

The impact of 2022-2023 inflation on public finances in six EU countries

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Secretariat of Haut Conseil des finances publiques

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2026

A study from the staff of French Haut Conseil des finances publiques (HCFP)

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HCFP Permanent Secretariat

Comparison of the impact of inflation on public finances in 2022 and 2023 in six eurozone countries

Pascal Helwaser and Axelle Lacan¹

Staff report n°2024-1

<https://www.hcfp.fr/en/node/261>

- Isolate the full impact of inflation, including via induced effects on the primary balance, growth and interest rates
- Model framework drawing on parameterisations from multiple other sources and studies
- Study limited to six euro area countries and years 2022-2023

Outline

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- **Presenting the study from Helwaser and Lacan (2024) on the impact of 2022-2023 inflation**
 - Quick motivation and analytical framework
 - Primary balance and overall budget balance effects
 - Denominator/debt effects

- **Longer-run effects of inflation ?**

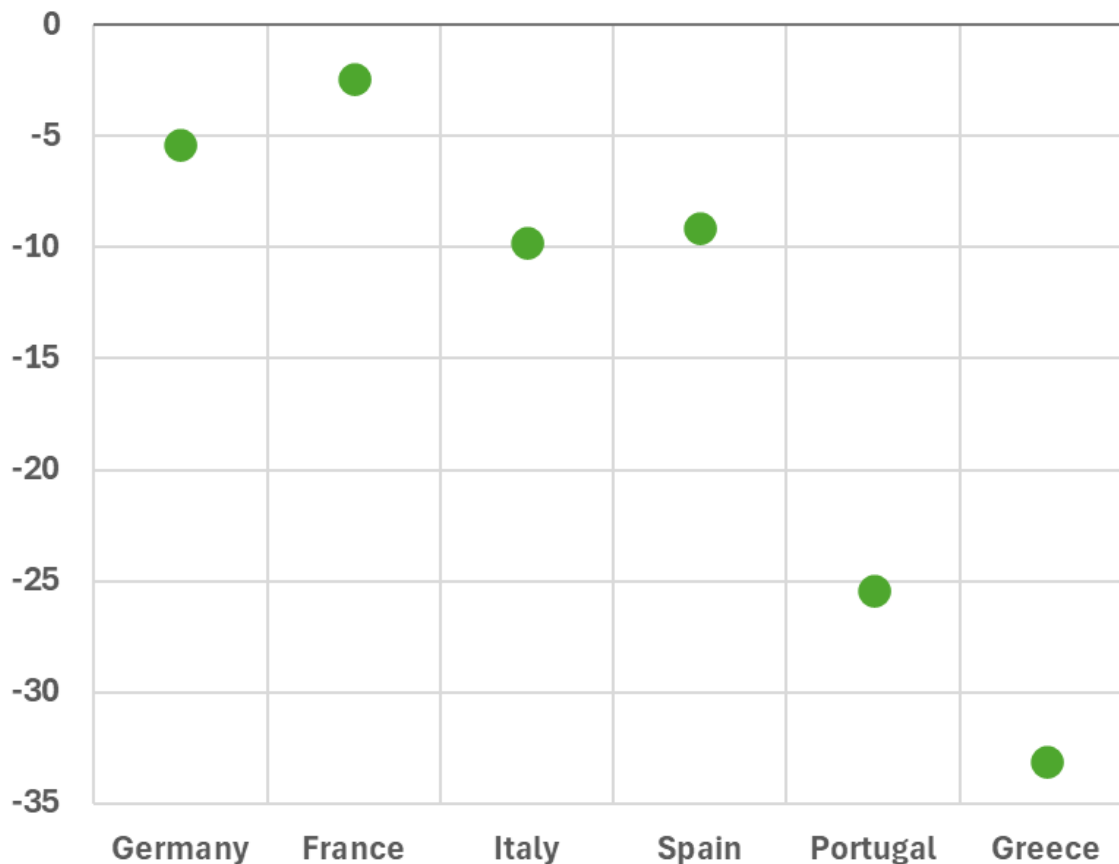
- **Concluding remarks and open questions**

