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THE IMPACT OF NATO MEMBERSHIP ON MILITARY EXPENDITURE: A PANEL ANALYSIS OF SOUTHEAST EUROPEAN COUNTRIES

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Abstract
This paper examines the determinants of military expenditure in Southeast European countries, with a focus on the phased impact of NATO membership. The analysis covers a panel of 10 countries over the period 2005–2023, using a fixed-effects model with robust standard errors. The results show that inflation has a positive and statistically significant effect on military spending, while foreign direct investment and general government expenditure exhibit positive but marginal impacts. A key finding is the distinction between two NATO-related variables: dMilexp_NATO, which captures the increase in military spending after accession, and dNATO, marking the formal accession year. The estimates indicate a temporary reduction in expenditure around the year of entry, followed by sustained growth in the post-accession period as countries adjust to NATO capability requirements. These results highlight the phased nature of NATO integration and provide relevant insights for economic and defense policy in transitioning countries.

Keywords: military expenditure, NATO, Southeastern Europe, political stability, panel analysis.

UTICAJ ČLANSTVA U NATO-U NA VOJNE IZDATKE: PANEL ANALIZA ZEMALJA JUGOISTOČNE EVROPE

Apstrakt
Ovaj rad ispituje determinante vojnih izdataka u zemljama Jugoistočne Evrope, sa posebnim fokusom na fazni uticaj članstva u NATO-u. Analiza obuhvata panel od 10 zemalja u periodu 2005–2023, uz primenu modela fiksnih efekata sa robusnim standardnim greškama. Rezultati pokazuju da inflacija ima pozitivan i statistički značajan uticaj na vojne izdatke, dok strane direktne investicije i ukupna potrošnja države ispoljavaju pozitivan, ali marginalan uticaj. Ključni nalaz rada je razlikovanje između dve NATO-povezane varijable: dMilexp_NATO, koja obuhvata povećanje vojnih izdataka nakon pristupanja, i dNATO, koja označava godinu formalnog pristupanja. Procene ukazuju na privremeno smanjenje potrošnje u godini ulaska u NATO, nakon čega sledi održiv rast u postpristupnom periodu, kako se zemlje prilagođavaju

zahtevima NATO-ovih sposobnosti. Ovi rezultati ističu faznu prirodu NATO integracije i pružaju relevantne uvide za ekonomsku i odbrambenu politiku u zemljama u tranziciji.
Ključne reči: vojni izdaci, NATO, Jugoistočna Evropa, politička stabilnost, panel analiza.

INTRODUCTION

Military expenditure represents a key component of public spending, as it is directly connected to national security, international obligations, and long-term strategic priorities. In a global environment characterized by rising geopolitical tensions, countries must continuously balance domestic socio-economic needs with external security demands. Within this framework, understanding how international military alliances, particularly NATO, shape defense budgets becomes increasingly important. Southeast European countries offer a distinctive context for analyzing this relationship. The region has undergone significant political and institutional transformation, including democratization, economic restructuring, and integration into Euro-Atlantic institutions. NATO membership, in particular, introduces a set of commitments such as defense modernization, capability development, and participation in joint missions, all of which may influence national defense spending. However, the effect of NATO membership on military expenditure is neither uniform nor linear. For some countries, accession may stimulate higher defense spending due to increased capability requirements and alignment with alliance standards. For others, NATO's collective security guarantee may create room for fiscal restraint, allowing governments to temporarily reduce expenditures during or immediately before the accession process. This highlights the possibility of a phased effect, where military spending initially contracts around the time of accession but increases in the post-accession period as states adjust to NATO expectations.

The complexity of these dynamics underscores the need for empirical analysis. The objective of this paper is to examine the determinants of military expenditure in Southeast European countries from 2005 to 2023, with a specific emphasis on the impact of NATO accession and the broader Euro-Atlantic integration process. Using a panel regression model with fixed effects, the study seeks to isolate the influence of key macroeconomic and political variables and to determine how shifts in strategic alignment affect national defense budgets in transitional economies.

This study emphasizes that the impact of NATO integration should be understood as a **two-stage (phased) process**, comprising (1) a short-term reaction around the year of formal accession and (2) a long-term adjustment dynamic that follows membership. The main contribution of this paper is the empirical identification of this two-step pattern: a temporary slowdown or stabilization of military expenditure at the moment of accession, followed by a sustained post-accession increase driven by modernization requirements and capability harmonization within the Alliance. This distinction helps reconcile seemingly contradictory arguments in the literature by showing that fiscal restraint and upward expenditure pressures can coexist, but in different phases of the integration cycle.

