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Working Paper No. 1082

Growth vs. Discipline: Italy's Fiscal Dilemmas in a Stock-Flow Consistent Model

by

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ABSTRACT

This paper investigates the implications of the European Union's revised fiscal governance framework for Italy, a country facing the dual challenge of high public debt and persistent economic stagnation. Using a Stock-Flow Consistent (SFC) macroeconometric model of the Italian economy (MITA), we assess the medium-term macroeconomic implications of the government Medium-term Fiscal-Structural Plan, and whether it aligns with debt stabilization and economic recovery goals. We show how the government expenditure path, consistent with the new Debt Sustainability Analysis, leads instead to an increase in debt/GDP. We perform alternative fiscal policy scenarios (higher/lower spending; higher/lower direct tax rate; and a policy mix of higher spending and higher tax rate) and look at the effects on growth and debt sustainability. Results highlight the trade-offs inherent in adhering to the revised fiscal rules, particularly the tension between achieving long-term debt reduction and supporting growth.

KEYWORDS: European Fiscal Rules; Debt Sustainability; Empirical Stock-Flow Consistent Models; Italy; Fiscal Policy

JEL CODES: C54; E12; E17; E44; E62

1. INTRODUCTION

The European Union (EU) has recently reformed its fiscal governance framework to address the dual challenge of high public debt and the need to support economic recovery across member states. These changes are particularly consequential for Italy, which has the second-highest debt-to-GDP ratio in the eurozone and a history of sluggish economic growth. The stakes are high: Italian policymakers must navigate the delicate balance between fiscal discipline and economic expansion in an environment marked by geopolitical tensions, rising interest rates, and trade uncertainties (particularly given the potential policy shifts under the new Trump administration).

The new EU fiscal rules, which came into force in April 2024, introduce a more structured approach to assessing debt dynamics, centered on the Debt Sustainability Analysis (DSA) framework. Using a commonly agreed-upon methodology, the DSA determines a net expenditure path—effectively a multi-year adjustment trajectory—to which governments must adhere. This path must ensure that public debt is on a plausibly downward trajectory or remains at prudent levels even under adverse circumstances. While these rules aim to enhance fiscal sustainability, they also introduce constraints on fiscal flexibility, necessitating a recalibration of policy priorities.

In compliance with these revised rules, the Italian government published its first Medium-Term Structural Fiscal Plan (MTSFP) in November 2024, outlining an expenditure path that is designed to reduce the debt-to-GDP ratio over a seven-year adjustment period. However, whether this plan is sufficient to ensure both debt stabilization and economic recovery remains an open question.

This paper examines the macroeconomic implications of the new fiscal rules for Italy, focusing on their impact on debt sustainability and broader economic dynamics. Using an updated version of our quarterly Stock-Flow Consistent (SFC) model of the Italian economy, the MITA model (Zezza 2024; Zezza and Zezza 2020, 2022), we simulate a baseline and alternative fiscal policy scenarios to assess whether the government's proposed fiscal path is consistent with long-term sustainability and growth objectives.

The European fiscal framework has long been criticized for its rigidity and one-size-fits-all approach, which often fails to account for country-specific economic conditions. The recent reforms add further complexity to Italy's fiscal landscape. While these rules seek to ensure long-term debt reduction, they may constrain fiscal policy in ways that exacerbate economic stagnation (Heimberger et al. 2024). This raises several pressing questions:

1. How will the EU's revised fiscal framework affect Italy's debt sustainability and economic growth prospects?
2. What are the macroeconomic implications of alternative fiscal policy paths, considering external and domestic economic conditions?
3. Can expansionary fiscal measures be reconciled with compliance under the new rules, or do they inevitably lead to unsustainable debt dynamics?

To explore these issues, we adopt a comprehensive macroeconomic modeling approach. The MITA model explicitly integrates sectoral, financial, and real economy interactions, encompassing households, firms, banks, the central bank, the government, and the rest of the world. This structure allows for a more realistic assessment of fiscal policy impacts, capturing how changes in government spending and taxation propagate through the economy. A key strength of the SFC approach is its ability to account for stock-flow relationships, ensuring that fiscal policies are analyzed in the context of their interactions with debt dynamics, private-sector behavior, and external economic conditions.

The remainder of the paper is organized as follows. Section 2 provides an overview of Italy's economic context and fiscal challenges, highlighting long-term structural issues and recent fiscal and monetary policy shifts. Section 3 describes the MITA model's methodological framework, including updates to its dataset and behavioral equations. Section 4 evaluates whether the government's MTSFP aligns with the objectives of the Stability and Growth Pact (SGP) and presents a baseline scenario for the 2025–9 period. Section 5 explores alternative fiscal policy simulations, assessing debt sustainability under different policy paths and external conditions. Finally, Section 6 concludes with policy recommendations, emphasizing the importance of balancing fiscal discipline with growth-enhancing economic policies.

2. THE CONTEXT: ECONOMIC RECOVERY AND THE (RETURN OF THE) EXTERNAL CONSTRAINT

The Pandemic and the Fiscal Response

During the post-war period up to the 1970s—notwithstanding its structural characteristics, i.e., a low-cost competition strategy coupled with labor fragmentation, a productive structure characterized by many small and medium firms (SME) and a few large public corporations, and a deep territorial divide—Italy's economy thrived, driven by a mix of rapid State-led industrialization and export-led growth (Celi, Guarascio, and Zezza 2024; Guarascio, Heimberger, and Zezza 2025; Iuzzolino, Pellegrini, and Viesti 2013; Papagni et al. 2021). In the 1980s, however, Italy's growth began to decelerate, driven by the gradual dismantling of industrial policy, the financial and operational crises of state-owned enterprises (SOEs), and escalating political conflicts and capital labor struggles that hindered innovation and investment. A dysfunctional mix of restrictive monetary policy and expansionary fiscal policy, coupled with a high-interest rate environment, ended up in a soaring public debt-to-GDP ratio, which reached over 130 percent in the early 1990s. Following the currency crisis that pushed Italy out of the European Monetary System, 1995 marked the beginning of a new fiscal stance, with the government pursuing ever-increasing primary surpluses, in the attempt to converge to Maastricht deficit criteria, and to signal a strong commitment to join the monetary union. The restrictive fiscal and monetary policy proved instrumental in setting the debt-to-GDP ratio on a declining path. The price to pay, however, was a deterioration of external competitiveness which resulted in an ever-increasing current account deficit, overall weak domestic demand and sluggish growth (Celi et al. 2018; Cesaratto and Zezza 2019). This trend worsened after the adoption of the euro, as Italy and other southern periphery countries struggled to compete in a single-currency environment with stringent fiscal rules without the ability to adjust the exchange rate, resulting in sluggish productivity dynamics, loss in competitiveness and growing external imbalances (Özgür and Memis 2017; Stockhammer, Constantine, and Reissl 2015; G. Zezza 2020).

When the Global Financial Crisis (GFC) hit, the government's response was characterized by fiscal restraint, as Italy was forced to adopt austerity measures, resulting in a double-dip recession (Heimberger 2017). The subsequent years were characterized by a sluggish recovery, hindered by the implementation of additional fiscal consolidation measures throughout the eurozone. While the current account improved significantly—driven by a

steep reduction in imports and the euro's depreciation against the US dollar—economic growth remained stagnant, further widening the gap with core countries (Gräbner et al. 2020). This divergence was mirrored in an expanding territorial divide—in terms of both income and wealth (Acciari, Alvaredo, and Morelli 2021; Brandolini, Gambacorta, and Rosolia 2018)—and substantial migration flows, both within Italy (from the south to the north) and abroad (SVIMEZ 2022).

The country's economic trajectory over the past 25 years has been marked by a prolonged decline in real GDP vis-à-vis other European peers and the US, which has positioned it as one of the weakest performers among advanced economies. By the end of 2019, Italy was the only country still 7 percent below its pre-Great Recession level in terms of real GDP, and over 20 percent below in terms of industrial production (Figure 1a, 1c).

The COVID-19 pandemic triggered an unprecedented global economic crisis, with Italy among the hardest-hit countries. The country slipped into a third consecutive crisis in less than two decades, with real GDP and industrial production plummeting by more than 17 and 25 percent in the first half of 2020, respectively (Figure 1b, 1d). Faced with severe disruptions in both supply and demand, the Italian government launched an extensive fiscal response to mitigate the economic fallout, totalling approximately €175 billion in net borrowing between 2020 and 2022. The measures were rolled out through a series of decrees, including the “Cure Italy,” “Liquidity,” “Relaunch,” and “August” Decrees.¹ These included wage-supplementation schemes, liquidity support for businesses, and tax deferrals, providing immediate relief to firms and households facing economic distress. A flagship component of the fiscal package was made up of two tax credits—“Bonus Facciate” (Facades Bonus) and “*Superbonus* 110%”—introduced under the “Relaunch Decree” in the second half of 2020. The programs allowed households to deduct expenses incurred for the implementation of specific interventions aimed at energy efficiency, static consolidation or reduction of the seismic risk of buildings. Over the course of 2021–23 these two measures alone resulted in an increase in public deficit of about 3 percent of GDP per year (i.e., totalling more than €170 billion).

¹ See <https://www.mef.gov.it/en/covid-19/The-main-fiscal-measures-adopted-by-the-Italian-Government/>.

It should be noted, however, that the way in which these measures have been recorded has been debated, since they would not imply any immediate disbursement. A recent document from the Italian parliament² reports that from October 2020 to April 2024 the value of tax credits transferred to the private sector had reached €219 billion, but only €41.9 billion had been claimed in tax deductions over the same period.

The combination of lockdowns, uncertainty, and supply chain disruptions led to a sharp contraction in economic activity in 2020. Demand-side shocks, particularly in consumption and investment, accounted for most of the decline. Household consumption fell as income uncertainty and restrictions on mobility dampened spending. Investment was also severely impacted due to increased risk aversion and liquidity constraints among firms. Despite these challenges, the fiscal measures prevented a deeper economic collapse. Wage supplementation schemes protected jobs, while liquidity provisions and moratoriums on loan repayments supported corporate balance sheets and household consumption (Clegg et al. 2024). A prominent role was played by *Reddito di Cittadinanza* (Citizenship Income), i.e., a form of conditional and non-individual guaranteed minimum income active between 2019 and January 2024. As shown by Gallo and Raitano (2023, 112), these “emergency benefits appear to have significantly cushioned potential (dramatic) increases in income poverty and inequality levels, assessed at both the worker and household levels.” However, while cushioning the immediate impact of the crisis, these policies significantly increased Italy’s public debt, further complicating its long-term fiscal sustainability.

As soon as restrictions eased, the economy bounced back. In 2021, Italy experienced a strong rebound, with GDP growth reaching 7 percent. By the first quarter of 2023, Italy was already 5 percentage points above its pre-pandemic level; only the US did better. The German engine, on the contrary, was showing signs of the cracks in its export-led growth model: real GDP growth flattened, industrial production is now at the lowest level since the second half of 2018 (Figure 1b, d). Even though German manufacturing firms managed not to cut employment in the first year of the war between Russia and Ukraine, requiring a shift to short-term work (Hutter and Weber 2023), the picture looks now starker: facing the

² See <https://temi.camera.it/leg19/post/la-dimensione-economica-del-superbonus.html>

challenges of the green transition, the automotive sector has indeed announced massive layoffs (Boewe and Schulten 2024).

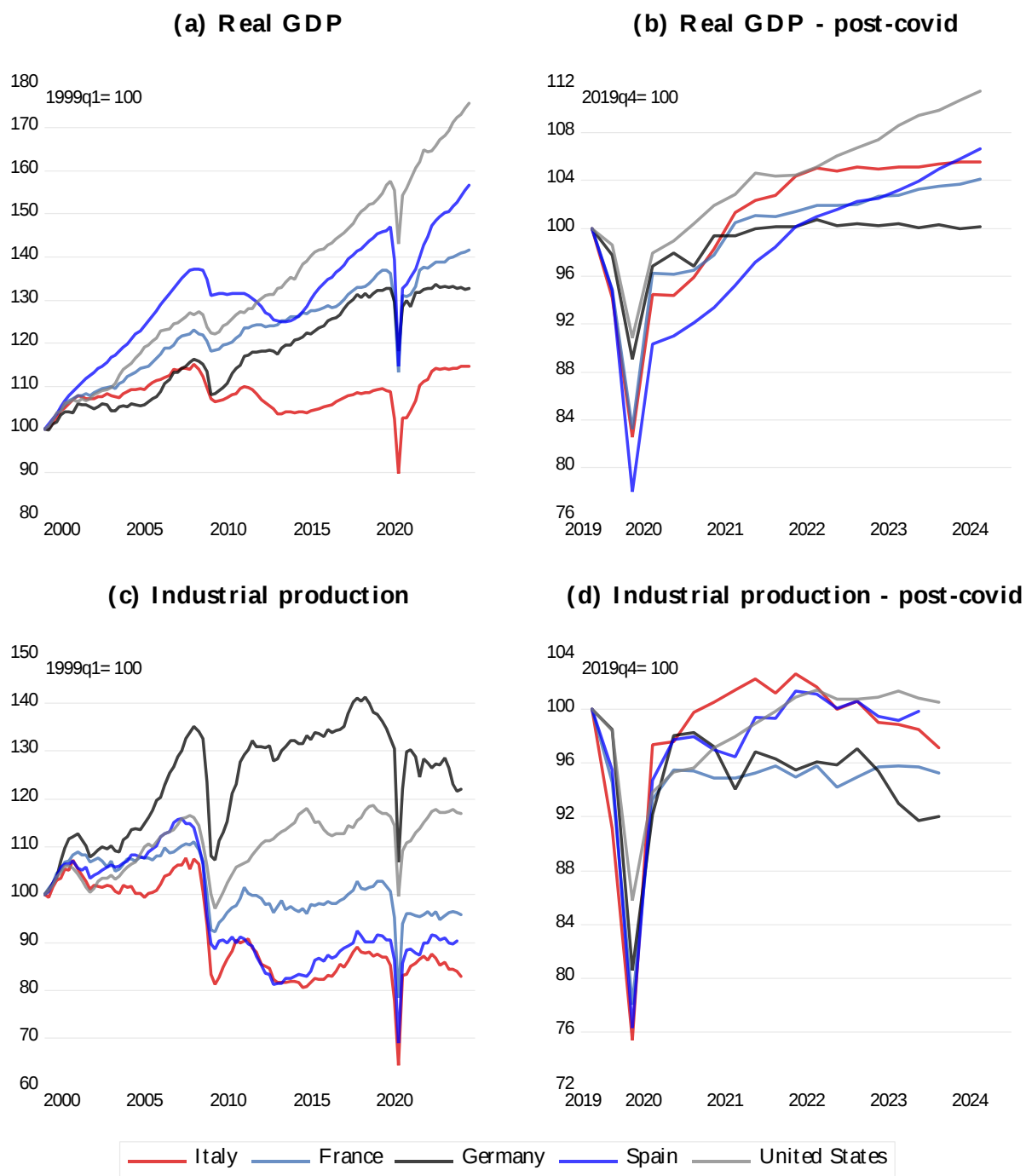
With the recent rise in inflation—due to bottlenecks in supply chains and tensions in global commodity markets following the intensification of the Russia-Ukraine conflict (Ferreira et al. 2024; Weber et al. 2024)—and the rise in central bank policy rates, however, growth decelerated. Yet, in the third quarter of 2024, Italy finally surpassed its pre-Great Recession real GDP quarterly level.

Behind the post-pandemic expansion in Italy lies a large increase in investment, which in 2023 recorded the highest level since quarterly data are available (Figure 2). This recovery was bolstered not only by domestic measures but also by the EU’s Recovery and Resilience Facility (RRF), which provided €191.5 billion to support Italy’s recovery.

