Research Journal of Finance and Accounting
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online)
Vol.9, No.12, 2018

Empirical Approach of the Nexus between Public Expenditures and Economic Growth: Case of Republic of Kosovo

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Abstract
The main objective of this paper is to investigate the impact of public expenditures on economic growth in the case of Republic of Kosovo, by addressing its significant nexus for the last decade and such results for further recommendation for future fiscal policies. Further, the paper analysis whether public expenditures have positive impact on economic growth in Republic of Kosovo, by investigating the impact of the types of public expenditures on growth. In addition, for determining the stationarity of the time series 2006m1 – 2016m9, Augmented Dickey Fuller test was employed, while VAR model was used to determine the long-run relationship between types of public expenditures and economic growth in Kosovo. The results of the empirical analysis reveal that the data are stationary in their level, while VAR results suggest positive and significant effects of transfers on real GDP, based on the positive coefficient and significance value p = 0.009, while negative and significant effects from municipal expenditures, based on the value of p = 0.066 in this model. Further, expenditures on wages, capital and subsidies have a positive but no significant effect on growth, while expenditures for goods have negative but no significant effect on economic growth in the case of the Republic of Kosovo.
Finally, the paper can present a contribution on the existing literature regarding the nexus between public expenditures and economic growth, and for improvement of efficiency utilization of public expenditures in regarding their productivity.
Key words: growth, fiscal policy, unit root, VAR.

1.0 Introduction

The aim of this paper is to address the effects of government spending on economic growth in the Republic of Kosovo based on the time series data from 2000m1 to 2016m9. Moreover, the impact of types of public expenditures on economic growth is analyzed based on the allocation of expenditures based on their structure, a division used by the finance ministry in their illustration in its reports and budget compilation Expenditure on wages, commodities, utilities, subsidies, capital expenditures and transfers, which represent independent variables in the model, while the real GDP rate is defined as a dependent variable.

There is quite big number of studies that have been done regarding the government expenditures and economic growth and most of the studies confirm the positive effects of productive public spending on economic growth like; Barro (1990), (1991) dhe Kneller et al (1999), Barro dhe Sala-i-Martin (1995), Alili (2017), Jones (1993), Easterly dhe Rebelo (1993); Canning dhe Pedroni (2004).

The debate over the impact of public spending on existing economic growth is one of the main reasons for attracting the interest of many scholars in analyzing the link between these two variables. According to Alili (2017), although the existing findings are controversial, an agreement seems to have been reached regarding the existence of this relationship, but the dispute lies in the direction of such a link in the long run and the short term and at the level of development and governance of the countries.

Moreover, Barro (1990), (1991) and Kneller et al (1999) have provided empirical evidence on the relationship between public spending and economic growth by showing positive effects of rising productive government spending. Moreover, Barro and Sala-i-Martin (1995) use the Cobb-Douglas production function and they show that there are positive effects of government's productive spending on growth and the negative effects of

distorting tax on economic growth. Similar findings can be found in Alili's work (2017), where through the SVAR model, productive public expenditures and non-curbing incomes have a positive impact on economic growth in the case of the Republic of Macedonia.

Devarajan et al (1996) in their work show that health and transport expenditures have a positive impact on economic growth, while spending on education and military does not have a significant impact on economic growth. In addition, with the use of the endogenous model, government spending on education has a positive impact on long-term economic growth, while a negative short-term effect, while spending on agriculture has no effect on economic growth (Gregorous and Ghosh , 2007). Moreover, the study suggested that spending on protection and health has a negative impact on long-term economic growth

Moreover, in this part of the analysis, the impact of types of public expenditures will be investigated on the basis of their economic structure structure of the Republic of Kosovo for the period 2006m1 - 2016m9, whereby monthly data will be used .

2.0 Relationship between the types of public expenditures and economic growth in the Republic of Kosovo: Econometric Evidence

In addition, monthly time series are collected by the Ministry of Finance and the same are tested for stationarity using two unit root tests: Augmented Dickey Fuller and Pillips Perron test and as the results show that the data are stationary at the level, it is applied the VAR model in order to analyze the effects of the types of expenditures on the economic growth of the Republic of Kosovo.
Moreover, the following equation structure the basic regression model

$$lnrGDP = \beta_0 + \beta_1 lnP + \beta_2 lnM + \beta_3 lnShkom + \beta_4 lnSub + \beta_5 lnShkap + \beta_6 lntran + \varepsilon \qquad (1)$$

In addition, the following figure shows the trend of time series included in the model of the real growth rate - GDP, wages, commodities, utilities, subsidies, capital expenditures and transfers.

