

DETERMINANTS OF TAX REVENUE IN POST-TRANSITION ECONOMIES IN THE EUROPEAN UNION

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ABSTRACT

This study explores the determinants of tax revenue in eight post-transition European Union (EU) economies: Estonia, Latvia, Lithuania, Poland, Czechia, Slovakia, Slovenia and Hungary. Despite the shared institutional trajectories and simultaneous EU accession in 2004, these countries continue to display significant variation in tax-to-GDP ratios. Using panel data from 2004 to 2022, and applying a fixed effects model with Driscoll-Kraay standard errors, the study examines key macroeconomic and structural variables shaping tax revenue outcomes. The results indicate that financial inclusion and openness to trade proxied by debit card usage are positively associated with tax revenue, while rising public debt has a significant negative effect. Other variables, including foreign direct investment and inflation, show weaker or model-dependent relationships. The findings highlight the role of the financial infrastructure and macroeconomic openness in explaining tax revenue performance in post-transition economies. The paper contributes to the literature by offering region-specific empirical evidence and informing fiscal policy in structurally evolving EU member states. KEY WORDS: *tax revenue determinants, European Union, financial inclusion.*

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Introduction

Although eight post-transition European Union (EU) member states, Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Slovenia and Slovakia, joined the union in 2004 and underwent comparable fiscal and institutional reforms as part of the EU accession process, they continue to exhibit significant and persistent differences in tax revenue collection as a share of GDP (Eurostat, 2024; Vinturis, 2022). The persistence of such disparities, despite formal policy convergence and their shared legacy of centrally planned economies, presents a compelling empirical question, and underscores the need to examine the deeper macroeconomic and structural determinants that shape tax revenue performance in this group of countries.

Most of the existing research on the determinants of tax revenue focuses on developing countries, or employs broad cross-country samples that encompass nations at varying stages of economic development. Only a limited number of studies, such as those by Ángeles Castro and Ramírez Camarillo (2014), Lien Nguyen-Phuong et al. (2022) and Oz-Yalaman (2019), include individual EU member states in their analyses. Additionally, scholars such as Snitkienė et al. (2018), as well as Mirović et al. (2023), have examined tax revenue determinants specifically in the Baltic States. However, even in these cases, the analytical focus is not directed explicitly at post-transition economies as a coherent group. Vinturis (2022) does address fiscal disparities among former communist EU countries, but the study does not investigate the underlying

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determinants of tax revenue. Consequently, the distinct institutional legacies, economic structures and fiscal challenges that characterise Central European and Baltic EU member states remain insufficiently addressed in empirical research.

Given this gap, a study that systematically investigates the determinants of tax revenue in post-transition EU countries is both timely and academically relevant. These countries represent a subset of the European integration process, sharing common transitional legacies and operating within the same fiscal and regulatory space, but they produce markedly different fiscal outcomes. Understanding the underlying causes of these differences can generate valuable insights for evidence-based policymaking, particularly in relation to tax mobilisation, public finance management, and broader fiscal sustainability.

This study aims to identify and analyse the macroeconomic and structural determinants of tax revenue in eight post-transition EU economies over the period 2004 to 2022 using the fixed effects panel regression model. Specifically, the research assesses how factors such as economic openness, public debt, GDP per capita, foreign direct investment, the industrial sector share, and financial inclusion affect tax revenue across these countries. By focusing on a relatively homogeneous institutional context marked by heterogeneous outcomes, this research contributes to the literature on revenue mobilisation and fiscal policy in the context of post-transition economies.

The remainder of the paper is organised as follows. Section 1 reviews the relevant theoretical and empirical literature. Section 2 presents the methodological framework and describes the data sources. Section 3 outlines the empirical results and a discussion. The last section concludes by summarising the key findings and offering policy implications.

1. Literature review

1.1. Macroeconomic tax revenue determinants

Previous research has identified several consistent macroeconomic determinants of tax revenue, including GDP per capita, trade openness, public debt, foreign direct investment (FDI) and inflation (Table 1). Among these, economic development, often proxied by GDP per capita, is one of the most robust and frequently cited predictors of tax capacity. Multiple studies emphasise a strong positive relationship between a country's level of economic development and its ability to collect taxes (Ángeles Castro, Ramírez Camarillo, 2014; Mirović et al., 2023; Oz-Yalaman, 2019; Ren et al., 2025; Ristić Cakić et al., 2025; Tsaurai, 2022). This relationship is intuitive, as higher levels of income generally lead to a broader and more stable tax base, enabling more effective revenue mobilisation.

