA.

Table 10: Dynamic enterprises and gazelles, growth of participation in economy (%)

	Employment		Business Income		Profit	
	2010	2015	2010	2015	2010	2015
DE 1551	0.98	3.56	0.71	4.34	0.99	4.02
Gazelles 270	0.40	2.27	0.29	2.15	0.41	1.77

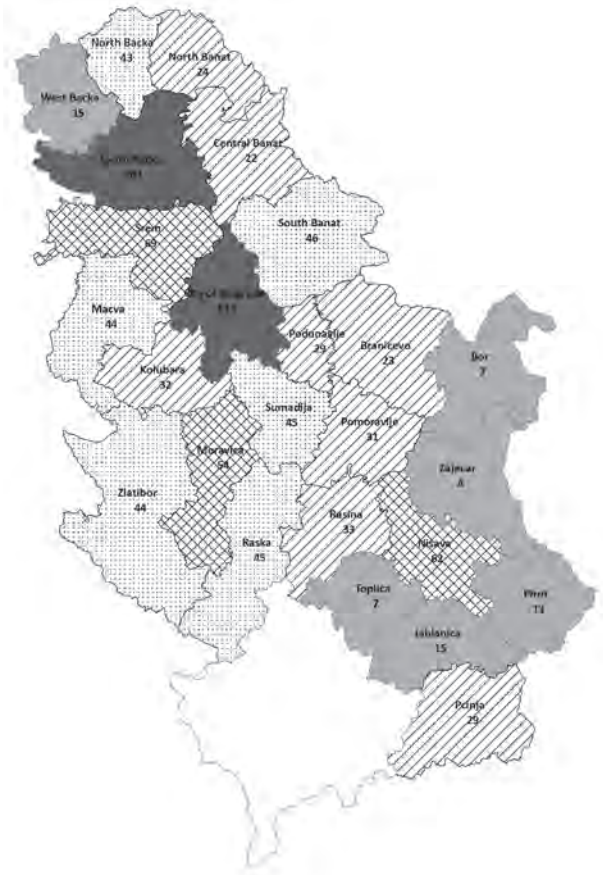
Source: Author's calculations on the basis of the BRA.

tensions (3,984 workers worked in 270 gazelles in 2010, and the growth of 5-6 times was recorded in 2015; 22,433 workers worked in the same gazelles).

Sector structure (Table 11) shows that dynamic companies are concentrated in Trade sector (460 or 30%) and the manufacturing industry (331 companies, or 21%). Positive movements in comparison to the previous research show the growth of dynamic entrepreneurs in sectors: Professional, scientific and technical activities (sector M) and Construction (F).

Regional distribution of dynamic companies and gazelles is in the shadow of economic concentration in the City of Belgrade and South-Bačka area (Figure 10): 841 of 1,551 dynamic companies, 52.5% are concentrated in these two areas. The trend of ever faster economic concentration is shown by other indicators of dynamic companies, 61% of business profit and 60% of total profit was generated in the City of Belgrade and South-Bačka area in 2015. According to the latest research, 53% of Serbian gazelles (143) are located in Belgrade and South-Bačka area.

Figure 10: The regional distribution DE



Source: Author's calculations.

Comparison of results of the three researches

Comparative analysis of the dynamic entrepreneurship of all three researches carried out in Serbia reveals the following (Table 12):

Table 11: Sectoral structure of DE

Sector	Number of companies	Employment		Business income		Profit	
		2009	2013	2009	2013	2009	2013
A Agriculture	2.5	1.5	1.2	3.6	3.5	1.7	1.2
B Mining	0.1	0.1	0.1	0.1	0.1	0.0	1.1
C Manufacturing	21.3	28.9	29.3	24.3	21.3	24.6	23.8
D Electrical energy	0.1	0.0	0.0	0.0	0.1	0.0	0.3
E Water supply, etc.	1.0	0.9	0.7	0.6	0.6	1.5	0.8
F Construction	10.3	11.0	7.9	11.9	10.6	13.9	13.7
G Trade	29.7	19.5	20.4	37.6	36.0	29.9	28.6
H Traffic	12.1	7.0	6.3	6.0	5.5	5.7	5.8
I Accommodation and food services	2.2	1.8	2.1	1.1	0.8	1.3	1.4
J Information, etc.	5.8	7.2	7.4	5.2	4.1	9.0	8.6
K Finance and insurance	0.5	0.7	0.4	0.0	0.1	3.0	1.0
M Professional, scientific act.	9.6	7.5	6.0	4.8	4.7	6.0	7.9
N Administrative and etc. activities	3.5	4.8	9.9	1.3	1.8	2.2	1.6
Q Health and social work	0.3	0.1	0.1	0.0	0.1	0.0	0.0

Source: Author's calculations on the basis of the RSO.

- In the first phase of the Serbian economy transformation entrepreneurial sector was developing, creating a significant number of fast-growing companies (2,583), but their potentials were just in the growing and developing phase;
- The second research was conducted in the light of effects of global recession, entrepreneurial sector was more than halved, but these fast-growing companies (1,103) "survived" economic tsunami, became even stronger and more powerful (growth rate of the business profit was more than doubled, and the profit growth rate was even 4 times bigger);
- The last research shows that fast-growing companies (1,551 companies) have become an important economic factor in all segments (business profit has been doubled).

Table 12: Comparing the results of three studies

	Number DE	Employment-growth rates	Business income-growth rates	Profit-growth rates
2006-2010	2,583	73.45	112.04	60.66
2009-2013	1,103	120.71	251.07	248.97
2010-2015	1,551	259.12	494.03	328.99

Source: Author's calculations.

Targeted attraction of FDI

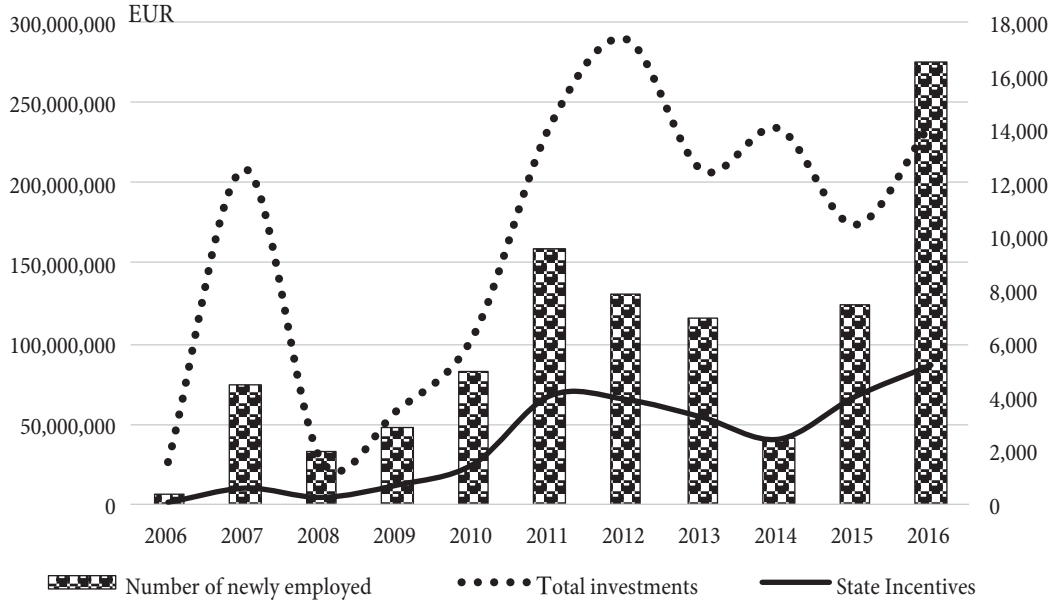
The task of high priority of European industry is the modernization of economy and accelerated introduction of new technologies into the production process. EU strategic documents (Horizon 2020, programmes of technological platforms – Technology Platform/Manufacture and Research Association – EFFRA) point out that only application of new technological solutions in the production could increase value added. New production models connect the production of goods and services with the procurement, as well as the supply chain management, through the connection of various levels of responsibility, from private to public sectors to individual, social and global needs of people. The model of economic growth of Serbia must be based on key enabling technologies (Key Enabling Technologies, KET), on "factories of the future" and digital manufacturing production (Factories of the Future, Digital Manufacturing) which produce high added value, based on knowledge, with the focus on business models, adapted to the requirements of globalized supply chain networks.

The manufacturing sector industries with the greatest comparative advantages and unused developing potential are: food industry – production of foodstuff, production of dairies, production and preservation of meat and products made of meat, processing and preservation of fruit and vegetables, production of beverages, production of bakery products and pasta, production of ready-made food for animals; health industry – production of pharmaceutical products; industry of machines and engines – production of motor vehicles, production of parts and equipment for motor vehicles and engines for them, production of household appliances; ICT – production of computers and peripheral equipment, production of electrical and optical products. Stimulation of smart specialisation of industrial branches implies the development of industrial branches with higher energetic and raw-material efficiency.

Proactive model of the attraction of investments will be based on attracting greenfield investments in the strategic export and high technological economic sectors, which raises competitiveness of the Serbian economy. The strategic approach to attracting investments through the state incentives will be focused on incentives of foreign direct investments which have the production character and which export their products on the wider regional market, and on domestic investments, which are primarily of exporting character. During the 2006-2016 period, state incentives for 217 investment programmes of 433 million EUR provided the total investment of 1,803 million EUR and more than 65 thousand new employees (Figure 11). Apart from attracting greenfield investments, stimulating mechanisms, in case of attracting key enabling technologies (KET), should be directed towards the model of stimulating brownfield investments.

The key comparative parameters of the height of investment in research and development show a significant lagging compared to the states in the region. For example, the investment in research and development was 35.9 EUR per capita in Serbia in 2015, almost 16 times less than the EU-28 average (560.1 EUR per capita) and even 12 times less than in Slovenia (431.9 EUR per capita). Sector structure

Figure 11: Encouraging direct investments



Source: Autumn analysis of economic trends, September 2016, Ministry of Economy.

of investment in research and development displays weaknesses of the innovation system of Serbia. Business sector dominates in many countries with the share of more than 50%, while public sector dominates in Serbia (53.5%), whereas business sector has the share of just 8.2%, which is seven times less than the EU-28 average (55.0%), and a few times less compared with our EU neighbouring countries. Unfavourable sector structure of investment in research and development, which is characterised by insufficient investment of private business sector in R&D, and a large share of the public and the sector of higher education presents the biggest weakness of the national innovation system of Serbia. High share of investment in research and development through public sources and system of high education very often implies investment in theoretical and fundamental research which cannot be applied in practice, unlike investments in the business sector, which are mostly oriented to the development of the applied innovations.

Conclusion

The first condition for the implementation of modernisation of the industry is the dedication of the creators of the industrial policy to that goal. The strategy of smart specialisation accelerates structural changes, transferring from traditional to new sectors, through the modernisation of technology in the existing industries based on knowledge, through the diversification of production lines. New products and services are the result of the synergy of well-created economic processes and new techniques. When they first start doing business, new sectors demand various types of incentives (fiscal, etc.).

The essence of smart specialisation lies in radical innovations which stem from a creative combination of technologies and the processing subsectors. If it is a regional level, region has a high level of specialisation, through RIS3 it creates new jobs and raises employment.

Radical innovations lead to entrepreneurial discovery processes. RIS3 should be able to establish mechanisms for the identification of these radical innovations.

Technology and innovations have the central role in sustainable economic growth and development. Additionally, technological gap presents a developmental trap. Each technological improvement requires greater technological investments.

RIS3 concept is compatible with the concept Industry 4.0, since their goals are complementary:

(a) Promotion of the manufacturing industry and entrepreneurship;

(b) Promotion of education for the production, we need systematic impulses for future education and

the creation of experts on creative and innovative production (the quality of education),

(c) Research and development of innovative products in the manufacturing industry, stimulation of the combination of technological knowledge with entrepreneurship,

(d) Creating new organisation and management model for the global trade, and

(e) Stimulation of accelerating technological transfer and creation of the set of incentive mechanisms.

Serbia needs FDI for many reasons:

- Technological modernisation and international knowledge,
- Relations between foreign investors and suppliers spread vertical knowledge
- Knowledge spillover of local competition through imitation processes and "reverse engineering" (horizontal spillover)
- Knowledge spillover through the mobility of qualified workers, as well as when workers leave their company.

The role of FDI should be neither overvalued nor undervalued. Horizontal "spillover" effect is limited. Sometimes effects on domestic companies can be negative when foreign companies are "more competitive". Mainly, positive effects depend on absorption abilities of domestic companies, sectors and total economy. The advantages of FDI are not automatic and depend on the features of the domestic economy. The stimulation of FDI should be in accordance with RIS3 concept, FDI should be targeted and directed to KET (Key Enabling Technology). Very important factor of structural transformations is the inclusion in global value chains. Apart from the access to the international brands, FDI also have "spillover" effect on the domestic economy.

The development of domestic technological ability presents one of the most important elements of growth. Relying on one's own strengths will depend on fast-growing companies (research 2010-2015 showed that in Serbia there are 1.7% fast-growing companies with the growth potential, out of which there are 270 gazelles, companies with extremely fast growth). These companies present a spring-board towards European competitiveness [12].

The final message of this study is that Serbia must integrate its national planning and industrial policy with international planning and modern European concepts, since this is the way we can get the synergy effect and increase sustainability of economic development.

References

1. Boschma, R.A., & Ammarino, S. (2009). Related variety, trade linkages and regional growth. *Economic Geography, 85*(3), 289-311.
2. Castillo, D., Paton, J., & Barroeta B. (2012). *Smart specialisation strategies RIS3: A quick guide*. Infyde. Working papers, Year 2, Vol.1.
3. Castillo, D., Paton, J., & Barroeta B. (2014). Smart specialization and entrepreneurial discovery: Theory and reality. *Portuguese Review of Regional Studies*, *39*, 1-22.
4. EBRD. *Transition Reports (2001-2016)*. Retrieved from tr-ebrd.com.
5. European Commission. (2015). *Perspectives for research and innovation strategies for smart specialisation (RIS3) in the wider context of the Europe 2020 Growth Strategy*. DG Research and Innovation. Retrieved from http://ec.europa.eu/research/regions/pdf/publications/ris3_report-082015.pdf.
6. European Parliament. (2016). *Report on cohesion policy and research and innovation strategies for smart specialisation (RIS3)*. Committee on Regional Development. Retrieved from http://www.europarl.europa.eu/sides/getDoc.do? type=COMPARL&reference=PE-575.283 &format=PDF&language=EN&secondRef=01.
7. Foray, D. (2011). *Smart specialisation and the New Industrial Policy agenda*. Policy Brief N° 8: 1-15. European Commission. Retrieved from https://ec.europa.eu/research/innovationunion/pdf/expert-groups/i4g-reports/i4g_policy_brief_8_-_smart_specialisation.pdf.
8. Foray, D., David, P.A., & Hall, B.H. (2009). Smart Specialization: The concept. Ch .3 in *Knowledge for Growth: Prospects for science, technology and innovation.* Report. European Union. Retrieved from http://ec.europa.eu/invest-in-research/monitoring/knowledge_en.htm.
9. Frenken, K., Van Oort, F. & Verburg, T. (2007). Related variety, unrelated variety and regional economic growth. *Regional Studies*, *41*(5), 685-697.
10. Hermosa, J.C., Elorduy, J.P., & Eguía, B.B. (2016). Smart specialization and entrepreneurial discovery: Theory and reality. *Portuguese Review of Regional Studies*, *39,* 5-22. Retrieved from http://www.apdr.pterper/numeros/RPER39/39.1.pdf.
11. Jakopin, E., & Bajec, J. (2009). Challenges of industrial development of Serbia. *Panoeconomicus*, *56*(4), 507-525.
12. Jakopin, E. (2011). Održivost srpskih gazela - Tiha voda. *Biznis i finansije, 82/83*, 43-44.
13. Jakopin, E. (2015). Regional drivers of economic growth. *Ekonomika preduzeća*, *1-2*, 99-113.
14. Mccann, P., & Ortega-Argilés, R. (2013). Smart specialisation, regional growth and applications to EU cohesion policy. *Regional Studies, 49*(8), 1291–1302. Retrieved from http://www.tandfonline.com/doi/pdf/10.1080/00343404.2013.799769.

15. Ministry of Economy. (2016). *Autumn analysis of economic trends*. Belgrade.
16. Ngjeqari, V. (2016). *The sustainable vision of Industry 4.0 - The Role of information and communication in achieving sustainable development goals*. UNIDO. Retrieved from https://50.unido.org/files/research-paper-competition/Research-Paper-Vojna-Ngjeqari.pdf.
17. OECD. (2011). *Regions and innovation policy*. OECD Reviews of Regional Innovation. OECD Publishing.
18. Pšeničny, V., Jakopin, E., Vukčević, Z., & Čotrić, G. (2014). Dynamic entrepreneurship - generator of sustainable economic growth and competitiveness. *Management*, Vol. 19/1, 61-92.
19. Rodrik D. (2004). *Industrial policy for the twenty-first century*. Working Paper. Cambridge, MA: Kennedy School of Government, Harvard University. Retrieved from https://www.sss.ias.edu/files/pdfs/Rodrik/Research/industrial-policy-twenty-first-century.pdf.
20. UNIDO Final Brochure. (2016). *The 2030 agenda for sustainable development*. Retrieved from https://www.unido.org/fileadmin/user_media_upgrade/Who_we_are/Mission/ISID_SDG_brochure_final.pdf.

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INDUSTRIAL POLICY FOR SERBIA: A MATRIX APPROACH*

Industrijska politika za Srbiju – matrični pristup

Abstract

There are not many things in economic policy that raised so much controversy about its worthiness like the industrial policy did. Through decades, it followed the path from worshiping to total rejection. The main culprit for displacement of industrial policy from the economic policy throne to a historical trash bin was the Washington Consensus and the neo-liberal doctrine it represented. After it became obvious that the key winners of the neo-liberal economic policy reside in the financial sector, and especially after the burst of the fairytale in 2008, the adreamed advocates raised their voices again. This paper is dedicated to the reborn debate on the necessity of industrial policy in conducting structural changes in the economy, and for attaining an equilibrium as well as sustainable growth path. The aim is to create and propose a comprehensive set of measures adequate for Serbia's economy case. When the suggestions flow from the academic viewpoint, they take the form of the optimal framework for attaining specific goals. We intended to provide a framework that is fact-based, concrete, inciting and realistic.

The main output of the analysis presented here is an industrial policy program for Serbia in the form of a matrix with joint horizontal, as well as sector-based vertical measures. In case of strategically important sectors with high growth potentials, sector-based measures resemble traditional vertical policies, while in other cases they merely imply adhering to the sector's specifics in the implementation of the horizontal measure. The matrix shows the most important policy measures required to stipulate growth in a particular industry given its specifics and current conditions. The industries are selected carefully with a genuine belief that they truly represent the key fulcrums of sustainable growth in the future.

This paper is written with the support of Professor D. Đuričin, whose valuable advice, as well as joint work on previous research regarding this issue, contributed to a large extent to the following conclusions and suggestions.

Keywords: *industrial policy doctrine, vertical approach, horizontal approach, the matrix approach, industrial policy program for Serbia, heterodox economic policy framework*

Sažetak

Nema mnogo stvari u oblasti ekonomske politike koje su pokrenule toliko polemike u pogledu vrednosti i značaja kao što je slučaj sa industrijskom politikom. Tokom decenija, industrijska politika prolazila je put od obožavanja do potpunog odbacivanja. Glavni „krivac" za premeštanje industrijske politike sa trona ekonomske politike u kantu za otpatke ekonomske istorije je Vašingtonski konsenzus i neoliberalna doktrina koju je on predstavljao. Nakon što je postalo očigledno da su glavni dobitnici neoliberalne politike u finansijskom sektoru, a naročito nakon završetka bajke 2008. godine, uspavani advokati podigli su ponovo svoj glas. Ovaj rad posvećen je ponovo rođenoj debati povodom neophodnosti industrijske politike u sprovođenju strukturnih reformi ekonomije, dostizanju ravnoteže i održivog rasta. Cilj rada je da se kreira sveobuhvatan skup mera industrijske politike prilagođenih slučaju srpske ekonomije. Kada predlozi dolaze sa akademskog stanovišta oni uzimaju oblik optimalnog okvira za dostizanje odgovarajućih ciljeva. Namera je da se ponudi okvir koji je zasnovan na činjenicama, stimulativan za kreatore ekonomske politike i realističan.

Glavni rezultat prezentirane analize je program industrijske politike za Srbiju u formi matrice koja istovremeno daje pregled horizontalnih i sektorskih, odnosno vertikalnih mera. U slučaju strategijski značajnih sektora sa velikim potencijalom za rast, sektorske mere odslikavaju tradicionalne vertikalne politike, dok u drugim slučajevima jednostavno upućuju na poštovanje sektorskih specifičnosti u implementaciji horizontalnih politika. Matrica ukazuje na najvažnije mere ekonomske politike neophodne za podsticanje aktivnosti određenog sektora imajući u vidu njegove specifičnosti i trenutno stanje. Prioritetni sektori odabrani su pažljivo, sa iskrenim verovanjem da predstavljaju istinska uporišta održivog rasta u budućnosti.

Ovaj rad nastao je uz podršku profesora D. Đuričina, čiji su korisni saveti, kao i zajednički rad u okviru ranijih istraživanja na ovu temu, doprineli u velikoj meri oblikovanju predstavljenih zaključaka i predoga.

Ključne reči: *doktrina industrijske politike, vertikalni pristup, horizontalni pristup, matrični pristup, program industrijske politike za Srbiju, heterodoksni model vođenja ekonomske politike*

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Introduction

One of the key questions in contemporary economics refers to the role of the state [13]. Economic history has taught us that there was a time when economists believed that only government interventions could save the economy from crisis, as well as a time when economists started to believe that government interventions represent the greatest evil of all and that only the invisible hand of the market could lead the economy toward growth and prosperity. Today, there are many of those who follow the thoughts of Stiglitz, Rajan and Rodrik, who believe that the invisible hand of the market and the visible hand of the state can transform their shake into economic success, hardly seen nowadays, in terms of sustainable growth, as well as economic and social development.

This paper is dedicated to the abovementioned ideological strand, since scholars in Serbia, along with the rest of the developing, but also developed countries, struggle to find possible solutions to crawling and jobless economic growth. The key ideas that form the essence of the paper are a part, the vital one, of a broad multipronged reform, one that is much more far-reaching and inter-generational and that holds up the structure of the heterodox policy platform emerged after the 2008 crisis [10], [11] and [12]. Industrial policy lies at the heart of the proposed reform. Furthermore, we will provide arguments that support the claim that, although industrial policy should maintain its horizontal nature and aim to promote adequate framework conditions in the way that neo-liberal capitalism proposed, the specific needs and characteristics of individual sectors must also be taken into account. Hence, we followed the matrix approach where horizontal measures are intersected with the key sectors' requirements and offered a possible industrial policy program, set with concrete measures as a guidance for near-future policy decision-making.

The paper is structured as follows. After the introduction, the second part is dedicated to the evolution of the industrial policy doctrine. We follow the changes in the character, goals, as well as the prevailing standpoints regarding industrial policy over time. The third part discusses obstacles and possibilities to learn from past failures and to pave the way toward the new approach. The fourth part deals with contemporary industrial policy discourse dedicated to attaining the best possible combination and synergy between positive aspects of different approaches from the past, marked as "the big comeback" [3]. The fifth part represents the industrial policy set of measures for Serbia, based on the key industries symbolizing the real fulcrums of sustainable growth in the future. The sixth part concludes the paper.

Evolution of industrial policy doctrine: The old meets the new

As noticed in K. Aiginger [3. p. 297], industrial policy in the real world has two constant companions: poor design and heavy opposition. What is worse, good intentions have too often been overshadowed by bad outcomes. Consequently, industrial policy has been seen as a wide-ranging ill-assorted collection of micro-based supply initiatives designed to improve market performance on a variety of occasionally mutually inconsistent ways [15]. Another contradiction comes from the fact that no commonly accepted definition exists, and that interpretations vary across regions, across stages of development and, what makes the situation even more complicated, across time in the same regions and within the same stage of development. According to [3. p. 299], the definitions disagree on the following trade-offs: a. sectoral targeting vs. horizontal measures, b. passive vs. active policies, c. general measures vs. "picking winners", d. restructuring vs. promoting positive spillovers.

As far as the first trade-off is concerned, the question is whether to give priority to specific industries or to set broad measures with impact on many or even all industries. The second trade-off refers to whether to restructure large firms (which often decelerates the speed of change) or to promote entrepreneurship, innovation spinoffs and new capabilities. The third question is actually a choice between boosting competitiveness by creating an adequate framework and micro-interventions for specific firms, regions or industries. The last question is whether to give subsidies to prevent exiting the market or to promote innovation, training and other dynamic feed-backs.

Despite numerous opponents, economic history teaches us that the visible hand of the state played a

significant role each time the economy has taken off. Yet, we have never seen the rise of a specific theoretical corpus dedicated to industrial policy as one of the main tools in that hand. On the other side, a significant body of literature is divided between the part promoting industrial policies in the light of market failures, and the one criticizing industrial policies in the light of state failures and "picking losers" cases [9]. H. Pack and K. Saggi [31, p. 267] provide a "skeptical summary of rationales" for industrial policy and conclude that "there appears to be little empirical support for activist government policy, even though market failures exist, that can in principle justify the use of industrial policy".

The widest difference in definition exists, of course, between opponents and advocates of industrial policy. The former tend to equate industrial policy with subsidies, while those favorably inclined toward it see it as a way to promote innovations, education, technological spillovers as well as a way to improve institutional setting and attractiveness of the business environment.

The doyen in the field of industrial policy, D. Rodrik, admits that for lack of a better term he continues to use the term "industrial policy" for the policies aimed at restructuring the economy [33, p. 2]. He points out that the initial purpose of industrial policy to support industrial production and manufacturing is long surpassed and is now, although the term does not suggest it intuitively, more often than not used for other sectors such as agriculture and services.

Vertical approach in the postwar period

Industrial policy saw its rise after WWII, particularly in Asia and Latin America, but also in Europe (notably, in France). During this period, even though it was changing its pace and impact, the industrial policy was essentially sector-based. Furthermore, it was predominantly related to manufacturing. Despite a short standstill at the end of the 1970s, after the emergence of Japan as a manufacturing superpower, the industrial policy discourse regained strength in many countries at the beginning of the 1980s [8, p. 213]. Although still leaning on the vertical approach [16], [24], [37], the focus was not on manufacturing anymore. Industrial policy was seen as any government measure (or set of measures) to promote or prevent structural change [32], to create optimum conditions for the necessary structural transformation [22] or as everything that is useful to improve growth and competitive performance [1].

The export-driven growth model which ignores openness of the world market and in part favors closure within domestic markets, as well, had recorded the best results (South Korea, Japan, Taiwan, France, Uruguay, etc). This model started fading out as the globalization process and the emergence of supporting institutions such as the WTO took place. Finally, the Washington Consensus, in all its glory, almost entirely wiped out the vertical industrial policy.

In the first phase, vertical policies promoted sectors in which state intervention took place because of national independence, technological autonomy, failure of private initiative, decline in traditional activities and geographical balance (as it was the case in former Yugoslavia). By means of such approach, embryonic hybrids of administration and privately held companies in many developed and developing countries transformed themselves from national champions into globalized firms [8, p. 215]. Hyundai, Sony, but also Airbus, are just some of the examples [8], [17], [23].

Counterfactual evidence exists. Great successes, but also a number of major failures (computer industry project Plan Calcul in France, for example) were recorded. In cases where industrial policy did not deliver the desired results, the problem originated from the fact that protectionism was not possible due to prevalence of the private sector demand. Yet, a number of "national champions" created by means of industrial policy became "global champions", taking the highest positions in the world's largest companies' list [8, p. 218].

The national champion policy proved to be successful in case of large firms, large scale economies, lead-edge technologies, and low product variety. However, governments are not necessarily worse in picking winners than the markets are, but they are far inepter in terminating projects that turn out to be unsuccessful [34].

Characteristics of industrial policy before the Washington Consensus encompass the following [8, pp. 215-17]:

1. *Offensive protectionism*. The state creates the means for accumulation of scientific and financial resources, secures the market through public procurement policies and forbids foreign entries. Success in the international marketplace is the ultimate goal.
2. *Innovation*. Even though scientific and technical in nature, it played a crucial role in bringing together actors from different fields and making them accountable for the success of an important venture. This is particularly true for sectors such as nuclear power generation, vehicles and telecommunications.
3. *Flexible state*. The success of the "grand projects" is possible only in the presence of the administration-enterprise collaboration that combines regalian authority, on one hand, and the logic of an enterprise, on the other.
4. *Capitalism without capital*. At the beginning, the state has the upper hand over entrepreneurs and industrialists, but once an enterprise is capable to generate most of its revenues on the free market, moving away from public procurement logic, it is capable of freeing itself.
5. *Convergence of objectives*. Success comes only when the objectives of industry participants match the objectives of the industrial policy.

With the emergence of neo-liberal capitalism, industrial policy was confined to the trash bin of economic history, along with other outmoded policies such as central planning and trade protection [33, p. 28].

Horizontal approach as a product of neo-liberal capitalism

The horizontal approach has been mentioned explicitly in policy documents since the 1990s, but at the same time and from the very beginning lost its role as a separate policy strand [3, p. 306]. Horizontal approach, in essence, means the implementation of adequate framework policies (including competitive policies, environmental policies, social, as well as macroeconomic policies). It encompasses a wide array of measures which have an impact on most or all industries.

At the beginning, it had a fundamentally opposite aim compared to the initially developed vertical approach. It was meant to promote competition policy that favors prohibition of dominant position and market abuses, regulation of state aids, trade policy inspired by free movement of goods and services (based on the theory of comparative advantage) and R&D and technology policy that creates positive externalities for the entire economy [8, p. 215]. Unfortunately, the reality soon proved that the institutional setting often does not predate but rather accompanies growth.

How could we ever have expected that the two approaches with essentially different purposes and tools would actually hit the same target? Indeed, as various authors suggest, competitive environmental policies in Europe did not deliver the desired results [3, p. 297]. After switching from the sectoral to the horizontal approach, we faced never-ending problems with targeting, large projects and specific technologies. By putting vertical policies in a trash bin and choosing competitive environment and sound macroeconomic framework based on neo-liberal policy platform as the key drivers of growth, the EU took a great risk. As seen in [8, p. 221], in most of the EU member states, macroeconomic policies of competitive disinflation and promotional policies of competition within the framework of a single market made the EU lagging substantially behind the U.S. in terms of productivity, growth, innovativeness, etc. Just as an example, when it comes to legislation on concentration, the U.S. has been less rigorous than the EU.

