

THE IMPACT OF GEOPOLITICAL CRISES ON FISCAL AND BUDGETARY STABILITY

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Abstract

This study explores the relationship between geopolitical risk and fiscal-budgetary stability of countries, focusing on how external instability impacts the dynamics of the budget deficit. Using a dynamic System GMM (Arellano-Bover/Blundell-Bond) model on a panel dataset of 25 OECD member countries. The empirical results indicate three fundamental aspects: (i) the existence of significant fiscal inertia, through the positive influence of the lagged value of the deficit on the current one; (ii) a negative relationship between geopolitical risk and the current level of the budget deficit, which suggests a tendency for governments to implement more prudent fiscal policies in times of international uncertainty; and (iii) political stability is found to be a factor favourable to fiscal balance, especially in developed countries, where a predictable political climate and solid institutions allow the formulation and implementation of consistent fiscal policies. Thus, this underlines the importance of a stable policy framework as a foundation for fiscal sustainability, especially in the face of external shocks or high fiscal pressures.

Keywords: Geopolitical Risk Index, budget deficit, Political Stability Index, OECD countries, Arellano-Bover/Blundell-Bond

JEL Classification: C33, C58, E62, H12

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1. Introduction

As defined by Dieckelmann et al. (2024), geopolitical risks are recognised in the form of threats, realisation, and escalation of circumstances associated with armed conflicts, terrorism between states or other situations that impede the smooth conduct of international relations. Thus, at the global level, geopolitical crises have

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destabilised the economy, directly influencing state fiscal and budgetary policies.

The Gulf War (1990-1991), the September 11, 2001 attacks, the Iraq War (2003), the London bombings (2005), the Great Recession of 2008, the Sovereign Debt Crisis (2009-2013), the COVID19 pandemic, the Russian armed attack on Ukraine, and the war between Israel and Hamas are just a few of the events that have led governments to implement and adopt fiscal-budgetary adjustment measures. Whatever their nature, the crises have produced concomitant increases in budget deficits and sovereign debt.

Even if historical geopolitical shocks exhibit limited capacity to generate large-scale systemic crises, Baron & Dieckelmann (2021) argue that these trends generate the need for increased vigilance. For example, the September 11 attacks did not automatically generate a systemic financial crisis, nor did they even directly target the countries affected by the attacks. Considering the fizzle of macroeconomic events in recent years, the 38 member countries of the Organisation for Economic Cooperation and Development have demonstrated that they can manage fiscal imbalances caused by substantial geopolitical risks. According to the European Council (2025), 80% of defence funds have been allocated to the acquisition of new defence equipment in the military field. Thus, the European Union is committed to both increasing and optimising defence spending against the backdrop of unprecedented security threats and challenges in Europe.

Given the current context of global fragmentation and the fact that OECD countries are increasingly relying on rearmament, this research fills a methodological gap by offering an empirical perspective on how the "peace dividend" is being replaced by unpredictable costs for national security. The central objective of this paper is to analyse the relationship between geopolitical uncertainty and fiscal performance by quantifying the impact of geopolitical risk on budget deficits across a panel of 25 OECD member states over a 25-year period. The System GMM estimator used allows both for controlling unobserved heterogeneity across countries and for obtaining consistent estimates in a dynamic framework, where current fiscal decisions are linked to past budgetary performance.

The results indicate that the geopolitical risk index has a significant and negative impact on the budget deficit in the five estimated models. Given the current heightening of geopolitical uncertainties, governments tend to adopt a more prudent fiscal stance,

striving to maintain both investor confidence and macroeconomic stability. We observe that the effect is robust in both developed and emerging countries, indicating a common fiscal adjustment mechanism against geopolitical external shocks. Thus, geopolitical risk can act as a fiscal disciplining factor, motivating authorities to temper fiscal expansion in times of international tensions.

At the same time, by means of empirical evidence, the paper presents specific recommendations for different categories of actors (public policy makers, investors, creditors, society), providing valuable solutions such as: strengthening medium-term budgetary frameworks, independent audits, increased fiscal transparency and social safeguards. Moreover, the study contributes to the literature on fiscal behaviour under uncertainty by providing applicable insights on how countries can increase their fiscal resilience to geopolitical risks.

The rest of the paper is structured as follows: Section 2 contains the literature review and the research hypotheses, Section 3 describes the research methodology, where the variables and the database, including the empirical model, are explained, Section 4 includes the results and practical implications of the work, and the 5th section includes the conclusions, outlining the limitations and considering future research directions.

