Public Debt and the Budget Deficit in Kosovo

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Abstract: This paper explores the relationship between the budget deficit and public debt, as well as their effects on GDP in Kosovo during the period 2010 to 2018. The choice of period was guided by data availability for Kosovo's public debt. Up until 2010, Kosovo did not have a legal framework that would allow the general Government to have domestic debt, and the budget had no source of finance other than its own tax and non-tax revenues. In the period up to 2018 the share of public debt and budget deficit in GDP did not exceed the margin of 40 per cent and 2 per cent, respectively, prescribed by the fiscal rule. The aim of the paper is to determine the empirical relationship between Kosovo's public debt and budget deficit in macroeconomic terms. The paper also estimates the correlation between public debt and budget deficit, as well as its components. The methodology used is based on the econometric analysis of regression over time series (OLS). Using these data, a model is generated to examine the relationship between public debt as a dependent variable of the deficit and interest payments on debt repayment. Our main finding is that when the budget deficit increased by 1 per cent, the public debt increased by 4.96 per cent, and when GDP increased by 1 per cent, the budget deficit grows by 0.25 per cent.

Keywords: Government debt; budget deficit; economic growth; fiscal rule.

JEL Clasiffication: E62; H62; H63

1. Introduction

The debt crisis in Europe has drawn the attention of many governments and international organisations to the rising levels of debt in many emerging or developed countries. Most economists agree that some government debt is necessary and not harmful to an economy, but opinions diverge when the debt levels rise. Kosovo, unlike many other countries in the region and beyond, managed to maintain a low level of public debt. Up until 2010 Kosovo did not have a legal framework that would allow the general government to have domestic debt. The budget had no

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source of finance other than its own tax and non-tax revenues. However, since 2010[1] there has been a steady increase in the level of public debt and budget deficit. This has led to a much controversial debate among politicians, the media and the general public opinion.

In 2017, public debt increased to 1143.8 million euros (18.0 per cent of GDP), with a 95 million euro (1.5 per cent of GDP) budget deficit. From the data (Ministry of Finance 2018), we can see that the highest increase in overall debt is expected to be recorded during the current year (2018), primarily due to domestic market borrowing through the Securities and Disbursements of Funds through the Investment Clause.

It is almost impossible to develop the economy of a developing country, such as Kosovo, without borrowing. The country needs multiple expenditures to stimulate economic activity and, in particular, to improve the quality of public services and meet the challenges of overcoming the economic transition. Financing developmental-related projects through debt could help a country build its production capacity and facilitate economic growth. During recessions, it is common to have some sort of spending bill to stimulate economic activity. Nevertheless, there is pressure to increase public spending and there is a need for special treatment of expenditure that is considered productive, such as public spending on investment, research studies, innovation or education that is coordinated with other development policies or development strategies at the state level.

Although Kosovo has a low level of debt, the trend of debt growth should be taken into account in the context of the country's economic capacity. The size of the public debt has economic consequences because it is necessary to take into account the capacity of an economy to repay the debt, as debts have to be paid with interest. If a government does not guarantee repayment, it is obliged to raise more money. Given that Kosovo has no monetary policy, rising debt means higher taxes, as taxes are the main way for the government to collect revenue. Raising taxes is also not advisable because it would hurt consumer spending power when the economy needs it most.

Public debt is linked to many other economic and financial elements. First, in the medium term, public debt growth may hurt economic growth, causing the crowding out effect,[2] narrowing the space for private sector support and affecting the government's ability to finance projects in the interest of economic development. Secondly, public debt is tightly linked to the deficit, as it mainly consists of a budget deficit and directly influences both current and future government spending, which

[1] The law on public debts from February 2010 opened the way for Kosovo to maintain state debt.

[2] Keynesian economists see the issue differently. In his work *The General Theory of Employment, Interest and Money* (1936), Keynes acknowledged the potential impact of crowding out. However, he did not believe that an economy would experience full crowding out if there were slack in the economy, but rather it would experience only partial crowding out, with practically no crowding out during times of deep recession.

in the present increases the likelihood of financing, while decreasing that likelihood in the future.

The budget deficit is one of the main causes that have directly affected the growth of public debt in Kosovo. Governments borrow if actual spending is not fully covered by current income. These borrowings, recognised as financial liabilities, contain the new annual net debt, which does not include borrowing intended for debt repayment or repayment of loans from previous fiscal years. New net debt and debt repayment loans and ongoing financing unite a new borrowing loan, the sum of which is much higher. The ratio of new net debt to GDP is referred to as the deficit ratio. This, however, differs from the level of debt, which is equal to the (positive and negative) amount of the previous net new debt and forms the ratio of government debt to GDP.

