



## ECONOMIC GROWTH, RECESSION AND PUBLIC DEBT IN THE WESTERN BALKANS AND REPUBLIC OF MACEDONIA

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**Abstract:** Initially the question is raised what economic theory tells us about the relationship between public debt and economic growth. However, causality is hard to establish and, in our reading of the empirical evidence, there is no paper that can make a strong case for a causal relationship going from public debt to economic growth. In several countries debt refinancing, especially of short-term issues, will contribute considerably to gross financing requirements. So far, SEE6 countries have been able to roll over their debt, but whether they can continue to do so depends on market confidence. In this sense, the task is to identify the reasons not to fall of the Macedonian economy during the global crisis, but more importantly, the role of government and monetary authorities in the design of measures and incentives by economic growth in the state of recession creating effective aggregate demand through investment financing in the public sector.

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### 1. Introduction

The literature shows that debt has a negative impact on growth through a standard crowding out effect, but back-of-the-envelope calculations indicate that this effect is quantitatively small. While uncertainty and policy credibility may amplify the negative effect of crowding out, hysteresis can lead to a situation in which expansionary fiscal policies have positive effect on the long-run growth.

However, causality is hard to establish and, in our reading of the empirical evidence, there is no paper that can make a strong case for a causal relationship going from public debt to economic growth.

Our finding that there is no evidence of a causal negative relationship going from debt to economic growth does not mean that debt does not matter, and that countries should run profligate fiscal policies. First, saying that there is no evidence that debt is bad for growth is different from saying that there is evidence that debt does not matter for growth. Second, we think that the relationship between debt and growth is heterogeneous across countries and time periods and that future research should focus on these sources of heterogeneity.

Sovereign debt can help developing countries. It enables their governments to facilitate growth take-offs by investing in a critical mass of infrastructure projects and in the social sectors when taxation capacity is limited, or when the alternative would be to print money and compromise macroeconomic stability. Debt also facilitates tax smoothing and counter-cyclical fiscal policies, essential for reducing output volatility; and it permits an equitable alignment of benefits and costs for long-gestation projects by shifting taxation away from current generations

The growth of the global economy slowed in 2012, with achieved growth of 3.2%, if we exclude the crisis period, the lowest growth seen in the last ten years. Given these trends in advanced economies, emerging economies and developing countries were again the main driver of growth, although their economic activity was visibly slowed compared with the previous two post-crisis years. The slower growth of these countries generally due to their reduced export activity in terms of negative global environment, as well as delayed (lagged) effects of monetary tightening are evident in these countries in 2011.

In such a global environment, foreign effective demand for the first time in 2009, dropped from 1.7%, which reflected the realized negative economic growth in most of the major trade partners of the Republic of Macedonia. Analyzed in more detail, Greece Italy and Serbia had the largest negative contribution to the annual rate of change foreign effective demand in 2012, and only Germany and Bulgaria had a positive contribution due to increasing economic resilience. After two years of relatively stable economic growth of about 3% in 2012 Macedonian economy had a slight decline of 0.3%. Further uncertainty in the external environment and reduced economic activity most important trading partners, as a result of the European debt crisis and in 2012 was a major limiting factor to growth the domestic economy. The economy gradually began to recover in the second half of the 2012, and in conditions of still unfavorable external environment, the growth in domestic activity in the second half of the year was entirely due to domestic factors. The state capital investments and the high amount of construction works by private investors were the main drivers of growth in domestic economic activity in the second half of the year (0.2% on average).

In this sense, the task is to identify the reasons avoid the fall of the Macedonian economy in the condition of global crisis, but more importantly, the role of government and monetary authorities in the design of measures and incentives by economic growth in the state of recession creating effective aggregate demand through investment financing in the public sector. Furthermore, it can be done either by changing the structure of public revenues and expenditures or by increasing the public debt which may have positive or negative effects on economic growth in the future.

## **2. The Theory Approach**

Initially the question is raised what economic theory can tell us about the relationship between public debt and economic growth. If we assume that government spending on goods and services is fixed and we can examine what happens if the government decided to temporarily reduce taxes and financing costs by issuing debt. According to some views for public debt, (Elmendorf and Mankiw, 1999), in the short-run output is demand-determined and fiscal deficits (or higher public debts) have a positive effect on disposable income, aggregate demand, and overall output. This positive short-run effect of budget deficits (and higher debt) is likely to be large when the output is far from capacity. But things are different in the long-run. If Ricardian Equivalence does not hold, the decrease in public savings brought about by a higher budget deficit will not be fully compensated by an increase in private savings. As a consequence, national savings will decrease, resulting in lower total investment, either at home or abroad. Lower investment at home will have a negative effect on GDP, as it will lead to a smaller capital stock, higher interest rate, lower labor productivity and wages. Lower foreign investment (or higher foreign inflows), instead, will have a negative effect on foreign capital income and will thus lower the country's future GNP. This negative effect of an increase in public debt on future GDP (or GNP) can be amplified by the presence of distortionary taxes.

