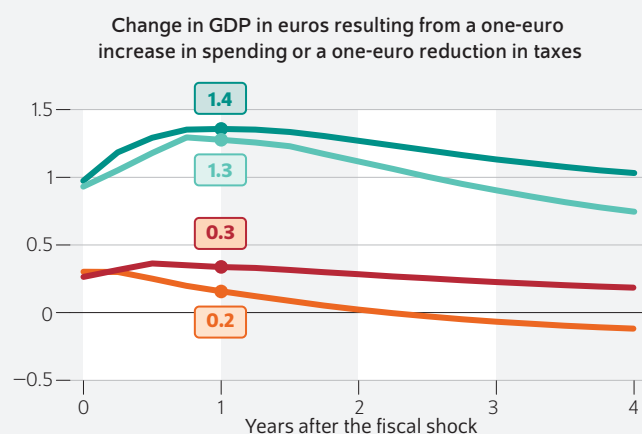
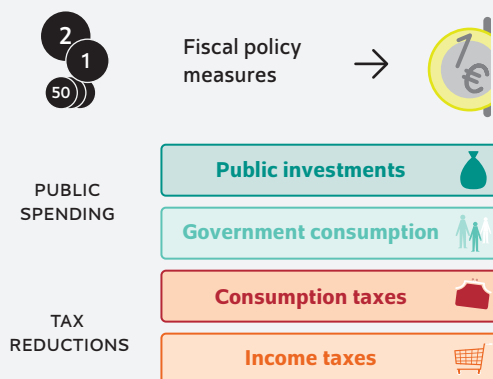


European Monetary Union alters the impact of national fiscal policy: government spending is more effective than tax cuts

By Gökhan Ider and Malte Rieth

- This study examines how a country's national fiscal policy affects the economy within a monetary union
- Empirical analyses show that, in an economy in the euro area, higher government spending has more than twice the short-term output impact of tax cuts
- Public investment boosts private investment, while government consumption strongly stimulates private consumption
- Since the ECB does not adjust its monetary policy in response to fiscal expansion in a member state, national spending measures are particularly effective
- The short-term stabilization benefits of higher government spending must be weighed against debt sustainability and the risk to long-term growth

Increases in spending have a significantly greater impact than tax cuts



Source: Eurostat; authors' own calculations.

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FROM THE AUTHORS

"In the euro area countries, increasing government spending to stimulate the economy is far more effective than tax cuts. This is primarily due to the Europe-wide monetary policy. The European Central Bank does not respond to spending increases by individual countries with interest rate hikes, which would in turn dampen economic output."

— Gökhan Ider —

MEDIA



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European Monetary Union alters the impact of national fiscal policy: government spending is more effective than tax cuts

By Gökhan Ider and Malte Rieth

ABSTRACT

A country's fiscal policy plays a central role in stabilizing its economy. Its effectiveness depends on the choice of measures and how monetary policy responds. This report compares four fiscal policy measures for a typical euro area country: increase in public investment and government consumption, reductions in consumption taxes and income taxes. Both the theoretical model and the empirical results for the euro area show that government spending has a stronger effect than tax cuts. Empirically, each additional euro of public investment or government consumption increases GDP by up to 1.30 euros in the first year, compared with about 0.30 to 0.40 euros per euro of lost tax revenue. Since the European Central Bank (ECB) generally does not respond to national fiscal shocks with adjustments to its key interest rates, monetary policy does not dampen the fiscal stimulus. To stabilize the economy in the short term, governments should give preference to well-designed spending measures. However, they should also take the risks into account, as higher government spending can jeopardize debt sustainability and weaken the economy in the long term through larger public sectors and higher tax burdens.

In recent years, many industrialized countries have faced two challenges simultaneously: high inflation rates and weak economic growth. In particular, Russia's war of aggression against Ukraine and the war against Iran have caused a sharp rise in energy and food prices in many—though not all—euro area countries. At the same time, economic momentum has slowed in many countries due to the U.S. trade war and other structural problems. This poses particular economic policy challenges for the euro area. The European Central Bank (ECB) can respond to rising inflation rates by raising interest rates. However, a more restrictive monetary policy also slows economic activity across the entire euro area, thereby also affecting member states where inflationary pressures are less pronounced. Thus, supporting the respective national economies remains largely the responsibility of the member states' governments. They can employ fiscal policy measures such as tax cuts, higher public investment, or an expansion of government spending. However, the euro area lacks an institutional framework for the coordinated interaction between monetary and fiscal policy.