Summary or descriptive statistics of the monthly data of the variables included in the model: rBPV, wage, commodity, commodity, subsidies, capital expenditures and transfers are shown in the following table.

Table 1. Summary of the Descriptive Statistics

Variables	Simboli	Mean	Min	Max	Std. Dev.
The real rate of BVP - rGDP	ln rGDP	5.904694	5.327488	6.319455	.2441667
Salary expenditures	ln P	9.953575	.2700271	11.15197	1.391782
Expenditure on goods	ln M	9.350218	7.157938	10.6109	.5811205
Utilities	ln Shkom	7.325819	4.837947	8.378749	.526437
Subsidies	ln sub	9.975438	7.998654	10.82903	.4191993
Capital Expenditures	ln shkap	9.93025	3.171784	11.80557	1.394215
Transfers	ln tran	9.633075	7.998453	10.38023	.4012914

Source: author sources.

Moreover, from the above table we can observe that the real value of the BVP real rate is 5.904694, while wages and salaries is 9.953575 and 9.350218, respectively. Regarding the average value of municipal expenditures and

subsidies is 7.325819 and 9.975438, whereas such value for capital expenditures and transfers is 9.93025 and 9.633075.

2.1 Pre-estimation Test: Delay time and Unit Root

The table below presents the results from the selection of delay time of the time series included in the model based on three important criteria: AIC, SBIC and HQIC.

Table 2. Criteria for Selecting Delay Time

Lag	AIC	HQIC	SBIC
0	6.21731	6.2874	6.39015
1	3.47489	4.03563*	4.8576*
2	3.24171	4.2931	5.8343
3	2.81212	4.35415	6.61457
4	2.73575*	4.76843	7.74808

Source: author's calculations.

According to three important criteria AIC, SBIC and HQIC we can conclude that delay time is 1 based on the results above.

In order to analyze the impact of the types of public expenditures on the real growth rate of the Republic of Kosovo for the period 2006m1 - 2016m9, the time series were first tested for the stationary reactor using Augmented Dickey Fuller and Phillips Perron. Furthermore, the results are illustrated in the following table.

Table 3. Unit Root Test Results - ADF and PP

	Variable	AUGMENTED DICKEY FULLER – ADF	Phillips Perron – PP	Comment
Levels	**ln rGDP**	-2.994 (-2.888) MacKinnon approximate p-value for Z(t) = 0.0750	-2.628 (-2.888) MacKinnon approximate p-value for Z(t) = 0.0873	**H_1**
	ln P	-7.273 (-2.888) MacKinnon approximate p-	-12.600 (-2.888) MacKinnon approximate p-	**H_1**

		value for Z(t) = 0.0000	value for Z(t) = 0.0000	
	ln M	-9.384 (-2.888) MacKinnon approximate p-value for Z(t) = 0.0000	-13.830 (-2.888) MacKinnon approximate p-value for Z(t) = 0.0000	**H_1**
	ln Shpkom	-8.603 (-2.888) MacKinnon approximate p-value for Z(t) = 0.0000	-12.771 (-2.888) MacKinnon approximate p-value for Z(t) = 0.0000	**H_1**
	ln subv	-6.642 (-2.888) MacKinnon approximate p-value for Z(t) = 0.0761	-6.328 (-2.888) MacKinnon approximate p-value for Z(t) = 0.0000	**H_1**
	ln shpkap	-5.404 (-2.888) MacKinnon approximate p-value for Z(t) = 0.0000	-8.345 (-2.888) MacKinnon approximate p-value for Z(t) = 0.0000	**H_1**
	ln tran	-4.848 (-2.888) MacKinnon approximate p-value for Z(t) = 0.0000	-4.661 (-2.888) MacKinnon approximate p-value for Z(t) = 0.0001	**H_1**
	Notes: ‡ Numbers in parentheses represent critical values at the 5% level of significance.			

Source: author's calculations.