Growth seldom enters the picture explicitly; indeed, most theoretical models do not include a direct link between government debt and growth. Long-run growth is typically taken as exogenous and, with insolvency ruled out, the problem becomes one of allocating taxes over time to minimize deadweight losses from taxation given initial debt. However, unsustainable debt levels can lower growth by raising real interest rates and crowding out the private sector. And sovereign debt can facilitate the achievement of growth, for example, by enabling the optimal social provision of public goods such as education and infrastructure when taxation capacity is limited today but expected to be higher in the future. It also helps when public investments spur private investment through complementarities. But this critically assumes that only those public projects with economic returns exceeding the cost of borrowing are selected;

and that the government subsidizes such projects when their financial return is lower than the cost of funds through redistributive taxation (as opposed to further borrowing): in other words, that governments play their assigned role.

The only explicit debt-growth theoretical link is that between external borrowing (public or private) and growth, the assumption being that if the marginal product of capital is higher than the world interest rate for developing countries, then such countries would benefit from external borrowing. But even here, external debt helps to exploit the existing growth potential of the country; it does not enhance it. Theoretically, therefore, the only guideline one finds is that the rate of return on spending should exceed the marginal cost of borrowing on the assumption that debt is eventually repaid.

According to Elmendorf and Mankiw's (1999) back-of-the-envelope calculations, each additional dollar of government debt reduces steady-state gross output by about 10 cents (9 cents are due to the lower capital stock and one cent to future tax distortion). If we assume that annual real GDP growth is 3 percent and convergence speed is 2 percent, we find that this change in steady-state output has a fairly small growth effect. In particular, our calculations indicate that increasing debt by 100 per cent of GDP would reduce annual GDP growth by approximately 20 basis points in the first twenty years.

The negative effect of public debt could be much larger if high public debt increases uncertainty or leads to expectations of future confiscation, possibly through inflation and financial repression (Cochrane, 2011a,b) for a discussion of these issues). In this case, higher debt could have a negative effect even in the short-run.

The conventional split between the short and long-run effects of debt disregards the fact that protracted recessions may reduce future potential output (as they increase the number of discouraged worker, with the associated loss of skills, and have a negative effect on organizational capital and investment on new activities). In this case, running fiscal deficits (and increasing debt) may have a positive effect on output in both the short and long-run. In fact, at some authors argue that, in a low interest rate environment, expansionary fiscal policy is likely to be self-financing (DeLong and Summers (2012)). They mention that the US Congressional Budget Office recognizes this fact and reduces its estimates of future potential output when output falls below potential for at least one year. There is, in fact, evidence that recessions have a permanent effect on the level of future GDP.

Theoretical model in which, over the business cycle, debt can only be issued to finance public investment and the optimal level of public debt is determined by the public to private capital ratio that maximizes economic growth (Checherita-Westphal, Hughes Hallett, and Rother (2012)). With such a set-up, it is clear that the level of debt that maximizes economic growth is a function of

the output elasticity of the capital stock. Given model is used to estimate optimal debt ratios for various subsamples of OECD countries and find values that range between 43 and 63 percent of GDP. The results are driven by their assumption that the deficit is equal to public investment at each point in time. According to other author (Greiner (2012a)), in such a set-up, debt is completely irrelevant and the non-linear relationship between debt and growth is given by the growth-maximizing tax rate. He then shows that allowing for a more general debt policy leads to a monotone and negative relationship between public debt and steady-state growth. He also argues that the effect of debt on growth depends on the presence of rigidities in the economy. In particular, he shows that, in a model with no rigidities and elastic labor supply, public debt has a negative effect on labor supply, investment, and economic growth. In the presence of wage rigidities and unemployment, instead, public debt has no effect on the allocation of resources and can even have a positive effect if it is used to finance productive investment. Conclusion is that there is no well-specified model that can generate an inverted U-shaped relationship between debt and growth.

Non-linearities may arise if there is a tipping point above which public debt suddenly become unsustainable. (Ghosh, Kim, Mendoza, Ostry, and Qureshi, 2012, provide a formal model). However, we are not aware of any theoretical model that includes such tipping points in a growth framework.