While firms’ investment returned to a pre-pandemic pace, the true engine has been housing investment which—pushed by the *Superbonus*—increased by more than 89 percent between 2021 and the end of 2023, when the program ended. Using synthetic control and input-output tables, a recent study from the Bank of Italy (Accetturo et al. 2024) showed that, absent the fiscal scheme, per capita investment in dwellings would have returned to the pre-pandemic level. However, while the incentives accounted for roughly three-quarters of growth in value added in the construction sector, the effects on other sectors were limited. Public investment also experienced an unprecedented increase, pumped by the start of the implementation of the National Recovery and Resilience Plan, rising 80 percent between the second half of 2022 and the second quarter of 2024.

Still, by the second half of 2022, growth stalled, and the international context does not look particularly promising. The external constraint that has driven Italy’s economic policy over the last three decades is indeed back in the game, disguised as the reformed SGP.

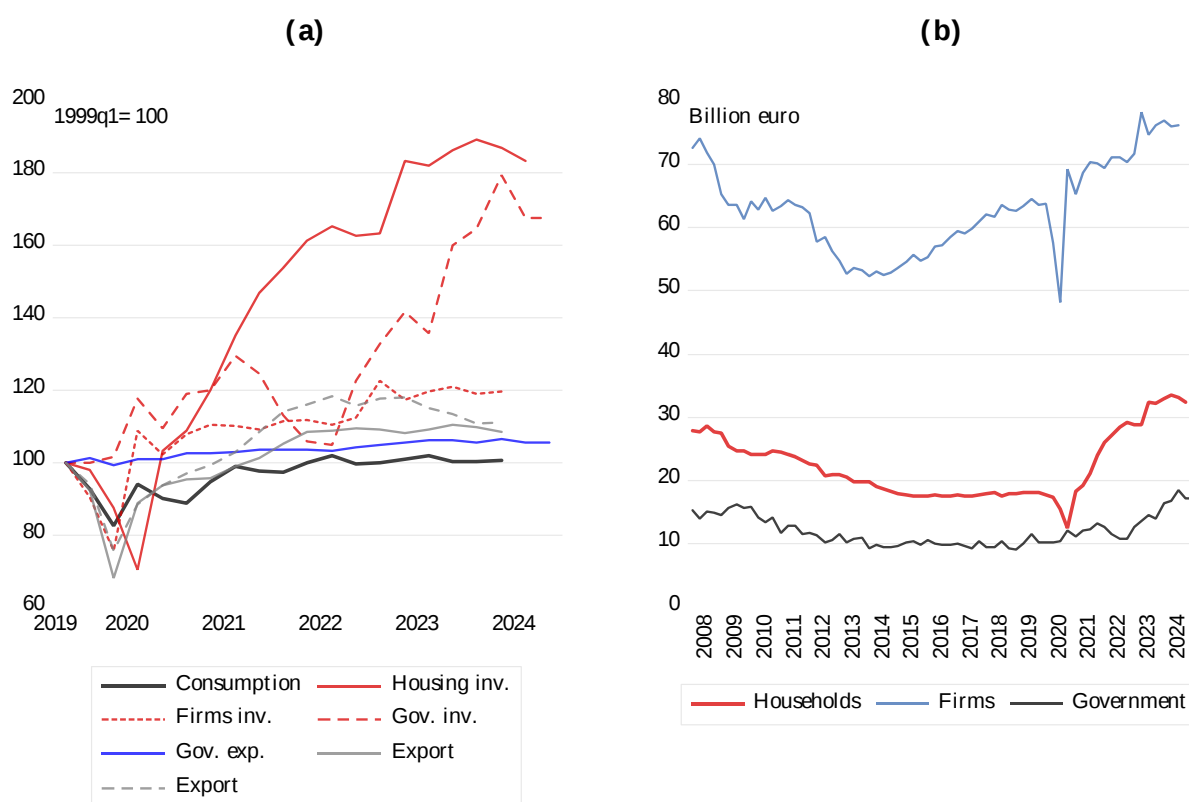
Figure 1. Real GDP and Industrial Production in the EU's Big-4 and the United States



Source: Eurostat, FRED, own elaborations.

Notes: (a) Real GDP, 1999q1=100; (b) Real GDP, 2019q4=100; (c) Industrial production volume index (excluding construction), 1999q1=100; (d) Industrial production volume index (excluding construction), 2019q4=100.

Figure 2. The Engine Behind the Recovery



Source: Istat, own elaborations.

Notes: (a) Demand components in real terms 2019q4=100; (b) Real investment by sector, 2008q1-2024q2.

The Return of the External Constraint: Monetary Tightening and the Revised Growth and Stability Pact

After a decade of ultra-accommodative monetary policies, the ECB's stance shifted markedly in response to post-pandemic inflationary pressures and supply chain disruptions. Starting in 2022, the ECB embarked on an aggressive rate-hiking cycle, raising its policy rates from near zero to multi-year highs, with substantial implications for high-debt economies like Italy.

The spread with German bonds widened—a reflection of diverging fiscal positions and market perceptions of risk. The unprecedented speed and scale of the ECB's recent rate hikes amplified the contraction in credit to non-financial corporations, with loan growth declining more than counterfactual projections based on historical patterns would suggest (Banca d'Italia 2024, 46–47). This reflects not only increased risk aversion among banks but also a sharp reduction in credit demand from firms, particularly for fixed investment. The strong reliance of the Italian economy on the bank-lending channel intensified the impact, as evidenced by the rapid transmission of rate hikes to bank lending and deposit rates. The tightening has also weighed heavily on broader economic activity, as higher borrowing costs

and reduced credit availability have constrained private consumption and investment, exacerbating the slowdown in GDP growth. Comparatively, the effects of this hiking cycle appear more pronounced than during prior episodes, as businesses and households now face tighter financial conditions following years of accommodative monetary policy and elevated debt levels.

Along with the change in the ECB stance, the (re)introduction in April 2024 of the reformed Stability and Growth Pact (SGP) rules marks a return to a binding external constraint.³ The EU's 2024 fiscal rules reform marks a significant transformation in the SGP, introducing a Debt Sustainability Analysis (DSA) framework to guide fiscal adjustment paths (Darvas, Welslau, and Zettelmeyer 2023, 2024). For member states with debt-to-GDP ratios exceeding 60 percent or fiscal deficits above 3 percent, the new rules mandate tailored fiscal trajectories. These trajectories are designed to ensure that public debt declines or stabilizes at prudent levels over a multi-year adjustment period, even under adverse scenarios (Regulation (EU) 2024/1263). Even though the final regulation ended up being more stringent than what was initially proposed by the commission—due to so-called “*frugals*”⁴ request to include additional safeguards – this shift reflects an effort to balance sustainability with flexibility, replacing rigid numerical benchmarks with more country-specific, analytically grounded framework.

A central innovation is the integration of the DSA as the primary tool for bilateral negotiations between member states and the European Commission. This involves deterministic stress tests and stochastic scenarios to assess fiscal risks, including changes in interest-growth differentials and potential fiscal shocks. While the framework allows for extensions of adjustment periods from four to seven years, contingent on growth-enhancing reforms (as is the case for Italy as well as Finland, France, Spain, and Romania), safeguards ensure minimum fiscal adjustments if DSA criteria are not met.

³ See Giavazzi and Pagano (1988) and Dyson and Featherston (1996) on the nature of the “external constraint.” On its effect on Italy’s growth trajectory see, among many, Bagnai (2016), Celi et al. (2024; 2019), Cesaratto and Zezza (2019), and Guarascio et al (2025).

⁴ Austria, Denmark, the Netherlands, and Sweden have been nicknamed the “Frugal Four,” to which we must add, especially in this case, Germany.

Yet, the framework’s assumptions—on fiscal multipliers (equal to 0.75 for all countries), automatic output gap closure in three years and absence of cross-country spillover effects of fiscal austerity—have raised concerns (Heimberger et al. 2024). Simulations using the Commission’s model suggest that using higher multipliers or slower output gap closures would yield less optimistic debt trajectories, particularly for high-debt countries like Italy. Furthermore, the omission of cross-country spillovers—despite their well-documented significance in the eurozone—risks overestimating the benefits of simultaneous fiscal consolidation. Such spillovers, where fiscal tightening in one country reduces demand for imports from trading partners, could amplify economic stagnation across the bloc.

More fundamentally, the methodology upon which the European Commission’s potential output estimates rest, i.e., the EU Commonly Agreed Methodology (EUCAM) framework, has also faced significant critiques.⁵ Potential output (PO) is a key determinant of fiscal sustainability assessments and reference trajectories, yet its estimation relies on assumptions that are often criticized for their lack of transparency and reliability. PO is defined by the Commission as “the level of economic output that can be achieved if the underlying factors like capital and labor are utilized to their full extent (at non-inflationary levels).”⁶ Its meaning, however, has changed over time. Originally introduced as an operational policy notion by Okun (1962), the prevailing view of PO moved from a Keynesian theoretical framework—where it was thought to be a sort of upper limit on the actual level of production in a system characterized by underutilization of resources (especially labor)—to the current understanding, where actual production is believed to gravitate around its potential level which depends solely on supply factors and institutional variables.

The methodology for estimating PO has also shifted significantly over time, evolving from Okun’s demand-led conceptualization to the neoclassical production function approach currently employed by the European Commission. Okun (1962) defined PO as the maximum

⁵ Given its centrality for economic policy, the EU’s Economic Policy Committee (EPC) established a dedicated working group (i.e., the “Output Gap Working Group” or OGWG) which meets regularly to discuss the operational effectiveness and relevance of the existing production function methodology. It has been renamed “Potential Output Working Group” (POWG) following the 2024 reform of the economic governance framework, as the group’s focus shifted to the estimation of potential output. An overview of the EUCAM is in Havik et al. (2014).

⁶ https://economic-policy-committee.europa.eu/working-groups-epc/potential-output-working-group_en.

level of production achievable under full employment, focusing on demand constraints as the primary determinant of economic capacity. This Keynesian framework viewed PO as an upper limit rather than a fluctuating trend, aligning with periods of resource underutilization. However, the production function methodology adopted by the EU embeds a supply-side perspective, where actual output is assumed to fluctuate symmetrically around the potential, which depends exclusively on “structural” factors. The production function approach calculates potential output using a Cobb-Douglas framework and deconstructs PO into its determinants—“potential” levels of labor, capital, and Total Factor Productivity (TFP)—into trend and cyclical components. Along with demographic projections, NAWRU (Non-Accelerating Wage Rate of Unemployment) and TFP estimates play central roles, but they rely on complex filtering techniques such as Kalman filters, which introduce significant judgment and parameter uncertainties.⁷ Critics highlight the procyclicality of these methods: during recessions, the mechanical reduction in estimated PO tightens fiscal constraints precisely when countercyclical spending is most needed (Carnazza, Liberati, and Sacchi 2020; Carnazza et al. 2023; Fontanari, Palumbo, and Salvatori 2020; Heimberger and Kapeller 2017; Proietti et al. 2020).

Such biases can be particularly damaging for high-debt countries like Italy, where overly pessimistic output gaps may constrain fiscal space and growth-enhancing investments. For Italy, the return of the external constraint poses several challenges, as a combination of restrictive fiscal policies and elevated borrowing costs, driven by ECB monetary tightening, may dampen domestic investment and growth. While the revised fiscal framework promises flexibility, its reliance on optimistic assumptions and the exclusion of spillovers underscores the risks of exacerbating economic divergence within the eurozone. In this context, balancing fiscal consolidation with growth-oriented strategies is critical to ensuring both economic recovery and long-term debt sustainability.

In summary, Italy’s economic recovery remains fragile, constrained by structural weaknesses, a legacy of high public debt, and the dual pressures of restrictive fiscal and monetary policies. While the fiscal response to the pandemic averted a deeper crisis, it significantly increased

⁷ This is not the place to delve deeper into theoretical considerations, for reasons of space. However, it is worth noting that NAIRU/NAWRU theories have been harshly criticized by orthodox and heterodox authors alike (e.g., Solow 2018; Stockhammer 2004, 2008).

public debt, leaving limited room for maneuvering under the EU's revised fiscal framework. The reliance on procyclical PO estimates and stringent fiscal multipliers risks underestimating Italy's economic capacity and constraining necessary public investment. At the same time, the European Central Bank's aggressive monetary tightening has amplified borrowing costs and credit constraints, further weighing on private- and public-sector investment. Balancing these competing pressures will require innovative, growth-oriented strategies that can address long-term productivity challenges without undermining fiscal sustainability. Failure to accomplish this balance risks locking Italy into a cycle of low growth and high debt, jeopardizing its convergence within the eurozone.

Last, but not least, after the GFC, Italy adopted an export-led growth strategy, with the growth in real exports consistently being higher than that of GDP from 2010 to the COVID crisis in 2020. The disruptions and geopolitical tensions triggered by the Ukraine war (and now from the threats of tariffs) had already reverted this trend, with real exports growing less than 1 percent in 2023 and 2024, signaling that this strategy may no longer be pursued.

3. DEBT AND DEFICIT IN A STOCK-FLOW CONSISTENT MODEL OF THE ITALIAN ECONOMY (MITA)

Sections 4 and 5 are aimed at evaluating Italy's medium-term prospects over the 2025-2029 horizon. To do so, we will rely on our SFC quarterly model of the Italian economy, MITA (F. Zezza 2024; Zezza and Zezza 2022).⁸ Since the model is rather complex, and is described in detail in other works, we will here focus, first, on the major theoretical differences between the model in use at the EC and a SFC econometric model such as ours (and many others). We will then briefly describe how we model public deficit and debt, which is central to our policy discussion. Finally, we spend a few words on the major innovations of this version of the model with respect to the last published version.

⁸ Appendix 1 reports the model's key characteristics (Table A1.1) and the details of the balance sheet of institutional sectors (Table A1.2) and the determinants of the main stochastic equations (Table A1.3). A detailed description of the model is in Zezza and Zezza (2022), while Zezza (2024) discusses its out-of-sample properties. A more extended technical presentation is in Zezza and Zezza (2020).

MITA is a medium-scale Stock-Flow Consistent (SFC) quarterly model rooted in post-Keynesian theory,⁹ with over 260 equations, of which 37 are econometric estimates. The model is estimated with quarterly data from financial and non-financial accounts of institutional sectors, published by the Bank of Italy and Istat, for the period 2000Q2 to 2024Q2. It features six sectors—households, non-financial corporations, banks, the central bank, government, and rest of the world. Importantly, in the model, the banking sector only includes monetary-financial institutions other than the central bank (i.e., commercial banks and mutual funds), while all other financial corporations are merged with the household sector. In this way, we separate institutions with the power to create money from those only serving households as intermediaries.

We model separately 15 classes of financial assets and 4 different capital stocks: housing, firms' (machineries and non-residential buildings), and public capital. Critically, we introduce a residual "other net financial asset" variable, which ensures that model variables track historical data as closely as possible. Demand for assets is mostly estimated econometrically, while labor market and price developments are linked to fluctuations in aggregate demand.

The post Keynesian approach behind empirical SFC models offers a key alternative to the European Commission's production function approach. Unlike the supply-led production function method, which focuses on potential output, labor market equilibrium, and nominal anchors like the non-accelerating wage rate of unemployment (NAWRU), in our model economic growth is driven by aggregate demand, with supply capacity adjusting dynamically over time. This class of models avoids assumptions of automatic supply-side adjustments and rigid nominal anchors, emphasizing instead the interactions between fiscal policies, consumption, investment, and financial flows. While the production function approach treats financial factors as passive intermediaries, our model fully integrates them, explicitly tracking public and private debt, sectoral balance sheets, and the transmission of monetary

⁹ Recent surveys of the literature on the SFC approach are Caverzasi and Godin (2015), Nikiforos and Zezza (2017) and Carnevali, Deleidi, and Passarella (2019). Pierros (2024), in turn, reviews the recent literature on empirical SFC models, distinguishing between New Cambridge data-driven three-sector models (NC; as the earlier works from Godley and coauthors at the CEPG, e.g., Cripps and Godley (1976), or the models in use at the Levy Institute, e.g., Godley 1999; Papadimitriou et al. 2013), Godley-Lavoie theory-driven models (GL; as the model by Canelli et al. 2021, 2022, 2024), and high complexity data-driven models (HC; such as the one presented here and the one from Barbieri Hermitte et al. 2023). A discussion on how to design both data-driven GL and HC models, depending on data quality and research question is in Zezza and Zezza (2019).

and fiscal policies. This allows capturing the real-world complexities of high-debt economies like Italy, particularly under conditions of financial instability or fiscal tightening.¹⁰

The MITA model provides a detailed representation of government accounts and public debt dynamics by explicitly modelling its allocation across institutional sectors and capturing the financial flows that link government borrowing, private-sector balance sheets, and the external sector. Unlike conventional models that treat debt sustainability as a function of potential output and fiscal balances, MITA emphasizes the endogenous interaction between debt accumulation, fiscal policy, and macroeconomic conditions.

