Buy Guns or Buy Roses: EU Defence Spending Fiscal Multipliers

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Abstract

This paper delivers the first comprehensive estimate of the dynamic fiscal multiplier of defence spending for the EU-27 by exploiting exogenous accrual-based government defence outlays and a combination of linear and non-linear Local Projection methods. The linear estimates imply that a 1 percent-of-trend-GDP increase in defence outlays raises aggregate output by about 1.4 percent within one year, peaking at 1.6 percent in year two, and converging to zero in the medium-term, an effect mainly driven by capital-intensive procurement. Quantile Local Projections reveal pronounced multiplier convexity--multipliers exceed 1.75 percent in deep downturns but fall below 0.75 percent in expansions--while Smooth-Transition functions show that ample fiscal headroom and low import dependence each boost multipliers above unity, yet when both conditions reverse, the multiplier collapses to zero or negative values. These results underscore the importance of capital-intensive procurement, counter-cyclical timing, fiscal credibility, and domestic supply-chain resilience, and call for coordinated EU-wide fiscal rules and procurement standards to safeguard economic stability, fiscal policy effectiveness and collective security.

Introduction

The European Commission's *Readiness 2030* initiative signals a renewed commitment to strengthening Europe's collective defence capacity through a significant scaling-up of public military spending of €800 bill. over the next 5 years. As strategic autonomy rises on the EU agenda and geopolitical uncertainty persists, the allocation of public funds to defence is poised to become a major fiscal driver in the coming years. Against this backdrop, assessing the macroeconomic consequences of such defence outlays is critical—especially within a context of constrained fiscal space, rising debt levels, and competing public priorities. The economic case for increasing military budgets must be carefully weighed, not only in terms of security returns, but also in light of their capacity to support or crowd out economic activity.

This Policy Brief presents a summary of Sarasa-Flores (2025), which revisits the classic *guns-versus-butter* dilemma in the specific context of Europe: when governments allocate resources to defence, what is the measurable impact on output, and does it depend on *how* and *when* the money is spent? While prior research has provided robust evidence of military spending multipliers in the United States (Ramey and Shapiro, 1998; Ramey and Zubairy, 2018), ranging from 0.7 to 1.5, and in global panels, reaching up to 1.7 in developed countries (Sheremirov and Spirovska, 2022), the European context remains underexplored, particularly with regard to composition effects and the role of state-dependent factors such as output distribution, fiscal space and military import reliance.

Short- and Medium-term Defence Spending Multipliers

The paper analyzes a panel of all 27 European Union (EU-27) countries over the period 1995–2023 on an annual frequency, drawing upon data from Eurostat's COFOG (Classification of the Functions of Government) on defense spending, the ESA 2010 framework on expenditure components, and standard macroeconomic variables.

One of the primary questions when evaluating the economic impact of defense expenditure is the size of its fiscal multiplier—that is, how many euros of GDP are generated for every euro spent on defense outlays—and the persistence of these effects over time. For instance, public spending allocated to military R&D (Antolín-Diaz and Surico, 2022) or to intellectual property products (Basso, Pidkuyko, and Rachedi, 2025) may generate elevated long-lasting economic effects.