Is the match between the two approaches actually possible?

Renewed interest in industrial policy in the academic circles, but with very little reaction on the policy level, emerged at the turn of the century. It was only at the onset of the global economic crisis that the emergence of new initiatives in the field of industrial policy announced the big comeback [26], [27], [36]. It was a reaction to the first signals of China's growing economic power. Today, low growth and high unemployment stand as the main reasons for the renewed interest in industrial policy, particularly in the EU [3]. Also, a more proactive policy approach as compared to the horizontal industrial policy

is needed. The new approach is supposed to solve the long-prevailing dichotomy between the vertical and horizontal approach. Namely, the new approach is supposed to be an amalgam of the previous two, keeping the broad range of horizontal measures while simultaneously echoing the old type of industrial policies (*via* regional cluster programs, for example).

Washington Consensus was celebrated globally, promising that the rest of the world would enjoy the progress experienced in the countries that gave birth to this neo-liberal doctrine. Unfortunately, all across the world, the Washington Consensus mostly brought disappointment. This is particularly true for catching-up and developing countries where market-oriented reforms were taken the farthest, and the disappointment with the outcomes was accordingly the greatest [33]. From a developing economy's perspective, there was a fundamental problem in the implementation of such approach. No developing economy has ever grown rapidly from poverty to riches by using postulates offered by the neo-liberal policy platform. Namely, developing economies do not have the adequate density of relevant private, industrial and financial organizations due to a lack of managerial skills to take advantage of the proposed setting [13].

As Rodrik [33, p. 28] noticed, despite the fact that the Washington Consensus firmly renounced industrial policies, they have run rampant during the shiny decades of liberal capitalism, and nowhere more so than in those countries that gave birth to the Washington Consensus and put in a great effort to promote it and implement it in the rest of the world. If somebody still believes that industrial policy was dead during that time, it is because it went by other names such as "outward orientation" and the like. This policy firmly supported foreign investments and exports, but from the already established winners. This is exactly one of the key reasons why the Washington Consensus did not deliver the desired growth on the global level, especially regarding income convergence and catching-up. Subsidizing already successful companies can do very little to enhance the overall productive and technological capacity. Similarly, there have been very little evidence of positive technological or any other spillover from foreign direct investment [18], [33].

Industrial policy is closely tied with regional policy, education and training policy and finally, yet most importantly, with innovation policy. There are even thoughts that the new industrial policy has been recently transformed in the direction of innovation policy (including social and environmental innovations). We are not prone to claim so, but it is true for a number of countries. The U.S. industrial policy focuses on science and technology, small firms and clusters [25]. Industrial policy in Finland targets the unknown, frontier technologies defining competitive edge in the future. It is proactive by nature, making the technological entrepreneurship the main driving force of transformation [38]. In the UK, the attraction of the FDI always dominated in the industrial policy [6]. Japan has now placed its focus on the linkages between business and science [28]. Innovation is becoming the main pillar in Chinese industrial policy [20]. Obviously, the world is changing, and the previous success stories will have no encore. At least not in a congruent manner.

Innovation essentially enables restructuring and productivity growth. For example, innovation in ICT triggered radical restructuring in many industries. As noticed in [33, p. 4], in the developing world innovation is constrained not on the supply side, but also on the demand side. It means that the countries do not lack good scientists, R&D labs or intellectual property laws, but the real constraint lies on the potential users' side – the business sector is short-sighted and perceives new activities to be of low profitability. The same goes for human capital. Depressed economic activity erases returns on better education and investment in human capital. Such is the case with Serbia.

Industrial policy's big comeback

Contrary to the expectations of the neo-liberal admirers, industrial policy has not seen its twilight. As demonstrated in various cases, industrial policy does not distort, but complements the market forces. Additionally, over the last period, industrial policy gained a new theoretical support for its pivotal role in economic development in the form of "new trade theory", "new economic geography" and the "new", as well as "evolutionary growth theory". These

new strands highlight the importance of scale economies, the importance of learning, the role of proximity and agglomeration, the quality of inputs, the role of formal and tacit knowledge and discovery and innovation [3, p. 314].

The ability of industrial policy to respond to the abovementioned challenges depends on the present level of economic development. The new industrial policy supports basic education, training and entrepreneurship in developing countries, promotes the FDI and exports in catching-up economies and merges with innovation strategies, cluster policy and dynamic competitiveness in high-income countries. The new industrial policy goes beyond market failures in terms of [33], it builds on economic laws, comparative and competitive advantage and changing specialization patterns [3]. Also, shifting of the labor focus from import-substitution to export expansion, through lifetime learning, is becoming an essential part of industrial policy [3], [30], [35].

The rationales for the industrial policy have changed since the time it first appeared. Globalization made most of the old rationales obsolete. Traditional vertical policies became difficult to implement due to trade agreements and laws, as well as due to international organizations such as the WTO. Also, favoring national champions, picking winners and "industries of the future" proved to be generally difficult and followed by failures [3, p. 312]. Yet, there is a growing recognition that in the last two decades the pendulum between policy autonomy and international rules may have swung too far in the direction of the latter [33, p. 35]. In addition to this, today's static market failures have less importance, but dynamic market failures, information and coordination externalities play an important role [33, pp. 8-14]. Dynamic market failures are particularly present in knowledge and technology-based industries. The rationales for industrial policy are related to first-mover advantage, experience curve and capacity building. Furthermore, there is a need for each country to intervene in favor of "strategic industries", for which it is important not to rely on import, but to have own products, such as energy and water.

Diversification is a consequence of experimentation and cost discovery that result in new profitable areas of production. In principle, it is up to businesses to do this job but in reality, it remains unfinished for a very logical reason. Revealing information about new profitable areas of production produces widespread social effects, but brings poor remuneration. On the other hand, the risk is completely held by the entity that conducts this cost-discovery experiment. This perverted relationship between risk and return and between risk/return for business and risk/return for society is at the heart of market failure in the form of informational externalities that prevent the discovery process and diversification of economic activity.

Market prices cannot reveal the profitability of allocation of resources that do not exist yet. Hence, the uncertainty about what new product could be produced profitably constitutes a key obstacle for economic restructuring. These externalities are a firm reason to believe that diversification, in the sense of economic development, is unlikely to take place without directed government action [33, p. 8].

How do governments deal with market failures and consequent externalities that hinder potentials for growth? As D. Rodrik [33] suggests, the first-best solution is to subsidize those sectors and non-traditional activities that might end up as successful attempts. There is one extremely important constraint to this kind of solution – weak monitoring possibilities. R. Hausmann and D. Rodrik [19] recommended "the carrot and stick" approach. They suggest that subsidies, trade protection or provision of capital on one hand should be carefully followed by close monitoring and performance requirements on the other in order to make sure that unsuccessful projects are timely phased out. This holds for investments in new areas of production, but for the already existing sectors we suggest a different approach. Namely, subsidies and other forms of incentives should be tied to the achieved results, not to the activities performed.

To be honest, there is no way to achieve zero failure with the industrial policy program. Yet, what is critical is to have enough successful projects whose business results and social returns will surpass the losses undergone by the unsuccessful ones.

The other problem that the market has failed to deal with successfully refers to the coordination of externalities. More often than not, projects aimed at fostering economic

position and competitiveness of national economy require investments in infrastructure, logistic support, initial marketing and so forth. These upstream and downstream investments assume high sunk costs that the private sector entities do not have capacity or willingness to sustain. Just as in the previous case, the problem grows bigger if industrial policy measures are aimed at new activities and diversification of production structure within the economy. In the case of well-organized clusters and/or powerful players, the role of government support could be less significant. However, the appropriate policy measures are not focused on sectors or industries, but on the activities and technologies that have the potential to produce a coordination failure [33, p. 14].

The main argument for the industrial policy is not the claim of superior knowledge of the government, but the limited knowledge about the size and nature of externalities on the side of both economy and the government [33].

Real-world industrial policies more often than not deviate from theoretical concepts. Aiginger and Sieber [4] explore different approaches to industrial policy set of measures in European countries and find that it is possible to distinguish the countries based on three important characteristics: a. implementation of the old approach based on subsidies (state aid), b. the single-market strategy of deregulation and opening the markets and c. the future-oriented approach of fostering innovation. Placement of a country in either of the groups turns out to be in a firm correlation with the outcomes, such as high shares of sophisticated industries, quality of education and macroeconomic performance [3] and [29].

Small northern European countries belong to the first group (Sweden, Finland, Denmark). They invest heavily in research, education, information technology and lifelong learning. These countries spend little money on state aid and their regulation of product and labor markets can be characterized as low-to-medium. As expected, the outcome of this policy is a high share of technology-driven and skill-intensive industries.

Large continental countries belong to the second group (Germany, Italy, France). They spend more on state aid. Regulation is medium to high. Even though some of them have moderate-to-high level of R&D expenditures, these countries are lagging behind in terms of dynamics of research expenditures, while lifelong learning, broadband penetration and ICT expenditures are below the EU average.

The third group is reserved for small continental countries (Belgium, Austria, the Netherlands). These countries record low expenditures on state aid. They engage in administrative regulation (license and permits systems, sector-specific administrative burden etc.), but less in economic regulation (public enterprises regulation, antitrust regulation etc.). These countries are short of venture capital and have a low share of science and engineering graduates. They occupy a moderate position in research and a slightly better position in the ICT. The share of technology-driven and skill-intensive industries is smaller than it would be expected from the high levels of GDP per capita.

The last group is made of South European countries (Spain, Portugal, Greece). These countries spend abundantly on state aid and have rather strict regulations and low levels of investment into the future. The share of sophisticated industries is low.

It is not difficult to identify a matching group for Serbia. By all means, Serbian economy resembles those in the last group. However, for every future-oriented strategy, there are two key ingredients. First, the understanding of the current position, and second, a clear picture of the desired future position. Moreover, when there are past experiences and a history of failures and successes in the picture, the industrial policy is no longer a matter of ability, but the question of will and courage. It is difficult to expect that Serbia could catch up with the countries in the first group, even in the longer run. But it is a picture worth striving for. Besides, the previous analysis provides enough information for policymakers to build a step-wise platform of activities and measures that will bring Serbia closer to the long-distance vision, the transition of existing brokerage society into the knowledge based society.

Industrial policy program for Serbia

As D. Rodrik noticed [33] there was a time when economists believed that only visible hand of the government could save the economy from poverty, and, after, a time when

economists started to believe that only invisible hand of the market could lead the economy towards growth and prosperity. The reality invalidated both sets of expectations. Namely, apart from some exquisite examples, more often than not both of these extreme approaches produced results that fell well below the expectations. It now seems that economists need to accept that only a handshake thereof can produce valuable and sustainable results.

The way in which industrial policy is conceptualized and formulated should depend primarily on the economic situation in a particular country, but also on the current level of economic development. As J. Imbs and R. Wacziarg [21, p. 64] noticed, there is a very predictable pattern in the process of economic development of a country in terms that, starting from the lower level, as a country's GDP per capita grows larger, the economy moves from specialization based on comparative advantage toward a more diversified economy in terms of sectoral production and employment. This goes on the late stages of the development process. Namely, only after reaching higher levels of GDP per capita (around USD 50,000), an economy shifts toward specialization again, and production becomes more concentrated. Hence, increasing specialization is reserved only for high-income countries, and most of the countries diversify most of their path of development.[1] The previous finding is entirely inconsistent with the principle of comparative advantage as a driving force of economic development. This is an extremely important notion for Serbia as a middle-income country.

As a country whose government happily embraced the Washington Consensus after 2000, but which first hesitated and then forgot to reinforce one important detail, proper institutional setting, Serbia suffered a double loss. Firstly, it did not enjoy (modest) fruits that neo-liberalism brought to certain developing countries, (Slovakia, for example), and secondly, it did not provide support to the real economy, which is something the Washington Consensus was never meant to provide for, even in its purest form of implementation. Just as any other country that strived to reach a full-fledged market economy following the well-known blueprint, Serbia put in an effort to attract foreign investors and provided tax holidays, as well as direct subsidies (almost exclusively) to foreign companies. By doing that, the strategically shortsighted politicians undermined the foundations of the national economy. Just as we mentioned previously, government support to the FDI, as well as to the already successful business players, does not produce virtually any productive or technological spillover, nor does it create grounds for higher economic growth rates and sustainable development. It might soften the unemployment problem in the short run, but it does not solve the problem of unsustainable growth.

Just as any business strategy, industrial policy requires a vision of future development of the economy, analysis of the key competitive strengths and weaknesses and the desirable position, taking into account that other economies, as well, are striving to improve their positions in the global market. The main objective of the industrial policy is to enable dynamic competitiveness of the national economy. Dynamic competitiveness is the ability of a firm or a country to increase economic growth, to make use of and to develop available resources [2], and to comply with the long-term objectives of a circular economy (economic growth, social cohesion and environmental responsibility) [3].

In 2005, the European Commission released a concept of the industrial policy that complements both the horizontal and vertical approach, broad measures in line with sector-specific actions [5] and [39]. The essence of the new approach is that although industrial policy should maintain its horizontal nature and aim to promote the framework conditions necessary for competitiveness, the specific needs and characteristics of individual sectors must also be taken into account. It is acknowledged that the impact of horizontal policies on specific industries will vary, and that complementary measures, differing across industries, may be needed [4] and [3].

Following the above mentioned ideas, when formulating the industrial policy set of measures, the output could be presented in the form of a matrix. In our case, columns represent individual sector policy lines, while framework

1 The U.S. enjoys the highest level of productivity with a very specialized industrial structure [25], and specifically successful Scandinavian countries are also specialized in quite a few knowledge and technological-intensive industries [3].

policies define the rows. We decided that, for the sake of allegory, rows should represent horizontal policy measures, while columns should demonstrate priority sectors representing vertical policy measures. In both cases, cells of the matrix show whether a certain policy is important in the specific sector and how it should be implemented.

The manner in which sector-based industrial policy is implemented historically depended on the conditions existing in a particular industry. As demonstrated in [8, pp. 215-219], there are three situations, one referring to the existence of powerful industrial actors, the established "national champions" the state wishes to bring under its influence, the other referring to placing under control politically destabilizing lame ducks, and lastly, the situation of absence of industrial actors in the sector observed as having strategic importance for national independence which represents a terrain for the so-called "grand projects". It should be remarked, however, that the old type of sectoral policy as we know it no longer enjoys support due to external constraints in the form of regulation, as well as due to poor potentials for success. However, even the regulatory bodies such as the WTO predict situations in which a country is allowed to take "safeguard actions" in order to protect domestic industry from an import which is causing or threatens to cause an injury to the industry (national security, fair competition, macroeconomic reasons, etc.) [33, Appendix 3].

The new sector-based policy as such is not discriminating and must be future-oriented, with time-restricted focus on those industries where investment generates the highest impact on the value added [3, p. 316]. Thus, sectoral policy will never be abandoned, and there are strong reasons to believe that leaning on the existing strengths and capacities of the national economy is much less costly than supporting everything or trying to build new capacities from scratch. Furthermore, the Ministry of Education, Science and Technological Development has to formulate research and innovation strategies that specify priority areas, as is the case in the EU (the EU technological platforms). Even though in essence it is not a sectoral policy, it actually is an approach that leads to discrimination between fields.

Having in mind all of the abovementioned, we created a matrix with joint horizontal, as well as sector-based vertical measures, where sector-based measures are closer to the traditional vertical policies in case of strategically important sectors with high potentials, while in other cases they merely mean having in mind the sector's specifics in the implementation of the horizontal measure (see Table 1). Rodrick [2004, p. 3] states that once we design proper framework, we should not worry about suggesting a proper measure or choosing priority sectors. Although we do not disagree entirely, we think it is important to provide a restructuring program which is as comprehensive as possible.

We decided that horizontal measures should be divided into six blocks:

1. Horizontal measures focusing on knowledge enlargement (research and innovation, skills, trainings, etc.)
2. Horizontal policies providing better access to finance
3. Horizontal policies providing better regulatory framework
4. Horizontal policies providing better conditions for export
5. Horizontal policies focusing on environmental protection and green energy
6. Horizontal policies enabling structural changes

The matrix shows the most important policy measures required to stipulate growth in a particular industry given its specifics and current conditions. The industries are selected carefully with the genuine belief that they truly represent the key fulcrums of sustainable growth in the future. Our analysis is very much in accordance with the research results given in [7]. As the table denotes, the majority of the selected sectors belong to the field of manufacturing.

The situation in manufacturing in Serbia resembles rather that of the high-income countries. It is true that starting from the 1980s, most of the countries in the world experienced a decline in GDP's share of manufacturing. The decline was the sharpest in the high-income export-oriented countries. For example, in the U.S., the share of manufacturing dropped form 19.3% in 1980 to around 12.1% in 2006, and in the EU15 from 23.5 to 15.6% during the same period [3, p. 301]. There is a very logical explanation for this. Namely, services have higher income elasticity and thus have a rising share in the rising GDP, along with

Table 1: Industrial policy measures: A matrix approach

POLICY MEASURES		ICT	Organic food processing	Life science	Health tourism	Energy	Transport & Logistics	Wood & furniture	Textiles & Fashion	Agriculture	Metal industry	Automotive
KNOWLEDGE	R&D/Innovation	X	X	X		X		X	X	X	X	X
	Basic Education	X	X					X	X	X		X
	Higher education	X	X	X	X						X	
	Skills		X	X	X	X	X	X	X	X	X	X
ACCESS TO FINANCE	Development bank		X	X	X			X	X	X	X	
	Subsidies		X							X		
	Venture capital	X		X		X			X		X	
	Government bonds					X	X					
	Credit guarantees	X	X		X		X					X
CONCEPTUAL FRAMEWORK	Admin burden	X	X	X						X		X
	Laws and regulation	X	X	X	X	X		X				
	Technical standards	X	X	X							X	
	Tax credits	X	X	X	X				X	X		
EXPORT AND TRADE	Access to market	X	X		X			X		X		X
	Access to raw materials		X					X			X	X
	Trade distortions, dumping								X	X		
	Competitive market					X			X			
ENVIRONMENT AND ENERGY	Climate change					X		X				X
	Waste		X			X		X		X	X	X
	Water		X			X			X	X		
	Air					X	X					X
	Energy		X			X	X			X	X	X
STRUCTURAL CHANGE						X	X	X	X			X
PHYSICAL INFRASTRUCTURE			x		x		X			X	X	X

Source: Author's work based on [39].

economic development of the country and population ageing. On the other hand, technical progress reduces manufacturing costs, keeps the prices down and hence, the share of manufacturing in GDP, as well. However, medium-income countries from the Visegrad group maintained their manufacturing share at around 20% of GDP, which is comparable to Japan. There is, therefore, no logical economic reason for the declining manufacturing share in Serbia [11, p. 4]. Moreover, the GDP level in Serbia has never reached its 1980s level, which removes the development argument out of the picture.

Therefore, the decline in manufacturing in Serbia represents rather a structural imbalance than the expected consequence of economic laws on the path of development. It is a structural imbalance that cannot be banished by the invisible hand. On the other hand, the arguments in favor of a more planned and well-organized support toward manufacturing are all but few. Generally speaking, in any given country, manufacturing is the key to exploiting the new knowledge economy. In the EU, over 80% of R&D expenditures are disbursed on manufacturing [39, p. 286]. Furthermore, the impact of manufacturing on export is extremely significant. Just like in the EU, manufacturing in Serbia dominates the current account; 90% of exports comes from the manufacturing sector. Also, manufacturing makes intensive use of inputs from other sectors, including services, thus accelerating the overall economic activity in a country.

To start with the first column, the ICT is perhaps the only industry in the world (apart from food and

beverages) that calls for prudent policy to support its activity growth in every corner of the world. As we elaborated several times before, Serbia possesses certain distinctive strengths in this area, which could result in a firm and sustainable competitive advantage in the global market [12] and [13]. Since it is a technology and knowledge-driven industry, the first block of policies focusing on research and innovation is maybe the most important. In other words, the scope of state aid should be increased to cover various aspects of the innovation process. Also, public R&D projects are welcome every time resources appear. Basic, as well as higher education must reflect the country's commitment to the digital era. Creating favorable grounds for an industry to flourish also implies lifting the existing burden. It means no excessive red tape, a favorable and stimulating regulatory environment, as well as tax relaxation.

Despite being one of the main pillars of future social and economic development, it is difficult to expect that the ICT is going to be the main growth engine. Hence, other sectors deserve to get equal attention.

Organic food is a great opportunity for Serbia's agriculture and food export in the highly competitive European food markets, as well as a prerequisite for competitive advantage in tourism. Appropriate policy in this sector creates a basis for support that results in more resilient and sustainable systems of organic food production. Also, a broader use of innovative tools from the ICT field could improve the production of high value-added products in the organic food value chain. Industrial policy supporting organic farming, particularly in dairy and food systems, is also critical for the development of rural areas and related regional and demographic policies. Providing access to finance, as well as better regulation, are the challenges for further growth of this industry. It relies upon continuous adaptation to changes imposed by external regulations, while at the same time ensuring health and quality standards. One way to shape government support to this sector is financing the feasibility studies for organic agriculture.

Key challenges in life science, being a highly innovative industry, refer to R&D, protection of intellectual rights and financing the innovation for highly innovative SMEs [39, p. 289]. Regarding the last challenge, venture capital funds targeted at technology development could be created. Also, other mechanisms for higher risk finance should be developed, for example, development banks, public venture capital funds and government guarantees for longer term bank loans. Public R&D project are also a great potential for the life science sector in Serbia.

Unlike some other key sectors, when it comes to health tourism, skill shortages are not an issue. What lacks is a clear infrastructure for conducting activities and joint promotional activities on the international level. Also, the government should help by providing access to the global market. This includes formulation of a market access strategy, as well as instruments to focus on the markets with the greatest potential for strengthening competitiveness [39, p. 292]. The other strand in health tourism refers to the old spas. The performances in this segment are still at a very low level due to inadequate regulatory framework and mismanagement, but great potential exists. However, unlocking this potential requires transformation of the traditional concept of spas in Serbia into the new concept of health tourism based on medical and wellness tourism. Health tourism should be based on new technologies, particularly in the area of life science and pharmaceutics.

The energy sector has always been an infrastructure for sustainable growth. However, the rising awareness of the importance of climate change and urgency for decrease in greenhouse gas emission, results in the rising number of regulatory documents which aim at achieving a cleaner and more sustainable energy in the future. As in other sectors, technology will play a vital role in addressing sustainability of nature. Carbon capture as well as carbon and energy storage technologies will definitely be embedded in the future policy framework, tackling Serbia's energy initiatives as well. Emission Trading Schemes are just one part of it. Consequently, a comprehensive policy framework for the energy sector must adhere to the previous limitation, but at the same time, provide foundations for future investments (feed-in tariffs, for example). Restructuring of the strategic sector from the state companies portfolio towards emancipation is one of the Government's big tasks in the near future. Also, growth and competitiveness of

the energy sector could be supported in various ways. Financing feasibility studies for green energy as a state's share in PPP is just one example. Finally, yet importantly, in the period of scarce and expensive financial resources, potentials for bringing together the necessary means for investing in big projects in the energy sector, as well as a way for mobilizing national savings, lie in government bonds issued in the domestic market [10].

In transport and logistics, the main challenges are to develop a physical infrastructure in order to reduce bottlenecks and to modernize and improve efficiency of the existing infrastructure. Also, a great priority is the facilitation of access to the railway and post networks to strategic investors. Air transportation gains an increasing importance. The Government should therefore think of a possibility to develop a service cluster around the expansion of the national airports. Also, just as in the case of the energy sector, government bonds issued and aimed at domestic savings could be a way to provide necessary resources for large-scale infrastructural investments with prevailing domestic components.

Fashion and design industries include textiles, clothing, leather, footwear and furniture. These industries account for 12% of Serbian export. The key challenge is to make successful structural adjustments in order to move up the product quality ladder. Since these industries predominantly belong to the private sector, special funds could provide support to this type of change.

Skill shortages are a major challenge for the agriculture sector. This refers to management skills, above all. The government could play an important role in this regard by providing various training opportunities to those engaged in agriculture, be it employers or employees.

Metal industry in Serbia deserves special attention for various reasons. Lack of resources to undertake higher levels of R&D and innovation to protect and enhance the competitive position is one of the key problems in this highly competitive industry in Serbia [7]. However, in case of increasing the innovativeness of the industry, the lack of highly skilled workers required to operate new technologies and to drive innovation would emerge as a new weakness. Consequently, there has to be more agility in the education segment in order to be prepared for the future changes. Also, access to raw materials and firmer linkages with downstream suppliers in Serbia could be orchestrated by the Government.

Research and innovation on one hand and access to finance and availability of investment on the other are perhaps the key drivers of competitiveness in the automotive sector. Also, it is necessary to identify all the skill gaps in Serbia in order to maintain, as well as to attract the FDI in the future. Environmental, as well as energy challenges in this sector are great, and the Government could make room for support in these specific areas.

The emphasis on research, innovation and access to finance, as well as the density of the suggested measures in the matrix in the case of industries such as ICT, life science and organic food, on one hand, and the emphasis on structural adjustment in traditional industries such as energy, transportation and logistics, on the other, illustrate the difference between growing industries of the future and the troubled industries of the past.

Based on the previously presented matrix, we can conclude that the overall industrial policy of the country covers three interrelated elements.

Firstly, a purely horizontal approach, which means the creation of a generally favorable framework of conditions with the purpose of fostering development of competitive and innovative enterprises [39, p. 286]. Competition policy, innovation policy and R&D policy are all meant to achieve this purpose. The regulatory framework should stimulate innovation, provide stability for R&D investment and encourage development of new and more efficient business models. Creation of some sort of coordination council [33] can also serve to the same goal. The purpose of the council is to seek out and gather information (from the private sector, academia etc.) about investment ideas, to achieve coordination between different government offices and agencies, to push forward the changes in legislation or even to generate subsidies and other forms of financial support and so forth. Very importantly, the regulatory environment has to stimulate technological entrepreneurship in micro and small enterprises. The third block of this kind of measures refers to government support and organization of bilingual trainings, encouraging lifelong learning and the like.

Secondly, a combination of horizontal measures with sector specifics, which means optimizing sectoral framework conditions. Feed-in tariffs in the energy sector are an example of an adaptation of the regulatory framework to the individual sector.

Thirdly, a sectoral approach where market failures due to information or coordination externalities inhibit potentials for growth. Public R&D in life science and feasibility studies in organic production are just some examples. How to solve the information externality market failure? Clearly, by subsidizing the cost discovery process. In order to distribute the funds correctly, this should be organized in the form of a contest in which private-sector companies bid for resources by submitting pre-investment proposals [33].

The type of policy measure and approaches used depends essentially on a country's own circumstances. However, what is interesting is that it might appear to be true that, in countries where it is already conducted, the industrial policy could be rendered more effective by actually reducing its scope [33, p. 32]. Thus, narrow sectoral policies could prove to be of great value even though there is not much support for this concept in the professional circles.

Conclusion

The visible hand of the state has so far taken a baton each time the economy diverted from the growth path. However, managed capitalism has too often been equated with centralized planning in the communist countries as the great evil necessary to be forgotten and displaced from the economic policy regime list. However, after it became evident that the neo-liberal policy brought disappointment more than anything else, at least when it comes to real economy, in developing, as well as in some developed countries, government support in providing necessary structural changes and in paving the way toward sustainable circular economy reached the top of the economic policy agenda.

For the industrial policy to be successful, it is important that the government cooperates with the private sector in an ongoing relationship, but at the same time to keep the private sector at an arm's length so as to minimize possibilities for rent-seeking and corruption. The delicate balance between autonomy and embeddedness is labelled as "the embedded autonomy" [14]. As noticed in [33], the task of the industrial policy is as much about eliciting information on significant externalities and their remedies from the private sector as it is about implementing appropriate policies. Also, much more important than looking for the right policy instruments and modalities of interventions is to put a process in place which helps reveal fields of desirable interventions. In that sense, industrial policy is a particular state of mind for politicians and statesmen, more than anything else. Another point worth remarking is that industrial policy is much more than shaping the desirable framework and then sitting back to wait for the results. It requires an ongoing agility of all relevant stakeholders and experts in economics, business, education, social affairs, as well as environment [3, p. 318].

The essence of the approach presented here is that although industrial policy should maintain its horizontal nature and aim to promote the framework conditions necessary for competitiveness, the specific needs and characteristics of individual sectors must also be taken into account. Hence, we followed the matrix approach where horizontal measures are intersected with the key sectors' requirements. We wanted to offer a framework and key measures for conducting an industrial policy that would contribute to Serbia's economic growth and sustainable development. The aim of all the studies conducted jointly with Professor Đuričin was to propose ways for Serbia to reach a favorable position within the corridor of possible developments in the future [10], [11] and [12]. We should learn from the past that the focus of the analysis is not to be on policy outcomes, as they can hardly be predicted and depend on numerous uncontrollable factors (unknown unknowns), but on setting up the proper framework and processes for policy implementation.

The program laid out above might seem too unrealistic from today's standpoint. To the contrary, it is not unrealistic; it is the only way forward. It is an agenda for economic policies with already demonstrated results that takes an intelligent intermediate stand between the two extremes:

market-oriented platform and government interventions [33]. Another important point for policymakers raised by Aiginger [3, p. 314] is that comparative advantages themselves are not static. What the Serbian economy does well in the present might not be what it will superiorly do in the future. The research base and knowledge could be developed and enlarged, and comparative advantages, spillovers and positive externalities could be shaped and increased.