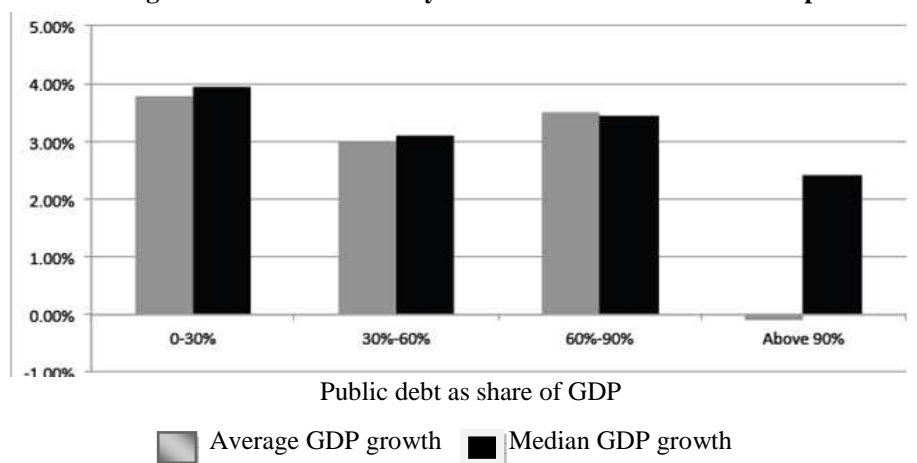
It is also possible that high levels of debt pose constraints on a country's ability to conduct countercyclical policies, and thus increase output volatility and reduce economic growth (for the relationship between volatility and growth, (Ramey and Ramey (1995)). However, the relationship between debt and the ability of conduct countercyclical policies is more likely to depend on the composition of public debt than on the level of public debt. This suggests that countries with different debt structures and monetary arrangements are likely to start facing problems at the very different levels of debt.

Summing up, simple back-of-the-envelope calculations suggest that debt may have a negative effect on growth, but the effect is likely to be small. More sophisticated models yield uncertain results on the relationship between debt and growth and show that the link between debt and growth depends on many cyclical and structural factors. These considerations suggest that trying to estimate a single debt coefficient that holds for all countries and all periods may be mission impossible.

A good starting point for discussing the relationship between public debt and economic growth in advanced economies is Reinhart and Rogoff's (Reinhart and Rogoff (2010b) finding that high levels of debt are negatively correlated with economic growth, but that there is no link between debt and growth when public debt is below 90 percent of GDP. Reinhart and Rogoff

(2010b) illustrate this threshold effect by collecting annual data on debt and output growth for 20 advanced economies over 1946-2009 and splitting their sample into four groups: (i) country-years for which public debt is below 30 percent of GDP (443 observations); (ii) country-years for which public debt is between 30 and 60 percent of GDP (442 observations); (iii) country-years for which public debt is between 60 and 90 percent of GDP (199 observations); and (iv) country-years for which public debt is above 90 percent of GDP (96 observations). Next, they compute median and average GDP growth for each group and show that there are no large differences among the first three groups, but that average and median GDP growth are substantially lower in the fourth group. In particular, they show that in the high debt group median growth is approximately 1 percentage point lower and average growth is nearly 4 percentage points lower than in other groups (see Figure 1).

**Figure 1 The Non-Linearity of the Debt-Growth Relationship**



In this way influential paper sparked a new literature aimed at assessing whether their findings were robust to allowing for non-arbitrary debt brackets, to controlling for other variables in a proper regression set-up, and to instrumenting public debt to assess its causal effect on economic growth. In this section, we review this new empirical literature.

### 3. Economic Growth, Recession and Fiscal Policy in SEE6<sup>1</sup>

After average annual growth of just 2 percent in 2010 and 2011, and mirroring Eurozone developments, in the first half of 2012 SEE6 countries again entered recession. Led by Serbia, which accounts for almost half of SEE6

<sup>1</sup> SEE6 are Albania, Bosnia and Herzegovina, Kosovo, Macedonia, Montenegro and Serbia

GDP, regional economic activity faltered in part because of the severe winter but also because of severely shrinking demand, both external and domestic (Table 1).

