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## THE ROLE OF NON-TAX REVENUES IN THE FISCAL SYSTEMS OF WESTERN BALKAN COUNTRIES

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**Abstract:** *This study examines the impact of non-tax revenue on the budget balance in the Western Balkan countries, aiming to determine whether this segment of public revenues can represent a sustainable mechanism for fiscal consolidation. The analysis covers five countries (Serbia, North Macedonia, Montenegro, Albania, and Bosnia and Herzegovina) over the period 2008–2024, using annual panel data expressed as a percentage of GDP. The research procedure was conducted using Pooled OLS, Random Effects, and Fixed Effects models, which allow for a comparison of the impact of non-tax revenues under different assumptions about country heterogeneity. Additionally, the F-test, Breusch-Pagan LM test, Hausman test, as well as checks for autocorrelation and heteroskedasticity were conducted, enabling the selection of the optimal model specification. The panel test results indicate that there are no statistical reasons to apply REM or FEM approaches, and Pooled OLS is identified as the most appropriate model. The coefficient for non-tax revenues remains stable and significant across all models ( $\beta \approx 1.3$ ), confirming the robustness of the findings and suggesting that an increase in non-tax revenues contributes to a reduction in the budget deficit. The Granger causality test shows a one-way relationship—non-tax revenues Granger-cause changes in the budget balance, while the reverse direction is not statistically confirmed. Thus, the study empirically confirms that diversification of the revenue side of the budget can serve as an effective channel for fiscal consolidation in a region predominantly reliant on tax revenues. The results indicate that the potential for strengthening non-tax revenues deserves greater attention in the formulation of fiscal strategies in the Western Balkans, as it can contribute to the creation of a more resilient, sustainable, and fiscally balanced budget system.*

**Keywords:** *Non-tax revenues, budget deficit, panel analysis, fiscal systems, Western Balkans.*

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## **1. Introduction**

Contemporary fiscal systems face challenges in maintaining public finance stability amid limited tax capacities, rising public expenditures, and macroeconomic shocks. In this context, non-tax revenues are becoming an increasingly important component of fiscal systems, as they allow for the diversification of budgetary resources and the strengthening of fiscal resilience. Non-tax revenues encompass a wide range of sources, including revenues from public assets, dividends from state-owned enterprises, administrative fees, concession payments, and fines. Although their share in total budget revenues is not always dominant, the literature highlights their key role in complementing tax revenues and stabilizing fiscal system, particularly in economies with pronounced fiscal constraints (Boadway & Keen, 2023; OECD, 2024).

The Western Balkan region, with its specific structural characteristics of fiscal systems and historically low tax capacities, represents a particularly suitable area for studying the role of non-tax revenues. Countries in the region have traditionally relied on revenues from fees, parafiscal charges, and state-owned enterprises. However, low predictability and weak institutional oversight often limit their fiscal potential (Bartlett & Prica, 2021). Contemporary empirical literature suggests that effective management of public assets, clear regulation of fees and charges, and the restructuring of state-owned enterprises can significantly increase the stability and predictability of non-tax revenues, making them a sustainable instrument for fiscal consolidation (Allen & Krause, 2021).

The aim of this paper is to analyze the role of non-tax revenues in the fiscal systems of Western Balkan countries through an empirical assessment of their impact on the budget balance over the period 2008–2024. Investigating this issue has both practical and theoretical value, as it can provide insights into the potential of non-tax revenues to contribute to deficit reduction and the enhancement of fiscal sustainability in a region with limited tax capacities.

