



IMPACT OF MONETARY AND FISCAL POLICY ON ECONOMIC GROWTH IN WESTERN BALKAN COUNTRIES

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Abstract

The impact of monetary and fiscal policy on economic growth is a very frequently asked question, so the aim of the study below is to analyze the impact of both policies and their variables on economic growth. The area covered by the research is the Western Balkans region, specifically Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia, and Croatia. The analysis covers a period of 21 years, more precisely from 2003 to 2023, specifically data exclusively on an annual basis from relevant sources of data, and the impact of variables on changes in GDP per capita will be examined. The study investigates the effects of money supply (M2), interest rates, government spending, and the COVID-19 crisis on real GDP per capita by using panel data econometric techniques (unit root tests, fixed and random effects models), and diagnostic checks (VIF, Durbin-Watson, Ramsey RESET, and the Hausman test).

The statistical analysis was carried out using EViews and R software. Based on the results of the Hausman test, the random effects model proved to be the most suitable approach. The findings show that government spending has a significant negative impact on economic growth. In contrast, changes in the money supply and interest rates appear to have only a weak or statistically insignificant effect. The COVID-19 period showed marginal significance. All things considered, the study offers new empirical data on the relationship between macroeconomic policies and growth patterns in the Western Balkans, an area that has received little attention in the literature.

Keywords: Economic growth, Fiscal policy, Monetary policy, Western Balkans, Panel data

INTRODUCTION

This section provides an overview of the impact of monetary policy and fiscal policy in shaping economic growth, focusing on the area of the Western Balkan countries.

Economic policy is a socio-economic practice that is connected with the legal system, social policy and the international environment that aims to study public economic action in order to achieve certain goals of the economic system through monetary and fiscal policy (Bénassy-Quéré et al., 2010). Monetary policy is an area that includes measures and instruments in order to achieve the most flexible monetary policy in relation to the tasks and set goals, while fiscal policy can be defined as a conscious change in government revenues and expenditures whose purpose is to achieve macroeconomic goals of economic policy, such as full employment, stable prices, satisfactory economic growth rates and achieving external balance. Some of the basic goals of establishing adequate monetary and fiscal policy are: regulating the optimal amount of money in circulation, maintaining price stability, controlling inflation, ensuring full employment, protecting monetary policy and balancing the balance of payments (Walsh, 2010). On the other hand, a similar situation occurred in 2020 with the COVID pandemic. All economies (developed and developing) have experienced a decline due to the negative effects caused by restrictive measures on production, financial markets, supply chains and the tourism sector (tourist and business travel) (Schwab & Mallert, 2020). GDP per capita is a measure of economic output per person in a country and is often used as an indicator of the standard of living in a country. GDP in these years was very low, the result of which is that the Western Balkan countries entered the crisis with very high fiscal debt and an imbalance in monetary policy (money supply was not sufficiently balanced with the inflation rate and unemployment rate). Resolving such challenges is easiest to achieve through speed, efficiency and flexibility of procedures, as well as coordination of activities at the national,

regional and global levels (Murgasova *et al.*, 2015). Thus, Mehic *et al.* (2013) analyzed the impact of foreign direct investment on economic growth in the transition countries of Southeast Europe in the period 1998–2007. The paper uses the Price-Winsten regression with panel-corrected standard errors for the preferred estimation model. The main objective of the study was to determine the positive and statistically significant impact of FDI on economic growth. Do economic policies (fiscal and monetary) actually have an impact on GDP trends, and did the 2020 crisis have a significant impact on growth? The main purpose of this study is to analyze and determine whether real GDP per capita actually depends on certain variables, and whether different time periods show significant differences. The second goal is to see whether dependent variables have a mutual influence on the growth and development of other dependent variables, of course over a certain time period. Further through the paper, an insight into the literature review will be provided, then the definition of the hypothesis and research question, presentation of the results of the analysis and conclusion.