**Table 1 South East Europe Six: Real Economic Growth, 2009-2012**

	2009	2010	2011	2012 H1	2012 H2 (proj.)	2012 (proj.)
ALB	3.3	3.5	3.0	1.0	0.6	0.8
BIH	-2.9	0.7	1.3	-0.2	0.2	0.0
KOS	2.9	3.9	5.0	3.6	3.6	3.6
MKD	-0.9	2.9	2.8	-1.1	1.0	0.0
MNE	-5.7	2.5	3.2	-0.9	1.0	0.2
SRB	-3.5	1.0	1.6	-1.6	-2.3	-2.0
<b>SEE6</b>	<b>-1.8</b>	<b>1.8</b>	<b>2.2</b>	<b>-0.6</b>	<b>-0.5</b>	<b>-0.6</b>
EU11	...	2.0	3.1	1.3	...	0.9

*Source:* SEE6 country statistics offices and World Bank staff (2013). Averages are GDP weighted

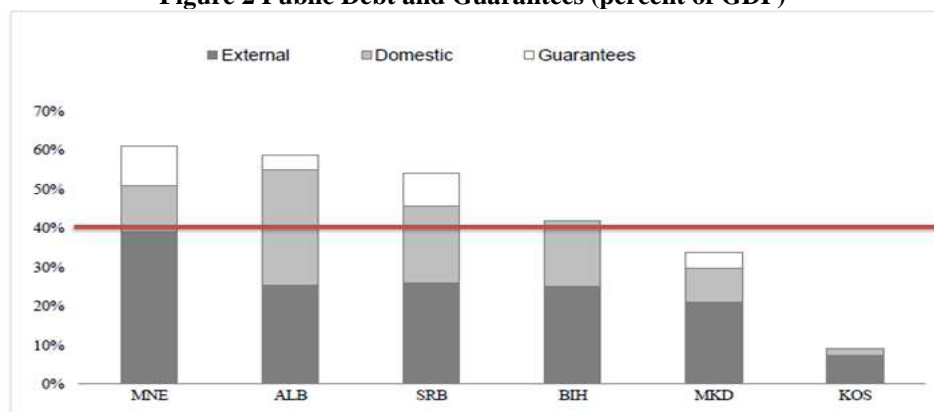
General recession notwithstanding, growth in individual SEE6 countries varied widely. Serbia and Macedonia contracted most, by about 1.6 and 1.1 percent, respectively, in the first half of 2012. Kosovo is an outlier whose real output continues to be propelled by remittances from the diaspora as well as high public investments, and Albania's economy grew 1 percent on the heels of domestic demand. Lower exports and investments drove these developments; high unemployment keeps the lid on consumption. Even with the expected gradual recovery in the second half of the year, the SEE6 as a group will remain in recession for the year as a whole. Unemployment - the highest regional unemployment in Europe, averaging about 25 percent (excluding Kosovo whose unemployment exceeds 40 percent, partly offset by informal employment) - will keep rising.

After looking better in 2010 and 2011, the fiscal situation in SEE6 countries weakened considerably in the first half of 2012 as the double-dip recession impacted government budgets. The average fiscal deficit in SEE6 countries improved from -3.9 percent of GDP in 2010 to -3.1 percent in 2011 partly because economic growth began to revive. Expecting this trend to continue into 2012, governments proceeded with somewhat optimistic revenue assumptions. However, growth slowed across the region in the second half of 2011 and turned negative in the first half of 2012 amid continued turmoil in the Eurozone, compounded by a severe winter that significantly reduced economic activity. Between slow growth and optimistic budgeting, revenues considerably underperformed; deficits are again increasing in most countries (Table 4).

Interestingly, over a longer period SEE6 countries seem on average to have run countercyclical fiscal policies, but the surpluses were too small to provide much room for maneuver during a prolonged crisis. After 2000, structural fiscal balances moved generally in line with growth (Figure 30 and Figure 31). During the peak growth period (2005–07), SEE6 countries on average ran surpluses (although in retrospect not always as large as needed - especially in Montenegro, which experienced both the largest boom and the worst bust) and then moved into deficit in 2008 as the effects of the economic crisis hit. The problem was that countries in the region did not build up enough resources during the boom to finance prolonged deficits during the crisis. Indeed, despite average growth of about 3.8 percent in the 2000s, they ran structural deficits on average of over 1 percent of GDP. Some countercyclical fiscal policies were more successful than others. Kosovo, Montenegro, and to a lesser extent Bosnia had fiscal surpluses on a structural basis during the boom. However, despite solid economic growth Albania and Serbia had deficits (Figure 2).

In Serbia, Albania, and Montenegro the public debt is too high. In August, the Serbian public debt stood at 57.6 percent, well above the 45 percent ceiling set by the Law on Fiscal Responsibility. Albania also has breached its public debt threshold of 60 percent of GDP. Montenegro's public debt has risen significantly, above 59 percent of GDP, in large part because of the deficits during and after the global crisis and state guarantees. These countries will need to make special efforts to implement fiscal consolidation and ensure that they keep the confidence of lenders. BIH, Kosovo, and Macedonia all seem to be well within sustainable levels of public debt. BIH debt was about 40 percent of GDP at the end of 2011, but given the vulnerabilities, BIH debt levels should also be reduced in medium term. Kosovar public debt is now about 9 percent of GDP, although attempts to build up a domestic credit market may push this up slightly in 2013. Public debt in Macedonia is moderate.