## **2. Theoretical framework of the role of non-tax revenues in the fiscal systems of Western Balkan countries**

Non-tax revenues represent a heterogeneous category of public revenues, encompassing income from fees and charges, revenues from public assets, dividends from state-owned enterprises, administrative fees, concession payments, fines and penalties, as well as other non-normative sources of state revenue. Although they do not always occupy a dominant position in the overall budget structure, contemporary literature suggests that their fiscal role goes beyond merely supplementing tax revenues, particularly in economies with pronounced fiscal constraints and high public expenditure demands (Boadway & Keen, 2023). According to OECD analyses, the growth of non-tax revenues results from institutional improvements, the modernization of public asset management, and increased transparency in public service financing, making them an increasingly important instrument of fiscal policy in countries with limited tax capacity (OECD, 2024). In developing countries, these

revenues often play a stabilizing role during periods when the tax base weakens due to structural shocks, thus becoming one of the main supplementary supports for fiscal sustainability (Gupta et al., 2022).

Empirical literature highlights that the fiscal contribution of non-tax revenues is strongly dependent on the institutional architecture of the public sector. In economies where public assets are efficiently managed, where clear regulations exist for fees and charges, and where state-owned enterprises are restructured according to the principles of commercial sustainability, non-tax revenues can represent a predictable and stable source of funding (Allen & Krause, 2021). Conversely, the lack of transparency, politicization of state-owned enterprises, and weak control over concessions and natural resources often lead to volatility in these revenues and reduce their fiscal significance (IMF, 2023). Studies from Central and Eastern European countries show that reforms of fee and charge systems directly influence their contribution to the budget, with the rationalization of parafiscal charges, the digitalization of public services, and clear regulatory frameworks being key factors in enhancing fiscal efficiency (European Commission, 2022).

A particular focus in recent literature is the role of non-tax revenues in fiscal stabilization during crises. Analyses conducted following the COVID-19 pandemic indicate that revenues from dividends, concessions, and public assets became an additional source of flexibility in many European economies, particularly in countries with limited fiscal space and slow recovery of the tax base (World Bank, 2023). However, risks were also identified, including the procyclical nature of state-owned enterprise revenues, declines in fee income due to reduced economic activity, and lower investment in areas where concessions serve as a budgetary revenue source. These findings suggest that non-tax revenues cannot serve as automatic stabilizers but can significantly strengthen fiscal resilience if they are based on sustainable and well-regulated sources (IMF Fiscal Monitor, 2024).

In the Western Balkan region, the literature indicates that the importance of non-tax revenues primarily stems from structural characteristics of fiscal systems and long-standing institutional constraints (Bartlett & Prica, 2021). The countries of the region have traditionally relied on revenues from fees, parafiscal charges, concession payments, as well as income from state-owned enterprises and public assets, with their share in total revenues being significantly higher than in most EU member states (World Bank, 2024). At the same time, numerous studies emphasize that insufficient transparency, weak governance structures in state-owned enterprises, and unregulated parafiscal charges lead to low predictability and stability of these revenues, complicating long-term fiscal planning (Marović et al., 2022). In practice, non-tax revenues often have a political dimension, being used to fill short-term fiscal gaps rather than as part of a strategic public finance management approach.

Recent studies analyzing the fiscal perspectives of the Western Balkans note that the role of non-tax revenues is expected to grow in the coming years due to increasing budgetary obligations in infrastructure, energy, the green transition, and demographic policies. Revenues from energy sector concessions, the management of mineral resources, and the modernization of state-owned enterprises represent key potential sources of budget stabilization, but only if reforms in public asset

management are implemented and unregulated parafiscal charges are reduced (EBRD, 2024). In a region where tax capacities are limited and public spending is structurally rigid, non-tax revenues are becoming an increasingly important component of fiscal sustainability, particularly in the context of slow nominal growth and rising debt service costs.

Broadly speaking, the literature indicates that Western Balkan countries face a dual challenge: the need to diversify budget revenues amid limited tax capacities and the simultaneous necessity of institutional strengthening in the management of non-tax revenues as a precondition for their stability. According to analyses by the European Commission and international financial institutions, the countries of the region must modernize their fee systems, improve public asset management, enhance the efficiency of state-owned enterprises, and introduce strict regulation of parafiscal charges for non-tax revenues to become a predictable fiscal instrument rather than an ad hoc source of budget consolidation (European Commission, 2025; IMF, 2024). These conclusions confirm that the role of non-tax revenues in the fiscal systems of the Western Balkans is increasingly linked to institutional capacity, governance quality, and long-term public finance strategies, making them a key component of public finance sustainability in the coming decades.