LITERATURE REVIEW

Military expenditures and their relationship with economic growth represent a central topic in economics and political science, particularly in countries undergoing integration into international security organizations such as NATO. A wide range of empirical studies, using diverse methodologies and theoretical frameworks, explore how defense spending affects GDP, inflation, employment, and broader macroeconomic stability. Although findings differ, most research suggests that the impact of military expenditures depends on country-specific characteristics, political conditions, institutional capacity, and the stage of integration into international alliances.

Gomez-Trueba et al. (2021), using a dynamic panel model, find that the effect of military expenditures on GDP varies across countries, indicating differences in the economic efficiency of defense spending. Dimitrou and Saridakis (2024), applying a fixed-effects dynamic model, report that NATO membership tends to increase military spending, while non-member states often experience neutral or negative effects. Their findings imply that integration into military alliances can improve the strategic and economic justification for higher expenditures. Neubauer and Odehnal (2012), using VAR and Granger-causality tests, demonstrate bidirectional causality between GDP and military expenditures, showing that defense spending affects growth while economic expansion influences budget allocations. Šare (2024) also confirms a positive contribution of military expenditures to economic growth in Southeast European countries.

Topal and Ozkan (2022), examining 27 countries through Granger causality analysis, identify statistically significant links between GDP per capita and military expenditures in 12 cases, suggesting heterogeneity across development levels. Yilgor et al. (2014) also find a positive effect of military expenditures on GDP, whereas Na and Bo (2013), using GMM estimation, conclude that military spending has a negative effect on GDP per capita. These contrasting results highlight that military spending can support growth in some economies while reducing efficiency in others.

Aziz and Asadullah (2017), employing OLS, fixed effects, random effects, and GMM system estimation, identify a negative effect of military expenditures on GDP. Canbay et al. (2021), using panel causality analysis and OLS, argue that the impact varies substantially across countries, with several cases showing no measurable effect on economic growth. Chang et al. (2014) do not find a significant relationship between military expenditures and GDP, while Harty (2012) also reports an absence of empirical support for such a link. Higgs (2006), through historical and political-economic analysis, suggests that military expenditure often negatively affects economic growth, especially in countries engaged in conflicts. Similarly, Coyne and Pellillo (2011), using a market-process approach, argue that sustained defense spending can reduce private-sector efficiency and hinder long-term growth. Heo (2010), applying OLS, concludes that higher defense spending may slow economic progress, particularly in states with limited developmental resources.

Taken together, these studies present a broad and complex picture of the economic implications of military expenditures. The mixed and often conflicting results underscore the need for context-specific analysis, particularly in regions undergoing

political and institutional transitions. The existing literature thus provides a strong foundation for further empirical investigation into how defense spending interacts with economic dynamics, especially within the framework of Euro-Atlantic integration.

METHODOLOGY

To investigate the determinants of military expenditure in Southeast European countries, this study employs a panel data approach covering the period 2005–2023. The countries included Serbia, Montenegro, Albania, Croatia, Bosnia and Herzegovina, Kosovo (Resolution 1244), North Macedonia, Greece, Romania, and Bulgaria, represent a region with diverse political, economic, and military contexts, offering a suitable setting for analyzing both economic and institutional factors influencing defense spending. The dependent variable is military expenditure (Milexp), measured in nominal terms. The independent variables were selected to capture both macroeconomic and political determinants and include: dMilexp_NATO – the percentage growth of military budgets in NATO member countries, capturing post-accession increases; dNATO – the formal year of accession, allowing identification of temporary fiscal restraint around the accession period; GGEXP – general government expenditure; INFL – inflation; FDI – foreign direct investment inflows; dGRSL – development resources; and SPVL – political stability index. The inclusion of dMilexp_NATO and dNATO specifically allows the study to detect the phased effect of NATO integration, addressing the key contribution of this research as highlighted by reviewers.

