Output, Prices and Public Debt under the New German Fiscal Consensus

Christian Ochsner*)
Christopher Zuber*)

Working Paper 01/2025**)
May 2025

*) German Council of Economic Experts, E-Mail: christian.ochsner@svr-wirtschaft.de; christopher.zuber@svr-wirtschaft.de

**) Working papers reflect the personal views of the authors and not necessarily those of the German Council of Economic Experts.

Output, Prices and Public Debt under the New German Fiscal Consensus*

Christian Ochsner[†1] and Christopher Zuber[‡1]

[2]German Council of Economic Experts

May 21, 2025

*The views and opinions expressed in this paper are those of the authors and do not necessarily reflect the position of the German Council of Economic Experts. This work is presented in a personal capacity and is intended for informational and academic purposes only. We are grateful to the council members and Sylwia Bialek-Gregory and Milena Schwarz, for fruitful discussions. Finally, we are grateful to Esther Thiel for valuable support with the data and some computations, and Michael Kühl, Carmine Gabriele and Konstantinos Theodoridis from the European Stability Mechanism for very helpful discussions on defense spending multipliers, especially with respect to identification.

†Email: christian.ochsner@svr-wirtschaft.de; corresponding author.

‡Email: christopher.zuber@svr-wirtschaft.de; corresponding author.

Abstract

Germany is undergoing a major shift in fiscal policy. In response to recent crises and long-term structural challenges, the federal government has introduced a debt-financed spending package that marks a significant departure from past fiscal orthodoxy. This paper investigates the macroeconomic implications of Germany's new fiscal consensus, focusing on how the composition of spending—investment versus consumption—affects inflation, growth, and debt sustainability. Using structural vector autoregressions, we estimate fiscal multipliers across key expenditure types and apply them in a scenario analysis. We focus on three scenarios in which policy makers focus either on consumption, constrained consumption or investment. Our results show that an investment-oriented strategy, particularly those targeting infrastructure and R&D, yields stronger and more sustained GDP growth with more favorable long-term debt outcomes than consumption-oriented approaches. These findings highlight the importance of fiscal quality over quantity. They suggest that strategic allocation of fiscal resources is essential for achieving long-term economic resilience and fiscal sustainability, offering important lessons for Germany and the broader EU as fiscal rules evolve.

Keywords: fiscal package, debt, output, Germany

JEL classification: E22, E60, E62

1 Introduction

German fiscal policy is currently undergoing a major reconfiguration. In response to overlapping structural and geopolitical shocks—including the COVID-19 pandemic, the energy crisis following Russia's invasion of Ukraine, and the broader demands of climate and defense policy—the new federal government has initiated a large-scale fiscal package. This package includes expanded public investment in infrastructure and additional expenditure to support the green and digital transitions. The additional spending is debt-financed, enabled by the creation of a special fund and a revision of the constitutional debt brake regarding defense spending. Together, these reforms significantly expand Germany's fiscal space, with the dual goal of stabilizing the economy and preparing it for long-term transformation.

This paper investigates the macroeconomic implications of this fiscal package: How does the composition of new public spending (investment vs. consumption) affect prices and economic growth? And to what extent do alternative spending strategies influence the sustainability of public debt?

To address these questions, we estimate price effects as well as fiscal multipliers for several key categories of public spending: general government consumption, general government investment in non-residential buildings, machinery and equipment, and R&D, and defense expenditures. Using structural vector autoregressions (SVARs), we identify fiscal shocks and derive cumulative fiscal multipliers, i.e., the increase in output in euros if government spending increases by one euro. We use these fiscal multiplier estimates to simulate the long-run macroeconomic outcomes of three stylized fiscal expenditure path: (i) a consumption-oriented path, (ii) a constrained consumption path, tied to a fixed federal investment quota, and (iii) a fully investment-oriented allocation of the available fiscal space.

We evaluate each scenario in three dimensions. First, we compute the effects on deflators. Second, we estimate the real GDP effects until 2040, applying our estimated fiscal multipliers to the composition and timing of expenditure in each case. Third, we model the evolution of the general government debt-to-GDP ratio. This allows us to assess both the stimulus effect and the long-term sustainability of German public finances.

Our results show that fiscal composition plays a decisive role in determining macroeconomic and fiscal outcomes. While a consumption-oriented scenario yields only limited output gains and substantially elevates the debt-to-GDP ratio, an investment-oriented approach generates significantly higher returns, particularly when directed toward infrastructure and R&D. In the investment-oriented scenario, GDP growth is strong enough to offset a substantial share of the increase in public debt, producing both higher growth and more favorable debt trajectories by 2040. These findings highlight the importance of fiscal quality over quantity: the effectiveness of fiscal expansion depends less on the total amount spent than on how and where it is spent.

In the broader European context, our analysis contributes to ongoing discussions about the design of fiscal rules and the role of public investment in promoting sustainable growth. Germany's use of special funds and constitutional exemptions demonstrates how national frameworks can evolve to accommodate strategic spending needs while preserving long-term sustainability of public finances. As the EU moves toward a more flexible, expenditure-based fiscal rulebook, our findings suggest that aligning fiscal instruments with long-run priorities, rather than adhering to narrow deficit targets, will be key to balancing growth and debt sustainability.

This paper is organized as follows. Section 2 discusses the new German fiscal consensus with a focus on the institutional and constitutional innovations that have expanded fiscal space. Section 3 describes the expenditure path specifications underlying our simulations. It thereby outlines how different spending compositions are modeled across the three fiscal strategies. Section 4 presents our data sources and the simulation methodology, including the estimation of price effects, fiscal multipliers, and the debt-to-GDP ratio. Section 5 reports the results, beginning with the effects on prices (5.1), moving to the output effects of different spending allocations (5.2), and concluding with the implications for public debt sustainability (5.3). Section 6 concludes, summarizing the main findings and their broader policy implications.

2 The New German Fiscal Consensus

Germany's fiscal framework is undergoing a profound transformation. In the wake of multiple overlapping crises, a new political consensus emerges that aims to reconcile the constitutional limits on borrowing with large-scale, forward-looking public investment. At the core of this shift is a modification of the constitutional debt brake ("Schuldenbremse"), codified in Articles 109 and 115 of the Basic Law. Under normal circumstances, the debt brake restricts the federal government's structural net borrowing to 0.35 percent of GDP and prohibits structural deficits at the state level (the "Länder"). However, Article 115(2) provides for an escape clause in the event of natural disasters or exceptional emergencies beyond the control of the state. This clause was activated in response to the COVID-19 pandemic and has since been employed to justify additional borrowing in the context of the energy crisis.

In March 2025, the Bundestag and Bundesrat passed a constitutional amendment establishing a targeted and permanent exemption from the debt brake for defense expenditures exceeding 1 % of GDP. This reform creates a legal basis for stable long-term military spending, removing the need for ad hoc declarations of emergency. It reflects the geopolitical challenge to rearm in an uncertain global environment. Simultaneously, the reform gives the Länder in total the possibility of a structural net borrowing to 0.35 % of GDP. The second cornerstone of the new fiscal consensus is the creation of a €500 billion special infrastructure fund to be disbursed over a twelve-year period (2025–2037). The fund is financed through borrowing authorized during periods of emergency, and thereby an extrabudgetary vehicle financed outside the debt brake. Its structure allows for multi-year spending commitments. The majority of the funds (€300 billion) can be spent by the federal government. Additional €100 billion each is for the Länder and transferred to the Climate and Transformation Fund ("Klima- und Transformationsfonds"), specifically for climate-change-related investment.

3 Expenditure Path Specifications

We consider three alternative expenditure scenarios for the allocation of additional funds from the €500 billion infrastructure program in nominal terms and the 1 % exemption for defense spending. The scenarios are presented in Figure 1 (columns 1–3) and discussed in detail in Sections 3.1 to 3.3.

In a consumption-oriented scenario, the special infrastructure fund is exclusively used to finance additional government consumption. While we consider this scenario to be unrealistic, primarily due to its likely incompatibility with current European fiscal rules, it serves as a useful benchmark for analyzing a potential "worst-case" outcome in terms of long-run economic performance. This scenario reflects a policy stance of maximum present bias, where short-term benefits are prioritized entirely over long-term economic outcomes. The second scenario represents a constrained consumption-oriented approach, which we consider more plausible. Here, only 63 % of the €500 billion is allocated to additional consumption, with the remainder invested in accordance with a pre-specified investment rule. This constraint reflects a policy framework that prioritizes consumption stimulus, but is limited by the investment rule. Accordingly, this scenario reflects a policy with present-oriented preferences which are limited by institutional constraints. This approach thereby balances stimulus with short-term effects and investment. Finally, we consider an investment-oriented scenario, in which the entire fund is allocated to public investment. Although this scenario may be less likely due to the well-documented present bias in policymaking (Yared 2019), it provides a useful upper bound for assessing potential "best-case" macroeconomic effects. This scenario embodies a minimally present-biased strategy, i. e., maximum future-oriented strategy. Long-term growth and productivity gains are deliberately prioritized over immediate consumption.

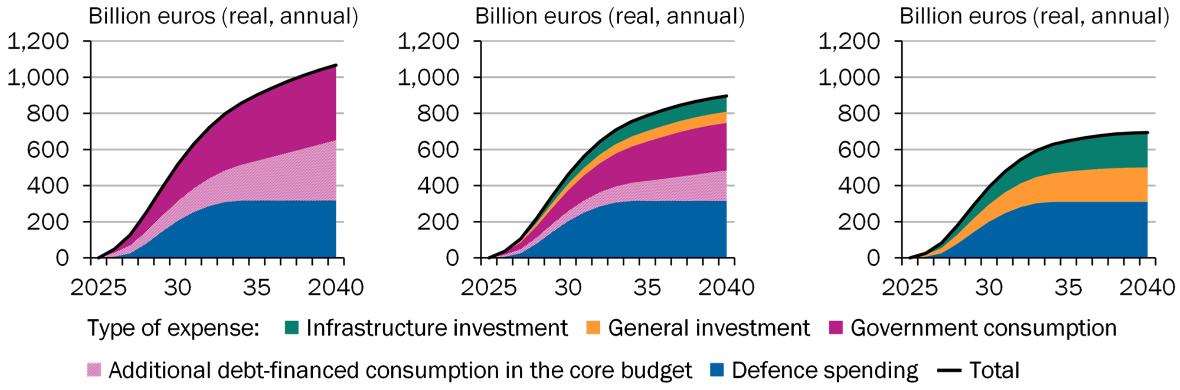

Figure 1: Cumulated government spending, by scenario and spending type in billion euros. Expenditures are converted into real terms using estimated deflators, see Figure 2. From left to right: Consumption orientation, constrained consumption orientation, investment orientation.

While the three scenarios differ significantly in the allocation of the special infrastructure fund between investment and consumption, the overall expenditure path, that is, the absolute annual disbursements, remains identical across all scenarios. The disbursement path is defined in quarterly terms, as this frequency is used for estimating the price effects of the additional spending in our empirical analysis (see Section 4.2). In each case, disbursements from the special infrastructure fund begin in 2026 and continue through 2040, thus extending beyond the fund's official twelve-year term. This timing assumption is based on the planned outflow profile of the special fund for the German Armed Forces ("Sondervermögen Bundeswehr"), which is also expected to make substantial payments beyond its formal expiration in 2027 (BMF 2024: Kap. 1405). For the infrastructure fund, we assume an initial disbursement of €20 billion in nominal terms in 2026, followed by moderate front-loading such that approximately 35 % of the total fund volume is spent by the end of 2029. This early expenditure phase is consistent with the current federal government's coalition agreement, which targets federal investment of around €150 billion by 2029 (CDU, CSU and SPD 2025). From 2029 onward, annual disbursements are assumed to decline linearly until 2040.