Quick motivation and analytical framework

Debt ratios did fall significantly in 2022-2023

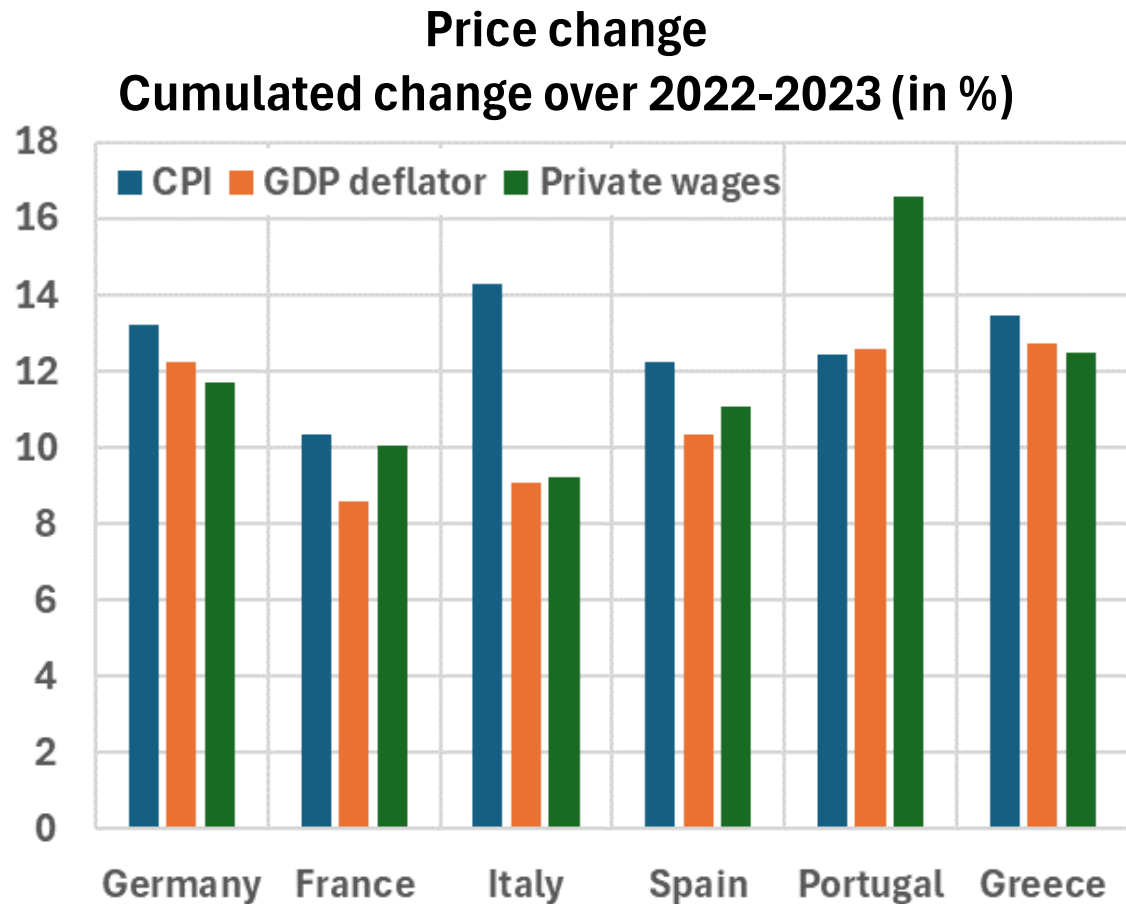
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**Change in the debt-to-GDP ratio
Cumulated over 2022-2023 (pp of GDP)**



Those years also saw a large inflation shock

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A shock to some extent of external origin ...

but in the end a large domestic inflation shock as well

Source: Helwaser and Lacan (2024).

