



The Impact of Public Debt on Economic Growth: Evidence From Kosovo (2007-2019)

Valdrin Misiri^a Fisnik Morina^b Halit Shabani^c

^a PhD(c), University "Haxhi Zeka", Faculty of Business, Republic of Kosovo, valdrin.misiri@unhz.eu

^b Prof.Ass.Dr., University "Haxhi Zeka", Faculty of Business, Republic of Kosovo, Corresponding author, fisnik.morina@unhz.eu

^c Prof.Asoc.Dr., University "Haxhi Zeka", Faculty of Business, Republic of Kosovo, halit.shabani@unhz.eu

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Abstract

Introduction: The Republic of Kosovo, as a new democratic state and independent in 2008, has managed to create a stable financial system over the last decade. The importance of this scientific research lies in the fact that through this study we understand the impact of public debt on economic growth, debt management by past governments and the destination of these funds in capital investments as internal, external and very important sources of financing the economy of Kosovo.

Purpose: This scientific paper aims to analyze the impact of public debt on Kosovo's economic growth during the period 2007-2019. Through various analyzes related to the country's public debt, we will be able to conclude the effect of public debt on Kosovo's economic growth. To analyze the public debt of the country, the following variables are included: GDP as a dependent variable, while as independent variables are the internal debt (DD) and external debt (EXD) of the Republic of Kosovo.

Methodology: This paper is mainly based on the collection of data from secondary sources which are provided by the annual public debt reports published by the Ministry of Finance, the reports of the Central Bank of Kosovo and the World Bank in a period of 13 years, while the review of the literature in terms of content includes studies of various authors regarding the impact of public debt on economic growth. The collected data will be analyzed, processed and interpreted through econometric models using the STATA software.

Findings: Based on the results and findings of the study of this scientific research we can conclude that public debt has a positive impact on economic growth, implying that the low level of public debt has ensured financial stability at the national level and the use of debt to a large extent for capital investments has caused a positive substantive impact on the economic growth of the country during this period..

Practical implications: Through the results of this study, we recommend that for the needs of financing the economy and capital projects, the Republic of Kosovo has the opportunity to use public debt for economic needs up to the allowable limit while maintaining financial and macroeconomic stability of the country.

Originality/Value: This scientific research presents real and sustainable findings regarding the public debt of the Republic of Kosovo as an impact on economic growth for the analyzed period.

1. Introduction

Public debt is a very important factor of macroeconomic policy through which the long-term objectives of the country in its economic development and financial stability are aimed. State borrowing should be done following a well-planned long-term policy in financing the country's major capital and development projects to ensure sustainable economic growth. Public debt can be classified and defined as the amount of external debt and domestic debt. Domestic debt can be defined as state debt which is subject to the laws of the Republic of Kosovo, while international debt as external debt is subject to agreement with foreign governments, government agencies, international financial organizations or other foreign organizations and companies based on international agreements, treaties, conventions or other similar agreements which are subject to the laws of a legal jurisdiction other than that of the Republic of Kosovo.

According to the author (Eaton, 1993), the inflow of capital from abroad has a positive effect on domestic savings, investment and economic growth, which means that foreign savings complement domestic savings to secure investment demand.

Regarding the relationship between external debt and economic growth, we can say that a reasonable level of borrowing influences to improve economic growth, through capital accumulation and productivity growth (Chowdhury, 2001), implying that in the early stages of development, countries have low levels and opportunities of financing through local capital and limited investment opportunities.

Financing the economy through external debt creates opportunities for productive and productive investments by creating macroeconomic and financial stability within the country (Burnside & Dollar, 2000).

On the other hand, the high level of debt accumulated over the years has a negative effect on the rate of investment and economic growth. Loss of solvency in the future due to the high level of total debt, may affect the projected costs of meeting debt services weaken the level of domestic and foreign investment (Karagöl, 2002).

The paper is organized and divided into three parts. The first part includes the literature review on the impact of public debt on economic growth, the second part

includes the data methodology, the specification of the econometric model and the analysis of the general public debt trend at the country level for the analyzed period, while in the last part are presented the findings of the study, conclusions and recommendations of this study.