### **3. Data Collection and Panel Construction**

The empirical analysis is based on a panel dataset covering five Western Balkan countries: Serbia, North Macedonia, Montenegro, Albania, and Bosnia and Herzegovina. The observed period spans from 2008 to 2024, with available annual data for each country, forming a balanced panel with a total of 85 observations (5 countries  $\times$  17 years). All data were obtained from the official websites of the respective ministries of finance, ensuring a high level of reliability and comparability, as the study relies exclusively on primary official sources (Ministry of Finance of Albania; Ministry of Finance of the Republic of Serbia; Ministry of Finance of North Macedonia; Government of Montenegro; and the Central Bank of Bosnia and Herzegovina). Specifically, annual budget execution reports were used, and indicators were expressed as relative values in % of GDP, eliminating the influence of different economy sizes and enabling cross-country comparisons of fiscal aggregates.

The Western Balkans region represents a suitable choice for panel analysis due to the pronounced macroeconomic homogeneity of its countries and the existence of common fiscal patterns. According to the World Bank report for 2025, all Western Balkan economies share similar sources of growth, structural weaknesses, and continuous fiscal pressures—including economic slowdown, rising expenditures, and widening fiscal deficits in most countries of the region. The report also confirms that, despite fiscal inflows, public finances remain burdened by growing public spending, with the revenue side of the budget still predominantly reliant on taxes. Furthermore, the Western Balkans share a common development trajectory based on EU convergence and gradual alignment of fiscal rules with European standards, making the region coherent for research and relevant for assessing the role of alternative (non-tax) revenues in stabilizing the budget position. Therefore, the

Western Balkans constitute a logical and theoretically grounded group for empirical panel analysis of fiscal dynamics (WB, 2025).

#### 4. Data Analysis

To preliminarily examine the relationship between the budget deficit and non-tax revenues in the Western Balkan countries, a descriptive analysis of the panel dataset covering five countries—Serbia, North Macedonia, Montenegro, Albania, and Bosnia and Herzegovina—was conducted for the period 2008–2024. The data are expressed as a percentage of GDP, which allows for cross-country comparability regardless of differences in absolute economic size and levels of development.

**Table 1 – Trends in Budget Balance (BB) and Non-Tax Revenues (NTR) in Western Balkan Countries (2008–2024)<sup>2</sup>**

Country	Min BB	Max BB	Mean BB	Min NTR	Max NTR	Mean NTR
Serbia	-7,68	1,06	-3,16	2,03	3,23	2,58
Montenegro	-10,20	0,49	-4,21	0,50	2,70	1,16
North Macedonia	-8,05	0,92	-3,51	1,67	4,43	2,47
Albania	-7,90	-1,30	-3,65	1,00	1,90	1,47
Bosnia and Herzegovina	-5,21	2,53	-0,93	2,01	3,02	2,49

*Source:* Author's elaboration based on Gretl statistical software.

Observation of aggregate values of the budget balance and non-tax revenues indicates that the Western Balkan countries are, on average, characterized by a negative fiscal position and a relatively low share of non-tax revenues in GDP throughout the observed period 2008–2024. The budget balance is, on average, negative in all economies, confirming the presence of chronic fiscal pressures and limited fiscal space in the region, while non-tax revenues are quantitatively low, ranging approximately from 1% to 3% of GDP. At the regional level, it can be observed that average non-tax revenue values remain consistently low within the structure of fiscal revenues, indicating the relatively limited fiscal significance of this source of public expenditure financing. A more detailed assessment of variability and the intensity of changes in the trajectories of both series will be conducted below through an analysis of standard deviations by country.

