

DETERMINANTS OF NOMINAL GROSS DOMESTIC PRODUCT GROWTH IN THE WESTERN BALKAN COUNTRIES: A PANEL ANALYSIS FOR THE PERIOD 2008–2024*

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Abstract: The paper analyzes the determinants of nominal gross domestic product growth in the Western Balkan countries during the period 2008–2024. The aim of the research is to identify the relative importance of fiscal, real, price-related, and external factors in explaining nominal economic dynamics. The empirical analysis is based on a panel sample comprising Serbia, Montenegro, North Macedonia, Bosnia and Herzegovina, and Albania, using a Pooled OLS model with robust standard errors. The results indicate that the key drivers of nominal growth are the growth of government expenditures, increased economic openness, and real GDP growth, with real growth representing the most stable and statistically significant factor. Inflation and public debt growth did not show a statistically significant impact. The findings suggest that nominal growth in the observed economies is predominantly driven by real economic activity and fiscal expansion, with foreign trade also playing an important role.

Keywords: nominal GDP growth, Western Balkan countries, panel analysis, fiscal policy, government expenditures, real GDP growth, economic openness, public debt, inflation, Pooled OLS model

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Introduction

Contemporary macroeconomic analysis increasingly focuses on nominal gross domestic product dynamics, as nominal GDP represents one of the key reference indicators for assessing economic activity, fiscal capacity, and the sustainability of public finances. Unlike real GDP, which measures changes in the volume of production while excluding price effects, nominal GDP reflects the value of production at current prices; therefore, its dynamics simultaneously capture both real growth and price movements. The OECD emphasizes that nominal GDP, as an indicator measured at current prices, is not suitable for intertemporal comparisons in the same way as real GDP, since changes may result from both real growth and price fluctuations. Nevertheless, precisely for this reason, nominal GDP holds particular importance in fiscal analyses, as key public finance indicators, including the public debt-to-GDP ratio, are expressed relative to the nominal size of the economy (OECD, n.d.).

The importance of nominal GDP becomes especially evident within the contemporary concept of public debt sustainability, given that a

country's fiscal position is most commonly assessed through relative indicators, particularly the public debt-to-GDP ratio. Escolano (2010) bases the analysis of public debt dynamics precisely on the debt-to-GDP ratio, demonstrating that changes in this ratio are determined by interest costs, nominal GDP growth, and the primary balance. Within this framework, interest costs contribute to an increase in the public debt-to-GDP ratio, while nominal GDP growth works in the opposite direction by reducing the relative debt burden. A similar contemporary approach is developed by Blanchard (2019), who emphasizes that the fiscal burden of public debt depends on the relationship between the interest rate paid by the government and the economic growth rate. If the interest rate is lower than the growth rate, maintaining public debt may be fiscally less burdensome, whereas the opposite situation increases the risk of rising relative indebtedness. Consequently, nominal GDP growth can contribute to reducing the relative debt indicator even when the absolute level of public debt continues to increase.

Such a nature of the debt-to-GDP indicator opens an important ana-

lytical issue: improvements in fiscal indicators do not necessarily stem from debt reduction or stronger fiscal discipline but may instead result from faster growth of the nominal base. Under conditions of elevated inflation, increased public spending, or aggregate demand expansion, nominal GDP may grow faster than real economic activity, thereby creating a more favorable picture of the relative fiscal position. Therefore, it is important to distinguish sustainable improvements based on real production growth from nominal improvements arising from price effects or methodological and statistical characteristics of macroeconomic aggregate calculations.

In the literature, this issue is also associated with questions of fiscal transparency and political incentives in public finance management. Milesi-Ferretti demonstrates that fiscal rules, if not accompanied by a sufficient degree of budget transparency, may encourage governments to resort to forms of “creative accounting,” namely presenting the fiscal position in a way that formally satisfies fiscal rules but does not necessarily reflect genuine fiscal adjustment. Similarly, von Hagen and Wolff (2006) find empirical evidence that fiscal rules in the European Union encouraged the use of

stock-flow adjustments as a means of concealing deficits.