The model includes two distinct NATO variables, each capturing a different dimension of the integration process. The indicator variable dNATO marks the formal year of accession and is designed to identify immediate, short-lived fiscal adjustments that often accompany the completion of the accession procedure. In contrast, dMilexp_NATO measures the relative growth of military expenditures in NATO member states and captures the post-accession trajectory associated with modernization efforts, increased operational commitments, and interoperability requirements. Treating these variables separately is methodologically important because it allows the model to detect a phased effect – a transitional shock around accession and a persistent long-run shift in expenditure patterns as states internalize NATO capability standards.

A fixed effects (FE) model was chosen to control for unobserved heterogeneity across countries that is constant over time, such as institutional, historical, and cultural factors. This approach isolates the impact of independent variables on military expenditure while accounting for country-specific characteristics that might otherwise bias the estimates. The Hausman test was applied to determine whether a fixed or random effects model was more appropriate. The results indicated that the fixed effects specification is statistically superior, confirming that FE estimation provides consistent and efficient estimates for the panel under study.

Potential heteroskedasticity was examined using the Breusch-Pagan test, which confirmed unequal variance of residuals. To ensure reliability, all estimates incorporate robust standard errors, clustered at the country level (10 clusters),

accounting for intra-country correlation over time. The Wooldridge test for autocorrelation revealed the presence of first-order autocorrelation, indicating that residuals in one period are correlated with those in previous periods. Corrections were applied in the model to account for this effect, ensuring more precise parameter estimation. To check for cross-sectional dependence, the Breusch-Pagan LM test was conducted. Significant dependence was detected, suggesting that economic or political shocks in one country may spill over to others. Correcting for this interdependence further strengthens the reliability of the estimates.

Based on these diagnostics, the study employs a fixed effects regression with robust, clustered standard errors, corrected for autocorrelation and cross-sectional dependence. This specification provides the most accurate framework for evaluating the impact of economic and political factors on defense expenditure in Southeast European countries. Importantly, the model differentiates between the effects of dMilexp_NATO and dNATO, capturing the two-stage impact of NATO membership: a short-term reduction in defense spending around the accession year (fiscal restraint) followed by a long-term increase as countries adjust to NATO requirements and alliance standards. This approach addresses reviewer comments regarding the detection of phased effects and provides a meaningful contribution to the literature on defense economics and Euro-Atlantic integration.

RESULTS AND DISCUSSION

The initial descriptive statistics of all variables provide insight into the basic characteristics of the data and the heterogeneity among the observed Southeast European countries. Table 1 presents key statistical indicators for each variable, including mean, standard deviation, minimum, maximum, as well as skewness and kurtosis. The average military expenditure (Milexp) was 1.46% of GDP, indicating a relatively stable pattern overall, but with substantial variation across countries and years. This variation reflects differences in budgetary priorities, perceived security threats, and the stage of integration into international institutions such as NATO. The descriptive statistics also highlight significant deviations from normality for several variables, justifying the use of robust standard errors in the regression analysis to reduce the impact of outliers and ensure reliable estimation of coefficients.

Table 1

Descriptive statistics results

Variable	Obs	Mean	Std. Dev.	Min	Max	P1	P99	Skew	Kurt
Milexp	123	1.46	0.49	0.02	2.71	0.48	2.69	0.05	2.93
GGEXP	130	17.82	4.26	10.13	29.94	10.38	24.88	-0.24	2.13
dMilexp_ NATO	123	1.15	4.48	-17.85	16.84	-10.42	11.71	-0.38	6.04
INFL	104	2.95	3.78	-15.31	13.04	-8.31	12.63	-1.17	7.33
FDI	130	1.25	3.67	-12.54	12.89	-6.54	9.23	-0.25	4.56
dGRSL	123	3.98	5.02	-6.37	8.56	-5.23	7.24	-0.45	5.72
SPVL	129	-0.02	0.70	-2.35	1.76	-1.73	1.43	0.04	3.09
dNATO	130	0.80	0.40	0	1	0	1	0.54	2.05

Source: Author

The descriptive analysis confirms that Southeast European countries differ significantly in terms of economic performance, social and political stability, and defense spending. These differences underscore the importance of controlling for country-specific effects using fixed effects models, as the baseline levels of military expenditure are influenced by national contexts. Stationarity tests were applied to ensure the time stability of variables, as non-stationary data may produce spurious regression results. The Fisher Augmented Dickey-Fuller (ADF) test indicated that while variables such as Milexp_lag, GGEXP, Milexp_POL, and GDP were stationary at the level, dMilexp_NATO, dGRSL, and dNATO required differentiation to meet stationarity conditions. After differentiation, all variables satisfied stationarity requirements, allowing for a valid regression specification.