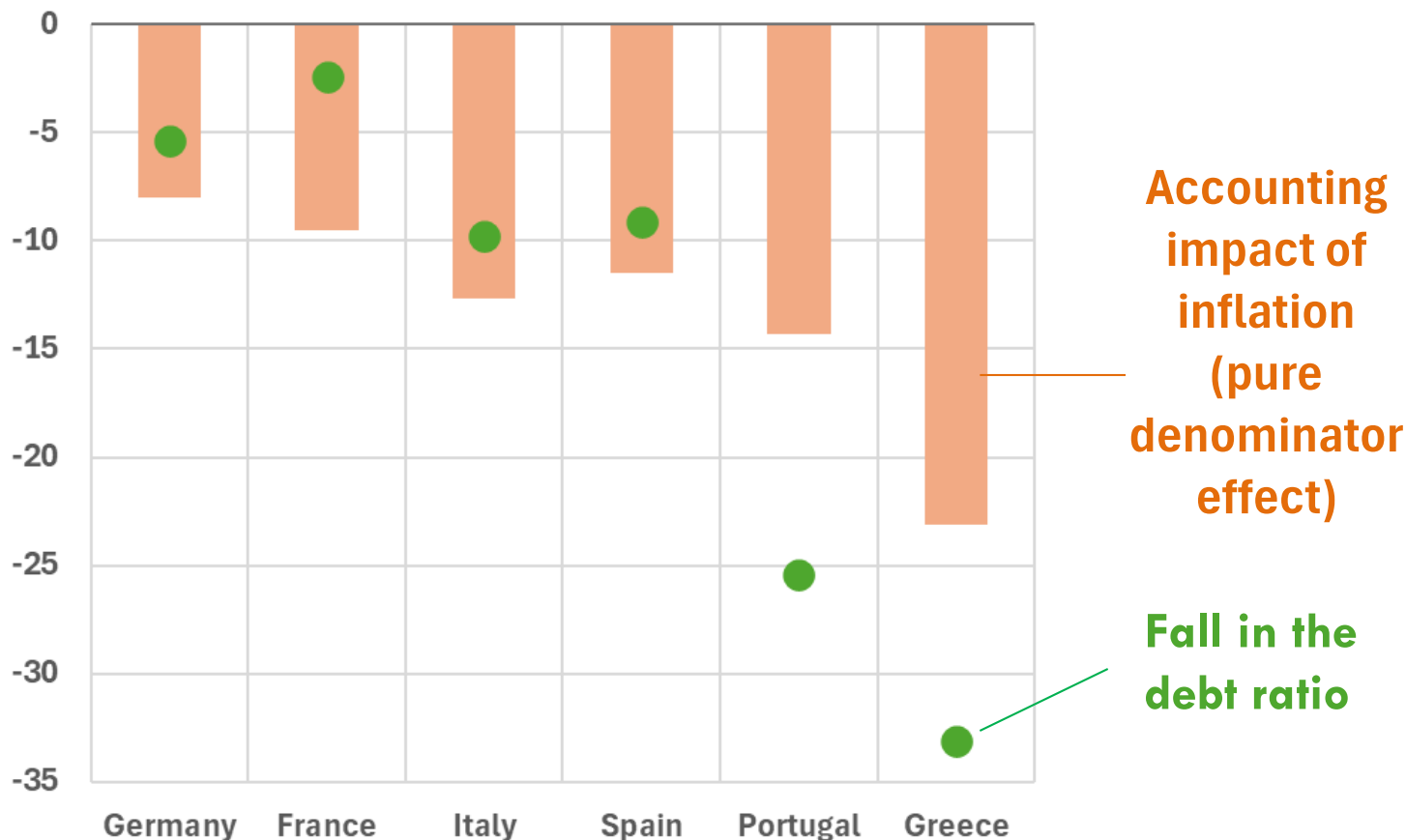
Private wages are in non-agricultural market sectors.

The data presented in this chart are from 2024 and may have been revised since then.

Falling debt came with a large 'accounting' contribution of inflation

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Cumulated fall in the debt-to-GDP ratio over 2022-2023 (pp of GDP)



Quantitative framework :

Direct and indirect effects of inflation on public finances

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Debt-to-GDP ratio dynamics

$$\Delta d_t = -pb_t + (i_t - \pi_t - g_t^r)d_{t-1}$$

Primary balance

- 1/ 'Elasticities' of public revenues and expenditures
- 2/ Budgetary costs of support measures
- 3/ Feedback effect of real GDP growth

Interest payments

- 1/ Impact on index-linked securities
- 2/ Higher short and long-term interest rates on roll-over debt

GDP deflator

Real GDP growth

- 1/ Impact of inflation shock
- 2/ Impact of support measures
- 3/ Impact of monetary policy