These issues are particularly relevant for the Western Balkan countries, which continue to face weaker institutional capacities, limitations in fiscal governance, and greater macroeconomic vulnerability compared to developed member states of the European Union. Recent analyses of fiscal governance in the region indicate that the Western Balkan countries should strengthen the technical and analytical capacities of fiscal rules, fiscal councils, and medium-term budgetary frameworks. The World Bank also emphasizes the need to enhance fiscal responsibility, public investment management, and public asset management in the region. Therefore, analyzing the determinants of nominal GDP growth in the Western Balkan countries is important not only for understanding economic growth, but also for interpreting fiscal sustainability and the credibility of public finance indicators (WB, 2025).

Based on the above, the main objective of this paper is to examine the determinants of nominal gross domestic product growth in the Western Balkan countries during the period from 2008 to 2024. The rese-

arch includes Serbia, Montenegro, North Macedonia, Bosnia and Herzegovina, and Albania, while analyzing fiscal, real, price-related, and external factors of nominal economic dynamics. Particular attention is devoted to public debt growth, government expenditure growth, inflation, real GDP growth, and economic openness, in line with the methodological framework of the study and the established panel model.

The contribution of this paper lies in the fact that nominal GDP growth is not observed solely as a technical macroeconomic indicator, but also as a variable with broader fiscal and institutional implications. In this way, the paper seeks to demonstrate the extent to which nominal growth in the Western Balkan countries is driven by real economic expansion, fiscal expansion, inflationary movements, or external trade integration. Such an approach enables a more precise understanding of the relationship between nominal economic dynamics and perceptions of fiscal sustainability in economies positioned between the processes of European integration, the need for fiscal stabilization, and limited institutional capacities.

Literature review

The empirical literature on the determinants of economic growth and its short-term fluctuations has developed through several complementary approaches encompassing neoclassical and endogenous growth theories, as well as contemporary empirical approaches based on panel data. Modern empirical literature on the determinants of economic growth increasingly focuses on integrated macroeconomic models that combine fiscal, monetary, and external factors in explaining differences in economic performance across countries.

Nominal gross domestic product growth is viewed as a function of real expansion and price movements, with particular emphasis often placed on the importance of macroeconomic stability and economic structure. In this context, contemporary Keynesian literature further emphasizes that the short-term dynamics of nominal growth may be significantly conditioned by aggregate demand developments. Paul Krugman (2012) argues that prolonged recessions are not necessarily the result of structural weaknesses in the economy, but rather primarily the consequence of insufficient effective demand, which

leads to declines in production, investment, and employment. Under such conditions, changes in aggregate demand are primarily reflected through variations in real output, which represents the main transmission channel of overall economic activity. Accordingly, nominal GDP growth largely stems from real economic expansion, while fiscal expansion acts as a mechanism that indirectly stimulates overall nominal growth through increases in production and employment. N. Gregory Mankiw, David Romer, and David N. Weil (1992) extend the Solow framework by incorporating the accumulation of physical and human capital, demonstrating that differences in production factors and accumulation rates are crucial for explaining cross-country differences in economic growth. Within endogenous growth theory, Philippe Aghion, Ufuk Akcigit, and Peter Howitt (2015) emphasize the role of innovation, competition, and technological progress as central drivers of long-term growth, viewing growth as the result of a continuous process of creative destruction.

In the field of fiscal policy, Olivier Blanchard and Roberto Perotti (2002) empirically identify significant dynamic effects of changes in government spending and taxation

on aggregate output, indicating that fiscal shocks represent a relevant source of short-term economic fluctuations. Ethan Ilzetzki, Enrique Mendoza, and Carlos Végh (2012) further demonstrate that the size of fiscal multipliers is not uniform, but rather depends on structural characteristics of the economy, including the degree of openness and the exchange rate regime, with fiscal expansion effects being weaker in highly open economies and developing countries.

Inflation is not regarded in the empirical literature as a linear determinant of economic growth, but rather as a variable with potentially nonlinear effects. Mohsin S. Khan and Abdelhak Senhadji (2001) identify the existence of specific inflation thresholds above which inflation has a statistically significant negative impact on growth, while below those levels the effects may be neutral or mildly positive. Similar findings are confirmed by Peter L. Rousseau and Paul Wachtel (2002), who show that the relationship between inflation and growth depends on the level of financial development and institutional stability of the economy.