Because of this institutional structure, fiscal policy operates differently in a country within a monetary union than in a country with its own central bank. In countries such as the United Kingdom or the United States, fiscal and monetary policy are conducted at the national level. Each respective central bank can adjust its interest rate policy when fiscal policy measures affect domestic economic output and inflation. In the euro area, by contrast, the ECB generally does not change the single key interest rate in response to fiscal expansion in a single member state. Thus, insights from countries with independent monetary policy offer only limited guidance to euro area governments. At the same time, there are few existing studies that examine fiscal policy under the specific conditions of the European Monetary Union.¹

¹ See Fabio Canova and Evi Pappa (2007): Price Differentials in Monetary Unions: The Role of Fiscal Shocks. *The Economic Journal* 117 (520), 713–737; Roel Beetsma and Massimo Giuliodori (2011): The Effects of Government Purchases Shocks: Review and Estimates for the EU. *The Economic Journal* 121 (550), F4–F32.

Box 1

The theoretical model

The model compares four national fiscal policy measures (an expansion of public investment, an expansion of government consumption, a reduction in consumption taxes, and a reduction in income taxes) within a monetary union. It examines how their effects on economic output depend on the structure of the economy. It is calibrated for an average member of the European Monetary Union.

The model framework is a dynamic stochastic general equilibrium (DSGE) model.¹ It describes an open economy that trades goods and financial assets with the rest of its monetary union but is too small to influence the monetary policy of the monetary union as a whole. Membership in the monetary union fixes the nominal exchange rate and precludes an independent monetary policy response to domestic economic performance or inflation. The model includes not just firms, households, and a public sector, but also gradual price and wage adjustments alongside adjustment costs for private investment.

Several model elements depict the main channels through which fiscal policy influences the economy. Some households save and invest, while others lack access to financial markets and consume their current disposable income.² Government consumption can complement private consumption, while public investment both increases demand and builds up the public capital stock.

¹ Eric M. Leeper, Nora Traum, and Todd B. Walker (2017): Clearing Up the Fiscal Multiplier Morass. *American Economic Review* 107 (8), 2409–2454.

² Jordi Galí, J. David López-Salido, and Javier Vallés (2007): Understanding the Effects of Government Spending on Consumption. *Journal of the European Economic Association* 5 (1), 227–270.

Taxes have an impact through various channels. A temporary reduction in the value-added tax lowers the relative price of current consumption and may prompt households to bring forward their spending. A temporary reduction in tax rates on labor and capital income increases after-tax labor income and after-tax returns on capital. This affects the labor supply, capital utilization, and private investment.

The model also includes long-term government debt, distortionary taxation—that is, taxes that affect incentives to work, consume, and invest—and a fiscal feedback rule. An expansion of fiscal policy initially increases the deficit and debt; subsequently, government transfers adjust to the debt-to-GDP ratio in order to stabilize public finances. The four shocks are temporary but have effects that last several years.

The fiscal aggregates—tax rates, public debt, and inflation—are calibrated using quarterly data from the 12 original members of the euro area from 1999 to 2023. The remaining parameters are based on established estimates from DSGE models for the euro area. The model then varies individual characteristics, such as households' access to financial markets, the public capital stock, the shift in demand for imported goods, economic rigidities, and monetary policy autonomy. This allows us to examine which assumptions determine the magnitude and order of the fiscal effects.

For each instrument, the model calculates a cumulative fiscal multiplier: this indicates how much an additional euro in spending or a euro in tax revenue shortfall changes GDP in euros.

Since the Global Financial Crisis beginning in 2008, governments have increasingly used fiscal policy measures to strengthen their economies. Consequently, it has become more important to understand their effects. Furthermore, governments responded to the downturn caused by the COVID-19 pandemic with extensive expansionary programs by implementing even larger stimulus packages. These measures combined public investments—for example, in digital infrastructure and green technologies—with higher government consumption alongside temporary reductions in value-added tax and income tax rates.² Since these instruments operate through different channels, policymakers need to know which measures most effectively boost domestic economic output. However, much of the existing literature

examines aggregate government spending or total taxes³ rather than comparing individual fiscal policy instruments with one another.⁴