LITERATURE REVIEW

The literature review will serve as a basis for the analysis of empirical studies based on which an assessment of the relative efficiency and dynamic connection between monetary and fiscal policy will be made, and impact of their indicators on the development of the economy and economic indicators. Monetary and fiscal policy are tools that show the overall state and health of an economy, although they are separate areas and act differently, their connection and cooperation are crucial in moments of economic stagnation and economic crisis. The strategy of choosing adequate policies could be seen all over the world during the major economic crisis COVID-19 pandemic of 2020. In some cases, individual policies were chosen to solve the problem, while in other cases, both closely cooperated and thus helped overcome the crises. Measure of economic output per person in a country is variable Real GDP per capita and is often used as an indicator of the standard of living in a country. There are many ways to measure different economies against each other, but comparing countries by real GDP per capita remains one of the most proven methods for determining the standard of living of citizens, or the level of economic well-being in the world (Dynan & Sheiner, 2018). The main goals of monetary policy are low and stable inflation and minimizing deviations of GDP/employment from the equilibrium level. Macroprudential norms are important for maintaining macroeconomic stability, which should ensure the stability of the financial system. While fiscal policy represents one of the most important parts of economic policy, which uses various forms of public revenues and public expenditures as instruments to achieve its goals. The goals of fiscal policy are minimal deviation of GDP growth and unemployment rate from

potential/balanced level and preservation of macroeconomic stability (low inflation and external balance). AlHarbi et al. (2024) used five different variables with panel data and ordinary least squares techniques, including correlation analysis (Spearman coefficients), linear regression, Granger causality, and pooled ordinary least squares regression (POLLS), in their recent study, which was carried out in 2024 across three countries: India, KSA or the Kingdom of Saudi Arabia, and the United Arab Emirates (UAE). The goal was comprehending how the money supply, banking, and economic growth interact. Based on the findings, it was determined that while changes in broad money impacted loans and deposits, there were also negative correlations found in this connection. It was noted that GDP and wide money are causally related. This suggests that monetary policy can employ wide money as a tool to boost GDP. The findings of the study by Chaitipa et al. (2015) varied, with each finding indicating that nations such as Thailand, Indonesia, Singapore, Malaysia, the Philippines, Vietnam, Lao, and Cambodia are very dynamic and have varying rates of economic growth over both short- and long-term periods. In conclusion, research has shown that demand deposit factors and money supply (M1) were important for GDP development in Vietnam, Laos, Indonesia, and the Philippines. In Indonesia, the Philippines, and Laos, the money supply variable (M1) had a negative relationship with GDP growth, but the demand deposit variable had a positive relationship. In Vietnam, the money supply (M1) and GDP growth were positively correlated, whereas demand deposits and GDP growth were negatively correlated. Thus, this analysis explains why raising the money supply (M1) would not impact Indonesia, the Philippines, and Laos's increased short-term economic development. Ogoke et al. (2021) have done a fantastic job of reviewing, analyzing, and suggesting solutions for the fiscal policy variables and indicators. The Dickey-Fuller test, Granger Causality for VECM, Lag Selection Model, and Vector Error Correction Model (VECM) were among the investigations he carried out. He used time series data from 1987 to 2020 to examine the relationship between public spending and the economic development of Ghana and Nigeria. The study's findings showed that although capital spending on social and welfare services and capital expenditure on economic services had a substantial positive impact on per capita income in Nigeria, transfer capital and capital expenditure on economic services have a negative but not statistically significant effect. Čaršimamović Vukotić (2011) focused on emerging nations and discussed how fiscal policy affects economic growth in developed countries using the variables of public spending and revenue/taxation. Descriptive statistics, Pearson correlation coefficients, chi-square tests, multiple linear panel regression, and classical linear regression analysis were among the characteristics and techniques used in the study. The study covered the years 1990–2009 and focused on EU nations. In endogenous growth models, capital accumulation stimulates growth,