**Table 2 - Standard Deviation of Budget Balance and Non-Tax Revenues by Country**

Country	Standard deviation BB	Standard deviation NTR
Serbia	2,40	0,33
Montenegro	2,66	0,50
North Macedonia	1,65	0,77
Albania	1,89	0,27
Bosnia and Herzegovina	2,16	0,27

*Source:* Author's elaboration based on Gretl statistical software.

The results presented in Table 2 allow for the assessment of the variability of the observed fiscal series, i.e., the degree of deviation from their average values.

<sup>2</sup> Note: A positive value of the budget balance indicates a surplus, while a negative indicates a deficit.

Montenegro exhibits the highest volatility in the budget balance (SD=2.66), further confirming pronounced fiscal deviations and episodes of deep deficits, while Serbia and Bosnia and Herzegovina also show high variability in the balance (SD=2.40 and 2.16, respectively). The most stable fiscal position among the analyzed economies is observed in North Macedonia (SD=1.65), followed by Albania (SD=1.89), indicating a narrower range of deviations and relatively moderate dynamics in the budget balance.

Regarding non-tax revenues, the standard deviation values are low across all countries, confirming the previous observation that non tax revenues are relatively stable over time, with the highest variability in North Macedonia (SD=0.77) and Montenegro (SD=0.50), while Albania and Bosnia and Herzegovina are the most stable in terms of NTR sources (SD=0.27). These findings suggest that the volatility of the fiscal balance is primarily generated on the expenditure and tax revenue side of the budget, whereas non-tax revenues remain structurally stable and exhibit low fluctuations, further justifying the empirical testing of their economic strength and effect on the budget balance.

## 5. Model Specification and Research Description

The aim of the empirical part of the study is to examine the relationship between the budget balance and non-tax revenues in the Western Balkan countries in order to determine whether changes in the level of non-tax revenues have the potential to influence fiscal balance dynamics. The underlying assumption of the research stems from the theoretical expectation that the growth of alternative public revenues can contribute to reducing the budget deficit and strengthening fiscal sustainability, particularly in countries with high dependence on the tax base. Accordingly, the hypothesis is formulated that a higher level of non-tax revenues positively affects the budget balance, i.e., contributes to deficit reduction.

The empirical approach was implemented in several steps. The first part of the analysis involves estimating a basic model using the Ordinary Least Squares (OLS) method to determine the direction and magnitude of the relationship between non-tax revenues and the budget balance across the entire panel. The model specification can be expressed in the following form (Gujarati & Porter, 2009):

$$BB_{it} = \alpha + \beta NTR_{it} + \varepsilon_{it}$$

Where:

$BB_{it}$  - The budget balance in the i-th country at time t,

$NTR_{it}$  - The non-tax revenue in the i-th country at time t,

$\alpha$  - intercept (constant term),

$\beta$  - The coefficient of the explanatory variable and

$\varepsilon_{it}$  - The error term.

After the initial OLS estimation, the model is further developed through panel specifications, including the Random Effects Model (REM) and the Fixed Effects

Model (FEM), which allow for controlling unobserved country-specific characteristics that do not vary over time. The choice between REM and FEM will be determined using the Hausman test, while the appropriateness of applying the panel approach will be assessed with the Breusch–Pagan LM test and the F-test.

The validation of empirical findings also includes testing key assumptions of the econometric model. In particular, autocorrelation and heteroskedasticity tests will be performed, and if detected, robust standard errors will be applied. Since the study is based on the impact of a single regressor on the dependent variable, testing for multicollinearity is not necessary.

