Countries' Structural Characteristics and the Magnitude of Fiscal Shock

Marko Senekovič

University of Maribor, Faculty of Economics and Business, Slovenia
marko.senekovic1@um.si

ARTICLE INFO

Original Scientific Article

Article history:
Received February 2025
Revised February 2025
Accepted March 2025

JEL Classification
E62, E21, C30, C20

Keywords:
Fiscal multiplier
Structural determinants
VAR

UDK: 336.74:338.2
DOI: 10.2478/ngoe-2025-0001

Cite this article as: Marko, S. (2025). Countries' Structural Characteristics and the Magnitude of Fiscal Shock. *Naše gospodarstvo/Our Economy, 71*(1), 1-11. DOI: 10.2478/ngoe-2025-0001

Abstract

The transmission channels of stabilizing fiscal policy remain partially unexplored, which presents a challenge for the effective management of economic policy. Using a broad dataset and vector autoregression methodology, this paper examines the relationship between selected structural characteristics of economies and the magnitude of fiscal multipliers. The results indicate that fiscal multipliers tend to be smaller in more developed economies, in business-friendly environments, and in EU and EMU member states. Additionally, findings on public and private debt, as well as savings levels, suggest that fiscal multipliers are higher in countries where a larger share of economic agents faces liquidity constraints. Consequently, increased public spending, driven by households' higher marginal propensity to consume, produces a stronger impact on output through the multiplier effect. Our results provide a foundation for fiscal policymakers to design appropriate measures tailored to the specific characteristics of individual economies, aiming to enhance the effectiveness of stabilization policies. Consequently, fiscal stimulus can achieve a greater impact while ensuring the efficient allocation of taxpayer resources.

Introduction

The cyclical nature of economic dynamics requires economic policy to be responsive and adaptable in real time. The objective of ensuring stable and sustainable long-term economic growth is contingent on preventing excessive short-term declines in economic activity. Stabilizing the business cycle while preserving the foundations for long-term growth represents a key challenge for policymakers today.

Amid cost-push and demand-pull price pressures, economies, particularly in Europe, are facing structural challenges that undermine their competitiveness. The energy transition and the green agenda have significantly disrupted international cost differentials, impacting key economic sectors that are now compelled to initiate new investment cycles in pursuit of restructuring. As industrial policy becomes increasingly central in the evolving landscape of international economic cooperation, public funding will play a critical role in shaping and directing economic transformation. Furthermore, with rising defense expenditures, it is becoming evident that fiscal policy, in a broader sense, will assume a pivotal role in maintaining economic growth and ensuring moderate inflation.

Given the diverse structural characteristics of economies, fiscal measures must be appropriately designed to account for these differences. In the short term, ensuring stable economic growth rates requires a thorough understanding of the multiplicative effects of specific fiscal operations. Assessing fiscal multipliers, the mechanism that quantifies the impact of fiscal expansion on output, is therefore crucial for designing fiscal programs that align with the specific needs of individual economies, to maximize the efficiency of public spending.

Empirical literature has already examined various cyclical and structural determinants influencing the magnitude of fiscal multipliers. Notably, business cycle phases (Auerbach & Gorodnichenko, 2010), exchange rate regimes, trade and financial openness, levels of economic development, and public debt (Ilzetzki et al., 2013; Koh, 2017) have been identified as key determinants. Despite the growing body of research in this field, findings remain heterogeneous, and ongoing studies are investigating additional structural factors that may help explain variations in fiscal multipliers. Enhancing the understanding of fiscal stimulus transmission mechanisms would be invaluable for policymakers, facilitating more effective allocation of public resources and improving the overall efficiency of fiscal policy.

This paper addresses the issue of fiscal multiplier variability as a function of structural economic characteristics. Specifically, using a quarterly and annual dataset covering 47 countries, we examine how the level of economic development, public debt, savings rates, and membership in political-economic integrations influence the magnitude of fiscal multipliers. The broadest possible sample of countries, for which quarterly data are available for the three core variables in the baseline VAR model, was selected. To ensure the robustness of the results, we systematically applied two approaches to assess the role of these structural determinants: panel analysis and regression analysis, using previously estimated individual fiscal multipliers for each country. Our findings suggest that higher levels of economic development and savings, as well as lower levels of public and private debt, are associated with lower fiscal multipliers. Additionally, countries outside the European Union (EU) and Economic and Monetary Union (EMU) exhibit higher government spending multipliers.

The next section presents a review of relevant empirical literature, followed by a discussion of the methodological approach and dataset in Section 3. Section 4 outlines the results of the empirical analysis, and Section 5 concludes with key findings.

Empirical Literature Review

This section provides a summary of key findings from the empirical literature regarding the influence of country-specific characteristics on the magnitude of fiscal multipliers. Perotti (2004) and Blanchard & Perotti (2002) established the vector autoregression framework for analysing fiscal policy's impact on GDP and macroeconomic variables. Blanchard and Perotti (2002) showed that government spending shocks raise GDP, while tax shocks reduce it. Perotti (2004) found fiscal policy effects weakened after 1980. Expanding on this, Giordano et al. (2007) used the SVAR approach to examine fiscal policy in Italy, finding that higher government consumption boosts output. Burriel et al. (2009) similarly showed that expansionary fiscal policy raises GDP and private consumption, with Euro Area multipliers resembling those in the U.S. and increasing during budgetary distress. Research also highlights the importance of business cycle phases in fiscal multipliers. Auerbach and Gorodnichenko (2010; 2011; 2017) found larger multipliers during recessions in the U.S., OECD countries, and Japan, a conclusion supported by Batini et al. (2012). However, Ramey and Zubairy (2014) found no significant difference across business cycle phases in the U.S. Riera-Crichton et al. (2015) showed that multipliers peak during severe crises. Additionally, fiscal stimulus to government consumption raises multipliers across all phases of the business cycle.