References

1. Adams, F. G., & Klein, L. R. (Eds.). (1985). *Industrial policies for growth and competitiveness: An economic perspective* (Vol. 1). Lexington: Lexington Books.
2. Aiginger, K. (2006). Revisiting an evasive concept: Introduction to the special issue on competitiveness. *Journal of Industry, Competition and Trade*, *6*(*2*), 63-66.
3. Aiginger, K. (2007). Industrial policy: A dying breed or a re-emerging phoenix. *Journal of Industry, Competition and Trade*, *7*(*3-4*), 297-323.
4. Aiginger, K., & Sieber, S. (2005). T*owards a renewed industrial policy in Europe, background report of the competitiveness of European manufacturing*. European Commission, DG Enterprise, WIFO.v
5. Aiginger, K., & Sieber, S. (2006). The matrix approach to industrial policy. *International Review of Applied Economics*, *20*(*5*), 573-601.
6. Bailey, D., & Driffield, N. (2007). Industrial policy, FDI and employment: still 'missing a strategy'. *Journal of Industry, Competition and Trade*, *7*(*3-4*), 189-211.
7. CEVES. (2014). *Serbia's real sector performance: Exhibited competitiveness by size, industry and regions*. Beograd: Centar za visoke ekonomske studije.
8. Cohen, E. (2007). Industrial policies in France: The old and the new. *Journal of Industry, Competition and Trade*, *7*(*3-4*), 213-227.
9. Cohen, E. (2009). *Theoretical foundations of industrial policy* (No. 4/2006). European Investment Bank, Economics Department.
10. Đuričin, D., & Vuksanović, I. (2013). Reindustrialization strategy of Serbia: How to get it and how to use it. *Ekonomika preduzeća*, *61*(*5-6*), 289-308.
11. Đuričin, D., & Vuksanović, I. (2014). Quest for new development model and economic policy platform for Serbia: The role of industrial policy. *Ekonomika preduzeća*, *62*(*5-6*), 229-250.
12. Đuričin, D., & Vuksanović, I. (2015). Think through strategy: New vision for industrialization of economy and modernization of society. *Ekonomika preduzeća*, *63*(*1-2*), 1-15.
13. Đuričin, D., & Vuksanović, I. (2016). The future of Serbia and how to survive it: Catching up and convergence with the EU. *Ekonomika preduzeća*, *64*(1-2), 15-36.
14. Evans, P. B. (1995). *Embedded autonomy: States and industrial transformation* (Vol. 25). Princeton, NJ: Princeton University Press.
15. Geroski, P. A. (1989). European industrial policy and industrial policy in Europe. *Oxford Review of Economic Policy*, *5*(*2*), 20-36.
16. Graham, H. (1986). *European industrial policy*. London: Croom Helm.
17. Graham, E. M. (2003). *Reforming Korea's industrial conglomerates*. Peterson Institute Press: All Books.
18. Hanson, G. H. (2001). *Should countries promote foreign direct investment?* G-24 Discussion Paper No. 9.
19. Hausmann, R., & Rodrik, D. (2003). Economic development as self-discovery. *Journal of Development Economics*, *72*(*2*), 603-633.
20. Hutschenreiter, G., & Zhang, G. (2007). China's quest for innovation-driven growth - The policy dimension. *Journal of Industry, Competition and Trade*, *7*(*3-4*), 245-254.
21. Imbs, J., & Wacziarg, R. (2003). Stages of diversification. *The American Economic Review*, *93*(*1*), 63-86.
22. Jacquemin, A. (1983). Industrial Policies and the Community. In P. Coffey (Eds.), *Main Economic Policy Areas of the EEC*. Hague: Martinus Nijhoff Publishers.
23. Johnson, C. (1982). *MITI and the Japanese miracle: The growth of industrial policy: 1925-1975*. Stanford University Press.
24. Johnson, C. A. (1984). *The industrial policy debate*. San Francisco: ICS Press.
25. Ketels, C. H. (2006). Michael Porter's competitiveness framework - Recent learnings and new research priorities. *Journal of Industry, Competition and Trade*, *6*(*2*), 115-136.
26. Lin, J., & Chang, H. J. (2009). Should Industrial Policy in developing countries conform to comparative advantage or defy it? A debate between Justin Lin and Ha-Joon Chang. *Development Policy Review, 27*(5), 483-502.
27. Mazzucato, M., Cimoli, M., Dosi, G., Stiglitz, J. E., Landesmann, M. A., Pianta, M., & Page, T. (2015). Which industrial policy does Europe need?. *Intereconomics*, *50*(*3*), 120-155.
28. Nezu, R. (2007). Industrial policy in Japan. *Journal of Industry, Competition and Trade*, *7*(*3-4*), 229-243.
29. Noland, M., & Pack, H. (2003). *Industrial policy in an era of globalization: Lessons from Asia* (Vol. 69). Peterson Institute.
30. O'Rourke, K. H. (1994). *Industrial policy, employment policy and the non-traded sector*. University College Dublin, Department of Economics.
31. Pack, H., & Saggi, K. (2006). Is there a case for industrial policy? A critical survey. *The World Bank Research Observer*, *21(2)*, 267-297.
32. Price, V. C. (1981). *Industrial policies in the European Community*. Springer.
33. Rodrik, D. (2004). Industrial policy for the twenty-first century. UNIDO.
34. Seabright, P. (2005, February). National and European champions – Burden or blessing?. In *CESifo Forum* (Vol. 2, No. 2005, pp. 52-55). Ifo Institute for Economic Research at the University of Munich.
35. Stiglitz, J. E. (1996). Some lessons from the East Asian miracle. *The World Bank Research Observer*, *11*(*2*), 151-177.
36. Stiglitz, J. E., Lin, J. Y., & Monga, C. (2013). Introduction: The rejuvenation of industrial policy. In *The Industrial Policy Revolution I* (pp. 1-15). Palgrave Macmillan UK.
37. Tyson, L., & Zysman, J. (1983). American industry in international competition: Government policies and corporate strategies. *California Management Review*, *25(3)*, 27-52.

38. Ylä-Anttila, P., & Palmberg, C. (2007). Economic and industrial policy transformations in Finland. *Journal of Industry, Competition and Trade*, *7*(*3-4*), 169-187.

39. Zourek, H. (2007). The European Commission's New Industrial Policy in an integrating and globalizing world. *Journal of Industry, Competition and Trade*, *7*(*3-4*), 285-295.

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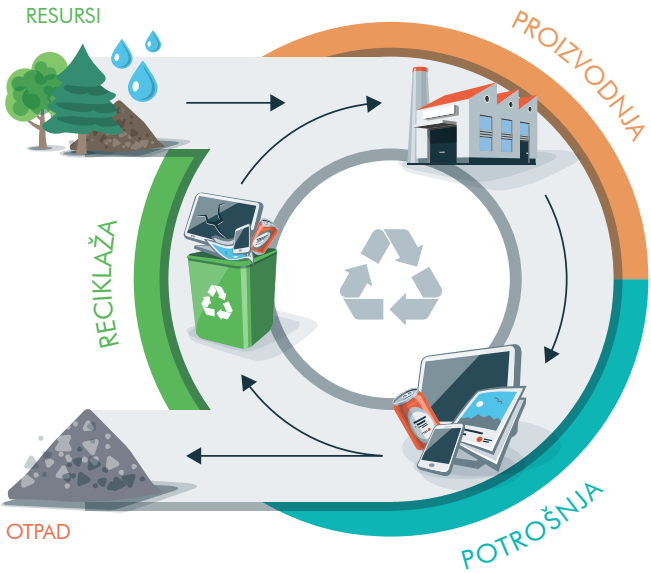

U okviru nemačko srpske razvojne saradnje sprovodi se projekat GIZ IMPACT koji za cilj ima stvaranje osnovnih uslova za uvođenje cirkularne ekonomije na nacionalnom i lokalnom nivou u oblasti upravljanja otpadom i otpadnim vodama. U saradnji sa Ministarstvom poljoprivrede i zaštite životne sredine, Ministarstvom privrede i Privrednom komorom Srbije sagledavaju se prednosti primene modela cirkularne ekonomije i analiziraju mogućnosti tranzicije srpske privrede ka ovom modelu.

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CRITICAL POINTS OF DEFINING AND REALIZING SERBIAN TRANSPORT POLICY

Kritične tačke definisanja i realizacije transportne politike Srbije

Abstract

Transport infrastructure is the bloodstream of every country, and accounts for an important part of the production cost which is an integral part of the final price of goods and services. The importance of a modern and efficient and therefore competitive transport network is a prerequisite to development and progress of every society. Our strategic goal is to create opportunities to connect within the country as well as with neighbors and the region taking numerous variables in the equation into consideration.

There is a multitude of possibilities, but also certain critical points in the development of Serbian infrastructure. Beside showing a clear commitment of Serbia and the region to the development of infrastructure and connecting within the region, this paper aims to clearly define the possible points of stagnation in connecting as well as factors that need to be overcome in the short or long period especially in the field of infrastructure expenditure.

Keywords: *transport infrastructure, connecting, infrastructure cost*

Sažetak

Transportna infrastruktura predstavlja krvotok svake države, ali i bitan deo proizvodnih troškova i krajnje cene roba i usluga. Važnost modernog i efikasnog, a samim tim konkurentnog transporta, predstavlja uslov razvoja i napretka društva. Mogućnosti povezivanja unutar zemlje i sa susedima i regionom strateški su ciljevi, i sa sobom nose mnoge jednačine sa nepoznatima. Pored mnoštva mogućnosti, isto je toliko i kritičnih tačaka infrastrukturnog razvoja.

U ovom radu se pored jasnog opredeljenja Srbije i regiona za razvoj infrastructure i njeno povezivanje sa regionom jasno definišu moguće tačke stagnacije u povezivanju, kao i faktori koje je potrebno prevazići u kraćem i/ili dužem vremenskom periodu, posebno u pogledu infrastrukturnih trošenja.

Ključne reči: *transportna infrastruktura, povezivanje, troškovi infrastrukture*

Introductory notes

Without adequate infrastructure available today millions of people around the world remain without access to jobs, markets, hospitals and schools. The world has long been in the process of rapid urbanization, which along with environmental protection and sustainable prices requires better and more efficient mobility of goods and people. Infrastructure investments in all countries of the world are growing as a result of urgency for new and sustainable infrastructure [5], [6].

At the same time, although the infrastructure market is fully global, projects are never fully invested in despite the growing demand . The basis of the economic policy of a country is modern and developed infrastructure, which is a prerequisite for economic development and regional networking [28].

Infrastructure is the means that each year becomes more and more open to investment by private investors, from pension funds which seek low-risk and economically regulated assets to banks that work with experienced contractors - contractors and financiers of large projects. With a lot of private money in the market, privatization of assets of core infrastructure represents an attractive way of market development and obtaining sufficient funding for the public sector.

Investment in capital projects

The necessity of greater influence of private investment and closer cooperation with other countries in regard to management of the investment cycle are prerequisites which ensure delivery of projects at a faster rate than the state could guarantee, and at economic prices. As never before, sustainable construction and efficient infrastructure network directly accelerate economic growth. Better transit, an efficient network of transfer and transportation of cargo, reduced congestion, enhanced connectivity, bigger capacities, better communication, clean energy and stable energy supplies are decisive factors in connecting economies [3].

The World Economic Forum has estimated that the current global investment gap in infrastructure is one trillion dollars a year on the global investment demand of 3.7 trillion dollars a year, despite the still low prices of oil (which are very slow-growing), political instability in almost all parts of the world and low prices of raw materials. Global infrastructure costs have risen after the financial crisis of 2012 from four to nine trillion dollars (a figure expected in 2025) and an annual growth rate of 6% in 2014 increased to 7.5% in 2016 [13].

Steady demand for economic growth almost forces the world to secure the missing 14 trillion dollars in infrastructure investment by 2030 [13].

It is also estimated that the world will have spent nearly 78 trillion dollars on infrastructure in the period between 2014 and 2025. Interestingly enough, the growth of investment in Europe will not reach the level of investment before the crisis, as opposed to the new markets that "have been crying" for investments, such as Asian and the Chinese market, so they will participate with 60%in total expenditure for infrastructure (and Western Europe around 10% in 2025, a decrease compared to the 20% that it had in 2006).

The investment gap can be sealed in only one way, and that is through main structural projects, but so as to satisfy all stakeholders - from the government to the public and priority investors [18], [19] and [26].

The question of infrastructure expenditure is directly related to the sources of financing, which is a great opportunity for billions of dollars of private capital [5], [6], [16]. Investments in infrastructure are to be made right at the stage of economy growth, since the additional 1% of GDP to be invested in transport and telecommunications leads to the growth of per capita GDP at a rate of 0.6%. Productivity growth, and hence competitiveness, is much higher in countries that have an adequate supply of infrastructure services. Therefore, precisely those countries that have not sufficiently developed their infrastructure set investment therein as priority economic policy (China, India, Brazil ...), and today account for almost half of the infrastructure demand, continuing to grow and spreading their influence (see Table 1).

Table 1: GDP in 2009 with estimates for 2050 for G-7 and E-7countries (trill USD PPP)

	2009	2050	2050/2009
G-7 (global economies: united States of America, Japan, Germany, Great Britain, France, Italy, Canada)	29.0	69.3	138%
E-7 (developing economies: China, India, Brasil, Russia, Indonesia, Mexico, Turkey)	20.9	138.2	561%

Source: [21].

Not only will the growth of developing economies be faster and by 2050 they will have achieved 6.6 times the GDP compared to the global economies, but the gap between emerging economies and the global economy will also grow to the benefit of developing economies. In 2050 the GDP of developing economies in relation to the global economies will be 99% higher, albeit lower by 27% in 2009.

The needs for infrastructure are growing with every newborn child, because there is an annual increase in population moving into urban areas, with the estimate that by 2030, 60% of the population will be living in cities, which means greater needs for infrastructure [20], [21]. In addition to that the population structure is also changing as the number of elderly (60 and over) rises, with their estimated participation of 21% in 2050 (from 8% in 1950 and 10% in 2000) [25]. The growth of investment in infrastructure has also been fueled by the increase in the number of natural disasters. Only in 2015 there were 346 reported natural disasters in which 22,773 people lost their lives, but the disasters also affected lives of another 98.6 million people, with an assessment of economic loss

of 66.5 billion dollars. Only in the last 20 years, natural disasters have led to death of 600,000 people and left 4.1 billion people homeless.

Infrastructure expenditure structurally changes as the country progresses in economic growth towards a higher living standard and quality of life, and does so in the following phases: investment in basic living conditions and housing at the stage of the fight for survival of the economy, towards creation of conditions to improve quality of life through the construction of hospitals, schools, roads, intercity transportation lines, to the next more advanced stage of investment in transit roads, air, rail and sea connections and special natural disaster risk management [14], [26], [27]. The goal is the high living standard entailing investments in the ecological way of life, green spaces and the environment [1].

Infrastructure costs are directly proportionate to the degree of economic growth. Economic growth leads to increase in investment in capital projects, but at a higher technological level of development. Only the markets that have the potential for economic growth are attractive from the point of view of investment in infrastructure projects. Poor infrastructure, whether it is energy or transport, is the biggest obstacle to the economic development of each country.

Infrastructure development is driven by economic and social, societal and environmental factors. If a country wants to develop, it must create favorable conditions for infrastructure development. Otherwise, it is doomed to isolation and will be bypassed by others in all-important strategic connections.

It is not possible to accept nor cope with choice of ways of financing infrastructure projects if there is no national model of evaluation and decision-making on the types of projects, fiscal responsibility, reduction of and the absence of trade barriers, access to finance, risk reduction instruments etc. As transport policy drives the development of the whole system, if adequately fragmented into individual policies (road, rail, air, water transport), it serves as the basis and framework for defining the strategy of economic development. Further definition and implementation of transport policy without guidance and monitoring can only produce desired results in the short run, and this is another reason why transport policy should be developed and directed deliberately, in a predefined desired direction, toward achievable goals [22].

Transport policy of Serbia

Serbia is, in geostrategic terms, an important European country and represents a route that can connect East and West and West and East in the fastest way. As the central country of the Balkans, it has always been an important meeting point r of different civilizations and religions (primarily Orthodox, Catholic and Muslim) as well as economic, political and colonial interests. Serbia has geo-political and geo-strategic importance, both for Europe and for Russia, China and the United States[1]. At the same time, it has been a bone of contention in the world superpowers' rivalries and competition stemming from their strategic interests. For many years Serbia has been an area of latent and real conflicts, dangers and a low living standard with infringement of human rights. It has learnt its lessons and is currently on the path of economic recovery, but also experiencing a difficult economic and political climate and dealing with problems which plague Europe and the world, from the migrant crisis to terrorism. The vision of transport policy of Serbia is that of an unavoidable corridor connecting East and West, North and South, measured by the volume of transport, length of transport network, the value of investments, the share of transport in gross domestic product, as well as the degree of the increase in living standard. The geographical position of Serbia is its competitive advantage, as it is located at the crossroads of the Balkans and important corridors 10 and 7, as well as 4 (Danube-Rhine)[2] crisscross it.

Being the shortest and the most profitable route, Serbia has long defined the priority investment in energy and transport infrastructure, above all transit infrastructure.

1 St. Sava used to say that Serbia is the East of the West and West of the East, and thus if it decided to take one side it would be on the verge of distortion. Therefore, Serbia has to be avoid being either east or west, being at the same time their unavoidable and most profitable connector.

2 Corridor 10 with the main route from Salzburg to Thessaloniki (Salzburg–Ljubljana–Zagreb–Beograd–Niš–Skoplje–Veles–Thessaloniki), Corridor 4 from Dresden to Thessaloniki, passes through: Germany, Czech Republic, Slovakia, Hungary, Romania, Bulgaria, Greece and Turkey and Corridor 7 is the Danube Corridor (2.300 km).

Thus the very importance of the geographical factors, i.e. Serbia's position, defines its existence and development, affects its status in the international political and economic relations and defines the behavior of other countries towards it. The task of transport policy is to develop a competitive and efficient transport system, in accordance with the EC White Paper, which presents the plan for a Single European Transport Area [23]. The geographical position of Serbia conditioned its clear strategic commitment to invest in infrastructure connections with the region. Any reduction in investment in infrastructure may lead to bottlenecks in terms of connecting the entire region of Central and Eastern Europe.

Taking into consideration that a constant change of priorities was visible in the past, and many projects received the status of developmental, but without clear criteria, it was of particular importance in the last few years to determine which infrastructure capital projects could be considered developmental.

Only those projects implemented by the state, that is, those where investment triggers or accelerates The development of other economic manufacturing industries, increases employment of local companies, and directly impacts the quality of life, can be considered developmental. They stabilize and improve the social situation and increase competitiveness. Only substantial and continuous investment in building and maintaining the transport network can keep investors, direct their interest in capacity expansion, and attract new investment operations. Therefore, the creators and implementers of economic policies and national investment programs are responsible for laying the foundation of development, since they shall be accountable to the future generations.

Detection, defining and decision-making on the priority investment plan, and the manner of realization of the infrastructure projects, altogether represent a sensitive and responsible process in which it is necessary to define all relevant criteria, taking into account all the factors of influence. As presented in Table 2, planned factors are: the economic environment (demand for infrastructure, based on GDP growth and population growth), business environment (Serbia's position on the world list of Doing Business), risk (level of security, physical and legal for investors), infrastructure (scale of infrastructure opportunities, capacity to deliver) and financial environment (the degree of support for investment in infrastructure, development of the financial markets, tax policy, availability of financial services).

Table 2: Serbia's Index of competitiveness 2016-2017

	Position (out of 138 countries)	Result (1 to 7)
SERBIA	90	4.0
Institutions	115	3.3
Infrastructure	**74**	**3.9**
Macroeconomic environment	103	4.1
Healthcare and primary education	53	6.0
Higher education	69	4.4
Market development	121	3.8
Labor market elasticity	106	3.8
Financial market development	110	3.4
Technological literacy	70	4.1
Market size	74	3.6
Innovations	108	3.0

Source: [13].

In the Western Balkans, including Serbia, there are great social and public needs, ideas and plans for projects, as well as plenty of different financial models. What is recognized as a problem is that there are not enough investment projects and profitable sustainable projects. Therefore, the task of the defined strategy of transport development is to ensure long-term attractiveness for investment in infrastructure projects. The attractiveness is reflected in creation of the favorable climate for private investment in capital projects, either through generating long-term income through PPPs, or according to models - design, build, fund and maintain. The dialogue between the private and the public sector must be developed, not only in terms of realization, but also in the process of defining directions of infrastructure development, as a means to close the gap in the necessary investment and to create opportunities for business activity and achieving social benefit. Development of a sustainable transport system can be achieved through increasing traffic and mobility while reducing energy costs and greenhouse gas emissions and creating an efficient multimodal network of hubs (airports, railway and bus stations, ports), as well as with establishment of equality and competitive

conditions in transport within and outside the country [15]. Good infrastructure increases investment productivity while reducing the cost of transporting goods and it also stimulates foreign direct investment. The number of kilometers of constructed highways which have opened for traffic in Serbia is proportionate to the increase in the number of factories and direct investments set up in the vicinity of those highways.[3]

The quality and quantity of traffic infrastructure as a foundation for economic growth in Serbia ensures functioning of the internal network by providing safety, efficiency, availability and quality of transport services and the protection of users' interest.

The transport connection of the Western Balkans and Europe

The prerequisite of political stability and economic growth in modern-day Europe lies in political and economic cooperation, connectivity and integration. Infrastructure connections, and transport and energy represent a safe way of increasing growth regardless of the conflict of interests between old and new member states, the differences in the level and sector structure, enlargement fatigue, serious migration crisis that has exposed vulnerabilities of Europe, and the lack of clear strategy and directions of development. Faced with migration waves and pressure, unresolved demographic deficit that has lasted for two decades and closing in on itself, the EU can revitalize only through infrastructure corridors and connectivity [7], [8] and [9]. The Western Balkan countries, infamous conflict zones, politically and economically volatile and technologically underdeveloped, are deeply conscious that peace is a prerequisite of development and have therefore readily accepted the EU proposal and the formation of the transport network of the EU countries [10].

The rather shocking question impossible to avoid when it comes to Serbia is why the central Balkan country has not already become a part of the transport network of corridors of the EU? For decades, the transport infrastructure has been underdeveloped, inconsistent, and represented an obstacle to economic growth being uncompetitive and not harmonized with the EU regulations [22].

Although Europe and the developed countries established their transport policies at first through liberalization, deregulation and harmonization, and then through developing new transport technologies, Serbia had lost all those phases because it did not define its transport policy. The policy had been implemented haphazardly, with no set plan, or to the satisfaction of the personal interests of the ruling political elite, which further resulted in a complete inefficiency, corruption and backwardness in the development of transport.

It is impossible to find a logical explanation as to why the Corridor 10 or the bypass around the capital have not been built yet. Why roads in Serbia are of low quality, which influences not only the competitiveness of the economy, but also adversely affects safety of Serbia's citizens? How is it possible that roads in Serbia are built without construction plans, so that, for example, there is 12.5 km of a modern highway that has no beginning and no end, where there cannot be any traffic, but five-years' worth of preservation and maintenance money is allocated on a monthly level for such a highway.

At the same time, while the transport policy without a set transport policy was under control of each and every ruling elite, from the very beginning governed only and solely by their self-interest, modern highways which move traffic from Serbia to routes through Bulgaria and Romania have been built, although they are up to 100 km longer than the ones that Serbia could have had.

In addition to the fact that projects were not completed, the existing road infrastructure was devastated because it was neither properly maintained nor supported by the introduction of modern technologies in traffic management.

The Logistic Performance Index [2] shows the efficiency of the logistics system at the international level and ranks countries according to the criteria of efficiency of customs and non-customs procedures, the quality of trade and transport infrastructure, the efficiency of the organization of delivery at competitive prices, capacity and quality of logistics services (freight transport, freight

3 According to the National Employment Office and the data gathered by the National Bank of Serbia between 2014 and 2016 the unemployment rate of Serbia's population reduced from 23.5% (2014) to 13.6% in 2016 (third quarter).

forwarding, customs brokerage), ability to track shipments, as well as the frequency of arrival of shipments within the allotted time of delivery (see Table 3).

Compared to the countries in the region Serbia has not only improved its position in the last five years, but has also seen the highest rate of the changes made.

In addition to coming closer to the first 50 countries, Serbia has shown a great potential in improving logistics performance (see Figure 1).

Trade and transport infrastructure take a special place in the structure of this index. The trends in the infrastructure index in 2016 in comparison to those of 2007 show that the three countries in the region improved their infrastructure index: Croatia (+0.49), Bosnia and Herzegovina (+0.35) and Serbia (+0.31). At the same time there has been a deterioration in Albania and Montenegro (see Figure 2).

Deeper analyses are to be conducted by historians, but today's transport policy is clear, the long-term course of action determined and very concise. It has become a part of the EU transport policy, both in terms of the legal framework and the investments in the transport network.

Serbia borders eight countries (Bosnia and Herzegovina, Croatia, Montenegro, Albania, FYR Macedonia, Bulgaria, Romania and Hungary) and with each of these countries Serbia has got a special cross-border cooperation. However, in addition to investments in rail and road infrastructure, modernization of railways, better maintenance, highway construction, as well as introduction of higher-speed o trains and railway network, it is necessary and equally important to do everything to eliminate or reduce non-physical barriers i.e. to simplify cross-border transportation of passengers and goods [17], [27]. For if today the average waiting time in passenger transport at crossings is 45-80 minutes, and in cargo 160-500 minutes, then decrease in competitiveness and problems in the economy of not only Serbia, but also the countries which it borders are perfectly conceivable.

Table 3: Global logistic transport system efficiency indicator (elected countries)

	2016	2014	2012	2010	2007
1 Slovenia	50	38	34	57	37
2 Croatia	51	55	42	74	63
3 Romania	60	40	54	59	51
4 Bosnia and Herzegovina	97	81	55	87	88
5 FYR Macedonia	106	117	99	73	90
6 **SERBIA**	**76**	**63**	**75**	**83**	**115**
7 Bulgaria	72	47	36	63	55
8 Montenegro	123	67	120	121	
9 Albania	117		78		139

Source: The World Bank.

Figure 1: LPI index 2016/2007

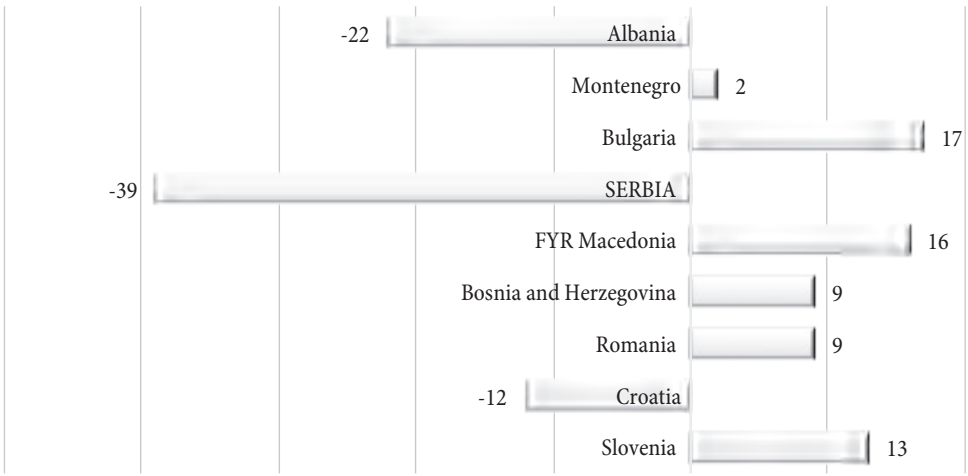
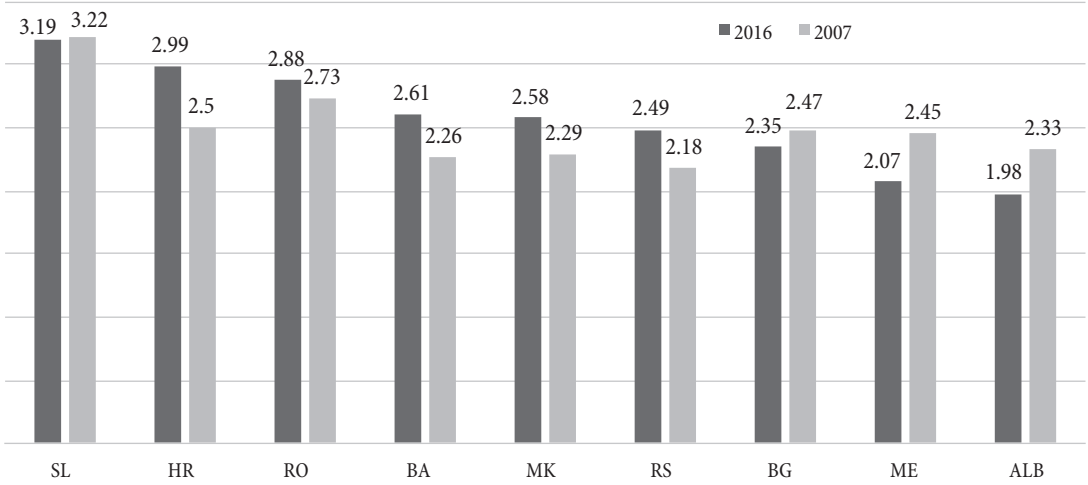


Figure 2: LPI index for infrastructure



In addition to transport infrastructure investment, i.e. the expansion of border crossings, or the increase in border crossing capacities and the expansion of cargo space it is equally important to overcome other non-physical barriers that directly influence the reduction of competitiveness and increase the cost of transport (see Table 4).

The transport system of Serbia has to comply with the environmental protection regulations and the EU system, and border crossings and procedures must be at European standards. Special attention has only in recent years been devoted to Corridors 10 and 7, as well as inland navigation Corridor 4, because these pass through Serbia and enable Serbia to become an essential transit corridor.

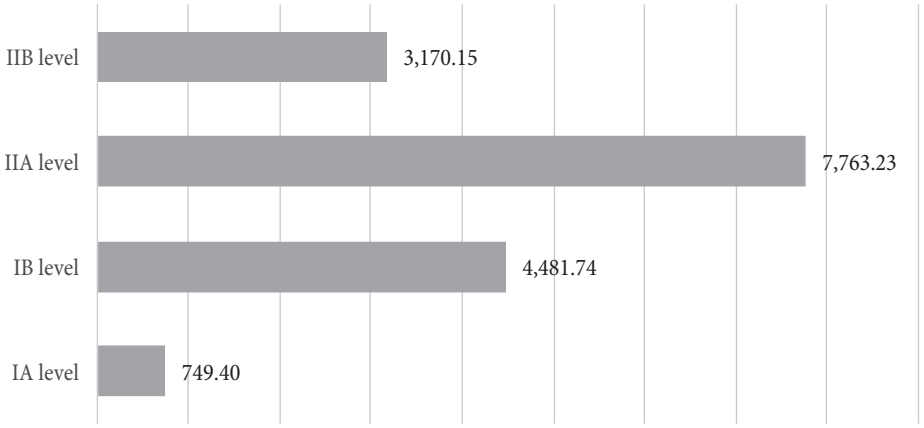
Road transport is dynamic, and a dominant mode of transport in Serbia with the total network of state and local roads 39,164.5 kilometers long which represents the most valuable asset worth close to five billion Euros. Although the structure of the transport of goods by type of traffic goes places road first (as high as 52%), this form of transport cannot be commended for its good characteristics. Roads as major financial public assets are state-owned in most countries. For example, European road network of 5.5 million km, worth about 8.000 billion Euros is

Table 4: Physical and non-physical barriers or transport and trade policy of Serbia

	Montenegro	FYR Macedonia	Bulgaria	Hungary	Romania	Bosnia and Herzegovina	Croatia
	2009/10. Agreement on the single border stop Bijelo Polje	2015/16. Agreement on the single border stop Tabanovci	2004/06. One border crossing established Dimitrovgrad	Agreement 1972/74.	1997. Agreement on a single border crossing not implemented	Agreement on border crossings	Border crossing extension 2016 – 2 scales to measures 6 lanes, plus truck lane
Status	Never established	In process	Agreement expired	Negotiations for the new one ongoing	Negotiations initiatives	The construction of bridges Ljubovija-Bratunac, with one border crossing	
Waiting time Serbia (min)	Passenger – 25-35 Cargo – 30-40	Passenger – 30-40 Cargo – 45	Passenger – 20-30 Cargo – 120	Put – 30-35 Cargo – 90-180	Passenger – 30 Cargo – 120		Goal – the reduction of waiting time by 50%
Waiting time other countries	Passenger – 27-40 Cargo – 120	Passenger – 25-35 Cargo – 120	Passenger – 25-50 Cargo – 120	Passenger – 45 Cargo – 300	Passenger – 30 Cargo – 100		
Plan	Investment 1.7 mil. Euros 2017 – one border crossing	2017. Tabanovci, one border crossing	New Agreement	2017. Agreement 2018. one border crossing	2017. initiation of negotiations	2017. opening for traffic of the bridge and border crossing	2017. second phase of expansion 18 lanes

Source: Authors' work.