Denominator effect

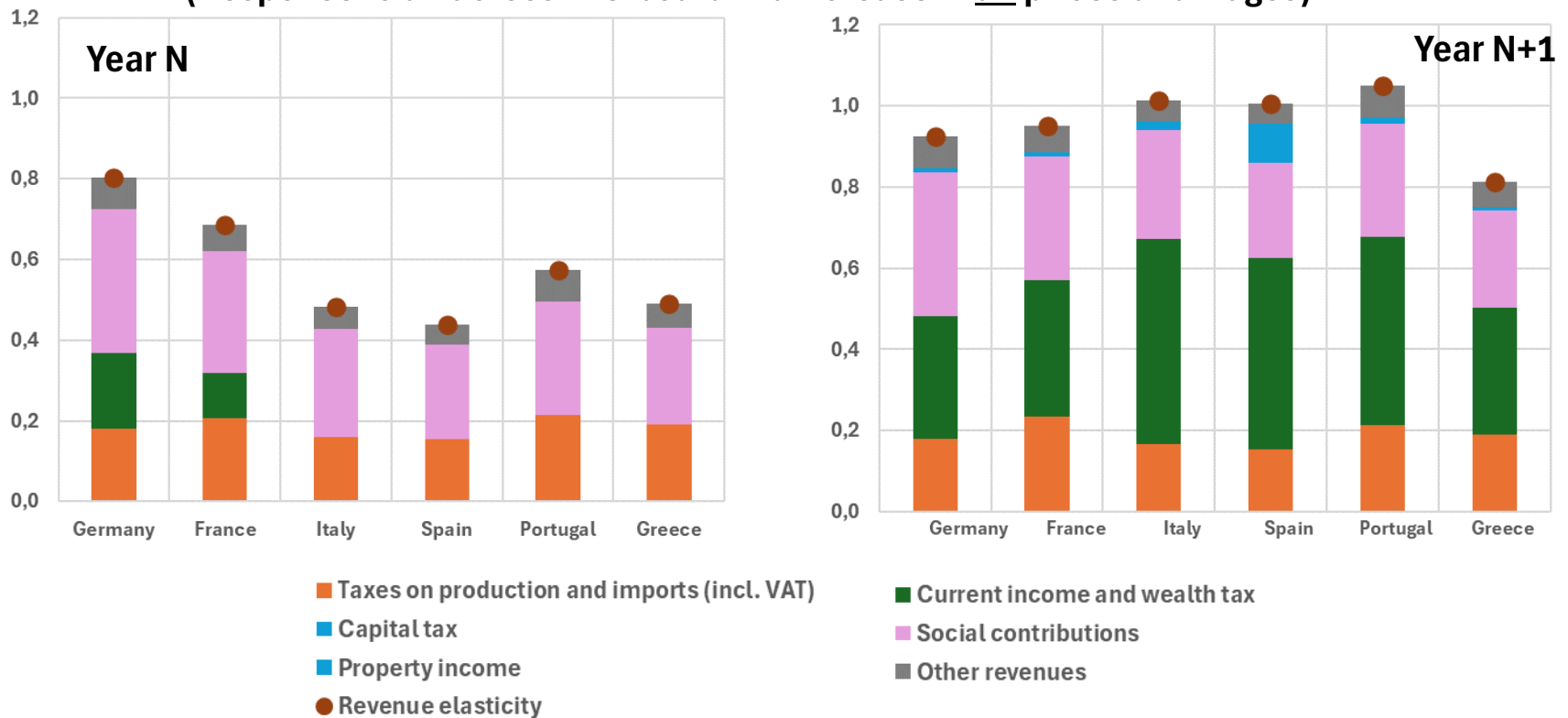
'Snowball' effect

Primary balance and overall budget balance effects

Price elasticities of public revenues: Nearly full indexation in two years

- Dynamic revenue elasticities are based on tax elasticities estimated by the OECD (2015, when available) and on the tax structure documented by the Eurostat *National Tax Lists*