For defense spending, the three scenarios assume a common path: outlays increase linearly from 2026 to 2029, reaching, on average, 1.5 % of GDP, and then gradually decline to zero by 2035. The increase until 2029 is in line with recent policy discussions to ramp up defense spending in the short term. For example, the European Commission proposed to activate the national escape clause of the Stability and Growth Pact to increase defense spending until 2029 (European Commission 2025). From 2029 onward, an increasing share of these expenditures is assumed to be financed from the core budget. This reflects the fact that the national escape clause will have expired, underlining the importance of progressively normalizing defense expenditures within the regular budgetary process.

The scenarios, however, differ in the extent to which defense expenditures are reallocated from the core budget to debt-financed spending. For all scenarios, we assume that the federal government will continue to spend 1.5 % of GDP on defense from the core budget from 2025 onward. This reflects roughly the recent level of defense spending from the core budget at 1.6 % of GDP in 2024 (Röhl 2024). Given that a defense spending of 1.5 % of GDP from the core budget exceeds the defense expenditure rule by 0.5 % of GDP in every year, policy makers could, in principle, shift this amount of defense spending from the core budget to debt-financed spending. In the consumption-oriented scenario, we assume that policy makers take full advantage of this opportunity and reallocate up to €334 billion in real terms from the core budget by 2040 to allow for additional consumption. This again reinforces the scenario's strong present-bias, as defense expenditures are repurposed to maximize short-term consumption. Fiscal sustainability is thereby largely ignored by policy makers. In the constrained consumption-oriented scenario, we assume that policy makers exploit the opportunity by 50 % such that the total reallocated amount remains at €169 billion in real terms. In contrast, the investment-oriented scenario assumes that policy makers do not reallocate at all. All defense expenditures remain fully financed through the core budget. This scenario thus reflects a future-focused fiscal strategy that avoids short-term reallocations in favor of maintaining long-term investment capacity, consistent with a policy mindset that explicitly takes fiscal sustainability into account.

3.1 Consumption Orientation

The consumption-focused scenario illustrates a policy orientation with a dominating present bias, leading to a complete prioritization of immediate benefits over future economic outcomes (first column of Figure 1). No additional investment is undertaken by the federal government, the Länder or via the Climate and Transformation Fund. Instead, previously planned public investment, originally financed through the core budget, is reallocated toward the special infrastructure fund to afford more debt-financed consumption expenditure.

Regarding defense spending, disbursements increase linearly from 2026 to 2029 to 1.5 % of GDP, and then gradually decline to zero by 2035. In addition, the federal government tries to increase the fiscal space for consumption as much as possible. By doing so, the government favors the current electorate, while giving comparatively less consideration to the interests of future generations. Beginning in 2026, an extra 0.5 % of GDP is therefore reallocated annually from the core budget to consumption. The consumption-focused scenario results in a total of €1067 billion in real debt-financed expenditures by 2040.

3.2 Constrained Consumption Orientation

In the constrained consumption-oriented scenario (second column of Figure 1), only the federal government is constrained by a 10 % minimum investment quota in its consumption expenditure. The level of the quota corresponds to a joint resolution by the SPD, CDU/CSU, and Alliance 90/The Greens, defining 10 % of the federal budget, net of special funds and financial operations (Bundestag 2025). It implies that 10 % of the funds in the core budget must be invested in order to additionally disburse the special infrastructure fund and therefore guarantees the additionality of investment expenditures. The minimum investment quota is currently merely a target value and would need to be included in the act of establishment of the special fund (Bundestag 2025), to institutionalize it within political decision-making.

We assume that the federal government invests in the constrained consumption-oriented scenario only as required by the minimum investment quota. Therefore, approximately 37 % of the €500 billion is allocated to additional investment, allocating one-third to average government investment[1] and two-thirds to civil engineering projects. The Länder devote two-thirds of their received funds to consumption and the remaining one-third to average government investment. This implies that the Länder invest more than required, although they are not subject to a binding investment quota unlike the federal government. Of their investment share, three-quarters are allocated to average investment and one-quarter to civil engineering. The Climate and Transformation Fund, by contrast, uses its entire allocation for consumption-related purposes.

Defense spending follows the same overall trajectory as in the consumption-oriented scenario. However, in contrast to the consumption-oriented case, only 0.25 % of GDP per year is reallocated from the core budget to support additional consumption. The total debt-financed expenditure is therefore less than in the fully consumption-oriented scenario, but still at €896 billion.

[1] The average government investment is composed of investment in non-residential buildings (70 %), machinery and equipment (15 %) and other (15 %), which is mainly R&D investment. The respective shares are (very) roughly based on the composition of government investment reported in the national accounts but with investment in machinery and equipment under-weighted. We expect a strong bias of the special fund towards infrastructure investment.

3.3 Investment Orientation

In the investment-oriented scenario (third column of Figure 1), the entire €500 billion from the infrastructure fund is allocated exclusively to additional public investment. Within this framework, the federal government allocates one-third of its investment expenditures toward average investment and two-thirds toward civil engineering projects. The state governments adopt a balanced approach, distributing their investments equally between the two categories. The Climate and Transformation Fund focuses exclusively on average investment, reflecting its priorities on climate and transformation.

Defense spending in this scenario follows the same overall trajectory as in the other two cases. However, in contrast to the consumption-oriented scenarios, there is no reallocation from the core budget to support additional consumption. All defense expenditures remain within the existing budget framework, ensuring that no additional government consumption is financed via shifting defense expenditures from the core budget. The investment-oriented scenario thus involves the lowest level of debt-financed expenditures, amounting to €693 billion in real terms.

4 Data and Simulation Methodology

For our estimation, we mostly rely on administrative data (see Section 4.1). We use structural vector autoregressions (SVARs) to estimate price effects (see Section 4.2) and fiscal multipliers (see Section 4.3). SVARs are well-suited to capture the observed dynamic responses of macroeconomic variables to different types of fiscal shocks. Their flexibility allows us to estimate effects across different spending categories, such as general government consumption, government investment in infrastructure, machinery and equipment, R&D, or defense. In addition, SVARs estimate these effects based on historical patterns without imposing ex ante assumptions about agent behavior or policy regimes. This is especially valuable in the context of Germany's unprecedented fiscal package.

Our simulation strategy proceeds as follows. We use the nominal spending paths outlined in the previous section and estimate the associated deflator dynamics in a conditional forecasting framework. This allows us to convert nominal expenditures and fiscal multipliers into real terms. By subsequently evaluating the output effects of different spending compositions, we aim to provide an empirically grounded assessment of the macroeconomic implications of the fiscal package on GDP and the debt-to-GDP ratio (see Section 4.4).

4.1 Data

We use quarterly data for Germany covering the period from 1970 to 2024. Our dataset combines information from multiple sources. We obtain disaggregated government spending in different categories, GDP, hours worked, gross value added (GVA), and the GDP (and GVA) deflator from the Federal Statistical Office. For the period before 1991, we use data for West Germany (1970–1990), which we then combine with data for reunited Germany starting in 1991. Quarterly tax revenue by the Federal Statistical Office data is available from 1999 onward. For earlier years, we draw on the Federal Ministry of Finance's annual data on the tax-to-GDP ratio, available for selected years[2] between 1970 and 1990 and annually thereafter. We interpolate the tax-to-GDP ratio linearly between available values for the earlier years and multiply it by nominal annual GDP to estimate total tax revenues. These annual estimates are converted to quarterly frequency by assigning one-fourth of the yearly value to the fourth quarter and linearly interpolating the values for the other quarters.

From the Federal Reserve Bank of St. Louis, we obtain nominal interest rates on 10-year German government bonds. To calculate real interest rates, we subtract the quarterly change in the GDP deflator. For other key variables, we use quarterly data on capacity utilization in civil engineering from the ifo institute obtained from Datastream. Defense spending, reported as a share of GDP by the SIPRI database, is converted into absolute figures by multiplying it with nominal GDP.

All variables are transformed to real terms by deflating with the aggregate GDP deflator and are seasonally adjusted. To ensure comparability across model specifications and robustness to scaling effects, we follow the transformation proposed by Gordon and Krenn (2010), standardizing the real fiscal spending category, real taxes, real GDP and real GVA as a share of real trend GDP. We obtain real trend GDP by estimating a polynomial of order ten.

4.2 Estimation of the Price Effects of Government Spending

We aim to estimate the effects of an increase in nominal government spending on its respective deflator, with a focus on understanding the inflationary consequences of fiscal expansions. To this end, we specify an SVAR that includes the annualized growth rate of nominal government spending, the long-term nominal interest rate, a measure of capacity utilization,[3] annualized total factor productivity growth,[4] and the annualized growth rate of the GDP deflator.

Nominal government spending (consumption, total investment, investment into non-residential buildings) enters the model in annualized growth rates to capture fiscal impulses rather than predictable, trend-driven movements. This allows us to isolate genuine fiscal shocks that have the potential to affect price dynamics. We include the 10-year government bond yield, as it reflects market expectations about future inflation, economic activity, and fiscal sustainability. Unlike short-term policy rates, long-term rates are forward-looking and incorporate the anticipated stance of monetary and fiscal policy over an extended horizon. Their inclusion helps capture how markets internalize and react to the inflationary effects of government spending, offering a rich view of the macroeconomic adjustment process in response to a fiscal shock. Capacity utilization is included as a measure of slack in the economy. It plays a critical role in determining the inflationary pressure generated by fiscal stimulus. When the economy operates near full capacity, fiscal

[2] Data is available for 1970, 1975, 1980, and 1985.

[3] We use the capacity utilization in civil engineering from the ifo institute for the specification featuring government investment in civil engineering and the output gap (as implied by our estimate of trend GDP) in the remaining specifications.

[4] The logarithm of total factor productivity is measured as $\log(GDP) - \alpha \log(hours)$, with 'hours' denoting total hours worked and the output elasticity of labor set at $\alpha = 0.66$, a standard value for Germany (see Ochsner et al. 2024).

expansions are more likely to translate into price increases rather than output gains. This variable thus helps to distinguish demand-driven inflation stemming from constrained supply. To complement supply-side effects, we include total factor productivity growth. Finally, the spending deflator, expressed in annualized growth rates, serves as our primary measure of the price level.