However, the influence of other macroeconomic variables appears to be more context-dependent, and may vary across regions and stages of development. For instance, the effect of trade openness on tax revenue is mixed. While studies focusing on EU and developing countries in Asia and Africa tend to find a positive association between trade openness and tax revenue, a broader cross-country analysis by Oz-Yalaman (2019), which included 137 countries, revealed a negative effect (Minh Ha et al., 2022; Mirović et al., 2023; Ren et al., 2025; Ristić Cakić et al., 2025; Tsaurai, 2022). This could reflect the fact that more open economies may reduce tariffs and trade barriers, thereby narrowing the tax base derived from trade-related sources.

In terms of public debt, Mirović et al. (2023) and Oz-Yalaman (2019) report a significant negative association, suggesting that higher debt levels may constrain governments' fiscal flexibility, or lead to inefficient tax policies.

FDI presents another complex dynamic. Minh Ha et al. (2022) and Tsaurai (2022) observe that FDI tends to enhance tax revenue in Asian countries, primarily because these economies are in a growth phase, where FDI contributes to economic activity and, in turn, expands the tax base. In contrast, Ren et al. (2025) find a negative association between FDI and tax revenue in African countries, possibly due to the widespread use of tax incentives designed to attract foreign investors, which may erode the effective tax base.

Table 1. Macroeconomic tax revenue determinants identified in the literature

Determinant	Author						
	<i>Ángeles Castro & Ramírez Camarillo (2014)</i>	<i>Oz-Yalaman (2019)</i>	<i>Tsaurai (2022)</i>	<i>Minh Ha et al. (2022)</i>	<i>Mirović et al. (2023)</i>	<i>Ren et al. (2025)</i>	<i>Ristić Cakić et al. (2025)</i>
<i>GDP (per capita or growth rate)</i>	Positive	Positive	Positive	–	Positive	Positive	Positive
<i>Trade openness</i>	–	Negative	Positive	Positive	Positive	Positive	Positive
<i>FDI</i>	Negative	–	Positive	Positive	–	Negative	–
<i>Inflation</i>	–	Negative	–	–	Negative	Negative	Negative
<i>Public debt</i>	–	Negative	–	–	Negative	–	–

Note: Fields marked – mean that either the factor is not covered in the source, or its effect is not statistically significant.

Source: The authors, based on the sources listed in the table.

Lastly, inflation is generally associated with reduced tax collection efficiency. Mirović et al. (2023), Ren et al. (2025), Ristić Cakić et al. (2025) and Oz-Yalaman (2019) argue that inflation undermines the real value of taxable income and consumption, thereby diminishing tax revenue.

1.2. Structural tax revenue determinants

The academic literature highlights several structural determinants that shape a country's ability to collect tax revenue (Table 2). These factors reflect long-term characteristics of the economy and society, such as the economic structure (e.g. the dominance of agriculture or industry), political stability, civil liberties, citizen welfare and financial inclusion. While often slower to change, these variables play a significant role in shaping the efficiency and scope of tax collection.

Table 2. Structural tax revenue determinants identified in the literature

Determinant	Author						
	<i>Ángeles Castro & Ramírez Camarillo (2014)</i>	<i>Oz-Yalaman (2019)</i>	<i>Lien Nguyen-Phuong et al. (2022)</i>	<i>Minh Ha et al. (2022)</i>	<i>Mirović et al. (2023)</i>	<i>Garg et al. (2024)</i>	<i>Ren et al. (2025)</i>
<i>Agriculture sector</i>	Negative	Negative	–	–	–	–	–
<i>Industrial sector</i>	Positive	–	–	Positive	Positive	Positive	Positive
<i>Financial inclusion</i>	–	Positive	–	–	–	–	Positive
<i>Political stability</i>	–	Positive	–	–	–	–	–
<i>Civil rights</i>	Positive	–	–	–	–	–	–
<i>Citizen welfare</i>	–	–	Positive	–	–	Positive	–

Note: Fields marked – mean that either the factor is not covered in the source or its effect is not statistically significant.