Structural characteristics of countries have also been identified as relevant factors influencing fiscal multipliers. Ilzetzki et al. (2013) showed that fiscal

stimulus has a greater output effect in more developed countries, while multipliers tend to be smaller in open economies compared to closed ones. Furthermore, fiscal multipliers were found to be lower or even negative in countries with high public debt. Andrés et al. (2015) examine government spending multipliers in a general equilibrium model with search and matching frictions, incorporating varying household debt levels. Their findings suggest that impatient households and private debt contribute to multipliers exceeding one, but worsening financial conditions reduce their size. Hory (2016), analysing 48 emerging and advanced economies, found significantly lower spending multipliers in emerging markets. Additionally, spending multipliers exhibited a negative correlation with imports, public debt, and savings, while being positively correlated with unemployment levels and financial development. Koh (2017) corroborated these findings, suggesting that fiscal multipliers are larger during periods of low public debt, financial crises, and economic downturns, as well as in more developed economies. However, unlike Ilzetzki et al. (2013), Koh (2017) reported that fiscal multipliers are not necessarily smaller in highly open economies and argued that exchange-rate regimes do not necessarily determine the magnitude of fiscal multipliers.

Deskar-Škrbić et al. (2017) examined structural determinants, highlighting the negative correlation between tax burden and fiscal multipliers. Borsi (2018) estimated larger fiscal multipliers during credit crunch periods, while Miyamoto et al. (2018) emphasized that fiscal multipliers tend to increase when economies operate under a zero-lower bound, as the crowding-out effect of private expenditures diminishes significantly. Using a panel vector autoregression approach and data from 2001 to 2017, Ianc & Turcu (2020) examines fiscal multipliers across EU members and candidates, categorized by their integration stage. The results show that increased government spending boosts GDP in the EU and Eurozone candidates but slightly reduces it in Eurozone members. The effects of tax increases vary, with both positive and negative impacts on GDP across groups, indicating the presence of both Keynesian and non-Keynesian multipliers. Overall, spending multipliers are more influenced by a country's EU or Eurozone membership than tax multipliers.

Economic inequality can also act as a structural determinant of the size of fiscal multiplier. Brinca et al. (2016) provided insights into the link between wealth inequality and fiscal multipliers, showing a positive correlation between the wealth Gini coefficient and multiplier size. They attributed this to reduced liquidity constraints, lower precautionary savings among poorer households, and declining real interest rates. Later, Brinca et al. (2021) found that higher income inequality exacerbated the recessionary effects of fiscal consolidation in the Eurozone. In contrast, Auerbach et al. (2021) proposed a theoretical model suggesting that higher income inequality leads to smaller fiscal multipliers due to constrained demand among poorer households and low spending propensities among the wealthy, an effect potentially mitigated by access to credit. Guo et al. (2023) analyse 20 European economies to assess how household financial constraints affect fiscal and monetary policy effectiveness. They find that fiscal multipliers grow when more households face liquidity constraints. Government spending has a greater impact when poorer, liquidity-constrained households lack illiquid assets, while tax multipliers rise with wealthier, liquidity-constrained households who own some illiquid assets. Overall, more liquidity-constrained households enhance policy effectiveness, but when liquidity, savings, and credit constraints coexist, effectiveness may stagnate or decline.

The role of various debt types in shaping the fiscal multipliers size is still intriguing. Broner et al. (2022) examine the link between fiscal multipliers and foreign holdings of public debt. While fiscal expansion can boost economic activity, it may also crowd out domestic consumption and investment. However, when governments rely more on foreign savings to finance debt, these crowding-out effects weaken, leading to larger fiscal multipliers. Analysing the U.S. post-war period and 17 advanced economies since the 1980s, the findings confirm that higher foreign ownership of public debt is associated with larger multipliers, with values below one when foreign holdings are low and above one when they are high. Kim (2023) finds that government spending has a stronger impact during periods of private debt overhang, but its effectiveness varies by debt type. While the evidence on larger multipliers in household debt overhang is inconclusive, firm debt overhang consistently shows higher multipliers. In such cases, government spending significantly stimulates both private consumption and investment, with multipliers exceeding one. However, in household debt overhang, these positive effects, particularly on private consumption, are weaker. Zurita (2024) examines how household debt influences government spending multipliers using a smooth transition vector autoregression model. Analysing Australia, Sweden,

Norway, and the world's seven largest economies, the findings reveal that fiscal expansion is in the short term more effective when household debt is low.

Understanding the interplay between public debt and the dynamics of fiscal policy is also important for accurately projecting debt sustainability. Deleidi et al. (2024) examine the role of fiscal multipliers in shaping economic policies, particularly in the context of fiscal consolidation programs in the Eurozone. The analysis identifies a sustainability range for the debt-to-GDP ratio, showing how different public deficit levels depend on fiscal multipliers. The findings suggest that, under certain country-specific conditions, restricting public spending may hinder rather than support public debt sustainability. Analysing data from 14 OECD countries between 1981 and 2017 using the local projections approach, Ciaffi et al. (2024) finds that total government spending multipliers exceed one, with government investment having a stronger impact than consumption. While all fiscal policy measures help lower the public debt-to-GDP ratio, government investment proves to be the more effective in ensuring public debt sustainability. However, our paper focuses on examining the role of countries' structural characteristics in influencing the magnitude of the fiscal multiplier.