2. Literature Review

With a focus on both global financial markets and the real economy, Hodula et al. (2024) analyse geopolitical risks and how they impact macro-financial stability. The research shows that geopolitical risks cause a fizzle in the financial market that is also felt more broadly in the economy.

On the one hand, trade barriers arise as a result of geopolitical conflicts being quantified by tariffs and sanctions that are reflected in reduced trade, leading to lower economic growth, higher inflation rates and higher costs incurred by companies, which is also confirmed by (Alcalá & Ciccone, 2004). In line with Adekoya et al. (2022), higher tariffs or restrictions on imports impact both trade and investment between countries, which only unbalances the connectivity of the global supply chain (Jomthanachai et al., 2022). On the other hand, the geopolitical tensions present in resource (oil) rich states cause high volatility in commodity prices, as also mentioned by Caldara & Iacoviello (2022).

In terms of financial markets, geopolitical risks negatively impact equities.

According to Lehkonen and Heimonen (2015), since the geopolitical risk of 49 emerging countries decreases, stock returns increase. This fact is also supported by the bibliometric analysis of Pandey et al. (2022), an analysis that brings to the fore the negative effects of border disputes, conflicts, and, more seriously, war on financial markets.

The higher the value of the geopolitical risk index, the higher the cost of oil (Mignon & Saadaoui, 2024), the slowdown in investment (Wang, Wu & Xu, 2023), the higher the inflation rate, the downward trend in economic activity and trade (Caldara et al., 2024). Moreover, the strain is also being felt in the private sector, which is experiencing lower lending levels, but Demir & Danisman (2021) note that a high geopolitical risk index prevents the provision of consumer and mortgage credit, but not the distribution of corporate credit, as companies have additional collateral and/or more stable cash flows.

In order to analyse the impact of geopolitical risk on foreign direct investment, Yu & Wang (2023) used a fixed effects model. They observe that FDIs are diminished by geopolitical conflicts in emerging countries, whereas the impact on developed economies is not significant.

Thus, based on the literature reviewed, we formulate the following research hypotheses regarding the impact of geopolitical crises on fiscal-budgetary stability:

- *H1: The geopolitical risk index influences fiscal stability statistically.*
- *H2: Large-scale geopolitical crises have a positive impact on the budget deficit, causing it to increase.*

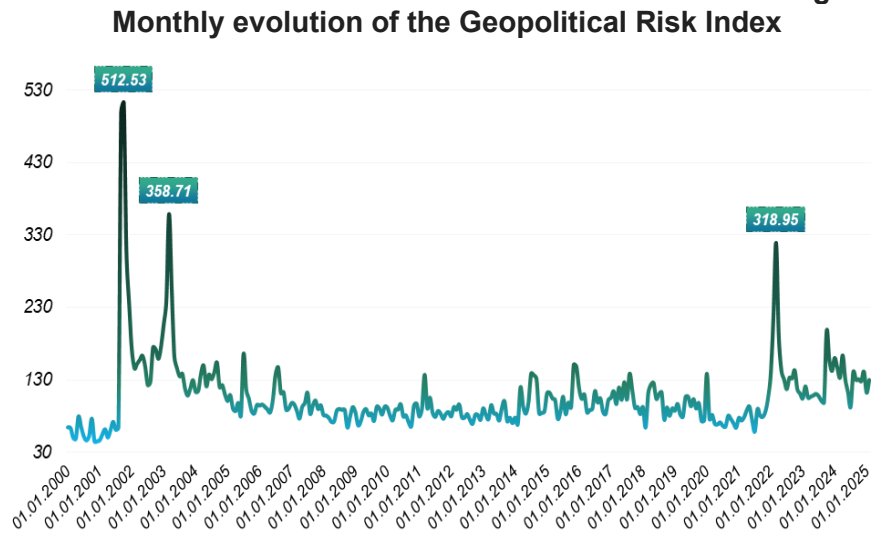
2.1. The Geopolitical Risk Index

Based on the results of an automated analysis of text from the digital archives of ten internationally recognized newspapers (Chicago Tribune, the Daily Telegraph, Financial Times, The Globe and Mail, The Guardian, the Los Angeles Times, The New York Times, USA Today, The Wall Street Journal, and The Washington Post), the Geopolitical Risk Index interprets values in the 50-100 range as political and/or economic tensions, and values above 100 as major geopolitical crises. In contrast, the stability period is marked by the 0-50 range, which offers favourable conditions for trade and investment.