Results from the ADF and PP unit toot testing table illustrate whether the data is stationary or not at their level. Since in the three variables included in the model, we may find that the critical value is higher than the test statistic in 95% statistical significance, then we conclude that the data is stationary or do not possess a unit root whereby we accept the alternative hypothesis and reject the zero hypothesis, where lg rGDP, ln P, ln M, lk Shpkom, subv, lpat and ln tran are stationary.

2.2 Var Model

In such cases, when the data is stationary at their level and for the purpose of researching the connection between them, the vector auto regression model or otherwise known as the VAR model is applied, where the VAR results of the model are presented in the following table.

Table 4. VAR model results

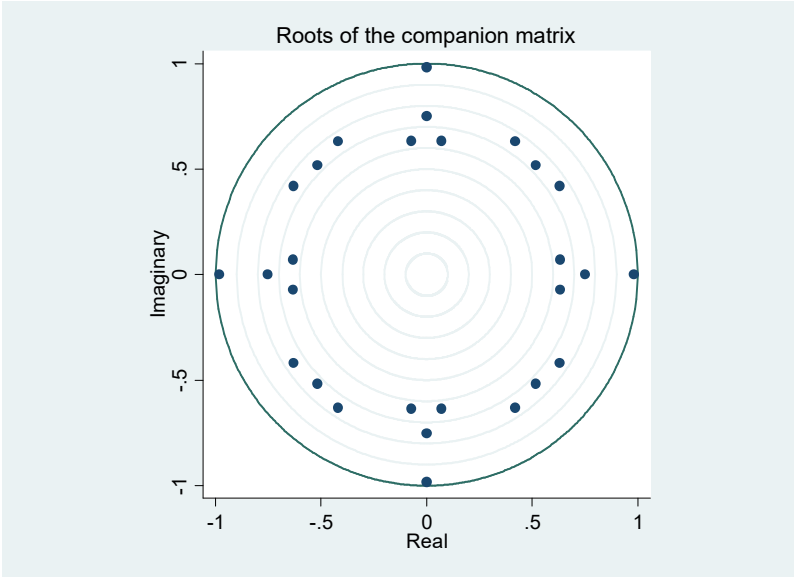
Variablat Variables	**Koeficient** coefficient	**Gabimi standard** Standard error	**Vlerat e z-së** value of **z-së**	**P>|z|**
Δ (ln rGDP)				
L1.Δ(lnrGDP)	.6778297	.0698652	9.70	0.000
L1.Δ(ln P)	.0047605	.0070361	0.68	0.499
L1.Δ(ln M)	-.0486965	.0385004	-1.26	0.206
L1.Δ(ln Shkom)	-.079795	.03196	-2.50	0.013
L1.Δ(ln sub)	.0291373	.0564631	0.52	0.606
L1.Δ(ln shkap)	.0080259	.0125195	0.64	0.521
L1.Δ(ln tran)	.1288711	.0545337	2.36	0.018

Source: author's calculations.

Based on the results presented in the following table of the VAR model, we can emphasize that there is a positive and significant relation between transfers and economic growth in the Republic of Kosovo, such result is based on the positive coefficient and significance value p = 0.018. The impact of municipal expenditures is negative and significant based on the value of p = 0.013. Expenditures on wages, capital and subsidies have a positive but non-negligible effect. Regarding the expenditures on goods, they have a negative and statistically unimportant effect on economic growth in the case of the Republic of Kosovo.

Moreover, in the figure below we can observe the results of the stability model show that we have a stable VAR Moreover, as can be seen in the figure, the reverse model does not have unit roots and all roots lie within district.

Figura2. Stability of the VAR model



Source: author's calculations.

Following are the results of the Lagrange-multiplier-LM autocorrelation results, where we can observe since the p value is not significant, we accept the zero hypothesis that the variables do not possess autocorrelation in time lags.

Tabela5. Lagrange multiplier test

Lag	chi2	Prob > chi2
1	35.6976	0.20322
2	56.5257	0.21446

H0: no autocorrelation at lag order.

Source: author's calculations.

3.0 Conclusion

Based on the results we can conclude that there is a positive and significant relationship between transfers and economic growth with significance value p = 0.009 and municipal expenditures have negative and significant impact based on the value of p = 0.066. Expenditures on wages, capital and subsidies have a positive but insignificant effect and expenditures on goods, have a negative and statistically insignificant effect on economic growth in the case of the Republic of Kosovo.