After confirming the exogeneity of the defense-related fiscal shock, a set of local projections regressions are estimated to compute the dynamic cumulative fiscal multiplier of defense spending (Jorda and Taylor, 2025), allowing for a time-evolving impact of consecutive expenditure shocks on output. Following the normalization of the shock and real GDP in terms of trend GDP (as in Ramey and Zubairy, 2018), the results—illustrated in Figure 1—show that the fiscal multiplier of defense spending in Europe exceeds one in the short run (ranging from 1.4 to 1.6), but gradually converges to zero in the medium term. The transitory nature of the effect on real GDP growth suggests that European defense spending has not historically produced structural or persistent economic impacts—an outcome that appears closely linked to its expenditure composition. Furthermore, defence spending shocks exert negative and statistically significant effects on unemployment rates, thus mirroring the output effects.
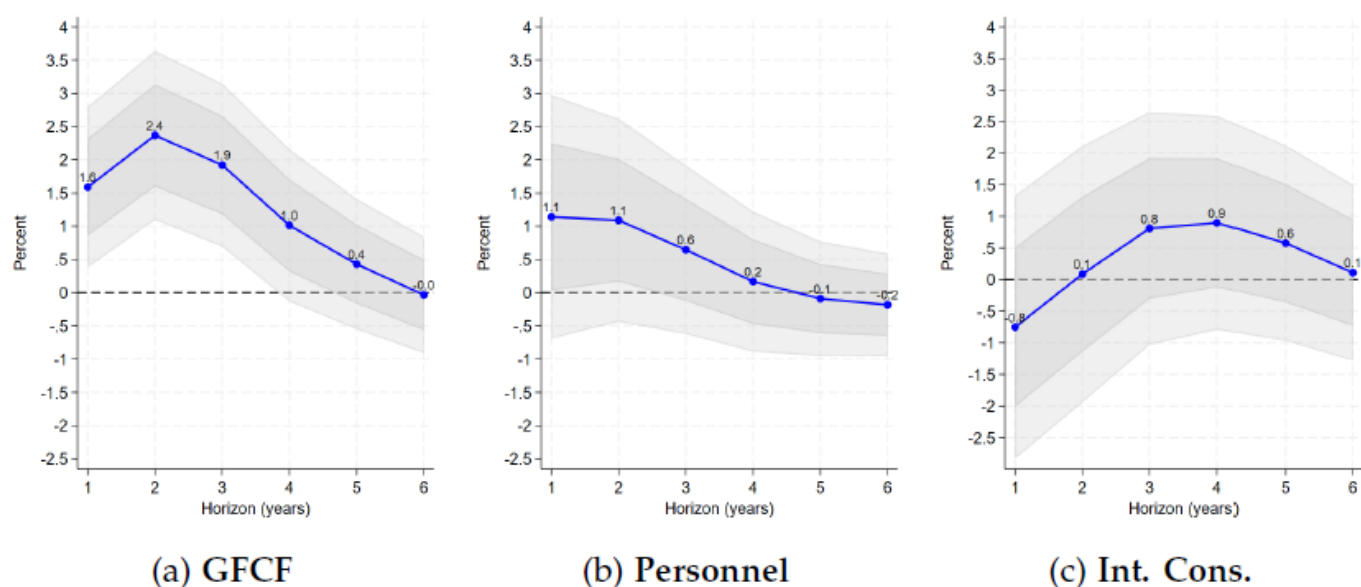
Figure 1. Cumulative Defence Fiscal Multipliers

(a) Trend-Normalized Output (b) Real GDP growth rate
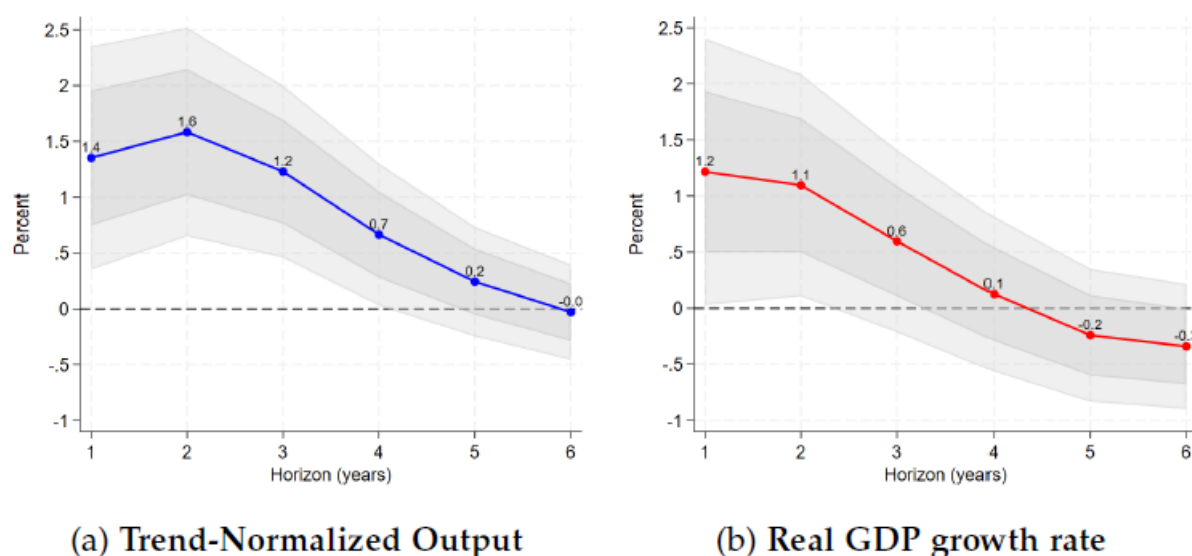
Notes: The plots display the estimated coefficient β from regressions of equation 1 for each horizon h, as well as its 68% and 90% confidence bands (grey shaded area). Panel (a) shows cumulative fiscal multiplier utilizing trend-normalized real GDP as the dependent variable, and panel (b) the results for using real GDP growth rate as the shocked variable. Estimated coefficient $\widehat{\beta_h}$ is interpreted as the cumulative defence spending fiscal multiplier at horizon h. The estimation includes country and year fixed effects, and all standard errors are robust.