Ours is not the only empirical SFC models of the Italian economy in the literature (Barbieri Hermitte et al. 2023; Canelli et al. 2022). Although the three models share many commonalities, the differences are noteworthy. On the one hand, both MITA and ITFIN share a data-driven approach to model construction, while the model by Canelli et al. (2022) adopts instead a theory-driven approach. This means that, while for MITA and ITFIN, structure of the model stems directly from the data with relations estimated econometrically, Canelli et al. starts from a theoretical structure and then uses data to calibrate parameters in behavioral functions.¹¹ Moreover, while the first two use data at quarterly frequency, the third uses annual data instead. Most importantly, both MITA and ITFIN model a large number of financial assets, where Canelli et al. only cover seven (i.e., cash and reserves, deposits, securities, loans, shares, other securities, and other net financial assets). Finally, on the real side, only the MITA model has a high level of detail, whereas ITFIN has a larger asset and sectoral structure, separating insurance and pension companies from other financial institutions. Nevertheless, the three models behave quite similarly when performing fiscal shocks, with medium-run multipliers ranging from 1 and 1.5 for public consumption and around 0.5 for indirect taxes, in line with recent empirical estimates for the Italian economy (Bulligan et al. 2017; Ciaffi, Deleidi, and Capriati 2024; Cimadomo and D’Agostino 2016; De Nardis and Pappalardo 2018; Deleidi 2022).

¹⁰ Zezza (2024, 6–12) places SFC models along the suite of policy models in use at major institutions, discussing the main pros and cons of adopting the SFC approach over others.

¹¹ The differences between the two methods and their relative merits are discussed at length in Pierros (2024) and Zezza (2024).

Since our original aim was to develop a tool to be used for policy and scenario analysis, the choice to retain the structure of the non-financial accounts (which detail how GDP is split across sectors, and tracks the whole sequence of sectoral transactions—i.e., from the functional distribution of income among sectors to their net-lending position, passing through transactions in capital incomes, taxation, and final demand) carries some important implications. On the one hand, the high level of detail allows for a better assessment of the transmission mechanisms related to fiscal policy shocks (i.e., how they propagate through the model). On the other hand, the large number of variables comes along an even larger number of parameters (on direct and indirect tax rates, social contributions, unemployment benefits, on capital transactions, etc.), each of which can be used to perform thorough scenario analyses and simulate complex policy mixes.

In the model, the government collects indirect taxes from the production process (e.g., the VAT), dividends on the domestic shares it holds, rent from land leases, direct taxes (on household incomes and firms and banks' profits), social contributions, and taxes on capital transactions (from households, firms, and banks). The government in turn pays subsidies to production, interest on the outstanding public debt, pensions and other social benefits, collective and individual consumption as well as investment.

On the financial side, in the model, government bonds appear as assets on the balance sheets of households, firms, banks, the central bank, and foreign investors, while they simultaneously increase government liabilities. The banking sector plays a crucial role in absorbing sovereign debt, influencing credit conditions and financial stability. When the central bank intervenes, such as through bond purchases or liquidity operations, this directly affects commercial banks' balance sheets, impacting credit creation and interest-rate spreads. Meanwhile, household holdings of public debt—which depend on the expected relative return on government bonds relative to foreign (German) bonds of the same maturity—influence wealth accumulation, consumption, and savings behavior.

The model also captures the macroeconomic feedback effects of fiscal policy, following standard Keynesian mechanisms. An increase in government spending, financed by debt issuance, raises aggregate demand and output, which in turn affects tax revenues, private sector income, and the financial position of banks. Conversely, fiscal consolidation reduces demand, potentially worsening the debt-to-GDP ratio if growth slows disproportionately. This

contrasts with Neoclassical frameworks, where fiscal adjustments unambiguously lead to improvements in debt ratios.

Finally, MITA's treatment of debt accounting is fully integrated within the SFC framework, ensuring that all flows are consistently tracked across sectors. Debt issuance results in simultaneous financial transactions—creating liabilities for the government and corresponding assets elsewhere in the economy—while interest payments on public debt affect both government accounts and private sector income. This comprehensive approach enables MITA to simulate the medium-term implications of fiscal policies under different financing conditions, distinguishing between debt- and tax-financed expenditures in their macroeconomic effects.

The model has been re-estimated, with respect to the version in Zezza and Zezza (2020, 2022, 2024), using the information available in November 2024, which included quarterly data up to the second quarter of 2024, and monthly data up to August 2024. The updating procedure created a number of challenges. The most complex was related to accounting for the impact of the 2020 COVID-19 shock on our econometric estimates of consumption, investment, trade, etc.

The COVID-19 shock created a perhaps yet-unsolved puzzle for econometricians: has this unprecedented pandemic shock permanently changed the behavior of businesses and consumers, generating a *structural break* in parameter estimates? The alternative would be that the shock only had a temporary impact on behavior, which went back to “business as usual,” so that relevant parameters—such as the propensity to spend out of income—reverted to their pre-shock values.

A proper test of the existence of a structural break in 2020 requires a sufficient number of observations after the shock, and the 15 observations currently available may not be sufficient for robustness. With this caveat, our econometric estimates suggest that the inclusion of one or more dummy variables are sufficient to account for the effects of the COVID shock, implying that the estimated elasticities reverted to their pre-shock values.

A second important update of the model has been connected to the evaluation of the effects of the *Superbonus*. We found that its effect appears in the data on non-financial accounts as an

increase in capital transfers from the central government to the household sector, and from the financial side as an increase in the “other liabilities” of the central government. Model simulations show that an increase of €100 in fiscal transfers generates €89 of additional housing investment. Our results are in line with a recent study from the Bank of Italy on the effects of the *Superbonus* (Accetturo, Olivieri, and Renzi 2024), although their estimates show somewhat smaller additionality effects, i.e., an increase of €73 in per capita housing investment for every €100 per capita of fiscal transfers. The impact from the financial side was statistically significant but much smaller.¹²

Our model thus confirms that the *Superbonus* had a very relevant impact on residential investment and, therefore, on GDP. It is not easy to say whether this policy will indeed imply an increase in public debt in the long run, since the authorities decided to translate the value of tax credits as an *immediate* increase in public debt reported in the accounting. When tax credits become due, government accounts will register a reduced tax inflow and, at the same time, a reduction in government liabilities of the same amount. Thus, the effective impact of the program will require a complex evaluation through a counterfactual exercise.

In the two following sections, we will use our model to assess Italy’s medium-term prospects and debt sustainability under the new SGP rules and perform alternative scenario analysis.

4. ITALY’S MEDIUM-TERM PROSPECTS

Italy’s medium-term economic outlook is shaped by the interaction of structural challenges, fiscal policy constraints, and shifting macroeconomic conditions. While the post-pandemic recovery provided a temporary reprieve, with GDP growth surpassing many eurozone peers, sustaining this momentum remains a significant challenge. Italy continues to grapple with high public debt, persistent regional disparities, and weak productivity growth, all of which limit the country’s ability to adapt to economic shocks. These structural vulnerabilities are further compounded by the return of a tighter external constraint in the form of a tighter fiscal and monetary environment, as the ECB is pursuing aggressive interest rate policies to combat

¹² Detailed results are available from the authors upon request.

inflation, and the revised Stability and Growth Pact (SGP) restricts fiscal expansion again. Additionally, demographic shifts, low investment in innovation, and a heavy reliance on external demand expose Italy to ongoing risks in a volatile global economy.

In this context, in November 2024 the Italian government presented the first Medium-Term Fiscal-Structural Plan (MTFSP) prepared under the recently adopted EU fiscal framework.¹³ In line with the new rules, the plan has a five-year horizon (2025-29), as the length of the national legislature is five years. The government has chosen to spread the public finance adjustment over seven years (instead of four), in line with its commitment to continue the path of reforms and investments set out in the National Recovery and Resilience Plan (NRP).

The MTFSP is a novel planning instrument introduced in the aftermath of the reform of European economic and fiscal governance (Regulation EU 1263/2024 and 1264/2024, Directive EU 1265/2024), with a medium-term timeframe to more effectively align with the economic cycle trend and integrate economic planning with public reform and investment plans. The MTFSP delineates a defined course of action aimed at ensuring adherence to the deficit and debt constraints and is grounded in the Debt Sustainability Analysis (DSA) criterion.

The key target variable, the Structural Primary Balance, is pursued through a net-expenditure rule, defined as the net expenditure of interest payments on government debt, cyclical effects, and temporary or one-off measures. This variable is subject to monitoring by the EU Commission. The net-expenditure path is designed in such a manner that, at the conclusion of the adjustment period, the debt-to-GDP ratio is placed on a plausibly downward trajectory (or remains below 60 percent) and that net borrowing is brought and maintained below 3 percent of GDP. In the case of Italy, when translating the adjustment path in terms of real government expenditures, it implies spending grows by 1.8 percent in 2025, 0.9 percent in 2026, 0 percent in 2027, -0.1 percent in 2028, and 0.2 percent in 2029 (see Table II.2.3, at p. 47 in the MTFSP). This is somewhat lower than the adjustment requested by the Commission in April, due to the revision of Istat's National Accounts data in October 2024, which led to an upward

¹³ <https://www.mef.gov.it/export/sites/MEF/documenti-allegati/2025/Medium-Term-Fiscal-Structural-Plan-Italy-2025-2029.pdf>.

revision of GDP growth for the years 2021–23. According to the government’s projections, the adjustment plan ensures that debt-to-GDP would start declining as early as 2027, by 2029 1.5 point of GDP lower.

Medium-Term Projections

The strategy adopted for our analysis of the medium-term prospects of the Italian economy has been to use official government projections for all variables for which we have information.

Forecasts of foreign demand for Italian exports are based on IMF projections of real GDP and relative prices for the major trading partners. Projections of other exogenous variables are obtained from the extrapolation of recent trends.¹⁴ We then solve the model for the period 2001Q1–2029Q4. Table 1 reports the projections for the model’s most important variables.

Conditional on our assumptions, real GDP drops slightly in 2024 and stagnates in 2025, mainly because of the decline in residential investment. With the end of the *Superbonus* incentive, household investment is projected to drop by 23 percent compared to its peak in 2024, but remains 38 percent higher than the pre-COVID level, so that this drop does not seem implausible.

The dynamic of the public deficit is largely dominated by interest payments. On the basis of the available information, we assume that the ECB will slowly reduce interest rates between 2024 and 2026 by 200 basis points, and keep them stable afterwards. However, interest rates would still be too high relative to our projected growth in nominal GDP, implying an increase in the overall government deficit to 4.8 percent of GDP, notwithstanding the large primary surplus.

The current account balance improves in our baseline simulation as exports are projected to remain stable relative to GDP, while imports are projected to fall given the low growth rate. This result is possibly optimistic, if the Trump administration will indeed impose tariffs on European exports to the United States.

¹⁴ Table A2.1 reports the out-of-sample evolution of the main exogenous variables.

Table 1. Medium-Term Projections 2023-29. (A) Real GDP and Demand Components, (B) Labor Market and Prices; (C) Government Accounts; (D) Sectoral Balances

	2023	2024	2025	2026	2027	2028	2029
<i>a) Real GDP and components</i>	Annual growth rates						
GDP	0.8	-0.3	-0.4	0.7	0.4	0.1	-0.1
Consumption	1.0	-0.9	-0.2	0.9	1.0	0.5	0.1
Gross capital formation	8.7	-1.5	-5.6	-1.5	-0.9	-1.0	-0.9
-- housing	11.2	3.1	-11.2	-8.5	-4.6	-3.0	-2.3
-- non-residential	10.2	9.1	-2.1	1.2	0.8	0.3	0.1
-- other	6.7	-8.4	-3.5	1.4	0.3	-0.5	-0.6
Government expenditure	1.9	0.0	0.9	1.2	0.3	-0.1	0.1
Exports of goods and services	1.1	-0.6	0.8	2.4	1.6	1.0	0.7
Imports of goods and services	0.0	-5.5	-1.0	2.1	2.1	1.3	0.8
<i>b) Labor market</i>	%						
Unemployment (level)	7.6	8.0	8.4	7.6	7.3	7.3	7.3
Inflation (changes)	5.4	1.2	2.0	0.5	0.1	0.1	0.3
Productivity (changes)	-1.1	-0.5	0.1	-0.1	0.1	0.1	0.0
Unit wage (changes)	3.1	4.0	2.3	1.7	1.7	1.5	1.2
<i>c) Government accounts</i>	% of GDP						
Gov. outlays	52.3	49.1	49.9	50.6	51.1	51.6	52.0
- Gov. Consumption	18.0	18.2	18.7	19.0	19.2	19.3	19.5
- Gov. investment	3.2	3.7	3.6	3.7	3.7	3.7	3.7
- Subsidies	1.8	1.5	1.5	1.5	1.5	1.5	1.5
- Social benefits	19.9	20.2	20.4	20.3	20.3	20.5	20.6
- Interest	3.5	4.0	4.8	5.3	5.6	5.8	5.9
- other outlays	5.8	1.5	0.8	0.8	0.8	0.8	0.8
Gov. revenues	46.5	46.2	46.8	47.0	47.1	47.2	47.2
Indirect taxes	13.7	13.7	13.7	13.7	13.7	13.7	13.7
Direct taxes	15.0	15.2	15.5	15.6	15.6	15.7	15.7

Social contributions	12.7	12.7	12.7	12.8	12.8	12.9	12.9
Other receipts	5.2	4.5	4.8	4.9	4.9	4.9	4.9
Primary surplus/deficit	5.5	5.8	5.8	5.8	5.7	5.5	5.2
Current surplus/deficit	1.9	1.8	0.9	0.5	0.1	-0.3	-0.7
Total surplus/deficit	-5.8	-2.9	-3.2	-3.6	-4.0	-4.4	-4.8
Public Debt-to-GDP	135.0	143.2	147.2	151.1	156.0	161.5	167.5

d) Sectoral Balances

Net lending/borrowing as % of GDP

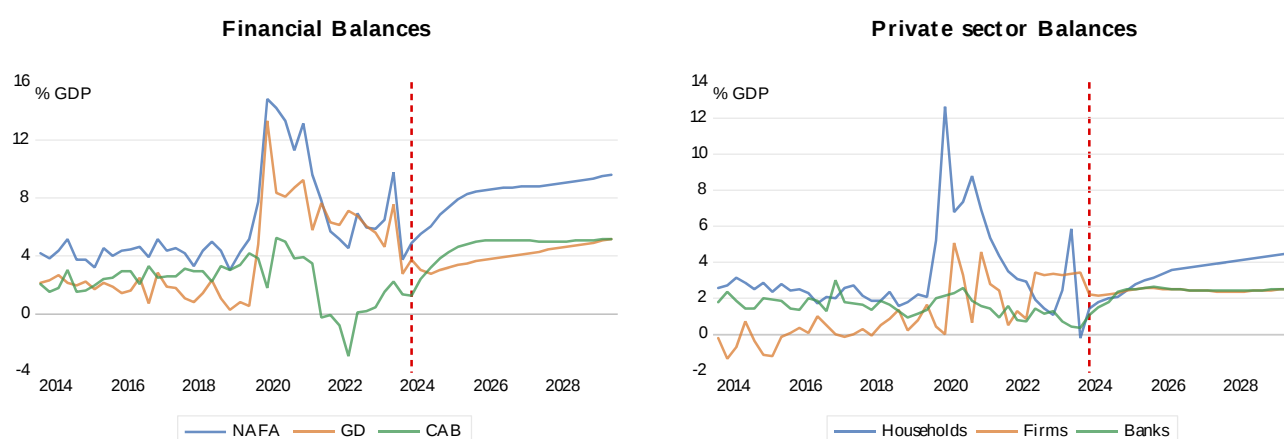
Private sector Net Acquisition on Financial Assets	7.0	5.0	7.5	8.7	9.1	9.5	10.0
Government Deficit	5.9	3.0	3.2	3.7	4.1	4.5	4.9
Current Account Balance	1.1	2.0	4.3	5.0	5.0	5.0	5.1

Source: own elaboration.