In the final stage of the analysis, the Granger causality test will be conducted to examine whether changes in the level of non-tax revenues precede changes in the budget balance, and vice versa. The causality testing is based on the panel VAR approach, with the null hypotheses formulated as follows:

*H<sub>0</sub>: Non-tax revenues do not affect the budget balance*

*H<sub>0</sub>: The budget balance does not affect non-tax revenues*

Rejection of the null hypothesis at a significance level of  $p < 0.05$  indicates the existence of a causal relationship between the series. Thus, the econometric analysis allows not only the confirmation of correlation but also the identification of the potential direction of influence between the fiscal variables. The results of the OLS, REM, and FEM models, as well as the diagnostic tests and the Granger causality test, are presented in the following chapter.

## 6. Results of Applied Models and Economic Interpretation

The starting point of the empirical analysis is the estimation of the Pooled OLS model, which examines the basic relationship between non-tax revenues and the budget balance in a panel of 85 observations. The model treats all observed units as a homogeneous structure, without distinguishing the specific characteristics of individual countries. The aim of the initial estimation is to preliminarily establish the existence of a statistical relationship between changes in the level of non-tax revenues and movements in the budget deficit, which subsequently provides the basis for comparison with panel models (REM and FEM).

**Table 3 – Results of the Pooled OLS Model**

Variable	coefficient	standard error	T-Statistic	p-value
Const	-5,77	0,69	-8,34	0,000
Non-tax revenues	1,32	0,32	4,13	0,000

*Source:* Author's elaboration based on Gretl statistical software.

The results of the Pooled OLS model indicate that the model as a whole is statistically significant, as the F-statistic ( $F = 17.09$ ) with  $p < 0.001$  shows that non-tax revenues, as the explanatory variable, significantly contribute to explaining the variability of the budget balance. Since the model contains only one explanatory

variable, the F-test in this case is practically equivalent to the t-test for the coefficient  $\beta$ , indicating that changes in the level of non-tax revenues significantly affect the variations in the budget balance within the observed sample.

The coefficient of determination,  $R^2 = 0.17$ , and the adjusted  $R^2 = 0.16$ , indicate that approximately 17% of the variation in the budget balance can be explained by changes in non-tax revenues. Although the percentage of explained variance is not high, this level of determination is expected in macroeconomic panel studies, given that the budget position depends on multiple factors (GDP growth, public expenditure, tax revenues, debt burden, political cycles), while this study considers only a single regressor. Therefore, the OLS results serve as a starting point, with a more precise assessment of the impact expected in panel models that account for country heterogeneity and temporal dynamics.

The positive and statistically significant coefficient of non-tax revenues ( $\beta = 1.32$ ;  $p < 0.001$ ) indicates that an increase in the share of non-tax revenues in GDP by one percentage point leads, on average, to an improvement in the budget balance of approximately 1.32 percentage points, i.e., to a reduction of the budget deficit (considering that deficits are expressed as negative values). The results of the REM model are presented in Table 4.

**Table 4 – Results of the REM Model**

Variable	coefficient	standard error	T-Statistic	p-value
Const	-5,77	0,69	-8,34	0,000
Non-tax revenues	1,32	0,32	4,13	0,000

Source: Author's elaboration based on Gretl statistical software.

The results of the REM estimation show that introducing a panel structure with countries as random effects does not change either the direction or the magnitude of the impact of non-tax revenues on the budget deficit. The coefficient  $\beta$  remains almost identical to that in the OLS model (1.32 compared to 1.32), while its statistical significance remains high ( $p < 0.01$ ). In other words, treating the data as a panel with constant but unobservable country-specific characteristics does not provide additional explanation of the relationship, implying that fixed heterogeneity between countries does not significantly affect the estimation of  $\beta$ .

The REM estimation suggests that differences between countries cannot be explained solely by individual fixed characteristics, but that most of the variability is present within the time series (within-variance 5.10 vs. between-variance 0). This indicates that the NTR  $\rightarrow$  BB relationship predominantly changes over time within countries rather than across them.

**Table 5 – Results of the FEM Model**

Variable	Coefficient	Standard error	T-Statistic	p-value
Const	-5,72	0,71	-8,04	0,000
Non-tax revenues	1,30	0,33	3,94	0,000

Source: Author's elaboration based on Gretl statistical software.