What the Money is Spent on Matters

Do the size and persistence of defence-spending multipliers vary across budget lines? The distinction is economically meaningful: compensation of employees (e.g., soldiers' wages) raises disposable income and primarily boosts private consumption, whereas outlays for infrastructure, equipment and weapons systems expand the public capital stock, crowd-in private investment, and can generate durable productivity gains in case technology investment plays a starring role (Aschauer, 1989; Baxter and King, 1993; Abiad, Furceri and Topalova, 2016).

By exploiting ESA 2010 functional classification of defence spending, estimated component-specific fiscal multipliers display which categories of military outlays deliver the largest "bang for the euro" in the EU-27, while accounting for synergetic and substitution effects between spending items. As presented in Figure 2, capital-intensive purchases (GFCF outlays) deliver the highest and most persistent defence multipliers, while payroll and intermediate items yield modest or transient effects. It is also important to underscore that, historically, the allocation of defense expenditure to research and development (R&D) activities has been both limited and on a declining trajectory. This pattern is intrinsically linked to the transitory nature of the fiscal multiplier observed across all expenditure components. When extrapolated to the aggregate level, the findings suggest that the elevated short-term multiplier is predominantly attributable to investment in military equipment, which tends to generate a substantial—though ultimately non-productive—crowding-in effect over the medium term. This dynamic is further reinforced by an initial surge in wage-related spending, which has traditionally constituted approximately 50% of total defense expenditure in Europe.
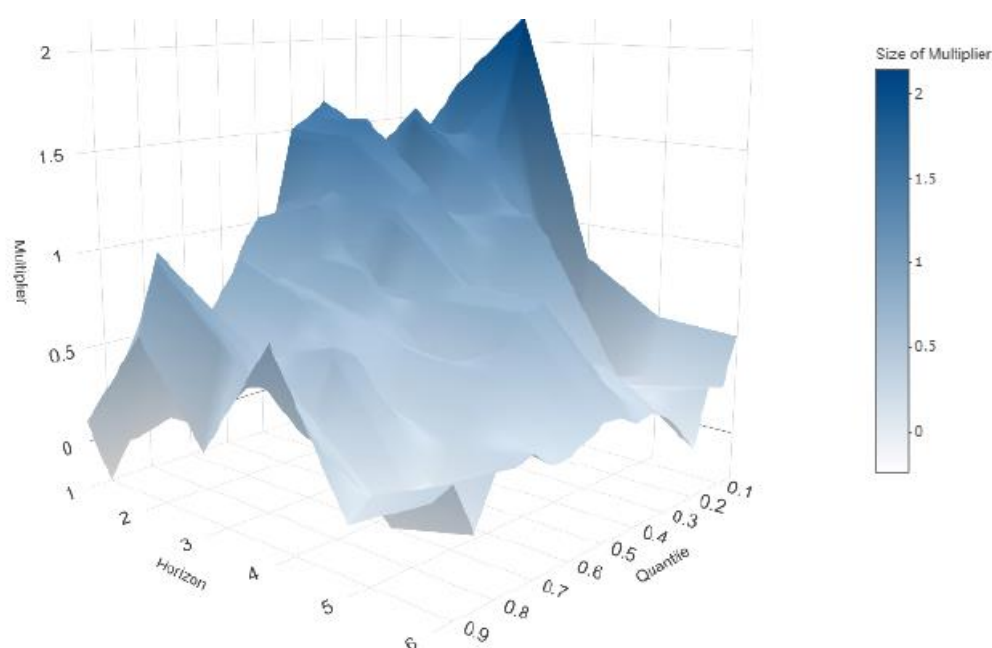
Figure 2. Cumulative Defence Fiscal Multipliers: Spending Composition