Figure 3: Public roads infrastructure, in km



managed by the local, regional and national authorities and institutions. In comparison with road maintenance expenditure in Europe, financing and maintenance of 16,000 km of roads in Serbia are not in accordance with all international standards and system and criteria of assigning jobs to companies that should maintain roads has not been established yet. The rehabilitation and an improvement of road safety campaigns for 1000 kilometers of critical road sections in Serbia were initiated only in 2014, and since January 2017, 3,000 km of roads have been maintained by issuing public calls for best companies, with the view to maintaining the whole road network through public bids.

Serbia is surrounded by the following corridors and their arms: Corridors 4 (Budapest-Arad-Craiova-Sofia-Thessaloniki), Corridor 4a arm (Arad-Bucharest-Constanta), arm of Corridor 5c (Budapest-Šamac-Sarajevo-Ploče), Corridor 8 (Vlore-Tirana-Skopje-Sofia). Hence why the transport system of Serbia should become an important part of the future TEN-T network for transport, transit and logistics activities in the Balkans.

Corridor 10 is of strategic importance for the EU, given the potential for reducing the cost of transportation and other logistic activities, and it can be said that it is of even greater importance for Serbia since 792 km of Corridor 10, arms10b and 10c, happen to be on its territory. This Corridor has been a topic of discussion and has been under way for several decades now and one of the priorities is its completion, which is going to take place in 2017 and 2018. (Grdelica gorge, 27 km, no later than March 2018), while the direction of E- 75 south and the completion of road E-80 will take place in 2017. This is how the continuous connection of a full profile highway to the border with Hungary in the north will be secured, including the so-called "Y arm" to Subotica, and to borders with Bulgaria and FYR Macedonia. See Table 5 for road and railway corridors.

Completion of the bypass around Belgrade and Kragujevac is also directly linked to the function of Corridor 10, and with the rehabilitation of the road network it will surely help increase the competitiveness of the economy and GDP growth. Equally important is the completion of the highway E763, from Belgrade to Preljina, and continuation to Montenegro. With the highway Nis-Priština-Merdare, Morava Corridor (Pojate-Preljina), Fruška Gora Corridor (Novi Sad-Ruma-Šabac-Loznica) and Banatski corridor (Belgrade-Vršac-Romania), Serbia will become an important transit corridor in this part of Europe. These projects represent a part of the extended road network –the Single European Transport Network, enabling connection with Corridor 10, i.e. transverse connection to Corridor 7 (Rhine-Danube) and Corridor 4 (Prague-Vienna-Bratislava-Budapest-Bucharest-Sofia-Constanta).

In the last eight years, the volume of cargo transport has grown by 3%, in particular the transport of goods by road (258%), and in 2014 additional 4.6 million tons of goods were transported by road compared to eight years earlier. In the same period, the number of passengers decreased by 14.9%, mainly in domestic transport and road traffic. Considering investment not only in construction but also maintenance, as well as advancement of Serbia

Table 5: Railway and road corridors connected to the transport system of Serbia

Corridor	Route
Railway corridors	
Corridor 10 (1.177km)	Savski Marof (Slovenian border) – Zagreb (Croatia) – Belgrade (Serbia) – Skopje (FYR Macedonia) – Đevđelija (Greek border)
Corridor 10b (151 km)	Kelebija (Hungarian border) – Stara Pazova (Serbia)
Corridor 10c (104 km)	Niš (Serbia) – Dimitrovgrad (Bulgarin border) – Sofia - Istanbul
Road corridors	
Corridor 10b (185 km)	Horgoš (Hungarian border) – New Belgrade (Serbia)
Corridor 10c (110 km)	Niš (Serbia) – Gradina (Bulgaria)

Source: Author's work.

as a transit route, passenger and cargo transport are to increase by 73% and 62% respectively by 2025.

The geographical position of Serbia[4], as a landlocked country, defines a large part of the foreign trade exchange with the world. It is an undeniable fact that more than 63% of Serbia's total exports and imports of goods are with the EU, then with Russia, China, neighboring countries and Turkey (all together 10% of total foreign trade). The volume of direct foreign investment also comes largely from the EU countries whereas third -world countries invest in production facilities the products of which are intended mainly for the export to the EU and to a much lesser extent to the countries that are members of the Customs Union around the Russian Federation.

It is therefore necessary to integrate the transport system of Serbia into the market of the Western Balkans, the EU market and the Chinese market through the port of Piraeus, but also with the Russian market. Today, the total value of ongoing projects in transport is four billion Euros (three billion Euros in roads and one billion in rail), while the total value of new transport projects for which the directions of negotiation have already been defined, documentation completed and / or commercial or financing contracts on financing signed, or both amounts to 4.87 billion Euros (2.8 billion roads and two billion Euros railway).[5]

Along with the development of infrastructure in road transport, special attention is given towards the development of rail transport, with a view to reducing carbon emissions, as well as redirecting transport to multimodal transport and clean transport systems. Railway network in Serbia is 3,809 km long and 1,768 km of that are main lines whereas 1,251 km are regional lines, and the rest are local and handling lines. Only 283 km are double track lines and only 1,275 km have been electrified, which is why Serbian railways are considered underdeveloped in infrastructure and slow in speed.

The implementation of ongoing projects on the railway Corridors 10 and 11 has been set in motion (Bar railway). The technical documentation for projects south and east of Nis is being prepared, and the core of modernization is the project of reconstruction and modernization of Belgrade- Hungarian border railway, to have it meet the requirements for main TEN-T corridors. Moreover, the reform of the Railway Company and development of Serbian legislative framework related to the reform have created conditions and opened the market of services of transport infrastructure capacities for other railway operators.

The railway from Belgrade to Budapest project represents the first step towards true modernization of railway infrastructure in Serbia, and is in compliance with all the standards of trans-European network of the 21st century. As Corridor 10b, the railway is a part of the shortest railway transit corridor of Western and Central Europe with Greece, Turkey and the Middle East. The existing single-track which is over 130 years old, will be rebuilt as a double track railway for freight and passenger traffic, with speeds of up to 200 km per hour. Not only will it be electrified, but it will also be equipped with the latest control systems and traffic management systems. In addition to connectivity, the goal is to reduce the travel

4 Land-locked country.

5 Agreements, commercial contracts and loan agreements for each project, conclusions from sessions of the Government of the Republic of Serbia.

time by three hours on this 350 km-long railway (currently: eight hours minimum).

To facilitate the coordinated functioning and financial programming and also to enable merges between public and private resources, European Commission has defined the so-called core network corridors for the period to 2020, especially in known bottlenecks, as well as development of cross-border relations and promotion of integration and interoperability aspects.

In addition to having defined nine basic network corridors, European Commission has preliminarily identified projects that could be financed from European funds, taking into account the added value that the projects may have for the TEN-T network. From Serbia's viewpoint, it is very important to establish effective links with the Baltic-Adriatic corridor, the Oriental Eastern Mediterranean and the Mediterranean corridor. The Rhine-Danube corridor essential for the inclusion of inland waterways of Serbia into the basic network corridor TEN-T passes through Serbia.

The main strategic partner of Serbia in transport network planning is the South East Europe Transport Observatory. The main transport policy goal of Serbia as a future member of the EU is to enable significant extension of the TEN-T to the Western Balkans and to improve and coordinate regional transport policies and the technical standards for extension of the TEN-T to the Western Balkans and integration into the framework of the wider Trans-European network.

Serbia has got a dense, primary and comprehensive network within the wider multimodal SEETO network (see Table 6).

The Progress Report of Serbia for 2015[6] declared regulations related to the safety and functioning of traffic and the realization of all projects harmonized, which is the basis for the opening negotiations on chapters 14 (Transport Policy) and 21 (Trans-European Networks), expected in the course of 2017, and closing towards the end of 2018. In addition to opening the chapters, pre-accession funds become available along with other favorable sources of investment financing, bearing in mind that in addition to the constant growth of GDP, and good forecasts, there are frequent funding restrictions for high- cost infrastructure projects.

Serbia has concluded commercial contracts worth 730 million Euros over a period of six months only. The contracts have been signed for the projects of the reconstruction of the Hungarian-Serbian railways (315 million), the construction of the bypass around Belgrade (207 million Euros), and one section of Corridor 763, Surčin-Obrenovac (208 million Euros). If the loan agreements, so-called preferential loans, with the Chinese Export Bank are signed under the same terms and conditions as for other projects, Serbia as borrower will increase its indebtedness to foreign countries by 85% of the sum and simultaneously provide funds for 25% of their own participation in the loan.

A realistic assessment for Hungarian-Serbian railway project shows that for the section from Novi Sad, via Subotica to Kelebija it is necessary to provide from 1.12 to 1.20 billion Euros. It is necessary to obtain 200 million Euros for the tracks on the section Stara Pazova - Novi Sad (since the so-called Russian loan finances only the tunnel and the viaduct) and 2% of the value of investments to engage the Notification body (which should confirm and control the enforcement of EU standards),so the total value of investments required for the 180 km railway line, which meets the requirements of the TEN-T corridors, reaches 1.9 billion Euros, or more than 10 million Euros per kilometer of the double-track high-speed railway.

If Serbia is to become a transit corridor in the railway transport system it is necessary to modernize the railway from Belgrade to Niš, i.e. from Preševo to Dimitrovgrad, meaning another 510 km that require additional 5.2 billion Euros, that means seven billion Euros to complete Corridor 10, not including the arm from Belgrade to Šid (119 km).

Taking into account the aggravating circumstances, in order to increase competitiveness and in addition to hiring new skilled and motivated staff, the reorganization and transformation of not only the operators or the infrastructure manager and relevant logistics agencies, it is necessary to ensure intermodality between all modes of transport, which still requires investments for t development of multimodal nodes, especially ITS systems for accelerated

6 Report on Serbia's progress in the pre-accession process to the EU for 2015.

processing of cargo documentation, together with sanitary and other check-ups.

The longer Serbia waits for accession to the EU, the more significant the cross-border formalities will be. Waiting time at border crossings for many suppliers imposes higher costs than fares for covering further 100-200 km of the bypass road (e.g. Corridor 4) but not having to deal with border formalities.

Set priorities, adopted national list of priority projects, defined methods of funding and funding sources, identified and appointed key institutions to implement projects represent the first steps. However, if the goals, the responsibilities and the dynamics of the project implementation are not clearly defined, not only the cost of construction, but the enormous delays can occur, thus slowing down economic growth.

Aware of this, Serbia has created national book of practices for each capital project, defining the responsible entities, the time required for management of transport infrastructure, and the procedures of spatial planning and design, preparation of project documentation, feasibility studies, provision of administrative transparency in the process, dynamics of the implementation of the expropriation process and the continuous monitoring of the implementation process [12].

Final considerations

Better infrastructure promotes education and science, technology, mass transit and commercial events such as business-parks. It also means infrastructure system ready to respond to the challenges of global climate change and more frequent natural disasters.

All this leads to a higher quality of life, which represents the aspiration of every individual, and society as a whole.

Cultural activities, leisure, green spaces, deep respect of healthy environment and ecological way of life are possible only if the necessary infrastructure in the decades to come is well taken care of and planned. It is therefore important to ensure continued investment in infrastructure, especially when the economy is growing, because withdrawal leads to bottlenecks and congestion, lack of access, and later rebounds as a decline in living standards and quality of life.

Serbia has clearly defined its transport policy after many years, taking into account all internal and external factors that may affect implementation thereof.

Meeting EU standards, clear planning, implementation of mobility and integration of markets, without unfair competition in the transport markets, is the safe course taken by Serbian corridors. How persistent Serbia will be to develop its transit role will determine success of its economic policy and thus the behavior of great powers towards it. Regional connectivity and removal of trade and infrastructure barriers will make Serbia a stable country instead of highly volatile ground it used to be.

The importance of infrastructure indeed calls for establishing the Serbian "Athens Council", since this policy has for decades been an instrument of political parties and interest, rather than means of connecting cities, regions and countries.

References

1. Anand, P. B. (2006). *Millennium development goal 7: An assessment of progress with respect to water and sanitation; legacy, synergy, complacency or policy?* (No. 2006/01). Research Paper, UNU-WIDER, United Nations University (UNU).
2. Arvis, J. F., Mustra, M. A., Panzer, J., Ojala, L., & Naula, T. (2007). *Connecting to compete: Trade logistics in the global economy-the Logistics Performance Index and its indicators*. Washington, DC: World Bank.
3. Attard, M., & Shiftan, Y. (2015). *Sustainable urban transport*. Emerald Group Publishing Limited.
4. Banerjee, S., Wodon, Q., Diallo, A., Pushak, T., Uddin, E., Tsimpo, C., & Foster, V. (2008). *Access, affordability, and alternatives: Modern infrastructure services in Africa*. Washington, DC: World Bank.
5. Clark, X., Dollar, D., & Micco, A. (2002). *Maritime transport costs and port efficiency* (No. 2781). Washington, DC: World Bank.
6. Cumming, D. (Ed.). (2010). *Venture capital: Investment strategies, structures, and policies* (Vol. 9). John Wiley & Sons.
7. European Commission. (2004). *Regulation No 261/2004 of the European Parliament and of the Council*. Retrieved from: http://ec.europa.eu/transport/passengers/air/doc/neb/questions_answers.pdf_reg_2004_261.pdf.
8. European Commission. Directorate-General for Energy. (2006). *Keep Europe moving: sustainable mobility for our continent: mid-term review of the European Commission's 2001 Transport White Paper*. Office for Official Publications of the European Communities.

9. European Committee for Standardization. (2012). *Transport – logistics and services*. Published standards. Retrieved from http://www.en.eu/cen/sectors.
10. European Western Balkans. Retrieved from: https://europeanwesternbalkans.com/.
11. Fiskalni savet. (2016). *Ocena fiskalnih kretanja i strukturnih reformi u 2016. godini*.
12. Ghoshal, S. (2005). Bad management theories are destroying good management practices. *Academy of Management Learning & Education, 4*(1), 75-91.
13. Global Competitiveness Report (2016-2017). Retrieved from: https://www.weforum.org/reports/the-global-competitiveness-report-2016-2017-1.
14. Hertel, T. W., Walmsley, T., & Itakura, K. (2001). Dynamic effects of the "new age" free trade agreement between Japan and Singapore. *Journal of Economic Integration*, 446-484.
15. Islam, D. M. Z., & Zunder, T. H. (2014). The necessity for a new quality standard for freight transport and logistics in Europe. *European Transport Research Review*, *6*(4), 397-410.
16. Lazonick, W. (2008). *Entrepreneurial ventures and the developmental state: Lessons from the advanced economies* (No. 2008/01). WIDER Discussion Papers, World Institute for Development Economics (UNU-WIDER).
17. McLinden, G. (2012). Collaborative border management: A new approach to an old problem. *World Bank-Economic Premise*, (78), 1-6.
18. Ministarstvo građevinarstva, saobraćaja i infrastrukture. (2015). *Srategija razvoja vodnog saobraćaja Republike Srbije od 2015. do 2025. godine* (Official Gazette No. 44/14).
19. Ministarstvo građevinarstva, saobraćaja i infrastrukture. (October 2009). *Generalni master plan saobraćaja u Srbiji* (05SER01/04/016).
20. OECD. (2006). *Competitive cities in the global economy*. Paris.
21. PricewaterhouseCoopers. (2007). *Largest City Economies in the World in 2005 and 2020*. Retrieved from: http://www.pwc.com/extweb/pwcpublications.nsf.
22. Stopher, P., & Stanley, J. (2014). *Introduction to transport policy: a public policy view*. Edward Elgar Publishing.
23. Strategija EU za Dunavski region (COM (2010) 715/4). Brisel.
24. Treasury, H. M. (2003). Bridging the finance gap: a consultation on improving access to growth capital for small businesses. *HM Treasury/HM Stationery Office*, *4*(03), 743-831.
25. United Nations. (2002). *World population ageing, 1950-2050*. UN.
26. Vlada Republike Srbije. Retrieved from: http://www.srbija.gov.rs/.
27. Wilson, J. S., Mann, C. L., & Otsuki, T. (2005). Assessing the benefits of trade facilitation: A global perspective. *The World Economy*, *28*(6), 841-871.
28. Yusuf, S. (2007). *About urban mega regions: Knowns and unknowns*. Washington DC: World Bank.

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YOUTH UNEMPLOYMENT AND ENTREPRENEURSHIP

Nezaposlenost mladih i preduzetništvo

Abstract

High level of youth unemployment, a global problem ever since the world economic crisis has started, poses a serious problem in our society as well. Public policy makers are seeking to find solutions to this problem by stimulating the development of micro, small and medium-sized enterprises, with special emphasis being placed on youth entrepreneurship development. Several strategies defining incentivizing measures have been adopted at the national level, yet there is an evident lack of a systematic and consistent development approach supported across all relevant sectors. An analysis of the position of young entrepreneurs in Serbia indicates that in order to develop youth entrepreneurship, the first necessary step should be systematic work on fostering entrepreneurial culture in the society through the involvement of all the relevant stakeholders, the public sector, business community, the civil society. High-quality education, along with entrepreneurship education, is considered to be a key factor for the development of entrepreneurship. Research at the global level has shown that non-formal forms of education lead to particularly favorable effects in entrepreneurship education, whereas the "Student Company" model has been recognized as the best model of good practice. For us, a particular barrier in the development of youth entrepreneurship is observed in the limited funding modalities. Therefore, it is necessary to improve legal frameworks and develop mechanisms to facilitate access to funds. In addition to this, it is important to reduce the fiscal and parafiscal load for young entrepreneurs in the initial stages of their business operations. In order to increase the degree of innovativeness of the economy as a prerequisite for the development of entrepreneurship in general, it is necessary to change the system of management of science and innovation in Serbia, increase the level of investment in this sector, increase the relevance of scientific research for the development of the economy and develop incentivizing financial mechanisms, along with an institutional framework for linking science and economy.

Keywords: *youth unemployment, entrepreneurship, entrepreneurship education, "Student Company", innovativeness*

Sažetak

Visok stepen nezaposlenosti mladih, koji od perioda svetske ekonomske krize predstavlja jedan od globalnih problema, ozbiljan je problem i u našem društvu. Kreatori javnih politika rešenje problema traže u razvoju sektora mikro, malih i srednjih preduzeća s posebnim akcentom na razvoj preduzetništva mladih. Doneto je više strategija na nacionalnom nivou koje definišu stimulativne mere, ali uočljiv je nedostatak sistemski konzistentnog i kroz sve relevantne sektore podržanog pristupa. Analiza položaja mladih preduzetnika u Srbiji ukazuje da je u cilju razvoja preduzetništva mladih prvo neophodan sistematičan rad na podizanju preduzetničke kulture u društvu, i to kroz uključivanje svih relevantnih aktera, javnog sektora, privrede i civilnog sektora. Kvalitetno obrazovanje, uz preduzetničko obrazovanje, smatra se ključnim faktorom za razvoj preduzetništva. Istraživanja na svetskom nivou pokazuju da posebno dobre efekte u preduzetničkom obrazovanju daju neformalni oblici obrazovanja, a kao najbolji model dobre prakse prepoznat je model „učeničke kompanije". Kod nas, posebnu barijeru u razvoju preduzetništva mladih predstavljaju limitirani modaliteti izvora finansiranja. Stoga je neophodno unaprediti zakonske okvire i razviti mehanizme za olakšan pristup sredstvima. Uz to, važno je da se u početnim fazama poslovanja mladim preduzetnicima smanje fiskalna i parafiskalna opterećenja. U cilju podizanja stepena inovativnosti privrede, kao preduslova za razvoj preduzetništva, neophodno je promeniti sistem upravljanja naukom i inovacijama u Srbiji, povećati nivo ulaganja u taj sektor, povećati relevantnost naučnih istraživanja za razvoj privrede i razviti stimulativne finansijske mehanizme i institucionalni okvir za povezivanje nauke i privrede.

Ključne reči: *nezaposlenost mladih, preduzetništvo, preduzetničko obrazovanje, „učenička kompanija", inovativnost*

Introduction

The global economic crisis, which may be characterized as a structural one, has led to significant disruptions in the labor market, with youth proving to be a particularly vulnerable segment. High level of youth unemployment has emerged as one of the most prominent global problems. Youth unemployment happens to be one of the most pressing challenges that Serbia is facing, as well.

Unemployment rate among the young population in Serbia (aged 15-24) ranged from 52.5% in the first quarter of 2014 to 44.2% in the first quarter of the year 2016 [28]. This is more than double the general unemployment rate (19%) recorded during the same period[1]. In this age group, as many as 150,000 young people neither attended school nor worked anywhere [10, p. 76].

Since young people are part of the education system even upon reaching 24 years of age, it is realistic for an analysis of the youth labor market to cover the population of those from 15 to 29 years of age[2]. The SORS estimates this segment of the population of the Republic of Serbia to be 1,231,307 [28]. Out of that number, according to their status in the labor market, as many as 54.1% are listed as inactive or are located outside the labor market. Less than one third of young people is employed (31.8%), while the share of the unemployed amounts to 14.2%[3].

Almost half (48.7%) of the inactive young population has completed only primary education, while the share of inactive young people with a degree in tertiary education is only 4.6%.

The economy's low level of ability to absorb new entrants into the labor force is certainly one of the reasons why, according to the Global Competition Report (GCR), Serbia has for years been at the very bottom of the list regarding its capacity to retain talents[4].

With all these data in mind, the sheer scale of the problem could be perceived beyond doubt.

In the recent years, public policy makers, as well as the professional community, see the solution to this problem in stimulating the development of micro, small and medium-sized enterprises, with special emphasis being placed on supporting the development of youth entrepreneurship. To this end, several strategic documents have been adopted, but there is an evident lack of a systematic and consistent development approach, an approach which would be supported across all the relevant sectors. In order to coordinate and harmonize the existing policies and come up with proper solutions, it is vital to first get a clear picture of the problems faced by young entrepreneurs, and then to define measures for overcoming them, involving all the relevant stakeholders. For a thriving "entrepreneurial ecosystem", governments, entrepreneurs and corporations must work together [6].

In order to define an adequate public policy which would aim to promote self-employment of young people in Serbia, it is necessary to observe real problems that young people struggle with. The purpose of this paper is to highlight the key problems young entrepreneurs in Serbia are facing, as well as to define the directions for their possible solutions.

Entrepreneurial culture

Numerous studies aimed at analyzing the affinity and willingness of young people to "sail" the entrepreneurial waters indicate that ours is an underdeveloped entrepreneurial culture and show that our society does not place enough value on entrepreneurship [3], [14]. There is no clear awareness of the contribution of entrepreneurs to the overall economic development, nor of their importance in creating new jobs. In a study conducted at the University of Novi Sad, more than 40% of the surveyed students perceived business owners as a new category of economic actors

1 By way of comparison, according to the Eurostat data from June 2016, the youth unemployment rate in the EU was 18.5%, while the overall unemployment rate was 8.6%. The rate of youth unemployment is particularly high in Greece (47.4%), Spain (45.8%), Italy (40.3%), Croatia (38.90%) and Portugal (31.9%).

2 According to the Law on Youth, the youth are considered to be persons between 15 and 30 years of age.

3 Depending on the status in the labor market, standard definitions divide the population in three groups – employees, the unemployed and persons outside the labor market (inactive).

4 According to the 2016-2017 Report, Serbia holds the penultimate, 137th place, out of 138 countries surveyed, while in the previous year it was ranked last, 140th out of 140 countries.

whose success is based on doing business in a semi-legal or illegal way [14, p. 94]. This is a result of the attitudes prevailing in the general public opinion. The findings of a survey carried out by CEVES, whose aim was to determine how the citizens of Serbia perceive entrepreneurship, only confirm these conclusions. In a task where respondents rated jobs by awarding the grade 5 to the jobs that enjoy the highest reputation in the society and grade 1 to the least respectable ones, entrepreneurs have occupied the penultimate position, with a ranking of 2.43 (Figure 1).

It is therefore not surprising that in the SORS survey [1], when asked what their desired job position was, almost one half (48.2%) of the young people surveyed stated that they wanted a job in the state and public sector. The period of transition has brought about a serious disruption in the value system in our society, where work is now insufficiently valued and young people are offered the wrong role models.

Entrepreneurs are faced with an environment that does not empathize with their efforts to succeed. They do not receive the necessary support from the society, oftentimes not even from their immediate environment. They experience judgement in case of failure. This has an adverse effect on the orientation of young people toward independent start-ups.

Out of the total number of the employed youth in Serbia, nearly 80% work for a salary, 11.5% work as contributing household members without receiving any direct remuneration, while only 7.8% (30,900) are self-employed, with 1.8% of them being employers at the same time, and 6% being the single employees in their own companies. Young men are almost twice as likely to start their own business, in comparison to young women (7.6% vs 3.4%)[5].

Among the self-employed, the highest share is made up of young people with high school diplomas (50.2%) and young people with tertiary education (26.3%).

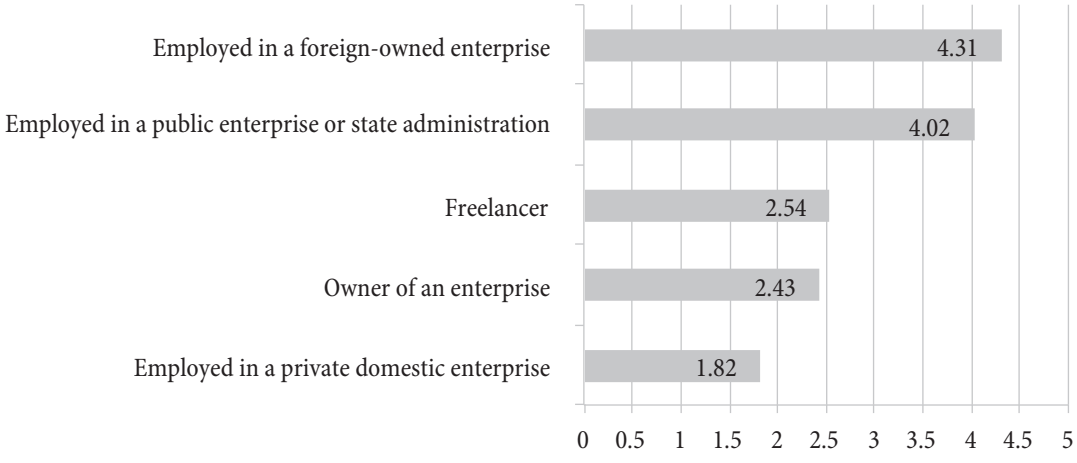
The data presented indicate that in order to develop entrepreneurship in general, and youth entrepreneurship in particular, it is necessary to develop an entrepreneurial culture and raise the profile of entrepreneurship in general. Raising the awareness of the individual's responsibility for one's own life and one's future is a serious task that lies before us.

Cultural acceptance of failure as a frequent potential outcome of entrepreneurial ventures needs to be cultivated, too. Fear of failure and disrespect of the community appears as one of the factors discouraging young people to start their own business.

Developing an entrepreneurial culture requires changes in the existing values and attitudes in our society toward starting a business, willingness to work hard, take risks, partnership, work ethic and business ethics. In addition to the education system, a positive shift in this field requires incentivizing direct actions to be taken by several segments of society (interest groups): private sector (entrepreneurs, corporations with socially responsible

5 The highest percentage of young people work in the service sector, with 61.7% employed. It is followed by industry, which employs 23.8% of young people. Agriculture employs 14.6% of the youth population.

Figure 1: Reputation of different ways to ensure existence



Source: [3].

activities, business associations, various foundations, etc.), public sector (government agencies, Innovation Fund, state institutions) and civil society (endowments, foundations, various organizations). Fostering entrepreneurial culture and inspiring and motivating young people so that their projects are sustainable and have a developmental perspective require numerous activities on the part of the stakeholders: conferences, seminars, educational programs, discussion forums, public and private initiatives that provide access to knowledge networks, mentors, investors, networking and so forth. Only intense activity of this type with the expected synergistic effect can significantly change the entrepreneurial culture.

The media need to be actively involved in promoting entrepreneurship through:

- series of educational programs on entrepreneurial knowledge and skills,
- promoting entrepreneurship success stories both domestic and abroad, particularly presenting successful young entrepreneurs (creating role models),
- covering various trade fairs, competitions, events where entrepreneurs meet.

Entrepreneurship education

Entrepreneurial thinking and raising awareness about entrepreneurship in general should be encouraged, foremost through the educational system. Entrepreneurship must be viewed as a basic set of skills that are continuously upgraded in the process of lifelong learning. It is necessary to create a comprehensive strategy that will include all levels of formal and non-formal education and all the relevant stakeholders in the education process (pupils, students, teachers, professors, businesses, relevant institutions and organizations).

For young entrepreneurs, embarking on an entrepreneurial activity entails facing a lack of numerous competencies and skills. Research shows that entrepreneurs with a technical background do not possess sufficient financial literacy to make decisions and prepare documentation. Even the entrepreneurs with an economics education background complain about the insufficiency of applied knowledge [9, pp. 57-60]. An additional problem reported by the respondents was facing their own limitations in entrepreneurial skills (negotiation, team formation and management, presentation, leadership, communication), depending on the stage of development of the company. These challenges were recognized as serious obstacles to growth and development.