In other words, Caldara & Iacoviello (2025) quantify the number of articles containing geopolitical events by relating them to the total number of articles that have a monthly frequency. Of note would be that search engines consider eight categories, namely: Threats of war (Category 1), Threats to peace (Category 2), Military escalations (Category 3), Nuclear threats (Category 4), Terrorist threats (Category 5), Outbreak of armed conflict (Category 6), Escalation of armed conflict (Category 7) and Terrorist acts (Category 8).

Figure 1 captures the monthly evolution of the geopolitical risk index over the period 2000-2025. In 2001, we observed an inflexion point caused by the September 11 Attacks of the same year (Guler & Demir, 2024) and the War in Afghanistan (2001-2002). This sudden increase is also the peak of the period analysed, with a score above 500. Two years later, in 2003, the Invasion of Iraq took place, which marked another historic point. The decision of the United States of America to intervene militarily in Iraq led to a shock in international relations. Events such as Russia's Annexation of Crimea in 2014 and Russia's Armed Attack on Ukraine are considered by far the biggest actions threatening global security since World War II, as confirmed by Götz and Ekman (2024).

Figure 1



Source: own elaboration based on data taken from matteoiacoviello.com

3. Data and methodology

This paper is based on a sample of 25 OECD member countries, with the reference period 2000-2024. However, in order to delineate and identify specific risks, we have classified the 25 countries into three categories (global, advanced and emerging countries). The classification has been done in accordance with the International Monetary Fund. The categorisation of countries is in the Appendix.

Data were collected from: Economic Policy Uncertainty, The Global Economy and World Bank Open Data. The dependent variable is the budget deficit. The set of explanatory variables consists of 10 indicators, 3 of which are dummy variables, namely: EU Member States, COVID-19, and Russia-Ukraine Armed Attack.

Table 1 summarises aspects related to abbreviation, name, description, and data source.

Table 1

Data description

Abbreviation	Variable name	Description	Source
<i>Dependent Variable</i>			
<i>DEFICIT</i>	Budget Deficit	The difference between government revenue and government expenditure. The value is expressed as a percentage of GDP.	The Global Economy
<i>Independent Variables</i>			
<i>GEOPOL_RISK</i>	Geopolitical Risk Index	Dario Caldara and Matteo Iacoviello have developed an index of geopolitical events, based on the analysis of newspaper articles covering geopolitical tensions, and observed their evolution and economic effects since 1900.	Economic Policy Uncertainty
<i>POLITICAL_STAB</i>	Political Stability Index	Measures perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism. The percentage rank indicates the country's position among all countries covered by the aggregate indicator, where 0 corresponds to the lowest rank and 100 to the highest.	World Bank Open Data
<i>PUBLIC_DEBT</i>	Public Debt	The gross amount of government liabilities, reduced by the value of equity instruments and financial derivatives held by the government. Since debt is a stock and not a flow, it is measured at a given date.	The Global Economy

Financial Studies – 1/2026

Abbreviation	Variable name	Description	Source
<i>EC_GROWTH</i>	Economic Growth	Annual percentage growth rate of GDP at market prices, based on constant local currency. The aggregates are based on constant 2015 prices expressed in US dollars.	The Global Economy
<i>INFLATION</i>	Inflation Rate	Measured by the consumer price index, it reflects the annual percentage change in the cost to the average consumer of buying a fixed basket of goods and services, which may be updated periodically.	The Global Economy
<i>FDI</i>	Foreign Direct Investments	Net capital inflows for the acquisition of a lasting management interest in an enterprise operating in an economy different from the investor's.	The Global Economy
<i>REM</i>	Remittances	All current transfers in cash or in kind made or received by resident households from or to non-resident households, expressed as a percentage of GDP.	The Global Economy
<i>Dummy Variables</i>			
<i>DUMMY_UE</i>	Member State of the EU	1 if it is a Member State and 0 otherwise	Own processing
<i>DUMMY_COVID</i>	COVID19	1 for 2020-2021 and 0 otherwise	Own processing
<i>DUMMY_WAR</i>	Russian-Ukrainian Armed Attack	1 for 2022-2024 and 0 otherwise	Own processing

Source: Author's research

From a methodological perspective, to analyse the impact of geopolitical crises on fiscal stability at the level of 25 OECD member countries, we used the Arellano-Bover/Blundell-Bond dynamic model (System GMM). For the sample used - composed of a similar number of cross-sectional units (N=25 countries) and time periods (T=25 years) - the System GMM is recognised as a much more robust option. Compared to the Difference GMM (Arellano-Bond) model, the System GMM variant is more effective in the presence of high variable persistence and provides more accurate estimators through the simultaneous use of the difference equation and the level equation.