The optimum limit of public debt is the amount of debt that ensures the achievement of desired economic stabilisation objectives, financial market development and economic growth, while at the same time not jeopardising potential economic and social development.

Establishing fiscal discipline that determines the ceiling of public spending, bans investments that are not supported by budget funds, strictly monitors budget expenditures are measures that are envisaged to promote a progressive approach to public finances to maintain macroeconomic and fiscal stability as a precondition for creating a more favourable climate for private sector development.

2. Literature Review

Empirical studies on debt sustainability in the last decade have been numerous and have gained importance after the most recent global financial and debt crisis. Most of these studies address the issue of good management for the creation of affordable debt. Another aspect of debt management is the issue of social debt management raised by Gale (1963), particularly the impact of public debt management and the efficiency of its risk-sharing among generations. The greatest threat mentioned and addressed remains the separation of debt burden without seriously damaging a generation or a social group due to the misguided fiscal policy of the present.

There are two major groups in the theoretical literature regarding the contribution of major economic schools to public debt and economic growth. On the one hand, there

are the Classical[1] (and Neoclassical) and Ricardian[2] views, that consider public debt detrimental to economic growth stand, while on the other hand, modern economists treat debt as an incentive to economic growth, but only if the funds are used for productive investment.[3] According to Elmendorf and Mankiw (1999), the "conventional view of public debt" is that, in the short term, public debt has a positive effect on economic growth.[4] In the short-run, the product is determined by demand and thus government debt can effectively have a positive effect on disposable income, aggregate demand and, in general, on output. However, a larger public debt may displace (crowd out) private investment and may harm growth in the long run by raising long-term interest rates (Baldacci & Kumar, 2010).

The theoretical literature tends to point to a negative relationship between government debt and economic growth. However, based on empirical studies, debt has an adverse impact on growth only after a threshold is reached (see, e.g. Pattillo et al., 2002; Reinhart & Rogoff, 2010; Panizza & Presbitero, 2013; Herndon et al., 2014). Reinhart and Rogoff (2010), in their study of 44 advanced and emerging countries over a 200-year period using histograms, found an inverted U-shaped relation between debt and growth, with the relationship becoming negative once the debt to GDP ratio exceeded about 90 per cent. Panizza and Presbitero (2013) found that the presence of thresholds and, more generally, of a non-monotonic relationship between public debt and economic growth was neither robust to changes in data coverage nor to the empirical techniques used. They maintained that empirical studies dealing with the subject should, in particular, put a strong emphasis on cross-country heterogeneity.

Many empirical studies have shown that, for developing countries, high levels of state debt have a negative effect on economic growth (see e.g. Pattillo et al., 2002; Pattillo et al., 2004; Schclarek, 2004; Kumar & Woo, 2010). For example, Pattillo et al. (2002) analysed 93 developing countries during the period 1969–1998 and, based on their econometric analysis, concluded that external debt had a negative impact on economic growth for debt values above 35–40 per cent of GDP. Other empirical studies, meanwhile, have found public debt has a positive role on growth (see e.g.

[1] Classical and Neoclassical views of public debt are mostly pessimistic: Smith, Ricardo, J.S. Mill, Hume and others believe government borrowing is invariably wasteful, ruinous to prosperity and even morally unjust.

[2] Ricardo (2001, originally published 1817) made important modifications to the arguments of Adam Smith, and J.B. Say pointed out that an important burden of national debt was not in the annual interest transfer, but in the lost original capital. According to Ricardo, a deficit-financed cut in current taxes for a given path of government spending leads to higher future taxes that have the same present value as the initial cut.

[5] Greiner (2012) concludes that there is no well-specified model that can generate an inverted U-shaped relationship between debt and growth. For similar results, see also Ghosh et al. (2013).

[4] The first studies on public debt, such as Modigliani (1961), Diamond (1965) and Saint-Paul (1992), maintained that an increase in public debt always contributed to economic growth.

Abbas & Christensen, 2010). However, DeLong and Summers (2012) and Panizza and Presbite (2014) have shown that it is also possible to think about scenarios in which expansionary fiscal policies that lead to debt accumulation, but avoid protracted recessions, end up having a positive effect on both short- and long-term growth.