Notes: Cells in grey represent actual values

Net lending of non-financial businesses is projected to remain in positive territory; the model therefore estimates that saving in this sector, taking into account net capital transfers, will exceed investment. This feature has been common in many advanced economies, representing one aspect of *financialization*, i.e., the strategy of seeking profits from financial speculation, rather than from real investment (Davis 2017; Hein 2019; Krippner 2005).

Figure 3. Sectoral Balances projections (% of GDP). 2014–29



Source: own elaboration.

Legend: NAFA = Private sector Net Acquisition of Financial Asset; GD = Government Deficit; CAB = Current Account Balance. All variables are expressed as % of GDP.

Table 2 compares our projections for real GDP and debt-to-GDP—which are the two most important indicators to look at when it comes to sustainability of public finances in the context of the new European fiscal rules—with recent official projections from the IMF (in October 2024), the European Commission (in its March DSA exercise sent to the Italian government), and the Italian government in the MTFSP (in October 2024).

It is important to stress that the trajectory for government spending and investment underlying our baseline projections—which is the one presented by the government and approved by the Commission—ensures, in the DSA framework, that debt-to-GDP declines by the end of the adjustment period, even under adverse scenarios. And this is exactly what happens in both government and Commission projections, where debt starts declining as early as 2027 for the former, and in 2029 for the latter.

When plugged into our model, however, these spending paths, along with the other dynamics explained above, lead to a steady *increase* in public debt.

Table 2. Official Medium-Term Projections 2023–29

	2023	2024	2025	2026	2027	2028	2029
<i>Real GDP</i>	<i>Annual growth rates</i>						
IMF (Oct.24)	0.8	0.7	0.8	0.7	0.6	0.7	0.7
EC – no adj (Mar.24)	0.8	0.9	1.5	0.2	0.0	0.3	0.6
EC – w/ adj. (Mar.24)	0.8	0.9	1.1	0.0	0.2	0.2	0.2
Italian Government (Oct.24)	0.8	1.0	1.2	1.1	0.8	0.8	0.6
MITA (Nov.24)	0.8	-0.3	-0.4	0.7	0.4	0.1	-0.1
<i>Debt-to-GDP</i>	<i>% of GDP</i>						
IMF (Oct.24)	135.0	137.3	139.1	140.6	141.8	142.4	142.7
EC – no adj (Mar.24)	135.0	135.7	135.9	136.8	138.9	141.0	142.9
EC – w/ adj. (Mar.24)	135.0	135.7	136.1	136.8	137.1	137.3	137.1
Italian Government (Oct.24)	135.0	136.0	137.2	138.1	137.7	136.6	135.1
MITA (Nov.24)	135.0	143.2	147.2	151.1	156.0	161.5	167.5

Source: IMF – WEO; European Commission; Medium-term Fiscal-Structural Plan; own elaboration

This result can be easily explained by applying standard growth accounting. According to textbook macroeconomics, at each point in time, the public debt-to-GDP, d , evolves depending on the existing stock of debt multiplied by $r - g$ (where r is the nominal interest rate on government debt, and g the growth rate of nominal GDP), net of the primary budget balance-to-GDP ratio, s . Thus, when r exceeds g —as has been the case for Italy post-GFC—debt dynamics become more challenging, since the government must generate persistent primary surpluses to stabilize or reduce the debt ratio. Conversely, a negative $r - g$ differential allows for more fiscal flexibility, as economic growth passively erodes the debt burden over time. In our case, even though the primary surplus stays well above 1 percent of GDP throughout the projections, the $r - g$ differential is still too high, averaging 3.3, a situation that has characterized recent Italian history.

Given the safeguards introduced in the new SGP framework, if a country—especially one under the EDP, such as Italy—does not meet the minimum debt reduction requirements (or, as in this case, witnesses an unexpected increase in debt-to-GDP), then it must implement additional fiscal adjustments or introduce structural reforms.

5. SIMULATIONS AND POLICY IMPLICATIONS

Building on the baseline scenario presented in Section 4, which projects a steady increase in Italy's debt-to-GDP ratio despite adherence to the EU's revised fiscal rules, this section explores the macroeconomic implications of alternative fiscal policy paths. We explore five alternative scenarios to assess the trade-offs between fiscal consolidation and growth-enhancing policies, focusing on both the growth and debt sustainability of public and private sectors. The baseline scenario highlights the fragility of Italy's recovery, particularly its reliance on net exports and the risks posed by external shocks. In this context, we examine the effects of expansionary and contractionary fiscal policies, of changes in direct tax rates on households and of a budget-neutral policy mix. The different fiscal adjustments are calibrated such that their impact (in the case of taxes) or cumulative (in the case of expenditures) effect equals 0.5 percent of GDP increase/decrease in the government primary balance.

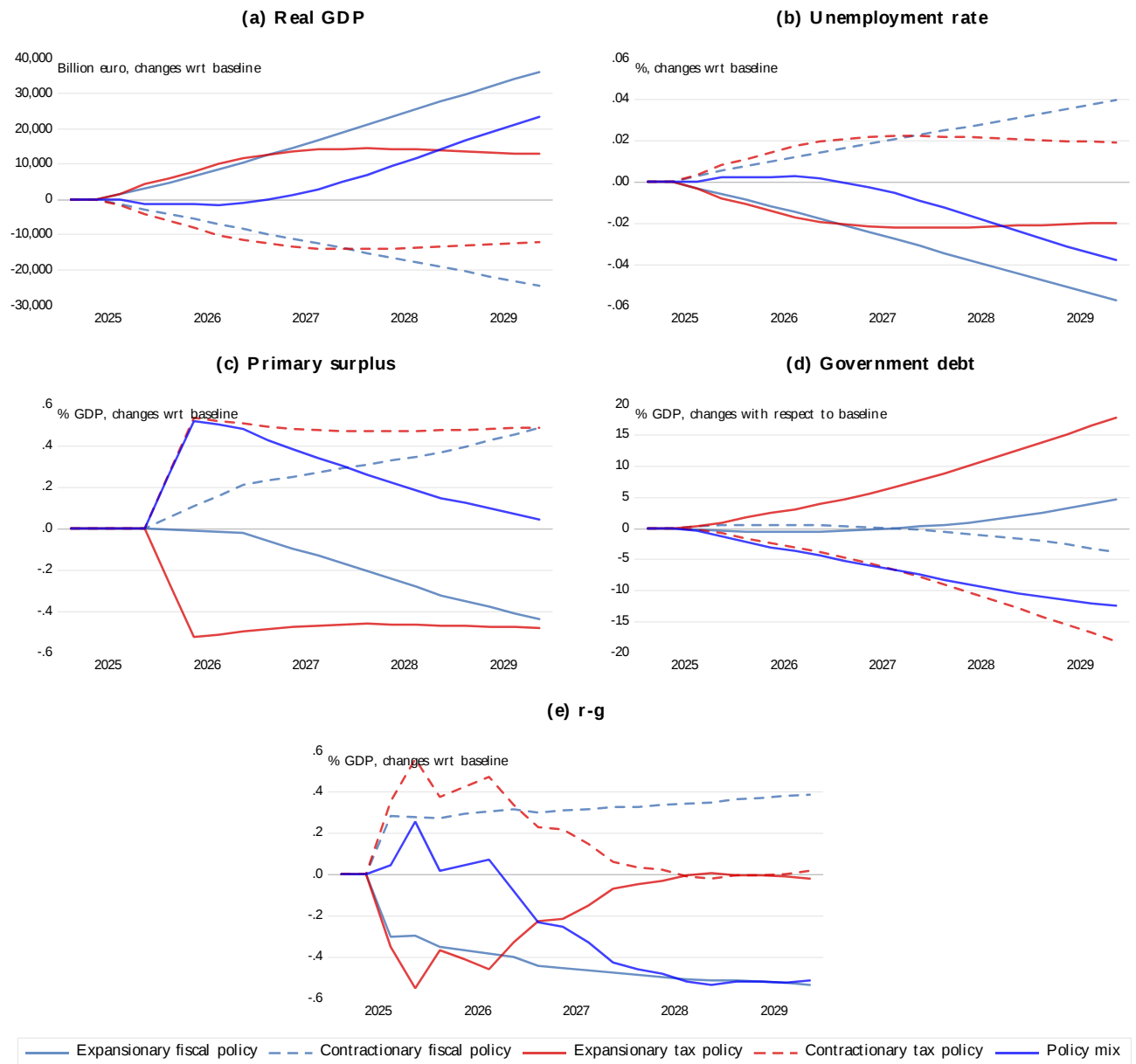
Results are summarized in Table A3.1, while Figure 4 shows the effects of the different shocks on real GDP, unemployment rate, government finances and $r - g$ differential over the forecasting horizon.

In Scenario 1, the government increases real public expenditure by €2.5 billion per quarter starting in 2025Q3, aiming to counteract weaker-than-expected economic growth figures. The results indicate a robust improvement in GDP, with real GDP growth projected to be 1.7 percent higher than baseline by 2029. The expansionary stance stimulates private consumption and investment, particularly in non-residential sectors. Nevertheless, private sector net-lending positions remain in strong positive territory (actually rising with respect to the baseline scenario, see the mid-right panel of Figure 5), implying that higher incomes and profits translate into higher financial wealth rather than (riskier) investment in the real economy. The current account deteriorates, as imports rise due to increased domestic economic activity. Unemployment declines steadily, highlighting the policy's positive impact on job creation and labor market conditions. Most importantly, the expansionary fiscal stance enables avoiding the forecasted downturn in 2028 and 2029.

The debt-to-GDP ratio, after an initial decline due to the sustained economic activity, begins rising again after 2027, ending 5 percent GDP above the baseline projection by 2029. This is due, on the one hand, to the positive effect of the fiscal expansions on the growth rate of

GDP, which leads to a permanent improvement in the $r-g$ differential (Auerbach and Gorodnichenko 2017; Ciaffi, Deleidi, and Di Domenico 2024) and, on the other, by the negative effect of the shock on the primary surplus, which outweighs the former. The balance sheet effects of this policy are also notable. Households experience an increase in disposable income and net wealth, supporting higher consumption and reinforcing financial stability. As housing investment increases, so does the demand for mortgages, but the increase in debt is more than compensated by the accumulation in other financial assets. Firms benefit from improved investment conditions, though at the cost of higher leverage. Banks expand their balance sheets, reflecting increased liquidity and higher demand for credit.

Figure 4. Effect of Different Fiscal Policy Shocks on Real GDP (A), Unemployment Rate (B), Government Primary Surplus (C), Government Debt-to-GDP Ratio (D) and Interest Rate/Growth Differential (E). 2025q1-2029q4



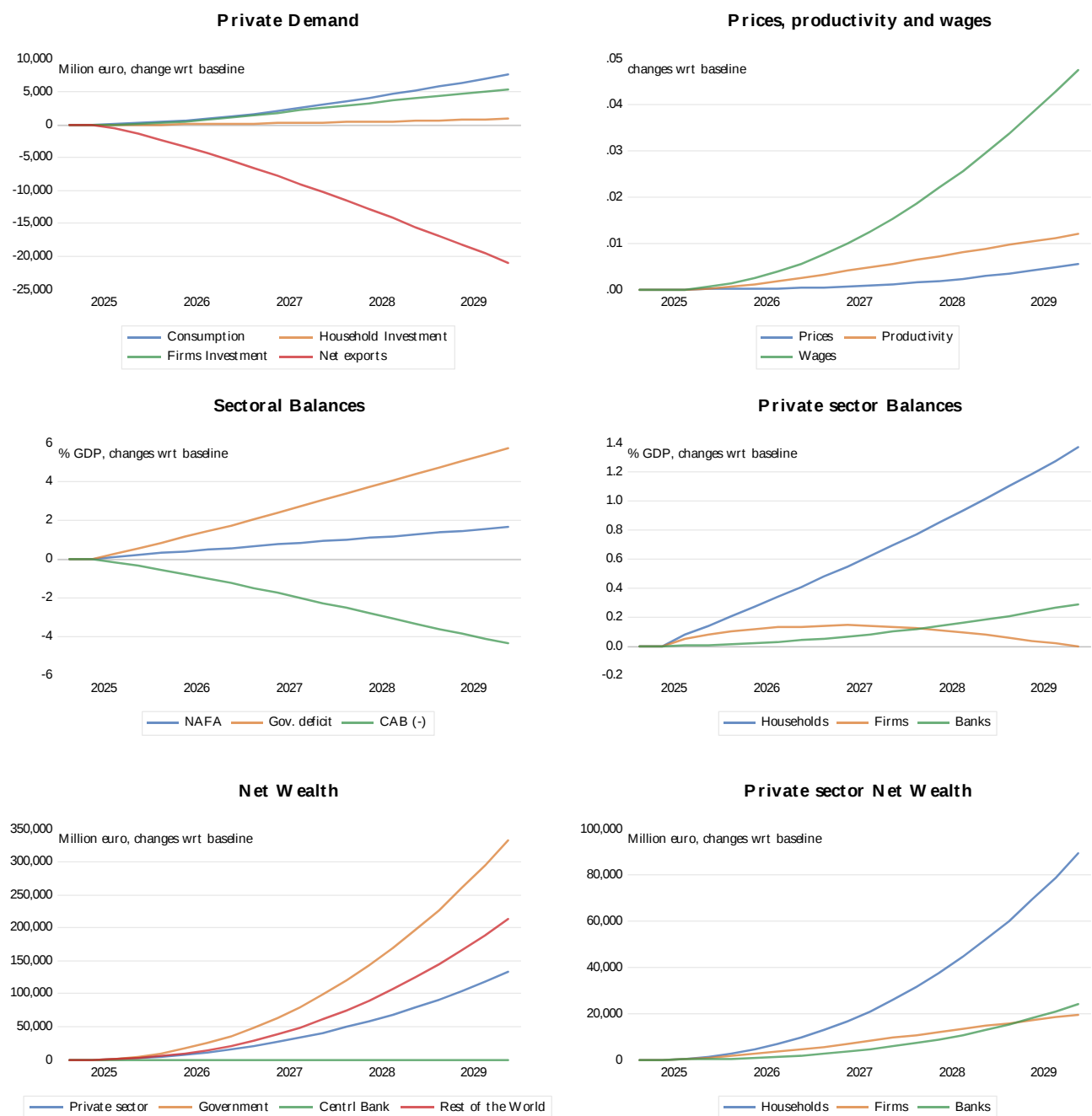
Source: own elaboration

Notes: Scenario 1 = real Government expenditures increase by 2.5 billion euro per quarter; Scenario 2 = real Government expenditures decrease by 1.5 billion euro per quarter; Scenario 3 = direct tax rate on household income decrease by 3 p.p.; Scenario 4 = direct tax rate on household income increase by 3 p.p.; Scenario 5 = real Government expenditures increase by 2.5 billion euro per quarter, direct tax rate on household income increases by 3 p.p.. All shocks are applied at 2025q3. Figures report changes relative to baseline.