A high geopolitical risk index score can influence government spending and revenue decisions, leading to higher deficits. In other words, countries with high budget deficits produce macroeconomic instability, which amplifies perceptions of geopolitical risks. In the present case, estimating classical methods such as OLS or using fixed effects models would lead to biased results due to the correlation between the explanatory variables and the error term.

Moreover, the dependent variable has a significant dynamic component because its historical values can influence the present values, due to the inertia of fiscal policies or medium-term budget constraints. Thus, the Arellano-Bover/Blundell-Bond model facilitates the inclusion of the lagged dependent variable as a regressor, capturing more effectively the nature of the economic process under investigation, without introducing the bias generated by its correlation with fixed effects.

The empirical model will take the following form:

$$Y_{it} = \alpha Y_{it-1} + \beta \cdot X_{it} + \dots + \eta_i + \varepsilon_{it} \quad (1)$$

where: Y_{it} = the dependent variable (Budget Deficit in country i , year t), Y_{it-1} = the lagged value of the dependent variable (previous year's Deficit), X_{it} = vector of explanatory variables (Geopolitical Risk Index), η_i = country-specific fixed effect (unobserved), and ε_{it} = the error, which captures the effect of other factors not accounted for in the model, including unexpected events.

To test for stationarity, the Levin-Lin-Chu (LCC) panel data unit root test was used. As shown in Table 2, an intervention for the variable Public Debt was needed because the probability exceeded 5%. Thus, Public Debt was differenced at the first-order level.

Table 2

Levin-Lin-Chu Test

<i>Variable</i>	<i>Statistic</i>	<i>p-value</i>
<i>DEFICIT</i>	-5.4572	0.0000
<i>GEOPOL_RISK</i>	-4.1789	0.0000
<i>POLITICAL_STAB</i>	-3.6642	0.0001
<i>PUBLIC_DEBT</i>	-1.6028	0.0545
<i>EC_GROWTH</i>	-12.6053	0.0000
<i>INFLATION</i>	-3.9520	0.0000
<i>FDI</i>	-5.6205	0.0000
<i>REM</i>	-3.0132	0.0013

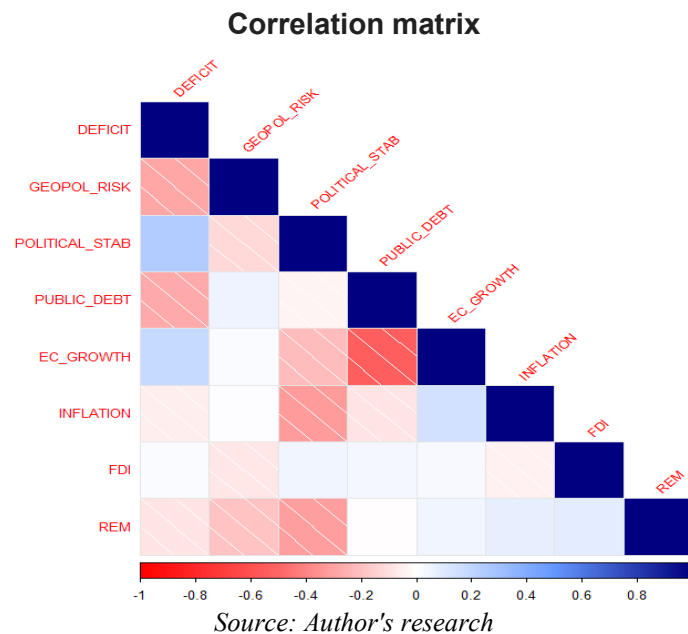
Source: Author's research

Before estimating the regression model, we have constructed the correlation matrix on the basis of which we can determine the meaning and strength of the relationship between two variables. We find a strong correlation between Public Debt and Economic Growth. Also, we observe in Figure 2 that the Geopolitical Risk Index does not

show strong correlations with the other variables in the economic sphere, which allows us to model the relationship between our variables.

Taking into account the strong level of correlation between the variables mentioned above, we will create separate regression models, avoiding their inclusion in the same model, in order to minimise the influence of multicollinearity on the efficiency and consistency of the estimators.

