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Therefore we estimate that it would be desirable to agree the increase of public investments of around 4% of GDP with the IMF. The increase of public investments, which have higher fiscal multiplier than current consumption, could mitigate and shorten the recession period caused by the implementation of fiscal consolidation. Of course, antirecession effects of public investments will be higher if domestic resources (workers, material, etc.) are engaged in their implementation. Increase of public investments that build modern infrastructure would be favourable to the long-term growth of the Serbian economy. Construction of modern highways and railroad lines, which would connect Serbia with the neighbouring countries, modernization of municipal infrastructure, etc., would reduce the costs of doing business in Serbia, which would have a positive effect on the growth of domestic and foreign investment.⁷

⁷ Positive impact of public investments on suppression of the recession and the long-term economic growth is supported by a number of empirical research.

Highlight 2. Clampdown on shadow economy – first results and further steps

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1. Shadow economy in Serbia – its extent, determinants and measures against it

According to recent empirical studies, the shadow economy in Serbia accounts for 30.1% of GDP, which is by 1/6 larger than in other Central and Eastern European Countries (CEE). Most of these countries have smaller shadow economy, and Bulgaria is the only one with bigger shadow economy than Serbia's (Krstić, et. al. (2013)). At the same time, average size of the shadow economy in EU is 19% of GDP. According to the reasons for the shadow economy (degree of economic development, institutional efficiency, quality of public goods etc.), Serbia is more similar to CEE countries than to the EU average. Therefore, reduction in the shadow economy down to the average in CEE countries would be a realistic goal in the medium term (two to three years). In that case, tax revenues would increase by 1% of GDP. Further actions against the shadow economy with the aim of reducing it to the average in EU countries would push up tax revenues by additional 1% of GDP, which could be achieved in seven to ten years. This means that a clampdown on the shadow economy

However, it is justified to ask how would the additional increase of public investments for 1 percentage point of GDP impact the fiscal deficit and the borrowing dynamics of the State? One part of the additional investments (around 0.5% of GDP) could be financed by additional revenues from the suppression of the grey economy. The remaining 0.5% of GDP (around 500 million euros in a three year period) would mean additional deficit increase compared to the actual agreement with the IMF, which could be financed with a part of revenues from the Telekom's privatization – therefore without additional borrowing. Using revenues from Telekom's privatisation for public investments is justified from the economic standpoint because in this way the state assets will remain unchanged, while the wealth of the society would increase.

might help reduce fiscal deficit by 1% of GDP (by 2017), and the remainder of the necessary reduction (by 5% of GDP) would require implementation of some other measures (primarily reduction in current public expenditure).

Shadow economy comprises all legal economic activities (trade in goods and services, income payments, possession of property etc.) done informally, i.e. off the official records. Tax evasion is the main reason for shadow economy, though there are many others, as well (avoiding the costs of harmonization with other, non-tax regulations etc.). Before deciding whether to engage in the shadow economy/tax evasion, one weighs the potential benefits (tax savings) against the related costs (the amount of the fine weighted by detection probability). Furthermore, some other socio-economic factors, such as the degree of tax morality or the quality of government services, affect the size of the shadow economy. Accordingly, the government could discourage engagement in the shadow economy by reducing the taxes, by raising the fines for tax evasion and by increasing the probability of detecting evaders. Empirical studies show that an efficient government control over tax evasion is the most productive mechanism against it, followed by fine increase, while tax decrease has a limited impact on reduction in tax evasion (observed separately). Given that the tax rates in Serbia equal the European average and are close to the average tax rates in the region, and since Serbia had one of the largest fiscal deficits in Europe in 2014, there is not much room

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for tax reduction. Effective strategy against the shadow economy in Serbia should therefore be based on a corresponding fine increase and tighter control on these activities by the competent inspection services (primarily the Tax Administration). Accordingly, significant institutional changes which improved the efficiency of measures against the shadow economy were made in the first half of 2014. The following are the most important:

i. The Tax Administration increased the number of employees responsible for tax control – The Tax Administration of the Republic of Serbia employs about 6,000 people, only 10% of whom is responsible for tax control, and the rest of them do administrative and technical work. Taking into account that there are hundreds of thousands of taxpayers (of different taxes) in Serbia, the probability of detecting a tax offence is very low. After the introduction of a unified collection of taxes and contributions, and electronic tax return filing system for some of the most important taxes (VAT, wage taxes and contributions etc.) at the beginning of 2014, scope of workload of several hundreds of employees who were in charge of reception and registration of paper tax returns decreased considerably. Since these were mostly the people with secondary school background, they were not qualified for complex tax control, and therefore were assigned some more simple tax control tasks (issuance of fiscal receipts etc.). They received professional training in the first half of 2014, and some regulatory changes which allowed them to do the field work were made. Consequently, about 300 people have been engaged in control on the issuance of fiscal receipts as of the middle of 2014. This is necessary and right, because extremely large number of taxpayers, especially hospitality establishments where the value added is high, had avoided issuing fiscal receipts.