Methodology and Data

To evaluate the effects of government spending multipliers, we utilize the analytical framework introduced by Blanchard and Perotti (2002) and later refined by Perotti (2004) for analysing fiscal policy measures. The model consists of three key variables: the logarithms of real government expenditure (g_t), real GDP (y_t), and the price level (p_t). Let X_t represent the vector of endogenous variables and U_t the vector of reduced-form residuals. The resulting reduced-form VAR model is structured as follows:

$$X_t = A(L)X_{t-1} + U_t \quad (1)$$

Here, $X_t = [g_t, y_t, p_t]'$ and $U_t = \left[u_t^g, u_t^y, u_t^p\right]'$, where L represents the lag operator, and $A(L)$ is the corresponding polynomial. The reduced-form residual of the variable g_t, denoted as u_t^g, can be interpreted as a shock to the system.

Drawing on the AB model (Lütkepohl, 2005), we express the system of equations in matrix form as shown in the following equation:

$$AU_t = BE_t \quad (2)$$

Here, U_t represents the vector of VAR residuals, and $E_t = \left[e_t^g, e_t^y, e_t^p\right]'$ is the vector of innovations. We define the matrices A and B. Equation (2) can then be expressed as:

$$\begin{bmatrix} 1 & 0 & 0 \\ -\alpha_g^y & 1 & 0 \\ -\alpha_g^p & -\alpha_y^p & 1 \end{bmatrix} \begin{bmatrix} u_t^g \\ u_t^y \\ u_t^p \end{bmatrix} = \begin{bmatrix} \beta_g^g & 0 & 0 \\ 0 & \beta_y^y & 0 \\ 0 & 0 & \beta_p^p \end{bmatrix} \begin{bmatrix} e_t^g \\ e_t^y \\ e_t^p \end{bmatrix} \quad (3)$$

To identify the system, we require a total of $\left(2k^2 - \frac{1}{2}k[k+1]\right)$ restrictions, where k represents the number of endogenous variables, which is 3 in our case.

The ordering of the variables defines their causal relationships. Specifically, changes in government spending trigger immediate responses in both real GDP and the price level. However, government spending does not show an immediate reaction to shifts in output and the price level within the same period. Additionally, the price level has no contemporaneous effect on output. This system achieves exact identification through a well-defined set of constraints (12 restrictions). Using the results from the VAR model, the impulse response function assesses the dynamic patterns and magnitudes of each variable's reaction to government spending shocks.

To explore the relationship between the size of government spending multipliers and specific country characteristics, the following specification was used:

$$\alpha_i = \beta_0 + \beta_1 x_i + e_i \quad (4)$$

where α_i denotes the government spending multiplier for country i, β_0 is the constant term, β_1 is the slope coefficient, x_i represents a country-specific characteristic of country i, and e_i stands for the residuals.

To assess the government spending multiplier using a panel dataset, we followed the methodological approach previously established by Blanchard & Perotti (2002), while incorporating enhancements to the panel VAR model as outlined by Ilzetzki et al. (2013) and Koh (2017). Similar to the time series model, the baseline panel VAR model includes three macroeconomic variables: real government consumption ($g_{i,t}$), real GDP ($y_{i,t}$), and the price level ($p_{i,t}$). The vector of endogenous variables is denoted as $X_{i,t}$, and the vector of residuals as $U_{i,t}$. The reduced form of the panel vector autoregression is represented in Equation (5):

$$X_{i,t} = C(K)X_{i,t-1} + U_{i,t} \quad (5)$$

where $X_{i,t} = \left[g_{i,t}, y_{i,t}, p_{i,t}\right]'$ and $U_t = \left[u^g_{i,t}, u^y_{i,t}, u^p_{i,t}\right]'$, K is the operator of lag structure, and $C(K)$ is the polynomial of corresponding degrees.

To identify shocks in government expenditures, we apply Cholesky decomposition, where the sequence of the variables plays a critical role. The results are derived from the following system of equations:

$$AX_{i,t} = \sum_{k=1}^{K} C_k X_{i,t-k} + BE_{i,t} \quad (6)$$

In this context, $X_{i,t}$ represents the vector of endogenous variables for country i in year t. C_k is the matrix that captures both the direct and cross effects of the k-th lag of the variables, while matrix B is diagonal. As a result, $E_{i,t}$ represents the orthogonal shocks to government expenditure (Ilzetzki et al., 2013). Our model follows a specific variable ordering: real government consumption, real GDP, and the price level.

The arrangement of variables in the panel VAR model defines their causal relationships, following a similar structure to the time series VAR model previously discussed. Real GDP responds promptly to changes in government spending, while government spending does not immediately react to fluctuations in output within the same period. At the same time, the price level reacts concurrently to variations in both fiscal spending and output. However, within the same period, it has no impact on either of these variables. For the panel analysis, the Stata package by Abrigo & Love (2016) was utilized. This package uses the generalized method of moments (GMM) estimation technique.

Our study employs a VAR model incorporating real government spending, real GDP, and the GDP deflator, using quarterly data from 1995 to 2021 for 47 countries. Government consumption, GDP, and price level data are obtained from the International Financial Statistics database (IMF, 2024). Government spending multipliers are first estimated separately for each country before applying a panel VAR model to annual panel data. The annual dataset, covering the same period, is obtained from the World Bank (2024) and includes government spending, GDP, and price levels for the 47 countries.

To estimate fiscal multipliers for individual countries, it is essential to use quarterly data to ensure a sufficiently long time series. The selection of lags in the individual VAR model, based on time series data, was determined using the Akaike Information Criterion (AIC) and the Hannan-Quinn Information Criterion (HQIC). In the panel model, we were able to use annual data, as it provides a sufficiently large sample size while also avoiding issues related to fiscal policy decision-making and expenditure patterns within a given year. This issue does not arise with annual data, as the budget must be constructed and executed every year. In the panel model, we followed the Modified Akaike Information Criterion (MAIC) and the Modified Hannan-Quinn Information Criterion (MQIC), with a one-year lag consistently proving to be the most appropriate choice.