Figure 2



4. Results and implications

Taking the correlation relationships into account, five regression models were generated, and they are included in Table 3. The first two models cover the 25 OECD member countries, Model 3 consists of highly developed countries, and the last two models are assigned to emerging countries. The five models are statistically significant according to Prob>chi2 ($0.00 < 0.05$). For both global and advanced countries, we notice that the key explanatory variable represented by the geopolitical risk index is significant at a threshold of

5%, while for emerging countries, the index has very strong significance.

We observe that, irrespective of the ranking of the countries analysed (at the level of the five models estimated), the higher the geopolitical risk, the lower the budget deficit, thus improving the fiscal position, which can be explained by international support mechanisms. In other words, when a country faces geopolitical tensions, affected governments can obtain external support in the form of grants, non-reimbursable financial assistance or direct budget support. In practice, the capital flows received lead to an improvement in the budget balance.

Moreover, in conditions of geopolitical instability, governments adopt a more prudent behaviour (characterised by expenditure control, revenue consolidation and budget deficit reduction) because maintaining investor confidence in international markets and balancing creditors' perception of sovereign rating risk are vital elements in determining external financing conditions and beyond. From this, we can draw a first implication for policymakers: the implementation of proactive fiscal strategies integrated into multiannual budget planning, including fiscal stress scenarios facilitating reallocations according to the international context, prioritising investments in critical infrastructure, energy security or digital resilience.

Disaggregating the impact according to the level of development of the countries analysed, Models 1 and 2 indicate that a stable political climate leads to an improved budgetary position. In other words, stable governments tend to adopt consistent and long-run fiscal policies, reducing uncertainty both by making revenue collection more efficient and by planning public spending. In contrast, in Models 4 and 5, which include emerging economies, the variable Political Stability Index is no longer significant. Structural weaknesses, restricted administrative capacity and fiscal volatility may dominate the positive effects of a stable political climate. Political stability is found to generate better fiscal performance if there is a lack of effective governance and robust institutional arrangements. A recommendation for policymakers would be that fiscal consolidation policies should be backed by measures to strengthen institutions and promote political stability, particularly in emerging countries, where these components can act synergistically to support long-term fiscal sustainability.

As for the COVID19 pandemic, it caused a significant increase in the budget deficit, due to the increase in public spending associated

with health, social protection and economic support, which occurred at the same time as tax revenues were reduced as a result of the contraction in economic activity. The impact of the pandemic on the budget deficit is more pronounced in emerging economies (Model 5) than in highly developed (Model 3) and OECD countries (Models 1 and 2), indicating a lower institutional and fiscal capacity of emerging countries to respond to major exogenous shocks.

Thus, the validity of the results is supported by the use of the System GMM estimator, which accounts for potential endogeneity (reverse causality) between the geopolitical risk index and fiscal performance. In other words, by instrumenting the variables with their own past values (lags), the model isolates the causal effect.

Table 3

Estimation results

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>
<i>DEFICIT(-1)</i>	0.5484*** [0.0315]	0.6202*** [0.0319]	0.6783*** [0.0329]	0.3247*** [0.0506]	0.4632*** [0.0524]
<i>GEOPOL_RISK</i>	-0.0875** [0.0374]	-0.1047** [0.0372]	-0.0576** [0.0344]	-0.4548*** [0.0828]	-0.4556*** [0.0862]
<i>POLITICAL_STAB</i>	1.2446*** [0.4187]	1.1341** [0.4159]		-0.2302 [0.4694]	-0.2302 [0.4883]
<i>D_PUBLIC_DEBT</i>	-0.2760*** [0.0182]			-0.3244*** [0.0315]	
<i>EC_GROWTH</i>		0.5417*** [0.0330]	0.6345*** [0.0429]		0.3428*** [0.0440]
<i>INFLATION</i>	-0.0009 [0.0267]	0.0056 [0.0265]	0.0656 [0.0629]	-0.0562** [0.0237]	-0.0594** [0.0246]
<i>FDI</i>	0.0178* [0.0105]	0.0109 [0.0105]	0.0263 [0.0221]	0.007 [0.0100]	0.0002 [0.0104]
<i>REM</i>	-0.2705 [0.3595]	0.0351 [0.3553]		-0.0387 [0.2811]	0.0579 [0.2928]
<i>D_REM</i>			-1.4990 [2.8655]		
<i>DUMMY_UE</i>	-0.7999 [0.6918]	-0.3498 [0.6881]	-0.2493 [0.7352]	-0.0605 [0.8071]	0.4001 [0.8412]
<i>DUMMY_COVID</i>	-1.0334*** [0.3005]	-1.5773*** [0.2957]	-1.3851*** [0.3537]	-1.3055*** [0.4267]	-1.7688*** [0.4424]
<i>DUMMY_WAR</i>	-0.6700** [0.3094]	-0.0271 [0.3043]		-0.6677 [0.4741]	0.4707 [0.4762]
<i>Intercept</i>	-0.5690 [0.4655]	-2.031*** [0.4613]	-1.3668** [0.5516]	-0.5051 [0.4460]	-1.5886*** [0.4891]
<i>Prob>chi2</i>	0.0000	0.0000	0.0000	0.0000	0.0000