The study fills this gap by comparing the effects of public investment, government consumption, consumption taxes,⁵ and income taxes⁶ using a theoretical model calibrated to an

³ Olivier Blanchard and Roberto Perotti (2002): An Empirical Characterization of the Dynamic Effects of Changes in Government Spending and Taxes on Output. *The Quarterly Journal of Economics* 117 (4), 1329–1368; Valerie A. Ramey (2011): Identifying Government Spending Shocks: It's All in the Timing. *The Quarterly Journal of Economics* 126 (1), 1–50; Christina D. Romer and David H. Romer (2010): The Macroeconomic Effects of Tax Changes: Estimates Based on a New Measure of Fiscal Shocks. *American Economic Review* 100 (3), 763–801.

⁴ On the effects of shocks to government consumption and public investment based on a panel of OECD countries: Christoph E. Boehm (2020): Government Consumption and Investment: Does the Composition of Purchases Affect the Multiplier? *Journal of Monetary Economics* 115, 80–93. On the effects of income and consumption tax shocks in the United Kingdom, see Anh D. M. Nguyen, Luisanna Onnis, and Raffaele Rossi (2021): The Macroeconomic Effects of Income and Consumption Tax Changes. *American Economic Journal, Economic Policy* 13 (2), 439–466.

⁵ In addition to value-added tax, this may also include import duties and specific excise taxes.

⁶ Income taxes include taxes on the earnings and capital gains of individuals and households, as well as on corporate profits.

² European Commission, Directorate-General for Economic and Financial Affairs (2021): The 2021 Stability & Convergence Programs: An Overview, with an Assessment of the Euro Area Fiscal Stance. *European Economy Institutional Paper* 157, Brussels (available online; accessed July 22, 2026). This also applies to all other online sources cited in this report, unless otherwise noted; OECD (2021): *Tax Policy Reforms 2021: Special Edition on Tax Policy during the COVID-19 Pandemic*. OECD Publishing, Paris (available online).

Box 2

The empirical model

The empirical analysis begins with a panel vector autoregression (VAR) model:

$$y_{i,t} = \eta_i + \lambda_t + \sum_{l=1}^p A_l y_{i,t-l} + u_{i,t}$$

The vector contains

$$y_{i,t} = (\tau_{i,t}^y, \tau_{i,t}^c, g_{i,t}^G, i_{i,t}^G, Y_{i,t})'$$

the effective income tax rate, the effective consumption tax rate, government consumption, public investment, and real GDP. Country and quarterly fixed effects account for persistent national differences as well as shocks common to all euro area countries.¹

The quarterly sample covers 12 euro area countries for the period from the first quarter of 1999 through the end of 2023. Government consumption, public investment, and GDP are included as real per capita measures and are scaled against trend GDP; tax rates are calculated as the ratio of tax revenue to the respective tax base. The model includes four quarterly lags. All data are sourced from Eurostat.²

Identification based on cross-country volatility differences

The study distinguishes between different economic shocks by comparing the extent to which fluctuations not explained by the model vary across countries. To this end, the twelve countries are divided into two groups based on the magnitude of these fluctuations: Finland, Greece, Ireland, Luxembourg, Portugal, and Spain form the high-volatility group; Austria, Belgium, France, Germany, Italy, and the Netherlands form the low-volatility group. The data for the countries within each group are then aggregated. This yields two aggregate measures of the simultaneous relationships between the model's variables: one for the low-volatility regime and one for the high-volatility regime.

¹ For more details, see Ider and Rieth (2026), *ibid*, Sections 3.1, 3.2, and 3.5.

² Eurostat (2026): National accounts database. European Commission (available online); Eurostat (2026): Non-financial quarterly government statistics (gov_10q_ggnfa). European Commission (available online).

By comparing these two volatility regimes, different economic shocks can be distinguished from one another. The underlying idea is that the volatility of shocks can vary across countries or over time, while their immediate effects on the economy remain unchanged. Such changes in volatility influence how the observed variables jointly evolve. This allows different types of shocks to be distinguished from one another.

This approach is based on three assumptions. First, the various shocks must not be systematically correlated with each other. Second, their immediate effects, represented by matrix (B), must be the same in both volatility groups. Third, the volatility of the individual shocks must change to varying degrees.