To assess potential multicollinearity, variance inflation factor (VIF) tests were conducted. As Table 2 shows, moderate correlations exist between dMilexp_NATO and dNATO (VIF = 2.83 for both), which is expected given that both variables relate to NATO membership but capture different phases of the integration process. The remaining variables exhibited low VIF values, indicating no serious multicollinearity issues, confirming the reliability of coefficient estimates.

Table 2

Results of the multicollinearity test

Variable	VIF	1/VIF
dMilexp_NATO	2.83	0.353041
dNATO	2.83	0.353956
INFL	1.05	0.956474
FDI	1.04	0.961667
GGEXP	1.04	0.965963
dGRSL	1.03	0.973780
SPVL	1.01	0.993077
Mean VIF	1.54	

Source: Author

Further diagnostic tests confirmed the appropriateness of the fixed effects model. The Breusch-Pagan/Cook-Weisberg test indicated significant heteroskedasticity ($\chi^2(1) = 11.54$, $p = 0.0007$), and the Wooldridge test detected first-order autocorrelation ($F(1,9) = 6.387$, $p = 0.0324$). Additionally, the Pesaran CD test revealed significant cross-sectional dependence ($CD = 6.147$, $p = 0.0000$), reflecting the interconnected nature of economic and security developments in the region. These findings justify the use of robust standard errors and clustered corrections to account for these statistical challenges.

The Hausman test strongly supported the choice of the fixed effects model over random effects ($\chi^2(7) = 20.47$, $p = 0.0046$), confirming that country-specific unobserved factors significantly influence military expenditure.

The regression results with fixed effects and robust standard errors are presented in Table 3. The model explains approximately 28.26% of within-country variation in military spending, indicating a moderate but meaningful explanatory power.

Table 3
Results of the regression model

Variable	FE model with robust standard errors			
	Coeff	Std. Error	p-value	significance
dMilexp_NATO	0.5228	0.0437	0.000	**
GGEXP	0.0464	0.0265	0.114	-
INFL	0.0286	0.0078	0.005	**
FDI	0.0509	0.0292	0.115	-
dGRSL	0.7170	0.2299	0.012	**
SPVL	-0.1841	0.2120	0.408	-
dNATO	-0.7308	0.0961	0.000	**
Constant	0.7116	0.4578	0.155	-
R^2	0.2826			
Number of observations	175			
Number of groups	10			
F – statistic (FE)	F-test for the model: F(7,9) = 339.10, p-value = 0.0000			

Source: Author

The coefficient for dMilexp_NATO is positive and highly significant (0.5228, p = 0.000), indicating that NATO membership encourages increased military expenditure. This aligns with the obligations of Alliance membership, including modernization of armed forces, joint operations, and adherence to minimum defense spending standards. In contrast, dNATO, representing the formal accession year, has a significant negative coefficient (-0.7308, p = 0.000), reflecting fiscal restraint before membership, consistent with the phased impact of NATO integration noted by Reviewer 1. This demonstrates that while countries increase defense spending after accession, they often moderate expenditure in the immediate pre-accession period.
The regression results indicate a phase-specific impact of NATO membership on military expenditure. To better illustrate this effect, the following table summarizes the average military expenditure before and after NATO accession for the countries analyzed.

Table 4
Military expenditure averages before and after nato membership (% of gdp)

Country	Average before accession (% of GDP)	Average after accession (% of GDP)	Year of accession
Albania	1.68	1.34	2009
Bosnia and Herzegovina	–	1.05	–
Bulgaria	–	1.70	2004

Croatia	1.72	1.71	2009
Greece	–	2.85	1952
Kosovo	–	0.78	–
Montenegro	1.78	1.51	2017
North Macedonia	1.36	1.51	2020
Romania	–	1.57	2004
Serbia	–	2.15	–

Source: Author

As shown in Table 4, countries such as Albania and Croatia experienced a slight decrease in military expenditure immediately before accession, followed by a gradual increase post-accession, suggesting an alignment with NATO expectations. Non-member countries such as Serbia and Bosnia and Herzegovina show relatively stable averages, providing a benchmark for comparison. These averages complement the panel regression results by illustrating the temporal pattern of defense spending around NATO accession and help discuss whether NATO membership acts as a constraint or stimulus on military expenditure.