**Figure 2 Public Debt and Guarantees (percent of GDP)**

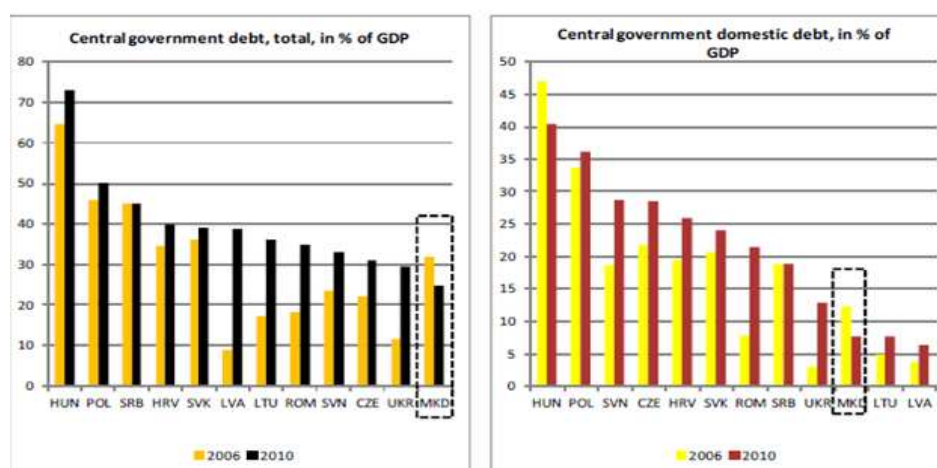


Source: National authorities and World Bank estimates based on latest data available



In several countries debt refinancing - especially of short-term issues - will contribute considerably to gross financing requirements. So far, SEE6 countries have been able to roll over their debt, but whether they can continue to do so depends on market confidence. Some countries also have large amounts for long-term bonds due in late 2012 and early 2013.

**Figure 3 Central Government Debt in CESEE, 2006 and 2010**



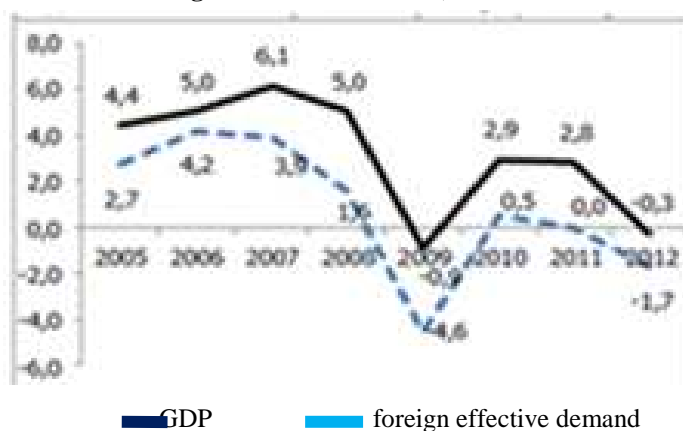
Macedonia's government debt ratio has decreased substantially over the last decade and is modest by regional standards. In contrast with most of its regional peers, Macedonia had lower government debt as a share of GDP in 2010 than in 2006, before the crisis, and the current debt level is among the lower ones in the region (Figure 3).

#### 4. Growth Analysis and Public Finance in Macedonia

Macedonia to the financial crisis had a relatively good economic growth rates. Negative growth rates appear in 2009 and after that recorded relatively stable economic growth of about 3%, and in 2012 the Macedonian economy had a decline again of 0.3% (Figure 4). Continued uncertainty in the external environment and reduced economic activity of the most important trading partners, as a result of the European debt crisis and in 2012 was a major factor limiting the growth of the domestic economy. Adverse effects transmitted especially were felt in the first half of the year. Reemerging of the debt crisis in Eurozone affected the growth rates of our major trading partners and led to a decline in the foreign effective demand for the first time after 2009. Reduced demand for Macedonian products, and lower world export prices, followed by the effects of extremely low temperatures adversely impacted on the domestic

industry and export sector. As a result of these developments the domestic economy entered negative zone growth dropped by around 0.8% on average for the first half of the year. The economy gradually began to recover in the second half of the year, and in conditions of still unfavorable external environment, growth of the domestic economy in the second half of the year was entirely due to domestic factors. The state capital investments and the high amount of construction by private investors were the main drivers of growth in domestic economic activity in the second half of the year (0.2% on average).