The reduced-form system of dimension K is given as

$$Y_t = \mathbf{A}(L)Y_{t-1} + \varepsilon_t, \tag{1}$$

where Y_t is a vector of endogenous variables, $\mathbf{A}(L)$ is a matrix polynomial in the lag operator, and ε_t is a vector of reduced-form innovations with covariance $\mathbf{\Sigma}$. We specify the model with four endogenous lags to mimic the dynamic structure of the quarterly data.[5]

In our empirical analysis, we estimate a Bayesian Vector Autoregression (BVAR) model using the methodology outlined by Kuschnig and Vashold (2021) and their BVAR R package. Specifically, we employ the Minnesota prior to impose shrinkage on the autoregressive coefficients. Following Kuschnig and Vashold (2021), we use for the autoregressive coefficient means at lag m the prior[6]

$$\mathbb{E}(\mathbf{A}_{m,ij}|\mathbf{\Sigma}) = \begin{cases} b & \text{if } i = j \\ 0 & \text{otherwise,} \end{cases} \tag{2}$$

and for their covariances[7] between lags m and n, we use

$$\mathrm{Cov}(\mathbf{A}_{m,ij}\mathbf{A}_{n,uv}|\mathbf{\Sigma}) = \begin{cases} \lambda_1^2 \dfrac{1}{m^{\lambda_2}} \dfrac{\frac{\mathbf{\Sigma}_{iu}}{\lambda_3}}{d-K-1} & \text{if } m = n \text{ and } j = u \\ 0 & \text{otherwise.} \end{cases} \tag{3}$$

To approximate the posterior distribution, we perform 100,000 Markov Chain Monte Carlo (MCMC) draws, discarding the first 10,000 and then retaining every tenth draw, resulting in 9,000 posterior samples for inference. The estimated system allows the generation of impulse responses and forecasts by means of the usual formulae.

To gauge the effect of nominal spending increases on the deflators, while accounting for dynamic capacity adjustments and monetary policy feedback, we condition on a path of nominal spending growth and forecast the deflator by means of the procedure proposed by Waggoner and Zha (1999). Finally, we normalize the deflator in 2025 to 100 and use the projected spending growth rates (see Sections 4.3) to trace its future path. Based on the resulting deflator series, we compute real government spending by deflating nominal spending accordingly.[8]

[5]The results are quite robust to choosing more lags (8, 12) and fewer lags (1).

[6]In the deflator models, we set b to unity, as we system contains several series that seem to mimic random-walk behavior, in the fiscal multiplier models, we set b within the stationarity region.

[7]d is a degree of freedom parameter. The λ-parameters are estimated from the data. For further details, see Kuschnig and Vashold (2021).

[8]A challenge arises from the fact that, although the absolute increase in nominal government spending is predetermined, the resulting nominal expenditure growth rate depends on the GDP deflator itself—the

To obtain a comprehensive measure of overall price dynamics, we aggregate the sector-specific deflator forecasts into a single GDP deflator. This is achieved by constructing nominal and real GDP paths for each scenario using the results from the computations discussed in the next Section.[9]

4.3 Identification of Real Effects

To gauge the real effects of fiscal shocks, we differentiate between investment, consumption and defense multipliers. Leeper et al. (2010) argue that distinguishing government investment from government consumption is crucial, as the two components can have substantially different macroeconomic implications. Investment, in particular, tends to yield persistent supply-side effects due to its contribution to capital accumulation. Barro and Redlick (2011) find that the multiplier associated with defense spending differs from other fiscal components, further justifying its separate treatment.

We construct aggregate multipliers, such as the investment multiplier, by aggregating their disaggregated components, distinguishing between investment in non-residential construction, machinery and equipment, and intangible investment. For Germany, we are the first to implement this detailed approach for public investment multipliers. We expect this disaggregated method to improve consistency and precision by capturing the distinct macroeconomic effects of different types of investment spending, which would otherwise be masked in an aggregate measure. It also allows us to impose explicit assumptions on the composition of investment under the fiscal measures, making our projections align with the structure of announced policy measures.

To estimate fiscal multipliers, we specify a model that includes real government spending (by category), general tax revenue, the GDP deflator in annualized growth rates, real 10-year government bond yields, real GDP and real GVA. Government spending and tax revenue represent the core instruments of fiscal policy, allowing us to capture both the expenditure and revenue sides of the government budget and possibly feedback effects. The GDP deflator is included to account for price dynamics associated with government purchases, which are essential for distinguishing real from nominal effects. Real long-term

very dynamics we aim to identify. To address this, we first construct an unconditional baseline forecast. In this setting, nominal expenditure growth is decomposed into the sum of deflator growth and real expenditure growth, the latter of which we approximate using its long-run mean. To account for dynamic interactions, we implement a recursive forecasting approach, forecasting the model horizon by horizon. At each step, the growth rate of nominal government spending is conditioned to equal the maximum of (i) the sum of the baseline deflator growth and real growth, and (ii) the deflator growth from the previous iteration plus real growth. This procedure ensures consistency with the predetermined nominal spending increase while allowing the model to capture feedback effects through the deflator channel. Note that we do not take into account the multiplier effects on nominal GDP when estimating price dynamics, which may underestimate the price effects when multipliers are large *and* spending is large as well.

[9] More precisely, we aggregate the nominal and real GDP effects that we obtain under each specification (see Sections 4.3, 5.1 and 5.2) and compute the deflators. In the baseline scenario, we specify 1.8 % GDP deflator growth, which is well in-line with its historical dynamics. Our bottom-up approach to estimating the inflation effects comes with a grain of salt: As we do not model specific transmission channels of fiscal shocks (e.g. effects on private investment or consumption), the effects on disaggregated private deflators is not identified in our approach. We proceed by assuming a constant 2 % price increase for defense goods and use the projected trajectories of the scenario- and aggregate-specific deflators to obtain the nominal values for each spending aggregate.

interest rates, captured by 10-year government bond yields, approximate the monetary policy stance and long-term fiscal sustainability. Real GDP serves as the primary measure of economic activity, enabling the assessment of output responses to fiscal shocks. Finally, real GVA helps to identify whether a shock is productive within Germany or not. We estimate the models with 4, 8, and 12 lags and aggregate the identified fiscal multipliers across models by means of averaging the estimated median multipliers. In addition, we investigate the minimum and maximum median multipliers.

To recover structural fiscal policy shocks from the reduced-form residuals, we impose identifying assumptions on the contemporaneous impact matrix $\mathbf{B}$, as defined in

$$\varepsilon_t = \mathbf{B}u_t, \tag{4}$$

where u_t is a vector of orthogonalized structural shocks. We identify the structural impact matrix $\mathbf{B}$ using both recursive ordering and sign restrictions (for a review of identification approaches, see Caldara and Kamps 2008). In the recursive (Cholesky) approach, $\mathbf{B}$ is assumed to be lower triangular, implying a causal ordering of the variables as in the framework of Blanchard and Perotti (2002). In our case, this reflects the assumption that fiscal aggregates do not respond contemporaneously to shocks that move real aggregates, interest and prices, but not vice versa. Under the sign restriction approach, $\mathbf{B}$ is drawn from the set of orthogonal matrices that generate impulse responses consistent with specified sign and zero restrictions on the columns of $\mathbf{B}$ (implemented by means of the algorithms proposed by Arias et al. 2018), as summarized in Table 1.

	expansionary spending shocks				**expansionary tax shock**
	investment	**consumption**	**defense**		
			productive	**non-productive**	
real spending by respective category	> 0	> 0	> 0	> 0	< 0
real tax income	(> 0)	(> 0)	(> 0)	(> 0)	< 0
inflation	> 0	> 0	> 0	> 0	
real interest rate	> 0	> 0	> 0	> 0	$= 0$
real GDP					
real GVA	> 0		> 0	< 0	

Table 1: Identification restrictions for government spending and tax shocks on the structural impact multiplier matrix $\mathbf{B}$. Brackets denote that we identify the shock with and without the restriction.

We identify four types of fiscal shocks (see Table 1) using a combination of sign and magnitude restrictions, informed by macroeconomic theory and empirical evidence. For all four shocks, we impose a magnitude restriction requiring that the respective fiscal variable (spending or taxes) responds more than any other variable on impact. This ensures that the identified shock is indeed the primary driver of the initial movement in the targeted fiscal instrument (i.e., spending and tax aggregates).

Government investment shocks (first column) are identified by positive sign restrictions on government real investment by respective category, real GVA, the GDP deflator, and long-term interest rates, with the magnitude restriction ensuring that government investment responds the most to the respective fiscal shocks among all shocks, reflecting the short-run demand stimulus. The associated inflationary and interest rate responses are supported by Mountford and Uhlig (2009) and Laubach (2009). Government consumption shocks (second column) are identified through positive sign restrictions on government consumption, the GDP deflator, and long-term interest rates, with GVA left unrestricted. The magnitude restriction again ensures that government consumption is the dominant response on impact. These shocks increase demand without raising potential output, leading to inflationary pressures, as shown by Blanchard and Perotti (2002) and Mountford and Uhlig (2009).

Defense spending shocks (third column) are identified by positive sign restrictions on defense spending, the GDP deflator, and long-term interest rates. We seek to identify two types of defense spending shocks. First, 'productive' shocks which increase GVA, e.g., due to domestic military R&D spending. Second, 'non-productive' shocks that decrease GVA, e.g., due to increasing intermediate consumption without a similar-sized or larger increase in output, such as expenditure for current military operations or purchases of military equipment from abroad. As with consumption and investment shocks, a magnitude restriction ensures defense spending is the leading impact response. This reflects the demand-side nature of such spending and its often limited effect on potential output, while allowing for inflation and interest rate responses depending on macroeconomic conditions. Finally, tax (reduction) shocks (fourth column) are identified with negative sign restrictions on tax revenues and government spending, a zero restriction on long-term interest rates, and no restrictions on GDP or the deflator. The magnitude restriction ensures that tax revenues respond more than any other variable. A zero restriction on interest rates reflects the typically muted or slightly negative on-impact response of monetary policy to such shocks, supported by Burriel et al. (2009). GVA is left unrestricted due to the context-dependent nature of output responses to tax changes.

To synthesize the individual fiscal multipliers into a single multiplier for each type of spending (consumption, investment, civil engineering, defense), we calculate weighted averages based on the composition of government spending across categories (see Table 2). The chosen weights for aggregating investment multipliers, 15 % equipment investment, 70 % non-residential construction, and 15 % intangible investment approximately matches the assumed structure of the special fund expenditure (see Section 3), which emphasizes infrastructure upgrades, digitization, and innovation support. We are confident that the weighting strikes a realistic balance between spending types that generate immediate demand-side stimulus (machinery and equipment) and those that enhance long-run productivity (construction and intangibles), ensuring that our aggregate investment multiplier captures both short- and medium-term macroeconomic effects.

We compute cumulative fiscal multipliers $m_{H,i}$ for the four spending type i, consumption, investment, civil engineering, and defense, in horizon H following Leeper et al. (2010) as

$$m_{H,i} = \left(\sum_{h=1}^{H} y_h\right)\left(\sum_{h=1}^{H} s_{h,i}\right)^{-1}, \tag{5}$$

where $\sum_{h=1}^{H} y_h$ denotes the cumulated response in output at horizon H, and $\sum_{h=1}^{H} s_{h,i}$ denotes the cumulated response in government spending in the corresponding category at the same horizon. This ratio represents the total output gain over a horizon of H periods per euro of additional public spending. We report twenty-year (80-quarter) multipliers and aggregate to yearly frequency by using the first quarter. For each horizon, we calculate the distribution of multiplier estimates across identified models and report the median values as our central aggregation metric. These horizon-specific medians provide a robust summary of the dynamic effects while accounting for model uncertainty. The incremental multipliers, computed as horizon-to-horizon change in the multiplier, is then used to obtain the period-specific effects of specific government spending shocks on output.

