Impact of Fiscal Policies on the Economic Growth of Kosovo, Albania and North Macedonia

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The main objective of this research is to analyze the impact of fiscal policy on economic growth, for the Republic of Kosovo, Albania and North Macedonia and the period 2000-2023. The data used in this research are secondary data and are generated from official data published by the World Bank and the International Monetary Fund. The results of this study were analyzed through the Stata program, and data testing was carried out through standard multiple regression analysis, Hausman Taylor test, GEE model, GMM model, fixed effect and random effect. Based on the results, we may conclude that the increase in income, gross debt, and government expenditures positively affect the GDP of Kosovo, Albania and North Macedonia, whereas inflation negatively affects economic growth. There is a positive relationship between income, gross debt, government spending and GDP. This research aims to analyze the impact of fiscal policy on the economic growth of the Republic of Kosovo, Albania and North Macedonia for the period 2000-2023. As such, this research can be used as a basis for future work in this area.

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1 Introduction

Fiscal policy and its proper management are among the most important and vital components for economic development of the country. It also plays a crucial role in addressing social and economic inequality within the population. Through fiscal policy mechanisms, governments aim to support and promote economic growth.The role of fiscal policy in the long-term growth process has been crucial in macroeconomics since the emergence of endogenous growth models (Paparas, D., Richter, C. and Paparas, A., 2015)

The purpose of this research is to analyze the impact of fiscal policies on the economic growth of Kosovo, Albania and North Macedonia for the period 2000-2022. To further specify this research, the econometric model was built, where the main independent variable is the GDP as the main indicator of economic development, whereas the dependent variables in this model are: inflation, income, gross debt and government spending.

The Republic of Kosovo as a new state, independent from 2008, continues to work on the consolidation of fiscal policy and their compatibility with European Law, practices and standards. Stimulating economic development continues to be a very important challenge for the Republic of Kosovo.

Countries like North Macedonia that aim to boost economic development can achieve this through fiscal policies that include stimulating domestic and foreign investments, moderate taxes for businesses, investments in infrastructure, healthcare, and education, thereby promoting the creation of new jobs and consequently economic growth.

Both countries, North Macedonia and Albania Albania are facing challenges in managing public debt, may encounter fiscal difficulties in the future if effective measures are not implemented to reduce it. To avoid these challenges, it is necessary to adopt measures such as cutting inefficient expenditures, combating the informal economy, diversifying revenue sources, and promoting innovations that stimulate economic development.

2 Literature review

The research carried out in North Macedonia examines how public debt affects GDP growth in the Republic of Macedonia. The OLS fitted line revealed a negative correlation between public debt and economic development in the country. Based on the VECM results and co-integration test there exists a long run relationship between public debt and real economic growth. There is an ongoing link between public debt and actual economic development. Empirical data show a negative association between initial debt and long-term growth. Increasing the initial public debt by 10% typically leads to a 1.3 percentage point decrease in real GDP growth (Sadiku, L., Bexheti, A., & Sadiku, M., 2018, May).

The study conducted by Velichkovska, K., & Sadiku, L., (2019) examines how government expenditures affect economic growth in the Republic of Macedonia from 2000Q1 to 2016Q4. The analysis shows that increasing government spending has a beneficial impact on GDP, supporting the idea of expansionary fiscal policy. Reforming the country's public expenditure system, particularly increasing capital expenditures, is crucial for driving economic growth.

Both Macedonia and Romania have a lengthy history of a relationship between governmental debt and GDP. This demonstrates that shifts in public debt have a consistent impact on economic development. In the short run, there appears to be an inverse link between rising public debt and GDP. This indicates that increased public debt may limit economic development in the short term (Moysova Kyoseva, N., 2016).

A paper conducted by (Shijaku G. &., 2013) analyzes the effects of fiscal policy on the economic growth of Albania. The research finds that the policies of the Albanian government on income have a higher effect than the government's policies on government spending. In this research, tax revenues are categorized into distorting and non-distorting, whereas the government expenditures into productive and non-productive. The research also finds that the increase in public debt has a negative effect on the economic growth of Albania.

The findings of the research conducted by the Petrevski, G., Trenovski, B., & Tashevska, B, (2019) study the macroeconomic effects of fiscal and monetary policies in Macedonia and their interactions during the years 2000-2014. The main findings of this research are below: first, an increase in public spending results in lower economic activity, higher public debt and loss of foreign exchange reserves; Second, an increase in public revenues has positive output effects coupled with rising prices, increased foreign exchange reserves and a modest reduction in public debt; Third, a central bank interest rate increase produces conventional negative effects on economic activity, followed by a fall in the price level; Fourth, monetary and fiscal policies act as strategic substitutes; And fifth, our estimates of fiscal multipliers imply non-Keynesian fiscal policy effects.