**Figure 4 GDP and Foreign Effective Demand (annual rate of real assessment)**



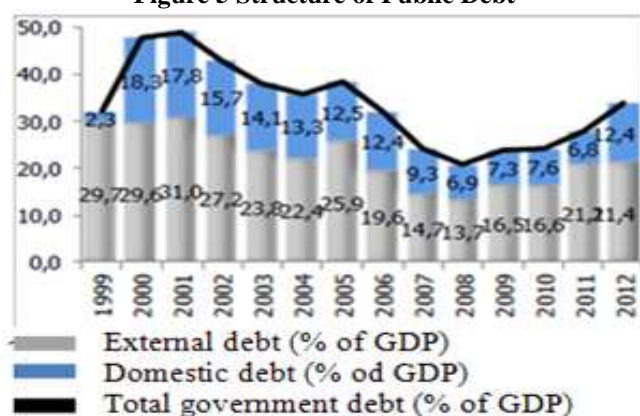
Source: SSO and consensus forecast, february 2013

In the absence of growth of the domestic economy, the 2012 budget deficit increased, but fiscal policy successfully maintained cautious nature. The public finances are faced with major challenges during this period. Thus, revenues were lower than planned. Such deviations caused needs downward correction on the expenditure side to keep the budget deficit target of 2.5%. The 2012 fiscal deficit was generated from 3.8% of GDP, an increase of 1.3 percentage points compared with the previous year and is also one of the highest realized deficits.

The growing need for financing the deficit caused further growth of the public debt, which at the end of 2012 amounted to 33.8% of GDP. During this year, achieve the trend of continuously constant increasing gross external debt. Finally on 31.12.2012, it was 5163.2 million, or 68.6% of BDP or total government debt 34% of GDP, which is an annual increase of 4.1 percentage points of GDP (Figure 5). During the year, the greater contribution of about 55% of the gross external debt had increased levels of private debt, which was mostly due to higher liabilities to direct investors in the long and short term. At the same time, the debt of other sectors in the economy has increased as a result of higher short-term obligations based on other obligations and commercial

loans (lending to foreign trade partners). As for the banks, the higher level of debt, was state due to increasing short-term liabilities of non-resident deposits, which were partially offset by the reduction of long-term debt to banks. Higher level of public external debt reflects the new term borrowing and the sale of state Eurobonds by residents to non-residents.

Figure 5 Structure of Public Debt



Source: Ministry of Finance and Calculation of NBRM

The analysis of indicators of external debt of the country mainly shows that the gross debt is “safe zone”. Namely, according to **indicators of solvency**, measured according to the methodology of the World Bank, the Republic of Macedonia according to the level of external debt belongs to the low indebted countries, with the exception of the indicator for the share of external debt to GDP, the only indicator in which belongs to the group of highly indebted countries. The observed dynamics, in almost all indicators of solvency are improvements on an annual basis, with the exception of the ratio between gross external debt to GDP ratio, which deteriorated (by 2.9 pp of GDP). In this context, it should be said that this indicator has been constantly deteriorating for six years, and the threshold is exceeded moderation since 2005. Significant improvements were seen in the ratio of gross debt to exports of goods and services and repayment of the ratio of debt to exports of goods and services (by 5.3 percentage points and 3.2 percentage points of GDP, respectively), where end-year growth trend as a result of the strong increase in exports of goods and services, in terms of lower growth in gross debt and decline in repayment of debt. At the same time, a small positive change (reduction of 0.2 percentage points of GDP) appears in the indicator of interest repayment / exports of goods and services. Liquidity indicators of the state of external indebtedness generally indicate a relatively favorable position. The coverage of short-term debt by residual maturity to foreign exchange reserves is very close to the required full coverage, although unlike last year this indicator in 2012 has seen a slight deterioration.

Yet, clearly there appeared after 2008 a decline of the dynamics of the Macedonian economy with simultaneous growth of public debt, especially domestic public debt. Of course, given the low prior indebtedness there was sufficient space to increase the effective aggregate demand through financing public investment by increasing public debt, which in recession conditions can be recommended measure. Moreover, since it was observed that the increase in the structural primary deficit in terms of a negative output gap, it can be estimated that the fiscal policy in 2012 was aimed at counter and home support demand. The increased demand for financing the deficit in unfavorable global environment conditions and difficult access to international financial markets have led to an increased presence of the state in the domestic capital market. Thus, the total realization of the primary market for government securities in 2012 equaled 24.9% of GDP, a doubling compared with previous year. In 2012, the total debt of the central government increased by 21.8% compared to 2011 and reached 2.545 million Euros. Moreover, the share of central government debt to GDP rose to 33.8% from 27.8% in previous year. Annual growth in debt was due to the growth the national debt (about 83.9%), while the external debt recorded low annual change of 1.9%. Regarding the structure of the debt, such changes caused a significant increase in the share of domestic debt to GDP (12.4% of compared to 6.8% in 2011) and a moderate increase in the share of external debt.