Of the other economists who have studied the budget deficit and public debt, Westerlund and Prohl (2010) reviewed public revenues and public spending for OECD countries and concluded that fiscal policy was restrained by the need to finance the budget deficit, which suggested that the market value of public debt must be counterbalanced by the present value of future budget surpluses. Adam and Bevan (2005) found interaction effects between deficits and debt stocks, with high debt stocks exacerbating the adverse consequences of high deficits. In a simple theoretical model integrating government budget constraint and debt financing, they found that an increase in productive government expenditure, financed out of a rise in the tax rate, would be growth enhancing only if the level of the (domestic) public debt were sufficiently low. Using a Keynesian framework, Leão (2013) argues that below the full employment level, an increase in public spending may diminish the level of public debt. Teică (2012) notes that debt sustainability can be achieved through a combination of fiscal policies to reduce budget deficits and increase primary balances. According to Elmendorf and Mankiw (1999), a key channel through which large fiscal deficits can be expected to have an impact on long-term interest rates is the impact on national savings. In the neoclassical model, fiscal deficits reduce national savings and increase aggregate demand. This creates an excessive supply of government debt, triggering the rise of real interest rates.

Laubach (2009) has examined the relationship between long-term expected government debt and deficits and expected future long-term interest rates. The results of his study suggest that interest rates rise by about 25 basis points in response to a percentage point increase in the projected deficit-to-GDP ratio, and by about 4 basis points in response to a percentage point increase in the projected debt-to-GDP ratio. Alesina and Ardagna (2010) reviewed government bond interest rates at the time of major fiscal changes using the OECD study base during the period 1960–2002 and concluded that 10-year nominal yields on government bonds increased by more than 180 basis points during that period if the primary fiscal deficit expanded by more than 1½ per cent of GDP per year or 1 per cent of GDP per year in two consecutive years. This attitude is supported by Alesina and Perotti (1995).

3. Macroeconomic Framework

The economy of Kosovo is stable and grew around 3.7 per cent in 2016 (KSA 2017) and around 3.5 per cent in 2017. This growth was mostly supported by growing

domestic demand, healthy remittance inflows, stronger credit growth and faster implementation of construction of large projects. Inflow from remittances primarily drove consumption and investment in the non-tradable sector and without a well established productive and export base. Kosovo's trade deficit is very large, at about 30 per cent of GDP, and remains the key problem for the economy.

Prices are recovering, with negative inflation averaging at −0.5 per cent over 2015, which has remained negative through most of 2016; inflation has recently started to recover, and it has entered positive territory (1.7 per cent y/y in July 2017). The drivers of this turnaround have been external food and energy prices.

External deficits remain high but well financed. Kosovo's trade deficits have been historically high because of the country's narrow productive and export base and high import dependence. The current account deficit is close to 10 per cent. Following historical patterns, financing of external deficits remains steady and largely non-debt creating, mostly in the form of remittances, official transfers, and FDIs.

The medium-term growth outlook is forecasted to be positive, but still not sufficient for Kosovo's needs. Implementation of large infrastructure projects should have an impact by boosting investments, and this should help to expand the production base. At the same time, the removal of obstacles for bank lending and a more competitive labour market will support medium-term growth in the range of around 4 per cent. This rate of growth is above regional averages, but is still not enough to rapidly reduce Kosovo's high unemployment and close the income gap with the rest of Europe.

Table 1 shows that public debt has been growing every year, while budget deficits remain high, although these are also safely financed. Kosovo's trade deficits have been historically high, given the country's narrow export base and high import dependence. Data up to 2016 suggest that the trade deficit did not increase relative to the 2015 level (28.5 per cent), as favourable terms of trade mitigated the impact of strong domestic demand and associated imports. The current account deficit is close to 10 per cent. Following historical patterns, the financing of external deficits remains steady and largely non-debt creating, mostly in the form of remittances, official transfers and FDI (IMF, 2017).

The budget deficit has decreased over the years, but it is important to note that during this period there has been economic growth in the country, with particular emphasis on the tendency for budget deficit growth in cases of economic downturn. This is because the government faces diminished economic activity and, through its expenditures, it has to intervene in the economy; through the multiplier effects of expenditure, this stabilises the economy, but as a result the budget deficit also increases. Other indicators are presented so the analyses can be compared either in units or as percentages.

Although the data appear encouraging in the first estimation, if seen in the context of economic problems, they are not very representative. Although revenue per capita has reached over 3,000 euros—which is not far from other countries in the region—distribution is not fair as extreme poverty is high in Kosovo (KSA 2017).

Table 1. Macroeconomic indicators, public debt and budget deficit

	2012	2013	2014	2015	2016	2017 proj.
Budget deficit (millions of euros)	-119.2	-156.18	-129.4	-94.84	-69	-74
GDP (millions of euros)	5,327	5,568	5,807	6,052	6,052	6,329
GDP growth (in %)	3.0	3.4	1.2	4.1	3.6	3.5
GDP per capita (in euros)	2934	3446	3525	3673	3743	3856
Deficit (percent of GDP)	-2.2	-2.8	-2.2	-1.6	-1.1	-1.2
Total public debt	409.9	476.3	582.9	749	852	852
Total public debt (percent of GDP)	8.1	8.9	10.47	13.1	14.6	14.6

Source: IMF 2017

Compared to other countries, the problem of poverty is more pronounced and affects the overall economic activity in the country, but the problem lies in the future because poverty can affect the non-development of human capital, which is essential for Kosovo's potential for sufficiency.