2. Literature Review

In recent years, a large number of studies have been conducted by various authors that have been conducted to identify the impact and relationship of the general public debt burden on the economic growth of a country worldwide, while the Republic of Kosovo are conducted only a few research studies dealing with the level of public debt in economic growth.

In their research the authors (Qureshi & Ali, 2010) analyzed the impact of public debt on the economic growth of Pakistan's economy during the period 1981-2008. They argued that the high level of public debt had caused a negative impact on Pakistan's economic growth.

The authors (Pattillo, Poirson, & Ricci, 2004) in their research on whether debt affects the economic growth of 61 developing countries during the period 1996-1998. These authors through the derived results argued that the negative impact of high growth debt is in function of a high negative impact on the accumulation of increasing physical capital. The authors also found that public debt has a positive impact through investment in economic growth.

(Sen, Kasibhatla, & Stewart, 2007) in their paper analyzed the impact of debt on the economic growth of Latin American and Asian countries. They argued that public debt has negatively affected the economic growth of countries such as Argentina, Brazil, Colombia, Venezuela, Mexico, China, India, Indonesia, the Philippines, Korea and Thailand.

In their paper, the authors (Owusu - Nantwi & Erickson, 2016) analyzed and tested the relationship between government debt and the real GDP growth rate in Ghana using the Johansen cointegration statistical test and the vector error correction model for the period from 1970-2012. The authors concluded that government debt had a positive impact on Ghana's economic growth and was statistically significant in

the long run. The results and findings of the research of these authors argued that for every 1% increase in government debt, it will have a positive impact on economic growth or in other words real GDP growth of 2.8%.

The author (Miształ, 2010) in his paper analyzed the EU member states during the period 2000-2010 and argued that a 1% increase in public debt in these countries has led to a decrease in GDP by 0.3%, while on the other hand, a GDP increase of 1% resulted in an average reduction of public debt of 0.4%.

(Greiner, 2011) in his paper analyzed the impact of the ratio of public debt to GDP, as a goal of GDP growth and well-being by collecting a sample of developed countries and using endogenous growth models. The author Greiner concluded that in economies in which governments can manage a balanced budget or issue such debt with the aim that the ratio between public debt and GDP is within certain limits or limits, then the impact will be higher GDP growth than in economies in which governments run the country in deficits, where the ratio between public debt and GDP will be in as a positive growth ratio.

Also, the author (Bohn, 1998) analyzes the relationship between public debt and real GDP growth using data from US countries, results which also support the author's findings (Greiner, 2011).

The findings of the authors (Misiri & Morina, 2017) in their scientific research regarding the empirical evidence of factors affecting the trade balance and external debt of the Balkan countries, argued and provided evidence in favor of the existence of a strong relationship. long-term positive balance between trade balance and external debt with imports, exports, current account, capital flows, remittances and FDI in the Balkan countries. The authors argue that capital flows, current accounts, exports, foreign direct investment, imports and remittances are important indicators of the trade balance and external debt in the Balkan countries. They also point out that the exchange rate has a negative relationship with the trade deficit and external debt.

In their work the authors (Kumar & Woo, 2010), collected a panel of data from 38 developed and developing countries during the period 1970-2007. These authors

conclude that a 10 % increase in debt may be accompanied by a 0.2% reduction in GDP, authors Kumar and Woo pointed out that the impact on economic growth becomes stronger in developing countries and weaker in countries. developed. The study by these authors was conducted through various econometric analyzes, mainly through fixed effect regression, OLS, SGMM and other techniques. The authors have also analyzed the behavior of various channels which determine the level of growth and their relationship with public debt.

(Reinhart & Rogoff, 2011) in their paper on the debt crisis, they tested three hypotheses related to the two levels of global aggregates and on the basis of an individual country. Their research involved a total of 70 countries, such as Africa, Asia, Europe, North America, Latin America and Oceania. Including a number of variables such as: external and internal debt, trade, GNP, inflation, exchange rates and commodity prices. The research findings argued and suggested that the banking crisis has increased the likelihood of sovereign debt default and on the other hand also found a direct effect on the causes of the recession that usually occurs as well as an indirect effect on the causes of the typical banking crisis outbreak in public debt.