To account for country-specific characteristics, we incorporate additional variables: real GDP per capita (in USD), the savings rate as a percentage of GDP, public and private debt levels as a percentage of GDP, and the composite Ease of Doing Business index (World Bank, 2024). Countries are also categorized based on their EU and Eurozone membership. Furthermore, they are grouped into two categories according to the median value of each indicator. The structural determinants or indicators used in this article were selected based on a review of the relevant empirical literature. In the regression analysis, the average values of the selected determinants are used as independent variables. In the panel model, the selected determinants are used to divide the sample based on the median of their values, following a similar approach applied, though to different determinants, in studies such as Ilzetzki et al. (2013) and Koh (2017).

Our data sample includes the following countries: Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Chile, Costa Rica, Croatia, Cyprus, Czech Republic, Denmark, Ecuador, Estonia, Finland, France, Germany, Greece, Honduras, Hungary, Indonesia, Ireland, Israel, Italy, Japan, Republic of Korea, Latvia, Lithuania, Luxembourg, Malta, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Serbia, Singapore, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Thailand, Turkey, and the United Kingdom.

Results

The results of the empirical assessment of the significance of various structural characteristics on the size of fiscal multipliers are presented in Table 1 and Table 2. Table 1 initially reports results based on a panel VAR model, comparing the output response to a positive government spending shock under different scenarios, depending on the levels of specific indicators. Countries in the panel sample are classified based on GDP per capita into relatively more and less developed economies, by their relative inclination towards entrepreneurial activity, by higher or lower levels of

savings, by higher or lower levels of public and private debt, and by whether they are members of the EU or EMU or not. Subsequently, Table 2 builds upon the estimated fiscal multiplier values for individual countries and examines the impact of selected structural determinants on the magnitude of fiscal multipliers through regression analysis. The results based on the panel VAR model are reported as statistically significant within the 90% confidence interval. The Y-axis measures the size of the fiscal multiplier in absolute terms, meaning that if government spending increases by 1 currency unit, GDP increases by the corresponding value on the Y-axis, also measured in currency units.

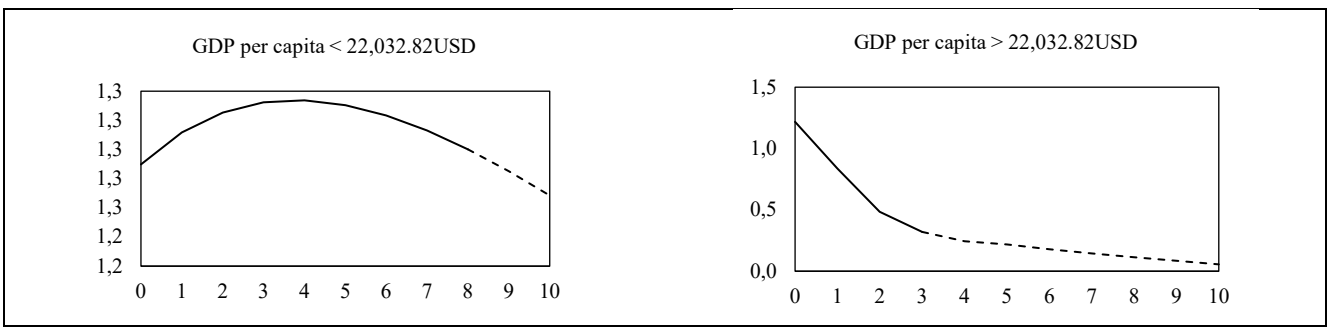
Relatively more developed countries exhibit a statistically significant and substantial immediate output response to a positive fiscal shock. However, shortly thereafter, the government spending multiplier begins to decline within the statistically significant interval and gradually approaches zero. Conversely, in relatively less developed countries, the initial output response is comparable but subsequently increases within the statistically significant part of the interval. While the immediate effect is similar, fiscal multiplier values tend to be higher over the forecast horizon in economically less developed countries. Regarding the indicator measuring a country's inclination toward entrepreneurial activity and business operations, higher fiscal multipliers are observed in countries with relatively fewer barriers to conducting business. Since the Ease of Doing Business indicator also indirectly reflects the level of economic development, our empirical findings, based on both GDP per capita and the Ease of Doing Business index, are substantively comparable in an indirect manner.

The classification of countries based on their level of savings yields results indicating that fiscal multipliers tend to be higher in countries with lower savings levels, at least in terms of the statistically significant portion of the output response. In countries with higher savings levels, the values increase in the statistically insignificant part of the output response. Regarding the role of debt levels, both public and private, the results do not offer a fully clear interpretation. In countries with a relatively higher share of public debt in GDP, the immediate output response is stronger compared to countries with a relatively lower share of public debt in GDP. However, in more highly indebted countries, fiscal multiplier values decline significantly more rapidly, indicating a lack of persistence. In the case of private debt, the absolute values of fiscal multipliers are comparable, but the dynamics are reversed. Nevertheless, in terms of the statistically relevant portion of the forecast horizon, fiscal multipliers tend to be somewhat higher when private debt levels are lower. Indicators of savings levels and both public and private indebtedness suggest that fiscal multipliers are higher in environments where economic agents are relatively more constrained in terms of both wealth and liquidity. As a result, these economic agents allocate a larger share of fiscal stimulus to consumption, thereby amplifying the effect of the fiscal multiplier.

Participation in international political and economic integrations necessitates a certain level of integration and comparability of national subsystems. Accordingly, membership in the EU and the EMU requires countries to meet a set of criteria before accession and to maintain compliance thereafter. As a result, there are more standardized rules governing fiscal operations and reporting. Panel analysis results indicate that fiscal multipliers tend to be lower in EU and EMU member states throughout most of the forecast horizon, with the sole exception being the immediate effect observed in Eurozone member states. Furthermore, it should be noted that countries joining the EU and EMU are, on average, relatively more economically developed. This aligns with the findings of our empirical analysis based on country rankings according to GDP per capita.