In Scenario 2, the government sticks to the EU rulebook. It imposes a fiscal contraction, reducing real expenditures by €1.5 billion per quarter from 2025Q3 onward, with the aim of curbing debt accumulation and complying with SGP safeguards. As the government cuts expenditures, the primary balance improves, and by 2029, it is 0.5 percent GDP higher than in the baseline (Figure 5, mid-left panel). While this approach considerably lowers the debt-to-GDP ratio (by around 4.7 percent GDP by 2029), the economic costs are severe. Real GDP remains below baseline projections from 2026 onward, pushing the country into a deep recession. All components of domestic demand slow down compared to baseline. Unemployment rises sharply, with over one million additional job losses by 2029, pushing the unemployment rate to 11.3 percent—3.5 percentage points higher than the baseline. Higher unemployment, in turn, weakens labor market dynamics, depressing wages and productivity growth.

On the financial side, the effects of fiscal tightening reflect the broader economic downturn (Figure A3.1). Households and firms reduce spending and investment, amplifying liquidity constraints. Banks experience lower credit demand and reduced profitability, tightening financial conditions further. These results reinforce findings in the literature on austerity's adverse effects, particularly in economies with high public debt and low growth, where fiscal consolidation risks triggering a self-reinforcing cycle of stagnation and rising debt burdens (De Long and Summers 2012; Fatas and Summers 2018). The limited fiscal gains from austerity come at a high economic cost, underscoring the trade-offs between short-term debt targets and long-term growth stability.

Figure 5. Real and Financial Effects of an Expansionary Fiscal Policy Shock



Source: own elaboration.

Notes: Scenario 1 = real government expenditures increase by 2.5 billion euro per quarter. Shock is applied at 2025q3. Figure reports changes with respect to baseline.

Scenarios 3 and 4 explore instead the possibility of utilizing tax policies, leaving public consumption unaffected (Figures A3.2 and A3.3).¹⁵

In Scenario 3, we permanently reduce the (implicit) direct tax rate on household income by 3 percentage points beginning in the third quarter of 2025. This policy aims to stimulate household consumption and investment by increasing disposable income. The shock results in a modest consumption-led boom in 2026 to 2028, though the growth rate of GDP goes back to its baseline trend by the end of the simulation. Household consumption rises significantly, followed at a distance by housing investment, reflecting the positive impact of lower taxation on households' accumulation and expenditure. Unemployment declines by 1.6 percent in the year of the shock and stabilizes at 2 percent lower than the baseline, reinforcing the labor market benefits of tax relief. However, the reduction in tax revenue weakens the government's fiscal position. The primary surplus permanently shrinks by 0.5 percent GDP in the year of the shock, with the debt-to-GDP ratio more than 17 percent GDP higher than the baseline by the end of the forecasting horizon.

In both Scenarios 2 and 4, the government tries to improve fiscal and debt sustainability through austerity measures, yet fails to do so. In Scenario 2, the lower growth rate of GDP implies a deterioration in the r - g differential, meaning that the government now needs to pursue even higher primary surpluses to keep debt at bay. In Scenario 4, in turn, the permanent increase in taxes leads to a temporary slowdown in economic activity, which stabilizes at lower levels of aggregate demand a year and a half after the shock. Even though the debt ratio is considerably lower in this case, compared to both the baseline and to Scenario 2, at the same costs for public finances, the overall fiscal sustainability is the same as it was before the adjustment: the r - g differential has indeed returned to its baseline value.

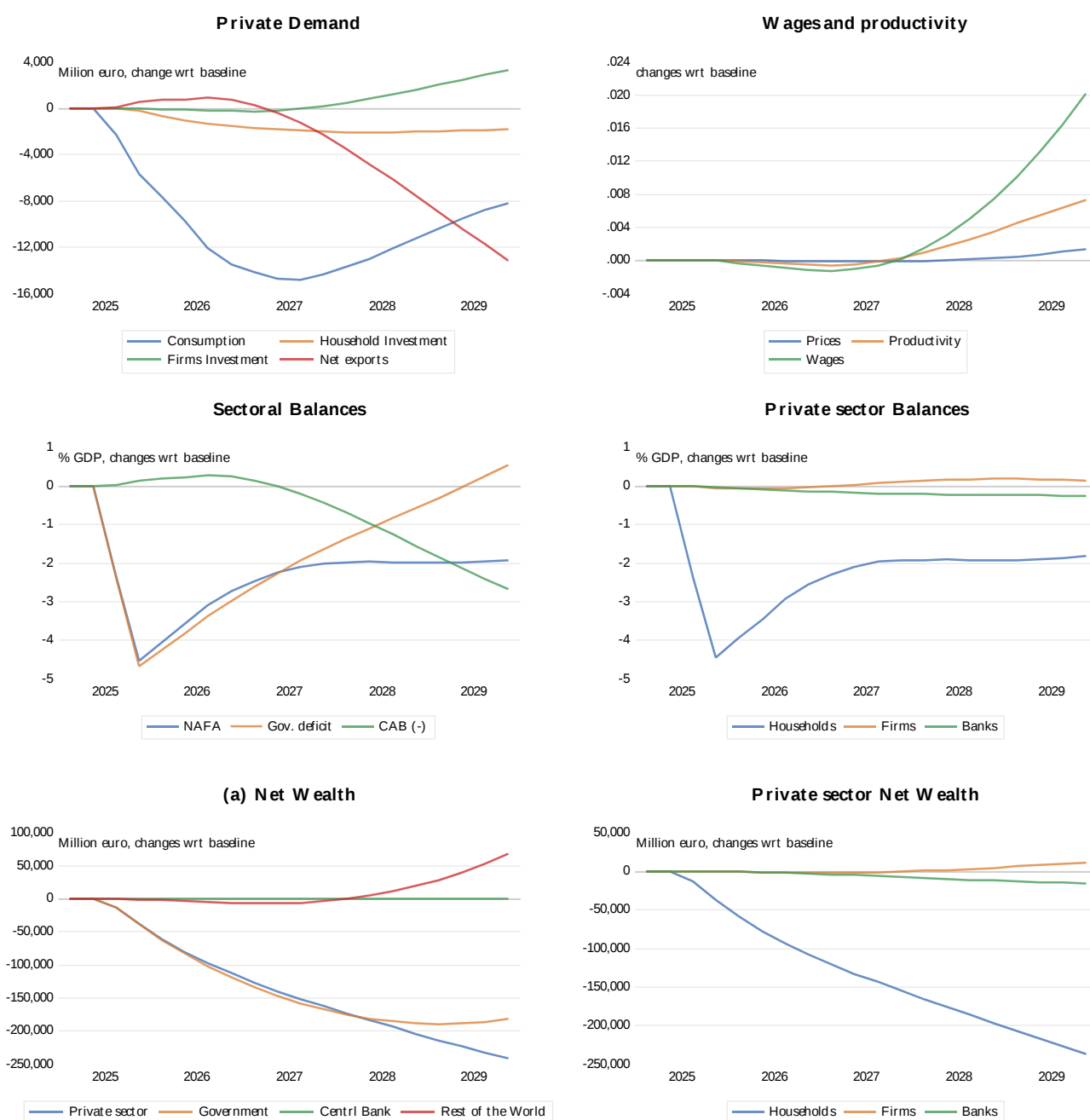
In Scenario 5, we assume that the government pursues a different strategy, adopting a budget-neutral policy mix which ensures that the primary balance returns to its baseline level by the end of the projection horizon. More precisely, we assume, as in Scenario 1, that the government increases its spending in real terms by €2.5 billion per quarter from 2025Q3 onwards. This time, however, it also permanently raises the direct tax rate on household

¹⁵ Results for the contractionary shock are symmetrical and not discussed for space constraints.

incomes by 3 percentage points, again starting in 2025Q3. Results are reported in **Error! Not a valid bookmark self-reference.** The higher tax rate lowers households' disposable income, leading to a permanent (and large) drop in consumption and a (smaller) decline in housing investment. GDP and demand components contract in 2026, then rebound. The lower consumption contributes to improve the external balance, as imports shrink. On the labor market side, after an initial increase, the unemployment rate declines, following the rebound in economic activity, dropping to 3.5 percent by 2029. Most importantly, the debt-to-GDP ratio declines steadily with respect to the baseline scenario, by 11.6 percent GDP in 2029. Yet, there are downsides to this success story. First, to the decline in government debt corresponds an equal decline in household wealth, putting additional downward pressure on consumption and investment in housing, underlining the two faces of the public debt coin—i.e., as a burden on nephew's shoulders and as a risk-free, interest-bearing asset in grandma's portfolio. Second, though lower than in the baseline, the debt-to-GDP ratio still increases over the forecasting horizon, meaning also that a fiscal strategy of this sort could be vetoed by the European Commission, as it does not completely adhere to the prescription of the revised SGP.

In summary, the simulation results illustrate the fundamental trade-offs inherent in fiscal policymaking. Still, some important considerations emerge. First, it is important to note that while the negative effect on the primary balance of the two expansionary scenarios (1 and 3) is exactly equal by the end of the simulation, the effect on debt sustainability is completely different. Pursuing growth through tax cuts instead of higher spending results in a lower growth rate of real GDP, higher unemployment, and a much greater weight on the public finances in terms of both reduced revenues and higher debt. Conversely, and in line with the findings of Acocella et al. (2020), an austerity program based on tax hikes rather than spending cuts would prove far more effective in reducing the debt-to-GDP ratio, with less—but still substantial—macroeconomic pain. A more balanced policy mix, pursued through a program of increased spending financed by an increase in taxes would instead result in a lower debt ratio at a lower cost for public budget. However, not only does this come at the cost of a decline in private wealth, but it also does not stop the increasing trend of the debt ratio.

Figure 6. Real and Financial Effects of a Budget-Neutral Fiscal Policy Shock



Source: own elaboration.

Notes: Scenario 5 = Real government expenditures increase by 2.5 billion euro per quarter; direct tax rate on household income increase by 3 p.p.. Shocks are applied at 2025Q3. Figure reports changes with respect to baseline.

These findings align with broader debates in the literature on fiscal flexibility and debt sustainability in the eurozone (Heimberger 2023). Research increasingly suggests that fiscal rules based on rigid deficit targets may be counterproductive in economies with high public

debt and weak growth, where austerity measures often lead to demand contraction and worsening debt ratios. Given Italy's structural challenges, policymakers must carefully navigate the balance between fiscal responsibility and economic support, ensuring that consolidation efforts do not suppress growth prospects. The revised Stability and Growth Pact's rigid constraints may further limit Italy's ability to achieve this balance, particularly in the face of external shocks and domestic vulnerabilities. Targeted investments in productivity-enhancing sectors and policies that foster long-term demand growth could provide a more sustainable path forward, mitigating the risks associated with both expansionary and contractionary fiscal policies.

6. CONCLUSIONS

Italy is currently under significant pressure to reduce its public debt to Maastricht Treaty ceilings, a challenge exacerbated by the constraints of the new Debt Sustainability Analysis (DSA) framework. In November 2024, the Italian Government presented its first Medium-Term Structural Fiscal Plan (MTSFP), consistent with the DSA and approved by the European Commission. While the government's expenditure path, aligned with the reformed EU fiscal rules, predicts a decrease in the debt-to-GDP ratio over the forecast horizon, our simulations with the MITA model indicate an opposite trajectory. Despite adherence to these fiscal guidelines, the model projects an increase in the debt-to-GDP ratio, raising concerns about the framework's effectiveness in achieving its stated goals.

The baseline scenario highlights a critical dependence on trade to sustain growth, especially after the cessation of the *Superbonus* scheme, which significantly curtails investment. Yet, this growth model is fraught with risks. Our projections, as do the official ones, assume steady global demand, a premise that becomes increasingly fragile in the face of potential eurozone-wide austerity measures or protectionist trade policies from the US. Such external shocks could severely disrupt Italy's trade dynamics, compounding its economic vulnerabilities.

In exploring alternative fiscal strategies, our simulations present a nuanced picture. If the aim is to reduce the debt ratio *no matter what*, then an austerity program based on tax hikes rather than spending cuts would prove far more effective in reducing the debt-to-GDP ratio. If

instead the aim is to maximize employment and long-term growth prospects, and at the same time weight as little as possible on the debt ratio, then a policy of higher spending—in contrast to one that cuts tax rates—would result in a higher growth rate of real GDP, lower unemployment, and far less weight on public finances in terms of both reduced revenues and higher debt. If accompanied by an increase in taxation, an expansionary policy would lead to a lower debt ratio, at the cost of depressing domestic demand. Given the international context delineated above, however, relying even more on external demand could lead onto perilous roads.

However, our model remains silent on the potential distributional effects of these alternative strategies. The distributional impact of fiscal consolidation through tax hikes, rather than spending cuts, depends on the tax structure: progressive taxation could mitigate inequality, whereas regressive tax hikes might further burden low- and middle-income households. Spending cuts, on the other hand, tend to have harsher social impacts, as they often affect essential public services and welfare programs, disproportionately harming vulnerable groups.

Post-Keynesian SFC models like MITA have proven adept at identifying early signs of financial instability. Current economic imbalances in Italy—rising financial asset and housing prices relative to general price levels, stagnating real wages, and persistent trade imbalances—pose substantial risks. Addressing these challenges may necessitate protective trade measures and targeted fiscal policies.

In conclusion, our analysis underscores the urgent need for a more flexible and growth-oriented fiscal policy framework. The rigid constraints of the revised Stability and Growth Pact may impede Italy's economic recovery, suggesting a need to incorporate broader macroeconomic considerations and international trade dynamics into fiscal policy. Without such adjustments, Italy risks prolonged economic stagnation, heightened social distress, and the failure to meet fiscal sustainability targets. Balancing fiscal discipline with economic growth is essential for navigating the complex fiscal dilemmas Italy faces.

One way to achieve this necessary framework could be to introduce a temporary tax on real and financial wealth over a given threshold, while using the RFF funds to stimulate investment and regional convergence.

The adoption of transferrable tax credits, tested with the *Superbonus* program, should also be reconsidered if there is a chance to challenge the political decision that such credits should be considered an immediate increase in the public deficit considered for EU rules.