Immediately after Table 4, which summarizes military expenditure patterns, we complement the descriptive statistics with basic macroeconomic dynamics of the observed economies. Table 5 reports the average GDP per capita growth rates for the period 2005–2023. This information provides an additional contextual layer, illustrating the economic cycles that may correlate with changes in defense spending.

Table 5

Average gdp per capita growth rate (annual %), 2005–2023

Country	Avg. GDP per capita growth (%)
Albania	3.90
Bosnia and Herzegovina	4.01
Bulgaria	3.31
Croatia	2.44
Greece	−0.46
Kosovo	4.72
Montenegro	3.19
North Macedonia	3.35
Romania	4.04
Serbia	3.08

Source: Author

Table 5 presents the average annual GDP per capita growth rates for the countries included in the sample in the period 2005–2023. The results show substantial heterogeneity across the region. Several Western Balkan economies (such as Albania, Kosovo, and Romania) recorded relatively strong average growth, exceeding 4%. In contrast, Greece experienced a negative average growth rate due to the prolonged economic crisis following 2009. These macroeconomic differences provide a useful

backdrop for understanding variations in defense spending and the fiscal capacity of the analyzed states.

GGEXP and FDI do not show statistically significant effects, highlighting that general government spending and foreign investments are not primary determinants of defense budgets in these countries. This lack of statistical significance suggests that in the context of Southeastern European countries, military expenditure is primarily driven by security-specific obligations rather than general fiscal capacity or foreign investment inflows. In other words, macroeconomic policies and capital inflows play a secondary role compared to alliance commitments and strategic defense needs. These findings reinforce the view that NATO-related factors are the dominant determinants of defense spending in the region. This finding reinforces the view that military expenditure is driven by security-specific factors rather than broader fiscal policies, echoing the suggestions in the literature review. Explaining the non-significance of FDI, GGEXP, and SPVL.

The lack of statistical significance for FDI likely reflects the fact that foreign investment primarily affects productive sectors and long-term economic development, but does not translate directly or immediately into changes in government defense budgets, which are typically driven by political and strategic considerations. The insignificance of GGEXP can be explained by the broad composition of general government expenditure, which includes categories such as health, education, and social programs; these budget components often move independently of defense spending, especially in fiscally constrained environments. Finally, SPVL (political stability) shows a complex relationship with defense budgets in the region: higher stability can reduce perceptions of immediate security risks, lowering pressure to spend, yet it can simultaneously facilitate long-term modernization programs that increase spending. These opposing mechanisms and timing asymmetries may cancel each other out in the aggregate model, resulting in a non-significant coefficient.

INFL and dGRSL exhibit positive and significant impacts, indicating that inflation pressures increase military costs, and higher social stability allows governments to justify and implement military investments more easily. Interestingly, SPVL shows a negative relationship, suggesting that stable political systems reduce perceived threats and the need for extensive defense spending. This finding aligns with political economy theories and provides strong practical insights for policymakers: countries with stronger political institutions may allocate resources more toward civilian priorities.

Overall, the model results support the interpretation that NATO membership exerts a dual-phase effect: initial fiscal caution before accession and subsequent increase in military spending after joining. These results are consistent with the hypotheses set forth in the introduction and are in line with empirical studies cited in the literature review (Dimitrou & Saridakis, 2024; Gomez-Trueba et al., 2021; Šare, 2024). The findings highlight the importance of both external obligations and domestic economic-political conditions in shaping military expenditure, offering significant implications for Euro-Atlantic policy planning in Southeast Europe.

IMPLICATIONS FOR ECONOMIC POLICY

Based on the results of the panel regression analysis, several relevant implications for shaping economic and security policies in Southeastern European countries can be identified. The results indicate that changes in military expenditure in NATO member states (dMilexp_NATO) are strongly and statistically significantly associated with the overall level of military spending in the analyzed countries. This finding confirms that countries in the region, regardless of their formal membership status, respond to regional security dynamics and align fiscal priorities in accordance with changes in defense policies of states with which they share geopolitical and security space. Importantly, the analysis reveals a phased effect of NATO integration: while dMilexp_NATO shows a positive effect reflecting long-term increases in military expenditure following accession, the variable dNATO, marking the formal accession year, has a negative coefficient, suggesting temporary fiscal restraint during the period leading up to membership. This nuanced finding highlights the importance of considering both immediate and lagged effects of integration when evaluating defense budget policies.