ii. Reform in penalty policy – According to the amended Law on Tax Procedures and Tax Administration adopted in June 2014, penalties for all tax offences are defined in one law (before that, they were defined in a number of substantive tax laws, and in the foregoing umbrella law, which caused a great deal of legal uncertainty about which provisions to apply). Additionally, penalties are expressed in a different way (as a percentage of the overdue tax wherever possible, which proved to be the most efficient punitive mechanism). Finally, a considerable effective increase in fines was made. Penalty system has thus become more transparent, simpler, more rigorous and more efficient.

iii. Amendments to the Labor Law reduced the risks and costs related to in formal employment – In the amended Labor Law adopted in July 2014, a number of provisions which make labor market more flexible, and reduce the costs involved in formal employment have been adop-

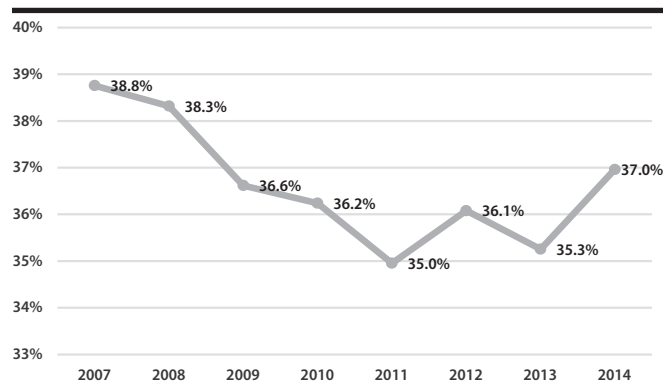
ted (obligation to pay severance only for the years of service at the current employer, clarification of reasons for termination of employment contract and simplified termination procedure, extension of the maximum duration of fixed-term employment contract etc.). One of the main reasons for informal employment has thus been eliminated. Furthermore, the system for electronic control of registration of employees in the Central Registry of the Mandatory Social Security Payers has been implemented, which facilitates real-time control of registration of employees in the field. However, this measure needs to be accompanied by intensified controls by the Labor Inspection to reduce informal employment.

These institutional changes, and intensified tax controls as of the middle of 2014, when the government decided to reduce the tolerance of the shadow economy and increased the number of employees responsible for tax control, were accompanied by increased media coverage of the actions taken by the Tax Administration and Labor Inspection, which heightened the impression among taxpayers that the likelihood of being subject to tax inspection increased.

2. Results of the activities against the shadow economy achieved so far

The foregoing institutional changes and intensified controls by the Tax Administration led to reduction in the size of the shadow economy and increase in tax revenues (primarily from VAT and social security contributions) in the second half of 2014.

Table 1 Serbia: Tax revenues (% GDP)



Source: QM calculations based on the data published in the Bulletin of Public Finance and other data published by the Ministry of Finance

Consequently, tax revenues increased by 1.7% of GDP in 2014 relative to 2013. This rise was mainly caused by the following: *i)* increase in lower VAT rate from 8% to 10%², *ii)* increase in corporate income tax rate from

² Increase in VAT rate produced its full effect on revenues only after the government intensified its efforts to reduce the shadow economy in the middle of 2014.

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10% to 15% as of 2013 – this increased tax fell due for payment in 2014, *iii*) rise in other tax revenues, caused by the property tax increase after the abolition of construction land usage fee, which was a non-tax revenue, *iv*) reduction in the size of the shadow economy. As a result of the intensified activities against the shadow economy, in Q4 2014 the share of public revenues in GDP was by 15% larger than the average for the preceding three quarters. In the preceding years, average seasonal discrepancy between public revenues (as a % of GDP) collected in Q4 and the average for the preceding quarters was 11%. Assuming that this increase, i.e. additional RSD 4-5 billion of tax revenues collected in Q4, was caused by the reduction in the shadow economy, continuation of such trend would lead to annual rise in tax revenues of RSD 18-20 billion (about 0.5% of GDP), which would be a considerable output.

3. Recommendations for sustainable and efficient further action against shadow economy

Implementation of some systemic measures that would enhance the actions against the shadow economy could increase tax revenues by additional RSD 20 billion (0.5% of GDP) by 2017, so the overall effects of these actions would reach 1% of GDP. This would imply full and persistent implementation of a number of measures, the most important being the following:

- *Systemic reform in the Tax Administration and other inspection services* – Long-term sustainability and effectiveness of the battle against the shadow economy require a comprehensive reform in the Tax Administration. This would imply reform in its work organization, faster implementation of electronic tax returns for all types of taxes (by the end of 2015 instead of the end of 2017, as planned), and a sweeping reform in the human resources management. The reform in work organization would imply transformation of the organizational structure and establishment of a strong department responsible for risk assessment and analysis and systemic supervision of the performance of tax inspectors. Human resources management would be improved through implementation of a completely new employee selection, promotion and compensation system, meaning that only the candidates who actually (and not only formally) meet the selection requirements and deliver good performance would be selected, promoted or rewarded. Along with this measure, a continuous systemic cooperation with educational institutions, which would give the students the opportunity of specialization in this field throughout undergraduate studies, master studies or specialist studies, should be established.
- *Ban on sale of new industrial products on farmer's markets and flea markets* – This is politically unpopular but economically justifiable measure that would produce considerable effects in a short term. This ban should therefore be announced several months before being imposed to give enough time to individuals and entrepreneurs who want to formalize their operations to do so.
- *Intensified efforts to combat excise goods smuggling* – In 2014 the government curbed petroleum products smuggling by fuel marking, and intensified its efforts to combat illegal sale of tobacco products at the end of the year. Accordingly, these activities should be even more intensified and made systemic in 2015.
- *Greater coordination between inspection services* – Systemic exchange of data and coordination between different inspection services when planning and executing field control is necessary. Accordingly, the Law on Inspection Oversight adopted in February should be a good institutional framework for this process.
- *Cross-check of property and income with the aim of disclosing undeclared income* – Undeclared income can be detected by contrasting the data kept by different government bodies with the data from the submitted tax returns. This especially applies to individuals possessing large assets. Defaulters would then be penalized, which would discourage taxpayers from engaging in tax evasion.
- *Systemic incentives for local-self governments to upgrade their real property tax registers and to improve property tax collection* – Rewards for local self-governments who increase their efforts to identify undeclared real property, and penalties for those who do not do so (in the form of different transfer payments) would encourage them to upgrade their tax records and reduce the shadow economy in this domain.
- *Media campaign aimed at making people aware of how important it is to reduce the shadow economy* – This would encourage people to pay taxes (and to report the defaulters). Importance of public goods which are financed from tax revenues and which are often taken for granted and considered to be free (public safety, education etc.) should be pointed out in such campaign.
- *Systemic improvement in the quality of public goods* – There is a close correlation between the readiness of taxpayers to pay taxes and the quality of public goods they thus „buy“. It is therefore crucial to improve the efficiency of public administration, and

to upgrade the quality of education system and healthcare system, along with other services delivered by the public sector, to incentivize people to pay taxes.

Although these measures produce effects in the long run, their implementation should start immediately. It is the only way to maintain the results that have been achieved so far, and to possibly improve them in the future. Consequently, through further reduction in the shadow economy budget revenues would increase and Serbia would become a more attractive destination for investments and for doing business, because tolerance for the shadow economy implies existence of unfair competition.

Highlight 3. Connection Between Socio-economic Factors and PISA Test Results Among High School Students in Serbia^{1,2}

Mladen Stamenković³

Abstract: This paper presents an overview of student achievement on PISA tests in Serbia. Determinants of student success were examined, with a special emphasis on the effects of socioeconomic factors. The paper points out the clear differences in student performance depending on different socioeconomic statuses. It confirms the quality of gymnasium-type high schools as the best educational profile. In line with the presented differences in the progress possibilities of students depending on their socioeconomic status and educational profile that the student attends, recommendations for institutional reforms are given toward creating a more equitable educational system.

1. Aims, Importance and Concept of PISA Testing

The importance of education and its effect on economic development has been recognised in many theoretical and empirical papers. In growth models, human capital presents one of the most important factors of economy.

¹ This is the second in a series of papers dedicated to the problems and measures of improving education in Serbia. Previous paper of Professor Branko Urošević, which dealt with measures for improving doctoral studies, was published in Issue no.35 of the Quarterly Monitor.

² The author wishes to thank Miloško Arsić and Dragica Pavlović-Babić for their comments and suggestions.

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Zakon o poreskom postupku i poreskoj administraciji ("Službeni glasnik RS", br. 80/02, 84/02, 23/03, 70/03, 55/04, 61/05, 85/05, 62/06, 61/07, 20/09, 72/09, 53/10, 101/11, 2/12, 93/12, 47/13, 108/13, 68/14, 105/14)

Also, the issue of education's effect on equality and distribution of income has an important place in the research, as well as attempts to determine the present value of future income in relation to education. When talking about human capital, Madžar (2011) stresses the following: "In labour force, it is not the mere number or the quantitatively defined head count that matters, but primarily the level and quality of knowledge and skills which are incorporated in labour force. The term that has long been used for labour force is *human capital*, which highlights the fact that it is not a mechanical selection of people, but a mass of knowledge and skills that these people have in themselves and which they have mastered over time. And knowledge and skills are neither god-given nor are they a product of mere demographic processes; these attributes of human capital that are production-relevant are acquired and systematically accumulated through numerous, surprisingly diverse, and in most cases highly complex educational processes. Knowledge and skills are the result of *investment* into education system and activities performed within that system. And the more you invest, the more the results are comprehensive and production-effective. That is why in economic science, supply of human resources is not determined as a property measured by a head count, but rather as possessing the sufficient mass of the human factor that incorporates the equally comprehensive mass of production-relevant knowledge with an adequate differentiation and a quality necessary for efficient earning. *Tout court*, labour force is not demographically determined and naturally given, but a produced natural factor."

The second half of the 20th century marked the beginning of the development of international surveys of