Source: The authors, based on the sources listed in the table.

One of the most prominent structural factors is the economic composition of a country, particularly the relative share of agriculture versus manufacturing. Several studies find that an expanding agricultural sector is negatively associated with tax revenue (Ángeles Castro, Ramírez Camarillo, 2014; Oz-Yalaman, 2019). This is largely due to the informal, small-scale and often subsistence-based nature of agricultural production, which makes it more difficult to monitor and tax effectively. In contrast, the manufacturing sector is generally found to have a positive impact on tax collection in studies by Ángeles Castro and Ramírez Camarillo (2014), Minh Ha et al. (2022), Ren et al. (2025), Mirović et al. (2023) and Garg et al. (2024), as industrial enterprises are typically larger, more formalised, and subject to clearer regulatory and tax frameworks. Importantly, this pattern holds across both developed and developing countries, suggesting a universal structural relationship.

Political stability has also been examined as a potential determinant. While it is frequently included as a control variable in tax revenue models, the empirical evidence regarding its effectiveness is mixed (Ángeles Castro, Ramírez Camarillo, 2014; Minh Ha et al., 2022; Oz-Yalaman, 2019; Ren et al., 2025). Oz-Yalaman (2019) finds a statistically significant positive association, suggesting that a stable political environment fosters trust in public institutions and enhances tax compliance. However, other studies report no clear relationship, indicating that political stability alone may not be a decisive factor in improving tax collection.

A similar ambiguity is observed in studies examining civil rights and freedoms. While these are important indicators of institutional quality, only Ángeles Castro and Ramírez Camarillo (2014) identify a significant positive effect of civil liberties on tax revenue. This suggests that while democratic institutions may support better governance and tax compliance, the effect is not consistently observed across different contexts.

Citizen welfare, often proxied by composite indicators such as the Human Development Index (HDI), as well as individual measures like life expectancy and infant mortality rate, represents another structural aspect with potential fiscal implications. Lien Nguyen-Phuong et al. (2022) and Garg et al. (2024) are among the few to find a significant positive relationship between these indicators and tax revenue in both European and Asian countries. Their findings suggest that societies with better health and social outcomes may foster higher trust in institutions, a better administrative capacity, and improved tax compliance. However, the limited number of studies confirming this relationship indicates that the evidence is not yet robust, and the inclusion of citizen welfare in empirical models should be carefully considered, particularly if other variables such as GDP per capita already capture similar aspects of development and well-being.

Finally, financial inclusion has emerged as a key structural factor in recent literature. Studies by Oz-Yalaman (2019) and Ren et al. (2025) emphasise the importance of access to formal financial services in enhancing tax revenue. Proxies such as credit card ownership and borrowing from financial institutions are used to measure financial inclusion, and higher levels are consistently associated with increased tax collection. These results highlight the role of financial inclusion in reducing the shadow economy and improving transparency in financial transactions, thereby expanding the taxable base.

2. Methodology

2.1. Model equation and variables used

In order to identify the factors influencing tax revenue in post-transition EU economies, quantitative panel regression methods were employed: Pooled Ordinary Least Squares (POLS), Fixed Effects (FE), and Random Effects (RE) models. These models were selected due to their widespread application in similar empirical studies on tax revenue determinants. The study uses annual data from eight EU countries, Lithuania, Latvia, Estonia, Poland, Czechia, Slovakia, Slovenia and Hungary, covering the period from 2004 to 2022. This timeframe was chosen because all the selected countries joined the EU in 2004. The study does not include Bulgaria, Romania and Croatia in the sample, because these post-transitional countries joined the EU later. The data were collected from World Bank, Eurostat and International Monetary Fund (IMF) databases (Table 3). The sample consists of 152 observations.

The following model is used for the study:

$$TaxRev_{it} = \beta_1 + \beta_2 GDPpc_{it} + \beta_3 Trade_{it} + \beta_4 FDI_{it} + \beta_5 Agriculture_{it} + \beta_6 Industry_{it} + \beta_7 Infl_{it} + \beta_8 Debt_{it} + \beta_9 Card_{it} + u_{it}, \quad (1)$$

Where i denotes a country ($i = 1, \dots, 8$), t – years ($t = 1, \dots, 19$), ($k = 1, \dots, 9$) are model estimates.