4. Legal and Institutional Framework (Fiscal Rule)

To ensure that its fiscal policy remains on a sustainable path, Kosovo has adopted a legally binding fiscal rule anchored in the LPFMA,[1] which went into force in 2014 and through which the Government of Kosovo aimed to keep the debt at a sustainable level through harmonisation of the budget balances, borrowing level and medium-term economic growth.[2] One of the main objectives of the Government of Kosovo is to strengthen its fiscal position and responsible management of public finances.

The fiscal rule in Kosovo has two constraints: 1) the ratio of public debt to GDP, that is, the amount of outstanding principal of general debt, should in no case exceed 40 per cent of GDP;[3] 2) the budget deficit should not exceed 2 per cent of GDP. The implementation of this fiscal rule in Kosovo began in 2014, but in 2016 a new fiscal

[1] Law on Public Financial Management and Accountability (Law No. 03/L-048).
[2] Public debt law (PDL) No. 03/L-175 on maintaining a sustainable level of deficit and public debt.
[3] In case the general debt exceeds 40 per cent of GDP, the government should submit to parliament its strategy to return the general debt below the 40 per cent threshold within a year. This strategy should be included in the annual budget laws for the coming years. Under the law, the state guarantees should be treated as state debt when calculating this limitation.

package came into effect that implemented the stand-by agreement with the IMF, *inter alia*, to modify the fiscal rule.

Considering Kosovo's needs for large development projects, the implementation of the revised investment clause allows the Government to finance capital projects in the public interest at a deficit of over 2 per cent of GDP, provided that such projects are financed by international financial institutions and development agencies.[1] Indeed, the capital budget in Kosovo is large, but so are the country's infrastructure needs. Since independence in 2008, the annual capital budget has accounted for 9 per cent of GDP on average. In addition, infrastructure spending has accounted for roughly 35 per cent of total public spending, with a rate of implementation close to 90 per cent. Yet these numbers may exaggerate the extent to which public infrastructure has been upgraded, because in small economies like Kosovo single projects can absorb a large share of GDP. For instance, construction of Route 7, linking Pristina with the Albanian border (at a total cost of about 20 per cent of GDP), absorbed much of the capital budget between 2010 and 2013, while Route 6 (linking Pristina to the Macedonian border, at an expected cost of 11 per cent of GDP) will take up much of the available space in the budget until 2019.

Budget planning and execution should be in line with the country's fiscal rule that limits the budget deficit to 2 per cent of GDP and the debt to 40 per cent or, respectively, 30 per cent of GDP for the exclusion of capital investments from the deficit rule, according to the investment clause. Since the existing fiscal space is limited, the government intends to achieve the objectives set out in the strategic documents through reallocations within the existing spending determined by the fiscal framework. However, the investment clause lays the groundwork for scaling up donor-funded capital spending while safeguarding debt sustainability. In this context, the Government of Kosovo has intensified efforts to mobilise donor financing for key capital projects under the revised investment clause. Prioritisation of public investments, namely capital projects, is based on the level of impact these projects have on transforming the economic structure of the country. Agricultural infrastructure, road and rail transport, water supply networks, irrigation networks and wastewater treatment will be priorities in budget distribution, while investments in energy are planned to take place with the involvement of the private sector.

Regarding the institutional framework, the Ministry of Finance has institutional responsibilities for managing public debt.[2] Within the Ministry of Finance, a unit

[1] The priority project list focuses on transport, energy and the environment. After considering the proposals from the respective ministries, 39 infrastructure projects have been approved, the total cost of which amounts to 2.3 billion euros (IMF, 2017).

[2] The main legal framework for managing state debt is the Law on Public Debt no. 03/L-175 approved by the Assembly of the Republic of Kosovo on 29 December 2009. This law gives the government permission "to borrow money; to make loan guarantees, to pay expenses for debt issuance and pay the principal and interest on its State Debt".

was created within the Treasury Department for Public Debt Management (Ministry of Finance 2017). According to the Law on Public Debt (Law No. 03/L-175), the State may borrow:

- to cover the budget deficit;
- to finance investment projects that are of national scope and foreseen in the medium-term spending framework;
- to refinance state debt received earlier;
- to pay state guarantees in case the parties fail to meet their obligations;
- to pay the costs of general debt service as well as various expenses in case of various national emergencies announced by the assembly.