The model is estimated using the generalized method of moments (GMM). Statistical tests support the assumption that shock volatility changes to varying degrees. Each identified shock is then named after the variable it most directly affects. In this way, it is possible to distinguish between shocks to public investment, government consumption, consumption taxes, income taxes, and other cyclical shocks.³

Local projections trace the further transmission

The identified shocks are incorporated into regressions with local projections:

$$y_{i,t+h} = \beta_h s_{i,t} + \sum_{j=1}^p \phi_{h,j} y_{i,t-j} + \sum_{j=1}^p \gamma'_{h,j} x_{i,t-j} + \alpha_{i,h} + \delta_{i,h} + \varepsilon_{i,t+h}$$

For each outcome variable and each horizon (h), (β_h) measures the response to a fiscal shock of one standard deviation. Four lags of the outcome variables and the five VAR variables, alongside country and quarterly fixed effects, are included as control variables. For each horizon and each shock, a separate regression with heteroscedasticity- and autocorrelation-consistent standard errors is estimated.

³ For a more detailed explanation of the methodology, see Ider and Rieth (2026), *ibid*.

average euro area economy.⁷ The results are cross-checked against empirical evidence from euro area countries.

From this, a fiscal multiplier can be calculated, which indicates how much domestic GDP is generated by an additional euro in government spending or a euro in reduced tax revenue. A government spending multiplier greater than

one means that government spending not only contributes directly to GDP but also stimulates private demand.

Theoretical analysis: a common monetary policy makes national spending measures particularly effective

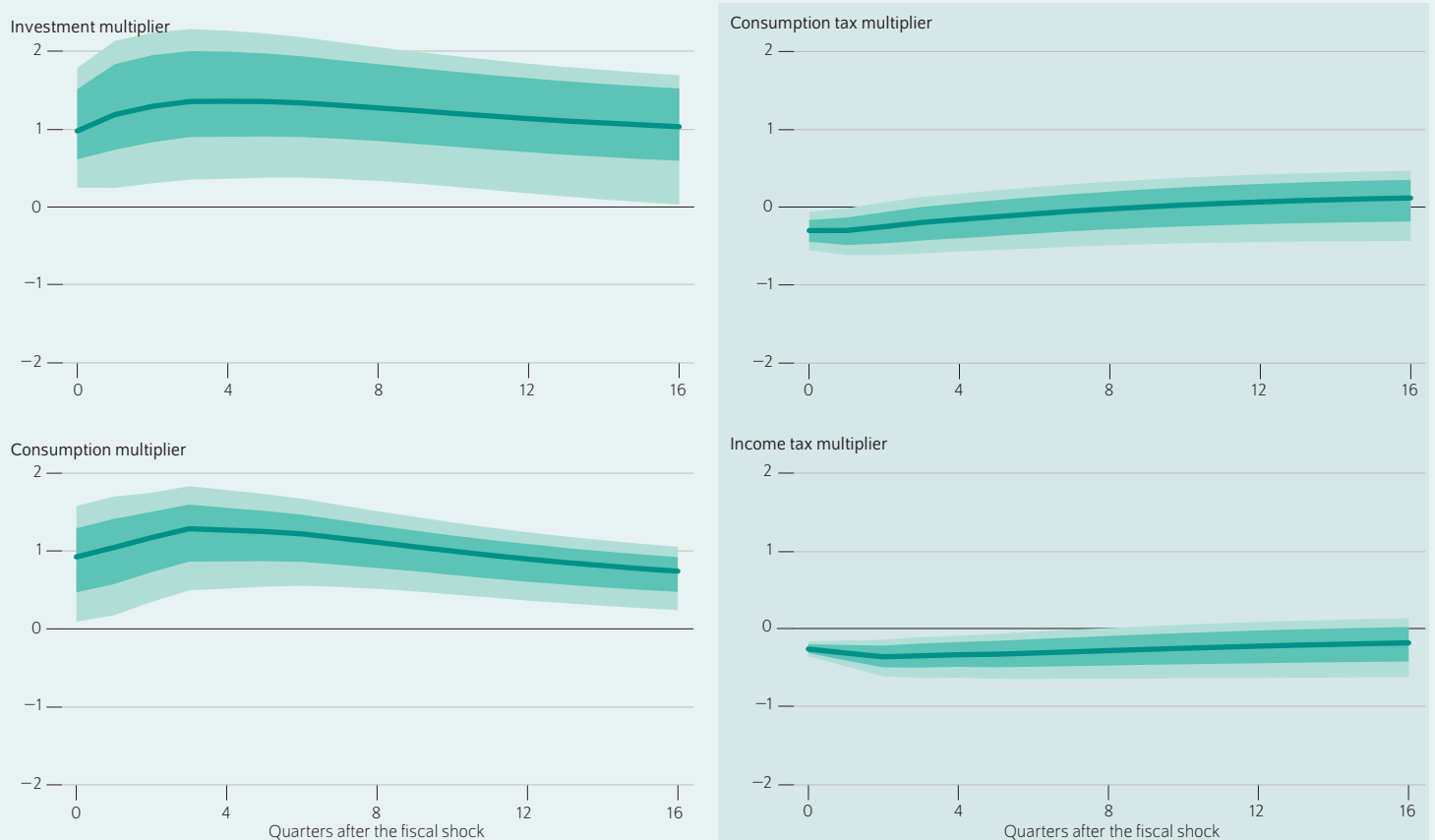
The theoretical analysis compares four ways in which a national government can support economic activity: higher public investment, increased government consumption, lower consumption taxes such as the value-added tax, and