High-quality general education, along with entrepreneurship education, is considered to be a key factor for the development of entrepreneurship [6]. The EU expert group [5] defines entrepreneurship education not only as a process of preparation, education and training for establishing own businesses, but in a wider context as the process of fostering an entrepreneurial mindset and entrepreneurial skills.

The objectives of entrepreneurship education, which is being implemented at various levels, are: raising awareness of the participants in the educational process about the importance of assuming responsibility for their own destiny, abandoning the philosophy of "getting a job" and adopting the philosophy of "creating a job for oneself", fostering and promoting entrepreneurial qualities (creativity, identifying business challenges and opportunities in the environment, risk-taking, flexibility and adaptability, persistence and perseverance, action orientation, accountability for the results achieved) and acceptance of change as a way of life.

Entrepreneurship education should be introduced in the curricula for as many educational profiles as possible, at different levels of education (primary, secondary, post-secondary schools, faculties). In accordance with the best practices, for some educational profiles this should be done vertically – by introduction of a separate subject, while in others horizontally – by integration of entrepreneurial content modules into the existing subjects, with addition, in both cases, of *ad hoc* non-formal education. It is particularly important to further develop the course of "Entrepreneurship" for technical educational profiles (primarily in the areas related to modern technologies) to build up elementary financial literacy and develop entrepreneurial skills of students. This content should also be included in the curricula of post-secondary schools and faculties that train educators and teaching staff. This would enable future teachers and professors (trained in

particular fields) to integrate entrepreneurial content into their fields of specialization. When introducing the course of "Entrepreneurship", it is important to avoid turning "learning for entrepreneurship" into "learning about entrepreneurship".

For this purpose, it is important to establish entrepreneurship as a competence of the teaching staff, because it is only the educated teachers who can apply the appropriate teaching methods.

An Ernst & Young research concluded that non-formal entrepreneurial education produced better results than learning about entrepreneurship through formal teaching [6]. The "Student Company" program was evaluated as the best example of good practice in this field on a global level. This program was developed and standardized by the non-profit organization Junior Achievement Worldwide (JAW), founded in the U.S. in 1919, with a mission to develop entrepreneurship and financial literacy among the young. One of the specifics of this program is that it relies on a tight collaboration between the educational system and the business community. The JAW programs are currently being implemented in more than 130 countries in every continent in the world.

In Sweden, after 10 years of implementing the "Student Company" program in their school system, research was conducted with the aim of assessing the impact of the program and the profitability of investment in this type of education. The research was carried out in the period from 1990 to 2007 on a sample of 166,603 participants of the program from 1980 to 2007, and on a control group of non-participants, comprising 221,530 respondents. It was found that program participants launched businesses at the beginning of their career in 20% more cases compared to the control group, and that they did it a year before (on average) the control group. Companies started by the program participants created 130,000 jobs annually over the 20-year period. On average, the companies set up by former "Student Company" participants achieved a 20% higher income compared to the income of the control group, and they were characterized by better sustainability of their businesses than those of the control group; their contribution to replenishing the budget was higher and, in case when participants were employed in companies, they made quicker career advancement, while their companies grew at a faster pace [24]. Similar results were found in a UK-based research conducted after 50 years of implementation of the "Student Company" program [11] and in the Ernst & Young research in the G20 countries [6].

This program is implemented as an extracurricular activity. It is based on the principle of learning-by-doing. Students conceptualize their company and go through all the stages of work and life cycle of a company.

The company is set up by a team of interested students with the assistance of a trained mentor-teacher, often using input from volunteers from the business community. During the life span of the company, the participants in the program can compete against each other in regional and national contests, and the winners advance to the European competition as an integral part of the program.

The "Student Company" program should be formally incorporated as an extracurricular activity in the syllabi of secondary schools of all profiles, whereas further development of this form of education should be ensured by creating its normative framework. This would consequently ensure the creation of potential new business entities. The development of the normative framework relates to defining the position of student companies in the education system and establishing the conditions for their smooth operation in compliance with applicable regulations.

Although the primary function of the student company is business education of high school students and the development of entrepreneurial awareness among youth through simulation of business operations, certain activities are real (such as the purchase of raw materials and the production of real products, sales of such products or services for money, etc.) and involve interactions with the real economy and its stakeholders (regulatory bodies, entities, regulators). Entering a business relationship presumes legal capacity, but in Serbia, formally and legally, student companies do not possess one. Inexistence of legal capacity of student companies in Serbia severely reduces the potential for acquiring business knowledge and experience for secondary school students, thus hampering the development and growth of innovative student companies. This indicates the need for further

development of the regulatory framework for student companies in the education and economic system of the Republic of Serbia[6].

In addition to the activities aimed at advancing entrepreneurial education, the development of adequate financial mechanisms and an institutional framework for linking research institutions, universities and businesses in order to transform scientific research products into commercial products would be of crucial importance. This is a basic prerequisite for the development of an "entrepreneurial university" and for a massive expansion of significant science parks, spin-off companies and business incubators at universities.

Sources of financing

A particular challenge in the development of youth entrepreneurship is the availability of sources of financing.

In Serbia, there is no legal framework nor are there mechanisms developed to facilitate access to funds for entrepreneurs (alternative financing models, such as equity-based models – seed, start-up, business angel, venture capital and private equity). Recognizing young entrepreneurs as a separate category within the measures of economic policy is a fairly recent development, and state-budget allocations for youth entrepreneurship development programs are still relatively modest. Due to the limited scope of incentivizing credit arrangements (subsidized loans, state guarantees, etc.), young entrepreneurs are forced to rely on their own resources (savings, family support, loans from friends and so forth), which limits the development potential of their business ideas. The findings of the School-to-Work Transition Survey (SWTS) carried out by the Statistical Office of the Republic of Serbia in 2015 show that in 51.4% of cases young entrepreneurs received financial assistance from family members and friends while starting their own business, 18.2% used their own savings, with only 4.5% taking a loan from state institutions, and 1.2 % relying on a bank loan. When asked about the greatest challenges faced in doing business, 36.9% of young entrepreneurs who participated in the said survey identified the lack of financial resources as being the major challenge, whereas market competition was mentioned by 7.7 %, and legal regulation by 7.3 % of the respondents. All the other challenges received a significantly lower representation.

For the sake of comparison, in a research conducted by Ernst & Young (2015) in the G20 countries, while answering the question of the top six barriers young people identified as those preventing them from achieving entrepreneurial ambitions, the following were reported: insufficient access to funding (43%), negative economic factors (43%), competition (25%), lack of access to good advice (25%), lack of self-belief (25%) and limited internships (18%)[7]. It is obvious that the problem of limited access to sources of financing is one of the restricting factors for the development of youth entrepreneurship.

The solution to this problem requires normative regulation of investment through venture capital, angel investors etc. by way of adopting a special Law on Venture Capital Funds. These modes of investment are already present; yet it is necessary to establish clear rules and create a legal basis for tax incentives for risky investments.

The Law on Innovation Activity should recognize venture capital funds as entities with business activity aimed at stimulating the development of innovation and innovative companies.

Furthermore, the Law on Companies should include the norms governing investments not based on capital ownership (equity-based investments), where the investor has no shares or ownership of the securities, but the right to an agreed share of company revenues. This is essential, since the modern practice of venture capital investment shows that a significant number of investor rights is regulated by the quasi-equity instruments. This is one of the important mechanisms to stimulate growth in this industry.

Also, it is necessary to reexamine the regulations related to the Insurance Law and the Law on Voluntary Pension Funds and Pension Schemes. The possibility of using a certain percentage of funds of insurance companies

6 The organization Junior Achievement Serbia, in cooperation with the German Agency for International Cooperation (GIZ), has initiated the process of advocacy for the regulation of the legal capacity of student companies.

7 Respondents were asked to check everything that applied; results do not total to 100%.

and voluntary pension funds for investment in this domain should be considered. An analogous approach may be applied to the Law on Banks, as well.

In addition to the regulations that would relate to the operation of venture capital funds, it is necessary to pass the Law on Microfinance. Due to their costs, microloans cannot be the main source of financing, but they may prove helpful in particular situations.

Tax exemption from corporate income tax for investments in technology start-ups and innovative companies might be a helpful incentivizing measure. This would encourage large companies to invest in smaller ones, either because of the direct benefits of incorporating innovative technological products in their value chains, or because of the possibility of investment becoming an opportunity cost to income tax payment. Another benefit of this measure would be that the State would acquire one of the smartest mechanisms to encourage growth of selected areas of the industry (e.g. information technology and industries based on knowledge and innovation). In addition to this, although to a lesser extent, the stimulating effects may be achieved by introducing tax credits for investment in research and development and tax incentives in the form of tax exemption of profits aimed at high-risk investments. These incentives should be directed at venture capital funds, but also at investors who invest in venture capital funds, especially in the case of institutional investors, such as voluntary pension funds and insurance companies [22].

At the national level, it is necessary to implement and promote national programs in a clear and transparent manner to encourage entrepreneurship, especially youth programs (e.g. the programs that the Ministry of Economy launched in 2016: Financial Support for Programs and Projects to Support Youth Employment, Financial Support for Start-ups, Financial Support for Innovative Projects in Start-ups in the ICT, etc.).

Fiscal and parafiscal load

Along with the aforementioned difficulties in acquiring the necessary funding for setting up and developing entrepreneurial activity, the high level of fiscal and parafiscal load is often reported by young entrepreneurs in Serbia as being a particular impediment and obstruction for development [9, pp. 54-63]. These costs prove to be a particularly heavy encumbrance in the initial stage of operations, a stage most often characterized by lower and sporadic income generation. The amount of taxes on personal income and social security contributions are perceived as a major burden. In particular, in the case of business companies, gross wage is reduced by almost 70% against taxes and contributions. This results in a failure to declare the full amount of wages to the tax authorities, or failure to register all the employees as such. Such high expenses discourage potential entrepreneurs who are considering to register their activities, and lead to an increase in the number of those operating in the shadow economy.

Moreover, for entrepreneurs who are not registered as business companies, the dynamics and calculation of income tax is often a problem. If there is a business volume decrease, they are required to keep paying taxes for the previously estimated level of income. Only after six months can they apply for adjustment. In case of overpaid taxes, the company funds remain frozen, without a refund option. Instead – the official tax records just show an overpayment. It is also important to emphasize that there are significant differences in the level of lump sum income for taxation per different municipalities in Serbia. All of the aforementioned arguments point to the fact that a more favorable tax treatment may result in stronger incentives for the development of youth entrepreneurship, and prove to be potentially more efficient than the existing models of subsidies for creating new jobs. This may be corroborated by comparative research[8] [9, pp. 56-63]. Therefore, it is important for the legislators to consider a comprehensive set of measures, starting from reducing the taxes on personal income and social security contributions for young entrepreneurs for a limited time period[9] along with the adjustment of other corresponding

8 Germany offers a good example of a model which combines financial support and tax incentives for young entrepreneurs. The model is implemented in two national projects "Bridging Allowance" *(Überbrückungsgeld)* and "Start-up Subsidy".

9 In order to prevent possible abuses of the privileges, it is necessary to precisely define the relevant criteria, such as first-time company, the cap of total monthly income, time limits, etc.

types of taxes, accompanied by the introduction of tax credits for these liabilities, eventually leading up to total exemption [9, pp. 78-79].

Furthermore, a special tax treatment for innovative companies should be introduced, allowing lower corporate tax if the profit comes from investment in patent-based product development, or through the commercialization of innovative technological knowledge. Such measures would contribute to the development of investment in new technology and development of high-tech industry in general.

The Strategy for Supporting the Development of Small and Medium-Sized Enterprises, Entrepreneurship and Competitiveness 2015-2020 [16], places special focus on defining measures aimed at promoting youth entrepreneurship. One of the proposed measures involves the development of the Youth Company. The development of the Youth Company model, a company whose founders are young people according to their age group, would enable direct application of various incentives for the development of youth entrepreneurship (temporary tax breaks, exemption from social security contribution obligations, access to guarantee funds, subsidies aimed at development of certain types of economic activities, etc.). For this idea to take root, the Youth Company model should first be recognized in the Law on Business Companies, and then in other corresponding laws.

Innovativeness

If we want to analyze the opportunities for youth entrepreneurship development, as well as entrepreneurship development in general, it is essential that we assess the innovation potential of a certain country. Innovation is a key prerequisite, the cornerstone of entrepreneurship. Against the backdrop of its driving force, a critical question to be raised is whether the degree of innovation in our economy is a fostering or a limiting factor in the development of youth entrepreneurship.

As stated by the World Economic Forum's Global Competitiveness Report 2016-2017, Serbia is ranked as 108th in terms of innovativeness of its economy among the 138 surveyed countries worldwide. By way of comparison, Croatia scores 103th, while Montenegro holds the 94th, Macedonia the 51st and Slovenia the 33rd place.

Compared to the previous year's results provided in the 2015-2016 report, where Serbia was ranked as 113th among the 140 economies covered, a slight advance may be observed.

According to the methodology applied in this report, an assessment of a country's performance in terms of innovation is made by observing several indicators (Table 1).

Table 1: Innovation as a pillar of competitiveness

Competitiveness indicator	Country's ranking
Capacity for innovation	130
Quality of scientific research institutions	60
Company spending on R&D	121
University-industry collaboration in R&D	96
Gov't procurement of advanced tech. products	108
Availability of scientists and engineers	90
PCT patent applications (applications/million pop.)	50

Source: [26]

The first indicator is the capacity for innovation. This indicator shows the potential of companies to innovate. The current level of development and the poor state of the economy have limited our companies' potential to develop and implement innovations. Businesses lack funds to invest in research and development, and this indicator places us as low as in the 130th position in the world. In terms of company spending on research and development, we hold the 121st place. By way of comparison, the business sector in Serbia accounts for only 7.5% in investment in research and development, while this percentage reaches 60.8% in the OECD countries. In Serbia, only 3.3% of researchers are employed in industry, whereas in the OECD countries this number amounts to nearly 60%.

In respect of the quality of university-industry collaboration, Serbia holds the 96th place. This is a one-place drop compared to the previous year's ranking. Generally speaking, the level of orientation of scientific research toward industry needs is relatively low. Out of the total number of results achieved in the budget-funded scientific research projects in the period from 2011 to 2015, new patents and technical solutions accounted for only 3.3%, while 88% of the projects yielded scientific papers.

These data clearly suggest the need to build up a more efficient relationship between the science and research sector and the industry.

Absence of collaboration among universities, the scientific sector and the industry produces multiple negative effects. On one hand, resources pertaining to the scientific sector do not offer additional incentives for igniting economic growth, whereas, on the other hand, the industry does not play an active and spontaneous role in designing educational curricula and syllabi. In other words, the educational system, which is supposed to develop the workforce for the industry, remains isolated in this process (left to its own devices). As a result, a critical opportunity for young people to become involved with research projects and obtain valuable experience in the course of their education is lost.

The low level of mobility of researchers between the academia and the industry and vice versa proves to be an additional problem, and the collaboration between these two sectors, naturally leading to an increase in innovativeness, presupposes this very type of mobility.

The most successful fields in which scientific and technical solutions find their way to commercial applications in the industry are electrical engineering, telecommunications and information technology. Out of the total number of technical solutions, 38% are solutions in these particular fields, with 90% of them being commercialized in the local and international markets. Biotechnology and agriculture stand out in terms of the number of patents, with a share of 57%.

Apart from the disconnection between the scientific research sector and the industry in Serbia, additional Government incentives aimed at fostering innovation, such as procurement of advanced technological products, are also lacking. In terms of Government innovation incentives for local companies through procurement of advanced technological products, we are ranked in the 108th place.

Poor results for these criteria are at odds both with the scientific potential of this country and its ranking in terms of the quality of scientific research institutions, where we scored 60th. This does not come as a surprise since, according to the latest 2016 Shanghai Ranking, the University of Belgrade was listed among the best 300 universities. Our share in the total world production of scientific papers is 0.3%, and we hold the 46th position on the list of over 140 countries (SCImago Journal & Country Rank). Our young professionals, educated at domestic universities, find their place in scientific and research centers worldwide. These results are even more significant, bearing in mind that budget investment in science has ranged from only 0.36 to 0.46% of gross domestic product (GDP) in the recent years, while the goal was 0.9% of GDP.

Total investment in this sector, both from private and budget sources, is less than 1% of GDP [17], which is significantly below the EU average of 2.06% of GDP, according to the Eurostat data. Furthermore, there is also a problem in the structure of science investments. Researchers' salaries account for 87% of total investment, while research in many areas require investment in material costs, as well. Investment is minimal in additional staff education, such as referral to specializations abroad, to scientific conventions, where new knowledge is acquired and exchanged.

It may be concluded that, in spite of the decades-long low investment rates, Serbia possesses significant scientific and research potential, awaiting to be further developed and put to more appropriate use.

In terms of availability of scientists and engineers, we hold the 90th place in the world. In comparison to the 2016 findings, this is an eight-point drop in ranking. One of the causes for this decline is certainly the high outflow of qualified professionals, on one hand; on the other hand, our educational system fails to respond to the change of industry needs for certain professional profiles caused by rapid technological development. In addition to these indicators that directly affect the degree of innovativeness of an economy, there are additional factors of importance that determine the broader socio-economic framework and represent the basis for the development of innovation and entrepreneurship. These are the level and quality of health care, the quality of primary and higher education, goods market efficiency and financial market development. They are exhibited in Table 2 with the pertaining rankings of Serbia.

Table 2: Factors of importance for innovation

Competitiveness indicator	Country's ranking
Health and primary education	53
Higher education and training	69
Goods market efficiency	121
Financial market development	110
Technological readiness	70
Country's capacity to retain talent	137
Country's capacity to attract talent	137

Source: [26]

We boast a relatively solid 53rd place in terms of health and primary education (a significant leap from the previous year's 62nd position). In terms of quality of higher education, we are positioned toward the middle of the list of the countries ranked (69th place). We are, however, at the very bottom in terms of goods market efficiency (121st place). This indicator shows the extent in which entrepreneurial activity is stimulated by the existence of active demand in the market, i.e. the market absorption rate.

Serbia scored 110th in terms of financial market development. Our financial sector is marked by a relatively limited number of participants and a low level of activity.

The analysis above may serve as a basis for assessing the state of innovation in our economy. Obviously, we are still far below the desired level, despite the fundamental potential that we possess. Our country is still classified among the "efficiency-driven" economies, and we have a long way to go to reach the status of an "innovation-driven" economy. In order to develop the level of innovativeness of the economy, which is a prerequisite for development of entrepreneurship, it is necessary, as defined in the Strategy of Scientific and Technological Development for the 2016-2020 Period [17], to change the system of management of science and innovation in Serbia, increase the level of investment in this sector, improve the relevance of scientific research for the development of the economy, develop stimulating financial mechanisms and an institutional framework for linking science and economy.

A significant assistance in the development of an innovative local economy could be provided by means of facilitated access to European programs for the development of innovation and entrepreneurship. This step requires further strengthening of the capacities of the Ministry of Economy (COSMA program), the Ministry of Education, Science and Technological Development (HORIZON 2020 program) and the Ministry of Labor, Employment, Veteran and Social Affairs (EaSI program). This would allow young entrepreneurs to obtain the necessary information and learn about project application procedures.

Conclusion

One of the key problems in the Republic of Serbia is high youth unemployment. Less than one third of young people aged from 15 to 29 are employed (31.8%). Public policy makers are seeking to solve this problem by way of creating new jobs through the development of small and medium-sized enterprises. Special emphasis is being placed on fostering the development of youth entrepreneurship. These findings point to the relatively scarce opportunities or low preferences among young people in Serbia to create their own jobs.

Studies that included analyses of the conduciveness of the environment for youth entrepreneurship development in Serbia show that entrepreneurship is not sufficiently appreciated in our society. There is no clear awareness of the contribution of entrepreneurs to the general economic development, or the importance of entrepreneurship for job creation. Entrepreneurs face a lack of understanding from the environment and are met with disrespect in case of failure. This certainly produces a discouraging effect on the entrepreneurial inclinations among young people.

Furthermore, due to inexistence of a clear strategy for the development of our educational system and the sluggishness of the reforms, the youth workforce supply falls short of the industry needs, whereas graduates are ill-prepared for the job requirements and trends in the modern economy. For young entrepreneurs, engaging in entrepreneurial activity means facing a lack of numerous skills and knowledge. Entrepreneurship education is not integrated in the curricula; therefore, the desirable entrepreneurial qualities are not being developed in students. Moreover, skills such as presentation, teamwork, communication, negotiation and leadership are not being

nurtured either. It is the lack of these very skills in young entrepreneurs that is often the limiting factor for further development of their businesses.

Young people who embark on the entrepreneurial journey face numerous hurdles. A major challenge is the limited access to funding. Due to the underdevelopment of standard forms of funding of innovative ideas that exist in developed-market economies and due to a limited scope of incentivizing credit arrangements (subsidized loans, state guarantees, etc.), young entrepreneurs are forced to rely on their own resources (savings, family support, loans from friends and so forth), which limits the development potential of their business ideas.

An additional problem is that young entrepreneurs are generally uninformed about legal regulations that define the framework for business operations. The basic system of legislation which governs the setting up of entrepreneurial activity and business entity, the rights and obligations in labor relations, management of business documents and business reporting, taxation, customs system, foreign exchange and foreign trade operations and the like, comprises 14 laws. In addition to these, there is a number of regulations and legal acts relating to particular sectors and business activities. It is evident that without professional help, be it from certain institutions or in the form of legal assistance, which requires additional expenses, they cannot cope with the applicable regulations. Most often, young entrepreneurs acquire knowledge and experience in this field by learning from mistakes.

Apart from the lack of necessary funding in the initial stage of their business operations, they also face considerable costs incurred by the high fiscal and parafiscal load. This undoubtedly hinders the chances for success and discourages young entrepreneurs from leaving the gray economy and joining the regular course of business operations.

Moreover, on top of all these problems, our economy lacks a supportive entrepreneurial climate. The level of innovativeness of the economy is relatively low, the link between the scientific sector and the industry is weak, investment in scientific research that would result in commercial products is insignificant, the industry lacks funds to finance new technologies, the most talented and educated young people are leaving the country and we do not have the capacity to retain them.

Public policy makers have defined measures for supporting youth entrepreneurship development in several strategies, yet there is an evident lack of a systematic and consistent development approach which is supported across all relevant sectors of youth entrepreneurship [16], [17], [18], [19], [20]. The scope of measures that target youth entrepreneurship is relatively modest. It can be concluded that there is no real understanding of the degree of causal relationships between the improvement of education, the development of innovativeness, entrepreneurship and impact on economic development thereof.

In the long term, measures of the utmost significance would be the ones aimed at fostering entrepreneurial culture and education.

Improving the entrepreneurial culture calls for a change in the existing values and attitudes in our society toward starting a new business. In addition to the educational system, a positive shift in this field requires incentivizing direct involvement of the business community, the public sector and the civil society. Active involvement of the media should also play an important role.

Improving the quality of general education, along with entrepreneurial education, is certainly a key factor for the development of entrepreneurship. Different studies have shown that the best effects in the development of entrepreneurial skills and competences are achieved through non-formal forms of education, whereas the "Student Company" model has been recognized as the best model of good practice. This model has been standardized, and is based on tight collaboration among the educational system, the business community and the civil society. It is implemented as an extracurricular activity and does not place financial burden on the educational institutions. This program is already being implemented in Serbia, and in the last ten years over 30,000 high school students have participated therein. A network of almost 700 trained mentor-teachers and more than 200 volunteers from the business community is formed each year. The program is organized by the NGO called Junior Achievement Serbia and relies on the ability of its members to secure the necessary resources. The quality of this program has

been recognized in strategic documents [16], yet systemic support measures and the normative framework have not been completely developed in order to exploit the full potential of the program. Recommendations for overcoming these problems have been defined and the competent institutions should implement them [4], [9].

In addition to the activities aimed at advancing the educational system, development of adequate financial mechanisms and an institutional framework for linking research institutions, universities and the industry in order to transform scientific research products into commercial products would be of crucial importance. This is a basic prerequisite for the development of an "entrepreneurial university" and the expansion of significant science parks, spin-off companies and business incubators at universities, and consequently for raising the level of innovativeness of our economy.

In order to facilitate access to finance and to diversify sources thereof, it is necessary to improve the legal framework (legislation on investment funds, microfinance, tax incentives for investments in innovative projects, etc.). On the other hand, to reduce the cost burden in the initial stages of business operation, it would be necessary to define a consistent set of measures which would determine tax incentives for a defined time period aimed at young entrepreneurs.

If we wish to reduce the youth unemployment rate and encourage and empower young people to create their own jobs, a full understanding of the factors essential for the development of youth entrepreneurship is necessary, as well as the cooperation of public policy makers in all relevant fields, synchronized action and hard and persistent work.

References

1. Statistical Office of the Republic of Serbia. (2015). *School-to-Work Transition Survey*. Belgrade: SORS.
2. Business Innovation Programs. (2014). *Učenička kompanija u Srbiji - izazovi i šanse*. Kragujevac: BIPS. Retrieved from http://bips.rs/wp-content/uploads/2015/12/UK-u-Srbiji-Izazovi-i-Sanse.pdf.
3. CEVES - Centar za visoke ekonomske studije. (2014). *Preduzetništvo u Srbiji – nužda ili prilika?*. Beograd: CEVES.
4. Dostignuća mladih. (2016). *Omladinska kompanija*. Beograd: Dostignuća mladih.
5. European Commission – Enterprise Directorate-General. (2002). *Final report of the expert group "Best procedure" Project on Education and Training for Entrepreneurship*. Brussels: EC.
6. Ernst & Young. (2013). *The power of three – The EY G20 Entrepreneurship Barometer*. EY.
7. Ernst & Young. (2013). *Avoiding a lost generation*. Prepared for the G20 Young Entrepreneurs' Alliance Summit Russia June 2013. EY.
8. Ernst & Young. (2015). *EY global job creation and youth entrepreneurship survey 2015, Boosting employment, inspiring youth*. EY.
9. Filipović, S., Kisić, S., Reljić, M., & Cvijanović, J. (2016). *Analysis of the regulatory framework for entrepreneurs focusing on the three most potential sectors, proposing simplified procedures for young entrepreneurs*. Belgrade: Economics Institute. Retrieved from http://www.perform.network/upload/resources/documents/1484049042797_MOS_Young%20Entreprenuers_ENG.pdf.
10. Filipović, S., Reljić, M., & Cvijanović, J. (Eds.). (2016, September). Key problems of young entrepreneurs in Serbia. *Proceedings from ECIN 2016 International Economics and Management Conference*. Belgrade.
11. Athayde, R. (2012). *Impact: 50 years of young enterprise*. (Technical Report) Young Enterprise. London: Kingston University.
12. Official Gazette of RS no. 22/2015. (2015). *Nacionalna strategija za mlade za period od 2015. do 2025. godine*. Belgrade: Official Gazette of RS.
13. Official Gazette of RS no. 37/2011. (2011). *Nacionalna strategija zapošljavanja za period 2011-2020*. Belgrade: Official Gazette of RS.
14. Marković, S., & Stanković, F. (2008). Univerzitetsko okruženje i preduzetničke težnje studenata. In Marković, S., & Stanković, F. (Eds), *Univerzitet i preduzetništvo* (73-113). Novi Sad: University of Novi Sad, UNESKO Chair for Entrepreneurial Studies.
15. Paunović, S. (2009). Preduzetničko obrazovanje – kako ga učiniti efikasnijim i preduzetnijim. *Menadžment, marketing i trgovina*. Retrieved from http://scindeks.ceon.rs/article.aspx?query=ISSID%26and%2612671&page=6&sort=8&stype=0&backurl=%2Fissue.aspx%3Fissue%3D12671.
16. Official Gazette of RS no. 35/2015. (2015). *Strategija za podršku razvoja malih i srednjih preduzeća, preduzetništva i konkurentnosti za period od 2015. do 2020. godine*. Belgrade: Official Gazette of RS.
17. Official Gazette of RS no. 25/2016. (2016). *Strategija naučnog i tehnološkog razvoja Republike Srbije za period od 2016. do 2020. godine – „Istraživanje za inovacije"*. Belgrade: Official Gazette of RS.
18. Official Gazette of RS no. 107/12. (2012). *Strategija razvoja obrazovanja u Srbiji do 2020. godine*. Belgrade: Official Gazette of RS.
19. Official Gazette of RS no. 49/2011. (2011). *Strategija razvoja intelektualne svojine za period od 2011. do 2015. godine*. Belgrade: Official Gazette of RS.
20. Official Gazette of RS nos 55/05, 71/05 – Corrigendum, 101/07, 65/08, 16/11, 68/12 – 72/12. *Strategija razvoja i državne podrške industriji informacionih tehnologija (IT)*. Belgrade: Official Gazette of RS.

21. SEECEL. (2015). *Entrepreneurship education in the European Union: An overview of policies and practice. Results of thematic survey for the EU SME Envoys Network*. Zagreb: SEECEL.
22. SEVEN. (2015). *Politike i mere podrške za razvoj preduzetništva u Srbiji – neophodnost promena.* Belgrade: Serbian Venture Network.
23. USAID. (2012). *Finansiranje rasta malih i srednjih preduzeća – ključna pitanja i preporuke za Srbiju*. Belgrade: USAID.
24. Wennberg, K., & Elert, N. (2012). *The Effects of Education and Training in Entrepreneurship – A long-term study of Junior Achievement Sweden Alumni labour potential and business enterprise.* Stockholm: RATIO.
25. World Economic Forum. (2017). The Global Competitiveness Report 2016-2017. Geneva: WEF. Retrieved from http://www3.weforum.org/docs/gcr/2015-2016/Global_Competitiveness_Report_2015-2016.pdf.
26. World Economic Forum. (2016). The Global Competitiveness Report 2015-2016. Geneva: WEF. Retrieved from http://www3.weforum.org/docs/gcr/2015-2016/Global_Competitiveness_Report_2015-2016.pdf.
27. Godina preduzetništva (n.d.). Retrieved from http://godinapreduzetnistva.rs/Finansijskapodrska.aspx?id=9&idjezik=1.
28. Statistical Office of the Republic of Serbia (n.d.). Retrieved from http://webrzs.stat.gov.rs/WebSite/Public/PageView.aspx?pKey=163.