Table 1

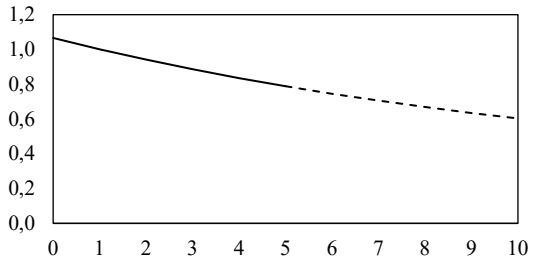
Countries' characteristics and the magnitude of fiscal multiplier – panel analysis



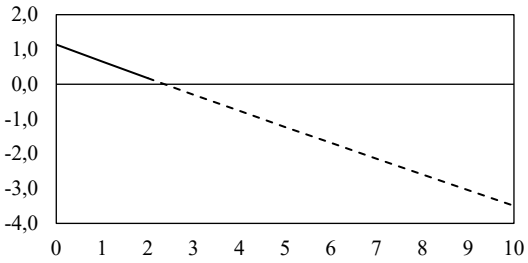
Continuation of Table 1

Countries' characteristics and the magnitude of fiscal multiplier – panel analysis

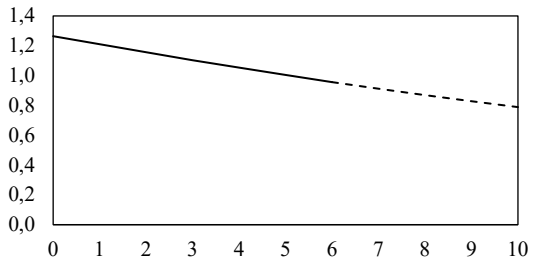
Ease of doing business index < 76.32



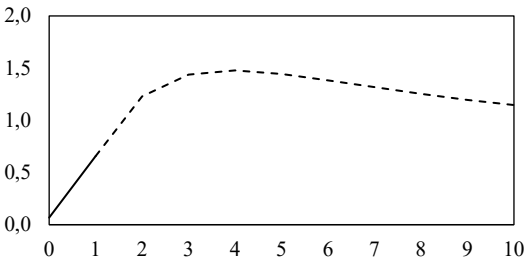
Ease of doing business index > 76.32



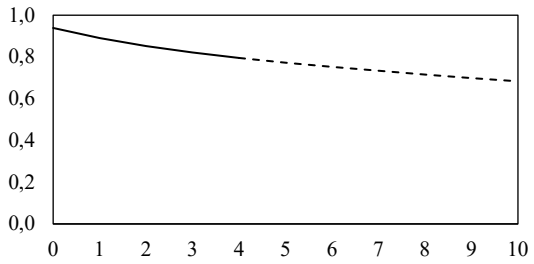
Savings level < 23.20



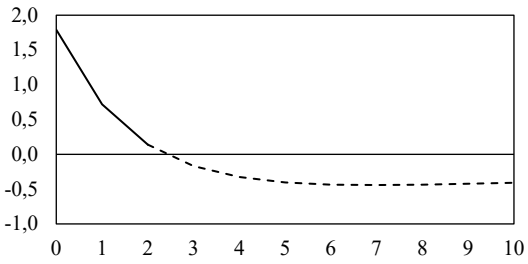
Savings level > 23.20



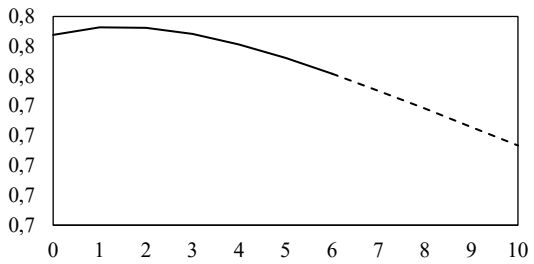
Public debt level < 51.22



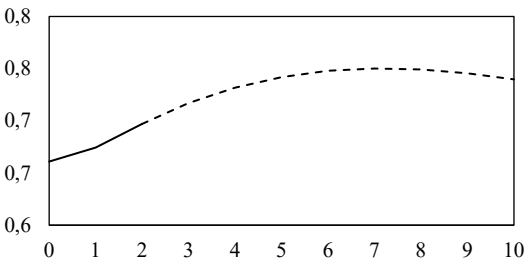
Public debt level > 51.22



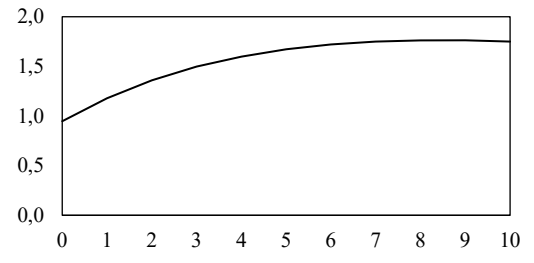
Private debt level < 49.70



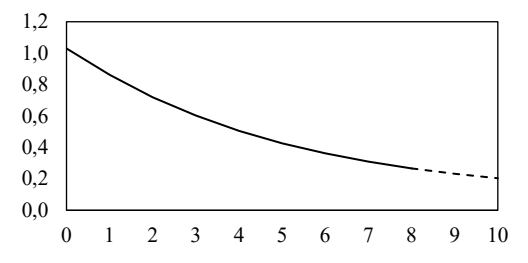
Private debt level > 49.70



Non EU members

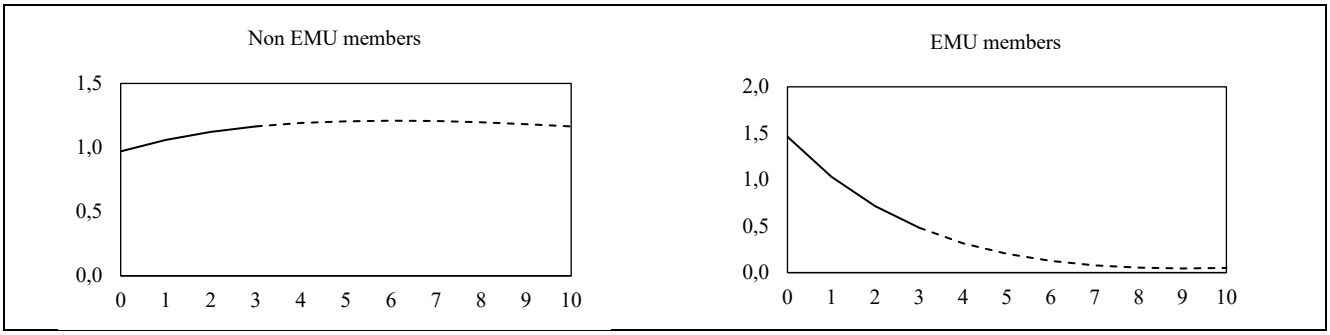


EU members



Continuation of Table 1

Countries' characteristics and the magnitude of fiscal multiplier – panel analysis



Notes: The graph depicts the response of GDP to a positive fiscal shock (equivalent to 1% of GDP). The statistically significant part is represented by a solid line.

Source: Author's estimation

The regression analysis results in Table 2 illustrate the dependence of fiscal multiplier size on selected structural characteristics of economies. For the regression analysis, the fiscal multiplier was first estimated for each country individually using the VAR methodology, based on a sample of 47 countries. The independent variables consisted of indicators representing the structural characteristics of each country, while the dependent variables were the impact multiplier values.

Table 2

Countries' characteristics and the magnitude of fiscal multiplier – regression analysis

Direct multiplier: $\alpha_i = \beta_{0,i} + \beta_{1,i}X_i + e_i$				
X_i	β_0	β_1	t-stat (p-value)	R^2
GDP per capita	0.363	−0.008	−1.73 (0.089)	0.063
Ease of doing business	2.749	−0.033	−1.87 (0.068)	0.072
Level of savings	0.918	−0.027	−1.44 (0.157)	0.044
Public debt level	0.086	0.003	1.61 (0.107)	0.056
Private debt level	0.090	0.009	1.66 (0.097)	0.060
EU membership	0.401	−0.489	−2.32 (0.025)	0.107
EMU membership	0.274	−0.379	1.74 (0.088)	0.063

Notes: α_i represents the direct government consumption multiplier for country i, while x_i denotes the factor determining its magnitude. The regression analysis provides intercepts, slope coefficients, t-statistics and p-values, along with the R^2 value.

Source: Author's estimation

Overall, the regression analysis results yield conclusions that are largely consistent with those of the panel analysis. Specifically, the coefficients for GDP per capita, the Ease of Doing Business indicator, and the savings rate are negative, indicating that higher values of these indicators are associated with lower fiscal multipliers. Among these, the coefficients for the level of economic development and the Ease of Doing Business index are statistically significant, whereas the coefficient for the savings rate is not statistically significant. The shares of public and private debt in GDP exhibit a positive relationship with fiscal multiplier size. However, in the case of public debt, the coefficient is on the threshold of statistical significance, while for private debt, it is slightly above this threshold. The results suggest that EU and EMU membership are associated with lower fiscal multipliers, and in both cases, the slope coefficient is statistically significant. Among all variables, EU membership explains the largest share of the variability in fiscal multiplier size, accounting for approximately 10%.