⁷ The weekly report is based on Gökhan Ider and Malte Rieth (2026): Aggregate Tax and Spending Multipliers in a Monetary Union. DIW Discussion Papers 2170 (available online).

Figure 1

Public spending multipliers and tax multipliers in the euro area

Cumulative change in real GDP per euro of additional spending or tax cut



Notes: The dark-shaded areas indicate the 68-percent confidence intervals, while the light-shaded areas represent the 90-percent confidence intervals. This means that the unknown actual value lies within these intervals in 68 and 90 percent of cases, respectively. The multipliers are calculated by dividing the cumulative change in GDP by the cumulative change in the fiscal policy instrument, with both variables expressed in the same unit. In the case of taxes, a reduction in tax rates is included with a negative sign in the denominator of the multiplier calculation. A negative tax multiplier should therefore be interpreted as a positive effect of a tax cut on GDP. For example, a multiplier of -0.3 means that a one-euro reduction in tax revenue increases GDP by about 30 cents.

Source: Eurostat; authors' own calculations.

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Public spending multipliers rise above one, while the output effects of tax cuts are much smaller.

reduced income taxes. The analysis uses a modern macroeconomic model calibrated to reflect a typical euro area country (Box 1). It models a small open economy within a monetary union, in which wages and prices are adjusted gradually, private households have varying propensities to consume, and there is a public capital stock.

According to the calculations, the two expenditure instruments generate the largest increases in economic output. In the first year, an additional euro in public investment or government consumption increases domestic GDP by about 1.50 euros. The effect of government consumption then gradually declines, while the investment effect remains above one for several years. Public investment has a longer-lasting effect because it does more than simply increase demand at the time of expenditure. It also strengthens the economy in the long term by increasing

the public capital stock—for example, through investments in infrastructure—and thereby expanding the production capacity of the economy. Tax cuts boost economic output to a much lesser extent, typically between zero and 50 cents per euro of lost tax revenue.

The ranking remains robust even when the key assumptions regarding household propensity to consume, the productivity of the public capital stock, trade openness, as well as the gradual adjustment of wages and prices are changed. However, the lack of a monetary policy response has a particularly significant impact on the results. In a country with an independent central bank, the central bank would normally raise the policy rate if fiscal expansion were driving domestic economic output and inflation. The rising financing costs resulting from the policy rate hike would then partially dampen the fiscal stimulus.

Figure 2

Impact of increased government spending on private consumption and private investment in the euro area In percent



Notes: The dark-shaded areas indicate the 68-percent confidence intervals, while the light-shaded areas represent the 90-percent confidence intervals. This means that the unknown actual value lies within these intervals in 68 and 90 percent of cases, respectively.

Source: Eurostat; authors' own calculations.

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Public investment raises private investment, while government consumption strongly raises private consumption.

If the model allows for such a monetary policy response, both expenditure multipliers fall below one; the tax multipliers also decline slightly. For an individual euro area member state, this countervailing response is absent: The ECB sets the key interest rate for the European Monetary Union as a whole and generally does not react to fiscal expansion in an individual, relatively small, member state. Thus, a national fiscal stimulus is not dampened by country-specific monetary tightening. However, if many euro area countries were to expand their fiscal policy through government spending or tax cuts, this could affect inflation and economic output across the entire currency area, thus triggering a response from the ECB.