Economic openness and trade liberalization represent one of the

key channels of long-term economic growth in contemporary literature. Romain Wacziarg and Karen Horn Welch (2003) empirically demonstrate that countries tend to achieve higher rates of economic growth following trade liberalization, particularly in the medium and long term. However, Francisco Rodriguez and Dani Rodrik (2000) argue that the effects of trade openness are not universal, but instead depend on the quality of institutions, macroeconomic stability, and the structural characteristics of the observed economies.

In the literature dealing with the relationship between public debt and economic growth, Carmen Reinhart and Kenneth Rogoff (2010) find a negative correlation between high levels of indebtedness and long-term growth rates, suggesting the existence of potential debt thresholds beyond which economic growth slows down. These findings were later challenged by Thomas Herndon, Michael Ash, and Robert Pollin (2014), who point to methodological problems and the sensitivity of results to data sampling. Further studies, such as those by Ugo Panizza and Andrea F. Presbitero (2014), as well as Balázs Égert (2015), confirm that the relationship between public debt and

economic growth is nonlinear and largely depends on endogeneity, the institutional framework, and macroeconomic conditions.

From a methodological perspective, panel econometrics represents the standard approach in the analysis of macroeconomic relationships, as it enables control over unobserved heterogeneity across countries and over time. Jeffrey Wooldridge (2010) emphasizes that panel models significantly improve estimation efficiency compared to standard cross-sectional and time-series approaches, particularly in cases where heterogeneity exists in economic structures and dynamic processes.

Overall, contemporary literature suggests that nominal and real economic growth are the result of a complex interaction of fiscal impulses, inflationary movements, trade openness, and fundamental real factors, while the intensity and direction of these effects depend on the structural characteristics of the economy and the institutional environment.

Sources, Data Evaluation, and Methodological Framework of the Research

The empirical research is based on a balanced panel sample comprising five Western Balkan countries: Serbia, Montenegro, North Macedonia, Bosnia and Herzegovina, and Albania, covering the period from 2008 to 2024. The total number of observations amounts to 85 (5 countries $\times$ 17 years), enabling a comparative analysis of both time dynamics and cross-country differences in the determinants of nominal gross domestic product growth.

The primary source of data for most of the macroeconomic variables used in the study was the International Monetary Fund (IMF) – World Economic Outlook Database, accessed through the DataMapper platform. This database provided data on nominal GDP growth, real GDP growth, inflation, public debt, and government expenditures. Data on foreign trade flows, namely imports and exports of goods and services (% of GDP), were obtained from the World Bank – World Development Indicators (WDI) database, which represents a standard source of internationally comparable development indicators. The indicators used include imports of

goods and services (% of GDP) and exports of goods and services (% of GDP), on the basis of which the economic openness variable was constructed.

$$\text{Growth}_{i,t} = \frac{X_{i,t} - X_{i,(t-1)}}{X_{i,(t-1)}} \times 100$$

where $X_{i,t}$ represents the value of the observed variable for country i in year t .

The methodological framework of the research is based on a standard linear panel regression model, in which the dependent variable is explained by a set of economic determinants across both the time and cross-country dimensions of the data (Wooldridge, 2010). The dependent variable is nominal GDP growth (NGROWTH_GDP), while the explanatory variables include public debt growth (NGROWTH_PD), government expenditure growth (NGROWTH_GE), growth in economic openness (NGROWTH_OPEN), inflation (INFLATION), and real GDP growth (GDP_GROWTH). This framework enables the separation of the effects of fiscal, real, price-related, and external factors on nominal economic growth.

The formal specification of the panel regression model is as follows:

$$NGROWTH_GDP_{i,t} = \beta_1 + \beta_2NGROWTH_PD_{i,t} + \beta_3NGROWTH_GE_{i,t} + \beta_4NGROWTH_OPE_{i,t} + \beta_5INF_{i,t} + \beta_6GDP_GROWTH_{i,t} + \varepsilon_{i,t}$$

where:
i=1,2...,5 denotes the country;
t=2008,2009..2024 denotes the year;
ε denotes the random error term.