To obtain the cumulated real GDP effects $x_{2040,k}$ of spending orientation

$$k \in \{\text{consumption, constrained consumption, investment}\}$$

over all spending shocks $z_{i,t,k}$ (measured in real euros) over categories i until 2040, we compute

$$x_{2040,k} = \sum_{i} \sum_{h} \sum_{t \leqslant 2040} m_{h,i} z_{i,t,k}. \tag{6}$$

Finally, to construct GDP paths under each scenario, we use the current (spring 2025) potential output projection of the German Council of Economic Experts (GCEE) until 2040 as a baseline path and add period-specific GDP figures under each scenario to it. Importantly, while we construct period-specific GDP as the sum of the period effects of government consumption, average government investment, and defense spending, we use cumulated figures for GDP effects due to civil engineering. The latter implies that most multiplier effects have only transitory level-effects on output,[10] while investment into infrastructure has persistent output effects. This modeling choice is conservative because it limits the impact of government consumption, average investment, and defense spending on output and may downplay their potential longer-term benefits. For instance, spending on general education or vocational training, both (largely) classified as government consumption in German national accounting, may have expansionary effects on trend output only in the long-run.

4.4 Public Debt-to-GDP Analysis

We assess the implications of alternative spending approaches for the evolution of the public debt-to-GDP ratio until 2040. The goal is to examine not only the growth impact of the spending mix, but also compatibility with long-run debt sustainability.

We model the path of the public debt-to-GDP ratio using a standard recursive accounting identity. The debt ratio d_t in the current period t can be obtained from the general government overall balance b_t (revenue minus expenditure, as a share of GDP), and the nominal GDP growth g_t in the same period as well as the debt-to-GDP ratio in the previous period:

$$d_t = \frac{1}{1+g_t} d_{t-1} - b_t \tag{7}$$

We initialize the simulation in 2025 using the recent GCEE's forecast of the debt level of 64,0 % of GDP and take the GCEE's forecast for the deficit in 2026 (GCEE 2025: Item 69). We assume no other discretionary fiscal consolidation beyond the modeled

[10] Recall that, by specification, our models are in deviations from trend output, such that effects on trend output are hard to detect.

spending paths (see Section 3). For each of the three fiscal scenarios—the consumption-oriented, the constrained consumption-oriented, and the investment-oriented—we input the specified cumulative expenditure profiles. These alter the overall debt trajectory via two channels. First, differences in the nominator of the debt ratio across scenarios emerge due to the differing volume of spending. Second, the different composition of spending determines the magnitude and timing of GDP responses via the category-specific fiscal multipliers. The resulting nominal GDP paths influence the denominator of the debt ratio.

5 Results

In this section, we present our empirical results. We first analyze the estimated effects of the new fiscal policy mix on price dynamics (Section 5.1), before turning to the output effects and the performance of different spending compositions (Section 5.2). Finally, we evaluate the implications for public debt sustainability under the alternative scenarios (Section 5.3). Detailed results are reported in Tables 3 to 7.

5.1 Prices

The deflator trajectories for government consumption, investment, and civil engineering highlight the differing inflationary pressures on the spending disaggregates associated with various expenditure scenarios.

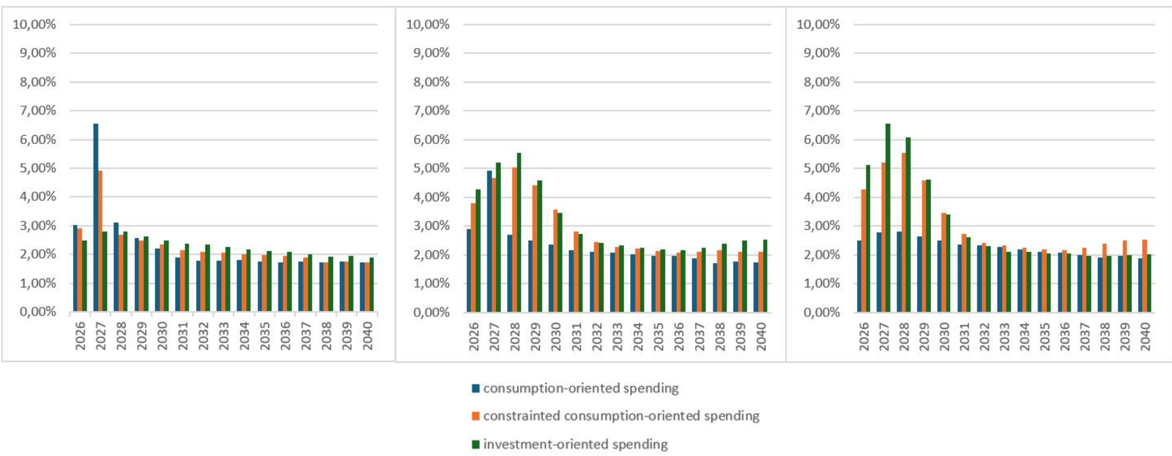

Figure 2: Government spending deflator growth. From left to right: government consumption, average government investment and government spending on civil engineering.

In all scenarios depicted in Figure 2, price pressures are most pronounced in the early years following fiscal expansion, peaking around 2027/28, regardless of the expenditure strategy. In the case of government consumption (left panel), deflator growth peaks sharply around 2027 in the consumption-oriented scenario, reaching over 6 %, before declining toward a long-run level of around 2 % by 2035. This spike reflects immediate demand-driven inflation when fiscal stimulus is channeled primarily into consumption, where supply constraints are more binding and multiplier effects weaker. The constrained and investment-oriented scenarios show more muted price responses in this category, owing to lower direct consumption spending.

For government investment (mid panel), inflationary effects are also front-loaded but follow a different profile. Deflator growth is somewhat lower in the early years for the consumption-oriented scenario, peaking around 4 – 5 %, whereas both investment-focused strategies exhibit higher peaks (around 6 %) due to more aggressive early-year disbursement. The most pronounced differences emerge in civil engineering investment (right panel), where deflator growth peaks at over 7 % in the investment-oriented scenario and remains elevated through 2029. In contrast, the consumption-oriented scenario shows much lower deflator growth in this category, consistent with the absence of infrastructure outlays assumed under that strategy.

Across all scenarios, price dynamics converge after 2032, with deflator growth stabilizing around 1.5 – 2.0 %, reflecting the fading impact of fiscal shocks. Overall, in all three scenarios aggregate inflation is 0.3 percentage points larger than in the baseline scenario without the fiscal package. This figure compares well to the average 0.5 percentage points increase reported in Dany-Knedlik et al. (2025). Interestingly, our estimation results also hint towards increases in capacity utilization and long-term interest rates (not shown) that may partly explain the relatively muted price responses.

5.2 Output

We now turn to discussing the real effects of each of the spending paths, beginning with a discussion of the multiplier estimates, followed by the results on additional GDP.

5.2.1 Fiscal Multipliers

Hollmayr and Kuckuck (2018) estimate the German general government consumption multiplier for Germany at around 1.1 after five years, the investment multiplier at around 4.5. Our multiplier analysis reveals similar differences between fiscal aggregates. Table 2 presents fiscal multipliers for different components of government expenditure and taxation, estimated over a 20-year horizon. Each entry provides an interval estimate (minimum; average; maximum), reflecting model uncertainty. In out discussion, we focus on the average multiplier estimates.

The aggregate public consumption multipliers range from 0.2 to 0.8 in the first year, with a median of about 0.5, before declining toward zero. The temporary nature of the effect reflects the fact that while government consumption can stimulate aggregate demand during periods of slack, it does not contribute to capital accumulation or long-run productivity, and is therefore not self-sustaining. Tax cuts yield initial multipliers around 0.4 to 0.7, with some flattening after the second year.

Year	Consumption			Investment					Defense		
	Aggregate	**Spending**	**Tax**	**Aggregate**	**Equipment**	**Non-res. buildings**	**Civil Eng.**	**Intang. Inv.**	**Aggregate**	**Productive**	**Non-Productive**
1	[0.2; 0.5; 0.8]	[0.2; 0.4; 0.9]	[0.4; 0.6; 0.7]	[0.2; 1.5; 2.5]	[-0.5; 1.4; 2.8]	[0.4; 1.4; 2.2]	[0.3; 1.5; 2.5]	[0.1; 1.8; 3.5]	[-0.1; 0.4; 0.9]	[0.1; 0.9; 1.5]	[-0.3; -0.1; 0.2]
2	[0.2; 0.5; 0.9]	[0.2; 0.5; 0.9]	[0.4; 0.5; 0.7]	[0.4; 1.9; 3.0]	[-0.4; 1.7; 3.3]	[0.6; 1.9; 2.7]	[0.4; 2.1; 3.5]	[0.1; 2.3; 4.2]	[0.1; 0.5; 1.0]	[0.2; 1.0; 1.6]	[-0.2; 0.1; 0.3]
3	[0.2; 0.4; 0.8]	[0.2; 0.4; 0.8]	[0.4; 0.5; 0.6]	[0.4; 1.8; 2.8]	[-0.4; 1.8; 3.3]	[0.6; 1.7; 2.4]	[0.4; 2.1; 3.5]	[0.1; 2.5; 4.4]	[0.1; 0.5; 0.8]	[0.2; 0.8; 1.3]	[-0.2; 0.1; 0.3]
4	[0.2; 0.3; 0.6]	[0.2; 0.3; 0.6]	[0.3; 0.4; 0.6]	[0.3; 1.5; 2.3]	[-0.4; 1.6; 3.0]	[0.5; 1.3; 1.7]	[0.4; 1.9; 3.4]	[0.1; 2.5; 4.4]	[0.1; 0.4; 0.7]	[0.2; 0.7; 1.0]	[-0.2; 0.1; 0.3]
5	[0.1; 0.3; 0.5]	[0.1; 0.3; 0.5]	[0.3; 0.4; 0.6]	[0.2; 1.3; 2.0]	[-0.4; 1.4; 2.8]	[0.4; 1.0; 1.3]	[0.4; 1.7; 3.2]	[0.1; 2.5; 4.3]	[0.0; 0.3; 0.6]	[0.1; 0.6; 0.8]	[-0.2; 0.0; 0.2]
10	[0.0; 0.2; 0.3]	[0.0; 0.1; 0.3]	[0.3; 0.4; 0.5]	[0.0; 0.9; 1.5]	[-0.4; 1.1; 2.2]	[0.1; 0.5; 0.7]	[0.3; 1.5; 2.9]	[0.2; 2.6; 4.5]	[0.0; 0.2; 0.5]	[0.1; 0.5; 0.7]	[-0.2; 0.0; 0.2]
15	[0.0; 0.1; 0.3]	[-0.1; 0.1; 0.3]	[0.3; 0.4; 0.5]	[0.0; 0.8; 1.4]	[-0.4; 1.0; 2.0]	[0.1; 0.4; 0.6]	[0.3; 1.5; 2.7]	[0.2; 2.8; 4.9]	[0.0; 0.2; 0.4]	[0.1; 0.4; 0.7]	[-0.2; 0.0; 0.1]
20	[-0.1; 0.1; 0.3]	[-0.1; 0.1; 0.3]	[0.3; 0.4; 0.5]	[0.0; 0.8; 1.4]	[-0.4; 0.9; 1.8]	[0.1; 0.3; 0.5]	[0.3; 1.5; 2.7]	[0.2; 3.0; 5.3]	[0.0; 0.2; 0.4]	[0.0; 0.4; 0.6]	[-0.2; 0.0; 0.1]

Table 2: Fiscal multiplier estimates. Each column contains the average of all estimated multipliers per aggregate, as well as the minimum and maximum of the estimated median multipliers. The aggregate government consumption multiplier is constructed as the weighted average of government consumption expenditure (weight: 0.9) and the tax cut shock (weight: 0.1). The aggregate government investment multiplier is constructed as the weighted average of government investment in machinery and equipment (weight: 0.15), non-residential construction (weight: 0.7) and other capital (weight: 0.15). The aggregate defense spending multiplier is estimated as the arithmetic mean of the multipliers for productive and unproductive defense expenditures.