Empirical analysis: higher government spending has a greater impact than tax cuts

The empirical analysis examines whether the actual experiences of euro area countries align with the order of impact suggested by the theoretical model—investment before

government consumption and tax cuts. It estimates how unexpected changes in public investment, government consumption, consumption taxes, and income taxes affect gross domestic product (GDP). First, the strength and persistence of economic growth are determined. Subsequently, the channels through which the fiscal impulse is transmitted throughout the economy are examined.

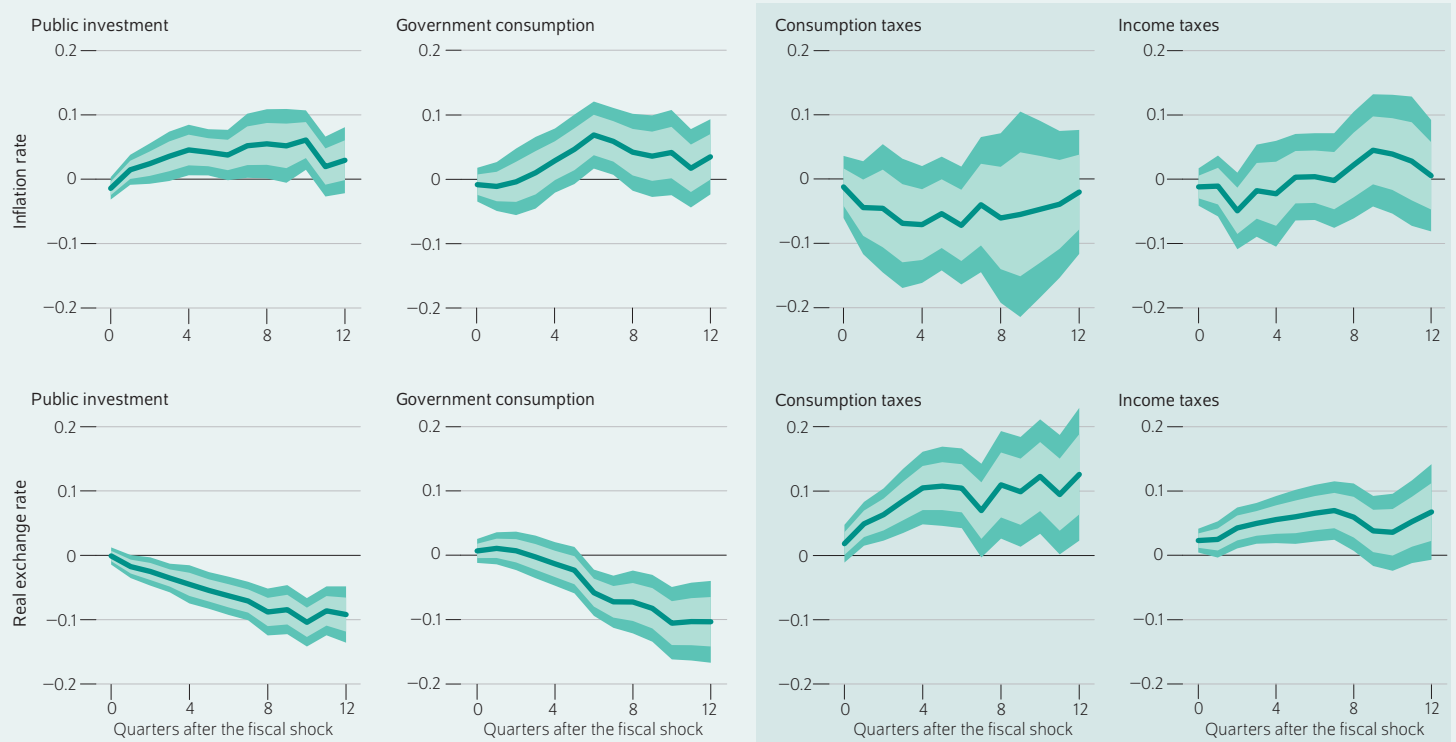
Identification of national fiscal policy shocks

Using quarterly data for 12 euro area countries from 1999 to 2023, the study examines GDP, public investment, government consumption, as well as effective consumption and income tax rates. Using time-fixed effects,⁸ the analysis filters

⁸ Time-invariant effects are specific to each time period's constants. These account for all factors that change over time but are the same across all countries. In a panel regression, these are represented by a set of time indicator variables. This ensures that the effect is estimated solely from the differences between countries within the same period.