To determine the optimal model specification, the Pooled OLS, Random Effects, and Fixed Effects approaches were tested, along with the application of the Hausman test and the Breusch–Pagan LM test. Following the diagnostic procedures, the pooled OLS model was identified as the most appropriate specification, while standard errors were corrected by clustering at the country level in order to eliminate the effects of serial correlation and increase the robustness of the estimates. In this way, a methodological framework was established that enables a reliable estimation of the short-term determinants of nominal GDP growth in the Western Balkan countries.

Descriptive Data Analysis and Preliminary Evaluation

Before proceeding to the econometric analysis, it is useful to examine the basic characteristics of the dataset in order to identify the main trends of the observed variables, differences between countries, and their movements over time within the Western Balkan region. Descriptive analysis provides an initial insight into the structure of the data and represents an appropriate foundation for interpreting the results obtained in the subsequent stages of the research. The observed sample includes five Western Balkan countries (Serbia, Montenegro, North Macedonia, Bosnia and Herzegovina, and Albania) over the period from 2008 to 2024, while the balanced panel contains a total of 85 observations.

Table 1. Descriptive Statistics of the Overall Sample

Variable	Mean	Median	Std. Dev.	Min	Max
NGROWTH_GDP	5.0360	5.4524	10.197	-15.903	23.913
NGROWTH_PD	8.2449	9.0542	14.286	-13.150	102.03
NGROWTH_GE	5.2980	5.1049	11.644	-19.781	42.398
NGROWTH_OPEN	6.6349	6.4714	16.460	-31.217	49.691
INFLATION	3.3929	2.1000	3.7204	-1.600	14.200
GDP_GROWTH	2.4994	3.0000	3.5359	-15.000	13.000

Source: Author’s calculations based on the Gretl statistical software.

The average nominal GDP growth rate during the observed period amounted to 5.04%, with a relatively high standard deviation of 10.20 percentage points, indicating substantial volatility in economic developments across the region. At the same time, the average growth of public debt (8.24%) exceeded the average nominal GDP growth rate, which may suggest a tendency for indebtedness to grow faster than economic activity. The average growth of government expenditures amounted to 5.30%, approximately at the level of average nominal GDP growth, which may indicate the significant role of fiscal policy during the observed period. The economic openness variable recor-

ded an average growth rate of 6.63%, with a standard deviation of 16.46, pointing to pronounced fluctuations in foreign trade flows and the high sensitivity of the region to international economic developments. The average inflation rate amounted to 3.39%, while the minimum and maximum values indicate the presence of both deflationary episodes and periods of strong price pressures. Finally, real GDP growth averaged 2.50%, with a standard deviation of 3.54 percentage points, confirming moderate economic growth in the region, but also the significant impact of crisis and post-crisis developments during the observed period.

Table 2. Average Values of Variables by Country

Country	NGROWTH_GDP	NGROWTH_PD	NGROWTH_GE	NGROWTH_OPEN	INFLATION	GDP_GROWTH
SERB	4.8392	7.0003	5.4703	7.8023	5.8353	2.0824
MNE	5.5138	9.4643	4.8149	6.0840	3.2765	2.6029
NMC	4.5784	9.7916	5.1430	6.8531	3.0824	2.3294
B&H	4.1482	8.7418	4.1851	5.6060	2.1882	2.2471
ALB	6.1006	6.2264	6.8764	6.8290	2.5824	3.2353

Source: Author's calculations based on the Gretl statistical software.

The comparative analysis of average values by country indicates the presence of certain developmental and macroeconomic differences within the Western Balkan region. Albania recorded the highest average nominal GDP growth rate (6.10%), while the lowest was observed in Bosnia and Herzegovina (4.15%). Montenegro (5.51%) and Serbia (4.84%) were above or close to the regional average, whereas North Macedonia recorded more moderate nominal growth (4.58%). At the same time, Albania also achieved the highest average real GDP growth rate (3.24%), suggesting that nominal expansion in that country was largely supported by a real increase in economic activity. On the other hand, Serbia recorded the lowest average real growth in the sample (2.08%), but simultaneously the highest average inflation rate (5.84%), which may indicate that part of the nominal growth was generated by price-related factors.