5. Data Analysis

This study employed annual data series on state debt and fiscal deficit (both as a ratio of Kosovo GDP) for the period 2012 to 2018. As mentioned above, the choice of period was guided by the availability of data for Kosovo's public debt. The data was obtained from the IMF Statistical Agency of Kosovo (SAK), Ministry of Finance (MF).

Overall Debt at the end of 2018 is estimated to be 1,154 million euros or 18.05 per cent of GDP (Ministry of Finance 2017). At the end of fiscal year 2016 (Figure 1), the state debt was 852 million euros or 14.58 per cent of GDP.[1]At the end of 2013, the state debt was 489.4 million euros, of which government direct debt was estimated to be 480.99 million euros or 98.27 per cent of the portfolio, while 8.45 million euros or 1.73 per cent was sub-borrowed debt. During 2009–2013, the state debt to GDP had an average annual growth of 10 per cent, resulting in a rise from 6.37 per cent to 9.33 per cent (IMF, 2017).

[1] Analyses presented in this paper cover the state debt as defined in the Law on Public Debt (no. 03/l-175); private debt in the banking sector is not included.

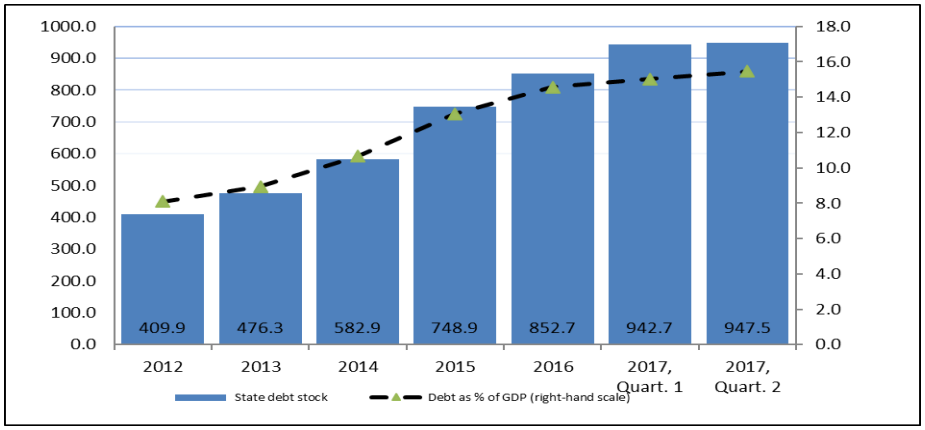

Figure 1. State debt stock and Debt as percentage of the GDP

Source: Data processed by authors

5.1. Domestic Debt

Since the establishment of the Securities Market in 2012, the Ministry of Finance has been working towards the development of a sustainable market with expanded investor base and transparent market operations. A fully electronic market of auction management is implemented under a Primary Dealer system, where only commercial banks (including primary participants) have the right to bid in the primary market.

Initially, the midterm objective was to develop the domestic market and cover the deficit through domestic borrowing. The market showed interest and trust towards government securities. Almost all of the auctions were oversubscribed by investors, and domestic borrowing increased from year to year. By the end of 2016, the domestic debt stock was projected to reach 481 million euros or 8.06 per cent of GDP. More important, for the first time in the debt portfolio history, the amount of securities issued in the domestic market as a percentage of public debt surpassed credit borrowings from external creditors by 0.44 per cent at the end of December 2015. Such an upward trend in favour of domestic debt continued in the following years, where at the end of 2017 the internal debt/public debt ratio was 58 per cent. This part of Kosovo's debt portfolio consists of debt instruments with a maturity of 6 months to 7 years (Ministry of Finance, 2017).

The main investors in the market consist of commercial banks licensed in Kosovo, followed by pension funds, public institutions, insurance companies and also individuals and businesses, which are classified as others who have mainly purchased in the secondary market (see Appendix 3. Domestic Debt).

Borrowing from domestic debt is done by issuing securities and the main instruments are treasury bills with maturities up to 12 months and government bonds with

maturities longer than 1 year. Issuance is done in the EUR currency, which eliminates currency risk, and funds raised are recorded as budget inflows. Issuance of securities is characterised by low transaction costs on one side, while assisting in the development of the local capital market by increasing the efficient management of liquidity on the other side, both for the government and for the financial system.

With the aim of extending the average time to maturity of the domestic debt portfolio and reducing the refinancing risk, the treasury aim is that all new issuances be bonds with a maturity of two or more years. As a result of the developments in the Eurozone markets, as well as professional and transparent management of security issuance, interest rates on the debt instruments of the Government of Kosovo have decreased. It is also worth mentioning that the buying interest of investors has significantly increased. The graphs in the appendix show the trend of interest rates on government bonds and bills and the bid/cover ratio.