Figure 3

Impact of increased government spending and tax cuts on inflation and real exchange rate In percent



Notes: The dark-shaded areas indicate the 68-percent confidence intervals, while the light-shaded areas represent the 90-percent confidence intervals. This means that the unknown actual value lies within these intervals in 68 and 90 percent of cases, respectively. A decline in the real exchange rate corresponds to an appreciation.

Source: Eurostat; authors' own calculations.

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Spending measures appreciate the real exchange rate, while tax cuts tend to improve price competitiveness.

out developments that apply to all twelve countries being considered—including the common monetary policy stance, the economic cycle of the euro area as a whole, and the global economic situation. The analysis then uses differences in the volatility of country-specific data to isolate unexpected movements in the four fiscal policy instruments (Box 2).

A key advantage of the method is that it does not require assuming a predetermined direction of the relationship between fiscal policy measures and economic activity. Furthermore, the effects of all four instruments can be estimated within the same framework. Extensive robustness checks using alternative country groups and excluding individual countries—including large economies such as Germany—leave the key results unchanged.

Government spending generates stronger and more sustained GDP growth

Measured by the fiscal multiplier, the empirical results correspond to the theoretical ranking. An additional euro in public investment or government consumption generates

approximately 1.30 euros in additional GDP within the first year. The increase in public investment has a particularly sustained effect: even after four years, the multiplier remains close to one, while the government consumption multiplier gradually declines to around 0.7 (Figure 1).

Tax cuts provide a significantly smaller stimulus. A one-euro reduction in consumption tax revenue initially increases GDP by about 30 cents; after about two years, the effect has largely faded. An income tax cut generates up to about 40 cents in additional GDP. Thus, tax cuts also support economic activity. However, the two expenditure instruments generate significantly more economic output per euro of fiscal cost.

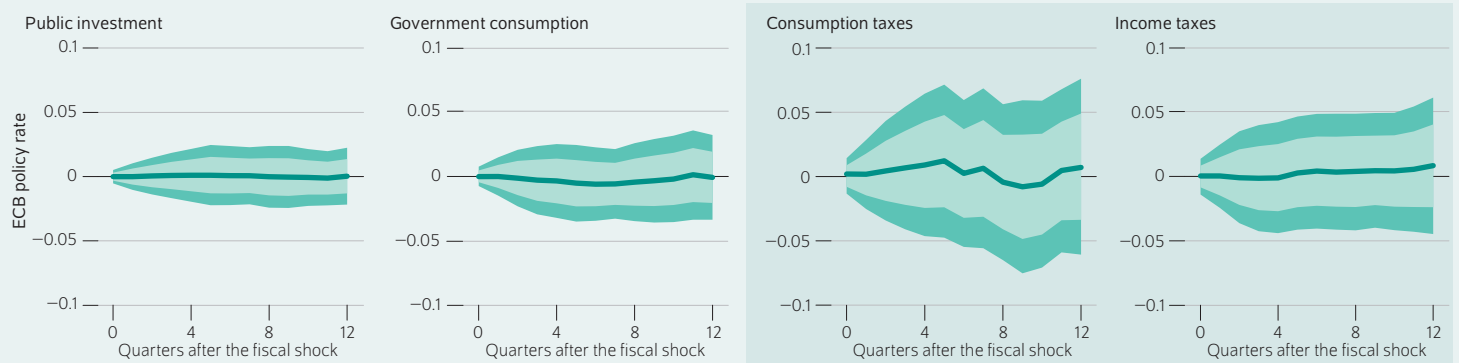
Higher government spending stimulates domestic demand across the board

The study then examines how the overall economy reacts to the four fiscal shocks. Higher public investment stimulates household consumption and private investment in both the short- and medium-term (Figure 2). Although

Figure 4

Impact of increased government spending and tax cuts on the ECB policy rate

In percentage points



Notes: The dark-shaded areas indicate the 68-percent confidence intervals, while the light-shaded areas represent the 90-percent confidence intervals. This means that the unknown actual value lies within these intervals in 68 and 90 percent of cases, respectively.

Source: Eurostat; authors' own calculations.