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Fondacija Saveza ekonomista Srbije za podršku studentima ekonomije

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Foundation of the Serbian Association of Economists for Supporting Students of Economics

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GAP ANALYSIS OF THE HEALTH SYSTEM IN SERBIA COMPARED TO THE DEVELOPED HEALTH SYSTEMS IN EUROPE*

Gep analiza zdravstvenog sistema Srbije u odnosu na razvijene zdravstvene sisteme Evrope

Abstract

Subjects of this analysis are the health system in Serbia and parameters of development of the health system in Serbia compared to the best practices in Europe. Special focus is placed on a gap analysis between the health system in Serbia and health systems in the Netherlands and Germany. This gap analysis shall be employed as the basis for defining a number of recommendations for improving the efficiency of public spending. The Netherlands, the first on the list with a total of 927 out of 1,000 points in the Euro Health Consumer Index, tops three subdisciplines, and really has no weak points. On the other hand, Germany holds the 7th place with 849 out of 1,000 points in the Euro Health Consumer Index. The aforementioned countries are prime examples for comparison, given that health systems in the Netherlands and Germany, as well as the health system in Serbia, apply the Bismarck model.

Keywords: *gap analysis, health system, best practice*

Sažetak

Predmet istraživanja je zdravstveni sistem Srbije i parametri razvoja zdravstvenog sistema Srbije u poređenju sa najboljom praksom Evrope. Poseban fokus je na gep analizi između zdravstvenog sistema Srbije i zdravstvenih sistema Holandije i Nemačke. Ova gep analiza predstavlja osnov definisanja preporuka za unapređenje efikasnosti trošenja budžetskih sredstava. Holandija, koja je prva na listi evropskog zdravstvenog indeksa sa ukupno 927 od 1.000 poena, prednjači u 3 pod-discipline i nema uočenih slabosti. Suprotno, Nemačka zauzima sedmu poziciju na listi sa 849 od 1.000 poena. Navedene zemlje predstavljaju veoma dobar primer za poređenje, naročito imajući u vidu da su zdravstveni sistemi u Holandiji i Nemačkoj istovetni zdravstvenom sistemu Srbije, i pripaduju grupi Bizmarkovog zdravstvenog modela.

Ključne reči: *gep analiza, zdravstveni sistem, najbolja praksa*

Introductory remarks

As mentioned in Serbia - Partnership Program Snapshot [15, pp. 8-9], recent trends in Serbia's health indicators suggest a continuous improvement. Health outcomes have improved significantly over the past decade, and Serbia now has an epidemiological pattern similar to the ones in most countries in Eastern Europe. Additionally, many indicators are equal to or better than those in the most recent EU Member States. Average life expectancy, for example, at 74.3 years is almost equal to averages in the new EU members. However, Serbia spends almost twice as much per capita than the comparable countries and has similar health outcomes, indicating that health sector efficiency is a concern.

Health financing reform and improving efficiency in health care delivery remain the main challenges in the sector. Despite many improvements over the recent years, the healthcare system still suffers from numerous inefficiencies and low productivity. The Ministry of Health and the National Health Insurance Fund initiated health financing reforms both at the primary and secondary level that will replace the input-based system of financing in the health sector. For primary care, the Government has opted for performance-based payment, a formula combining per capita payments, the number of services and preventive care services. Patients register and are treated by a doctor of their choosing as the primary point of contact, thus limiting the need for referrals. A portion of the salaries of primary healthcare providers is directly linked to the number of patients registered and the number of services

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provided. In the secondary, i.e. hospital level of care, the Ministry of Health and the National Health Insurance Fund are moving toward a Diagnosis-Related Group (DRG) system. The DRG is a hospital payment system of care in which hospitals are paid on a per case basis, calculated based on an average cost of treating a patient during an entire episode. The DRG system creates an incentive to increase the number of treated cases, while at the same time minimizing costs. International experience shows that implementation of such reforms might generate substantial savings and increase productivity. The Government of Serbia has secured significant savings by introducing centralized procurement for pharmaceuticals, medical devices and supplies.

This paper deals with the health system in Serbia, from the perspective of the health status of the Serbian population and from the perspective of the identified gaps concerning best practices in healthcare in Europe. The analysis starts with similar health models which apply the best practices – the Netherlands and Germany. The main goal of the gap analysis is not to criticize the decision-makers in the health system in Serbia, but to point out the negative gaps in relation to best practices in the Netherlands and Germany. The Netherlands, the first on the list, with a total of 927 out of 1,000 points, tops three subdisciplines, and really has no weak points. The Netherlands is the only country that has consistently been among the top three in the total ranking of any European Index which the Health Consumer Powerhouse (HCP) has published since 2005. On the other hand, Germany holds the 7th place, with 849 out of 1,000 points in the Euro Health Consumer Index. The aforementioned states are prime examples for comparison, given that health systems in the Netherlands and Germany, as well as the health system in Serbia, form a part of the group of systems with compulsory health care where the entire population in a state is covered with health insurance (the so-called Bismarck model). Bismarck healthcare models dominate the top of the EHCI ranking. Those systems are based on social insurance, where there is a multitude of insurance institutions which are independent of the healthcare providers in terms of organization.

The detailed gap analysis is divided in three parts. The first part analyzes specific indicators of population health and the development of the healthcare system in Serbia from the perspective of the Euro Health Consumer Index – EHCI produced by the Health Consumer Powerhouse. The second part scans the current gaps between the health system in Serbia and health systems in the Netherlands and Germany. The final, third part offers important conclusions of the analysis.

Specific indicators of population health and the development of the health system in Serbia according to the Euro Health Consumer Index – EHCI

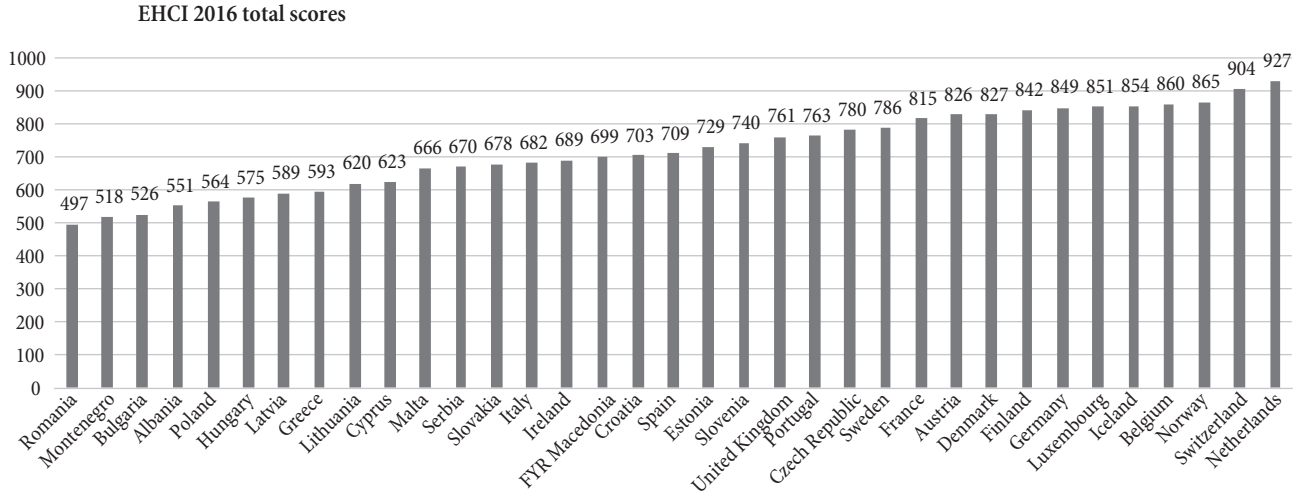
The EHCI, launched in 2005, is the leading comparison tool for assessing the performance of national healthcare systems in 35 countries. The EHCI analyzes national health care by using 48 indicators and looking into six areas: 1. Patient rights and information, 2. Accessibility (in terms of waiting times for treatment), 3. Outcomes, 4. Range and reach of services provided, 5. Prevention, and 6. Pharmaceuticals. The new 2016 Index ranks the countries on a scale from 0 to 1,000 points, with a minimum score being 497 points and the maximum score 927 points.

The aim of the analysis is not to provide a ranking of countries, but to identify gaps in the development of national health systems and to indicate possible ways of filling in the negative gaps. The report [4, p. 6] for 2016 points to several conclusions, according to the Health Consumer Powerhouse.

For the first time two countries – the Netherlands (927) and Switzerland (904) – break the 900-points barrier in the EHCI. This means that they are getting close to meeting all the criteria for good, consumer-friendly health care formulated by the Index in 2005. A notch behind are Norway (865), Belgium (860), Iceland (854), Luxembourg (851), Germany (849) and Finland (842).

Despite the general improvement in all national health systems, the gap remains observable between the top performers (Northwestern Europe plus Switzerland) and the least developed ones (former CEE and Southeastern Europe). The gap in the level of development of health

Figure 1: Euro Health Consumer Index ranking



Source: [4, p. 27].

systems in European countries is increasing, as evidenced by the chart below (Figure 1).

Among the winners in the six EHCI subdisciplines are the well-established national systems with good funding and health culture. Norway reaches a full score in the Patient rights and information subdiscipline. The same goes for Belgium, Macedonia and Switzerland in terms of Accessibility. Sweden and the Netherlands achieved a maximum score in Range and reach of services provided, as presented in the table below (Table 1).

The only exception in the abovementioned pattern is the FYR Macedonia. In 2014, the FYR Macedonia made the most remarkable advance in the EHCI scoring of any country in the history of the Index, advancing from the 27th to 16th place, more-or-less largely due to eliminating waiting lists by implementing their real-time and highly transparent application for online booking of medical appointments. It seems that this situation was sustainable also in 2016, with a small drop to the 20th place given that other countries improved, as well. This being possible in a not-too-wealthy country challenges many conventional attitudes in health care.

The EHCI ranking of cost-efficient health care shows the relation between the money spent on public health care and the performance of healthcare systems. Some countries provide very good health care compared to the costs. Since the EHCI was launched, Estonia and the Czech Republic have offered good value for money, and Finland and Portugal have recently joined this group. At the other end of the ranking scale are countries that pay far too much for health care, given the poor performance. Romania and Bulgaria have a tradition of long hospital stays which they cannot afford. Poland and Hungary try to deny the need for radical reforms in their health systems [4, p. 33].

In 2015, Serbia held the 30th place, with a total of 554 out of 1,000 points, which is a three-rank and 81-point leap compared to 2014. In 2015, Serbia overtook Albania,

Table 1: The winners in the six EHCI subdisciplines

Subdiscipline	Top country/countries	Score	Maximum score
1. Patient rights and information	Norway	125	125
2. Accessibility	Belgium, FYR Macedonia, Switzerland	225	225
3. Outcomes	Finland, Iceland, Germany, the Netherlands, Norway, Switzerland	288	300
4. Range and reach of services provided	The Netherlands, Sweden	125	125
5. Prevention	Norway	119	125
6. Pharmaceuticals	France, Germany, Ireland, the Netherlands, Switzerland	86	100

Source: [4, p. 31].

Poland, Romania and Bulgaria. In 2016, Serbia occupied the 24th place, with a total score of 670 out of 1,000 points. This time Serbia outranked Latvia, Cyprus, Malta, Greece, Hungary and Lithuania.

With 670 out of 1,000 points, i.e. an advancement of 116 points in ranking compared to 2015, Serbia became "the climber of the year". After Serbia's first inclusion in the EHCI in 2012 (finishing last), there were some very strong reactions from the Ministry of Health in Belgrade, claiming that the scores were unfair. Interestingly, there were also reactions from organizations of medical professionals in Serbia claiming that Serbian scores were inflated and that the EHCI did not take corruption in healthcare systems seriously enough. The only direct corruption-related indicator is Informal payments to doctors, where Serbia does score in the red. The major part of the impressive climb was due to the effects produced on the A&E waiting times indicator by licensing and implementing the Macedonian IZIS system for direct booking of specialist appointments, plus ePrescriptions [4, p. 16].

Significant improvements in ranking are mainly evident in the following subdisciplines: Patient rights and information, Accessibility, Prevention and Pharmaceuticals. Great progress is achieved in the ERP penetration, Patients' access to online booking of appointments, improving inadequate IT support (e.g. ePrescriptions), CT scan waiting time less than 7 days, HPV vaccination, decrease in traffic deaths, cutting time to subsidy in order to access new drugs and increasing the use of arthritis drugs.

The EHCI indicates several negative phenomena in the health system in Serbia. These are: poor access to the system of receiving treatment and long waiting times (especially poor results in Direct access to specialist, Major elective surgery less than 90 days and Cancer therapy less than 21 days indicators), adverse outcomes of treatment (infant deaths, cancer survival, stroke deaths, abortion rates), the overemphasis of hospital care (probably due to long waiting times by hospitalized patients for a check-up), poor prevention mechanisms (blood pressure, alcohol, physical activity), low range of services provided and pharmaceuticals (number of innovative drugs, e.g. novel cancer drugs deployment rate). A significant number of parameters in all subdiscipline categories are still in the red, with the exception of Patient rights and information and Accessibility which left the red zone in 2016. For example, Long-term care for elderly does not actually exist as a system. One part of the system is regulated through cash benefits, another through institutional social care and community-based social services, while one part is just being established under the healthcare system. The linkages among these segments are not strong and there is insufficient awareness of the need to regard different parts of the system as being interdependent and interconnected. According to different surveys, home care is needed for the daily functioning of more than 80,000 elderly people, especially for around 27,000 of those who are completely immobile. More than 300,000 elderly persons have reported that they are in need of some type of self-care support. Traditionally, elderly people in Serbia primarily rely on family support. Also, the cancer survival rate is less than 50%. More broadly, the results for treatment outcome are particularly concerning (Outcomes category).

In general, there is much room for improvement of the health system, as evidenced by the following illustration of the position of Serbia (Table 2).

As a separate exercise, the EHCI 2016 has added a value-for-money adjusted score: the Bang-For-the-Buck adjusted score or "the BFB Score". The performance of Serbia in 2016 shows that GDP per capita does not have to be a dominating factor [8].

Apart from the aforementioned Euro Health Consumer Index, there are several other indicators of development of health care in Serbia, such as the GCI and Bloomberg, IMS and Globocan report, and IPSOS report.

GCI and Bloomberg

The Global Competitiveness Index (GCI) measures the competitiveness of a national economy based on over 400 competitiveness factors which are included in the 12 pillars of competitiveness, which again comprises three sub-annexes which eventually provide a summary index value on a scale from 1 to 7 [17, pp. 20-21].

Based on the Global Competitiveness report for 2016-2017, according to the level of overall competitiveness Serbia holds the 90th place out of 138 countries in the sample, with

Table 2: The structure of the Euro Health Consumer Index (EHCI) of the Republic of Serbia for 2016

Subdiscipline	Indicator	Serbia
1.Patient rights and information	1.1. Healthcare law based on Patients' Rights	√
	1.2. Patient organizations involved in decision making	-
	1.3. No-fault malpractice insurance	-
	1.4. Right to second opinion	√
	1.5. Access to own medical record	√
	1.6. Registry of *bona fide* doctors	√
	1.7. Web or 24/7 telephone HC info with interactivity	√
	1.8. Cross-border care seeking financed from home	n/a
	1.9. Provider catalogue with quality ranking	-
	1.10. EPR penetration	√
	1.11. Patients' access to online booking of appointments?	√
	1.12. e-prescriptions	√
	Subdiscipline weighted score	111
2. Accessibility (waiting times for treatment)	2.1. Family doctor same day access	√
	2.2. Direct access to specialist	-
	2.3. Major elective surgery < 90 days	-
	2.4. Cancer therapy < 21 days	-
	2.5. CT scan < 7 days	√
	2.6. A&E waiting times	√
	Subdiscipline weighted score	188
3. Outcomes	3.1. Decrease of CVD deaths	x
	3.2 Decrease of stroke deaths	-
	3.3. Infant deaths	-
	3.4. Cancer survival	x
	3.5. Potential Years of Life Lost	-
	3.6. MRSA infections	x
	3.7. Abortion rates	-
	3.8. Depression	-
	3.x COPD mortality	x
	Subdiscipline weighted score	163
4.Range and reach of services provided	4.1. Equity of healthcare systems	x
	4.2. Cataract operations per 100,000 age 65+	x
	4.3. Kidney transplants per million pop.	x
	4.4. Is dental care included in the public healthcare offering?	-
	4.5. Informal payments to doctors	x
	4.6. Long-term care for the elderly	x
	4.7. % of dialysis done outside of clinic	-
	4.8. Caesarean sections	-
	Subdiscipline weighted score	57
5. Prevention	5.1. Infant 8-disease vaccination	-
	5.2. Blood pressure	x
	5.3. Smoking prevention	x
	5.4. Alcohol	-
	5.5. Physical activity	√
	5.6. HPV vaccination	√
	5.7. Traffic deaths	√
	Subdiscipline weighted score	89
6. Pharmaceuticals	6.1. Rx subsidy	x
	6.2. Layman-adapted pharmacopoeia?	√
	6.3. Novel cancer drugs deployment rate	x
	6.4. Access to new drugs (time to subsidy)	-
	6.5. Arthritis drugs	-
	6.6. Statin use	-
	6.7. Antibiotics/capita	-
	Subdiscipline weighted score	62
	Total score	670
	Ranking	24

Source: [4, p. 27]

a 3.97 score out of maximum 7. According to the pillars of health and primary education, Serbia occupies the 53rd place. In comparison to 2014, when Serbia was ranked as 68th, this suggests a major progress in this field. A more detailed description of the structure of competitiveness factors within the health and primary education pillar is presented in the following Table 3 [17, p. 5].

According to the Bloomberg survey [3, pp. 2-5], which is based on parameters similar to the ones employed by the World Economic Forum survey (the Global Competitiveness Index), Serbia is ranked as 74th out of 145 countries on the list of the healthiest countries in the world. To identify the healthiest countries in the world, Bloomberg Rankings created health scores and health-risk scores for countries with population of at least one million. The health scores are based on factors such as life expectancy at birth and infant mortality, causes of death, death rates by three age groups: under 14, 15-64 and 65+, and survival to 65 and life expectancy at 65, both gender-ratio weighted. The health-risk scores are based on factors such as percentage of population age 15+ that are smokers, total (reported and estimated) adult per capita consumption of alcohol and the percentage of population with elevated levels of total cholesterol.

The first place on the list of the healthiest countries is held by Singapore, followed by Italy, Australia, Switzerland and Japan. According to this ranking, Serbia takes place in the middle of the list. However, other countries from the region are better placed, so that Slovenia ranked as 25th, Bosnia and Herzegovina 34th, Croatia 36th and Macedonia 43rd.

IMS and Globocan report

The IMS report [5, p. 4] and WHO Globocan report [18] summarize the parameters of cancer incidence and cancer mortality for all the countries in the world. According to cancer incidence, Serbia is ranked 18th in Europe, with 270 incidences of cancer per 100,000 people. Even more alarming than this is cancer mortality, where Serbia is at the infamous second place in Europe, with 148 deaths per 100,000 people. Analysis of these two parameters leads to the conclusion that in the future we must devote much more attention to the treatment of cancer, given that the mortality rate is higher than 50%. This result is not only a consequence of an inadequate system of treating cancer, but also of the lack of health culture of the population of Serbia and irregular health scanning, as well as of poor primary care.

IPSOS report

The research was conducted with the main objective to obtain – by means of a survey of the population in Serbia, i.e. through self-assessment – detailed information on the health status of the population, both at the national level and at the level of four main statistical regions (Vojvodina, Belgrade, Šumadija and Western Serbia, Southern and Eastern Serbia) [17]. The basis of the research is the need to show how people perceive their health, the extent to which they use health care and how they take care of their health by adopting different lifestyles or relying on preventive and other health services. To successfully complete the research, the following objectives were

Table 3: The structure of the fourth pillar of the GCI index in Serbia 2016

4th pillar: Health and primary education	Value	Ranking/138
4.01 Malaria incidence cases/100,000 pop.	Malaria Free	n/a
4.02 Business impact of malaria	N/Appl.	n/a
4.03. Tuberculosis incidence cases/100,000 pop.	24.0	53
4.04. Business impact of tuberculosis	6.4	31
4.05 HIV prevalence, % adult pop.	<0.1	1
4.06 Business impact of HIV/AIDS	6.5	15
4.07 Infant mortality, deaths/1,000 live births	5.9	43
4.08 Life expectancy, years	75.5	57
4.09 Quality of primary education	3.9	77
4.10 Primary education enrollment rate, net %	96.2	55

Source: [17, p. 15].

identified: identification of major health problems, the description of the health status and health needs of the population, estimate of the prevalence and distribution of health data, analysis of social inequalities in health and access to health services, study of the degree of utilization of health care and its determinants, as well as a forecast of possible trends in the health status of the population.

A large proportion of the Serbian population (57.8%) perceives their overall health as very good and good. 26.6% of the population would describe their health as average, while 15.6% stated that their health is poor or very poor. The highest positive health-level estimate comes from the residents of Belgrade (61.7%), while the lowest level is recorded among the residents of Southern and Eastern Serbia (52.5%). From the gender point of view, 64.5% of men rated their state of health as good or very good, while no more than 51.5% of women did the same. Not surprisingly, people's reported health status is highly associated with age: older people assessed their health as much worse than young people.

Two fifths of Serbian citizens reported a long-term illness or health problems. Among the citizens of the poorest categories, incidence of long-term diseases and health problems is greatest. Around half of the poorest citizens report the existence of the abovementioned symptoms, while people who live in more favorable financial circumstances experienced lower frequency of symptoms. From the geographical point of view, long-term health problems are more common among residents of Southern and Eastern Serbia (43.6%) and Vojvodina (40.8%), and less frequent among residents of Belgrade (36.9%). With respect to gender, women had higher incidence of long-term illnesses or health problems (45.1%) than men (34.6%).

In the domain of mental health of the people in Serbia, results show that somewhat more than one half of the adult population in Serbia was confronted with tension or stress in the period of four weeks before the survey. Pressure and stress on a daily basis were most often reported by people from 45 to 54 years of age (66.6%), females (61.5%), as well as residents of Southern and Eastern Serbia (62.9%). The majority of the Serbian population does not suffer from depression (95.9%), while symptoms of depression are associated with the age of the citizens, with older people experiencing a higher number of symptoms [2].

The health culture of the population may be measured by the rate of preventive examinations. Only 3% of population was vaccinated against the flu. In the group of 65+ citizens, vaccination against the flu covered 8.7% of the population, with the highest frequency recorded in the subgroups of highly educated persons (16.3%) and citizens belonging to the wealthiest group (13%). In terms of blood pressure control, 12.7% of the population has not been to a medical check-up within the last five years, while some never had it checked by a doctor. Similar answers for cholesterol measurement were provided by 17.6% of the people, while 17.3% fell into the same category when it comes to measuring the level of blood glucose. Most of the men reported that they had never had their blood sugar level measured by a healthcare worker, or not in the last five years [1].

Availability of preventive health care to certain categories of the population became significantly limited due to the changes to the "Regulations on the content and scope of the right to health care" [12] adopted in December 2012. According to the Ordinance, people aged between 23 and 35 qualify for a routine physical examination at the expense of the National Health Insurance Fund only once in five years. In the 35+ category, which is considered to be a riskier one, citizens may request routine examinations every two years. Therefore, it is fairly easy to get the impression that only the sick and the risky groups can make full use of the system of (preventive) health care. Refusal to provide preventive examinations to the healthiest part of the population is a paradox of a kind, given that preventive treatment and regular check-ups are primarily meant for them and should be used in order to timely detect symptoms of diseases so that treatment would be as fast, efficient and as cheap as possible [10].

Health culture can also be measured by the amount in which citizens are (not) mindful of health risks. Among adults who are aware of their lack of exercise, lack of fruit and vegetables in their diet and of smoking being the cause of risk of getting heart and blood vessels illnesses, 91% practice undesirable behavior. In a population that is aware of the risk of developing lung diseases, most (71.4%)

are smokers and persons with expressed risk factors for developing lung diseases [10].

Best practices in Europe

The Netherlands

According to the Euro Health Consumer Index Report [4, p. 8] (available from 2006 onwards), the HCP has produced not only the generalist Index EHCI, but also specialist Indexes on Diabetes, Cardiac Care, HIV, Headache and Hepatitis. The Netherlands is unique as the only country consistently appearing among the top 3-4, regardless of the aspect of healthcare which is studied. This makes it very tempting to actually claim that the landslide winner of the EHCI 2016 could indeed be said to have "the best healthcare system in Europe".

In 2012, the Netherlands' score of 872 points was by far the highest ever seen in the HCP Index. The score of 927 points in 2016 was even more impressive and underlines that the EHCI 2017 will have to be more challenging in order to register differences. The Netherlands also scored 922 points in the Euro Diabetes Index 2014.

The Netherlands wins in three of the six subdisciplines of the Index (Outcomes, Range and reach of services provided and Pharmaceuticals), and the large victory margin seems to be essentially due to the fact that the Dutch healthcare system does not apparently have any actual weak spots, save for possibly some room for improvement regarding the waiting times indicators, where some other Central European countries excel.

So, what is it that the Dutch are doing right? It must be emphasized that the following discussion does contain a substantial amount of speculation outside of what can actually be derived from the EHCI scores: the Netherlands is characterized by a multitude of health insurance providers acting in competition, and being separate from healthcare providers/hospitals. In addition to this, the Netherlands probably has the best and most structured arrangement for patient organization involvement in healthcare decision-making and policymaking in Europe. Also, the Dutch healthcare system has addressed one of its few traditional weak spots, Accessibility, by setting up 160 primary care centers which offer walk-in clinics 24 hours a day, 7 days a week. Given the small size of the country, this should put an walk-inclinic within easy reach for anybody. Here comes the speculation: one important net effect of the Dutch healthcare system structure would be that healthcare operative decisions are made, to an unusually high degree, by medical professionals, accompanied by patient involvement. Financing agencies and healthcare amateurs such as politicians and bureaucrats seem farther removed from operative healthcare decisions in the Netherlands than in almost any other European country. This in itself might be a major reason behind the Dutch victory in the EHCI 2008-2016.

So, what, if anything, are the Dutch doing wrong? The Netherlands scores well or very well in all subdisciplines, except possibly in Accessibility and Prevention, where the score is more mediocre. The "traditional" Dutch problem of mediocre scores for waiting times was to a great extent rectified in 2016. As observed by Siciliani&Hurst of the OECD in 2003/2004, and in the EHCI 2005-2016, waiting lists for specialist treatments, paradoxically, exist mainly in countries that apply "GP gatekeeping" (the requirement of a referral from a primary care physician to see a specialist). GP gatekeeping, "the cornerstone of the Dutch healthcare system" (said to the HCP by a former Dutch Minister of Health and repeated in the Dutch Parliament in November 2014) is widely believed to save costs, as well as to provide a continuum of care, which is certainly beneficial to the patient.

Germany

Germany holds the 7th place according to the EHCI 2016, with 849 out of 1,000 points. It has traditionally had what could be described as the most restriction-free and consumer-oriented healthcare system in Europe, with patients allowed to seek almost any type of care they wish whenever they want it ("stronger on quantity than on quality").

Germany did join the limited ranks of countries (today seven) scoring in the green, according to Federal Office of Quality Assurance (BQS) [4, p. 11], which also provides information on the quality of the results of a

great number of German hospitals. This could possibly be a small part of the reason why German healthcare quality in 2016 is safely "in the green territory" (see above).

The traditional weakness of the German healthcare system: a large number of rather small general hospitals, insufficiently specialized, resulting in mediocre scores in quality of treatment, seems to be improving – a tendency which was even more prominent in 2016, when Germany was one of the six countries sharing the highest score in Outcomes. In a round of collecting feedback from national healthcare authorities, the response from the German Federal Ministry of Health (*Bundesministerium für Gesundheit* – BMG) offered an interesting reference to a study of waiting times in German primary care. The actual numbers in the respective study are irrelevant; the unit of time used to measure and analyze primary care accessibility was not months, weeks or days, but minutes.

An important finding of this gap analysis is that in EHCI categories where Serbia scores poor results and is in the red zone, the Netherlands and Germany record the best results of all 35 countries. As mentioned above, the Netherlands achieved the best result in the following subdisciplines: Outcomes, Range and reach of services provided and Pharmaceuticals. As for Germany, it scored the best results of all the countries in Outcomes and Pharmaceuticals. There are four out of six subdisciplines where Serbia is in the red score zone of the EHCI 2016: Outcomes, Range and reach of services provided, Prevention and Pharmaceuticals. As for Prevention, Norway boasts the best score in the said subdiscipline.

Conclusion

To summarize, with 670 out of 1,000, which is a 116-point leap in ranking compared to 2015, Serbia became "the climber of the year" according to the EHCI 2016.

Significant improvements in ranking are evident mainly in the following subdisciplines: Patient rights and information, Accessibility, Prevention and Pharmaceuticals. Great progress is achieved in terms of ERP penetration, Patients' access to online booking of appointments, improving inadequate IT support (e.g. ePrescriptions), CT scan waiting time less than 7 days, HPV vaccination, decrease in traffic deaths, cutting time to subsidy in order to access new drugs and increasing the use of arthritis drugs. A major part of the impressive results was achieved due to the effects produced on A&E waiting times indicator by licensing and implementing the Macedonian IZIS system for direct booking of specialist appointments, plus ePrescriptions.

The EHCI indicates several negative phenomena in the health system in Serbia. These are: poor access to the system of receiving treatment and long waiting times (especially poor results in Direct access to specialist, Major elective surgery less than 90 days and Cancer therapy less than 21 days indicators), adverse outcomes of treatment (infant deaths, cancer survival, stroke deaths, abortion rates), the overemphasis of hospital care (probably due to long waiting times by hospitalized patients for a check-up), poor prevention mechanisms (blood pressure, alcohol, physical activity), low range of services provided and Pharmaceuticals (number of innovative drugs, e.g. novel cancer drugs deployment rate).

A significant number of parameters in all subdiscipline categories are still in the red, with the exception of Patient rights and information and Accessibility which left the red zone in 2016. Essentially, the EHCI and other relevant sources indicate specific areas for necessary improvements of the healthcare system, and unfortunately, there are many such areas.