3. Data Methodology and Specification of the Econometric Model

In this scientific research we have analyzed the impact of public debt on the economic growth of the Republic of Kosovo. The main purpose of this study is the impact of public debt as a key factor of economic growth and financial stability of the country. The data used to calculate the multiple linear regression in this empirical analysis are mainly based on data collected from secondary sources for the time period 2007-2019. The main sources of data collected for the analysis of the econometric model are: World Bank, Central Bank of Kosovo and the Ministry of Finance.

To analyze the data in this paper, models such as simple linear regression and multiple regression were used to analyze the impact of public debt on the economic growth of the Republic of Kosovo for the period 2007-2019.

Table 1. Model description and data source

Variable	Description	Data source
GDP	Gross Domestic Product expressed in “euro” monetary value and is a dependent variable	World Bank and Central Bank of Kosovo
DD	Domestic debt expressed in “euro” monetary value and is an independent variable	World Bank and Ministry of Finance
EXD	External debt, expressed in “euro” monetary value and is an independent variable	World Bank and Ministry of Finance

Source: Summary of the source of data collected by the authors

The specification of the econometric model (multiple linear regression) to test the impact of public debt on economic growth (GDP) of the Republic of Kosovo is as follows:

$$GDP_{it} = \beta_0 + \beta_1 DD_i + \beta_2 EXD_i + \varepsilon_i$$

Where,

GDP_i – represents economic growth

β_0 – represents a constant

DD_i – represents domestic debt

EXD_i – represents the external debt

ε_i – error term

The hypotheses of this study are:

H_1 – The level of growth of domestic debt has had a positive impact on the economic growth of the Republic of Kosovo.

H_2 – The level of external debt growth has had a substantial positive impact on the economic growth of the Republic of Kosovo.

4. Analysis of the Total Public Debt of the Republic of Kosovo During the Period 2010-2019

Kosovo State Debt consists of international debt, domestic debt and state guarantees. From 2009-2011, the debt portfolio of the Republic of Kosovo consisted only of international loans, but since 2012, the increase in total debt has been caused by the issuance of Securities of the Republic of Kosovo. The use of financing through international debt is done in order to finance projects in the field of education,

agriculture, cadasters, energy, health, water, wastewater treatment, central heating, banking system, rehabilitation of roads and railways and support budget.

Table 2. The total public debt of the Republic of Kosovo during the period 2010-2019 ('million €)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
International Debt	260.42	253.60	336.60	323.76	326.35	371.17	373.77	422.15	416.43	409.10
Domestic Debt	0.00	0.00	73.31	152.51	256.52	377.78	478.97	574.27	676.62	791.94
Total Debt	260.42	253.60	409.92	476.27	582.87	748.95	852.74	996.42	1,093.05	1,201.05
State Guarantees (R)	0.00	0.00	0.00	0.00	10.00	10.00	20.00	44.00	43.70	42.68
Total Debt (% of GDP) * (R)	6.22%	5.51%	8.44%	9.10 %	10.63%	13.07%	14.38%	16.62%	16.90%	17.46%
GDP	4401.96	4814.53	5058.76	5326.62	5567.49	5,807.01	6,070.11	6,413.86	6,725.91	7,123.10

Source: Data processing by the authors (Ministry of Finance, 2007-2019) (World Bank Group, 2020)

Table 2. Presents the total public debt of the Republic of Kosovo during the analyzed period, the level of domestic and external debt and the ratio of total debt to Gross Domestic Product expressed as a percentage.

Total debt has marked mainly an increasing trend in nominal values, where for 2010 public debt has increased mainly as a result of new loan withdrawals, while in 2011, total debt has decreased compared to the previous year, as in this year State Debt amortization has been higher than withdrawals from contracted loans. The years 2012 and 2013 were the years when the debt portfolio of the Republic of Kosovo marked an increasing trend caused as a result of the issuance of significant amounts of Securities of the Republic of Kosovo. (Ministry of Finance, 2007-2019)

In 2014, total debt increased by 22% compared to the nominal amount of the previous year, reaching the value of € 582.87 million, as a result of new securities issues in the amount of € 104.0 million.