Table 3. Description of the variables used in the study and their data sources

Variable	Definition	Source of data
<i>TaxRev</i>	Tax revenue as a share of GDP	World Bank
<i>GDPpc</i>	GDP per capita	World Bank
<i>Trade</i>	Economic openness – ratio of the sum of imports and exports to GDP	World Bank
<i>FDI</i>	Net FDI as a share of GDP	World Bank
<i>Agriculture</i>	Agricultural value added as a share of GDP	World Bank
<i>Industry</i>	Industrial value added as a share of GDP	World Bank
<i>Inflation</i>	Annual inflation	Eurostat
<i>Debt</i>	Public debt to GDP	Eurostat
<i>Card</i>	Number of debit cards per 1000 population	IMF

The authors.

The empirical model includes the following independent variables: GDP per capita, trade openness, FDI, the share of value added of agriculture and industry in GDP, inflation, public debt as a percentage of GDP, and financial inclusion. These variables were selected not only because of their frequent use in prior studies (Oz-Yalaman, 2019; Ángeles Castro, Ramírez Camarillo, 2014; Ren et al., 2025), but also due to their theoretical relevance in capturing the macroeconomic, structural and institutional factors that influence a country's tax revenue capacity.

In contrast, political stability and civil liberties indices were excluded for several reasons. Firstly, in all the countries under investigation these indicators have remained consistently high and virtually unchanged throughout the period of analysis. The lack of variance reduces their explanatory power in a panel regression framework. Secondly, these institutional variables are generally more significant in studies that involve countries with broader institutional disparities, such as comparisons between developing states, where tax capacity is more sensitive to governance quality.

Similarly, indicators of citizen welfare, such as life expectancy or the HDI, were excluded due to their strong correlation with GDP per capita, which is already included in the model. Including both could lead to multicollinearity, compromising the reliability of coefficient estimates and reducing the explanatory power of the model. Moreover, prior literature often treats GDP per capita as a sufficient proxy for a country's standard of living and income potential, making the addition of supplementary welfare indicators unnecessary and redundant (Piancastelli, Thirlwall, 2020; Ristić Cakić et al., 2025).

2.2. Model selection and robustness

To determine the most appropriate estimation technique among POLS, FE and RE models, all three panel regression specifications were constructed. An F-test was conducted to assess whether the FE model provides a statistically superior fit compared to the POLS model (Table 4). The results of the F-test confirmed the superiority of the FE model, suggesting that accounting for unobserved country-specific heterogeneity

significantly improves model accuracy. This approach reduces potential omitted variable bias arising from time-invariant, unobservable factors that may vary across countries.

Table 4. P-values of model selection and robustness tests

Test	Panel regression model					
	Pooled		Fixed effects		Random effects	
F	0.000	***	0.000	***		
χ^2					0.000	***
F (for model comparison)			0.000	***		
Wooldridge			0.000			
Hausman			0.5			
Breusch-Pagan			0.155			

Note: The signs +, *, ** and *** denote statistical significance at the 0.1, 0.05, 0.01 and 0.001 levels respectively.

Source: The authors.

Given the relatively small sample size, an adjusted RE specification was implemented based on the method proposed by Wallace and Hussain (1969), which allows for the more efficient estimation of random effects under small sample conditions. To compare the FE and RE estimators, a Hausman (1978) test was performed. The test indicated no statistically significant difference between the FE and RE estimates, suggesting that the RE model is statistically valid.

Nevertheless, in the light of the study's context, specifically the small sample size and the likelihood of fundamental structural differences between the countries under analysis, the FE model was selected. The FE model allows for better control of country-specific effects, and thus enhances the reliability and interpretability of the estimated results.

To evaluate the appropriateness of the FE model further, the Breusch-Pagan (1979) test was applied to examine the presence of heteroskedasticity. The test results indicated that heteroskedasticity is not present in the FE model. However, the Wooldridge (2010) test revealed the existence of first-order autocorrelation, which may result in biased standard error estimates. To address this issue and ensure robustness, the standard errors were corrected using the Driscoll-Kraay (1998) method, which produces consistent estimates in the presence of both heteroskedasticity and serial correlation.