The highest and most persistent multipliers come from aggregate public investment, which (aggregated) shows a median of 1.5 in the first year and climbs above 1.9 by the second year. This cumulative growth reflects the dual effect of public investment: an immediate stimulus via procurement (demand side) and a delayed, more durable effect via expanded productive capacity (supply side). Theoretically, this is consistent with growth models in which public capital is a complement to private capital (Leeper et al. 2010). Importantly, note that investment translates into real trend output gains through various channels. In particular, while positive net investment expands production capacity beyond the status quo, also gross investment may improve productivity due to capital-embodied technological progress, i.e., replacing inferior capital with new, more productive capital (Jones and Liu 2024).

Investment in machinery and equipment, such as IT, industrial tools, and vehicles, shows multipliers of around 1.4 in the first year, which seems rather high. Non-residential construction, including administrative buildings, schools, and hospitals, delivers more stable but gradually rising multipliers, peaking at 1.9 by the second year. Civil engineering infrastructure (e.g., roads, bridges, rail) shows the archetypic 'slow-burn'pattern: lower impact (1.5) in the first year, but rising to 2.1 by the second year. Infrastructure facilitates agglomeration effects, trade integration, and private investment, all of which may produce substantial GDP effects over time. Finally, intangible capital investment, including spending on research yields the highest long-term multipliers, surpassing 2.5 by the fifth year. These forms of investment may also yield substantial positive externalities: digital infrastructure supports productivity across sectors; R&D stimulates private innovation via spillovers; education raises long-term employment and income potential.

Aggregate defense spending shows consistently weak multipliers (around 0.3-–0.5 at most), in line with Ramey and Shapiro (1998) and Ramey (2011), who find that military spending, especially when unconnected to domestic productive capacity, has low stimulus effects. Defense demand is highly concentrated, often subject to offshoring or limited supply chain integration. However, productive defense expenditures, e.g., spending on dual-use capital goods or defense R&D, exhibit multipliers closer to 1.0, indicating some potential for long-run return. These benefits may depend on technology transfer and commercialization. In contrast, unproductive defense spending, such as purchases of ammunition or ongoing military operations, shows negligible or even negative multipliers. These forms of expenditure provide little domestic value added, are non-recurring, and displace more productive spending. Their weak economic effect reinforces the idea that fiscal space is better used for capital-augmenting expenditures.

5.2.2 Additional GDP

We now turn to discussing the cumulated GDP gains derived from applying the estimated multipliers to the expenditure scenarios. When public spending is primarily consumption-oriented, as shown in the first column of Figure 3, cumulative GDP increases moderately and peaks around 2033 at almost €266 billion before gradually declining in the following years. More precisely, GDP rises slightly above baseline in the late 2020s (see Figure 4), peaking just over 1 % around 2030, but the effect fades quickly. From 2032 onward, GDP levels stagnate or fall below baseline, as the fade-out of additional GDP seems to be stronger than the increase in the underlying baseline trajectory.

More promising outcomes arise when even limited investment components are added to the spending mix. In the constrained consumption-oriented scenario, the introduction of infrastructure investment, even at moderate levels, prolongs the growth effects and dampens the eventual decline in GDP (second column in Figure 3). The cumulative increase in GDP reaches a higher peak and declines more slowly over time compared to the purely consumption-driven approach. Compared to the baseline, GDP peaks over 3 % in 2030 and remains about 2 % higher through 2040, showing that even limited investment improves long-term outcomes (see second column of Figure 4). This 'median' scenario is consistent with the more than two percentage points average GDP increase reported in Dany-Knedlik et al. (2025), who, however, do not consider defense expenditure.

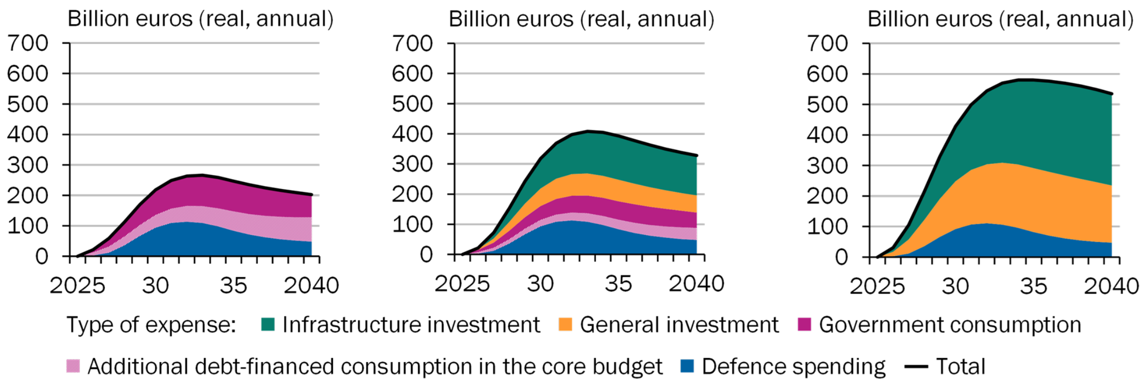

Figure 3: Additional cumulated GDP, by scenario and spending type. From left to right: Consumption orientation, constrained consumption orientation, investment orientation.

The clearest evidence of long-term economic benefit comes from the investment-oriented scenario (third column in Figure 3), where the focus is on high-multiplier public investment. Here, GDP not only grows more rapidly in the initial years but continues to rise over time, remaining significantly above baseline through 2040. In this scenario, cumulative additional output reaches just over €580 billion by 2035 and remains elevated through 2040. These results reflect the higher fiscal multipliers and lasting real benefits associated with public investment. Investment-led approaches also raise the ceiling of potential output itself, not just temporary demand (third column in Figure 4).

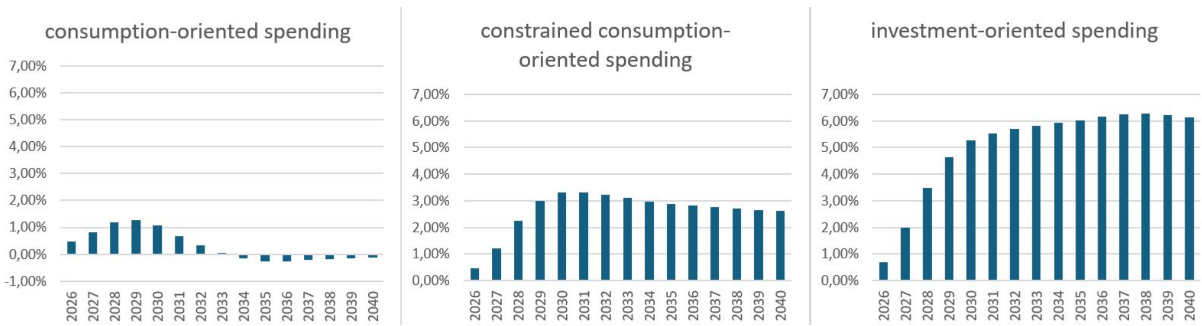

Figure 4: Level difference to baseline real GDP, by scenario. The baseline scenario is the current (spring 2025) potential output projection of the GCEE.

The patterns of nominal GDP growth (Figure 5) mirror the previous results. In the consumption-oriented scenario (first column), nominal GDP growth is initially strong, exceeding 4 % in 2026, but steadily declines in subsequent years. Real GDP growth turns negative in the mid-2030s, highlighting the limited and short-lived economic stimulus of consumption-driven spending. Inflation, measured by the GDP deflator, becomes the primary contributor to nominal GDP growth over time, masking the underlying weakness in real economic activity.

In the constrained consumption-oriented scenario (second column), nominal GDP growth is more balanced. Real GDP growth remains positive throughout the projection period, although it also trends downward after 2026. Inflation remains a stable factor, but the reduced emphasis on consumption spending allows for more enduring real growth than in the pure consumption case.

Finally, the investment-oriented spending scenario (third column) delivers the strongest nominal GDP growth, especially between 2026 and 2029, peaking above 4.5 %. Real GDP accounts for a significantly larger portion of growth in the early years and remains consistently higher than in the other two scenarios through 2040. While inflation contributes at a similar level across all scenarios, the sustained real growth in this case underscores the superior long-term effectiveness of investment-focused fiscal policy.

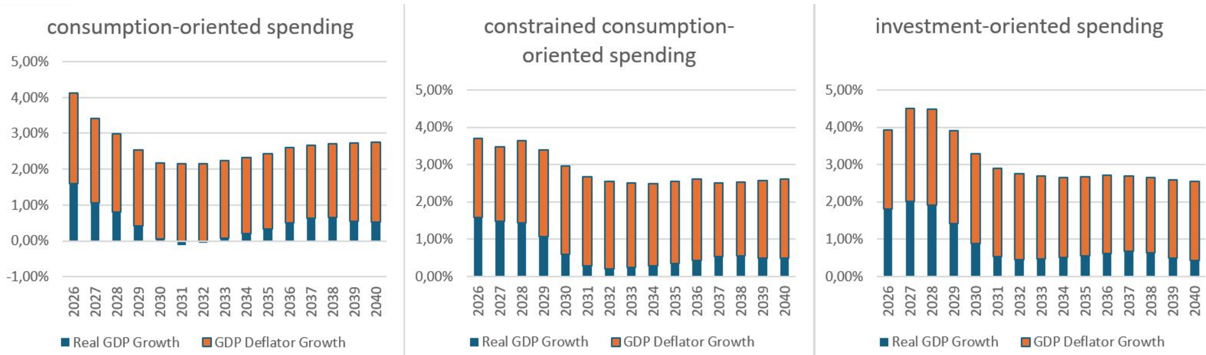

Figure 5: Nominal GDP growth, by scenario.

5.3 Public Debt-to-GDP

We analyze the evolution of annual public deficits across the three scenarios, as these directly reflect the fiscal burden of the assumed expenditure paths (Figure 6). In all three scenarios, additional spending from the €500 billion infrastructure fund, as well as from the 1 % of GDP exemption for defense, is financed through new borrowing. Furthermore, we assume that the constitutionally permitted net borrowing space of 0.7 % of GDP per year (split evenly between the federal government and the Länder) is fully utilized throughout the simulation period. While this borrowing space remains constant, effective deficits vary substantially between scenarios due to differences in fiscal multipliers and resulting GDP growth.