## **5. Conclusion**

Our findings should not be interpreted as a suggestion that debt accumulation is not a relevant policy issue or that high debt levels are not a serious problem. First of all, stating that there is no evidence that debt has an effect on economic growth is different from stating that there is evidence that debt has no effect on economic growth. Second, there are different ways through which a large public debt may harm the economy. We suggest that a fully solvent government with a high level of debt may decide to put in place restrictive fiscal policies to reduce the probability that a sudden change in investors' sentiments would push the country towards a bad equilibrium. These policies, in turn, may reduce growth, especially if implemented during a recession. In this case, it would be true that debt reduces growth, but only because high levels of debt lead to contractionary policies. While such an interpretation would justify longterm policies aimed at reducing debt levels, it also implies that countries should not implement restrictive policies in the middle of a crisis.

In our view, future research on the links between public debt and economic growth should focus on cross-country heterogeneity and on the mechanisms and transmission channels through which public debt may hinder economic growth.

Addressing the latter point would require a unified theory aimed at explaining under what conditions and through which mechanisms debt may reduce economic growth.

The relationship between debt and growth is characterized by large cross country heterogeneity and may also vary over time within countries. The way in which debt affects growth may depend on institutional quality, on the dimension of the public sector, on how and why debt has been accumulated, and on the structure and composition of the public debt.

After average annual growth of just 2 percent in 2010 and 2011, and mirroring Eurozone developments, in the first half of 2012 SEE6 countries again entered recession. Led by Serbia, which accounts for almost half of SEE6 GDP, regional economic activity faltered in part because of the severe winter but also because of severely shrinking demand, both external and domestic. Interestingly, over a longer period SEE6 countries seem on average to have run countercyclical fiscal policies, but the surpluses were too small to provide much room for maneuver during a prolonged crisis. In Serbia, Albania, and, the public debt is too high. BIH, Kosovo, and Macedonia all seem to be well within sustainable levels of public debt. In several countries debt refinancing - especially of short-term issues - will contribute considerably to gross financing requirements. So far, SEE6 countries have been able to roll over their debt, but whether they can continue to do so depends on market confidence. Some countries also have large amounts for long-term bonds due in late 2012 and early 2013.

We are finding that conservative fiscal, monetary and financial policies gave the Macedonian authorities policy space to confront spillovers from the global crisis - balance of payments pressures early on in the crisis were managed successfully, reserves were reinforced, and looser fiscal policy has supported weak domestic and external demand. As a result, Macedonia avoided large declines in output and disruptive capital outflows, and is well-positioned to return to growth when the recovery in Europe sets in.

Moderate economic growth of 2 percent in 2013 is still achievable, but subject to substantial downside risks. As the external environment remains difficult and as signs of recovery in the Macedonian economy remain fragile, policies should remain supportive in the near term, particularly since there are no exchange rate imbalances. In that respect, the 3.5 percent of GDP cash deficit target for the central government in 2013 as well as current monetary policy settings are appropriate.

As growth returns, Macedonia should aim to rebuild some fiscal space for future countercyclical responses, by gradually lowering debt levels. The debt trajectory should take into account the fact that safe debt levels depend on country specific characteristics such as low and volatile revenue ratios and low growth.

Macedonia should continue to keep a proactive policy to create aggregate demand through financing public investments during the global crisis. It as secondary indebted country still has possibility to increase the public debt but the very careful way. It means that it needs careful structuring of public debt to creditors on the one hand, and public financing of exclusively productive investments manner with the short to medium term multiplier effect on the private sector of the Macedonian economy.