In Table 3, we present a summary of our empirical exercise, including both panel and regression analysis results. Our findings indicate that GDP per capita, the composite Ease of Doing Business indicator, the savings rate, and membership in the EU and EMU exhibit a negative relationship with the size of the fiscal multiplier. On the other hand, the level of public and private indebtedness indicates a positive relationship. Households' income-wealth position and liquidity constraints appear to play a role in determining the size of fiscal multipliers. Higher debt levels and lower savings, indicating greater liquidity constraints, are associated with higher government spending multipliers. Similar conclusions, though based on slightly different methodologies, were reached by Andrés et al. (2015), Hory (2016), Guo et al. (2023), and Kim (2023). Additionally, Brinca et al. (2016) indirectly support this

relationship through indicators of wealth inequality. However, Zurita (2024) finds an inverse relationship, though the study focuses on nine of the most economically developed countries, limiting the heterogeneity of the dataset. Regarding public debt, empirical findings remain mixed. Our results align with Hory (2016) but contrast with Ilzetzki et al. (2013) and Koh (2017). Similar to our study, which identifies a negative relationship between EU and EMU membership and fiscal multipliers, Ianc & Turcu (2020) also show that candidate countries for these integrations exhibit higher multipliers than member states. Concerning the level of economic development, our findings contradict those of Ilzetzki et al. (2013) and Koh (2017). However, it should be noted that for GDP per capita, our results are at the margin of statistical significance.

Table 3
Countries' characteristics and the magnitude of fiscal multiplier – summary

Characteristics	Influence on the Magnitude of Fiscal Multiplier	
	Panel analysis	Regression analysis
GDP per capita	negative	negative
Ease of doing business	negative	negative
Level of savings	negative	negative*
Public debt level	positive	positive*
Private debt level	inconclusive	positive
Membership in EU	negative	negative
Membership in EMU	negative	negative

Notes: * represents statistically insignificant relationship.
Source: Author's estimation

Conclusion

Accounting for the specific characteristics of individual economies is essential for the successful and effective implementation of fiscal policy measures - not only in terms of business cycle stabilization but also as a response to structural economic challenges. In the context of geopolitical disruptions, tightening international trade conditions, energy restructuring and the green transition, demographic trends, and rising defense expenditures, the burden of driving future economic development will, in the short to medium term, largely fall on fiscal policy. The ability of countries to fully leverage their economic potential or risk falling into developmental stagnation will depend on the proper design and implementation of fiscal programs tailored to their underlying economic structures.