With regard to public debt, the most pronounced average growth was recorded in North Macedonia (9.79%) and Montenegro (9.46%), while Albania registered the lowest average public debt growth rate (6.23%). These findings may point to different models of fiscal financing and varying degrees of reliance on

borrowing among the observed economies. Concerning government expenditures, Albania achieved the highest average growth rate (6.88%), whereas Bosnia and Herzegovina recorded the lowest value (4.19%). This may indicate a more active fiscal approach in Albania compared to the other countries in the region. The economic openness variable shows that Serbia recorded the highest average growth in openness (7.80%), which may be associated with stronger trade integration and a larger volume of external trade. The lowest average value was registered in Bosnia and Herzegovina (5.61%).

Overall, the results indicate that different patterns of economic growth exist within the region. While in some countries nominal growth relies more heavily on real expansion and trade dynamics, in others inflationary developments or fiscal expansion may play a greater role. These differences further justify the application of panel methodology in the continuation of the research. Based on these findings, the following chapter presents a formal econometric estimation of the determinants of nominal GDP growth using the Pooled OLS, Random Effects, and Fixed Effects models.

Research Process and Analysis of Results

The empirical research was conducted through several consecutive stages in order to ensure methodological reliability and the proper interpretation of the determinants of nominal gross domestic product growth in the Western Balkan countries. The analysis included the estimation of multiple panel specifications, the selection of the optimal model, the implementation of diagnostic tests, and the final estimation of a robust model.

In the first stage, the Pooled OLS, Random Effects (REM), and Fixed Effects (FEM) models were estimated with the aim of comparing the stability of the coefficients and identifying potential individual effects among the observed countries.

The results presented in Table 3 show a high degree of consistency in the estimates across all three models. The coefficients exhibit almost identical values, which represents a first indication that there are no pronounced country-specific effects that would require more complex panel approaches.

The most stable and statistically significant result relates to the government expenditure growth variable (NGROWTH_GE). In all estimated models, this variable has a positive and statistically significant coefficient of approximately 0.51. This implies that a 1% increase in government expenditures is associated, on average, with a 0.51 percentage point increase in nominal GDP growth, *ceteris paribus*. This finding highlights the strong short-term importance of fis-

Table 3. Results of the Pooled OLS, Rnd. Effects, and Fixed Effects Models

Variable	Pooled OLS	Random effects	Fixed effects
const	-1.05451	-1.05533	-1.05780
	(0.1371)	(0.7026)	(0.8137)
NGROWTH_PD	0.0159150	0.0145172	0.0093622
	(0.6754)	(0.7026)	(0.8137)
NGROWTH_GE	0.512324	0.512324	0.514084
	(0.000)	(0.000)	(0.000)
NGROWTH_OPEN	0.196326	0.196326	0.197958
	(0.000)	(0.000)	(0.000)
INFLATION	0.109450	0.109450	0.124977
	(0.3696)	(0.3696)	(0.3278)
GDP_GROWTH	0.633526	0.633526	0.622379
	(0.000)	(0.000)	(0.000)

Source: Author's calculations based on the Gretl statistical software.

cal policy in the observed economies, indicating that increases in public spending represent an important channel for stimulating nominal economic activity. This result is consistent with the empirical findings of Blanchard and Perotti (2002), who show that fiscal shocks, particularly through government spending, have a significant positive effect on aggregate output.

Another statistically significant determinant of nominal growth is economic openness growth (NGROWTH_OPEN), with a coefficient of approximately 0.20 across all models. This confirms that increased trade flows, and thus stronger integration into international goods and services markets, positively affect nominal GDP growth. This result is expected for small and open economies such as those of the Western Balkans, which are highly dependent on exports, imports, and international trade flows. The finding is consistent with Wacziarg and Welch (2003), who empirically confirm that trade liberalization and greater economic openness contribute to higher economic growth rates.

The third statistically significant factor is real GDP growth (GDP_GROWTH), with a coefficient of around 0.63. This result confirms that nominal GDP growth is primarily driven by real increases in

production and economic activity, rather than purely by price effects. This finding is particularly important, as it shows that nominal growth in the observed countries is not predominantly the result of inflationary pressures, but rather of real economic expansion. This is consistent with theoretical and empirical approaches in the literature that view nominal growth as a function of real expansion and price dynamics, with the results indicating that the real component of growth dominates in the observed sample.