The total debt in 2015 was around € 748.95 million, an increase of 28% compared to the previous year. The increase is mainly due to new securities issues in the amount of € 121 million, and the receipt of the first tranche from the new program with the IMF, achieved during 2015, in the amount of € 36 million.

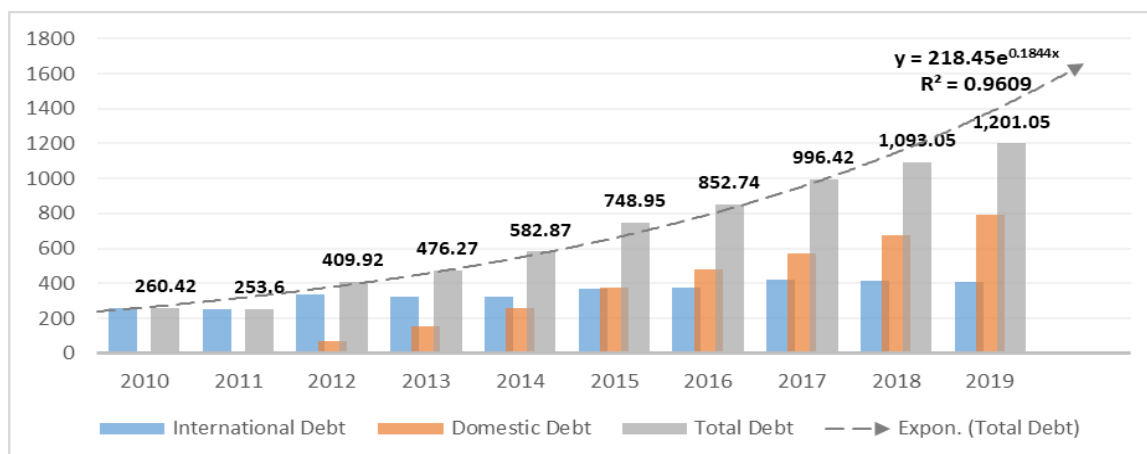
In 2016, total debt had reached the value of € 852.74 million, which means an increase of 14% compared to the nominal amount of the previous year, an increase mainly caused by new securities issues in the amount of € 101.0 million.

Total debt in 2017 increased by € 996.42 million, an increase of 17% compared to the previous year. This increase comes as a result of the withdrawal of two tranches in the amount of € 100.37 million from the program with the IMF reached as part of the agreement in 2015 and new issues of Securities in the amount of € 95.30 million. In addition to withdrawals, there was a repayment of loans in the amount of € 58.63 million (Ministry of Finance, 2007-2019).

The total debt at the end of 2018 had reached the amount of € 1,093.05 million which means an increase of 9.70% compared to the previous year. Compared to the increase of the previous year, this increase does not represent a high increase of the total debt since this year the amount of disbursements was € 11.69 million, adding new issues of Securities within the domestic debt of € 102.43 million, while on the other hand debt service was € 22.02 million (Ministry of Finance, 2007-2019).

While at the end of 2019, total debt marked an increase of 9.88% compared to the previous year, reaching the value of € 1,201.05 million. If we compare it with the increase of the previous year, this increase does not represent a high increase of total debt since the increase from last year is 0.18%, and this as a result that during 2019 the amount of disbursements was € 39.21 million, adding new emissions of Securities under Domestic Debt of € 115.32 million while on the other hand debt service was € 50.28 million. It is worth noting that during the last two years the debt / GDP ratio has increased slightly, at the end of 2018 it was 16.90% while at the end of 2019 it was 17.46% (Ministry of Finance, 2007-2019).