This paper examines the impact of selected structural economic determinants on the magnitude of fiscal multipliers using a dataset of 47 countries. By employing two methodological approaches, panel VAR analysis and regression analysis based on individual country-specific fiscal multiplier estimates, we assess how these structural factors influence fiscal policy effectiveness.

The key findings of this study are as follows. First, less developed countries, measured by GDP per capita, exhibit higher fiscal multipliers. Additionally, a negative relationship is identified between the Ease of Doing Business index and the size of the government spending multiplier. Second, the negative and statistically significant coefficients for EU and EMU membership, observed in both the panel and regression analyses, indicate that the short-term impact of fiscal stimulus is weaker in member states of these integrations. It is important to note that EU and EMU members are, on average, more economically developed countries. Third, economies characterized by higher levels of debt and relatively lower savings rates tend to have higher fiscal multipliers. This suggests that in countries with such characteristics, fiscal stimulus translates more directly into additional consumption due to the presence of liquidity constraints.

The findings of this study provide valuable insights for policymakers in both fiscal and monetary policy domains. The effectiveness of policy measures depends on evolving economic conditions, influencing both monetary and fiscal interventions. In cases where monetary policy lacks sufficient or well-targeted instruments to achieve its objectives, the role of sound fiscal policy becomes even more critical for sustaining economic prosperity. Given the ongoing trends of rising debt levels and increasing economic inequality, our results also carry indirect policy implications. Since fiscal expansion is more effective in relatively more indebted economies and countries with relatively lower savings rates, stimulus-driven economic growth could contribute to a relative reduction in debt burdens. Moreover, it may indirectly help mitigate economic inequality.

Future research should focus on identifying additional potential determinants of fiscal multiplier size and further exploring the transmission mechanisms through which fiscal stimulus impacts economic activity under various scenarios and economic conditions. Such efforts would contribute to a more comprehensive understanding of the stabilizing function of fiscal policy.

References

Abrigo, M. R. M., & Love, I. (2016). *Estimation of panel vector autoregression in stata: A package of programs* (University of Hawaii Working Paper No. 16/2). University of Hawaii, Hawaii.

Andrés, J., Boscá, J. E., & Ferri, J. (2015). Household Debt and Fiscal Multipliers. *Economica*, *82*, 1048–1081. DOI: https://doi.org/10.1111/ecca.12161

Auerbach, A. J., & Gorodnichenko, Y. (2010). *Measuring the Output Responses to Fiscal Policy* (NBER Working Paper No. 16311). National Bureau of Economic Research, Cambridge. DOI: https://doi.org/10.3386/w1631

Auerbach, A. J., & Gorodnichenko, Y. (2011). *Fiscal multipliers in recession and expansion* (NBER Working Paper No. 17447). National Bureau of Economic Research, Cambridge. DOI: https://doi.org/10.3386/w17447

Auerbach, A. J., & Gorodnichenko, Y. (2017). *Fiscal Stimulus and Fiscal Sustainability* (NBER Working Paper No. 23789). National Bureau of Economic Research, Cambridge. DOI: https://doi.org/10.3386/w23789

Auerbach, A. J., Gorodnichenko, Y., & Murphy, D. (2021). Inequality, Fiscal Policy and COVID19 Restrictions in a Demand-determined Economy. *European Economic Review, 137*. DOI: https://doi.org/10.1016/j.euroecorev.2021.103810

Batini, N., Callegari, G., & Melina, G. (2012). *Successful Austerity in the United States, Europe and Japan* (IMF Working Paper No. 12/190). International Monetary Fund, Washington.

Blanchard, O., & Perotti, R. (2002). An Empirical Characterization of the Dynamic Effects of Changes in Government Spending and Taxes on Output. *Quarterly Journal of Economics, 117*(4), 1329–1368. DOI: https://doi.org/10.1162/003355302320935043

Borsi, T. M. (2018). Fiscal Multipliers across the Credit Cycle. *Journal of Macroeconomics*, *56*, 135–151. DOI: https://doi.org/10.1016/j.jmacro.2018.01.004

Brinca, P., Ferreira, M. H., Franco, F., Holter, H. A., & Malafry, L. (2021). Fiscal Consolidation Programs and Income Inequality. *International Economic Review, 62*(1), 405–460. DOI: https://doi.org/10.1111/iere.12482

Brinca, P., Holter, A. H., Krusell, P., & Malafry, L. (2016). Fiscal Multipliers in the 21st Century. *Journal of Monetary Economics, 77*, 53–69. DOI: https://doi.org/10.1016/j.jmoneco.2015.09.005

Broner, F., Clancy, D., Erce, A., & Martin, A. (2022). Fiscal Multipliers and Foreign Holdings of Public Debt. *The Review of Economic Studies*, *89*(3), 1155–1204. DOI: https://doi.org/10.1093/restud/rdab055

Burriel, P., de Castro, F., Garrote, D., Gordo, E., Paredes, J., & Pérez, J. J. (2009). *Fiscal Policy Shocks in the Euro Area and the US. An Empirical Assessment*. ECB Working paper No. 1133. ECB, Frankfurt. Retrieved from https://www.ecb.europa.eu//pub/pdf/scpwps/ecbwp1133.pdf

Ciaffi, G., Deleidi, M., & Di Domenico, L. (2024). Fiscal Policy and Public Debt: Government Investment is most Effective to Promote Sustainability. *Journal of Policy Modeling*, *46*(6), 1186–1209. DOI: https://doi.org/10.1016/j.jpolmod.2024.07.002