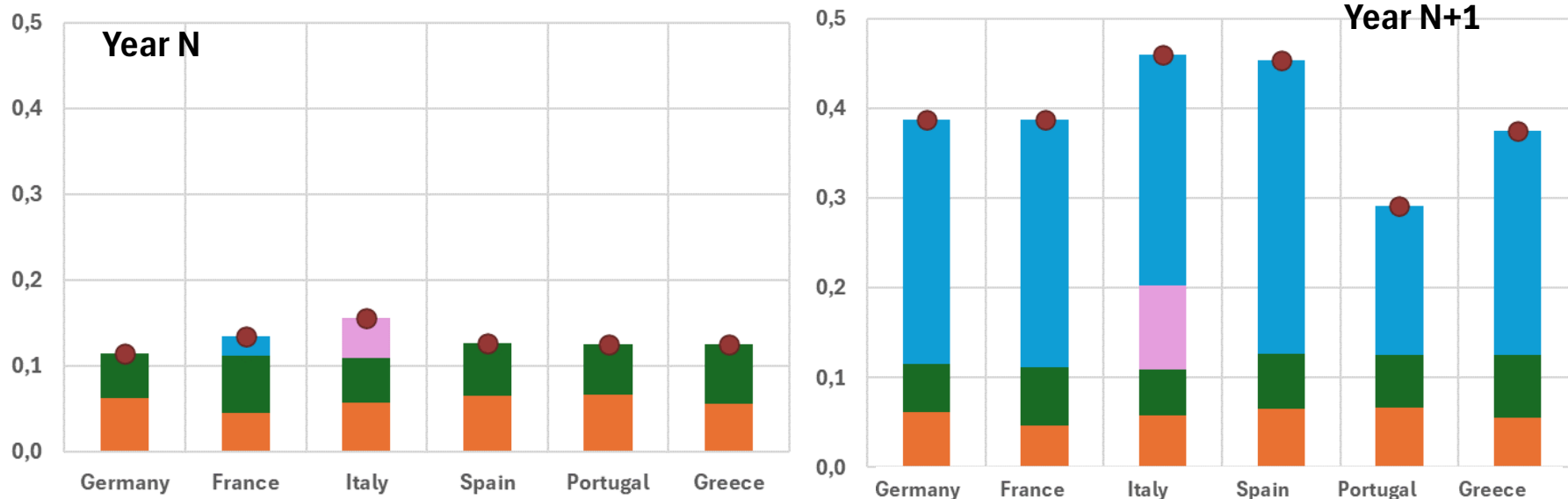
Revenue elasticities at the 1st year and at the 2nd year
(Response to an across-the-board 1% increase in all prices and wages)



Price elasticities of public expenditures: Partial short-run indexation

- Expenditure elasticities are based on expenditure-category elasticities derived from specific assumptions or from ECB studies (Checherita-Westphal, 2022, and Bańkowski, 2023)

Expenditure elasticities at the 1st year and at the 2nd year
(Response to an across-the-board 1% increase in all prices and wages)



- Pensions and other social benefits and transfers
- Employee remuneration
- Investment
- Intermediate consumption
- Expenditure elasticity

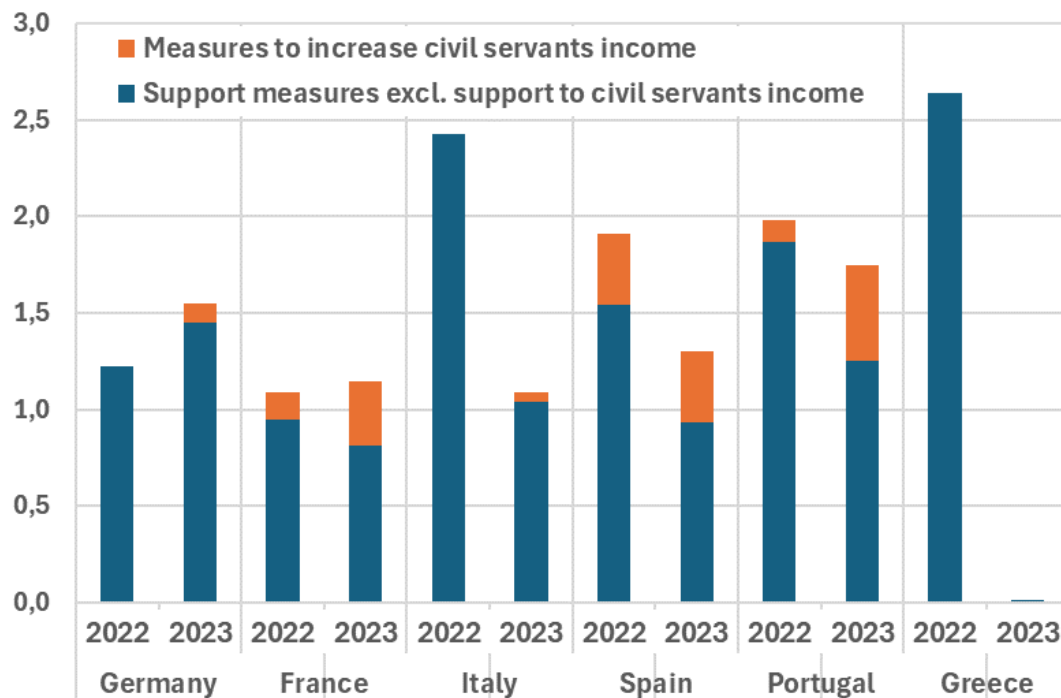
Budgetary costs of discretionary measures