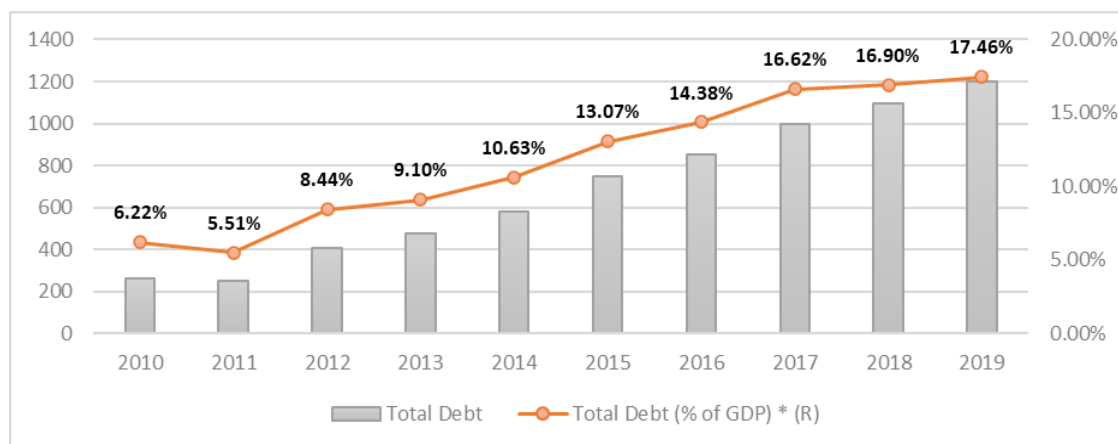
Figure 1. The total public debt of the Republic of Kosovo during the period 2010-2019



Source: Data processing by the authors (Ministry of Finance, 2007-2019) (World Bank Group, 2020)

Figure 1. shows the level of total public debt during the period 2010-2019, based on the exponential trend we can clearly see a rapid increase in public debt over the last decade, the use of the exponential trend was useful to explain the growth of total debt when its levels have grown at faster rates. However, it is worth noting that this increase in total debt is within certain limits of debt management as a percentage of GDP and is mainly caused by the exploitation of domestic debt financing largely through the issuance of securities by the government of the Republic of Kosovo and an increase in international debt which is made in order to finance projects in the field of education, agriculture, cadasters, energy, health, water, wastewater treatment, central heating, banking system, rehabilitation of roads and railways as well as budget support.

Figure 2. The total public debt of the Republic of Kosovo as a percentage of GDP over the period 2010-2019



Source: Data processing by the authors (Ministry of Finance, 2007-2019) (World Bank Group, 2020)

Figure 2. presents the share of total debt as a ratio to GDP for the analyzed period. We can see that the level of total debt is within the allowed limits with a share of 17.46% of GDP in 2019, mainly caused by the increase in the level of domestic debt since 2012 when issuing securities with debt value from the government of the Republic of Kosovo and with a slower growth of international debt.

5. Empirical Findings and Conclusions

Table 3 presents the results of the econometric model tested through the statistical program STATA 13. So, in the following tables are presented the results of multiple linear regression analysis, t-test and Fisher test, proving that they prove that the model is calculated in the right way, as economic growth rates are statistically significant.

Table 3. Empirical research results

<i>GDP</i>	<i>Coef.</i>	<i>Std. Err.</i>	<i>t</i>	<i>P > t </i>	<i>95% Conf. Interval</i>	
<i>DD</i>	2.500067	0.3240396	7.72	0.000	1.778062	3.222073
<i>EXD</i>	3.473296	0.6648762	5.22	0.000	1.991859	4.954732
<i>_cons</i>	3631.537	156.1608	23.26	0.000	3283.589	3979.485

Source: Authors calculations through Stata 13 software

From the results of this econometric model we can see that all variables are statistically significant. The coefficient of determination is 96.79%, which means that about 97% of the changes in the dependent variable (GDP) are explained through changes in the independent variable (internal and external debt), while the standard error is 156.16.

To validate the hypotheses set out above, we will first analyze the Fisher Test, then interpret the results through the t-test and the level of significance or significance. The following equation shows the calculation of the critical value of the F-test based on the normal distribution tables:

$$F_{kr}=F_{0.05; (3-1), (13-3)}=4.10$$

Since the critical value of the Fisher Test (4.10) is less than the actual value (150.58), then alternative hypotheses are accepted and we can say that domestic debt and

external debt (international) have positive impact on the economic growth of the Republic of Kosovo.

Through table 3 we will start to interpret the empirical results based mainly on the results obtained through multiple linear regression which will take the form of the following equation:

$$GDP_{it} = 3631.54 + 2.50DD_i + 3.47EXD_i + 156.16$$

If domestic debt (DD) and external or international debt (EXD) are zero at a certain point in time, then we can say that economic growth can increase by a constant of 3631.54 units.