Multicollinearity was assessed using the Variance Inflation Factor (VIF) test. A VIF value below 5 is generally considered an indication that multicollinearity is not a concern. Since all coefficients in the model had VIF values below this threshold, multicollinearity was not detected.

3. Results

3.1. Statistically significant determinants

An analysis of the results obtained reveals that, across all three models, the coefficient of the trade openness variable is statistically significant and positive (Table 5). This can be explained by the fact that expanding trade may contribute to business formalisation, thereby reducing the size of the shadow economy and enhancing tax compliance. In the context of post-transition economies which joined the EU in 2004, greater economic integration has often been accompanied by improved institutional capacity, more effective customs administration, and the stronger enforcement of indirect taxes. These findings align with

the conclusions made by Mirović et al. (2023), who also reported a positive relationship between economic openness and tax revenue in the Baltic States. Therefore, the results suggest that in post-transition EU member states, trade openness not only fosters economic development, but also contributes to a more robust and efficient tax collection system.

The public debt variable was found to be statistically significant across all models; however, the directions of the estimated coefficients differed. While the POLS model indicated a positive relationship, both the FE and RE models produced negative coefficients. Given that the FE and RE models account more accurately for unobserved country-specific heterogeneity, their results are considered more robust. Accordingly, the findings suggest that rising public debt in post-transition EU economies may be associated with lower tax revenues. This outcome can be explained by several factors. First, higher debt levels often increase interest payment obligations, thereby reducing fiscal space for growth-enhancing public investment that could expand the tax base. Second, in response to rising debt, governments may prioritise expenditure cuts over revenue-raising measures, thus limiting potential increases in tax revenue. Third, in many post-transition economies, debt accumulation tends to stem from structural rather than productive expenditure, such as pension or healthcare commitments, which do not contribute to economic expansion or increased tax capacity (Égert, 2012). These findings are consistent with those reported by Mirović et al. (2023) and Oz-Yalaman (2019), who also identified a negative relationship between public debt levels and tax revenue performance.

Table 5. The results of three panel regression models

Variable	Panel regression model					
	Pooled		Fixed effects		Random effects	
<i>GDPpc</i>	-4.83E-06 (0.000)		-3.03E-05 (0.000)		-7.87E-05 (0.000)	+
<i>Trade</i>	0.03	***	0.014	*	0.031	**
	(0.007)		(0.009)		(0.01)	
<i>FDI</i>	0.022	+	0.003		0.007	
	(0.013)		(0.003)		(0.009)	
<i>Agriculture</i>	1.153	***	-0.271		0.326	
	(0.288)		(0.214)		(0.288)	
<i>Industry</i>	-0.476	***	-0.005		-0.298	***
	(0.059)		(0.161)		(0.086)	
<i>Debt</i>	0.026	**	-0.042	***	-0.022	*
	(0.008)		(0.008)		(0.011)	
<i>Inflation</i>	0.022		-0.011		0.003	
	(0.046)		(0.022)		(0.033)	
<i>Card</i>	2.12E-05		3.12E-04	***	2.72E-04	**
	(0.000)		(0.000)		(0.000)	
<i>Constant</i>	18.262	***			20.55	***
	(1.802)				(1.886)	
<i>R</i> ²	0.58		0.2		0.21	
Number of observations	152		152		152	

Note: The signs +, *, ** and *** denote that the coefficient is significant at the 0.1, 0.05, 0.01 and 0.001 significance levels respectively. Numbers in parentheses are standard errors of the Driscoll-Kraay estimates.

Source: Compiled by the authors, based on statistical data from the World Bank, the IMF and Eurostat.