On the other hand, inflation (INFLATION) did not show a statistically significant effect in any of the estimated model specifications. Although the coefficient is positive, the p-values do not confirm statistical significance. This implies that, after controlling for fiscal, real, and external factors, inflation is not an independent driver of nominal GDP growth in the analyzed sample. This result is consistent with the findings of Mohsin Khan and Abdelhak Senhadji (2001), who argue that inflation does not have a linear and universal effect on economic growth, but rather depends on its level and the macroeconomic environment.

Similarly, public debt growth (NGROWTH_PD) also did not show a statistically significant effect. The estimated coefficients are low and

statistically insignificant, suggesting that increases in nominal public debt are not automatically associated with higher nominal GDP growth. In other words, borrowing in itself did not guarantee stronger economic performance in the observed countries. This finding is consistent with contemporary studies such as those by Panizza and Presbitero (2014), which show that the relationship between public debt and economic growth is neither robust nor straightforward, but largely depends on endogeneity and institutional factors.

of the individual effect across countries. Therefore, the need for a Random Effects model is not supported.

In addition, the F-test for common intercepts yielded a p-value of 0.913002, indicating that the null hypothesis of equal intercepts across countries cannot be rejected. This also suggests that there is no justification for applying a Fixed Effects model.

Table 4. Selection of the Appropriate Model

Test	Null hypothesis	Statistic test	p-value	Decision	Conclusion
Breusch-Pagan LM	Variance of the individual effect = 0	$\chi^2(1) = 1.67835$	0.195143	Fail to reject H_0	There is no basis for Random effects
F test	All intercepts are equal	$F(4,75) = 0.243052$	0.913002	Fail to reject H_0	There is no basis for Fixed effects

Source: Author's calculations based on the Gretl statistical software.

After estimating the basic model specifications, tests for selecting the appropriate panel model were conducted (Table 4). The Breusch-Pagan LM test examines the validity of the Random Effects approach compared to the Pooled OLS model. The obtained p-value of 0.195143 indicates that the null hypothesis is not rejected, meaning that there is no statistically significant variance

Based on both tests, it can be concluded that there are no sufficiently pronounced country-specific differences in the observed sample to justify the inclusion of individual panel effects. Consequently, the Pooled OLS model was selected as the most appropriate specification.

Table 5. Diagnostic Tests

Field of validation	Test	Statistic	p-value	Concusion
Autocorrelation	Wooldridge	$t(4) = -3.51438$	0.0245745	Prisustvo autokorelacije
Homoskedasticity	Wald	$\chi^2 = 0.267318$	0.998213	No Homoskedasticity
Multicollinearity	Variance Inflation Factors (max VIF)	$\max(\text{VIF}) = 2.608$	/	No Multicollinearity

Source: Author's calculations based on the Gretl statistical software.

The Wooldridge test for autocorrelation yielded a p-value of 0.0245745, indicating the presence of autocorrelation in the model. For this reason, robust standard errors clustered at the country level were applied in the subsequent analysis. The Wald test for heteroskedasticity produced a p-value of 0.998213, leading to the conclusion that there is no heteroskedasticity problem in the model. The multicollinearity test, measured by a maximum VIF value of 2.608, indicates that there is no issue of strong intercorrelation among the explanatory variables.

Due to the detected autocorrelation, the final estimation was performed using the Pooled OLS model with robust standard errors clustered at the country level (Table 6). After correcting the standard errors, the core results remained unchanged.

Table 6. Pooled OLS with Robust Standard Errors

Variable	Pooled OLS
const	-1.05451 (0.1240)
NGROWTH_PD	0.0159150 (0.6991)
NGROWTH_GE	0.512324 (0.000)
NGROWTH_OPEN	0.196326 (0.005)
INFLATION	0.109450 (0.3599)
GDP_GROWTH	0.633526 (0.008)

Source: Author's calculations based on the Gretl statistical software.

The following variables remain statistically significant:

- government expenditure growth,
- economic openness growth,
- real GDP growth.

On the other hand, inflation and public debt growth remain statistically insignificant.