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The common policy rate remains broadly unchanged after fiscal measures in individual member states.

part of the additional demand is accounted for by imports, the increase in domestic private demand is strong enough to generate a fiscal multiplier of more than one. Inflation rises gradually and moderately, while the real exchange rate appreciates strongly and sustainably. As domestic prices rise relative to the rest of the euro area, price competitiveness deteriorates.

Higher government consumption leads to a strong and sustained increase in private consumption (Figure 2). Public services and procurement thus complement private spending rather than crowding it out. Private investment, however, tends to decline, and part of the stimulus flows abroad via falling net exports. Inflation rises gradually. At the same time, the real exchange rate appreciates strongly and persistently because domestic prices are rising faster than in the rest of the euro area.

Tax cuts have smaller and less uniform effects. A reduction in consumption taxes supports private consumption and private investment only in the very short term; thereafter the effects fade. Inflation declines, and the real exchange rate depreciates, thereby improving price competitiveness relative to the rest of the euro area (Figure 3). An income tax cut has hardly any measurable impact on private consumption but tends to support private investment. Inflation temporarily declines, and the real exchange rate depreciates.

Another key finding is that the ECB's key interest rate does not react measurably to any of the national fiscal shocks (Figure 4). This is consistent with the fact that monetary policy is set for the euro area as a whole rather than for individual member states.

Overall, the empirical results show that higher government spending triggers a broader increase in domestic demand than tax cuts do. Of particular importance is the fact that the ECB's key interest rate does not react measurably to any of the national fiscal shocks. This is consistent with the theoretical mechanism whereby the effectiveness of government spending in a country within a monetary union is enhanced when country-specific monetary tightening does not occur.

Conclusion: well-designed government spending should take priority for short-term stabilization

The interplay between country-specific fiscal policy and common monetary policy is of great importance in a monetary union. For an individual euro area country, public investment and government consumption stabilize economic output more effectively than tax cuts. Government spending causes private demand to rise sharply, while tax cuts have a smaller and less sustained impact on private demand.

A key reason for the strong impact of fiscal policy lies in the structure of the European Monetary Union. As a rule, the ECB does not adjust the key interest rate applicable to the entire euro area when an individual member state changes its fiscal policy. Thus, national increases in government spending are less likely to be dampened by monetary tightening and, consequently, have a stronger impact on economic activity. Germany's 500-billion-euro special fund for infrastructure and climate neutrality is a current example of a largely national expansion of public investment. The estimates provide a useful benchmark for the entire euro area. Fiscal policy measures by larger member states are more likely to

influence the ECB's monetary policy stance. However, the resulting monetary policy response is likely to remain significantly weaker than it would be under an independent national monetary policy.⁹

Thus, when it comes to stabilizing economic output in the short term during a crisis, governments in the euro area should place greater emphasis on well-designed spending measures than on tax cuts. However, if a large number of member states were to simultaneously expand their fiscal policies during a global crisis, this could trigger a monetary

policy response from the ECB. This would weaken the overall impact of fiscal policy and reduce the estimated fiscal multipliers.

The short-term benefits of expansionary fiscal policy should also be carefully weighed against its drawbacks: Higher government spending can lead to a shift in demand toward imports. Furthermore, it not only jeopardizes debt sustainability,¹⁰ but also there is a risk that permanently larger public sectors and higher tax burdens will weaken long-term growth.

9 The academic study underlying this Policy Report conducts a variety of robustness checks for the empirical analysis, including tests with alternative country samples. The empirical results remain robust regardless of whether Germany and other large euro area economies are included in or excluded from the sample. See Ider and Rieth (2026), *ibid.*

10 As recently as July, the International Monetary Fund warned that Europe could slide into a new debt crisis; see Luc Eyraud et al. (2026): Europe's Fiscal Squeeze: Tackling Rising Spending Pressures. IMF Departmental Paper No. 2026/012 (available online).

Gökhan Ider is a Ph.D. student in the Macroeconomics Department at DIW Berlin | gider@diw.de

Malte Rieth is a researcher in the Macroeconomics Department at DIW Berlin | mrieth@diw.de

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DIW Berlin — Deutsches Institut für Wirtschaftsforschung e. V.

Anton-Wilhelm-Amo-Straße 58, 10117 Berlin

www.diw.de

Phone: +49 30 897 89-0 Fax: -200

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