Moreover, in both the FE and RE models, the debit card variable was found to be statistically significant and positively associated with tax revenue, indicating that greater financial inclusion plays a meaningful role in enhancing tax collection in post-transition economies. Although the strength of the effect is not particularly great, the results reveal a consistent tendency whereby improved access to digital financial services and infrastructure facilitates a more effective and transparent tax system. Greater financial inclusion encourages broader participation in the formal economy by reducing reliance on cash transactions, which are more difficult to trace and are often associated with informal or undeclared activities. The expansion of digital payments enhances the traceability of financial flows and curtails opportunities for tax evasion, thereby strengthening the taxable base. In addition, financially included individuals tend to exhibit higher levels of financial literacy, which contributes to a better understanding of tax obligations and a greater willingness to comply with tax laws. From an institutional perspective, the proliferation of digital banking enables the more efficient monitoring of income and expenditure, improving the capacity of tax authorities to detect irregularities or underreporting. These findings are consistent with the conclusions of Oz-Yalaman (2019) and Ren et al. (2025), who emphasise the crucial role of financial inclusion in increasing tax revenue efficiency and curbing the shadow economy in structurally evolving economies.

3.2. Statistically insignificant determinants

The results of this study differ greatly from the findings of other authors regarding the significance of GDP per capita, FDI, and the industrial sector coefficients (Table 1 and Table 2). In the literature examined, these variables are often found to be statistically significant (although their direction of impact varies), whereas in this study, the significance of GDP per capita and FDI was identified only in the less reliable RE and POLS models, and even in those models it was very weak. The industrial sector variable was statistically significant in the RE and POLS models, but the more reliable FE model did not confirm this significance, so there is not a strong basis to make definitive conclusions about the impact of the industrial sector on tax revenues.

First, although GDP per capita is traditionally considered an important factor for tax revenues, in post-transition countries economic growth might have a delayed impact on the functioning of the tax system. In these countries, economic and political changes are often slow, so the ultimate link between economic development and tax collection might only become apparent after a longer period. FDI may also be less significant because it may be more focused on capital markets and exports rather than local consumption, reducing its direct contribution to tax revenues. Despite often showing a significant impact on tax revenues in other countries, the industrial sector may not prove to be as important in post-transition regions, because these countries may experience competition from the growing services sector, which is more heavily taxed but less visible in the official economy.

Conclusion

This study underscores the significance of macroeconomic openness and the development of financial infrastructure as key factors influencing tax revenue performance in post-transition EU member states. The positive and statistically significant relationship between trade openness and tax revenue across all model specifications highlights the potential of external economic integration to strengthen fiscal systems. Similarly, the positive association between financial inclusion measured through debit card usage and tax revenue suggests that advancements in digital financial services can support more efficient and transparent tax collection mechanisms. These findings imply that efforts to enhance financial infrastructure and increase public access to formal banking channels may play a pivotal role in broadening the tax base and reducing revenue leakage. Conversely, the analysis reveals a statistically significant negative relationship between public debt levels. This indicates that rising debt burdens may constrain fiscal capacity, either by reducing the space for productive expenditure or by signalling broader structural inefficiencies. Taken together, these results

suggest that while openness and financial modernisation are conducive to stronger tax outcomes, fiscal prudence remains equally essential.

Based on these insights, policymakers in post-transition EU economies should consider prioritising initiatives that promote digital financial inclusion and streamline trade frameworks, while simultaneously implementing measures to manage public debt sustainably. Such an integrated policy approach would not only improve revenue mobilisation but also reinforce the institutional foundations necessary for long-term economic resilience.

The limitations of this study include a relatively narrow sample of countries, which contributed to the reduced reliability of the random effects model and a relatively weak explanatory power across models. Additionally, the model did not incorporate lagged values of the tax-to-GDP ratio, which may have influenced the results. For these reasons, future research should consider a broader sample of countries, and employ dynamic panel data models to assess more comprehensively the determinants of tax revenue and their long-term relationships with macroeconomic and structural indicators.

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EKONOMINĘ PERTVARKĄ UŽBAIGUSIŲ EUROPOS SĄJUNGOS VALSTYBIŲ MOKESTINIŲ PAJAMŲ SURINKIMĄ LEMIANTYS VEIKSNIAI

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Santrauka

Šiame tyrime analizuojami makroekonominiai ir struktūriniai veiksniai, darantys įtaką mokestinėms pajamoms aštuoniose ekonominę pertvarką užbaigusiose Europos Sąjungos (ES) valstybėse: Estijoje, Latvijoje, Lietuvoje, Lenkijoje, Čekijoje, Slovakijoje, Slovėnijoje ir Vengrijoje. Šios šalys į ES įstojo 2004 m., tuo metu įgyvendindamos panašaus pobūdžio fiskalines, ekonomines ir administracines reformas. Nepaisant to, jos iki šiol pasižymi mokestinių pajamų lygio skirtumu, kuris išlieka net ir po beveik dviejų dešimtmečių narystės ES.