(a) GFCF (b) Personnel (c) Int. Cons.

Notes: The plots display the estimated coefficient β from regressions of equation 3 for each horizon h, as well as its 68% and 90% confidence bands (grey shaded area). Panel (a) shows cumulative fiscal multiplier of normalized GFCF utilized as the fiscal shock, and panel (b) for personnel expenditure, and panel (c) for intermediate consumption. Estimated coefficients $\widehat{\beta_h}$ are interpreted as the cumulative defence spending component-specific fiscal multiplier at horizon h. The estimation includes country and year fixed effects, and all standard errors are robust.

Beyond Linear Multipliers: Output Distribution, Fiscal Space and Imports Dependence

In practice, governments step in when output is collapsing (COVID-19), when it is merely sluggish, or occasionally when it is already at full capacity (wartime booms). Because the marginal household, firm and monetary authority differ across these states, theory predicts the output response to a spending shock should be state-contingent, not constant. Fiscal expansions in times of economic slack may convey larger crowding-in effects, as a result of the prevailing underutilization of economic resources. To uncover these potential non-linearities as regards to output, a total of 120 regressions are estimated via Quantile Local Projections—spanning a six-year forecast horizon across 20 distinct percentiles of the output distribution (Linnemann and Winkler (2016); Adrian, Boyarchenko and Giannone (2019); Jordà et al. (2022)). Figure 3 shows, in a 3D perspective, how in deep downturns, characterized by output gaps predicted in the lowest quantiles, the short-run multiplier almost doubles compared with expansions, reaching up to 2%. An analogous downward pattern across quantiles emerges when assessing the effects on the distribution of the unemployment rate.

Additional dimensions of potential non-linearities explored in the paper arise from the government's ability to finance current and future defence outlays, the so-called fiscal space (measured by the snowball effect), and the reliance on foreign sources for military goods (evaluated by the total value of country-specific military imports, extracted from UN Comtrade Data, relative to total defence spending). As regards to the fiscal space, standard theory predicts that the output payoff of discretionary spending hinges on the credibility of public finances: when debt sustainability is in doubt, private agents may anticipate future consolidation, risk premia can rise, and monetary authorities may react pre-emptively, all of which attenuate the multiplier. And related to imports reliance, when a large fraction of defence procurement and consumption leaks abroad, the domestic demand impulse is diluted, ceasing to produce a significant fraction of what is consumed nationally, thus, lessening the size of the multiplier.

Figure 3. Quantile Local Projections: Cumulative Defence Fiscal Multipliers by Output Quantile