This confirms the high robustness of the main findings and further strengthens the conclusion that the main short-term drivers of nominal GDP growth in the Western Balkan countries are:

- fiscal expansion,
- external trade integration,
- real economic growth.

Conclusion

The paper analyzes the determinants of nominal gross domestic product growth in the Western Balkan countries over the period from 2008 to 2024 using panel methodology. The empirical results indicate a high degree of robustness and consistency across different model specifications, with the Pooled OLS model, estimated with robust standard errors, identified as the most appropriate for the observed sample.

The results clearly show that nominal GDP growth in the Western Balkan countries is not driven by a single factor, but rather by the combined effects of fiscal, real, and external determinants. In this framework, the most significant impact is found for government expenditure growth, which emerges as a stable and statistically significant driver of nominal economic activity. This fin-

ding confirms the importance of fiscal policy in the short run, particularly in small and open economies where public spending represents an important instrument for stabilizing and stimulating economic activity. In addition to the fiscal component, economic openness also has a significant impact, confirming that integration into international goods and services flows represents an important transmission channel of economic growth. This result further highlights the structural dependence of Western Balkan economies on foreign trade and the international environment.

A key finding of the study also relates to the role of real GDP growth, which proves to be a statistically significant and stable determinant of nominal growth across all estimated models. The results indicate that nominal growth in the observed countries is largely driven by real increases in production and economic activity rather than solely by price movements. Although fiscal factors, particularly government expenditure growth, have a dominant short-term effect, real growth represents the key transmission channel through which overall economic activity is reflected in nominal GDP. This finding is consistent with theoretical approaches that

view nominal growth as a function of real expansion and inflation, where the relative importance of these components depends on specific economic conditions.

On the other hand, inflation did not show a statistically significant effect, suggesting that price factors, although present, do not represent an independent driver of nominal growth in the analyzed sample. Similarly, public debt growth was not statistically significant, implying that borrowing in itself does not guarantee stronger economic performance, but that its effects depend on how funds are allocated and on the broader macroeconomic environment.

Overall, the findings of this study contribute to the literature by showing that the key short-term drivers of nominal GDP growth in the Western Balkan countries are a combination of fiscal expansion, external trade, and - most importantly - real economic growth. This further emphasizes the importance of policies aimed at supporting production, investment, and employment as a sustainable basis for long-term economic development.

The limitations of the study relate primarily to the sample size and the limited number of variables inclu-

ded in the model, leaving room for future research to incorporate a broader set of macroeconomic and institutional factors, as well as to apply dynamic panel models. Future research could focus on a deeper analysis of the interaction between real growth and inflation, as well as on identifying the long-term effects of fiscal and monetary policy on nominal growth.

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DETERMINANTE NOMINALNOG RASTA BRUTO DOMAĆEG PROIZVODA U ZEMLJAMA ZAPADNOG BALKANA: PANEL ANALIZA ZA PERIOD 2008–2024.

Rezime: Rad analizira determinante nominalnog rasta bruto domaćeg proizvoda u zemljama Zapadnog Balkana u periodu 2008–2024. godine. Cilj istraživanja je da identifikuje relativni značaj fiskalnih, realnih, cenovnih i eksternih faktora u objašnjenju nominalne ekonomske dinamike. Empirijska analiza zasnovana je na panel uzorku koji obuhvata Srbiju, Crnu Goru, Severnu Makedoniju, Bosnu i Hercegovinu i Albaniju, pri čemu je primenjen Pooled OLS model sa robusnim standardnim greškama. Rezultati pokazuju da su ključni pokretači nominalnog rasta rast državnih rashoda, rast otvorenosti ekonomije i realni rast BDP-a, pri čemu realni rast predstavlja najstabilniji i najznačajniji faktor. Inflacija i rast javnog duga nisu pokazali statistički značajan uticaj. Nalazi ukazuju da nominalni rast u posmatranim ekonomijama dominantno proizlazi iz realne ekonomske aktivnosti i fiskalne ekspanzije, uz značajnu ulogu spoljne trgovine.

Ključne reči: nominalni rast BDP-a, zemlje Zapadnog Balkana, panel analiza, fiskalna politika, državni rashodi, realni rast BDP-a, otvorenost ekonomije, javni dug, inflacija, Pooled OLS model