## References

- Abbas, S. M. A., N. Belhocine, A. A. El-Ganainy, and M. A. Horton (2011) "Historical Patterns and Dynamics of Public Debt - Evidence From a New Database," *IMF Economic Review*, 59(4), 717–742.
- Arslanalp, S., and T. Tsuda (2012) "Tracking Global Demand for Advanced Economy Sovereign Debt," *IMF Working Papers 12/284*, International Monetary Fund.
- Barro, R. J. (1974) "Are Government Bonds Net Wealth?," *Journal of Political Economy*, 82(6), 1095–1117.
- Baum, A., C. Checherita-Westphal, and P. Rother (2012) "Debt and growth: New evidence for the euro area," *Journal of International Money and Finance*, 32, 809–821.
- Checherita-Westphal, C., A. Hughes Hallett, and P. Rother (2012) "Fiscal Sustainability using Growth-Maximising Debt Targets," *Working Paper Series 1472*, European Central Bank.
- Checherita-Westphal, C., and P. Rother (2012): "The impact of high government debt on economic growth and its channels: An empirical investigation for the euro area," *European Economic Review*, 56(7), 1392–1405.
- Cochrane, J. H. (2011a): "Inflation and Debt," *National Affairs*, (9), 56–78. (2011b): "Understanding policy in the great recession: Some unpleasant fiscal arithmetic," *European Economic Review*, 55(1), 2–30.
- Delong, B. J., and L. H. Summers (2012): "Fiscal Policy in a Depressed Economy," *Brookings Papers on Economic Activity*, Spring
- Djuric, Ivan, Linde Gotz, and Thomas Glauben (2011) "Influences of the Governmental Interventions on Wheat Markets in Serbia during the Food Crisis 2007/2008." Halle, Germany: Leibniz Institute of Agricultural Development in Central and Eastern Europe (IAMO).
- Elmendorf, D. W., and G. N. Mankiw (1999) "Government debt," in *Handbook of Macroeconomics*, ed. by J. B. Taylor, and M. Woodford, vol. 1 of *Handbook of Macroeconomics*, chap. 25, pp. 1615–1669. Elsevier
- Greiner, A. (2011) "Economic Growth, Public Debt and Welfare: Comparing Three Budgetary Rules," *German Economic Review*, 12(2), 205–222. (2012a): "Debt and Growth: Is There a Non-Monotonic Relation?," *Working Papers in Economics and Management 04-2012*, Bielefeld University. (2012b): "Sustainable Public Debt and Economic Growth under Wage Rigidity," *Metroeconomica*, forthcoming

- Ghosh, A. R., J. I. Kim, E. G. Mendoza, J. D. Ostry, and M. S. Qureshi (2012) "Fiscal Fatigue, Fiscal Space and Debt Sustainability in Advanced Economies," *Economic Journal*, Forthcoming.
- Mankiw, N. G., D. Romer, and D. N. Weil (1992) "A Contribution to the Empirics of Economic Growth," *The Quarterly Journal of Economics*, 107(2): 407–37.
- Ramey, G., and V. A. Ramey (1995) "Cross-Country Evidence on the Link between Volatility and Growth," *American Economic Review*, 85(5): 1138–51.
- Ramey, V. A. (2012) "Discussion of Fiscal Policy in a Depressed Economy, by B. J. DeLong, and L. H. Summers," *Brookings Papers on Economic Activity*, Spring.
- Reinhart, C. M., V. R. Reinhart, and K. S. Rogoff (2012) "Public Debt Overhangs: Advanced-Economy Episodes Since 1800," *Journal of Economic Perspectives*, 26(3): 69–86.
- Reinhart, C. M., and K. S. Rogoff (2010a) "Debt and Growth Revisited," *VoxEU.org*. (2010b) "Growth in a Time of Debt," *American Economic Review*, 100(2): 573–78. (2011) "From Financial Crash to Debt Crisis," *American Economic Review*, 101(5): 1676–1706.
- Rodrik, D. (2008) "The Real Exchange Rate and Economic Growth," *Brookings Papers on Economic Activity*, 39(2 (Fall)): 365–439.
- Sachs, J. D. (1989) "The Debt Overhang of Developing Countries," in *Debt, Stabilization and Development*, ed. by G. A. Calvo, R. Findlay, P. Kouri, and J. B. de Macedo. Basil Blackwell, Oxford.

## PRIVREDNI RAST, RECESIJA I JAVNI DUG U ZEMLJAMA ZAPADNOG BALKANA I MAKEDONIJI

**Rezime:** Na početku se javlja pitanje šta nam ekonomska teorija govori o vezi između javnog duga i ekonomskog rasta. Međutim, uzročnost je teško uspostaviti, i u našem razmatranju empirijskih dokaza ne postoji rad koji može dokazati uzročnu vezu javnog duga i privrednog rasta. U nekoliko zemalja refinansiranje duga, posebno kratkoročno, doprineće značajno bruto zahtevima finansiranja. Zadatak je da se identifikuju razlozi da makedonska privreda ne pada za vreme globalne krize, ali, još je bitnija uloga vlade i monetarnih vlasti u dizajniranju mera i podsticaja ekonomskog rasta u stanju recesije kroz kreiranje efikasne agregatne tražnje kroz finansiranje investicija u javnom sektoru.

**Ključne reči:** javni dug, recesija, privredni rast