Notes: The plots display the estimated coefficient $\beta_h(\tau)$ from regressions of equation 6 for each horizon h and quantile τ from a 3D perspective, where the size of the multiplier is the z axis. Dar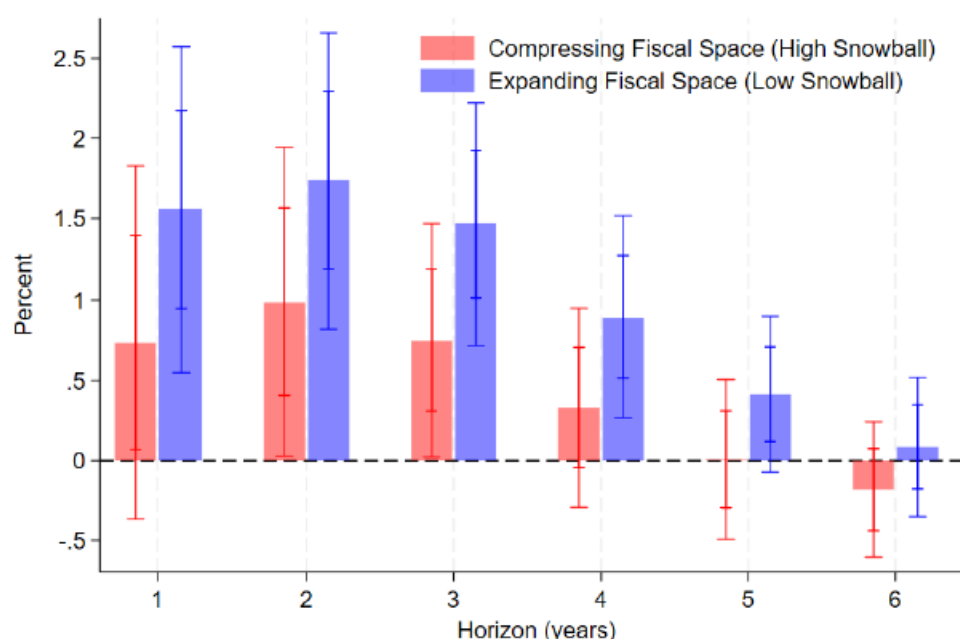ker blue colours indicate higher multipliers. Estimated coefficients $\widehat{\beta_h(\tau)}$ are interpreted as the cumulative defence spending fiscal multiplier at horizon h of quantile τ^{th} of output conditional on all equation covariates. The outcome variable is trend-normalized output. The estimation includes country and year fixed effects, and all standard errors are robust.

Via Smooth Transition Local Projections (a la Auerbach and Gorodnichenko, 2012), Figures 4 and 5 present how ample fiscal headroom and low reliance on foreign military goods (respectively) each independently boost multipliers above unity (almost doubling respective contrary regimes), whereas, specially, high external imports dependence can even provide extraordinary crowding-out effects in the medium-term (negative multipliers). Furthermore, the combination of both sources of non-linearities suggest that in the worst-case regime, where fiscal space is compressed and import dependence is high, the multiplier is effectively zero or even negative at all horizons.

Policy Implications

The findings presented in the paper carry important implications for European defence and fiscal policy coordination. They suggest that maximizing the macroeconomic return to defence outlays requires prioritizing capital-intensive procurement, deploying additional spending counter-cyclically during downturns, preserving fiscal headroom to avoid destabilizing debt-interest feedback loops, and strengthening domestic defence supply chains to curb leakages abroad. In combination, coordinated EU-wide fiscal rules and procurement standards can help member states avoid the "worst-case" regime in which fiscal credibility and external dependence jointly erode the effectiveness of public defence spending, ensuring that defence augmentation simultaneously bolsters Europe's security and its macroeconomic stability.

Figure 4. Cumulative Defence Fiscal Multipliers: Fiscal Space State-Dependence

Notes: The plots display the estimated coefficients β_h^A (red vertical bars) and β_h^B (blue bars) from regressions of equation 8 for each horizon h, as well as its 68% and 90% confidence bands (red and blue I-beams, respectively). The dependent variable is normalized-output. State A refers to be proximate to a high snowball effect scenario (compressing fiscal space), and B refers to a low snow-ball scenario (expanding fiscal space). Estimated coefficients $\widehat{\beta_h^A}$ and $\widehat{\beta_h^B}$ are interpreted as the cumulative defence spending fiscal multiplier at horizon h when fiscal space is compressed and expanded, respectively. The estimation includes country and year fixed effects, and all standard errors are robust.