which is then skewed by taxes. This leads to the basic conclusion that there is a link between taxation and growth. The mix of taxation strategies should be significant for growth as different forms of taxes distort incentives for capital accumulation in various ways. Bosworth (2014) looked at the long-term factors that affect interest rates, specifically the connection between changes in interest rates and rates of economic expansion. The interest rate also has a role in determining the long-term actuarial deficit's present value, which is lower now than in the future. Global supply and demand for investment funds mostly affect interest rates; examples of variables driving rate hikes include changes in the mix of fiscal and monetary policy and greater profitability. The study's findings indicated a positive but statistically insignificant association with GDP growth. Interest rates did not consistently correlate with either company return on equity or labor force growth. Given the weight assigned to it in the conventional Solow-Swan growth model, which is utilized as a data analysis approach, the lack of a substantial link with the economic growth rate is unexpected. Kim (2024) uses panel data to examine how interest rates affect economic development. The findings demonstrate that, depending on the central bank's choice, interest rates may affect economic growth in both positive and negative ways. While reducing interest rates might result in poorer growth, raising them can spur growth. On the other hand, interest rates have hampered economic expansion. The use of monetary policy (such as interest rates) to control income and spending has been greatly aided by public debt in emerging nations. Because of this, nominal interest rates have gone up, which has fueled inflation. In this case, the central bank's interest rate has been more focused on controlling the national debt than promoting economic expansion. The economic development of underdeveloped nations has suffered as a result. According to the research cited, the results most commonly indicate that Balkan nations require greater quality economic and political changes in order to promote foreign direct investment and eliminate corruption. This will result in increased real GDP per capita.

Research model and hypotheses

Based on the above mentioned studies developed is the following research model. Model tested is as following:

$$d\ln RGDP_PC \sim dM^2 + d\ln govexp + d\ln govexp^2 + d\ln rate + COVID\ 19$$

The following research hypotheses are developed for the purpose of this study, more specifically:

H1: Fiscal policy (Government spending) has a statistically significant impact on economic growth in the Western Balkan countries.

H2: Monetary policy has a statistically significant impact on economic growth in the Western Balkan countries.

H2a: Money supply (M2) has a statistically significant impact on economic growth in the Western Balkan countries.

H2b: The interest rate has a statistically significant impact on economic growth in the Western Balkan countries.

H3: COVID 19 has a statistically significant impact on economic growth in Western Balkan countries.

RESEARCH METHODOLOGY

Identifying the variable of interest

The impact of economic policy, more especially, monetary and fiscal policy—on economic growth in the Western Balkans: Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia, and Croatia, is the subject of this study's quantitative research approach. Specifically, using data from 2003 to 2023, the effect of fiscal and monetary policy variables on the change in GDP per capita will be examined. The link between monetary policy and economic growth will be examined using the variables money supply (M2) and interest rate. Government spending is the variable that determines the link between fiscal policy and economic growth. In this instance, real GDP per capita is regarded as economic growth. The dependent variable is GDP per capita, while the independent variables are M2, interest rates, government spending and COVID dummy variable.

Methods and tests

The distribution and variability of important variables, such as logarithmic values, first differential, second differential, and squared values, were investigated using descriptive statistics. Kendall's tau_b model was used for autocorrelation. Correlation represents the mutual connection of the characteristics of observed phenomena. Then a set of diagnostic tests was used to examine data to understand the root causes of events, behaviors, and outcomes:

- Multicollinearity (VIF Model) - multicollinearity represents a linear relationship between independent variables of one model, in this paper multicollinearity was tested through the Variance Inflation Factor (VIF) model (Gujarati & Porter, 2009).
- Panel Durbin Watson Test for Autocorrelation - autocorrelation is a method of data analysis that aims to check whether certain data are related to themselves in different time intervals (Durbin & Watson, 1950)

- Ramsey Reset Test Model specification - the Reset test checks for the presence of various model specification errors (wrong fun. forms, omission of relevant variables, correlation between regressors and errors), and which of them is really present is shown by further analysis (Ramsey, 1969).

Hausman test was used to assess which model is more appropriate, the fixed effects model or the random effects model, the Hausman test was used, which shows whether the variables are correlated (Hausman, 1978). If the test is positive, it means that there is a correlation and the fixed effects model will be used, while if there is variation, the random effects model will be used. In addition, a two-way fixed effects model will be used to account for country- and time-specific variation.