The research team of the Euro Health Consumer Index 2016 collected data on 48 healthcare performance indicators, structured within the framework of six subdisciplines. There are four out of six subdisciplines where Serbia is in the red score zone of the EHCI 2016: Outcomes, Range and reach of services provided, Prevention and Pharmaceuticals. It is important to follow the lead of countries that have proven to be the best in the abovementioned categories, the Netherlands and Germany. The Netherlands is characterized by a multitude of health insurance providers acting in competition, and being separate from hospitals. In addition, the Netherlands probably has the best and most structured arrangement for patient organization involvement in healthcare decision-making and policymaking in Europe. In addition, the Dutch healthcare system addressed one of its few traditional weak spots, Accessibility, by setting

up 160 primary care centers that operate walk-in clinics 24 hours a day, 7 days a week. Given the small size of the country, this should put an walk-in clinic within easy reach for anybody. The traditional weakness of the German healthcare system: a large number of rather small general hospitals, insufficient specialization, resulting in mediocre scores in the quality of treatment, seems to be improving – a tendency which is even more prominent in 2016, when Germany was one of the six countries sharing the highest score in Outcomes. In a study of waiting times in German primary care conducted by national healthcare authorities in Germany, the unit of time used to measure and analyze primary care accessibility was not months, weeks or days, but minutes. The main conclusion is that the countries with the best healthcare systems in Europe are working hard on spotting their weaknesses and overcoming them. Serbia should look up to this pattern of behavior.

Content of the indicators in the Outcomes category that are in the red zone for Serbia are discussed in more detail in the following sentences. Before the turn of the millennium, it was more or less regarded as axiomatic that cardiovascular diseases were the main cause of death in Europe. Unfortunately, Serbia did not make any improvement in terms of mortality from cardiovascular diseases and is still holding an alarming position in the red zone. As for the parameters of population health, the indicators are even more devastating. The IMS report and Globocan report summarize the parameters of cancer incidence and cancer mortality for all of the countries in the world. According to cancer incidence, Serbia is ranked 18th in Europe, with 270 incidences of cancer per 100,000 people. Even more alarming than this is cancer mortality indicator, in which Serbia is at the infamous second place in Europe. This disappointing result is not only an outcome of inadequate treatment system, but also of the absence of health culture among the Serbian population and of poor preventive care.

Concerning the content of the indicators in the Range and reach of services provided, Serbia is in the red score zone for almost every indicator in this subdiscipline. The simple indicator called "Public share of total health care cost" was introduced as a measure on Equity of healthcare systems. The total share of health care costs in Serbia's GDP is 10.6% and Serbia excels in this indicator, compared with the global average, as well as in comparison with the neighboring countries. Only 60% of total healthcare costs are related to public sources, while 40% of the cost of treatment and medicines are covered by private sources of money, which is significantly more than in any neighboring country. A vast majority of the population in Serbia has a public health insurance funded from compulsory health insurance. Another alarming Serbian red zone indicator is Cataract operations per 100,000 total population as a proxy of the generosity of the healthcare systems to provide non-lifesaving care aimed at improving the quality of life of the patients. Cataracts have been selected because they are relatively inexpensive and provide a significant improvement in the quality of life of the patient, thus being fairly independent on GDP per capita of a country. Kidney transplantations indicator that measures procedures per million population is also in the red zone. Furthermore, there were reactions from organizations of medical professionals in Serbia, claiming that the Serbian scores were inflated, and that the EHCI did not take corruption in healthcare systems seriously enough. The only direct corruption-related indicator is Informal payments to doctors, where Serbia does score in the red. The last indicator in this category which is in the EHCI red zone, is Long-term care for elderly people. According to different surveys, home care is needed for the daily functioning of more than 80,000 elderly people, especially for around 27,000 of those who are completely immobile. More than 300,000 elderly persons have reported that they are in need of some type of self-care support. Traditionally, elderly people in Serbia primarily rely on family support.

As for the content of indicators in the Prevention category that are in the red score zone for Serbia: Tobacco Control Scale (TCS) has been used as a measure of countries' efforts on smoking prevention. Serbia is among the countries with the highest cigarette sales per capita. The concerning fact is that there is no ban for smoking in public places.

Some of the substantiated recommendations would be to make the collection of health insurance contributions more important, to invest more in innovative than in

generic medicines, to improve the list of services in the basic package of health insurance offered by the NHIF, to change the management model of the healthcare institutions, and to conduct a rationalization of non-medical staff. Other recommendations include improving the transparency of public procurement, introduction of an integrated IT system, larger investment in prevention and primary care, more active use of special contracts which would enable the NHIF to control spending of money for drugs in a simpler manner, restructuring of Galenika through high-quality strategic partnerships and the integration of private and public health systems.

The main problem is not that health spending is low. A far greater problem is that it is not optimized and that it is inadequate. For example, it is recommended that savings on generics spill over into the introduction of more new and innovative drugs, or to correct the Bismarck model of health insurance. An effective way to improve management of public funds in health care requires changing the model of managing healthcare institutions for the purpose of better control of public spending on health, and implementation of public procurement and rationalization of non-medical staff.

References

1. Adshead, F., Thorpe, A., & Rutter, J. (2006). Sustainable development and public health: A national perspective. *Public health*, *120*(12), 1102-1105.
2. Arsenijević, J., Pavlova, M., & Groot, W. (2013). Measuring the catastrophic and impoverishing effect of household health care spending in Serbia. *Social Science & Medicine*, *78*, 17-25.
3. Bloomberg rankings. *The world's healthiest countries.* Retrieved from http://urpsmla.org/IMG/pdf_WORLDS_HEALTHIEST_COUNTRIES_V2.pdf.
4. Health Consumer Powerhouse. (2016). *Euro Health Consumer Index Report*. Taby, Sweden: Health Consumer Powerhouse Ltd.
5. IMS Health. (2014). *International comparison of Serbian market*. Retrieved from http://www.imshealth.com/sr_RS.
6. IMS Institute. (2015). *Developments in cancer treatments, market dynamics, patient access and value: Global oncology trend report 2015*. Retrieved from http://www.imshealth.com/en/thought-leadership/ims-institute/reports/global-oncology-trend-2015.
7. IPSOS Strategic Marketing. (2013). *Health survey of the Republic of Serbia (reports).* Belgrade: IPSOS.
8. Jakovljević, M. M. (2014). Health expenditure dynamics in Serbia 1995-2012. *Hospital Pharmacology*, *1*(3), 180-183.
9. Jeremić, V., Bulajić, M., Martić, M., Marković, A., Savić, G., Jeremić, D., & Radojičić, Z. (2012). An evaluation of European countries' health systems through distance based analysis. *Hippokratia*, *16*(2), 170-174.
10. Lichtenberg, F. R. (2014). Pharmaceutical innovation and longevity growth in 30 developing and high-income countries, 2000–2009. *Health Policy and Technology*, *3*(1), 36-58.
11. Lončar D. (2016). Indicators of development of the health system of Serbia and the effectiveness of the current economic model in health care. *Ekonomika preduzeća*, *65*(1-2), 157-175.
12. Official Gazette of the RS. (2015). *Ordinance on the content and scope of the right to health care from the compulsory health insurance and on the participation 2015*. 1/2015. Belgrade: Official Gazette.
13. SORS. (2015). *Statistical yearbook of the Republic of Serbia*. Belgrade: SORS.
14. The Ministry of Finance of the Republic of Serbia. (2016). *Current macroeconomic developments*. Retrieved from http://www.mfin.gov.rs/UserFiles/File/tabele/2017%20januar/Current%20Macroeconomic%20Developments.pdf.
15. World Bank Group. (2016). *Serbia partnership program snapshot*. Retrieved from http://pubdocs.worldbank.org/en/156471437602317252/SERBIA-snapshot-UPP.pdf.
16. World Bank Data. *Health indicators*. Retrieved from http://data.worldbank.org/indicator.
17. World Economic Forum. (2017). *The Global Competitiveness Report 2016-2017*. Geneva: WEF.
18. World Health Organization. (2012). *GLOBOCAN report*: *Estimated cancer incidence, mortality and prevalence worldwide in 2012*. Lyon: WHO.

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SOCIAL INITIATIVES IN TRADE AND TOURISM: THE CASES OF SERBIA AND CROATIA

Socijalno usmerene inicijative u trgovini i turizmu – primeri Srbije i Hrvatske

Abstract

The aim of this paper is to show how entrepreneurs act in a socially responsible manner in the fields of distributive trade and tourism. Social dimension is nowadays considered to be one of the three main pillars of sustainable development, together with economic and environmental dimensions. There are strong appeals from authors like Kuhlman and Farrington to return to the original meaning of sustainability, given in the Brundtland Report in 1987, where these dimensions were not separated and the limits posed by nature were in focus, so that the future environment devastation cannot be balanced with the current well-being. However, the common approach of all three pillars is widely accepted. This paper focuses on the social dimension, particularly in retail trade and tourism. Specific cases in Serbia and Croatia were analyzed.

Keywords: *social responsibility, retail, food, tourism, vouchers*

Sažetak

Ovo poglavlje ima za cilj da pokaže kako preduzetnici deluju društveno odgovorno u oblasti trgovine i turizma. Socijalna dimenzija se danas smatra jednim od tri glavna stuba održivog razvoja, zajedno sa ekonomskom i ekološkom dimenzijom. Jaka su nastojanja autora kao što su Kulman i Farington da se povrati originalno značenje održivosti, iz Bruntland izveštaja gde ove dimenzije nisu odvojene i gde su granice koje postavlja priroda bile u fokusu, tako da buduće narušavanje prirode ne može biti balansirano trenutnim blagostanjem. Međutim, zajednički pristup sva tri stuba je široko prihvaćen. Socijalna dimenzija je, naročito u trgovini na malo i turizmu, u fokusu ovog rada. Analizirani su specifični slučajevi u Srbiji i Hrvatskoj.

Ključne reči: *društvena odgovornost, maloprodaja, hrana, turizam, vaučeri*

Introduction: Social side of retailing and tourism

Serbian trade and tourism sectors entered the new strategic cycle of development with the documents containing basic market orientation with a strong social dimension [41]. Discussion of socially sustainable trade and tourism requires terminological clarification. The term "social commerce", in Croatian or in Serbian ("socijalna trgovina"), is used to describe commercial activities and forms of trade that serve the common good by fulfilling the needs of socially disadvantaged groups. However, in the contemporary English language, in scientific literature on marketing and management, the term "social commerce" or s-commerce is used for all sorts of activities that are based on the usage of social networks and social media for the promotion and sales of goods and services (for instance, see: [49, p. 19], [3, p. 22], [21], [54]).

Therefore, the term "social supermarkets" (abbreviated SSM) is used in this paper instead of the term "social commerce". The term "social supermarket" is used to define a retail format whose main purpose is to serve those groups of customers who have a low income or who are unemployed, giving them food and other necessities for free or selling them at extremely discounted prices, because they are, by definition, non-profit organizations which base their activity on volunteerism and charity and, if they generate any profit, they use it for charitable

activities, according to Marić and Knežević [34]. Some authors, such as Holweg, Lienbacher and Zinn [22], give an even narrower definition of social supermarkets, calling them food-oriented retailers who sell food (but do not give food for free) to a restricted group of people living in or at risk of poverty.

Social tourism allows access to holiday and tourism facilities to those who would not be able to enjoy them without assistance. It has a long history and a significant role in many parts of the world, including most European nations. The European Commission (EC) has placed the focus on social tourism issues within Europe and has, for that purpose, developed the Calypso program [8, p. 17], which aimed at helping disadvantaged people or vulnerable groups to go on holiday while supporting the tourism industry by increasing the level of tourism, especially in the low season.

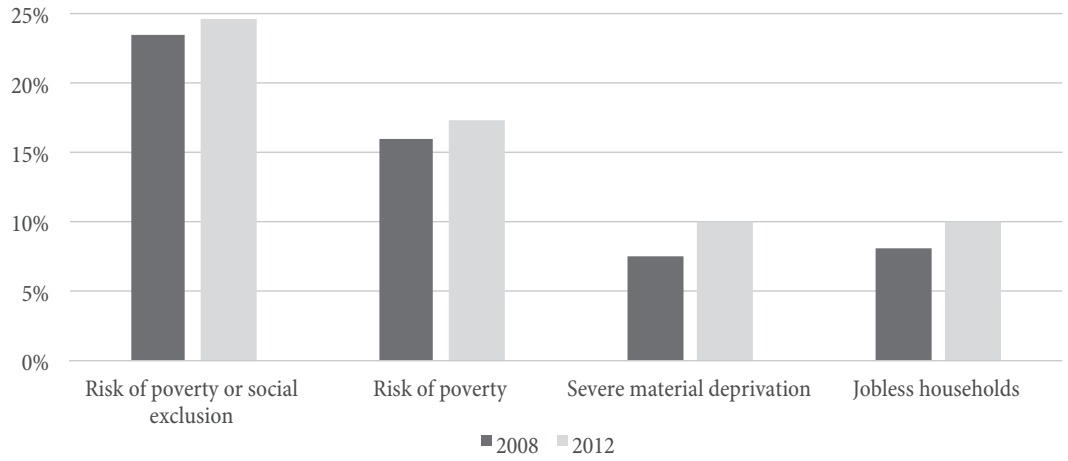
The social aspects of retail distributive trade and tourism will be discussed using desk research methodology. The literature overview delineates concepts and manifestations to be explored. Next, the research of secondary data, combined with interviews and site visits, was conducted. The research shows that the main driving institutions in the two industries are different, as well as the manifestation of their actions. Besides the general overview, selected case studies from Serbia and Croatia are discussed.

Sources of need for entrepreneurial action in the form of social supermarkets

Entrepreneurs recognized the necessity to take action and to start social supermarkets phenomenon across Europe for two basic reasons. The first one is the rising number of citizens at risk from poverty, and the second are surpluses which are produced and distributed in traditional supply chains. In EU, there is almost one quarter of citizens who live at risk of poverty or social exclusion (i.e. 120 million EU citizens) [11]. Moreover, one tenth of all EU citizens experience severe material deprivation and cannot afford some basic household facilities, such as telephone, washing machine, heating, etc. More than a tenth of EU population is officially registered as unemployed, i.e. around 26 million EU citizens, out of which 19 million in euro area [9]. All poverty indicators for EU-27 Member States showed that the social situation worsened during the economic crisis (see Figure 1).

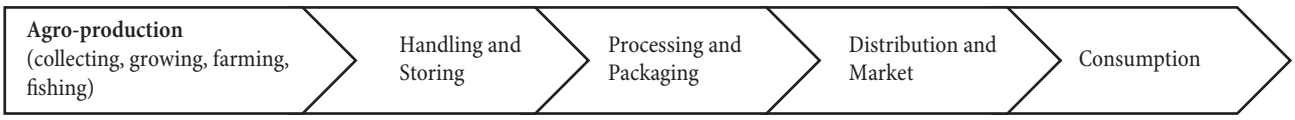
The second reason is that traditional food supply chains face the production and distribution of food surpluses and increasing proportion of food waste. Traditional food

Figure 1: Indicators of the social situation in EU (% of EU-27 population)



Source: Adapted from [12].

Figure 2: Basic processes in food supply chain



Source: Adapted from (2011) [32, p. 5].

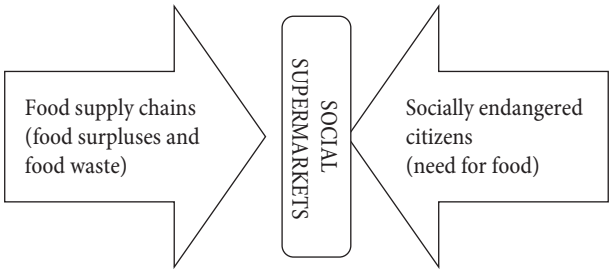
supply chain can be observed as a sequence of processes taking place from agro-production to food retailing and consumption (see Figure 2).

Food loss and food waste can occur at any stage of the food supply chain. According to Lipinski et al. [31, p. 4], food loss occurs in the stages of production, storage, processing and physical distribution as an unintended consequence of business processes or technical limitations in storage, transport infrastructure, packaging or marketing activities. Food waste usually occurs in retail or at the stage of consumption (at the point of final consumer), and it is the result of negligence or a conscious decision to throw food away. In the report by FAO from 2011 [19], it is estimated that annual food waste amounts to approximately 1.3 billion tons. North America and Oceania, where almost an entire daily meal for one person is thrown away per capita (1,520 kcal per capita per day), are the leaders in thrown kilocalories per capita on a daily basis. In Europe, this value is almost half of a daily meal (743 kcal per capita per day). According to the WRAP report from 2007 [52], the value of wasted food in the UK on an annual basis is between £250 and £400 per household. And, according to the same source [53], food waste savings recorded in the 2007-2011 period can be attributed mainly to the food prices inflation (not to a planned activity). In Italy, this value is estimated at 452 EUR per household per year [42]. The social consequences of food waste are reflected in the uneven distribution of food between the rich and the poor within a certain country. Many studies confirm that households with higher income throw more food than households with lower income [30], [40].

In order to solve the two abovementioned problems, social entrepreneurs have found space to launch social initiatives to balance them. Social supermarket is one type of such social initiatives. So, the very aim of social supermarkets is to get donations of surpluses from traditional food supply chains and to distribute them to socially endangered people. Social supermarkets act as a linkage within reverse logistic systems trying to reduce food waste and to redistribute food surpluses existing in traditional food supply chains [22].

Entrepreneurial action in this field can be taken in two ways: (1) starting from traditional retailers or other

Figure 3: The position of social supermarkets



Source: Authors' work.

members of the food supply chains who are interested in decreasing the surpluses and food loss and waste, but, (2) much more often, the action starts and it is driven by social entrepreneurs whose main goal is the improvement of the social situation in some geographic area (like: quarter, city, county, country or region). Social supermarkets are a social innovation which comprises social responsibility of allied individuals with the aim of showing social solidarity with socially vulnerable persons or families, by the collection and distribution of goods that are collected from individual donors, large retail chains and/or other companies [33].

Social supermarkets as a new retail format

Contemporary authors in the field of retail management and marketing, such as Maadan [32, pp. 54-55] or Zentes [55, p. 30] differentiate between several retail formats according to the following key characteristics or core attributes: (1) nature of merchandize; (2) size of the store; (3) number of stock keeping units (SKUs); (4) width and depth of merchandize; (5) type of location; (6) level of prices and/or pricing policy; (7) atmosphere and level of service; (8) promotion. On the basis of operating social supermarkets in Austria and the United Kingdom, Marić and Knežević [35] argue that there are some similarities between Conventional Stores and Conventional Supermarkets, but also that there are some distinctive characteristics of social supermarkets, explained in comparison to other retail formats:

- social supermarkets are similar in size to conventional supermarkets or convenience stores (i.e. usually their size is less than 1,000 m2) and they serve a local community in a narrow geographic area;

- food is the key part of merchandize, similarly to conventional supermarkets and convenient stores, but the assortment is narrow and shallow and it depends heavily on collected donations within a certain period;
- interior organization and store design resemble hard discounters to a large degree and service is usually provided by volunteers, without formal education in the field of commercial activities;
- promotional activities directed toward users (customers) are not organized as commercial marketing campaigns as in other retail formats. As social supermarkets are often used by people included in various welfare programs, the main communication with users is done via welfare centers, various citizens associations and religious organizations actively involved in the communication both with donors and users of social supermarkets.

In the first stage of development, social supermarkets are organized to distribute goods for free. In the second stage, there are more developed forms of social supermarkets (such as those within the SOMA initiative in Austria) which are organized to sell goods at extremely discounted prices (usually more than 50% in comparison to conventional retail formats). Therefore, in the latter case, the pricing policy is comparable to that of hard discounters, because certain analogy to the policy of EDLP – Everyday Low Price – can be drawn. In addition, in developed societies, some social supermarkets are used as places for fostering employment of people who are outside the labor market for a long period, giving them an opportunity to gain valuable work experience for their future employment. This is not the case with the conventional retailers.

Examples of social supermarkets in Croatia

Since 2009, the number of social supermarket has been increasing year after year. Until today, more than 15 social supermarkets have been established in various cities in Croatia. All social supermarkets are established, primarily, to serve people in need and to reduce poverty in a certain geographic area, with the secondary aim to reduce food waste occurring in food supply chains. However, in some developed countries, such as Austria and France, the situation is reversed. According to their primary goal, social supermarkets in Croatia distribute food free of charge to a restricted number of users, according to the lists created on the basis of the amount determined by the financial situation and the number of family members in users' households. Therefore, the social supermarkets in Croatia are in the first development stage described in literature. In the text that follows, a few examples of successful social supermarkets will be described, found after conducting desk research of activities available on various websites, portals, in newspapers and magazines, but also after conducting interviews in the field with founders and leaders of social supermarkets in Croatia in 2015 and 2016.

Social supermarket Osijek is founded and led by a civil association called "River of Love" ("Udruga: Rijeka ljubavi" in Croatian). There are more than 15 permanent volunteers engaged in its operation. It serves more than 4,000 users (i.e. approximately 1,000 households). There are clear and transparent requirements which citizens have to fulfill in order to enter the restricted list of users and the delivered data on the financial condition are compared with the data obtained from the City Government of Osijek. The social supermarket and office space of the Association are open every working day from 8:00 to 16:00. In the assortment, there is predominantly foodstuff (around 80%); followed by toiletries (up to 20%). As regards clothes and furniture, the social supermarket acts only as an information intermediary, because there is a scarcity of warehousing space. The operating space was donated by the City Government. On a monthly basis, each household has an opportunity to collect packages of 14 products, called the "package of life". The donations comprise 80% of individual donations in things and money, 10% of donations from companies and 10% of donations from schools and universities. The for-profit organizations important for the operation of this social supermarket are the following: DM, Müller, Dukat, and local companies and craftsmen with their occasional donations. The social supermarket Osijek is active in project activities, which is why it is partially financed by the European Structural Funds and Croatian Ministry of Demographics, Family, Youth and

Social Policy. In addition, this social supermarket has an active promotion policy through various communication channels. Its website (http://www.rijekaljubavi.hr/) and Facebook profile are very active, it prints leaflets and posters as supporting materials for fundraising activities. It has a good and well-established cooperation with local TV stations, radio stations and newspapers.

Similar operation was revealed in the social supermarket Vinkovci. This social supermarket is led by the Association "The Young Against Hunger" ("Udruga Mladi protiv gladi" in Croatian) under the slogan: "Poverty is not a choice, solidarity is!" It is quite smaller than the social supermarket Osijek. It has 900 registered individual users (i.e. 290 households). There are a few permanent volunteers engaged in its operation, but around 25 volunteers are engaged on an occasional basis. The structure of assortment is similar to that of Osijek. The majority of donors are individual businessmen from Vinkovci and there is no established contractual cooperation with enterprises as donors. However, local stores Billa and Kaufland usually give donations to this social supermarket on periodical basis and support fundraising activities by offering space for volunteer's stand within their stores, when necessary. In comparison to Osijek social supermarket, there is a more open system of food distribution and users can come periodically and collect the desired food from shelves, there is no limit per end user, but they appeal to users' ethics and understanding of others. The social supermarket is open to users every Friday from 16:00 to 19:00. Important impact on this social supermarket has FRAMA (the youth organization connected with the Franciscan order of the Catholic Church) which initiated the social supermarket in Vinkovci. The support from the local government has not been established yet, nor has the writing of project proposals for obtaining funds been part of the activities in this social supermarket. Social supermarket Vinkovci has its own Facebook profile (https://www.facebook.com/mladi.protiv.gladi.vk/), which is not as active as other social supermarkets described in this part of the paper.

Social supermarket in Vukovar is another example. It is run by the humanitarian association "Rainbow" ("Humanitarna udruga Duga" in Croatian). It has fixed working hours which are shorter than in Osijek; it is open on working days from 8:00 till 13:00. It serves 1,500 persons (617 households) and has 10 volunteers permanently involved in its activities. The space for its operation was donated by an individual (a private house). As in Osijek, more than 80% of products in its assortment is food, up to 20% are toiletries, while for other products (such as clothes and furniture), it acts only as an information intermediary. There is also a restricted and controlled list of users. Users come periodically and collect food from shelves, but the quantity per end user is limited (i.e. there is a foodstuff quota per month per capita). However, there is a possibility of delivery of products to disabled persons (done by volunteers or other end users) which is not the case in Osijek and Vinkovci. Similarly to Osijek, in Vukovar majority of donors are also individuals, but there is a growing list of companies that donate products on periodical basis (Kaufland, Konzum, DM and ZP Trade). Besides providing occasional donations, Dukat is a contractual donor. This social supermarket cooperates intensively with television and radio stations and newspapers and has a vivid website (http://duga-vukovar.hr/). Its Facebook profile is extremely active (https://www.facebook.com/Humanitarna.udruga.Duga.Vukovar/?fref=ts). This social supermarket also cooperates with local religious institutions (especially through fundraising activities during the holidays). What distinguishes them from other social supermarkets in Croatia is the Creative and Educational Club in which people in need can engage in arts and crafts activities. In that way, poor people build up knowledge and reestablish their self-esteem through the contribution to social need by producing paintings, sculptures, leaflets, etc., which are then sold in special events and art auctions in order to finance other activities in the social supermarket. The social supermarket Vukovar has well-established communication and support from the City Government which occasionally provides space and other resources.

Social supermarket in Rijeka was the first social supermarket to be opened in Croatia. It is called "The Bread of St. Elisabeth" ("Kruh sv. Elizabete" in Croatian) and is located at the local marketplace Brajda in Rijeka. In comparison to others, its interior is organized most similarly to the conventional supermarket. The Rijeka social supermarket is a respectable organization with more than

50 regular volunteers and about 400 occasional volunteers who distribute about 800 packages each month to the 500 socially most vulnerable families in Rijeka. It is highly recognizable in the local community by its volunteers, dressed in "charitable orange", who actively participate in all fundraising activities of this social supermarket which is popularly called "Socka" in Rijeka area. It has a well-established "orange" image on the national level, because the social supermarket is highly active throughout the national media, such as Novi list, specialized magazine "Ja TRGOVAC" and numerous media portals that are periodically covering their activities in a positive manner. It also fosters active communication via social networks and social media. It is particularly active on Facebook and YouTube, where it has its own channel and regularly uploads, insights, interviews, published media materials and recorded promotional and fundraising activities within the supermarket. The Rijeka social supermarket depends on donor funding, and the most important donors are individual citizens. Fundraising typically takes place through three different types of planned actions: (1) the annual "The Young Against Hunger" initiative, (2) the Saturday fundraisers in retail chains (particularly Konzum Tower, Cash & Carry in Krimeja St. and Kaufland in Zamet St.) and (3) the participation in local city events, such as the annual futsal tournament taking place in the Hall of Youth in Trsat under the slogan: "Entertainment for us, salvation for others!" [35].

Nonetheless, it should be pointed out that there is an initiative in Croatia called food outlet Žabac [30] which was established in Zagreb in 2016. The primary aim of this initiative is to reduce the food waste problem. On the basis of the previously mentioned definition given by Holweg et al. [24], one could try to define this initiative as a social supermarket, which would not be correct, because this initiative operates as an extreme discounter on a profitable basis. There are neither restrictions on the user side regarding the social status, nor is there a charitable aim behind its activities. Besides the food waste reduction pointed out in the abovementioned definition, social supermarkets have to fulfill another important goal, i.e. they have to serve people in need, and with this initiative, this is not the case.

Examples of social food retail initiatives in Serbia

There was no standard approach to the idea of how to help people in need in Serbia. In the last ten years, the main actor in this field was government, which differs from the approach presented from Croatian experience. In this respect, the ministry in charge of trade tried several approaches searching for the model of support to the economically vulnerable Serbian citizens.

SOS markets, initiated by the Belgrade retail chain Jabuka and supported by the ministry in charge of trade, initiated the operation of special stores with lower prices in 2009 [6]. These stores offered products at prices 40-50% lower than in regular stores to Belgrade citizens with minimum wages or pensions, as well as to refugees, recognizing them as the holders of a specially designed card. The cards were issued directly in SOS stores or in labor unions, upon the presentation of a document that confirms their status. This business model was not sustainable and the chain of 33 stores was taken over by a local discount chain in 2012.

Limited distributive margins on selected groups of food products were among the most controversial initiatives. It was introduced in the first half of 2012 [45], after which it was extended to the end of the same year [46]. The regulation imposed maximum cumulative margin of 10% on manufacturer's price, in all stages of the marketing channel. The goods covered by this act were: wheat flour, milk, sugar, sunflower oil and meat (beef, pork, poultry and freshwater fish). The announced aim of the regulation was to prevent disorder on the market, but its real purpose was to promote support to the households in need. It can be seen from the detailed information on the implementation of this act that the basic products (e.g. yogurt) were covered, as opposed to the value added products, like probiotic yogurt [27]. Although the act covered the total amount of all middlemen's earnings, it led to different attempts of retailers to avoid this limit in certain product lines where costs of distribution were higher, giving them the possibility they did not ask for, to charge 10% for the products for which actual market signals indicated charging lower margins. This general limitation was not retained after 2012, in spite of the questionable conditions in Serbian economy.

Limited distributive margins on special products are still present in Serbian economy, for the same reason mentioned above. Although the general limitation was abandoned after 2012, the abridged version of this act is still in use, focusing this time on the basic bread, called "Sava", made of wheat flour [46]. Through this act, the producers are requested that the basic white bread, with a specified recipe, comprise 40% of their daily production and retailers are obliged to have the same proportion on the shelves, with the remission of maximum 5%. The manufacturing price is given as an absolute amount (38.68 RSD for 500 g), and the cumulative margin is limited to 8.12% (2% for wholesale and 6% for retail margin). A lot of attention to the enforcement of this act is drawn by the inspection and organizations for consumer protection, but no evaluation of such measure was provided. The same goes for the limits on the prices of prescribed drugs which maximize the wholesale margins up to 6% and retail margins up to 12% [43]. This regulation was introduced in 2002 in order to regulate the costs of distribution covered by the subsidized health insurance system, and it is still in use, with some changes, despite extensive criticism indicating that it is the source of higher prices [25, p. 7].

Declaration on improvements in retail sector was an attempt to motivate retail chains to act in the manner that will make a better retail market environment [4]. The minister in charge of trade received a document signed by the managers of 8 biggest food retailers at the time: Delhaize, Mercator S, IDEA, Metro, DIS, Veropoulos, Gomex and Univerexport. Companies recognized the need for and asked the ministry to support the free retail market, fair competition and affirmation of basic principles, which, among other things, involve "the offer of a large and balanced assortment of basic victuals at affordable prices". In order to implement this idea, the ministry suggested that retailers should offer the so-called "social basket", the list consisting of 10-15 basic product lines (food, beverage, meat and meat products, dairy products, rice, pasta, flour, oil, sugar, fruit, household chemicals) at "lower" prices [36]. The ministry expected both the manufacturers and retailers, who voluntarily agreed to reduce margins, to contribute to lower prices. The report made one year later, on April 15, 2014 showed that 6 out of 8 undersigned companies declared articles in "social basket" (with 2 additional who did not sign the Declaration at first). However, the number of products included in the basket was disappointing, from 11 to 25, bearing in mind that the assortment of those retailers was well above 15,000 [26]. After that, no further evaluation of the development of this attempt was reported.