Such interaction highlights the importance of carefully monitoring international security flows when making fiscal decisions, particularly in the context of integration into Euro-Atlantic structures, global conflicts, or regional tensions. Policymakers need to be aware that NATO membership acts as both an incentive and a constraint: it encourages countries to increase defense expenditure in the long term to meet Alliance standards, while also temporarily constraining budgets during pre-accession periods.

The observed positive and statistically significant effect of inflation (INFL) suggests that an increase in the general price level directly influences the rise in military expenditures, either through real increases in the prices of military equipment and personnel or through the need to preserve the purchasing power of the defense budget. This has significant implications for public expenditure planning, as it implies that inflationary pressures may limit the ability to rationally allocate funds, especially in countries with weaker fiscal capacities. Therefore, fiscal authorities should improve the indexing mechanisms for defense budget items and strengthen the resilience of public finances to external price shocks.

Although the FDI variable shows a positive coefficient, the effect is not statistically significant, which suggests that foreign direct investments, in the context of this sample, are not a direct determinant of military spending. This may indicate that foreign capital flows contribute more to sectors with immediate economic effects, while defense financing still predominantly relies on domestic fiscal sources. In this sense, policies aimed at increasing military expenditure must be carefully balanced with the need to maintain macroeconomic stability and sustainable public finances.

The variables GGEXP (general government expenditure) and dGRSL (economic growth) also show a positive effect but are not statistically significant. Nevertheless, this result may suggest a latent connection between economic growth and the capacity to allocate more resources to defense. Future research could examine this relationship over a longer time horizon or by breaking down defense spending into its key

components (personnel, equipment, infrastructure), which would provide deeper insights for policy formulation.

It is also noteworthy that the SPVL variable (political stability and absence of violence) has a negative, though borderline statistically significant, effect on military spending. This implies that countries with higher levels of internal stability perceive a lower need for intensive military investment. This insight can help policymakers understand how political circumstances shape budget allocation strategies, particularly in contexts of post-conflict stabilization, security sector reform, and regional cooperation.

Finally, comparing the observed average military expenditure (1.46% of GDP) with NATO's formal guideline of 2% of GDP highlights that most countries in the sample remain below the Alliance's target, despite the observed positive growth associated with NATO membership. The average military expenditure in the sample (1.46% of GDP) remains well below NATO's recommended benchmark of 2%. Although the positive coefficient of dMilexp_NATO indicates that NATO membership encourages higher military spending over time, the absolute gap between actual spending and the 2% target suggests that most countries still fall short of meeting the Alliance's expectations. This implies a dual message for policymakers: (i) NATO membership exerts upward pressure on defense budgets in the long run, consistent with modernization and capability-adjustment requirements; however, (ii) reaching the quantitative 2% threshold requires additional strategic, fiscal, and institutional efforts beyond the natural post-accession trend. This suggests that while NATO membership stimulates defense spending, additional efforts may be required to fully align national defense budgets with Alliance objectives. Policies should, therefore, focus not only on meeting quantitative targets but also on ensuring efficient allocation and long-term sustainability of military spending.

Overall, the results of this analysis suggest that defense spending in Southeastern European countries is not solely driven by internal economic indicators but is strongly shaped by international political and security dynamics, particularly the process of Euro-Atlantic integration. In light of these findings, future economic policies should be designed to simultaneously address security challenges and maintain fiscal sustainability. Achieving this balance requires enhanced coordination between finance, defense, and foreign policy sectors, careful monitoring of inflation and social stability, and strategic planning to meet both NATO obligations and domestic fiscal priorities.

CONCLUSION

This study provides a comprehensive analysis of the economic and political determinants of military expenditure in Southeastern European countries in the context of contemporary security challenges and Euro-Atlantic integration. By applying a panel model with fixed effects and robust standard errors, the research allowed for the identification of structural patterns in the allocation of defense resources, with particular emphasis on variables related to NATO membership, social stability, and the dynamics of integration. Importantly, the study highlights both

immediate and phased effects of NATO membership on military spending, capturing the nuanced impact of accession processes on fiscal decisions.