- ***H₁ – The level of growth of domestic debt has had a positive impact on the economic growth of the Republic of Kosovo:***

Based on the above results of linear regression and the level of importance or significance for domestic debt, we emphasize that domestic debt is at the standard level of significance of 0.000, then we can argue that for every 1 unit increase in the level of debt in the Republic of Kosovo, economic growth was recorded by 2.5 units. So, we can say that domestic debt has a positive impact on economic growth, keeping external debt constant. This can also be seen in the analysis of total public debt, where the share of public debt has increased from year to year, due to the increase in the level of domestic debt, mainly from the issuance of government securities of the Republic of Kosovo from the period of 2012 until today.

Since we can emphasize that the presented results are in line with a number of other authors' research on some of the developed and developing countries. The paper is in agreement with these authors in terms of the positive impact of public debt on economic growth, such as: (Pattillo, Poirson, & Ricci, 2004) (Greiner, 2011) (Owusu - Nantwi & Erickson, 2016), who concluded that public debt positively affects economic growth, but also argued that governments should properly manage a balanced budget or utilize debt by respecting the ratio between public debt and Gross Domestic Product in certain parameters that the effect of debt of this positive impact on economic growth.

- ***H₂ – The level of external debt growth has had a substantial positive impact on the economic growth of the Republic of Kosovo:***

The value of significance and the results of linear regression also confirm the validity of the second hypothesis presented in this scientific research, that external debt has positively affected the economic growth of the Republic of Kosovo, as p-value is at the standard level of importance. From the results obtained and the findings of the study we can conclude that for every 1 unit increase in the level of financing through external debt, the country's economy will record positive economic growth of 3.47 units. So, we can say that external debt has a positive impact on economic growth, keeping domestic debt constant. This can also be seen from the external debt analysis for the analyzed period, as an increase in external debt has been made with the aim of financing projects in the field of education, agriculture, cadastre, energy, health, water, treatment of sewage, central heating, banking system, rehabilitation of roads and railways as well as budget support, investments which have had a positive impact on the economic growth of the Republic of Kosovo over the last decade.

We can also emphasize that a number of scientific research results presented by other authors are in line with the results of this study. Thus, this research is consistent with the results of these authors who have tested the impact of public debt on economic growth such as: (Pattillo, Poirson, & Ricci, 2004) (Greiner, 2011) (Owusu - Nantwi & Erickson, 2016) (Misiri & Morina, 2017) who concluded that public debt positively affects economic growth, but also argued that governments should properly manage a balanced budget or utilize debt by respecting the ratio between public debt and Gross Product Local in certain parameters that the effect of debt has a positive impact on economic growth.

Based on the empirical results and findings of the study we can conclude that the financing of the economy of Kosovo, mainly capital projects through domestic debt has had a positive impact on the economic growth of the country. Also, econometric estimates have argued the confirmation of the first hypothesis formulated that the level of growth of domestic debt has positively affected the economic growth of the Republic of Kosovo.

Also, on the other hand, the findings of the study have argued that the financing of the economy through international debt has had a positive impact on the economic growth of the Republic of Kosovo, keeping other variables constant. Therefore, according to the results of the study, the validity of the second hypothesis was confirmed with the conclusion that the level of external debt growth has had a substantial positive impact on the economic growth of the Republic of Kosovo.

It is worth noting that the current level of total debt as a percentage of GDP is still in low parameters, implying that it is within certain limits.

The Republic of Kosovo can use the financing of capital projects through domestic and international debt, which in a way can stimulate the growth and economic development of the country, but respecting the criteria of the European Union under the Maastricht agreement, that public debt should not exceed 60% of GDP and that the budget deficit should not be higher than 3% of GDP, because if this happens then the Republic of Kosovo may have problems with financial stability.

Financing of capital projects through international debt in capital projects which generate long-term economic development, such as projects in the field of agriculture, production, energy, health, education and information technology which can create new employment opportunities, increase competition, human capital development and improve the country's trade balance (increase exports versus imports). On the other hand, if the use of domestic and foreign debt is done only to cover public expenditures that have no added value to the economy or long-term economic development, then this debt burden is passed on to future generations and governments, as additional financial costs.

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