Government deficits follow a qualitatively similar trajectory across the three scenarios (Figure 6). In each case, the deficit increases until 2028 before gradually declining to a range between 0.7 % of GDP (investment orientation) and 1.3 % of GDP (consumption orientation) by 2040. The initial increase reflects the assumption of front-loaded public expenditures, common to all scenarios. However, the magnitude of the deficits differs along two key dimensions. First, a higher share of consumption spending results in lower additional GDP growth in the subsequent years. As a consequence, the denominator in the deficit-to-GDP ratio is smaller in the (constrained) consumption-oriented scenarios, leading to a comparatively higher deficit ratio. By contrast, the investment-oriented scenario benefits from higher fiscal multipliers, which generate strong output responses and thus moderate the deficit trajectory over time. Second, the absolute size of the deficit varies due to differences in budgetary reallocation. In the consumption-oriented scenario (left panel), deficits are 0.5 percentage points of GDP higher than in the investment-oriented scenario (right panel), reflecting a full reallocation of funds from the core budget. This implies that the numerator is larger in the consumption-oriented scenario than in the investment-oriented scenario. In the constrained consumption-oriented scenario (mid panel), this reallocation is assumed to occur only partially resulting in deficits that are 0.25 percentage points of GDP higher than in the investment-oriented case.

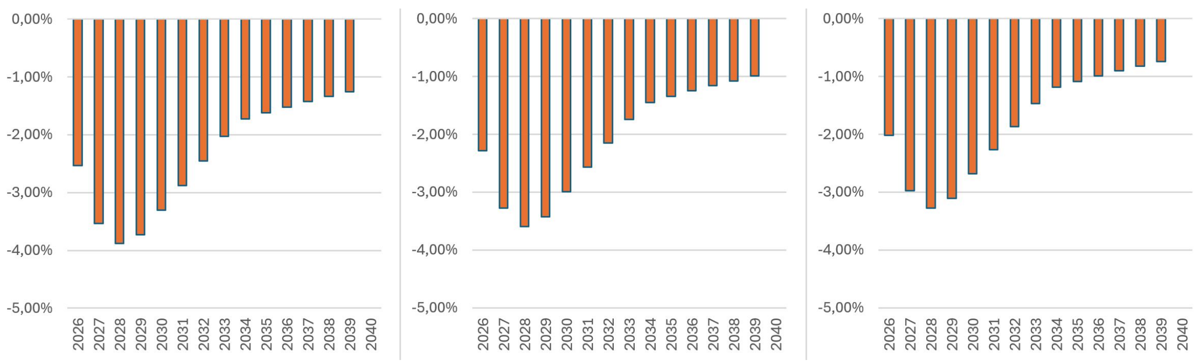

Figure 6: Deficit-to-GDP in the absence of emergencies. From left to right: Consumption orientation, constrained consumption orientation, investment orientation.

Based on these deficit trajectories, we simulate the long-term evolution of the debt-to-GDP ratio until 2040 (Figure 7). These simulations incorporate both the direct accumulation of debt and the endogenous response of GDP to the additional public spending. Our fiscal multipliers, estimated controlling for dynamic tax effects, are applied to the expenditure impulses in each scenario, capturing the respective impact of public investment and consumption on output growth. Consequently, the resulting GDP paths already reflect automatic revenue effects, such as rising tax intake in response to higher output.

To account for macroeconomic uncertainty and the potential need for fiscal stabilization in downturns, we introduce two borrowing regimes into the simulations. In the baseline regime, fiscal rules are strictly adhered to, and net borrowing remains capped at 0.7 % of GDP annually. This regime reflects a scenario in which no emergency clauses from the debt brake are activated. In a second, more flexible regime, we assume that in 20 % of the years–approximately once every five years–unforeseen economic shocks justify a temporary suspension of the debt brake, allowing net borrowing to increase to 3 % of GDP. This calibration mirrors the historical use of the escape clause under the German debt brake and aligns with empirical evidence on the frequency of severe downturns.

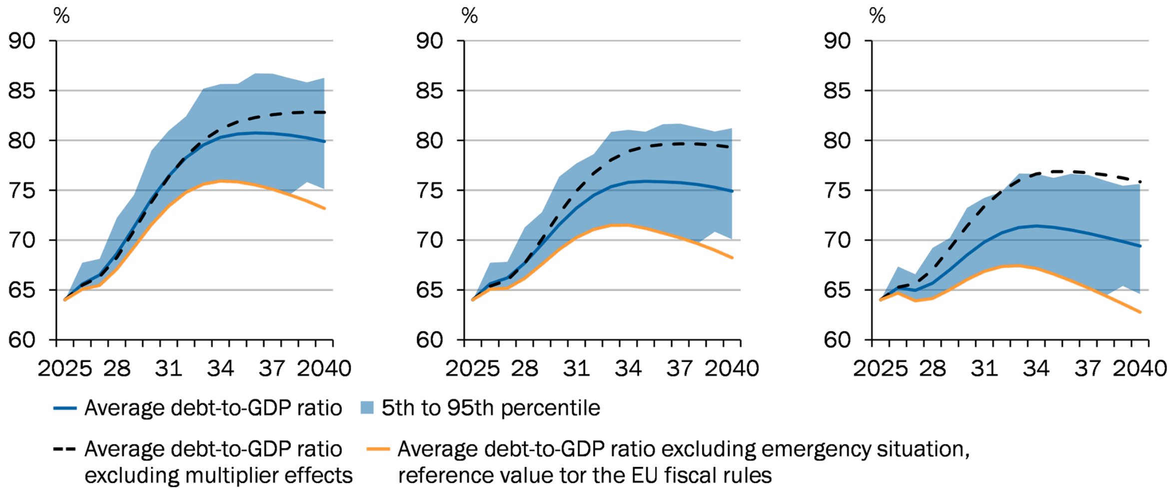

Figure 7: Debt-to-GDP. From left to right: Consumption orientation, constrained consumption orientation, investment orientation. The simulations are based on the projected 2025 debt-to-GDP ratio, real potential output growth until 2040, an annual GDP deflator of 1.8 %, and additional debt-financed spending as defined by the three fiscal policy scenarios with their implications for GDP growth. An emergency situation is assumed to occur with a 20 % probability, in which case the structural budget deficit (excluding the fiscal package) reaches 3 % of GDP; otherwise, it remains at 0.7 %. Each scenario simulates 100,000 fiscal paths.

The resulting debt-to-GDP ratios diverge significantly across scenarios, reflecting both fiscal effort and economic returns (Figure 7). In the consumption-oriented scenario (left panel), the debt ratio rises to 79.9 % of GDP by 2040, driven by sustained borrowing and modest output gains. In the constrained consumption-oriented scenario (mid panel), where 37 % of the infrastructure fund is used for investment, the ratio reaches 74.9 % of GDP, as partial growth effects help dampen debt accumulation. In contrast, the investment-oriented scenario (right panel) results in a markedly lower debt ratio of 69.4 % of GDP, owing to lower deficits and stronger GDP growth. The former reduces the numerator, the latter raises the denominator of the debt ratio. These findings highlight the central role of expenditure composition in determining long-term fiscal sustainability—not only through direct fiscal impacts, but also via the growth response of the economy.

Alternative simulations that either ignore the growth effects of additional spending or assume that defense expenditures are financed outside the debt brake framework yield considerably higher debt ratios. For example, Steinbach and Zettelmeyer (2025) show that if annual defense spending between 2.5 % and 3.5 % of GDP is excluded from the fiscal rule, the debt-to-GDP ratio eventually converges to values between 74 % and 114 % of GDP, depending on nominal GDP growth (ranging from 3 % to 2 %). In contrast, we incorporate both GDP growth effects and assume that defense spending is gradually integrated into the core budget. In an investment-oriented scenario and assuming no further emergency borrowing after 2034, the debt-to-GDP ratio declines to 62.8 % by 2040. Conversely, in consumption-oriented scenarios, the debt ratio does not fall below 68 % of GDP by the end of the projection period.

6 Conclusion

We examined the macroeconomic implications of Germany's new fiscal consensus, focusing on the composition of government spending under a significantly expanded debt-financed fiscal envelope. Using structural vector autoregressions and a forward-looking scenario analysis, we find that the type of spending, particularly the distinction between investment and consumption, plays a decisive role in determining long-term economic outcomes. Investment-oriented strategies, especially those targeting infrastructure and intangible capital such as R&D and education, consistently yield higher fiscal multipliers, more persistent GDP gains, and more favorable public debt trajectories compared to consumption-driven approaches. These results point to a clear conclusion: fiscal quality matters more than fiscal quantity. Strategic allocation of public resources toward high-return investment not only stimulates aggregate demand in the short term but also expands productive capacity, raising potential output and supporting fiscal sustainability over the long run.

At the same time, this analysis is subject to several limitations. First, the identification of fiscal shocks within the structural VAR framework depends on sign and magnitude restrictions that, while grounded in empirical literature, are not immune to ambiguity or misclassification. This affects the precision of our multiplier estimates, particularly for categories like defense spending or tax changes, where macroeconomic effects are often context-dependent. Second, the fiscal multipliers are derived from historical data and extrapolated into a future policy environment that differs markedly from past experience. The magnitude and timing of fiscal effects under current conditions may diverge from historical patterns, potentially overstating or understating the true effects. Moreover, our simulations assume efficient implementation of public investment projects. In practice, delays, regulatory bottlenecks, or misallocation of resources could reduce the realized impact of investment spending. Another limitation lies in the uniform treatment of federal and state-level fiscal behavior. The scenarios do not fully capture administrative and political differences between levels of government, which may influence the allocation and effectiveness of public funds. Future research could alleviate these limitations and enhance our framework, e.g., by incorporating general equilibrium dynamics and agent heterogeneity. We expect that our main conclusion will stand up to further improvements: Investment-oriented spending has the most favorable long-term economic outcomes.

References

Arias, J. E., J. F. Rubio-Ramírez, and D. F. Waggoner (2018): “Inference Based on Structural Vector Autoregressions Identified With Sign and Zero Restrictions: Theory and Applications,” *Econometrica*, 86, 685–720.

Barro, R. J. and C. J. Redlick (2011): “Macroeconomic effects from government purchases and taxes,” *Quarterly Journal of Economics*, 126, 51–102.

Blanchard, O. J. and R. Perotti (2002): “An empirical characterization of the dynamic effects of changes in government spending and taxes on output,” *Quarterly Journal of Economics*, 117, 1329–1368.

BMF (2024): “Bundeshaushaltsplan 2024: Einzelplan 14 – Bundesministerium der Verteidigung,” Tech. rep., Bundesministerium der Finanzen, Berlin.

Bundestag (2025): “Entwurf eines Gesetzes zur Änderung des Grundgesetzes (Artikel 109, 115 und 143h),” Drucksache 20/15123, Deutscher Bundestag.

Burriel, P., F. d. Castro, D. Garrote, E. Gordo, J. Paredes, and J. J. Pérez (2009): “Fiscal policy shocks in the euro area and the US: an empirical assessment,” Working Papers 0930, Banco de España.

Caldara, D. and C. Kamps (2008): “What are the effects of fiscal policy shocks? A VAR-based comparative analysis,” Working Paper Series 877, European Central Bank.

CDU, CSU and SPD (2025): “Verantwortung für Deutschland – Koalitionsvertrag zwischen CDU, CSU und SPD, 21. Legislaturperiode,” Tech. rep., Berlin.