Empirical model

A model using $\ln RGDP_PC$ as the dependent variable and including $\Delta M2$, $\ln govexp$, $\ln govexp^2$, $\ln intrate$ and the COVID dummy variable. The model proved to be theoretically justified, empirically stable and diagnostically correct. We can present the equation as:

$$\Delta \ln(REAL) = \beta_0 + \beta_1 \Delta M2 + \beta_2 \Delta \ln(GOVEXP) + \beta_3 [\Delta \ln(GOVEXP)]^2 + \beta_4 \Delta INTRATE + \beta_5 COVID + \varepsilon$$

Where:

$\Delta \ln(REAL)$ - second difference of the logarithm of real GDP per capita (dependent variable)

$\Delta M2$ - monetary supply change

$\Delta \ln(GOVEXP)$ - change in the logarithm of government spending

$[\Delta \ln(GOVEXP)]^2$ - square of previous variable (tests for non-linear effect)

$\Delta INTRATE$ - interest rate change

$COVID$ - binary variable for the COVID period

ε – stochastic error

RESULTS AND DISCUSSION

Panel unit root test for variables

With the panel unit root test (ADF test), we test whether the variables are stationary, where a p-value less than 0.05 indicates rejection of the null hypothesis of a unit root, confirming that the variable is stationary (Dickey & Fuller, 1979). Whether the null hypothesis is accepted or rejected depends on the p-value level, in this case chosen p-value is 0.05. By comparing the p-value to the 0.05 threshold, we accept the alternative hypothesis (H1) if the p-value is greater than 0.05 and accept H0 if the p-value is less than 0.05.

Table 1: Panel unit root test for variables

Variable	Method	Statistic	P-value	Stationary Y/N
dM2	ADF Statistic	-7.11	0.0100	Y
dIngovexp	ADF Statistic	-4.93	0.0100	Y
dlnRGDP_PC	ADF Statistic	-5.27	0.0100	Y
Dintrate	ADF Statistic	-7.01	0.0100	Y

Descriptive statistics

The results of descriptive statistics suggest that the mean or arithmetic value of the dependent variable dlnRGDP_PC shows its change of -0.23 which is relatively low, which means that we can say that the result is indicating a modest average decline in the variable over the period. However, this value alone does not provide information about the precision or potential estimation error. A more accurate estimate of the population mean and a reduced standard error of the mean are the outcomes of larger significant oscillations in the variables. The money supply (DM2) also shows a large variability of 13.81528. In the Balkans, the money supply has certainly expanded and fluctuated for years, which could be the result of a major economic crisis or the COVID pandemic, as indicated by the high standard deviation of 13.81528. The population borrowed more than it saved, which we can also notice through the standard deviation of 2.891529, indicating substantial fluctuations in financial balances over the years. The variable dIngovexp has a mean of approximately 0.0036, indicating a very slight average increase in government spending over the observed period. This small positive value suggests that while there were changes in government spending, they were minimal on average.

Table 2: Descriptive statistics

	mean	median	max.	min.	st.dev.	skew.	kurt.	JB	prob.	sum	s sq.d.
dM2	0.014	-0.34	60.89	-108.96	13.81	-3.25	35.68	5735.89	0.000	1.67	23476.03
dIngo vexp	0.0036	-0.0049	0.49	-0.19	0.077	2.28	14.93	843.31	0.000	0.45	0.72
dlnR GDP_ PC	-0.23	0.04	2.98	-4.85	0.68	-4.92	42.95	8749.96	0.000	-2.89	55.70
dintrate	0.035	0.09	9.19	-10.73	2.90	-0.88	5.80	56.38	0.000	4.4	1028.40

Kendall's tau-b correlation analysis

Based on the findings of the correlation analysis of independent variables with the dependent variable, dlnRGDP_PC, we can conclude that changes in money supply do not necessarily cause changes in real GDP per capita, but they do have some impact. The

correlation coefficient between dM2 and the dependent variable is 0.023, indicating a weak but positive relationship between these two variables. Both variables of social spending (dlngovexp and dlngovexp2) show correlation results, which suggests that there is no significant relationship between GDP growth and government spending growth, or a very weak negative ordinal association, at least according to this analysis of the results of -0.01581. The interest rate correlation coefficient suggests that there is a weak to moderate positive ordinal association, when the interest rate rank increases, there is a moderate tendency for the dlnRGDP_PC rank to increase by 0.253419.