According to research done by (Gllogjani, 2022), government revenues, indirect taxes, government expenditures, current expenditures, fiscal deficit, exports, imports, and higher education have a significant impact on economic growth.

3 Methodology

The main objective of this research is to analyze the impact of fiscal policies on the economic growth of Kosovo, Albania and North Macedonia for the period 2000-2023. So this research shows what impact fiscal policies have on the economic growth of the countries of Kosovo, Albania and North Macedonia. The main variables of this research are: Gross Domestic Product (GDP), Inflation (INFL), Income (REV), Gross Debt (GDEBT), Government Expenditure (Gex). The scientific methodology that has been applied in this study is the quantitative method. The data that will be used in the research are secondary data and have been generated from official data published by the World Bank, the IMF and the Kosovo Statistics Agency. The results of this study will be analyzed through the Stata program. The research questions of this study are:

1. How does the change in inflation affect the GDP growth of Kosovo, Albania and North Macedonia for the period 2000-2023?
2. How does the change in gross debt affect the GDP of Kosovo, Albania and North Macedonia for the period 2000-2023?
3. What is the relationship between inflation, income, gross debt, government spending, and GDP?

The main hypotheses of this research are:

H_0 - the increase in income, gross debt, government spending negatively affects the GDP of Kosovo, Albania and North Macedonia.
H_1 - the increase in income, gross debt, government spending does not negatively affect the GDP of Kosovo, Albania and North Macedonia.

Table 1: Description of the variables included in the econometric models

Variables	Variable description	Data source
Dependent Variable (Y)	Produkti i Brendshëm Bruto (GDP)	(World Bank, Annual Reports, Time Series 2000-2023, n.d)(World Bank, Annual Reports, Time Series 2000-2023, n.d) https://data.worldbank.org/
Independent Variable (X2)	Inflation (INFL)	(World Bank, Annual Reports, Time Series 2000-2023, n.d)(World Bank, Annual Reports, Time Series 2000-2023, n.d) https://data.worldbank.org/
Independent Variable (X3)	Revenu (REV)	(International Monetary Fund, Time series 2000-2023, n.d)(World Bank, Annual Reports, Time Series 2000-2023, n.d) https://www.imf.org/en/Home
Independent Variable (X4)	Gross Debt (GDebt)	(International Monetary Fund, Time series 2000-2023, n.d)(World Bank, Annual Reports, Time Series 2000-2023, n.d) https://www.imf.org/en/Home
Independent Variable (X4)	Government expediture (GEx)	(World Bank, Annual Reports, Time Series 2000-2023, n.d)(World Bank, Annual Reports, Time Series 2000-2023, n.d https://data.Worldbank.org/

Source: Data processing by author (2024)

To test the hypotheses of this study, the econometric model must be built to prove these hypotheses. This econometric model will look like the following:

$$GDPit = \beta_0 + \beta_1 INFLit + \beta_2\, REVit + \beta_3\, GDEBTit + \beta_4 GExit + \gamma it$$

Where:
GDP *- Gross Domestic Product*
INFL *- Inflation*
REV *- Revenue*
GDebt *– Gross Debt*
GEx *- Government Expenditure*

stochastic variables (other factors not considered in the model)
***i** – code and **t** – time period*

4 Results

In this section of the research, will be analyzed the findings and the results of the study titled

"Impact of fiscal policy on the economic growth, for the Republic of Kosovo, Albania and North Macedonia will be interpreted. The data used in this study are secondary data processed in the STATA program and are presented within the panel data. This testing will be done using standard multiple regression analysis, fixed effect model, random effect model, Hausman Taylor Estimation, GMM Model, Arellano Bond Estimation, GEE model. In Table 2 we find summarized the results of the econometric model which will be interpreted through the GMM Model.