REFERENCES

- Accetturo, A., Olivieri, E., and Renzi, F. 2024. "Incentives for dwelling renovations: evidence from a large fiscal programme." *Questioni Di Economia e Finanza (Occasional Papers)*, 860. <https://doi.org/10.32057/0.QEF.2024.0860>
- Acciari, P., Alvaredo, F., and Morelli, S. 2021. "The concentration of personal wealth in Italy 1995-2016." *CEPR Discussion Paper*.
- Acocella, N., Beqiraj, E., Di Bartolomeo, G., Di Pietro, M., and Felici, F. 2020. "An evaluation of alternative fiscal adjustment plans: The case of Italy." *Journal of Policy Modeling*, 42(3): 699–711. <https://doi.org/10.1016/j.jpolmod.2019.07.007>
- Auerbach, A. J., and Gorodnichenko, Y. 2017. "Fiscal stimulus and fiscal sustainability." *NBER Working Paper No.23789*, 1–50.
- Bagnai, A. 2016. "Italy's decline and the balance-of-payments constraint: a multicountry analysis." *International Review of Applied Economics*, 30(1): 1–26. <https://doi.org/10.1080/02692171.2015.1065226>
- Banca d'Italia. 2024. *Relazione annuale 2023*. www.bancaditalia.it/pubblicazioni/relazione-annuale/2023/rel_2023.pdf
- Barbieri Hermitte, R., Cagnazzo, A., Favero, C. A., Felici, F., Macaudo, V., Nucci, F., and Tegami, C. 2023. "ITFIN: A stock-flow consistent model for the Italian economy." *Economic Modelling*, 119, 106113. <https://doi.org/10.1016/j.econmod.2022.106113>
- Boewe, J., and Schulten, J. 2024. "Resilient or vulnerable? The double transformation of the German automotive industry and the consequences for employment." *ETUI.Org*.
- Brandolini, A., Gambacorta, R., and Rosolia, A. 2018. "Inequality amid income stagnation: Italy over the last quarter of a century." *Questioni Di Economia e Finanza (Occasional Papers)*, 442(June).
- Bulligan, G., Busetti, F., Caivano, M., Cova, P., Fantino, D., Locarno, A., and Rodano, M. L. 2017. "The Bank of Italy econometric model: an update of the main equations and model elasticities." *Banca d'Italia, Temi Di Discussione n.1130*.
- Canelli, R., Fontana, G., Realfonzo, R., and Passarella, M. V. 2021. "Are EU Policies Effective to Tackle the Covid-19 Crisis? The Case of Italy." *Review of Political Economy*, 333), 432–461. <https://doi.org/10.1080/09538259.2021.1876477>
- Canelli, R., Fontana, G., Realfonzo, R., and Passarella, M. V. 2024. "Energy crisis, economic growth and public finance in Italy." *Energy Economics* 132, 107430. <https://doi.org/10.1016/j.eneco.2024.107430>
- Canelli, R., Fontana, G., Realfonzo, R., and Veronese Passarella, M. 2022. "Is the Italian government debt sustainable? Scenarios after the Covid-19 shock." *Cambridge Journal of Economics*, 46(3), 581–587. <https://doi.org/10.1093/cje/beac014>

- Carnazza, G., Fontanari, C., Liberati, P., and Palumbo, A. 2023. "From Potential GDP to Structural Balance: A Theoretical Reassessment and New Evidence for Italy." *Review of Political Economy*, 35(2), 510–540. <https://doi.org/10.1080/09538259.2021.1959197>
- Carnazza, G., Liberati, P., and Sacchi, A. 2020. "The cyclically-adjusted primary balance: A novel approach for the euro area." *Journal of Policy Modeling*, 42(5), 1123–1145. <https://doi.org/10.1016/j.jpolmod.2020.01.005>
- Carnevali, E., Deleidi, M., and Veronese Passarella, M. 2019. "Stock-Flow Consistent Dynamic Models: Features, Limitations and Developments." In P. Arestis and M. Sawyer (Eds.), *Frontiers of Heterodox Macroeconomics* (pp. 223–276). Palgrave Macmillan. https://doi.org/10.1007/978-3-030-23929-9_6
- Caverzasi, E., and Godin, A. 2015. "Post-Keynesian stock-flow-consistent modelling: a survey." *Cambridge Journal of Economics*, 39(1), 157–187.
- Celi, G., Ginzburg, A., Guarascio, D., and Simonazzi, A. 2018. *Crisis in the European Monetary Union*. Routledge. <https://doi.org/10.4324/9781315542966>
- Celi, G. and Guarascio, D. 2019. "The Italian economy from WWII to the EMU: Structural weaknesses and external constraint." In M. C. Marcuzzo, A. Palumbo, and P. Villa (Eds.), *Economic Policy, Crisis and Innovation: Beyond Austerity in Europe* (p. 18). Routledge.
- Celi, G., Guarascio, D., and Zezza, F. 2024. "From Miracle to Decline Italy's long-term development trajectory between core and periphery." In U. Glassman and C. Gräbner (Eds.), *The Political Economy of Italy and the Center-Periphery Perspective on Europe* (pp. 81–108). Metropolis Press.
- Cesaratto, S., and Zezza, G. 2019. "Farsi male da soli. Disciplina esterna, domanda aggregata e il declino economico italiano." *L'in'dustria*, 40(2): 279–318.
- Ciaffi, G., Deleidi, M., and Capriati, M. 2024. "Government spending, multipliers, and public debt sustainability: an empirical assessment for OECD countries." *Economia Politica*, 41(2), 521–542. <https://doi.org/10.1007/S40888-024-00335-0>
- Ciaffi, G., Deleidi, M., and Di Domenico, L. 2024. "Fiscal policy and public debt: Government investment is most effective to promote sustainability." *Journal of Policy Modeling* 46(6): 1186–209. <https://doi.org/10.1016/J.JPOLMOD.2024.07.002>
- Cimadomo, J., and D'Agostino, A. 2016. "Combining time variation and mixed frequencies: an analysis of government spending multipliers in Italy." *Journal of Applied Econometrics*, 31(7): 1276–90.
- Clegg, D., Durazzi, N., Heins, E., and Robertson, E. 2024. "Policy, power and pandemic: varieties of job and income protection responses to Covid-19 in Western Europe." *Journal of European Public Policy* 31(11): 3515–38. <https://doi.org/10.1080/13501763.2023.2242907>
- Cripps, F., and Godley, W. 1976. "A Formal Analysis of the Cambridge Economic Policy Group Model." *Economica*, 43(172). <https://doi.org/10.2307/2553270>
- Darvas, Z., Welslau, L., and Zettelmeyer, J. 2023. "A quantitative evaluation of the European

Commission's fiscal governance proposal." *Bruegel Working Paper*, 16/2023.

- Darvas, Z., Welslau, L., and Zettelmeyer, J. 2024. "The implications of the European Union's new fiscal rules." *Bruegel Policy Brief*. <https://www.bruegel.org/policy-brief/implications-european-unions-new-fiscal-rules>
- Davis, L. E. 2017. "FINANCIALIZATION AND INVESTMENT: A SURVEY OF THE EMPIRICAL LITERATURE." *Journal of Economic Surveys*, 31(5). <https://doi.org/10.1111/joes.12242>
- De Long, B., and Summers, L. H. 2012. "Fiscal Policy in a Depressed Economy." *Brookings Papers on Economic Activity*, 43(1): 233–97.
- De Nardis, S., and Pappalardo, C. 2018. "Fiscal multipliers in abnormal times: The case of a model of the Italian economy." *Ufficio Parlamentare Di Bilancio, Nota Di Lavoro*.
- Deleidi, M. 2022. "Quantifying multipliers in Italy: does fiscal policy composition matter?" *Oxford Economic Papers* 74(2), 359–381. <https://doi.org/10.1093/oep/gpab028>
- Dyson, K., and Featherstone, K. 1996. "Italy and EMU as a “Vincolo Esterno”: Empowering the Technocrats, Transforming the State." *South European Society and Politics*, 1(2), 272–299.
- Fatas, A., and Summers, L. H. 2018. "The permanent effects of fiscal consolidations." *Journal of International Economics*, 112, 238–250.
- Ferreira, V., Ferreira, J. P., Guarascio, D., and Zezza, F. 2024. Shockflation in the EU: sectoral shocks, cost-push inflation and structural asymmetries in core and periphery countries. *Public Economics - Working Paper No. 254*.
- Fontanari, C., Palumbo, A., and Salvatori, C. 2020. "Potential Output in Theory and Practice: A Revision and Update of Okun's Original Method." *Structural Change and Economic Dynamics*, 54, 247–266. <https://doi.org/10.1016/j.strueco.2020.04.008>
- Gallo, G., and Raitano, M. 2023. "SOS incomes: simulated effects of COVID-19 and emergency benefits on individual and household income distribution in Italy." *Journal of European Social Policy*, 33(1), 101–116. <https://doi.org/10.1177/09589287221115672>
- Giavazzi, F. and Pagano, M. 1988. "The advantage of tying one's hands." *European Economic Review*, 32(5), 1055–1075. [https://doi.org/10.1016/0014-2921\(88\)90065-7](https://doi.org/10.1016/0014-2921(88)90065-7)
- Godley, W. 1999. "Seven Unsustainable Processes." In *Levy Economics Institute Strategic Analysis*. <https://doi.org/10.1057/9780230353848.0020>
- Gräbner, C., Heimberger, P., Kapeller, J., and Schütz, B. 2020. "Is the Eurozone disintegrating? Macroeconomic divergence, structural polarisation, trade and fragility." *Cambridge Journal of Economics*, 44(3), 647–669. <https://doi.org/10.1093/cje/bez059>
- Guarascio, D., Heimberger, P., and Zezza, F. 2025. "The Eurozone's Achilles heel: Reassessing Italy's long decline in the context of European integration and globalization." *Italian Economic Journal*, forthcoming.

- Havik, K., Morrow, K. M., Orlandi, F., Planas, C., Raciborski, R., Roeger, W., Rossi, A., Thum-Thysen, A., and Vandermeulen, V. 2014. "The Production Function Methodology for Calculating Potential Growth Rates and Output Gaps." *European Economy - Economic Papers 2008 - 2015*, 535.
- Heimberger, P. 2017. "Did fiscal consolidation cause the double-dip recession in the euro area?" *Review of Keynesian Economics*, 5(3), 439–458. <https://doi.org/10.4337/roke.2017.03.06>
- Heimberger, P. 2023. "Public debt and r-g risks in advanced economies: Eurozone versus stand-alone." *Journal of International Money and Finance*, 136, 102877. <https://doi.org/10.1016/j.jimonfin.2023.102877>
- Heimberger, P., and Kapeller, J. 2017. "The performativity of potential output: pro-cyclicality and path dependency in coordinating European fiscal policies." *Review of International Political Economy*, 24(5), 904–928. <https://doi.org/10.1080/09692290.2017.1363797>
- Heimberger, P., Welslau, L., Schütz, B., Gechert, S., Guarascio, D., and Zezza, F. 2024. "Debt Sustainability Analysis in Reformed EU Fiscal Rules: The Effect of Fiscal Consolidation on Growth and Public Debt Ratios." *Intereconomics*, 59(5), 276–283. <https://doi.org/10.2478/ie-2024-00>
- Hein, E. 2019. "Financialisation and tendencies towards stagnation: the role of macroeconomic regime changes in the course of and after the financial and economic crisis 2007–09." *Cambridge Journal of Economics*, 43(4), 975–999. <https://doi.org/10.1093/cje/bez022>
- Hutter, C., and Weber, E. 2023. "Russia–Ukraine war: A note on short-run production and labour market effects of the energy crisis." *Energy Policy*, 183. <https://doi.org/10.1016/j.enpol.2023.113802>
- Iuzzolino, G., Pellegrini, G., and Viesti, G. 2013. "Convergence among Italian Regions, 1861–2011." In G. Toniolo (Ed.), *The Oxford Handbook of the Italian Economy Since Unification*. Oxford University Press. <https://doi.org/10.2139/ssrn.2239019>
- Krippner, G. R. 2005. "The financialization of the American economy." *Socio-Economic Review*, 3(2), 173–208. <https://doi.org/10.1093/SER/mwi008>
- Nikiforos, M., and Zezza, G. 2017. "Stock-Flow Consistent Macroeconomic Models: A Survey." *Journal of Economic Surveys*, 31(5), 1204–1239.
- Okun, A. M. 1962. "Potential GNP: its measurement and significance." *Proceedings of the Business and Economics Statistics. American Statistical Association*, 98–104.
- Özgür, G., and Memis, E. 2017. "Macroeconomic imbalances and the eurozone crisis: the impact of credit expansion on asset prices*." *Review of Keynesian Economics* 5(3): 459–480. <https://doi.org/10.4337/roke.2017.03.07>
- Papadimitriou, D. B., Nikiforos, M., and Zezza, G. 2013. "A Levy Institute Model for Greece." *Levy Economics Institute Research Projects Report*, 1–31.
- Papagni, E., Lepore, A., Felice, E., Baraldi, A. L., and Alfano, M. R. 2021. "Public investment and growth: Lessons learned from 60-years experience in Southern Italy." *Journal of Policy*

Modeling, 43(2), 376–393. <https://doi.org/10.1016/j.jpolmod.2019.12.003>

- Pierros, C. 2024. "Empirical stock–flow consistent models: evolution, current state and prospects." *European Journal of Economics and Economic Policies: Intervention*, forthcoming, 1–16. <https://doi.org/10.4337/ejeep.2024.0136>
- Proietti, T., Fioramanti, M., Frale, C., and Monteforte, L. 2020. "A Systemic Approach to Estimating the Output Gap for the Italian Economy." *Comparative Economic Studies*, 62(3), 465–493. <https://doi.org/10.1057/s41294-020-00127-y>
- Solow, R. 2018. "A theory is a sometime thing." *Review of Keynesian Economics*, 6(4), 421–424. <https://doi.org/10.4337/roke.2018.04.02>
- Stockhammer, E. 2004. "Explaining European Unemployment: Testing the NAIRU Hypothesis and a Keynesian Approach." *International Review of Applied Economics*, 18(1), 3–23. <https://doi.org/10.1080/0269217032000148618>
- Stockhammer, E. 2008. "Is the NAIRU theory a Monetarist, New-Keynesian, post-Keynesian or Marxist Theory?" *Metroeconomica* 59(3): 479–510.
- Stockhammer, E., Constantine, C., and Reissl, S. 2015. "Neoliberalism, trade imbalances, and economic policy in the Eurozone crisis." *Nova Economia*, 25(spe), 749–775. <https://doi.org/10.1590/0103-6351/3551>
- SVIMEZ. 2022. *Rapporto Svimez 2021 sull'economia del Mezzogiorno: L'economia e la società del Mezzogiorno*. Il Mulino.
- Weber, I. M., Lara Jauregui, J., Teixeira, L., and Nassif Pires, L. 2024. "Inflation in times of overlapping emergencies: Systemically significant prices from an input–output perspective." *Industrial and Corporate Change*, 33(2), 297–341. <https://doi.org/10.1093/icc/dtad080>
- Zeza, F. 2024. "Fiscal and Monetary Policy in an SFC Model of the Italian Economy." *Levy Economics Institute Working Paper Series*, 1063, 1–64. https://www.levyinstitute.org/pubs/wp_1063.pdf
- Zeza, F., and Zeza, G. 2020. "A Stock-Flow Consistent Quarterly Model of the Italian Economy." *Levy Economics Institute Working Paper Series No.958*, 1–83. <https://doi.org/10.2139/ssrn.3627413>
- Zeza, F., and Zeza, G. 2022. "A Stock-Flow Consistent Quarterly Model of the Italian Economy." In M. R. Byrjalsen, H. Raza, and F. Olesen (Eds.), *Macroeconomic Modelling, Economic Policy and Methodology* (pp. 113–142). Routledge. <https://doi.org/10.4324/9781003253457-10>
- Zeza, G. 2020. "Fiscal policies in a monetary union: the eurozone case." *European Journal of Economics and Economic Policies: Intervention*, 17(2), 156–170. <https://doi.org/10.4337/ejeep.2020.02.05>
- Zeza, G., and Zeza, F. 2019. "On the design of empirical stock-flow consistent models." *European Journal of Economics and Economic Policies: Intervention*, 16(1), 134–158. <https://doi.org/10.4337/ejeep.2019.0046>

APPENDIX 1. MITA MAIN FEATURES

Table A1.1. MITA – Main Features

		<i>Sectors – emitter/holder</i>
<i>Institutional sectors</i>	• <i>Households*</i> • <i>Non-Financial Corporations</i> • <i>Banks</i> • <i>Central Bank</i> • <i>Government</i> • <i>Rest of the World</i>	
<i>Real capital stocks/sectors holding</i>	<i>Housing</i> <i>Machineries, Non-residential Infrastructures</i>	<i>Household Firms</i> <i>Government</i>
<i>Financial asset/liabilities and sectors involved</i>	<i>Gold</i> <i>Monetary base</i> <i>CB refinancing</i> <i>Bank deposits</i> <i>Bank loans: consumer credit</i> <i>Bank loans: mortgages</i> <i>Bank loans to firms</i> <i>Banks debt</i> <i>Banks equities</i> <i>Public debt</i> <i>Firms' equities</i> <i>Outgoing FDI</i> <i>Incoming FDI</i> <i>Foreign liabilities</i> <i>Other net</i>	<i>RoW / Central Bank</i> <i>Central Bank / Households; Banks; RoW</i> <i>Banks / Central Bank</i> <i>Banks / Households; Firms; Government; RoW</i> <i>Households / Banks</i> <i>Households / Banks</i> <i>Firms / Banks</i> <i>Banks / Households; RoW</i> <i>Banks / Households</i> <i>Government / Households; Firms; Banks; RoW</i> <i>Firms / Households; Banks; Government</i> <i>RoW / Firms</i> <i>Firms / RoW</i> <i>RoW / Households; Banks; Central Bank</i> <i>..</i>
<i>Demand/supply of assets</i>	<i>Tobin Portfolio for households' financial assets (VAR); single (estimated) equations for other assets/sectors</i>	
<i>Prices</i>	<i>Phillips-curve-type link between the unemployment rate and the wage level. Wages in turn impact on prices</i>	
<i>Labour market</i>	<i>Employment and unemployment depend on aggregate demand. Productivity depends on economic activity and degree of involuntary part-time</i>	
<i>Endogenous</i>	262	
<i>Exogenous</i>	172	