Table 3: Kendall's tau-b correlation analysis

	dlnRGDP_PC	dM2	dlngovexp	dlngovexp2	dintrate	COVID
dlnRGDP_PC	1.000000	0.023	-0.018581	-0.018581	0.253419	0.000000
dM2	0.02	1.000000	0.07	0.07	0.08	0.1
dlngovexp	-0.02	0.07	1.000000	1.000000	-0.01	0.27
dlngovexp2	-0.02	0.07	1.000000	1.000000	-0.01	0.27
dintrate	0.25	0.08	-0.01	-0.01	1.000000	-0.02
COVID	0.000000	0.1	0.27	0.27	-0.02	1.000000

VIF model analysis of independent variables

According to the results of the VIF analysis, all the values are <5, which means that there are no significant problems with the multicollinearity of the independent variables in this model. We can draw a conclusion where we will say that there is no significant multicollinearity, and that the coefficients and variables of this model are very stable and reliable, therefore we can say that (in)correlation will not affect the overall results of the model.

Table 4: VIF model analysis of independent variables

Variable	dM2	dintrate	dlngovexp	dlngovexp2	COVID
Value	1.16	2.30	3.40	2.19	1.08

Breusch-Pagan test for heteroscedasticity

According to the results of the BP test, we can see that the result is 3.3504 and that the p value is <5 (0.6461), which means that there is no significant evidence of heteroskedasticity in the model, which means that we fail to reject H0.

Table 5: Breusch-Pagan test for heteroscedasticity

Residual standard error: 0,05087	
R-squared (multiple)	0.4472
R-squared (adjusted)	0.4240

F-statistics	19.25	Table 5...
p-value	0.6461	
df	5	
Breusch-Pagan test: 3,3504		

White-style (HC1) robust standard errors

According to the results from Table 6, we saw that the Breusch-Pagan test did not detect heteroskedasticity in the model since the p value was 0.6461, which means that homoskedasticity is satisfied for POLS. The negative squared effect of public spending ($d\text{Ingovexp}^2$) and the effect of the COVID-19 dummy have a reliable impact on the annual growth rate of real GDP per capita, while the other variables are not significant because their p value is >0.05 .

Table 6: White-style (HC1) robust standard errors

dIngovexp²	
β	-12.194
robust SE	5.2576
T	-2.3194
P	0.0221 statistically significant
COVID	
β	0.2977
robust SE	0.1224
T	2.4317
P	0.0165 statistically significant

Durbin-Watson test for autocorrelation

The Durbin-Watson test on our pooled OLS panel model yields $DW = 1.98$ and $p = 0.44$, indicating the absence of evidence of first-order autocorrelation. Since the p-value is greater than 0.05, which means that there is no significant first-order autocorrelation in the residuals of the pooled OLS model.

Table 7: Durbin-Watson test for autocorrelation

Durbin-Watson	1.98
p-value	0.44
Autocorrelation is greater than 0 (alternative hypothesis)	

Ramsey Reset test

Ramsey Reset test is based on the F-statistic or log. likelihood ratio (LR test), in the hypothesis test that the coefficients of all added regressors are equal to zero. By analyzing the

satisfactory model, we see that according to the F test, the regression is statistically significant, which means that the relationship between the dependent and independent variables did not occur by chance, but that they really have an influence on each other. Based on the t test, all parameters are statistically significant and the variables are relevant, given the p value which is ≤ 0.05 , which means that if the test is positive, we can expect an increase and vice versa, if it is negative, then a decrease. The model is sensitive to autocorrelation, which means that the errors in the model are not interconnected and do not affect each other over time, which makes the model relevant for fulfilling the regression, in other words, the residuals are normally distributed. The presence of heteroskedasticity is negative, which means that the estimate is very reliable and we cannot reach erroneous conclusions, the model satisfies the homogeneity of variances.

Table 8: Ramsey Reset test

RESET	3.94
df1	1
df2	118
p-value	0.05

Poolability (Chow) test

Through the poolability test, we tested whether the units can be treated as having the same coefficients and intercepts or whether they are still POLS.

Defining hypotheses:

H0: Coefficients are equal across panel units (model is poolable - pooled OLS is appropriate)

H1: Coefficients differ significantly across units (instability exists - fixed effects are better)

The result of the test, i.e. the p value which in our case is less than 0.05, means that we have enough evidence to reject H0 because the coefficients are not the same for all state units and that the pooled OLS model does not satisfy the assumption of a unique structure among all panel units. We can practically say that each state has a different intensity of movement of changes in the money supply, public spending, net debt.