Individual approach by different companies is something that characterizes the current situation in Serbia, in the area of social programs. The most developed approach is, naturally, taken by Delhaize Serbia d.o.o. This is a part of the worldwide CSR and sustainability campaign run by this multinational company. In Serbia, this initiative has different tracks: food bank donations aimed at reducing food waste, balanced lunch boxes for children at very affordable price, introduction of fresh corners with fresh juices and salads that also reduce food waste, etc. [5].

Food bank Belgrade is one of rare civil sector activities, most similar to the activities explained in Croatia. This non-profit organization was established in 2006 and in 2009 it became the member of the European Federation of Food Banks (FEBA). Currently, Delhaize Serbia d.o.o is the first permanent member of the Donors' Club, but the Bank has more than 100 "friends", providing either food or financial and media support. The food bank shows permanent growth. In 2010, it collected 19.5 tons of food and served around 7,000 citizens in need. Six years later, during 2016, it collected 1,062 tons of food from more than 100 donors and distributed it through mixed packages to 88,500 registered persons belonging to the most vulnerable category [2]. The most important principles of work include the following: the bank does not receive money to buy food and does not distribute food to individuals, but only to social institutions and organizations that support vulnerable groups (single mothers, orphans, etc.).

All listed initiatives in Serbia reveal that it is hard to recognize a continuous and successful operating model of socially-oriented supermarkets in the long run. State and private initiatives are independent rather than complementary. State initiatives in the area of food trade were not directed toward vulnerable citizens, covering,

on the contrary, total population. It should be noted that the same ministry, in charge of trade and tourism, implements a different, socially focused policy in the area of tourism vouchers.

Social tourism

International Social Tourism Organization (ISTO) defined social tourism as "the connections and phenomena related to the participation of people in the countries of destinations as well as of holidaymakers, of disadvantaged layers of society or those unable to participate in tourism, holidays and their advantages for whatever reason" [28]. The statute of ISTO considers that "this participation is made possible or facilitated by a combination of policies, clear social measures and the commitment of social players". UN World Tourism Organization (UNWTO) specified that "social tourism and in particular associative tourism, which facilitates widespread access to leisure, travel and holidays, should be developed with the support of the public authorities" [50]. In 2006, European Economic and Social Committee (EESC), in its Opinion on Social Tourism, proposed that social tourism should be a key measure to increase and maintain the economic, social and environmental sustainability of destinations [7]. It defines social tourism as an activity that in an effective way helps a group of people to participate in tourism in the manner which respects the values of sustainability, accessibility and solidarity. Minnaert [39] discusses social tourism as a vehicle for behavior change in recipients. Schenkel [47] presents state policies for social tourism in South America, while Almeida [1] discusses the development of social tourism in Brazil. The role of charities in social tourism is considered by Hunter-Jones [24]. Social tourism as a way of enhancing economic activity is considered by Górska [20].

Social tourism policies across the EU, which took some account of histories and traditions, are divided into three main categories [51]: Belgium, France, Greece, Italy, Spain and Portugal showed a high level of state intervention in this field; Germany, Denmark and Holland were "moderately" interventionist (although note was taken of the highly decentralized models prevalent in Germany); and the UK, Ireland, Luxembourg, Austria, Finland and Sweden are characterized as having a very low level of state involvement. Denmark, Estonia, Finland, Germany, Luxembourg, Netherlands, Sweden and the United Kingdom have chosen not to participate in the program, in which 21 Member States (out of 27 at that time) were participating. Among possible reasons for the lack of state involvement in the UK, discussed by Walton who proposed the mentioned categories of social tourism policies, are: a fragmented tourism industry which never lobbied for it and the early success of working-class people and their organizations in providing for their own holidays away from home, combined with an important measure of philanthropic and charitable intervention. One of the main tasks of the Calypso program was specific improvement of the seasonality spread. The overall objectives of the action were to: generate economic activity and growth across Europe, improve seasonality patterns in Europe, in particular through the social policy function of tourism, create more and better jobs in tourism and strengthen European citizenship through tourists exchanges, mainly for four target groups: young and elderly people, people with reduced mobility and low income families [13]. The Calypso program had a budget of 3.5 million EUR for the 2009-2011 period.

Research has shown that social tourism carries real potential for the target groups, as well as tourism providers [1], and in the end, the economic and social cohesion, which is important particularly in Europe [38]. The Calypso program has demonstrated the unwillingness of the private sector to be actively involved in social tourism primarily due to perceptions of unsatisfying profitability as the main cause from the supply side. Based on the main findings of the Calypso, it can be concluded that public funding in different forms is a key factor to trigger the development of social tourism in Europe. In order to provide support, public investments may be directed toward suppliers or end users (direct beneficiaries or intermediaries with mechanisms like tax credits or incentives) as a subsidy allowing market-based development.

Social tourism: European experience

In 1985, the Spanish Institute for the Elderly and Social Services (IMSERSO) created the Holiday Programs for

Seniors. It gives the opportunity to seniors, who meet certain criteria linked to the age and the income level, to travel during the off season contributing to the well-being of seniors and maintaining employment level in tourist areas during low season. The Spanish State finances 30% of costs, and the remaining 70% are provided by users [13]. According to the assessments made, this program is sustainable from a financial point of view as the savings (in unemployment and other benefits) and income (VAT, income tax, etc.) generated allow for the recovery of the investment made. In Portugal, the State finances 45% of Senior Tourism Program through INATEL Foundation (private association, depending on the Ministry of Labor and Social Solidarity of Portugal); the remaining 55% are financed by the participants [14]. The main benefits of the Senior Tourism Program for the Portuguese economy may be classified as an increase in the production and marketing of goods and services, an increase in employment and performance, an improvement in the economic structure and an increase in the enterprising spirit. In 1999, Spain - Portugal Transnational Holiday Program for Seniors as bilateral exchange of seniors between two national institutions, IMSERSO (Spain) and INATEL Foundation (Portugal), was introduced. Target groups involved seniors pursuant to the definition of each national institution organizing the exchange. It is a reciprocal exchange: each institution selects the participants, Portuguese or Spanish, and finances the transport to destination, as well as accommodation. 4,000 people are exchanged per country and per season/year. Traveling takes place off season, from October to May, usually with an 8 days (7 nights) stay in low season. In 1999, TYPET program (bilateral exchange program between Portugal and Greece) was introduced and it was not intended only for seniors.

Five European countries: France, Hungary, Italy, Romania and Switzerland, promote social tourism using the vouchers scheme. The systems are rather similar and apply only to domestic tourism. There is a wide application of the vouchers which differs from country to country: for example, paying of travel, accommodation, road fees, activities or other fees depends on the maturity and outreach of the voucher program. In Switzerland, Reka subsidy can even be used to buy food in supermarkets. The first Holiday Voucher was created in 1982 in France and managed by the National Agency for Holiday Vouchers (ANCV) with the aim of allowing employees and civil servants to go on holiday with their family with several benefits for people and the tourism sector [15].

The holiday voucher program in Romania started in February 2009 and it is accessible to all public institutions and private firms. The only limitation is that the firm must have made profits during its last fiscal year. A law, adopted by the Parliament, described the norms for granting holiday vouchers. The average value received by employees was 400 EUR [16]. The holiday vouchers were mainly given by public administrations to the civil servants: 80% of the holiday vouchers are used on the seaside and 10% in spa resorts. Retired persons cannot be holiday vouchers beneficiaries. Holiday vouchers are personalized, i.e. cannot be given to a third person and can be used in the travel agencies and in the accommodation units that have contracts with the private companies that issue them. Every issuing company has its own policy. The companies that issue holiday vouchers generally show on their website the units that accept their vouchers. The beneficiaries of holiday vouchers do not have the right to get other holiday bonuses/allowances from their company. Private companies are responsible for issuing holiday vouchers and selling them directly to the firms which distribute them to their employees. Holiday vouchers are tax-deductible. The companies purchase holiday vouchers in full. The maximum amount that can be deducted is 900 EUR by employee each year. The holiday voucher system has not been well-accepted by the travel agencies because their commission on a journey bought with holiday vouchers is limited to 10%. This limitation is fixed by the law and concerns the entire commission on the holiday vouchers. Considering that the issuing company's commission to a travel agency is between 2.5% and 7% of the purchase price paid by holiday vouchers, it means that the travel agency receives a net commission between 3% and 7.5% of the consumer purchase price once the commission is paid to the issuing company. This final commission is very low, which explains why very few travel agencies accept payments with holiday vouchers. The situation is the same with the accommodation industry. Even if there

is no commission limitation for accommodation owners, they must pay a commission to the issuing company. Hotel chains negotiate the commission and usually accept holiday vouchers, but small owners, confronting important issuing company commission (usually more than 10%), often refuse to accept holiday vouchers.

Italy introduced "holiday vouchers" on 20 January 2010 based on the law that regulates the use of vouchers for the following purposes: hotel accommodation, restaurants, transport, rental of holiday homes, the purchase of holidays in travel agencies, car rental services, tickets for cultural institutions and events, etc. Basically, holiday vouchers represent a form of payment available in two versions (equivalent to the amounts of 5 and 20 EUR), and are considered a cash substitute, to all intents and purposes, for the purchase of services taking part in the scheme [17]. At this moment, holiday vouchers can be used only for essential tourism services (board and lodging) and only by low-income target families who need financial help that varies depending on the size of the family and income. The Department for the Development and Competitiveness of Tourism of the Republic of Italy drew up a special agreement with the Italy Holiday Vouchers Association to manage the holiday vouchers scheme, with the help of government funding. Holiday vouchers can only be used in Italy, outside of the municipality of residence, and are valid until June 30 (the expiry date is indicated on each voucher). The holder is guaranteed the possibility of choosing a among hundreds of hotel accommodation facilities, catering facilities, family tourism facilities or paying for tourism services (including travel agencies) under the best financial terms. Adult Italian citizens who, on the date of request, have net income that falls under the prescribed level have the right to use holiday vouchers.

The recreation vouchers (checks) system was in use in Hungary in the period from 1998 to 2011. The exclusive issuer, distributor, drafter of the preferential recreation checks and the holder of the check's brand was the Hungarian National Foundation for Recreation that was founded by the Government and the confederation of six trade unions in 1992. The task of the Foundation was to support employees with low income, socially disadvantaged people, pensioners and their family members with holiday and relaxation possibilities. In Hungary, the law ensured tax exemptions for both economic organizations and the preferential recreation checks for private customers up to the value not exceeding the Hungarian minimum salary. In 1998, the checks could be used only for paying for accommodation and services supplied in the accommodation. Between 2004 and 2007, the application of recreation checks was gradually extended to transport, cultural programs, festivals, zoo, spas, sports events, etc.

In 2008, the purchase of a preferential recreation check by budgetary establishments has significantly increased, because it was specified by the law that the civil servants may receive holiday allowance in the form of preferential recreation check. A number of companies recognized that through preferential recreation checks they could ensure holiday, relaxation and recreation for their employees. Through the preferential recreation check, they could redeem their holiday houses, which had been shut down before, their cultural centers and their abandoned medical institutes. In the period between 2007 and 2011, the Foundation contributed to the improvement of the quality of life in case of 350,000 socially disadvantaged people through preferential recreation vouchers. [18]

In 2011, Hungary introduced a new system: the Széchenyi Recreation Card (SzRC), which proved to be a very effective tool to boost domestic tourism. It is not only a cost-effective means of the fringe benefit system, but it is also an incentive for the beneficiaries to participate in tourism. The card has become rather popular among employers and employees over the past few years. Through the tax system, the Hungarian State encourages employers to give non-wage benefits as they can be provided to employees under more favorable taxation conditions than salaries. It is important to know that a net wage of 100 HUF now costs employers 196 HUF, while a net fringe benefit of 100 HUF costs only 135.7 HUF in Hungary. The fringe benefit system can provide additional resources to important social and economic policy objectives, as all benefits are earmarked. SzRC is a type of fringe benefit which can be used for purchasing tourism-related domestic services. The legal basis of SzRC system is the Law on Personal Income Tax, which defines the basic conditions of SzRC's use (names and main fields of use of the three

sub-accounts; maximum amount that can be transferred to each sub-account per year with favorable taxation) and the associated tax rules (employers have to pay 16% PIT and 14% health care contribution after the 119% of the amount they give to their employees) [18]. Detailed rules for the issuance and use of SzRC are determined by a government decree. The main goals of the SzRC system are: economic development, social policy and self-care. SzR Card has proved to be a much more effective tool in comparison to the previously used vouchers: SzRC is a modern plastic card, with a liberalized market, relatively low commission (1.5%) with less administration, targeted use, transparent system regulated in detail by the law and government decree. On the other side, the old recreation vouchers (checks) system was characterized by only one issuer, high commission (10-12%) and complicated administrative processes with poorly defined use.

Holiday vouchers scheme: Serbian case

In the period from December 2012 to November 2014, Tourism Organization of Serbia, Danube Competence Center and National Tourism Organization of Montenegro participated in the Calypso project "Holiday 4 All". Based on the main recommendations of the Calypso project, in June 2015, the Government of the Republic of Serbia decided to encourage domestic tourism further through an allocation scheme of holiday vouchers for subsidized accommodation services of minimum five nights in Serbia, outside of the place of residence of the voucher users. Accommodation services are provided by business entities and other legal entities. Those include medical rehabilitation institutions (special hospitals in Serbian Spas) which provide services for prevention, treatment and rehabilitation. Also, those include individuals providing accommodation services in categorized home-made and rural tourist households, in which the catering activity is carried out in accordance with the Law on Tourism. The value of the voucher is 5,000 RSD (around 41 EUR), and that is the maximum amount a user can use once a year, disregarding the value of accommodation service. It is important to mention that the accommodation providers who want to participate in the holiday vouchers scheme apply and participate voluntarily. The list of providers of accommodation services is updated weekly and published on the website of the ministry in charge. Thus, the newly opened facilities have the opportunity to be engaged in this action during the year.

The number of applications for the allocation of vouchers is limited by available budget funds. Vouchers can be used on the territory of the Republic of Serbia, excluding the territory of Belgrade, Novi Sad, Niš and Kragujevac (because it is estimated that these cities generate an increase in tourist traffic without incentives). This indicates an additional, specific aim of this tool: vouchers as the incentive for emerging tourist areas. The holiday vouchers can be used by:

1. pensioners;
2. unemployed persons, registered at the National Employment Service and other persons registered at the National Employment Service (beneficiaries of special allowance and temporary benefits);
3. beneficiaries of the allowance for assistance and care for another person, entitled to that right in accordance with the law regulating social protection of citizens;
4. users of rights to allowance for assistance and care for another person, who realize that right in accordance with the law regulating pension and disability insurance;
5. employees with monthly income up to 60,000 RSD (around 488 EUR);
6. disabled war veterans and war-disabled civilians with monthly income of up to 60,000 RSD (around 488 EUR);
7. holders of a family pension upon the death of a soldier;
8. owners of rural households, registered in the Register in accordance with the Law on Agriculture and Rural Development.

The voucher allocation project is currently in the third year of its implementation. The project has been implemented by the Ministry of Trade, Tourism and Telecommunications, in cooperation with the ministries in charge of finance, labor and agriculture, followed by the social welfare centers, branches of the pension system,

employment service, system of compulsory insurance and the public enterprise "Post of Serbia". It is important to point out that the voucher project in 2015 was a pilot project and that the full implementation happened during 2016. The main reasons for the continuation of the project in 2017 were good results and positive effects on the development of domestic tourism in 2015. For three and a half months, 14,000 vouchers were distributed, which made 118,000 overnight stays, or 8.3 nights per person. For a whole year, more than 1.3 million domestic tourist arrivals were registered – an increase of 12.2%, generating more than 4 million overnight stays – an increase of 8%. In 2016, 46,000 vouchers were distributed (40 days before the deadline all vouchers were distributed), which made 342,700 overnight stays, or 7.5 nights per person, more than 1.37 million domestic tourist arrivals were registered – an increase of 13% (data for the first 11 months of 2016) and generated 4.53 million overnight stays – an increase of 13.5% [40] (data for the first 11 months of 2016). The largest tourist source markets of domestic demand in 2016 were: Belgrade (12,690), Novi Sad (4,246), Pančevo (2,614), Niš (2,456) and Kragujevac (1,695). Top destinations, with regard to arrivals in 2016 were, according the same annual report: Prolom Banja – 3,230, Zlatibor – 3,214, Banja Koviljača – 2,362, Lukovska Banja – 2,791, Sokobanja – 1,192, Vrnjačka Banja – 1,774, Gornja Trepča– 819, Sijarinska banja– 773; which means 9 spa destinations and only one mountain (with a special hospital on the mountain).

Table 1: The structure of vouchers beneficiaries

	2015	2016
Pensioners	58.9%	55.9 %
Unemployed persons	10.2%	9.1 %
Employees with incomes up to 60,000 RSD	29.6%	33.8 %
Others	1.3%	1.2 %

Source: Ministry of Trade, Tourism and Telecommunications, Government of the Republic of Serbia.

Indirect effects of the holiday voucher scheme in Serbia are: 1. Positive promotional results within the country through better recognition and increase in awareness of the Serbian tourism offer; 2. Mobilization of domestic tourism stakeholders, particularly in emerging destinations, which are often in underdeveloped regions of the country; 3. Better positioning of tourism in the economic policy agenda of the Government of the Republic of Serbia, and even, 4. Setting the model for other countries in the region. Joined efforts of the Tourism Organization of Serbia's promotional campaign "My Serbia" and ministry in charge of tourism helped to turn around the trend of decline in domestic arrivals [48, p. 350].

Instead of a conclusion

As it can be seen from the given examples, there are differences in the approaches of the three observed areas. Social supermarkets in Croatia predominantly distribute food directly to people in need for free, which is the first and elementary form of a social supermarket. In each example, there is a procedure of entering the list of users. In this procedure, criteria for users are well-established, transparent and controlled. The system of distribution is different, starting from the preparation of life packages (in Osijek) to self-service similar to the conventional supermarket (in Rijeka). Fundraising activities, promotional activities and media exposure vary as well and depend highly on the knowledge and skills of the leader or leading group within the social supermarket. Additional, complementary activities are observed in Vukovar in Creative and Educational Club, and also in sports activities organized by the social supermarket in Rijeka. In Rijeka, the branding and image building skills are applied as well, as they developed the publicly recognized brand of "Charitable orange" and "Socka". From the given examples, we can conclude that it is necessary to improve the cooperation with the companies in traditional supply chains in order to increase donations in the future and to reach the second goal of social supermarkets (reducing food waste).

Socially oriented initiatives in the Serbian food sector show great variety and low coordination among actors. State initiatives usually cover all citizens and rely on administrative measures (limiting margins). Also, retail chains, by themselves or in cooperation with the Government, often implement the general discount policy, available to all citizens. One initiative that focused on citizens in need (SOS supermarkets) proved to be unsustainable

and has continued working as a discount chain after the takeover. The initiative taken by a non-profit organization, Food Bank, is the only one showing continuity, for the time being. It is based on philanthropic motives to help people in need, but also on rational motives to prevent food waste. As opposed to the cases of Croatian organizations, it is a wholesale rather than a retail operation, distributing collected food to institutions (state or NGO) specialized for dealing with people in need.

Regarding socially oriented tourism initiatives, ISTO believes that the impossibility to go on holiday is a part of the "social and health inequities" that must be reduced with the participation of all stakeholders. Public authorities should be more aware of the social and economic benefits of social tourism and the costs of not helping certain groups of the population to go on holiday. That was the main subject of the common EU Calypso program "Holidays 4 All". One of the possibilities in the coming period is to create European holiday vouchers schemes in order to stimulate certain groups of the population in developed countries to spend their vacation in the tourism/economically less developed countries. In this case, the challenge would be to define the institution that could implement such a program, bearing in mind that such institution currently does not exist at the European level. In the meantime, many national initiatives, like the tourism vouchers in Serbia, support the intention of citizens with low income to spend their holidays or free time in the destinations within their country.

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References

1. De Almeida, M. V. (2011). The development of social tourism in Brazil. *Current Issues in Tourism*, *14*(5), 483-489.
2. Banka hrane. Retrieved from http://www.bankahrane.org/2016/12/31/izvestaj-za-2016-godinu/.
3. Clapperton, G. (2012). *This is social commerce: turning social media into sales*. John Wiley & Sons., Chichester, West Sussex, United Kingdom.
4. Declaration on improvements in retail sector. (2012). Retrieved from http://mtt.gov.rs/download/2/ostali%20akti/Deklaracija%20o%20unapredjenju%20trgovine.pdf.
5. Delhaize sustainability report. Retrieved from https://sustainabilityreport.delhaizegroup.com/case-studies/healthy-lifestyles/delhaize-serbia/.
6. Different sources from daily news about retailer Jabuka, SOS stores and social card. Retrieved from http://www.retailserbia.com/vesti-trgovina/317-jabuka-otvorila-prvi-sos-market-u-beogradu.
7. EESC. (2013). *EESC contributions to the European tourism policy*. Retrieved from http://www.eesc.europa.eu/resources/docs/qe-30-13-403-en-c.pdf.
8. Enhancing the competitiveness of tourism in the EU: An evaluation approach to establishing 20 cases of innovation and good practice. (September 2013). Centre for Strategy and Evaluation Services.
9. Eurostat. (January 2014). *Eurostat News release Euro indicators*. Retrieved from http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/3-31012014-AP/EN/3-31012014-AP-EN.PDF.
10. European Commission. (2014). *Poverty and social exclusion*. European Commission. Retrieved from http://ec.europa.eu/social/main.jsp?catId=751.
11. European Commission. (March 2014), *EU Employment and Social Situation*. European Commission. Retrieved from http://ec.europa.eu/social/main.jsp?catId=737&langId=hr&pubId=7699.
12. European Commission. (2010). *Calypso study on social tourism*, final report. Retrieved from https://www.murciaturistica.es/webs/steep/web/documentos/DOC_2_1.pdf .
13. European Commission, DG Enterprise and Industry. (2010). *Calypso study on social tourism, country study on social tourism: Spain*. Retrieved from http://sete.gr/_fileuploads/entries/Online%20library/GR/110125_Calypso%20study%20on%20Social%20tourism_Spain.pdf.
14. European Commission, DG Enterprise and Industry. (2010). *Calypso study on social tourism, country study on social tourism: Portugal*. Retrieved from http://www.tourism-generis.com/_res/file/3342/49/0/110125_CalypsostudyonSocialtourism_Portugal.pdf.
15. European Commission, DG Enterprise and Industry. (2010). *Calypso study on social tourism, country study on social tourism: France*. Retrieved from www.ec.europa.eu/DocsRoom/documents/6935/attachments/1/translations/en/.../pdf.
16. European Commission, DG Enterprise and Industry. (2010). *Calypso study on social tourism, country study on social tourism: Romania*. Retrieved from www.ec.europa.eu/DocsRoom/documents/6945/attachments/1/translations/en/.../pdf.
17. European Commission, DG Enterprise and Industry. (2010). *Calypso study on social tourism, country study on social*

tourism: Italy. Retrieved from www.ec.europa.eu/DocsRoom/documents/6939/attachments/1/translations/en/.../pdf.

18. European Commission, DG Enterprise and Industry. (2010). *Calypso study on social tourism, country study on social tourism: Hungary*. Retrieved from www.ec.europa.eu/DocsRoom/documents/6937/attachments/1/translations/en/.../pdf.
19. FAO. (2011). *Global food losses and food waste – extent causes and prevention. Rome*. Food and Agriculture Organization of United Nations. Retrieved from http://www.fao.org/docrep/014/mb060e/mb060e00.pdf.
20. Górska, E. (2010). The role of social tourism in boosting economic activity, based on Spanish social policy programes in Spain. *Acta Scientiarum Polonorum-Oeconomia*, *9*(4), 133-142.
21. Hajli, M. (2013). A research framework for social commerce adoption. *Information Management & Computer Security*, *21*(3), 144-154.
22. Holweg, C., Lienbacher, E., & Zinn, W. (2010, January). Social supermarkets – a new challenge in supply chain management and sustainability. In *Supply Chain Forum: An International Journal* (Vol. 11, No. 4, pp. 50-58). Taylor & Francis.
23. Holweg, C., Lienbacher, E., & Schnedlitz, P. (2010). Social supermarkets: Typology within the spectrum of social enterprises. *ANZMAC. Doing More with Less. Christchurch, New Zealand*.
24. Hunter-Jones, P. (2011). The role of charities in social tourism. *Current Issues in Tourism*, *14*(5), 445-458.
25. Imasheva, A., & Seiter, A. (2008). *The pharmaceutical sector of the Western Balkan countries*. Washington, DC: World Bank.
26. Informacija – Socijalna korpa 15-04.2013.
27. Information on the implementation of the regulation of certain special conditions turnover of goods. Retrieved from http://www.kombeg.org.rs/aktivnosti/udr_trgovine/Detaljnije.aspx?veza=6336.
28. ISTO. (2011). *Social tourism inquiry*. Retrieved from www.nationbuilder.s3.amazonaws.com/appgonsocialtourism/.../ISTO_-_Inquiry_Social_To.
29. JaTrgovac. (2017). *Žabac Food Outlet: Mjesto gdje cijene padaju u vodu* (in Croatian). Retreived from http://www.jatrgovac.com/2016/10/zabac-food-outlet-mjesto-gdjecijene-padaju-u-vodu..
30. Koivupuro, H. K., Hartikainen, H., Silvennoinen, K., Katajajuuri, J. M., Heikintalo, N., Reinikainen, A., & Jalkanen, L. (2012). Influence of socio-demographical, behavioural and attitudinal factors on the amount of avoidable food waste generated in Finnish households. *International Journal of Consumer Studies*, *36*(2), 183-191.
31. Lipinski, B., Hanson, C., Lomax, J., Kitinoja, L., Waite, R., & Searchinger, T. (2013). Reducing food loss and waste. *World Resources Institute Working Paper, June*. Retrieved from http://www.wri.org/sites/default/files/reducing_food_loss_and_waste.pdf.
32. Madaan, K. V. S. (2009). *Fundamentals of retailing*. New Delhi: Tata McGraw-Hill Education.
33. Marić, I. (2013). Social supermarkets as a social innovation. In N. Knego, S. Renko, & B. Knežević, (Eds.). *Trade Perspectives 2013: Supply Chain Relationships* (pp. 296-305). University of Zagreb, Faculty of Economics Zagreb.
34. Marić, I. & Knežević, B. (2014). Social supermarkets as a new retail format inspired by social needs and philanthropy – Case of Croatia. In D. Kantarelis (Eds.), *Global Business & Economics Anthology, Business & Economics Society International* (pp. 278-286). Danvers, MA.
35. Marić, I., Knežević, B., & Džambo, D. (2015). Social supermarket Rijeka as a social innovation in food distribution. In N. Knego, S. Renko, & B. Knežević, (Eds.). *Trade Perspectives 2015: Innovations in Food Retailing* (pp. 235-245). University of Zagreb, Faculty of Economics Zagreb.
36. Matović, V. (27th March, 2013). *Od aprila jeftiniji proizvodi iz socijalne korpe*. Retrieved from http://mtt.gov.rs/slider/matovic-od-aprila-jeftinijij-proizvodi-iz-socijalne-korpe/.
37. Ministry of Trade, Tourism and Telecommunication of the Republic of Serbia. (2016). Annual Report.
38. Minnaert, L. (2014). Social tourism participation: The role of tourism inexperience and uncertainty. *Tourism Management*, *40*, 282-289.
39. Minnaert, L. (2012). Social tourism as opportunity for unplanned learning and behavior change. *Journal of Travel Research*, *51*(5), 607-616.
40. Parfitt, J., Barthel, M., & Macnaughton, S. (2010). Food waste within food supply chains: Quantification and potential for change to 2050. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *365*(1554), 3065-3081.
41. Petković, G., Lovreta, S., & Pindžo, R. (2015). New strategic cycle in the Serbian trade and tourism development. *Ekonomika preduzeća*, *63*(1-2), 115-130.
42. Principato, L., Secondi, L., & Pratesi, C. A. (2015). Reducing food waste: An investigation on the behaviour of Italian youths. *British Food Journal*, *117*(2), 731-748.
43. *Regulation on criteria for drugs on prescription pricing for use in human medicine*. Official Gazette RS, No.86/15 and No.8/16. Retrieved from http://paragraf.rs/propisi/uredba_o_kriterijumima_za_formiranje_cena_lekova_za_upotrebu_u_humanoj_medicini_ciji_je_rezim_izdavanja_na_recept.html..
44. *Regulation on mandatory production and trade of bread flour "T-500"*. Official Gazette RS, No.79/14. Retrieved from http://extwprlegs1.fao.org/docs/pdf/srb140787.pdf.
45. *Regulation on mandatory production and trade of bread flour "T-500"*. Official Gazette RS, No.79/14. Retrieved from http://extwprlegs1.fao.org/docs/pdf/srb140787.pdf.
46. *Regulation on special conditions for turnover of certain goods*. Official Gazette RS, No.62/12.
47. Schenkel, E. (2013). Social tourism as state policy in South America. *PASOS: Revista de Turismo y Patrimonio Cultural*, *11*(1), 173-183.
48. *Statistical yearbook of the Republic of Serbia* (2016). Statistical Office of the Republic of Serbia.
49. Turban, E., & King, D. (2011). *Electronic commerce 2012: Managerial and social networks perspectives*. New York: Pearson Higher Ed.
50. *UNWTO Global Code of Ethics*. (2001). Retrieved from http://www.unwto.org/ethics/index.php.
51. Walton, J. K. (2013). 'Social tourism' in Britain: History and prospects. *Journal of Policy Research in Tourism, Leisure and Events*, *5*(1), 46-61.
52. WRAP. (2007). *Understanding Food Waste*. Retrieved from http://www.wrap.org.uk/sites/files/wrap/FoodWasteResearchSummaryFINALADP29307.pdf.

53. WRAP. (2011). *New estimates for household food and drink waste in the UK*. Retrieved from http://www.wrap.org.uk/sites/files/wrap/New%20estimates%20for%20household%20food%20and%20drink%20waste%20in%20the%20UK%20FINAL%20v2%20(updated%207thAugust2012).pdf.

54. Yadav, M. S., De Valck, K., Hennig-Thurau, T., Hoffman, D. L., & Spann, M. (2013). Social commerce: A contingency framework for assessing marketing potential. *Journal of Interactive Marketing*, *27*(4), 311-323.

55. Zentes, J., Morschet, K., &Schramm-Klein, H. (2011). *Strategic Retail Management*. Gabler Verlag: Springer.

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