Dany-Knedlik, G., A. Kriwoluzky, and M. Rieth (2025): “Sondervermögen für Infrastruktur: 500-Milliarden-Euro-Investitionspaket würde deutsche Wirtschaft aus der Krise holen,” DIW aktuell 111 (Sonderausgaben zur Bundestagswahl 2025), Deutsches Institut für Wirtschaftsforschung, Berlin.

European Commission (2025): “Joint White Paper for European Defence Readiness 2030,” JOIN(2025) 120 final, Brüssel.

GCEE (2025): “Spring Report 2025,” Tech. rep., German Council of Economic Experts, Berlin.

Gordon, R. J. and R. Krenn (2010): “The End of the Great Depression 1939-41: Policy Contributions and Fiscal Multipliers,” NBER Working Papers 16380, National Bureau of Economic Research, Inc.

Hollmayr, J. and J. Kuckuck (2018): “Fiscal multipliers of central, state and local government and of the social security funds in Germany: Evidence of a SVAR,” Deutsche Bundesbank Discussion Paper 28/2018, Deutsche Bundesbank, Frankfurt am Main.

Jones, B. F. and X. Liu (2024): "A Framework for Economic Growth with Capital-Embodied Technical Change," *American Economic Review*, 114, 1448–1487.

Kuschnig, N. and L. Vashold (2021): "BVAR: Bayesian vector autoregressions with hierarchical prior selection in R," *Journal of Statistical Software*, 100, 1–27.

Laubach, T. (2009): "New Evidence on the Interest Rate Effects of Budget Deficits and Debt," *Journal of the European Economic Association*, 7, 858–885.

Leeper, E. M., T. B. Walker, and S.-C. S. Yang (2010): "Government investment and fiscal stimulus," *Journal of Monetary Economics*, 57, 1000–1012.

Mountford, A. and H. Uhlig (2009): "What are the effects of fiscal policy shocks?" *Journal of Applied Econometrics*, 24, 960–992.

Ochsner, C., L. Other, E. Thiel, and C. Zuber (2024): "Demographic aging and long-run economic growth in Germany," Working Paper 02/2024, Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung, Wiesbaden.

Ramey, V. A. (2011): "Identifying government spending shocks: It's all in the timing," *Quarterly Journal of Economics*, 126, 1–50.

Ramey, V. A. and M. D. Shapiro (1998): "Costly capital reallocation and the effects of government spending," *Carnegie-Rochester Conference Series on Public Policy*, 48, 145–194.

Röhl, K.-H. (2024): "Verteidigungsausgaben. Gerade so genug für die NATO?" IW-Kurzbericht 19, Institut der deutschen Wirtschaft, Berlin.

Steinbach, A. and J. Zettelmeyer (2025): "Germany's fiscal rules dilemma: Without further reform, European Union fiscal rules could stop Germany from using the new fiscal space it has freed up for itself," Bruegel Analysis 24 April 2025, Bruegel, Brüssel.

Waggoner, D. F. and T. Zha (1999): "Conditional Forecasts in Dynamic Multivariate Models," *The Review of Economics and Statistics*, 81, 639–651.

Yared, P. (2019): "Rising government debt: Causes and solutions for a decades-old trend," *Journal of Economic Perspectives*, 33, 115–140.

A Tables

Simulation results at a glance

Year	Consumption orientation			Consumption orientatoin limited by investment ratio			Investment orientation		
	Con-sumption	Invest-ments[1]	Defence	Con-sumption	Invest-ments[1]	Defence	Con-sumption	Invest-ments[1]	Defence
Expenditure (nominal) in billion euros									
2025	0	0	0	0	0	0	0	0	0
2026	43	0	7	27	5	7	0	20	7
2027	66	0	21	36	18	21	0	42	21
2028	78	0	59	41	25	59	0	54	59
2029	84	0	75	43	28	75	0	59	75
2030	82	0	72	43	26	72	0	56	72
2031	77	0	58	41	23	58	0	51	58
2032	73	0	43	40	19	43	0	46	43
2033	68	0	27	39	15	27	0	40	27
2034	63	0	11	38	11	11	0	35	11
2035	59	0	0	37	7	0	0	30	0
2036	54	0	0	36	3	0	0	24	0
2037	49	0	0	33	1	0	0	19	0
2038	45	0	0	28	1	0	0	14	0
2039	41	0	0	24	1	0	0	8	0
2040	36	0	0	19	0	0	0	3	0
Expenditure (in 2020 prices) in billion euros									
2025	0	0	0	0	0	0	0	0	0
2026	41	0	7	26	5	7	0	19	7
2027	60	0	19	34	16	19	0	37	19
2028	69	0	53	37	22	53	0	45	52
2029	72	0	65	38	23	64	0	47	63
2030	69	0	61	37	21	60	0	43	59
2031	64	0	48	35	18	47	0	38	47
2032	59	0	35	33	14	34	0	33	34
2033	54	0	22	32	11	21	0	29	21
2034	50	0	8	30	8	8	0	25	8
2035	45	0	0	29	5	0	0	20	0
2036	41	0	0	27	2	0	0	16	0
2037	37	0	0	25	1	0	0	13	0
2038	33	0	0	21	1	0	0	9	0
2039	29	0	0	17	0	0	0	5	0
2040	26	0	0	14	0	0	0	2	0

1 – Sum of average governmet investments and transport infrastructure investment. 2 – Defined as the minimum of the estimated median multipliers. 3 – Defined as the maximum of the estimated median multipliers. 4 – Measured by the respective deflators, 16 %, 50 % and 84 % quantile in each case, i. e. there is a 68 % probability that the value lies within the specified interval. 5 – Ratio of the levels of real GDP with the financial package and the real GDP of the reference scenario, minus one.

Sources: Federal Ministry of Finance, Federal Statistical Office, FRED, own computations

Table 3

Simulation results at a glance

Year	Consumption orientation			Consumption orientatoin limited by investment ratio			Investment orientation		
	Multiplier			Multiplier			Multiplier		
	Lower limit² [L]	Mean value [M]	Upper limit³ [U]	Lower limit² [L]	Mean value [M]	Upper limit³ [U]	Lower limit² [L]	Mean value [M]	Upper limit³ [U]
Additional cumulative GDP in billion euros									
2025	0	0	0	0	0	0	0	0	0
2026	10	22	42	8	21	40	5	31	54
2027	25	58	111	21	72	131	18	105	181
2028	42	112	216	39	153	278	36	215	370
2029	60	170	325	59	242	436	57	330	569
2030	75	218	414	76	318	569	76	429	738
2031	84	249	471	88	369	661	90	499	862
2032	86	263	501	93	397	716	97	544	944
2033	84	266	508	93	408	741	99	570	994
2034	79	259	500	89	405	741	98	580	1 018
2035	71	247	482	84	393	726	96	580	1 024
2036	63	235	466	77	378	707	92	576	1 024
2037	56	225	454	72	363	687	89	569	1 019
2038	50	216	444	66	349	669	86	560	1 008
2039	45	209	436	62	338	653	83	549	993
2040	40	203	429	57	328	638	79	535	973

Year	Consumption orientation			Consumption orientatoin limited by investment ratio			Investment orientation		
	Con-sumption	Invest-ment	Non-resi-dential con-struction	Con-sumption	Invest-ment	Non-resi-dential con-struction	Con-sumption	Invest-ment	Non-resi-dential con-struction
	[L; M; U]	[L; M; U]	[L; M; U]	[L; M; U]	[L; M; U]	[L; M; U]	[L; M; U]	[L; M; U]	[L; M; U]
Price development (government expenditure deflators) in %⁴									
2025	[0; 0; 0]	[0; 0; 0]	[0; 0; 0]	[0; 0; 0]	[0; 0; 0]	[0; 0; 0]	[0; 0; 0]	[0; 0; 0]	[0; 0; 0]
2026	[-1; 3; 7]	[0; 4; 7]	[1; 4; 7]	[0; 3; 6]	[0; 4; 7]	[1; 4; 8]	[-1; 2; 6]	[1; 4; 8]	[2; 5; 9]
2027	[3; 7; 10]	[0; 4; 7]	[0; 4; 7]	[2; 5; 8]	[1; 5; 8]	[2; 5; 8]	[0; 3; 6]	[3; 7; 11]	[3; 7; 10]
2028	[0; 3; 6]	[0; 3; 7]	[0; 4; 6]	[-1; 3; 5]	[1; 5; 8]	[2; 6; 8]	[0; 3; 6]	[3; 7; 10]	[3; 6; 9]
2029	[-1; 3; 5]	[0; 3; 6]	[0; 4; 6]	[-1; 2; 5]	[1; 4; 7]	[2; 5; 7]	[0; 3; 5]	[2; 5; 8]	[2; 5; 7]
2030	[-1; 2; 5]	[-1; 3; 6]	[0; 3; 6]	[-1; 2; 5]	[0; 4; 6]	[0; 3; 6]	[-1; 2; 5]	[1; 4; 6]	[0; 3; 6]
2031	[-1; 2; 4]	[-1; 3; 6]	[0; 3; 6]	[-1; 2; 4]	[-1; 3; 5]	[0; 3; 5]	[-1; 2; 5]	[-1; 3; 5]	[0; 3; 5]
2032	[-1; 2; 4]	[0; 3; 5]	[0; 3; 5]	[-1; 2; 4]	[-1; 2; 5]	[0; 2; 4]	[-1; 2; 4]	[-1; 2; 4]	[-1; 2; 4]
2033	[-1; 2; 4]	[-1; 3; 5]	[0; 3; 5]	[-1; 2; 4]	[-1; 2; 4]	[-1; 2; 4]	[-1; 2; 4]	[-1; 2; 4]	[-1; 2; 4]
2034	[-1; 2; 4]	[-1; 3; 5]	[0; 3; 5]	[-1; 2; 4]	[-1; 2; 4]	[-1; 2; 4]	[-1; 2; 4]	[-1; 2; 4]	[-1; 2; 4]
2035	[-1; 2; 3]	[-1; 3; 4]	[0; 3; 5]	[-1; 2; 4]	[-1; 2; 4]	[-1; 2; 4]	[-1; 2; 4]	[-1; 2; 4]	[-1; 2; 4]
2036	[-1; 2; 3]	[-1; 3; 4]	[0; 3; 4]	[-1; 2; 4]	[-1; 2; 4]	[-1; 2; 4]	[-1; 2; 4]	[-2; 2; 4]	[-1; 2; 4]
2037	[-1; 2; 3]	[-1; 2; 4]	[0; 3; 4]	[-1; 2; 3]	[-1; 2; 4]	[0; 2; 4]	[-1; 2; 4]	[-2; 2; 3]	[-1; 2; 4]
2038	[-1; 2; 3]	[-1; 2; 4]	[0; 3; 4]	[-1; 2; 3]	[-1; 2; 4]	[0; 2; 4]	[-1; 2; 3]	[-1; 2; 3]	[-1; 2; 3]
2039	[-1; 2; 3]	[-1; 2; 4]	[0; 3; 4]	[-1; 2; 3]	[-1; 2; 4]	[0; 2; 4]	[-1; 2; 3]	[-2; 2; 3]	[-1; 2; 3]
2040	[-1; 2; 3]	[-1; 2; 4]	[0; 3; 4]	[-1; 2; 3]	[-1; 2; 3]	[0; 3; 4]	[-1; 2; 3]	[-2; 2; 3]	[-1; 2; 3]

1 – Sum of average governmet investments and transport infrastructure investment. 2 – Defined as the minimum of the estimated median multipliers. 3 – Defined as the maximum of the estimated median multipliers. 4 – Measured by the respective deflators, 16 %, 50 % and 84 % quantile in each case, i. e. there is a 68 % probability that the value lies within the specified interval. 5 – Ratio of the levels of real GDP with the financial package and the real GDP of the reference scenario, minus one.