Table 9: Poolability (Chow) test

F-statistics	2.228
Degrees of freedom 1	25
Degrees of freedom 2	89
p-value	0.003253
alternative hypothesis	UNSTABILITY

Hausman test

According to the results of the Hausman test, the p value is 0.99, which is significantly higher than the tolerance threshold of 0.05, which means that the random effects model is appropriate, as there is no evidence of correlation between individual effects and explanatory variables. The hypotheses are:

H0: Random effect model is consistent ($p > 0.05$).

H1: "Fixed effect model is consistent ($p < 0.05$).

Table 10: Hausman test

Chi square	0.45
Degrees of freedom	5
p-value	0.99
alternative hypothesis: one model is inconsistent	

Random Effect Model

Considering the results of the RE, we do not have enough evidence to reject H0 according to the results of the p value from Hausman test that is 0.99, significantly higher than the tolerance threshold of 0.05. Due to the results random effects model is more appropriate, because there is no evidence of correlation between individual effects and explanatory variables. When we look at the variables we see that dM2 and dintrate are subject to significant influence, and dlngovexp (-3.55) and dlngovexp2 (-1.21) retain negative and statistically significant values.

Table 11: Random effect model

"One way effects Random Effect Model"				
Unbalanced panel: n=6, T=20-21, N=125				
Variance Components (Standard Deviation and Proportion)				
idiosyncratic	0.26	0.51	1	
individual	0.0000	0.0000	0	
Distribution of Residuals				
Min.	1st qu.	median	3rd qu.	Max.
-4.2898583	-0.08	-0.01	0.08	2.66
Estimated Coefficients				
	Estimate	Std. error	z-value	Pr (> z)
intercept	3.3915e-02	4.9393e-02	0.69	0.49
dM2	-8.7634e-04	3.5707e-03	-0.25	0.81
dlnGovexp	-3.5528e+00	-1.1059e+00	-3.21	0.00
dlnGovexp2	-1.2194e+01	3.0724e+00	-3.97	7.218e-05
dintrate	-3.8914e-02	2.4061e-02	-1.61	0.11
COVID	2.9766e-01	1.6073e-01	1.85	0.06

Total sum of squares	55.71	Table 11...
residual sum of squares	30.8	
R-squared	0.45	
Adjusted R-squared	0.42	
Chisq: 96.2708 on 5 DF, p-value: < 2.22e-16		

Fixed Effect Model

Due to the results of testing the fixed effect model, we generally observe significant and negative effects of the variables. The variables *dM2* and *dintrate* are not so statistically significant. When we examine the variable *dIngovexp*, we see that it is statistically significant with an estimated value of -3.12 and a p-value of <0.01 and that it has a negative effect on the dependent variable Real GDP per capita. The same is true for the square of this variable (*dIngovexp2*) where higher levels of public spending have an increasingly pronounced negative effect. The R-squared of the model is 0.45, indicating that about 45% of the variability in the dependent variable can be explained by the variables above when controlling for fixed characteristics of each country.

Table 12: Fixed effects model

"One way effects within model"				
Unbalanced panel: n=6, T=20-21, N=125				
Distribution of Residuals				
Min.	1st Qu.	Median	3rd Qu	Max.
-4.0986363	-0.11	-0.0048	0.11	2.53
Estimated Coefficients				
	Estimate	St. Error	t-value	Pr (> t)
<i>dM2</i>	-8.8629e-04	3.5760e-03	-0.25	0.80
<i>dIngovexp</i>	-3.5044e+00	1.1219e+00	-3.12	0.0023
<i>dIngovexp2</i>	-1.2120e+01	3.1459e+00	-3.85	0.0002
<i>dintrate</i>	-3.7567e-02	2.4325e-02	-1.54	0.12
COVID	2.9668e-01	1.6113e-01	1.84	0.07
Total sum of squares				53.41
Residual sum of squares				29.60
R-squared				0.45
Adjusted r-squared				0.40
F-statistic 18.3839 on 5 and 114 DF, p-value 2.3743e-13				