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Measures aimed at mitigating the inflation shock

- Estimates from the European Commission (2024), excluding public wages
- In addition, some measures were implemented to support the income of civil servants

Net budgetary cost of support measures (in % of GDP)

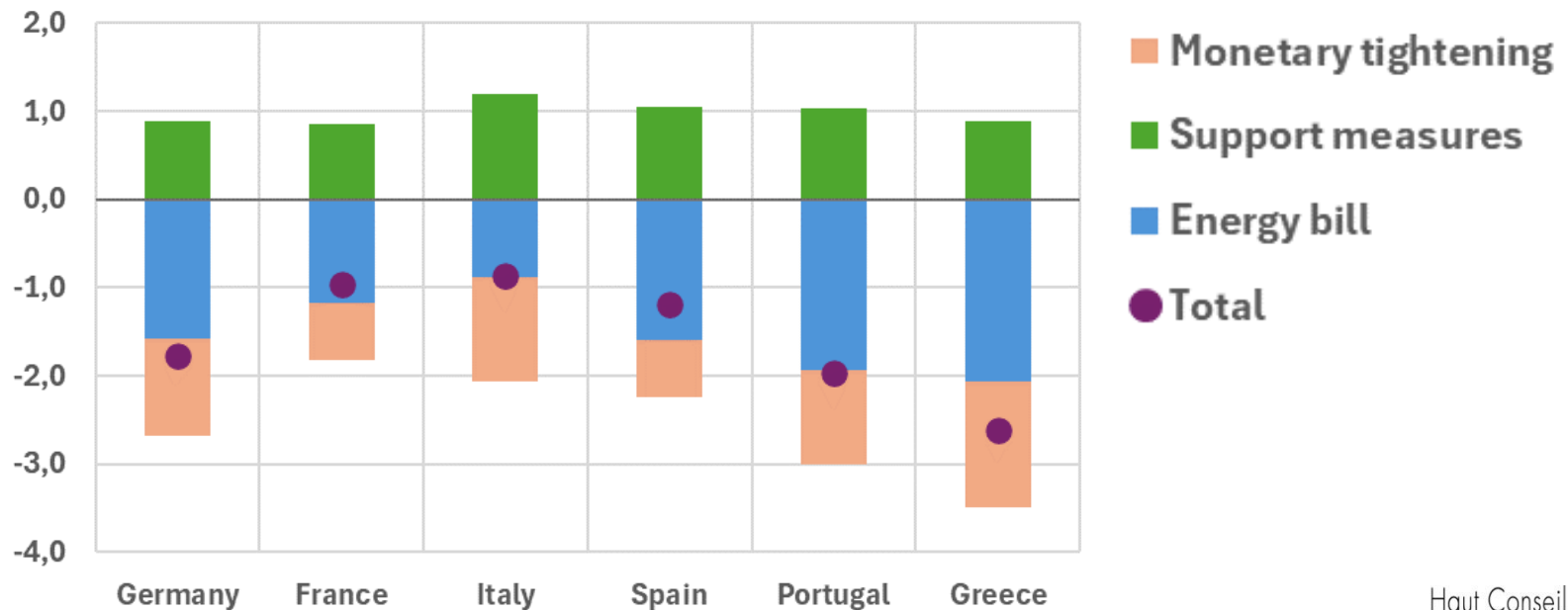


Feedback effects on real GDP growth

- **Three channels:** higher energy bills (-), measures (+), monetary policy tightening (-)
- Estimates calibrated with standard model multipliers
- Feedback on primary balance via standard elasticities