The results of the FEM model, presented in Table 5, show that non-tax revenues remain a statistically significant determinant of the budget balance ( $p < 0.01$ ) even in the FEM specification. The estimated coefficient is  $\beta = 1.30$ , which is very close to the values obtained in the OLS (1.32) and REM (1.32) models, indicating that after accounting for time-invariant country-specific characteristics, both the direction and the strength of the impact remain stable. In other words, the panel transformation that absorbs unobserved fixed differences between countries did not lead to changes in the estimates, supporting the robustness of the relationship between non-tax revenues and the budget balance.

The coefficient and its significance are almost identical to those in the OLS and REM models, suggesting that individual country-specific characteristics (institutional differences, public finance structure, fiscal rules) do not systematically affect the relationship between the observed variables. All models convey a consistent message: an increase in the share of non-tax revenues is associated with an improvement in the budget balance (i.e., a reduction in the deficit), and the effect remains stable across the transition from classical OLS to panel specifications.

**Table 6 – Diagnostic Tests for the Selection of the Optimal Model**

Test	Test statistic	p-value	Interpretation	Implications for model selection
F test	0,17	0,95	Fail to reject H0	OLS
LM test	1,95	0,16	Fail to reject H0	OLS
Hausman test	0,32	0,57	Fail to reject H0	REM
Wooldridge test	0,24	0,82	Autocorrelation within acceptable/boundary limit	OLS without robust standard error
White test	0,33	0,85	Absence of heteroskedasticity	OLS without robust standard error

Source: Author's elaboration based on Gretl statistical software.

Based on the results presented in Table 6, it can be concluded that the Pooled OLS represents the most appropriate specification for economic interpretation.

The F-test ( $F = 0.17$ ;  $p = 0.95$ ) indicates that there is no significant difference between group intercepts, i.e., the inclusion of fixed effects does not contribute to explaining the variability of the budget balance. This finding is further confirmed by the LM test ( $LM = 1.95$ ;  $p = 0.16$ ), which does not reject the null hypothesis of equal variance across panel components, confirming that the panel structure does not add statistical value compared to standard OLS. The White test ( $p = 0.85$ ) confirms the absence of heteroskedasticity in the residuals, while the Wooldridge test ( $p = 0.82$ ) indicates no presence of autocorrelation. These results suggest that the key assumptions of the classical OLS model are satisfied, eliminating the need for robust standard errors or alternative specifications.

The optimal model shows that the increase in non-tax revenues has a statistically significant effect on the budget balance, with the estimated coefficient remaining stable across all tested specifications (OLS, REM, and FEM). The estimated value of  $\beta \approx 1.3$  implies that a one-percentage-point increase in non-tax revenues as a share of GDP is associated, on average, with a reduction in the budget deficit of

approximately 1.3 percentage points of GDP, indicating an improvement in fiscal position.

The stability of the coefficient across all models indicates that the effect of non-tax revenues on the budget balance does not change when accounting for panel effects, confirming that this impact is both robust and economically meaningful. In other words, an increase in non-tax revenues represents a sustainable channel for fiscal consolidation in a region heavily reliant on tax revenues. This conclusion is further supported by the Granger causality test, which shows that changes in non-tax revenues precede changes in the budget outcome—implying that the growth of non-tax revenues not only coincides with, but also causes, improvements in fiscal position in subsequent periods.

## 7. Conclusion

The study, conducted on a panel of five Western Balkan countries over the period 2008–2024, aimed to examine whether non-tax revenues represent a sustainable mechanism for fiscal consolidation and whether their growth can contribute to reducing the budget deficit. Using OLS, REM, and FEM models, along with a series of diagnostic tests, the results consistently indicate that non-tax revenues have a statistically significant and positive effect on the budget balance; in other words, their increase is associated with a reduction in the budget deficit. The Pooled OLS specification emerged as the most appropriate, as the conducted tests (LM, F, and Hausman) provided no justification for switching to REM or FEM. The stability of the coefficient across all three models ( $\beta \approx 1.3$ ) confirms that the estimation is robust to methodological changes, lending additional empirical weight to the findings. The estimated coefficient implies that a one-percentage-point increase in the share of non-tax revenues in GDP improves the budget balance by approximately 1.3 percentage points, representing a direct indicator of fiscal relief.