CONCLUSION

The research confirms the complex and multifaceted nature of the interrelationship between fiscal and monetary policy and economic growth. The results demonstrate that changes in government expenditure, which is a measure of fiscal policy, and its quadratic shape, which would suggest nonlinear effects, do not significantly affect changes in real GDP

per capita. This may indicate that public spending, although an important component of overall economic activity, is not sufficiently efficient or directed towards sectors that generate sustainable growth in the region. In addition, the average value of the consumption variable indicates a very slight increase, which further supports the hypothesis of a limited effect of fiscal policy. When it comes to monetary policy, the results are mixed. The change in money supply (M2) shows a weak positive, but statistically insignificant relationship with real GDP per capita, which may indicate that the increase in the money supply is not sufficiently or efficiently channeled towards investment and consumption. Given the instability characterized by high standard deviations, it is possible that shocks such as the global financial crisis of 2008 and the COVID-19 pandemic in 2020 reduce the effectiveness of traditional monetary instruments. The empirical model used in the study proved to be theoretically justified, diagnostically correct and stable. VIF tests did not indicate the presence of significant multicollinearity, which confirms that the independent variables are not linearly related to each other to an extent that could threaten the validity of the estimated coefficients. Also, the Durbin-Watson test shows the absence of the first type of autocorrelation, while the results of the RESET test do not indicate specification errors in the model.

In a broader context, these findings confirm that neither fiscal nor monetary policy in its traditional form has a strong and direct impact on economic growth in the analyzed sample of Western Balkan countries. This may be the result of structural weaknesses, institutional problems, low efficiency of policy implementation, as well as the region's excessive sensitivity to external shocks. The results indicate the necessity of combining quantitative analyses with a qualitative approach that would take into account the institutional and political characteristics of individual countries in order to create effective growth policies.

Based on the research results, economic growth is closely tied to the long-term balance of fiscal and monetary policy. Western Balkan countries should orient themselves towards directing public spending towards long-term investments that will stimulate growth in the areas of infrastructure, education, and healthcare. These are very important growth indicators that have a very strong multiplier that has a positive effect on economic growth. But when we consider all the variables, we see that public spending has a significant impact on the movement of economic growth, which suggests that the government should redirect spending to these key sectors instead of short-term transfers. Transparency and openness of fiscal spending is a very important factor in acquiring new and strengthening existing investors.

In monetary policy, price stability and building resilience, or preparedness for crises, are fundamental parts of achieving economic growth. When we talk about money supply, it is highly recommended that monetary policy must address and lead a price stability policy. The COVID-

19 pandemic served as a very good example of the fluctuation of all these variables and showed us how money supply affects the stabilization of inflation and inflation on price stability. When we talk about the COVID crisis, we see that fiscal and monetary balance is very important in order to ensure that the economy in crisis situations suffers as few consequences as possible, which we can associate with high inflation, interest rates, and the like. It is very important to emphasize that it is important to build fiscal reserves and monetary space in periods of stability so that in times of crisis it can be acted upon without causing inflation or debt. As we can see in the work of Dauti & Elezi (2022), the analysis of the results shows that during the COVID pandemic period, the emphasis was on flexible and targeted public investments that were crucial for maintaining economic growth in conditions of external shocks.

Limitations of this study are that it is limited to Western Balkan countries, which may reduce the generalizability of the findings. Key institutional factors like governance quality and political stability were not included, which could influence economic growth. Although the model passed diagnostic tests, potential omitted variable bias cannot be ruled out. Significant shocks like the COVID-19 epidemic and the 2008 financial crisis occurred during the studied period, which might have impacted the findings. Lastly, sector-specific influences on growth may be overlooked when using aggregate measures.

Future research can use methods such as fixed effects to further confirm the robustness of the findings, and the inclusion of variables that measure institutional quality, political stability, quality of governance, or the level of digitalization can help to better understand the impact of policies.