As we can see based on the results government of Kosovo should be careful in setting up fiscal policies in Kosovo in a way that increases or promotes economic growth. As public spending proved many times to be more significant and positive compared to public revenues, Kosovo's government should devise fiscal policy based on rational fiscal expansionist policy.

Public spending should be geared more to productive spending, such as education, health, industry and infrastructure, while reducing downtime. Reduce spending on administration and increase productive capital investments, but in order to meet the requirements for boosting the country's economy.

References

Barro, R. J. (1990), 'Government spending in a simple model of endogenous groëth', Journal of Political Economy 98(5), 103–125.

Lucas, R. (1988), 'On the mechanics of economic development', Journal of Monetary Economics 22(1), 3–42

Barro, R., Sala-i-Martin, X., (1995). Public finance in models of economic growth. Review of Economic Studies 59 (4), 645–661

Barro, Robert (1996). "Democracy and Growth." Journal of Economic Growth, 1(1): 1-27. 1996.

Bexheti, A., (2007), Public Finances, Arberia Design, Tetovo.

Bexheti, A., (2010), 'Anti-Crisis Measures in the Republic of Macedonia and their Effects – Are they Sufficient?, working paper no.70, Bamberg Economic Research Group. Bird, R. (2003). Taxation in Latin America: Reflections on Sustainability and the Balance between Equity and Efficiency. Joseph L. Rotman School of Management, University of Toronto ITP paper 036.

Blanchard, O. J., and R. Perotti, 2002. An Empirical Characterization of the Dynamic Effects of Changes in Government Spending and Taxes on Output, Quarterly Journal of Economics, No. 117

Bleaney, M.F., N. Gemmel and Kneller, R. (2001). "Testing the Endogenous Growth Model: Public Expenditure, Taxation, and Growth Over the Long Run", Canadian Journal of Economics 34, 1, 36-57.

Bleaney, M.F., N. Gemmel and Kneller, R. (2001). "Testing the Endogenous Growth Model: Public Expenditure, Taxation, and Growth Over the Long Run", Canadian Journal of Economics 34, 1, 36-57.

Devarajan, S., Swaroop, V., Zou, H., (1996). The composition of public expenditure and economic growth. Journal of Monetary Economics 37 (3), 313–344.

Fatás, A., and Mihov I., 2004. 'The Macroeconomic Effect of Fiscal Rules in the U.S. States', INSEAD and CEPR. Fetai, B. 2008. "Optimal Strategy of Monetary and Fiscal Policy in Macedonia: An econometric analysis of different strategies for achieving macroeconomic stability in the Republic of Macedonia".

Fetai, B., and Abduli, S., 2014. "Macroeconomics effect of fiscal policy in transition economies: the case of Republic of Macedonia, Journal of International Scientific Publications, Vol.8.

Gemmell, N. and Kneller R. (2001). "The Impact of Fiscal Policy on Long Run Growth.

Glomm, J.J. and Ravikumar, D.J. (1997). "The Growth of Public Expenditure in Selected Developing Nations: Six Caribbean Countries", Public Finance/Finances Publique,3(3): 57 - 74

Granger, C. W. J. (1969). Investigating Causal Relationship by Econometric Models and Cross Spectral Methods. Econometrica, 37 (3): 424-438.

Gregorous, A. and Ghosh, S. (2007)."Fiscal Policy in an Endogenous Growth Model with Public Capital and Pollution", Japanese Economic Review, 56(6): 67-84.

Hall, Robert E. and Charles Jones (1999), "Why Do Some Countries Produce So Much More Output per worker than Others?" Quarterly Journal of Economics 114(1): 83-116. 1999.

Ibraimi, A. &Alili Sulejmani, L. (2017) "Econometric Analysis of Indirect Taxes on Economic Growth: Case of Republic of Macedonia", International journal"Knowledge", Vol.20.1, ISSN2545 – 4439,ISSN 1857 923X, pp.249-252, 2017.

King, Robert G & Rebelo, Sergio, (1990) "Public Policy and Economic Growth: Developing Neoclassical Implications," Journal of Political Economy, University of Chicago Press, vol. 98(5), pages 126-150, October.

Peter Pedroni & David Canning, 2004. "The Effect of Infrastructure on Long Run Economic Growth," Department of Economics Working Papers 2004-04, Department of Economics, Williams College.