5.2. International Debt

As mentioned earlier, most of the international debt owed to the World Bank (WB)-IBRD is debt inherited from the former Yugoslavia. In addition to the WB, another significant amount of international debt is owed to the IMF (2017).[1] Debt to other financial institutions are mainly at low rates (see Appendix 4. International Debt) and are drawings from the agreements for financing certain projects. By the end of 2016, the international debt is projected to reach a value of 496 million euros or 8.32 per cent of GDP. The public debt at the end of FY 2013 was estimated to be 489.4 million euros or 9.3 per cent of GDP. Since there are no municipal debts and no state guarantees issued, all this is considered a state debt.

Aside from the inherited debt from the former Yugoslavia in 2009, which makes up the bulk of Kosovo's debt service, and the programs with the IMF, the entire external debt issued was under concessional terms and intended for project financing. Budget financing is provided mainly by the domestic market through the issuance of Securities of the Government of the Republic of Kosovo. The government is committed to developing the domestic securities market and will continue to use it as the main source of budget funding.

[1] On 29 July 2015, the executive board approved a 22-month, SDR 147.50 million SBA for Kosovo. This supports the government's economic program, which aims to raise Kosovo's economic potential by creating fiscal space for growth enhancing expenditure. Preserving low debt, upgrading key infrastructure by catalysing donor resources, and boosting competitiveness—by realigning labour costs, removing structural obstacles to credit and creating a more level and transparent business environment—are also program goals.

6. Results

To evaluate the relationship between public debt and budget deficits in macroeconomic relations we use basic Regression Analysis with Time Series Data (OLS). Based on the results, there appears to be a clear link between the budget deficit and general debt. A one-unit acceleration in the change of budget deficit appears to determine, on average, an increase in the public debt of 4.96 units (Figure 2).

Based on this empirical analysis, about 77 per cent (R-squared = 0.77) of general debt is explained by the budget deficit. In theory, this can only be characteristic for countries that do not have other mechanisms to increase expenditures. However, the standard deviation is not very high, at around 1.35, meaning that the coefficient 4.96 may be larger or smaller than 1.3 units, from 3.6 to 6.31 respectively. Budget deficits are the principal contributor to debt. One of the reasons why the budget deficit affects public debt is that the overall deficit is financed through domestic borrowing. Each year the deficit adds to the country's debt. As the debt grows, it increases the deficit in two ways. First, the interest on the debt must be paid each year, which increases spending while not providing any benefits. The interest payments are get high enough to create a drag on economic growth, as those funds could have been used to stimulate the economy. Second, the deficit becomes a self-defeating loop, as countries take on new debt to repay their old debt.

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. reg totalpublicdebt deficitibuxhetormillionsofeuros

      Source |       SS       df       MS              Number of obs =       6
-------------+------------------------------           F(  1,     4) =   13.42
       Model |  141486.647     1  141486.647           Prob > F      =  0.0215
    Residual |  42163.065      4  10540.7663           R-squared     =  0.7704
-------------+------------------------------           Adj R-squared =  0.7130
       Total |  183649.712     5  36729.9424           Root MSE      =  102.67

------------------------------------------------------------------------------
totalpubli~t |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
deficitibu~s |     4.96045   1.35394     3.66   0.022     1.20131    8.71959
       _cons |     1184.964  150.9474     7.85   0.001     765.8668   1604.061
------------------------------------------------------------------------------
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Figure 2. Linear regression: the impact of budget deficit on public debt

Source: Author's computation

Budgeting practices create a system where deficits and debt are interdependent: budget deficits increase public debt levels, which in turn increase future net deficits. However, the contribution of public debt to deficit is less certain than the other way around. Figure 3 shows the evaluated relationship between public debt and budget deficits. The results indicate that the link between these two variables is weaker than in the first case. As the public debt increases by one unit, the deficit increases by 0.15 units. The sample is small, and other statistics have not made any major changes

where *t* statistics have proven to be significant, and the determination coefficient is around 77 per cent.