Source: own elaboration

Table A1.2. Balance Sheet Matrix

	Assets/liabilities	Sector						
		H	F	B	CB	G	W	Total
1	<i>Real assets</i>							
2	Capital (residential)	$+K_H$						$+K_H$
3	Capital (non-residential)		$+K$					$+K$
4	Capital (infrastructures)					$+K_G$		$+K_G$
5	<i>Financial assets</i>							
6	Gold				$+GOLD$		$-GOLD$	0
7	Monetary base	$+MB_H$		$+MB_B$	$-MB$		$+MB_{T2}$	0
8	CB refinancing			$-ADV$	$+ADV$			0
9	Bank deposits	$+DEPS_H$	$+DEPS_F$	$-DEPS$		$+DEPS_G$	$+DEPS_W$	0
10	Bank loans: consumer credit	$-BLCC$		$+BLCC$				0
11	Bank loans: mortgages	$-BLMO$		$+BLMO$				0
12	Bank loans to firms		$-BLF$	$+BLF$				0
13	Banks debt	$+BB_H$		$-BB$			$+BB_W$	0
14	Banks equities	$+EB$		$-EB$				0
15	Public debt	$+B_H$	$+B_F$	$+B_B$	$+B_{CB}$	$-B$	$+B_W$	0
16	Firms equities	$+EN_H$	$-EN$	$+EN_B$		$+EN_G$		0
17	Outgoing FDI		$+FDIO$				$-FDIO$	0
18	Incoming FDI		$-FDII$				$+FDII$	0
19	Foreign liabilities	$+F_H$		$+F_B$	$+F_{CB}$		$-F$	0
20	Other net	$+ONFA_H$	$+ONFA_F$	$+ONFA_B$	$+ONFA_{CB}$	$+ONFA_G$	$+ONFA_W$	0
21	Net financial assets	NFA_H	NFA_F	NFA_B	NFA_{CB}	NFA_G	NFA_W	0

Source: own elaboration.

Legend: H = Household; F = Non-financial corporations; B = Financial corporations; CB = Central Bank; G = Government; W = Rest of the World

Notes: (+) and (-) signs stand for assets and liabilities, respectively. Cells in grey 'close' each sector's column.

Table A1.3. Determinants of Major Stochastic Equations

	<i>Long-run</i>	<i>Short-run</i>	<i>Dummies</i>	<i>Sample</i>	<i>Method</i>
<i>Consumption</i>	<i>Disposable income (+)</i>				
	<i>Real wealth (+)</i>		2020q1	1999q2-	OLS
	<i>Annual change in share prices (+)</i>	..	-2-3	2024q2	Adj.R2: 90
<i>Investment (housing)</i>	<i>Disposable income in terms of price of investment in new houses (+)</i>	..	2020q1	1999q2-	OLS
	<i>Real stock of houses (-)</i>		-2-3	2024q2	Adj.R2: 0.88
	<i>Superbonus (+)</i>				
<i>Investment (firms)</i>	<i>Real GDP (+)</i>		2020q1	1999q2-	OLS
	<i>Profits net of dividends</i>	..	-2-3	2024q1	Adj.R2: 0.89
<i>Imports</i>	<i>Real GDP (+)</i>			1996q3-	ECM
	<i>Relative prices (-)</i>	<i>Real GDP growth (+)</i>		2024q2	Adj.R2: 0.79
<i>Exports</i>		<i>Growth in world demand (+)</i>			
	<i>World demand (+)</i>	<i>Growth in domestic prices (-)</i>	2001q2	1996q3-	ECM
	<i>REER (+)</i>	<i>Growth in foreign prices (+)</i>	;	2024q2	Adj.R2: 0.84
		<i>REER (+)</i>	2021q2		
<i>Unit wages</i>	<i>Domestic prices (-)</i>	<i>Growth in foreign prices (+)</i>	2020q2	1999q3-	ECM
	<i>Past unemployment rate (-)</i>		-3	2024q2	Adj.R2: 0.71
<i>Prices</i>	<i>Wage-to-productivity ratio (+)</i>	<i>Wage-to-productivity ratio (+)</i>		1999q2-	ECM
	<i>Import prices (+)</i>	<i>Import prices (+)</i>	2022q4	2024q2	Adj.R2: 0.83
<i>Productivity</i>	<i>Real GDP (+)</i>	<i>Real GDP (+)</i>			
	<i>Number of involuntary part time workers (-)</i>	<i>Number of involuntary part time workers (-)</i>	2008q1	1999q2-2019q4	ECM Adj.R2: 0.36

Source: own elaboration.

Legend: OLS = Ordinary Least Squares; ECM = Error Correction Model.

APPENDIX 2. TABLES AND FIGURES

Table A2.1. Assumption for out-of-sample projections

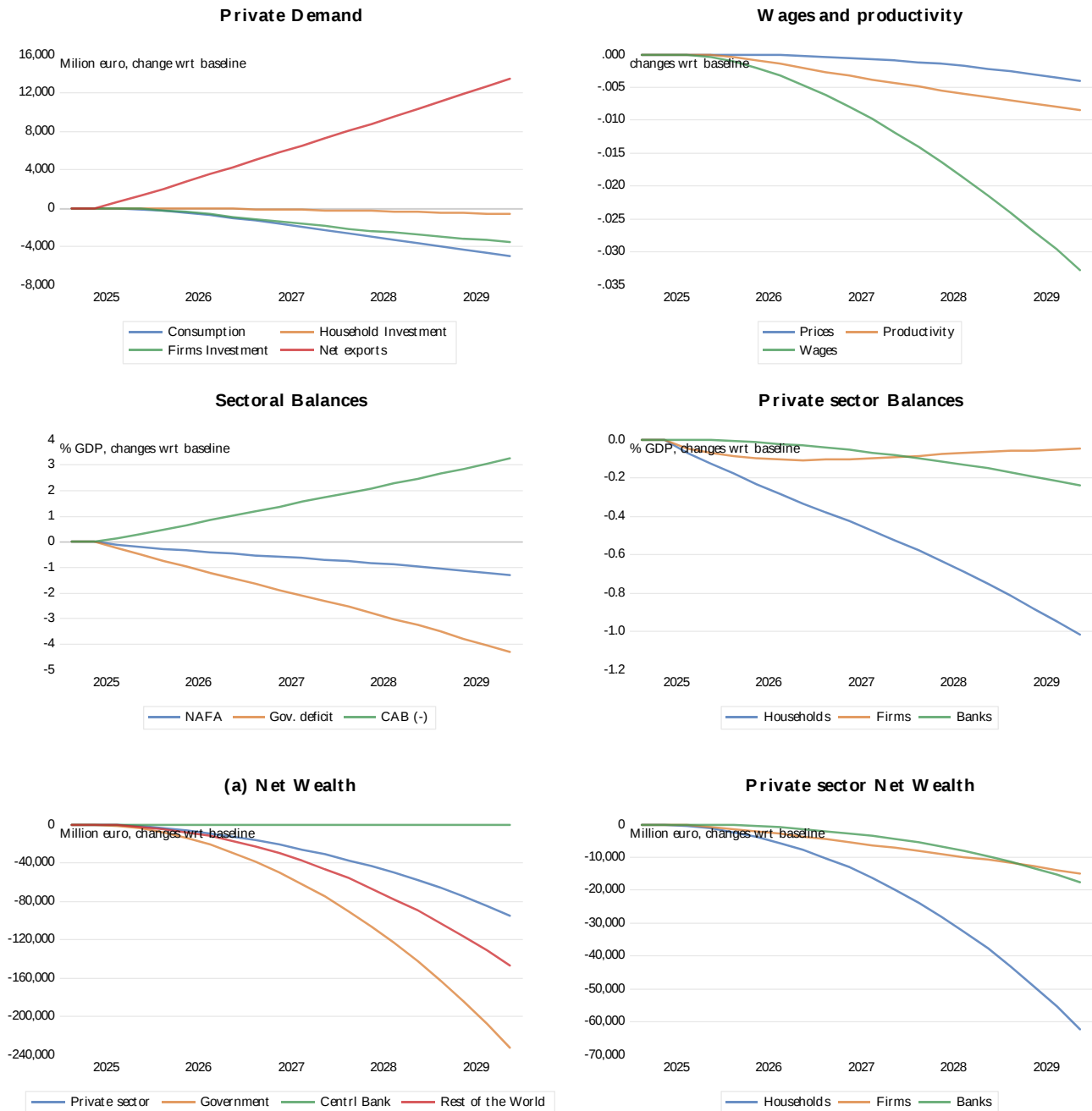
Variable	Assumption	Projection sample
EUR/\$ exchange rate	We use government projections from p.57 of Structural Budget Plan (Table II.2.1). Equals 0.91 in 2024, declines to 0.9 in 2025q1	2024q3-2029q4
Growth rate of World demand	We use government projections from p.57 of Structural Budget Plan (Table II.2.1). Equals 0.14 in 2024, increases to 0.15 in 2025, and then declines by 0.01 each year, down to 0.11 in 2029	2024q3-2029q4
Price of gold	Stays at last available value of 2651 million	2024q3-2029q4
Share price index Italy	Grows at 1% per year	2024q4-2029q4
Share prices index US	Grows at 1% per year	2024q4-2029q4
<i>QE</i>		
Other net BoI domestic bond acquisitions (flow)	Stays at last available value of +1118 million per quarter	2024q1-2029q4
LTRO (flow)	Halves each quarter, from an initial value of -9319 million per quarter	2024q4-2029q4
PSPP (flow)	Halves each quarter, from an initial value of -8042 million per quarter	2024q4-2029q4
PEPP (flow)	Halves each quarter, from an initial value of -1909 million per quarter	2024q4-2029q4
Marginal Lending Facility rate	We use government projections from p.51 of MTSFP (Table II.1.4). From an initial value of 3.65 as of 2024q3, the MLF declines by 100 basis points in 2025 down to 2.65, it then raises to 2.75 during 2026, and stays at that level until the end of the sample	2024q4-2029q4
<i>Fiscal Policy variables</i>		
Real public expenditures	We use government projections from p.63 of MTSFP (Table II.2.3), which gives real public expenditure as % of GDP in 2024 at same level of 2023. Given data for 2024q1-q2, it means	2024q3-2029q4

	2024q3-4 will be 90.6bn. Real public expenditures then grow by 1.8% in 2025, 0.9% in 2026, 0% in 2027, -0.1% in 2028, and 0.2% in 2029	
Real public investment	We use data from Documento Programmatico di Bilancio 2025 (Table II.1-10), which gives public investment at 3.4% of GDP in 2024. Given data for 2024q1-q2, it means 2024q3-4 would be equal to 17212.9 million euro per quarter. It then grows according to official projections, by 1.2% in 2025, 1.1% in 2026, 0.8 in 2027, 0.5 in 2028 and 0.2 in 2029	2024q3-2029q4
Superbonus (stock of firms' fiscal credits)	We assume the stock of credits to deplete over time by 5 billion per quarter, from approximately 211 billion in 2024q2 to 110 billion in 2029q4	2024q3-2029q4
Superbonus (flow of government's fiscal transfers to households)	We assume the flow of fiscal transfers to revert to its pre-Covid level	2024q3-2029q4

Source: MTFSP; IMF; own elaboration

APPENDIX 3. SCENARIO ANALYSIS: ADDITIONAL FIGURES AND TABLES

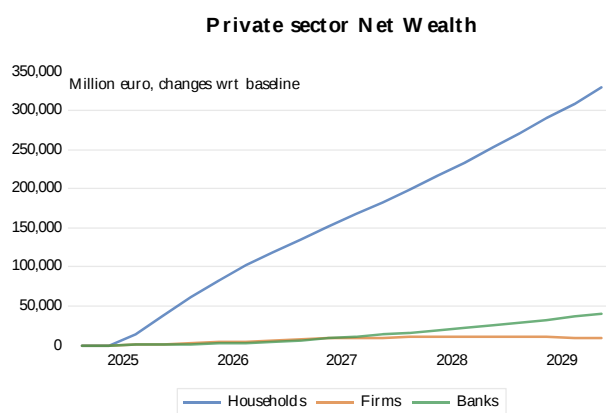
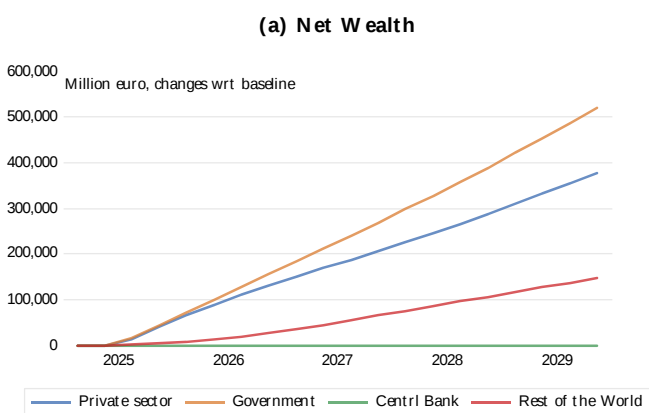
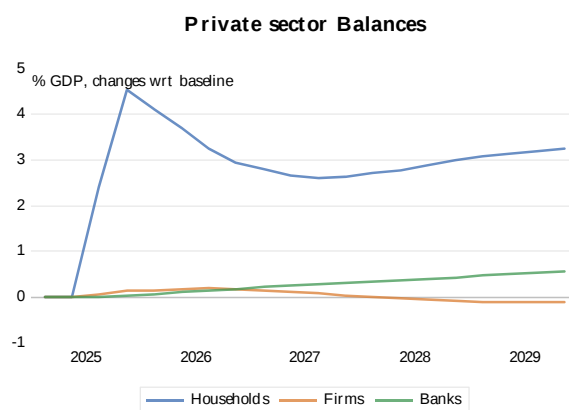
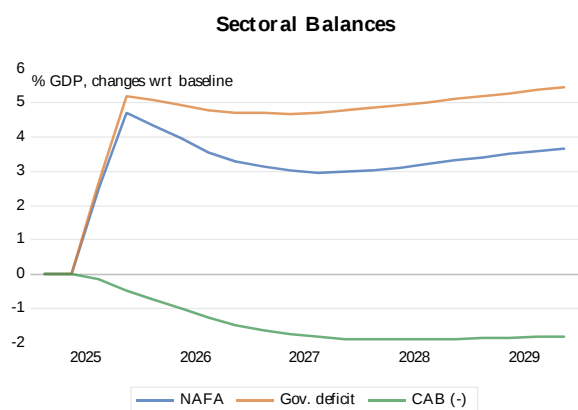
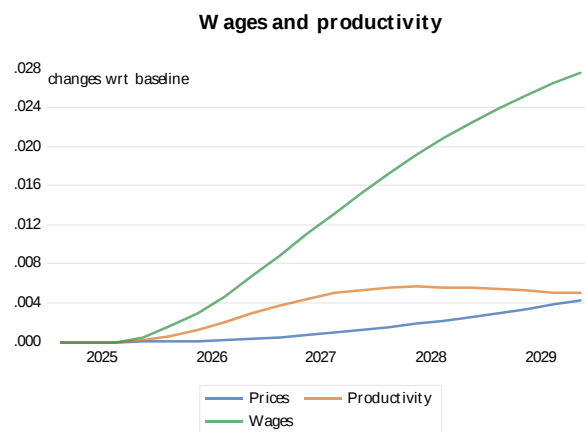
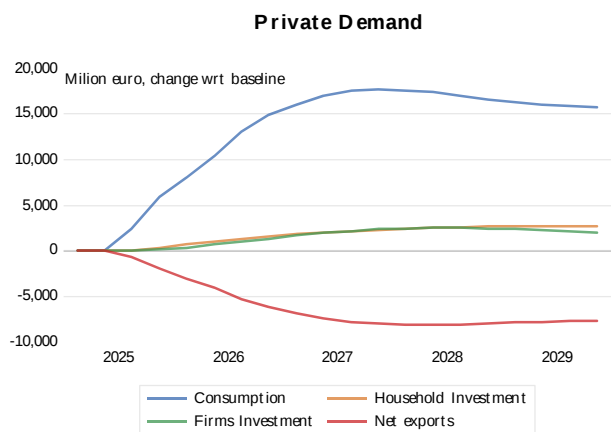
Figure A3.1 Real and Financial effects of a contractionary Fiscal Policy shock



Source: own elaboration.