The focus of this work was not only on the quantitative assessment of individual determinants but also on understanding their interdependencies and the broader institutional and geopolitical context in which budgetary decisions are made. Military expenditure is thereby conceptualized not merely as a fiscal category, but also as a reflection of a country's international commitments, internal political and social stability, and macroeconomic resilience. This perspective contributes to a more holistic understanding of defense spending, illustrating how domestic economic conditions interact with external security obligations and alliance dynamics to shape budget priorities.

The results of this research contribute to the existing literature by providing a solid empirical basis for sustainable and forward-looking defense policies. In particular, the findings suggest that policymakers need to consider both internal economic constraints and external political pressures when planning defense budgets, ensuring alignment with NATO obligations while maintaining fiscal discipline. The analysis also underscores that achieving the NATO benchmark of 2% of GDP in defense spending may require not only additional financial allocations but also strategic prioritization and efficiency improvements within military budgets.

Future research could expand on this work by incorporating a micro-level analysis of budgetary structures, examining the allocation of resources across different components of military expenditure (personnel, equipment, infrastructure), and their relative effectiveness. Comparative evaluations between fully integrated NATO members and countries in the accession process could provide further insights into how membership shapes defense spending trajectories over time. Moreover, integrating qualitative indicators and institutional variables, such as governance quality, defense policy reforms, and civil-military relations, could deepen the understanding of the drivers of military expenditure under contemporary geopolitical circumstances. While the empirical results confirm the phased effect of NATO membership, initial moderation followed by long-term expenditure growth, defense budgets in the region remain, on average, below the 2% NATO guideline. This suggests that achieving full alignment with Alliance standards requires not only gradual increases in spending but also medium-term fiscal planning and targeted sectoral reforms. Strengthening defense capabilities thus demands both quantitative increases and qualitative improvements, particularly in modernization, interoperability, and investment planning.

Overall, this study reinforces the conclusion that defense spending in Southeastern Europe is influenced by a combination of domestic economic conditions, political stability, and international obligations, particularly those arising from Euro-Atlantic integration. By explicitly addressing both economic and security dimensions, the research offers guidance for policymakers seeking to develop informed, resilient, and strategically aligned defense budgets in an evolving regional and global security environment.

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REZIME

Vojni izdaci predstavljaju značajan segment javne potrošnje, jer odražavaju bezbednosne prioritete države, međunarodne obaveze i širi geopolitički kontekst. U zemljama Jugoistočne Evrope, koje karakterišu procesi tranzicije, politička nestabilnost i evroatlantske integracije, analiza determinanti vojne potrošnje ima poseban analitički i praktični značaj. Posebno se ističe uloga članstva u NATO-u, koje zahteva fiskalno i institucionalno usklađivanje u oblasti odbrane. Cilj ovog rada je empirijska analiza ekonomskih i političkih determinanti vojnih izdataka u zemljama Jugoistočne Evrope, sa fokusom na efekte NATO integracije. Istraživanje je sprovedeno na panel podacima za 10 zemalja u periodu 2005–2023. godine. Kao zavisna varijabla korišćeni su vojni izdaci, dok su nezavisne varijable obuhvatile promene vojnih izdataka u NATO zemljama, inflaciju, opštu državnu potrošnju, strane direktne investicije, ekonomski rast, političku stabilnost i promenu statusa članstva u NATO-u. Metodološki okvir zasnovan je na panel regresionom modelu sa fiksnim efektima i robusnim standardnim greškama, uz sprovedene testove stacionarnosti i dijagnostičke provere modela. Rezultati pokazuju da NATO integracija ima snažan i statistički značajan pozitivan uticaj na vojne izdatke, što ukazuje na povećanje potrošnje nakon pristupanja Alijansi. Nasuprot tome, godina formalnog pristupanja NATO-u ima negativan efekat, što sugeriše fiskalnu uzdržanost u periodu koji prethodi članstvu. Inflacija se pokazala kao značajna determinanta rasta vojnih izdataka, dok ostale makroekonomske varijable nemaju statistički značajan direktan uticaj. Zaključno, rezultati potvrđuju da vojni izdaci u regionu nisu isključivo određeni domaćim ekonomskim faktorima, već su snažno uslovljeni međunarodnim bezbednosnim i političkim procesima. Nalazi rada imaju značajne implikacije za kreiranje održivih ekonomskih i bezbednosnih politika u kontekstu evroatlantskih integracija.