Over time, persistent budget deficits can hamper economic growth. Deficits represent an intertemporal transfer from later generations to the current one, as money borrowed now will eventually require repayment with interest. Public debt is funded through private capital. In the absence of public debt, a portion of such funding would likely have been used on private investment projects that could increase the future productive capabilities of the economy.[1] Large or rapidly increasing debt levels could also make the economy more susceptible to a recession, although that dynamic has not yet manifested in the Republic of Kosovo.

```
. reg deficitibuxhetormillionsofeuros totalpublicdebt

      Source |       SS       df       MS              Number of obs =       6
-------------+------------------------------           F(  1,     4) =   13.42
       Model |  4429.94728     1  4429.94728            Prob > F      =  0.0215
    Residual |  1320.12567     4  330.031419            R-squared     =  0.7704
-------------+------------------------------           Adj R-squared =  0.7130
       Total |  5750.07296     5  1150.01459            Root MSE      =  18.167

------------------------------------------------------------------------------
deficitibu~s |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
totalpubli~t |   .1553117   .0423919     3.66   0.022       .037613    .2730104
       _cons |   -208.628   28.68618    -7.27   0.002    -288.2736   -128.9824
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Figure 3. Linear regression: The impact of public debt on the budget deficit

Source: Author's computation

Based on the results (shown in Figure 4) if GDP grows by one per cent, the budget deficit will increase by 0.25 per cent. However, this result does not seem to be significant based on other parameters such as *t*, but also based on the value of *p*, which should be less than 0.05 to be significant with a confidence interval of 95 per cent. The determination coefficient is not as high as it was in the first two cases, now reaching about 15 per cent. Although this link is positive and even under the assumption that it would be statistically stable, again this correlation does not present any sustainability for further projections.

[1] Indeed, both Aschauer (1989) and Zagler and Dürnecker (2003) included public capital stock in the production function estimation, claiming that the central aim of expansive fiscal policies was to improve the marginal productivity of the private sector's physical capital and labour (to raise the growth rate).

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. reg deficitpercentofgdp gdpgrowthin

      Source |       SS       df       MS              Number of obs =       6
-------------+------------------------------           F(  1,     4) =    0.71
       Model |  .330508428     1  .330508428           Prob > F      =  0.4472
    Residual |  1.86449144     4  .46612286            R-squared     =  0.1506
-------------+------------------------------           Adj R-squared = -0.0618
       Total |  2.19499987     5  .438999973           Root MSE      =  .68273

------------------------------------------------------------------------------
deficitper~p |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  gdpgrowthin |   .2542373   .3019244     0.84   0.447    -.5840392    1.092514
        _cons |  -2.64661   .9862349    -2.68   0.055    -5.384837    .0916169
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Figure 4. Linear regression: Economic growth and its impact on the budget deficit

Source: Author's Computation

7. Limitations of the Study

In general, the results indicate that there is a correlation between the variables analysed, but their sustainability is not great. A major challenge in undertaking this research is the lack of a comprehensive database covering the information for a long period of time that actually affected the specifications of the model. However, studies on public debt and fiscal deficit in Kosovo are scarce, and as such this paper was mainly guided by the literature review of studies focusing on either public external debt or public domestic debt and their effects on GDP.

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APPENDICES

Appendix 1. General Debt

Stock of General Debt							
	2012	2013	2014	2015	2016	Q1 2017	Q2 2017
International Debt	336.60	323.76	326.35	371.17	373.77	463.37	442.98