Table 2: Summary empirical results from the econometric model

Variables	Linear Regression	Random Effeccts Generalized Least Squares (GLS) Regression	Fixed Effects Regression	Hausman Taylor Regression	GEE Model	GMM Model
GDP	-	-	-	-	-	-
Inflation_ interpolate	.7332434 (0.000)***	.7332433 (0.000) ***	.7332433 (0.000) ***	.7332433 (0.000) ***	.7332433 (0.000)***	-.3804178 (0.003)***
Revenue_ interpolate	1.284205 (0.000)***	1.284205 (0.000) ***	1.284205 (0.000) ***	1.284205 (0.000)***	1.284205 (0.000)***	2.201331 (0.000)***
GrossDebt_ interpolate	-.070662 (0.054)**	-.070662 (0.049) **	-.070662 (0.059) **	-.070662 (0.052) **	-.070662 (0.045)**	.5075103 (0.000)***
GovernmentExpediture_ interpolate	-.1846434 (0.095)*	-.1846434 (0.089) *	-.1846434 (0.101)	-.1846434 (0.092) *	-.1846434 (0.083)*	1.6442 (0.072)*
R Square	0.5077					
Adj. R^2	0.4719					

Source: Author's calculations in Stata (2024)
significance level 10%
*** significance level 5%*
**** 1% significance level*

$$GDPit = \beta_0 + \beta_1 INFLit + \beta_2\, REVit + \beta_3\, GDEBTit + \beta_4 GExit + \gamma it$$
$$GDPit = \beta_0 - 0.3\ it + 2.20\ it + 0.50\ it + 1.64\ it + \gamma it$$

β_1INFL - if Inflation increases by one unit, keeping other factors constant, then GDP will decrease by 0.3 units. This statement is true at the 5% significance level, because the significance level is 0.003 < 0.05.

β_2REV - if income increases by one unit holding other factors constant then GDP will increase by 2.20 units. This statement is true because the significance level is 0.000 < 0.05.

β_3GDEBT - if Gross Debt increases by one unit keeping other factors constant then GDP will increase by 0.50 units. This statement is true because the significance level is 0.000 < 0.05.

β_4GEx - if Government Spending increases by one unit holding other factors constant then GDP will increase by 1.64 units. This statement is true because the significance level is 0.072 < 0.10

The R Square correlation coefficient is 50.7%, so the correlation between dependent and independent variables is 50.7%. While the coefficient of determination Adj. R2 is 47.19%, so 47.19% of the dependent variables explain the independent variable.

Through the results of the multiple standard regression analysis using the GMM Model, we can come to the conclusion that all variables are significant and have statistical significance and have an impact on the GDP of Kosovo, Albania and Macedonia. Based on the results, we can conclude that the increase in income, gross debt, and government expenditures have a positive effect on the GDP of Kosovo, Albania and North Macedonia. So the hypothesis H_0 is rejected and H_1 is accepted.

5 Discussion

The findings on the impact of inflation align with general economic theory and numerous other studies in the field. Additionally, the observed correlations, despite variations in intensity, are consistent with previous research Bexheti, A., Sadiku, L., & Sadiku, M, (2018). However, certain sector-specific correlations do not exhibit similarly positive results, such as the relationship between inflation and education expenditures (Kamberaj, 2024, July 1). Moreover, the stronger impact of income (2.2 units) compared to expenditures (1.64 units) does not align with fiscal multipliers and requires further analysis to determine the underlying reasons and causality. These differences may stem from the low institutional capacity, lack of transparency, and inefficiency in public expenditures within the respective countries. A particularly challenging finding relates to the impact of public debt, especially in North Macedonia and Albania, where debt levels have surpassed the optimal debt-to-GDP ratio (52-54%), as identified in other research papers Fetai, B., Avdimetaj, K., Bexheti, A., & Malaj, A, (2020). Meanwhile, a study conducted by the Riinvest Institute concluded that Kosovo should consider restructuring budget expenditures to encourage investments in education, health, and research in order to boost competitiveness and economic growth (Riinvest Institute, 2024).

6 Conclusions

Based on statistical results generated through calculations in Stata using the GMM model, it is evident that inflation negatively affects the economic growth of Kosovo, Albania, and North Macedonia. High inflation can create uncertainty in the investment market and, in addition, the rise in the general price level will reduce the consumption, thereby negatively impacting economic growth. The statistical results also indicate that gross debt has a positive effect on the economic growth of Kosovo, Albania, and North Macedonia for the period 2000-2023, but not at all threshold levels. If gross debt is utilized for investments development projects in infrastructure, and policies aimed at economic recovery, it can stimulate economic growth. The study finds that increases in income, gross debt, and government expenditures positively influence the GDP of these countries. This research suggests the following key recommendations: The governments of Kosovo, Albania, and North Macedonia should prioritize strengthening institutional capacity and increasing investments in infrastructure, education, healthcare, and other critical sectors for economic development. However, it is crucial to ensure that gross debt remains under control, particularly in the cases of North Macedonia and Albania. During economic downturns, governments should implement stronger fiscal policies and adopt countercyclical fiscal measures to sustain economic activity and prevent downturns.

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