Deleidi, M., Garbellini, N., & Oro, G. (2024). Back to Maastricht: Public Debt Sustainability and the Fiscal Multipliers. *International Journal of Political Economy*, *53*(3), 262–271. DOI: https://doi.org/10.1080/08911916.2024.2391198

Deskar-Škrbić, M., Šimović, H., & Buljan, A. (2017). Fiscal Multiplier Determinants in the CESEE Region. *Journal of Management and Financial Sciences*, *10*(29), 11–26. DOI: https://doi.org/10.33119/JMFS.2017.29.1

Giordano, R., Momigliano, S., Neri, S., & Perotti, R. (2007). The Effects of Fiscal Policy in Italy: Evidence from a VAR Model. *European Journal of Political Economy, 23*(3), 707–733. DOI: https://doi.org/10.1016/j.ejpoleco.2006.10.005

Guo, F., Yan, I. K. M., Chen, T., & Hu, C. T. (2023). Fiscal Multipliers, Monetary efficacy, and Hand-to-Mouth Households. *Journal of International Money and Finance, 130*, 102743. DOI: https://doi.org/10.1016/j.jimonfin.2022.102743

Hory, M.-P. (2016). Fiscal Multipliers in Emerging Market Economies: Can We Learn Something from Advanced Economies? *International Economics, 146*, 59–84. DOI: https://doi.org/10.1016/j.inteco.2015.11.002

Ianc, N. B., & Turcu, C. (2020). So Alike, yet so Different: Comparing Fiscal Multipliers across EU Members and Candidates. *Economic Modelling*, *93*, 278–298. DOI: https://doi.org/10.1016/j.econmod.2020.07.018

Ilzetzki, E., Mendoza, E. G., & Végh, C. A. (2013). How Big (Small?) are Fiscal Multipliers? *Journal of Monetary Economics, 60*(2), 239–254. DOI: http://doi.org/10.1016/j.jmoneco.2012.10.011

IMF. (2024). *International Financial Statistics*. IMF Data. Retrieved from https://data.imf.org/?sk=4c514d48-b6ba-49ed-8ab9-52b0c1a0179b&sid=1390030341854.

Kim, W. (2023). Private Sector Debt Overhang and Government Spending Multipliers: Not all Debts are Alike. *European Economic Review*, *154*, 104439. DOI: https://doi.org/10.1016/j.euroecorev.2023.104439

Koh, W. C. (2017). Fiscal Multipliers: New Evidence from a Large Panel of Countries. *Oxford Economic Papers, 69*(3), 569–590. DOI: http://doi.org/10.1093/oep/gpw066

Lütkepohl, H. (2005). *New Introduction to Multiple Time Series Analysis*. Berlin: Springer.

Miyamoto, W., Nguyen, T. L., & Sergeyev, D. (2018). Government Spending Multipliers under the Zero Lower Bound: Evidence from Japan. *American Economic Journal: Macroeconomics, 10*(3), 247–277. DOI: http://doi.org/10.1257/mac.20170131

Perotti, R. (2004). *Estimating the Effects of Fiscal Policy in OECD Countries* (IGIER Working Paper No. 276). Bocconi University, Milano, Italy. Retrieved from https://ssrn.com/abstract=637189.

Ramey, V. A., & Zubairy, S. (2014, November). *Government Spending Multipliers in Good Times and in Bad: Evidence from U.S. Historical Data* (NBER Working Paper No. 20719). National Bureau of Economic Research, Cambridge. Retrieved from https://doi.org/10.3386/w20719

Riera-Crichton, D., Vegh, C. A., & Vuletin, G. (2015). Procyclical and Countercyclical Fiscal Multipliers: Evidence from OECD Countries. *Journal of International Money and Finance, 52*, 15–31. DOI: https://doi.org/10.1016/j.jimonfin.2014.11.011

World Bank. (2024). *World Development Indicators*. World Bank Data. Retrieved from https://databank.worldbank.org/source/world-development-indicators.

Zurita, J. (2024). Does Household Debt Affect the Size of the Fiscal Multiplier? *Macroeconomic Dynamics*, *29*, 1–25. DOI: https://doi.org/10.1017/S1365100524000075

Strukturne karakteristike držav in velikost multiplikatorja vladne potrošnje

Izvleček

Transmisijski kanali stabilizacijske fiskalne politike še ostajajo delno neraziskani, kar predstavlja izziv za učinkovito vodenje ekonomske politike. Ta študija z uporabo obsežne podatkovnega niza in metodologijo vektorske avtoregresije analizira razmerje med izbranimi strukturnimi značilnostmi gospodarstev in velikostjo fiskalnih multiplikatorjev. Rezultati kažejo, da so fiskalni multiplikatorji praviloma manjši v bolj razvitih gospodarstvih, v poslovno prijaznih okoljih ter v državah članicah EU in EMU. Ob tem ugotovitve o javnem in zasebnem dolgu ter ravneh varčevanja nakazujejo, da so fiskalni multiplikatorji višji v državah, kjer se večji delež ekonomskih subjektov sooča z likvidnostnimi omejitvami. Posledično dodatna javna poraba zaradi višje mejne nagnjenosti k potrošnji povzroči močnejši končni učinek na ekonomsko aktivnost. Naši rezultati tako dajejo podlago nosilcem fiskalne politike za oblikovanje ustreznih ukrepov, prilagojenih specifičnim značilnostim posameznih gospodarstev, z namenom po izboljšani učinkovitosti stabilizacijske fiskalne politike. Posledično lahko s sistemom fiskalnih spodbud dosežemo večji učinek ob hkratni učinkoviti rabi davkoplačevalskih sredstev.

Ključne besede: fiskalna politika, strukturne determinante, VAR