Central Level	336.46	321.73	316.54	339.87	323.93	408.06	388.35
Sub-Borrowing	0.14	2.03	9.81	31.30	49.83	55.31	54.63
Municipalities	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Domestic Debt	73.31	152.51	256.52	377.78	478.97	479.33	504.52
Central Level	73.31	152.51	256.52	377.78	478.97	479.33	504.52
Municipalities	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Debt	409.92	476.27	582.87	748.95	852.74	942.70	947.50
State Guarantees	0.00	0.00	10.00	10.00	20.00	20.00	44.00
Total Debt (% of GDP)	8.10%	8.94%	10.65%	13.07%	14.58%	15.02%	15.47%
Debt portofolio by currency							
	2012	2013	2014	2015	2016	Q1 2017	Q2 2017
General Debt	409.92	476.27	582.87	748.95	852.74	942.70	947.50
EUR	333.88	402.34	506.15	650.92	758.85	777.01	795.48
SDR	76.04	73.93	76.73	98.03	93.89	165.69	152.02
International Debt	336.60	323.76	326.35	371.17	373.77	463.37	442.98
EUR	260.57	249.83	349.63	273.14	279.88	297.67	290.97
SDR	76.04	73.93	76.73	98.03	93.89	165.69	152.02
Domestic Debt	73.31	152.51	256.52	377.78	478.97	479.33	504.52
EUR	73.31	152.51	256.52	377.78	478.97	479.33	504.52
Debt portfolio by interest type							
	2012	2013	2014	2015	2016	Q1 2017	Q2 2017
Total Debt	409.92	476.27	582.87	748.95	852.74	942.70	947.50
Fix	296.86	370.54	481.14	621.21	738.78	741.19	765.96
Variable	113.05	105.73	101.73	127.74	113.96	201.51	181.54
International Debt	336.60	323.76	326.35	371.17	373.77	463.37	442.98
Fix	223.55	218.03	224.62	243.43	259.81	261.86	261.44
Variable	113.05	105.73	101.73	127.74	113.96	201.51	181.54
Domestic Debt	73.31	152.51	256.52	377.78	478.97	479.33	504.52
Fix	73.31	152.51	256.52	377.78	478.97	479.33	504.52

Source: Ministry of Finance 2017, IMF 2017

Appendix 2. Domestic Debt

International Debt Stock							
	2012	**2013**	**2014**	**2015**	**2016**	**Q1 2017**	**Q2 2017**
New emissions	73.31	79.20	104.01	121.26	101.19	0.36	25.19
Debt Stock	73.31	152.51	256.52	377.78	478.97	479.33	504.52
International Debt(% of GDP)	1.45%	2.86%	4.61%	6.51%	8.00%	7.48%	7.87%
Domestic Debt Service							
	2012	**2013**	**2014**	**2015**	**2016**	**Q1 2017**	**Q2 2017**
Interest Payment	0.66	1.19	2.5	5.5	7.91	2.79	1.42
Principal Payment	0	0	0	0	0	0	0
Interest \ Total Revenue (%)	0.05	0.09	0.17	0.36	0.48	0.16	0.08
Auction	Instrument	Auction Date	Maturity Date	Weighted average yield(%)	Coupon Rate (%)	Amount issued	Amount Issued Neto
KV005-17	6 months	11.04.17	11.10.17	0.17%		20.00	19.98
KV006-17	2 years	18.04.17	19.04.19	0.40%	0.40%	20.00	20.00
KV007-17	2 years	16.05.17	17.05.19	0.44%	0.40%	30.00	29.97
KV008-17	3 years	25.05.17	26.05.20	0.81%	0.80%	20.00	20.00
KV009-17	12 months	13.06.17	13.06.18	0.27%		30.00	29.92
KV010-17	2 years	29.06.17	30.06.19	0.55%	0.50%	20.00	19.98

Source: Ministry of Finance 2017, IMF 2017

Appendix 3. International Debt

International Debt Stock								
		2012	2013	2014	2015	2016	Q1 2017	Q2 2017
International Debt		336.60	323.76	326.35	371.17	373.77	463.37	442.98
Central Level		336.46	321.73	316.54	339.87	323.93	408.06	388.35
Sub-borrowing		0.14	2.03	9.81	31.30	49.83	55.31	54.63
International Debt (% of GDP)		6.65%	6.08%	5.86%	6.39%	6.25%	7.23%	6.91%
International Debt by creditors								
		2012	2013	2014	2015	2016	Q1 2017	Q2 2017
IBRD		215.00	203.66	192.33	180.99	169.65	163.98	163.98
IDA		8.41	12.37	20.84	28.86	36.02	38.28	38.45
IMF		113.05	105.73	101.73	127.74	113.96	201.51	181.54
UniCredit		0	0	2.00	2.96	6.49	6.49	6.49
German Agency for Reconstruction-KfW		0.14	2.00	9.46	30.62	47.64	53.00	52.41
Islamic Development Bank (IsDB)		0	0	0	0	0	0.10	0.10
Total		336.60	323.76	326.35	371.17	373.77	463.37	442.98
International Debt Service bycreditors								
	Debt Service	2012	2013	2014	2015	2016	Q1 2017	Q2 2017
IBRD	Principal	11.34	11.34	11.34	11.34	11.34	5.67	0
	Interest	8.14	8.94	8.46	7.98	7.50	3.57	0
IDA	Principal	0	0	0	0	0	0	0
	Interest	0.03	0.07	0.1	0.19	0.26	0.06	0.10
IMF	Principal	0	2.7	10.7	16.21	49.21	12.43	12.30
	Interest	0.90	1.10	1.10	1.41	1.77	0.68	0.53
UniCredit	Principal	0	0	0	0	0	0	0
	Interest	0	0	0.07	0.02	0.08	0.01	0.01
KfW	Principal	0	0	0	1.33	5.45	0	3.12
	Interest	0.35	0.13	0.54	0.91	1.68	0	0.99
Total		20.76	24.28	32.37	39.38	77.29	22.42	17.04
Withdrawals by creditors								
		2012	2013	2014	2015	2016	Q1 2017	Q2 2017
IDA		3.51	4.42	7.37	6.53	7.01	2.50	1.77
IMF		93.64	0	0	35.64	35.62	100.38	0
UniCredit		0	0	2.00	0.96	3.54	0	0
KfW		0.08	1.86	7.46	22.49	22.47	5.35	2.53
Islamic Development Bank (IsDB)		0	0	0	0	0	0.10	0
Total		97.23	6.28	16.83	65.62	68.64	108.34	4.30

Source: Ministry of Finance 2017, IMF 2017