Source: own calculations. The description of the variables is presented in Table 1. Standard errors are shown in parentheses; *, **, *** denote statistical significance at 10%, 5% and 1% level, respectively.

5. Conclusions, limitations and future research directions

Although the geopolitical risk index is considered a factor that causes imbalances, we note that its impact on fiscal stability is complex. International support mechanisms and the prudent behaviour of governments make geopolitical risk an incentive to improve the fiscal position. At the same time, for resource-exporting countries, tense times lead to higher commodity prices, which in turn lead to additional fiscal revenues through export taxes or higher VAT and excise tax revenues.

There is a significant correlation between the intensification of international tensions and the reduction of the budget deficit, including in the case of the Russian-Ukrainian armed conflict. Major geopolitical shocks are prompting governments to take a more prudent fiscal approach, possibly to avoid further deterioration in market confidence and to preserve their resilience in the face of uncertainty. The consistency between the signals transmitted by the geopolitical risk index and the effect of the DUMMY_WAR variable supports the hypothesis that international tensions act as a fiscal disciplining factor with direct implications for fiscal policy formulation.

Even in the presence of external shocks (geopolitical tensions, armed conflicts or threats to national security) or new factors that may worsen the fiscal position, the fiscal adjustment propagates gradually, which justifies the use of a dynamic analytical framework able to capture this type of time dependence, which is the reason for using the Arellano-Bover/Blundell-Bond estimation method.

The existence of a positive and significant relationship between the previous level of the budget deficit and the current one emphasises the presence of fiscal inertia in the budgetary behaviour of the analysed countries, regardless of their classification. In other words, the current fiscal decisions are influenced by the budgetary situation in the previous period, signalling the difficulty of quickly correcting fiscal imbalances.

On the one hand, fiscal adjustments triggered by geopolitical events may point to high fiscal discipline, but also to potential risks to fiscal sustainability. Thus, in order to meet the need for fiscal predictability and stability, we recommend that investors pay close attention to the degree of transparency and consistency of the medium-term fiscal framework published by the authorities, as well as to the existence of independent audits certifying fiscal sustainability. On the

other hand, fiscal adjustment measures may have significant social implications, especially for vulnerable groups. The second recommendation would be linked to ensuring fiscal fairness both by maintaining basic social spending and by adopting compensatory measures targeted at affected groups.

The results indicate that the first hypothesis established in section two is confirmed because in all models the geopolitical risk index statistically influences fiscal-budget stability. In contrast, hypothesis number two is rejected, observing at the level of each model analysed (irrespective of the grouping of countries analysed) that a higher geopolitical risk decreases the budget deficit, improving the fiscal position.

Although it is recognised in the literature, the use of the index measuring geopolitical risk may not fully capture the differences in perceptions and impacts experienced by individual countries; the index basically addresses geopolitical events in a homogeneous way. Thus, future studies could use: the political uncertainty index, sovereign risk measures, or create a composite index tailored to OECD member countries that takes into account external risk dimensions as well as domestic political instabilities.

Another perspective for future research directions could be to examine the role of the quality of public institutions in the geopolitical risk - budget deficit relationship. Thus, OECD member countries experience significant differences in governance efficiency, fiscal transparency and institutional capacity. These may determine how governments respond to external geopolitical shocks.

In other words, countries with well-anchored public institutions may be more resilient to geopolitical uncertainties, maintaining prudent fiscal behaviour even in the face of tense events. Conversely, in countries where fiscal governance is delicate, geopolitical conflicts may create impulsive budgetary decisions leading to increased spending or lower tax revenues. From this, we could draw a final recommendation, namely to include variables such as the government efficiency index and/or the degree of control of corruption.

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