Figure 5. Cumulative Defence Fiscal Multipliers: Imports Reliance State-Dependence
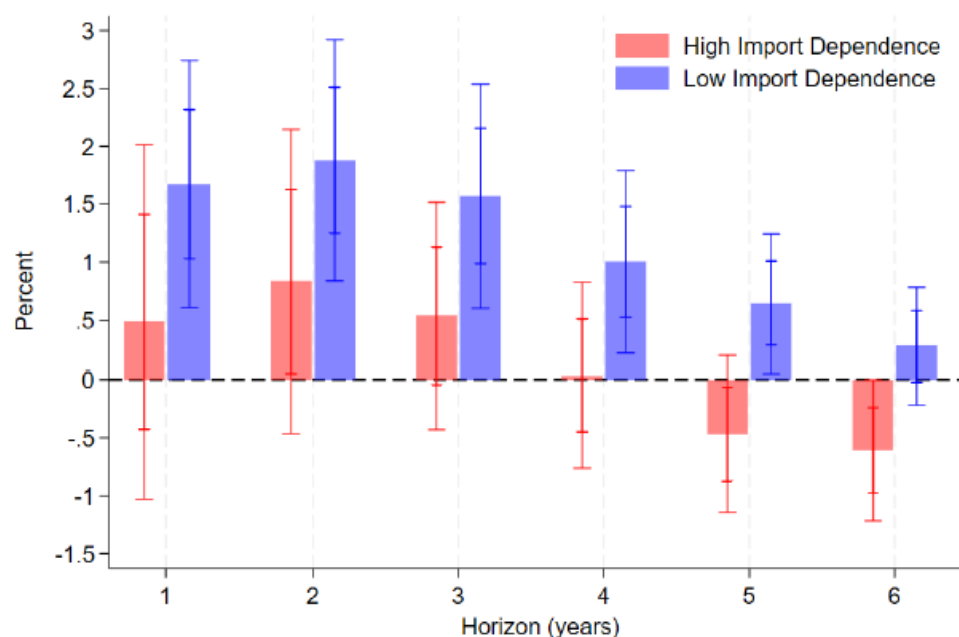
Notes: The plots display the estimated coefficients β_h^A (red vertical bars) and β_h^B (blue bars) from regressions of equation 8 for each horizon h, as well as its 68% and 90% confidence bands (red and blue I-beams, respectively). The dependent variable is normalized-output. State A refers to be proximate to a high defence imports reliance scenario, and B refers to a low import dependence scenario. The state variable is the inverse of the ratio between total military goods imports and total defence spending. Estimated coefficients $\widehat{\beta_h^A}$ and $\widehat{\beta_h^B}$ are interpreted as the cumulative defence spending fiscal multiplier at horizon h when imports reliance is elevated is and low, respectively. The estimation includes country and year fixed effects, and all standard errors are robust.

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About the author(s)

David Sarasa Flores joined BBVA Research in 2023 and works as an Economist in the Global Macroeconomic Scenarios team at BBVA Research. His research agenda has been chiefly devoted to the empirical assessment of the economic impact of fiscal policy interventions, with a particular focus on microeconomic and macroeconomic econometric modelling. Furthermore, he has undertaken dedicated analytical work on the effects of public procurement in Spain, with special emphasis on the evaluation of the implementation and outcomes of the Next Generation EU programmes. David holds a Double M.Sc. in Economic Growth and Development from Universidad Carlos III de Madrid and Lund University. He previously worked as a Research Assistant at the Bank of Spain in the Fiscal Policy and Public Sector Unit.

Agustín García Serrador joined the Europe Unit of BBVA Research in June 2008. He is currently Lead Economist for Economic Modelling, where he is responsible for the development and coordination of econometric models for economic analysis. Prior to this, he served as macroeconomic coordinator of the BIAM at the Flores de Lemus Institute in the Carlos III University in Madrid, and taught Macroeconometrics and Applied Economy at CEU San Pablo University. He has also lectured in master's programs at institutions. His research interests include macroeconometrics, forecasting, and monetary and fiscal policy in the Eurozone. His work has been published in Applied Economics, Oxford Bulletin of Economics and Statistics and the Journal of Forecasting. He holds a Bachelor's Degree in Economics and was awarded the National Award for Excellence in Academic Performance in 2002. In 2024, he received the Youth Prize from the Complutense University of Madrid for research based on his Advanced Studies Diploma.

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