REFERENCES

- Bénassy-Quéré, A., Cœuré, B., Jacquet, P., & Pisani-Ferry, J. (2010). *Economic Policy Theory and Practice*. OXFORD University press. https://students.aiu.edu/submissions/profiles/resources/onlinebook/z4q7r6_economic_policy_theory_and_practice.pdf
- Walsh, C. E. (2010). *Monetary Theory and Policy* (Third edition). Massachusetts Institute of Technology. https://students.aiu.edu/submissions/profiles/resources/onlineBook/N6v4L3_walsh.pdf
- Schwab, K., & Mallert, T. (2020). *Covid-19: The Great Reset*. Forum Publishing. <http://reparti.free.fr/schwab2020.pdf>
- Murgasova, Z., Ilahi, N., Miniane, J., Scott, A., & Vladakova-Hollar, I. (2026). *The Western Balkans: 15 Years of Economic Transition*. In *Regional Economic Issues Special Report*. International Monetary Fund. <http://reparti.free.fr/schwab2020.pdf>
- Mehic, E., Silajdzic, S., & Babic-Hodovic, V. (2013). *The impact of FDI on economic growth: Some evidence from Southeast Europe*. *Emerging Markets Finance and Trade*. <https://doi.org/10.2307/23437707>
- Dynan, K., & Sheiner, L. (2018). *GDP as a Measure of Economic Well-being*. Harvard University Peterson Institute for International Economics and Hutchins Center on Fiscal and Monetary Policy, The Brookings Institution. <https://www.brookings.edu/wp-content/uploads/2018/08/WP43-8.23.18.pdf>
- AlHarbi, A., Sbeiti, W., & Ahmad, M. (2024). *Money Supply, Banking and Economic Growth: A Cross Country Analysis*. *International Journal of Economics and Financial Issues*, 14(2), 234–242. <https://doi.org/10.32479/ijefi.15749>

- Chaitipa, P., Chokethaworna, K., Chaiboonsrib, C., & Khounkhalaxc, M. (2015). Money Supply Influencing on Economic Growth-wide Phenomena of AEC Open Region. ScienceDirect. https://www.researchgate.net/publication/283953977_Money_Supply_Influencing_on_Economic_Growth-wide_Phenomena_of_AEC_Open_Region
- Ogoke, S., Akujuobi, A., Akujuobi, L., Nwaimo, C., & Nwabeke, E. (2021). Public expenditure and economic development in sub-saharan africa: evidence from nigeria and ghana. African Journal of Business and Economic Development. <https://www.ijaar.org/articles/ajbed/v1n12/ajbed-v1n12-Dec21-p11215.pdf>
- Čaršimamović Vukotić, N. (2011). Essays on effects of fiscal policy on economic activity. School of economics and business in sarajevo university of sarajevo. https://www.efsa.unsa.ba/ef/sites/default/files/disposition_ncv.pdf
- Bosworth, B. P. (2014). Interest Rates And Economic Growth: Are They Related? Center for Retirement Research at Boston College. https://crr.bc.edu/wp-content/uploads/2014/05/wp_2014-8.pdf
- Kim, M.-J. (2024). The threshold impact of interest rates on economic growth: Empirical evidence from panel data. *Global Business & Finance Review*, 29(6), 201–213. <https://www.econstor.eu/bitstream/10419/306023/1/id659.pdf>
- Gujarati, D. N., & Porter, D. C. (2009). *Basic econometrics* (5th ed.). McGraw-Hill Education.
- Durbin, J., & Watson, G. S. (1950). Testing for serial correlation in least squares regression: I. *Biometrika*, 37(3/4), 409–428. <https://doi.org/10.1093/biomet/37.3-4.409>
- Ramsey, J. B. (1969). Tests for specification errors in classical linear least-squares regression analysis. *Journal of the Royal Statistical Society: Series B (Methodological)*, 31(2), 350–371.
- Hausman, J. A. (1978). Specification tests in econometrics. *Econometrica*, 46(6), 1251–1271. <https://doi.org/10.2307/1913827>
- Dickey, D. A., & Fuller, W. A. (1979). Distribution of the estimators for autoregressive time series with a unit root. *Journal of the American Statistical Association*, 74(366), 427–431. <https://doi.org/10.2307/2286348>
- Dauti, B., & Elezi, S. (2022). Economic growth in the Central East European Union and the Western Balkan countries in the course of Stability and Growth Pact and COVID-19. *Zbornik radova Ekonomskog fakulteta u Rijeci*. <https://doi.org/10.18045/zbefri.2022.1.29>