Notes: Scenario 2 = real Government expenditures decrease by 1.5 billion euro per quarter. Shock is applied at 2025q3. Figure reports changes with respect to baseline.

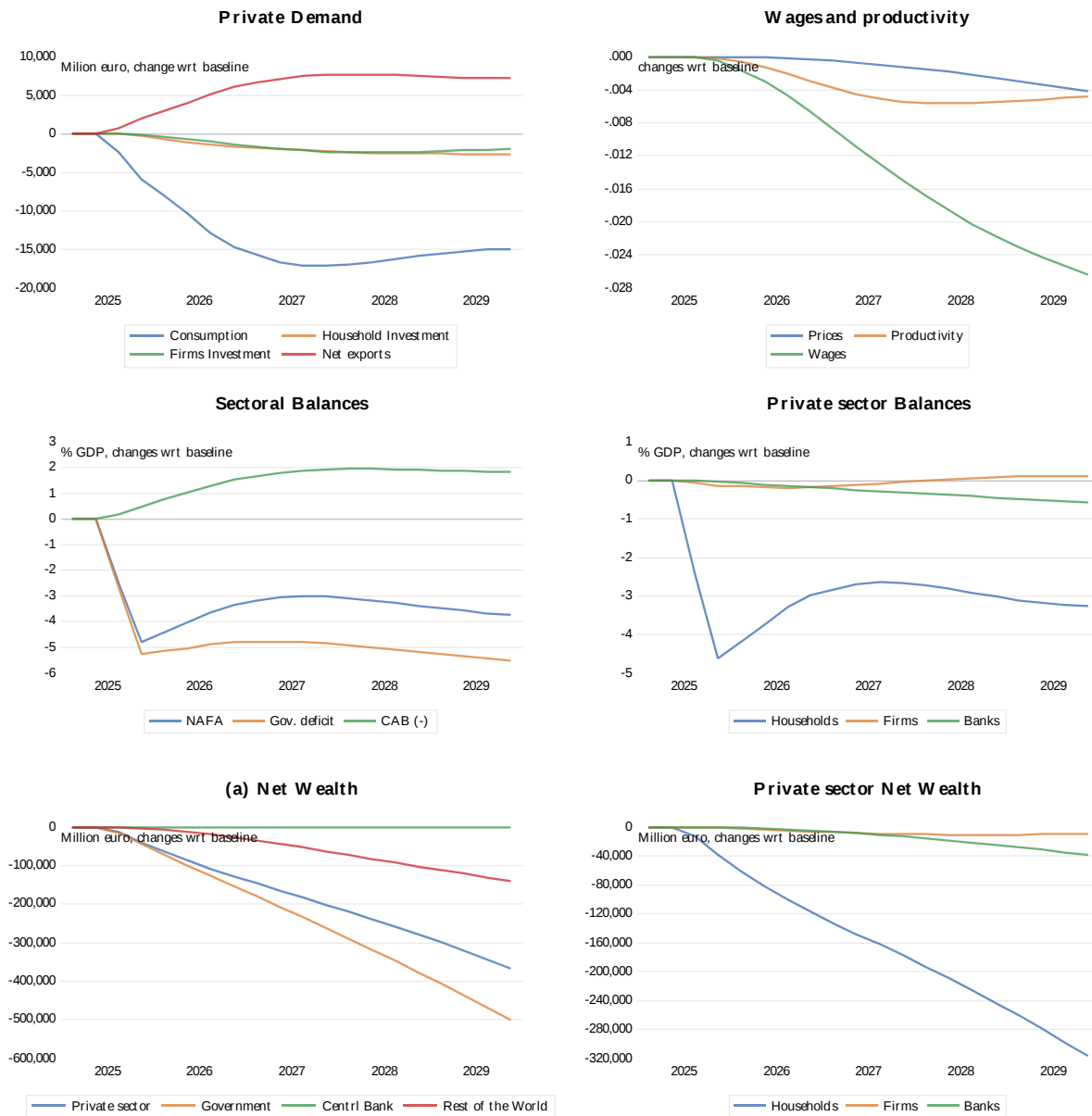
Figure A3.2 Real and Financial effects of an expansionary Tax Policy shock



Source: own elaboration.

Notes: Scenario 3 = direct tax rate on household income decrease by 3 p.p.. Shock is applied at 2025q3. Figure reports changes with respect to baseline.

Figure A3.3 Real and Financial effects of a contractionary Tax Policy shock



Source: own elaboration.

Notes: Scenario 4 = direct tax rate on household income increase by 3 p.p.. Shock is applied at 2025q3. Figure reports changes with respect to baseline.

Table A3.1. Effects of Fiscal Policy shocks on GDP, demand components, labor market, Government accounts and Sectoral Balances. 2026-2029

	Baseline							Scenario 1					Scenario 2				Scenario 3				Scenario 4				Scenario 5			
	2023	2024	2025	2026	2027	2028	2029	2026	2027	2028	2029	2026	2027	2028	2029	2026	2027	2028	2029	2026	2027	2028	2029	2026	2027	2028	2029	
a) Real GDP and components	Annual growth rates							Changes with respect to baseline																				
GDP	0.8	-0.3	-0.4	0.7	0.4	0.1	-0.1	1.3	1.7	1.7	1.7	-1.1	-1.2	-1.1	-1.2	1.6	1.0	0.1	-0.2	-1.6	-1.0	0.0	0.2	-0.2	0.7	1.7	1.9	
Consumption	1.0	-0.9	-0.2	0.9	1.0	0.5	0.1	0.3	0.6	0.7	0.8	-0.2	-0.4	-0.5	-0.5	3.5	1.9	0.0	-0.4	-3.5	-2.0	0.1	0.5	-3.3	-1.4	0.8	1.3	
Gross capital formation	8.7	-1.5	-5.6	-1.5	-0.9	-1.0	-0.9	0.7	1.5	1.7	1.7	-0.6	-1.1	-1.2	-1.1	1.9	2.1	0.9	-0.1	-1.9	-2.2	-0.9	0.2	-1.2	-0.7	0.9	1.9	
- housing	11.2	3.1	-11.2	-8.5	-4.6	-3.0	-2.3	0.2	0.6	1.0	1.3	-0.2	-0.5	-0.7	-0.9	3.8	3.6	1.9	0.8	-3.9	-3.7	-2.0	-0.9	-3.7	-3.1	-1.0	0.4	
- Non-residential	10.2	9.1	-2.1	1.2	0.8	0.3	0.1	0.3	0.6	0.7	0.6	-0.3	-0.5	-0.4	-0.4	0.4	0.6	0.2	-0.1	-0.4	-0.6	-0.2	0.2	-0.1	0.1	0.5	0.8	
- other	6.7	-8.4	-3.5	1.4	0.3	-0.5	-0.6	1.2	2.3	2.6	2.4	-1.0	-1.8	-1.7	-1.5	1.5	2.2	0.8	-0.5	-1.5	-2.2	-0.7	0.6	-0.3	0.2	1.9	3.0	
Government expenditure	1.9	0.0	0.9	1.2	0.3	-0.1	0.1	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exports of goods and services	1.1	-0.6	0.8	2.4	1.6	1.0	0.7	0.0	0.0	-0.1	-0.2	0.0	0.0	0.1	0.2	0.0	-0.1	-0.1	-0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	-0.1	
Imports of goods and services	0.0	-5.5	-1.0	2.1	2.1	1.3	0.8	2.6	3.2	3.4	3.3	-2.1	-2.2	-2.2	-2.2	3.0	2.0	0.2	-0.4	-3.0	-2.0	-0.1	0.5	-0.4	1.3	3.3	3.7	
b) Labor market and prices	Percent							Changes with respect to baseline																				
Unemployment rate	7.6	8.0	8.4	7.6	7.3	7.3	7.3	-1.3	-2.6	-4.0	-5.3	1.1	1.9	2.8	3.6	-1.6	-2.2	-2.2	-2.0	1.6	2.2	2.1	2.0	0.2	-0.5	-1.8	-3.3	
Inflation rate	5.4	1.2	2.0	0.5	0.1	0.1	0.3	0.0	0.1	0.1	0.2	0.0	0.0	-0.1	-0.2	0.0	0.1	0.1	0.2	0.0	-0.1	-0.1	-0.2	0.0	0.0	0.0	0.1	
Labor productivity (growth rate)	-1.1	-0.5	0.1	-0.1	0.1	0.1	0.0	0.1	0.3	0.3	0.3	-0.1	-0.2	-0.2	-0.2	0.2	0.3	0.1	0.0	-0.2	-0.3	-0.1	0.1	0.0	0.0	0.2	0.4	
Unit wages (growth rate)	3.1	4.0	2.3	1.7	1.7	1.5	1.2	0.3	0.8	1.3	1.6	-0.3	-0.6	-0.9	-1.1	0.4	0.8	0.8	0.6	-0.4	-0.8	-0.8	-0.6	-0.1	0.0	0.5	1.1	
c) Government accounts	Percent of GDP							Changes with respect to baseline																				
Gov. outlays	52.3	49.1	49.9	50.6	51.1	51.6	52.0	1.1	2.3	3.5	4.7	-1.0	-1.8	-2.6	-3.5	-1.0	-1.2	-1.0	-0.6	1.0	1.3	1.0	0.6	2.2	3.6	4.5	5.4	
- Gov. Consumption	18.0	18.2	18.7	19.0	19.2	19.3	19.5	1.7	3.3	4.9	6.5	-1.4	-2.6	-3.7	-4.8	-0.4	-0.5	-0.6	-0.6	0.4	0.6	0.6	0.6	2.1	4.0	5.6	7.2	
- Gov. investment	3.2	3.7	3.6	3.7	3.7	3.7	3.7	-0.1	-0.1	-0.2	-0.2	0.0	0.1	0.1	0.2	-0.1	-0.1	-0.1	-0.1	0.1	0.1	0.1	0.1	0.0	0.0	-0.1	-0.1	
- Subsidies	1.8	1.5	1.5	1.5	1.5	1.5	1.5	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
- Social benefits	19.9	20.2	20.4	20.3	20.3	20.5	20.6	-0.4	-0.8	-1.2	-1.4	0.4	0.6	0.9	1.1	-0.5	-0.7	-0.6	-0.5	0.5	0.7	0.6	0.5	0.1	-0.1	-0.6	-1.0	
- Interest	3.5	4.0	4.8	5.3	5.6	5.8	5.9	-0.1	-0.1	-0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.3	0.5	0.0	-0.1	-0.3	-0.6	-0.1	-0.2	-0.4	-0.5	
- other outlays	5.8	1.5	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	-0.1	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	0.0	0.0	0.0	
Gov. revenues	46.5	46.2	46.8	47.0	47.1	47.2	47.2	-0.1	-0.3	-0.3	-0.4	0.1	0.2	0.3	0.3	-5.8	-5.8	-5.9	-5.9	5.9	6.0	6.0	5.9	5.7	5.6	5.5	5.3	
Indirect taxes	13.7	13.7	13.7	13.7	13.7	13.7	13.7	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Direct taxes	15.0	15.2	15.5	15.6	15.6	15.7	15.7	-0.1	-0.2	-0.3	-0.4	0.1	0.2	0.2	0.3	-5.7	-5.8	-5.8	-5.8	5.9	5.9	5.9	5.9	5.7	5.6	5.5	5.4	
Social contributions	12.7	12.7	12.7	12.8	12.8	12.9	12.9	0.0	0.0	0.1	0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	0.1	0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	
Other receipts	5.2	4.5	4.8	4.9	4.9	4.9	4.9	0.0	-0.1	-0.1	-0.2	0.0	0.1	0.1	0.2	0.0	-0.1	-0.1	-0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	-0.1	
Primary surplus	5.5	5.8	5.8	5.8	5.7	5.5	5.2	-1.4	-2.7	-4.1	-5.4	1.2	2.1	3.0	4.0	-4.9	-4.6	-4.7	-4.8	5.0	4.7	4.7	4.9	3.5	1.8	0.5	-0.8	
Current surplus	1.9	1.8	0.9	0.5	0.1	-0.3	-0.7	-1.3	-2.7	-4.0	-5.4	1.1	2.1	3.0	4.1	-4.9	-4.8	-5.0	-5.4	5.0	4.8	5.1	5.4	3.6	2.1	0.9	-0.3	
Net lending/borrowing	-5.8	-2.9	-3.2	-3.6	-4.0	-4.4	-4.8	-1.3	-2.5	-3.8	-5.2	1.1	2.0	2.9	3.9	-4.8	-4.6	-4.9	-5.2	4.9	4.7	5.0	5.3	3.5	2.1	0.9	-0.1	
Public debt	135.0	143.2	147.2	151.1	156.0	161.5	167.5	0.2	1.1	2.9	5.7	-0.1	-0.9	-2.4	-4.7	4.6	7.9	12.5	17.8	-4.6	-8.1	-12.9	-18.3	-4.4	-6.9	-9.5	-11.6	
d) Sectoral Balances	Percent of GDP							Changes with respect to baseline																				
Net Acquisition of Financial Assets	7.0	5.0	7.5	8.5	8.7	9.0	9.4	0.5	0.8	1.1	1.5	-0.4	-0.6	-0.9	-1.2	3.8	3.0	3.2	3.6	-3.8	-3.1	-3.2	-3.6	-3.4	-2.2	-2.0	-2.0	
Gov. Deficit	5.9	3.0	3.2	3.7	4.1	4.5	4.9	1.3	2.6	3.9	5.2	-1.1	-2.0	-2.9	-3.9	4.9	4.7	5.0	5.3	-5.0	-4.8	-5.1	-5.4	-3.6	-2.1	-1.0	0.1	
Current Account Balance	1.1	2.0	4.3	5.0	5.0	5.0	5.1	-0.9	-1.9	-2.9	-4.0	0.8	1.5	2.2	2.9	-1.1	-1.8	-1.9	-1.9	1.1	1.8	1.9	1.9	0.2	-0.1	-1.1	-2.2	

Source: own elaboration. Notes: Scenario 1 = real Government expenditures increase by 2.5 billion euro per quarter; Scenario 2 = real Government expenditures decrease by 1.5 billion euro per quarter; Scenario 3 = direct tax rate on household income decrease by 3 p.p.; Scenario 4 = direct tax rate on household income increase by 3 p.p.; Scenario 5 = real Government expenditures increase by 2.5 billion euro per quarter; direct tax rate on household income increases by 3 p.p.. All shocks are applied at 2025q3. Cells in grey represent actual values, while green/red cells highlight positive/negative changes with respect to baseline.