Tyrimo tikslas – nustatyti, kurie veiksniai daro reikšmingą poveikį mokestinių pajamų lygiui nagrinėjamos šalyse. Atliekant analizę remtasi metiniais 2004–2022 m. laikotarpio duomenimis, kurie surinkti iš Pasaulio banko, Eurostat ir Tarptautinio valiutos fondo duomenų bazių. Empirinei analizei taikytas fiksuotųjų efektų (FE) panelinės regresijos modelis su Driscoll-Kraay standartinėmis paklaidomis, siekiant koreguoti galimą heteroskedastiškumą ir serijinę koreliaciją. Šis metodas leidžia įvertinti kintamųjų įtaką net ir esant fundamentaliems valstybių tarpusavio skirtumams, o Driscoll-Kraay paklaidų korekcija padeda gauti tikslesnius standartinius nuokrypius esant galimiems modelio pažeidimams.

Atlikus tyrimą įvertinti šie makroekonominiai kintamieji: tarptautinės prekybos atvirumas, tiesioginės užsienio investicijos, infliacija, BVP vienam gyventojui, valstybės skola. Struktūriniai kintamieji apėmė pramonės ir žemės ūkio sektorių užimamas dalis ekonomikoje bei finansinės įtraukties lygį, kurį atskleidė debetinių kortelių, tenkančių tūkstančiui gyventojų, rodiklis. Modelyje pasirinkti kintamieji remiasi esama mokslinių tyrimų praktika, kurioje šie veiksniai dažniausiai pasirodo kaip reikšmingi mokesčių surinkimo rodikliai įvairiuose regioniniuose kontekstuose.

Rezultatai atskleidė, kad prekybos atvirumas ir finansinė įtrauktis yra teigiamai susiję su mokestinių pajamų lygiu. Tarptautinė prekyba plečia šalies mokesčių bazę ir didina ekonominį aktyvumą. Tuo tarpu didesnė finansinė įtrauktis, susijusi su skaitmeninių mokėjimų taikymu, gerina mokesčių administravimą ir mažina šešėlinės ekonomikos mastą. Šie veiksniai rodo, kad inovacijos finansų sektoriuje gali tapti esmine fiskalinio potencialo stiprinimo priemone ekonominę pertvarką užbaigusiose ekonomikose. Rezultatai patvirtina naujausias teorines skaitmeninių finansinių paslaugų vaidmenį modernioje fiskalinėje politikoje atskleidžiančias įžvalgas.

Priešingas buvo valdžios skolos kintamojo poveikis: tiek FE, tiek atsitiktinių efektų modeliai parodė statistiškai reikšmingą neigiamą valstybės skolos dydžio ir mokestinių pajamų tarpusavio sąsają. Tai gali būti paaiškinama išlaidų struktūra, kai auganti skola dažniau skiriama ne produktyvioms investicijoms, bet ilga-

laikiams įsipareigojimams, kurie nedidina mokesčių bazės. Be to, didelė skola gali kelti fiskalinio neapibrėžtumo riziką ir mažinti mokesčių mokėtojų pasitikėjimą sistema. Kiti kintamieji – BVP vienam gyventojui, TUI, infliacija ir pramonės dalis – statistiniu reikšmingumu nepasižymėjo.

Tyrimas papildė literatūrą, pateikdamas regioninį požiūrį į fiskalinį efektyvumą ir siūlydamas ekonominės politikos prioritetus ekonominę pertvarką užbaigusiose ES valstybėse įžvalgas. Tyrimo rezultatai gali būti aktualūs ne tik akademinėi bendruomenei, bet ir politikos formuotojams, kurie siekia didinti mokestinį pajėgumą augančių išlaidų ir struktūrinių iššūkių kontekste.

RAKTINIAI ŽODŽIAI: *mokestinių pajamų veiksniai, Europos Sąjunga, finansinė įtrauktis.*

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