The Granger causality test complements the static model results by showing that the growth of non-tax revenues not only coincides with fiscal improvements but also precedes them, suggesting that it can act as a causal factor in enhancing fiscal outcomes in subsequent periods. This finding is particularly relevant in a region where tax revenues remain the dominant source of public finance, while alternative budgetary revenues are structurally underutilized and undervalued.

Overall, the results support the initial hypothesis of the study: non-tax revenues can serve as an effective instrument for fiscal stabilization and deficit reduction in the Western Balkans. While the explanatory power of the model leaves room for incorporating additional determinants of the budget balance—such as public expenditure, GDP growth, tax revenues, or cyclical factors—the identified effect of non-tax revenues provides a strong foundation for further developing a fiscal strategy based on diversification of public revenue sources.

The key takeaway from this research is that strengthening non-tax revenues, alongside maintaining fiscal discipline and implementing structural reforms, can contribute to a more resilient and sustainable budgetary system in the region. This is

particularly crucial in the context of high fiscal demands, limited tax capacity, and the ongoing goal of convergence with European fiscal standards.

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## ULOGA NEPORESKIH PRIHODA U FISKALNIM SISTEMIMA ZEMALJA ZAPADNOG BALKANA

**Apstrakt:** Ovo istraživanje se bavi procenom uticaja neporeskih prihoda na budžetski saldo u zemljama Zapadnog Balkana, sa ciljem utvrđivanja da li ovaj segment javnih prihoda može predstavljati održiv mehanizam fiskalne konsolidacije. Analiza obuhvata pet zemalja (Srbija, Severna Makedonija, Crna Gora, Albanija i Bosna i Hercegovina) u periodu od 2008. do 2024. godine, pri čemu su korišćeni godišnji panel podaci izraženi u procentu BDP-a. Istraživački postupak realizovan je primenom Pooled OLS, Random Effects i Fixed Effects modela koji omogućavaju upoređivanje uticaja neporeskih prihoda uz različite pretpostavke o heterogenosti zemalja. Dodatno su sprovedeni F test, Breusch-Paganov LM test, Hausmanov test, kao i provera autokorelacije i heteroskedastičnosti, što je omogućilo izbor optimalne model-specifikacije. Rezultati panel testova ukazuju da nema statističkih razloga za primenu REM ili FEM pristupa, te je Pooled OLS identifikovan kao najadekvatniji model. Koeficijent uz neporeske prihode ostaje stabilan i značajan kroz sve modele ( $\beta \approx 1,3$ ), što potvrđuje robusnost nalaza i ukazuje da rast neporeskih prihoda doprinosi smanjenju budžetskog deficita. Grangerov test uzročnosti pokazuje jednosmerni odnos - neporeski prihodi uzrokuju promene u budžetskom saldu, dok obrnuti pravac nije statistički potvrđen. Time se empirijski potvrđuje da diversifikacija prihodne strane budžeta može predstavljati efikasan kanal fiskalne konsolidacije u regionu koji se dominantno oslanja na poreske prihode. Dobijeni rezultati ukazuju da potencijal jačanja neporeskih prihoda zaslužuje veću pažnju u izradi fiskalnih strategija Zapadnog Balkana, budući da može doprineti stvaranju otpornijeg, održivijeg i fiskalno uravnoteženijeg budžetskog sistema.

**Ključne reči:** Neporeski prihodi, budžetski deficit, panel analiza, fiskalni sistemi, Zapadni Balkan.