Sources: Federal Ministry of Finance, Federal Statistical Office, FRED, own computations

Table 4

Simulation results at a glance

Year	Consumption orientation			Consumption orientatoin limited by investment ratio			Investment orientation		
	Multiplier			Multiplier			Multiplier		
	Lower limit² [L]	Mean value [M]	Upper limit³ [U]	Lower limit² [L]	Mean value [M]	Upper limit³ [U]	Lower limit² [L]	Mean value [M]	Upper limit³ [U]
Debt-to-GDP ratio (excluding emergency situations) in %									
2025	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0
2026	65.3	65.1	64.8	65.3	65.1	64.8	65.1	64.7	64.4
2027	65.8	65.5	64.9	65.5	65.2	64.5	64.9	63.9	62.9
2028	67.7	67.1	66.2	67.0	66.2	64.9	66.0	64.2	62.4
2029	70.0	69.3	68.4	68.8	67.6	65.9	67.6	65.0	62.7
2030	72.1	71.6	70.8	70.6	69.1	67.2	69.1	66.1	63.5
2031	73.8	73.4	72.9	71.9	70.3	68.4	70.2	66.9	64.1
2032	75.0	74.8	74.5	72.8	71.1	69.2	70.9	67.3	64.4
2033	75.7	75.6	75.5	73.3	71.5	69.6	71.1	67.4	64.4
2034	75.9	75.9	76.0	73.3	71.5	69.7	70.8	67.2	64.1
2035	75.8	75.8	76.0	72.9	71.2	69.4	70.2	66.6	63.6
2036	75.5	75.5	75.6	72.4	70.7	69.0	69.5	65.9	62.9
2037	75.0	75.1	75.2	71.9	70.2	68.6	68.7	65.2	62.2
2038	74.5	74.5	74.6	71.2	69.7	68.1	67.8	64.4	61.5
2039	73.9	73.9	73.9	70.4	69.0	67.6	66.9	63.6	60.8
2040	73.1	73.2	73.2	69.6	68.2	66.9	65.9	62.8	60.2

1 – Sum of average governmet investments and transport infrastructure investment. 2 – Defined as the minimum of the estimated median multipliers. 3 – Defined as the maximum of the estimated median multipliers. 4 – Measured by the respective deflators, 16 %, 50 % and 84 % quantile in each case, i. e. there is a 68 % probability that the value lies within the specified interval. 5 – Ratio of the levels of real GDP with the financial package and the real GDP of the reference scenario, minus one.

Sources: Federal Ministry of Finance, Federal Statistical Office, FRED, own computations

Table 5

Simulation results at a glance

Year	Consumption orientation			Consumption orientatoin limited by investment ratio			Investment orientation		
	Multiplier			Multiplier			Multiplier		
	Lower limit² [L]	Mean value [M]	Upper limit³ [U]	Lower limit² [L]	Mean value [M]	Upper limit³ [U]	Lower limit² [L]	Mean value [M]	Upper limit³ [U]
Real GDP growth in %									
2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2026	1.3	1.6	2.0	1.3	1.6	2.0	1.2	1.8	2.3
2027	0.8	1.1	1.4	0.9	1.5	2.0	1.0	2.0	2.9
2028	0.5	0.8	1.2	0.6	1.4	2.2	0.7	1.9	3.0
2029	0.3	0.4	0.4	0.5	1.1	1.5	0.6	1.4	2.1
2030	0.2	0.1	- 0.2	0.4	0.6	0.8	0.4	0.9	1.3
2031	0.1	- 0.1	- 0.4	0.2	0.3	0.3	0.3	0.5	0.8
2032	0.2	- 0.1	- 0.3	0.2	0.2	0.3	0.3	0.5	0.7
2033	0.2	0.1	- 0.1	0.3	0.2	0.3	0.3	0.5	0.7
2034	0.3	0.2	0.0	0.4	0.3	0.3	0.4	0.5	0.7
2035	0.4	0.3	0.3	0.4	0.3	0.3	0.5	0.5	0.7
2036	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.6	0.8
2037	0.6	0.6	0.7	0.6	0.5	0.5	0.6	0.7	0.8
2038	0.6	0.6	0.7	0.6	0.6	0.5	0.6	0.6	0.7
2039	0.5	0.6	0.6	0.5	0.5	0.4	0.5	0.5	0.5
2040	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.4
Price development (GDP deflator) in %									
2025	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
2026	2.5	2.5	2.6	2.1	2.1	2.1	2.1	2.1	2.1
2027	2.3	2.3	2.4	2.4	2.0	2.1	2.6	2.5	2.7
2028	2.1	2.2	2.3	2.3	2.2	2.4	2.3	2.6	2.8
2029	2.1	2.1	2.2	2.3	2.3	2.5	2.2	2.5	2.7
2030	2.1	2.1	2.1	2.3	2.4	2.4	2.2	2.4	2.5
2031	2.2	2.2	2.1	2.2	2.4	2.4	2.2	2.4	2.4
2032	2.2	2.2	2.1	2.2	2.3	2.3	2.2	2.3	2.3
2033	2.2	2.2	2.1	2.1	2.3	2.2	2.1	2.2	2.2
2034	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.1
2035	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.0
2036	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.0
2037	2.0	2.0	2.0	1.9	2.0	1.9	2.0	2.0	1.9
2038	2.1	2.1	2.1	2.0	2.0	1.9	2.1	2.0	1.9
2039	2.2	2.2	2.2	2.2	2.1	2.0	2.2	2.1	2.0
2040	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.1	2.0

1 – Sum of average governmet investments and transport infrastructure investment. 2 – Defined as the minimum of the estimated median multipliers. 3 – Defined as the maximum of the estimated median multipliers. 4 – Measured by the respective deflators, 16 %, 50 % and 84 % quantile in each case, i. e. there is a 68 % probability that the value lies within the specified interval. 5 – Ratio of the levels of real GDP with the financial package and the real GDP of the reference scenario, minus one.

Sources: Federal Ministry of Finance, Federal Statistical Office, FRED, own computations

Table 6

Simulation results at a glance

Year	Consumption orientation			Consumption orientatoin limited by investment ratio			Investment orientation		
	Multiplier			Multiplier			Multiplier		
	Lower limit[2] [L]	Mean value [M]	Upper limit[3] [U]	Lower limit[2] [L]	Mean value [M]	Upper limit[3] [U]	Lower limit[2] [L]	Mean value [M]	Upper limit[3] [U]
Government budget deficit in %									
2026	- 3.6	- 3.6	- 3.6	- 3.4	- 3.4	- 3.4	- 3.1	- 3.1	- 3.1
2027	- 2.5	- 2.5	- 2.5	- 2.3	- 2.3	- 2.3	- 2.0	- 2.0	- 2.0
2028	- 3.6	- 3.5	- 3.5	- 3.3	- 3.3	- 3.2	- 3.0	- 3.0	- 2.9
2029	- 3.9	- 3.9	- 3.8	- 3.6	- 3.6	- 3.5	- 3.4	- 3.3	- 3.2
2030	- 3.8	- 3.7	- 3.7	- 3.5	- 3.4	- 3.3	- 3.2	- 3.1	- 3.0
2031	- 3.3	- 3.3	- 3.3	- 3.0	- 3.0	- 2.9	- 2.8	- 2.7	- 2.6
2032	- 2.9	- 2.9	- 2.9	- 2.6	- 2.6	- 2.5	- 2.4	- 2.3	- 2.2
2033	- 2.5	- 2.5	- 2.5	- 2.2	- 2.2	- 2.1	- 1.9	- 1.9	- 1.8
2034	- 2.0	- 2.0	- 2.0	- 1.8	- 1.7	- 1.7	- 1.5	- 1.5	- 1.4
2035	- 1.7	- 1.7	- 1.7	- 1.5	- 1.4	- 1.4	- 1.2	- 1.2	- 1.2
2036	- 1.6	- 1.6	- 1.6	- 1.4	- 1.3	- 1.3	- 1.1	- 1.1	- 1.1
2037	- 1.5	- 1.5	- 1.5	- 1.3	- 1.2	- 1.2	- 1.0	- 1.0	- 1.0
2038	- 1.4	- 1.4	- 1.4	- 1.2	- 1.2	- 1.1	- 0.9	- 0.9	- 0.9
2039	- 1.3	- 1.3	- 1.3	- 1.1	- 1.1	- 1.1	- 0.8	- 0.8	- 0.8
2040	- 1.3	- 1.3	- 1.3	- 1.0	- 1.0	- 1.0	- 0.7	- 0.7	- 0.7
Difference of the real GDP to the reference scenario in %[5]									
2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2026	0.2	0.5	0.9	0.2	0.5	0.9	0.1	0.7	1.2
2027	0.3	0.8	1.6	0.3	1.2	2.2	0.3	2.0	3.4
2028	0.4	1.2	2.3	0.5	2.2	4.0	0.6	3.5	6.0
2029	0.4	1.3	2.4	0.6	3.0	5.2	0.9	4.6	7.9
2030	0.3	1.1	2.0	0.7	3.3	5.7	1.0	5.3	9.0
2031	0.2	0.7	1.3	0.7	3.3	5.8	1.1	5.5	9.6
2032	0.1	0.3	0.6	0.6	3.2	5.8	1.1	5.7	10.1
2033	- 0.1	0.1	0.2	0.6	3.1	5.7	1.1	5.8	10.5
2034	- 0.1	- 0.2	- 0.2	0.5	3.0	5.5	1.1	5.9	10.8
2035	- 0.2	- 0.3	- 0.4	0.5	2.9	5.4	1.2	6.0	11.1
2036	- 0.2	- 0.3	- 0.3	0.5	2.8	5.4	1.2	6.2	11.5
2037	- 0.2	- 0.2	- 0.3	0.5	2.8	5.3	1.3	6.3	11.7
2038	- 0.1	- 0.2	- 0.2	0.5	2.7	5.2	1.3	6.3	11.8
2039	- 0.1	- 0.2	- 0.2	0.5	2.7	5.1	1.3	6.2	11.7
2040	- 0.1	- 0.1	- 0.1	0.5	2.6	5.1	1.3	6.1	11.6

1 – Sum of average governmet investments and transport infrastructure investment. 2 – Defined as the minimum of the estimated median multipliers. 3 – Defined as the maximum of the estimated median multipliers. 4 – Measured by the respective deflators, 16 %, 50 % and 84 % quantile in each case, i. e. there is a 68 % probability that the value lies within the specified interval. 5 – Ratio of the levels of real GDP with the financial package and the real GDP of the reference scenario, minus one.

Sources: Federal Ministry of Finance, Federal Statistical Office, FRED, own computations

Table 7