Impact of inflation shock on GDP growth

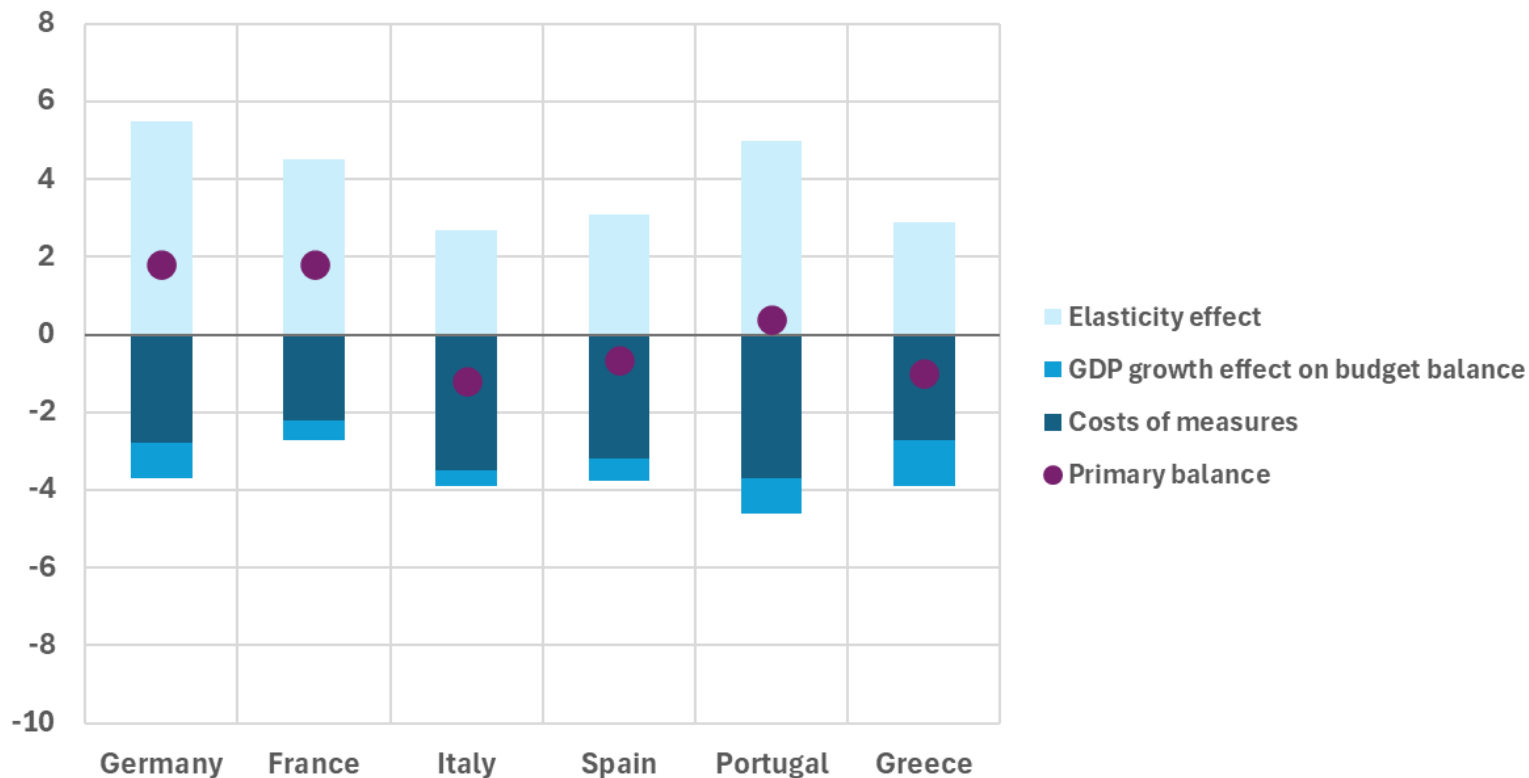
Cumulative 2022-2023 impact in pp.



Full impact of the inflation shock on the primary balance

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Impact of inflation on the primary balance Cumulated 2022-2023 impact in pp of GDP

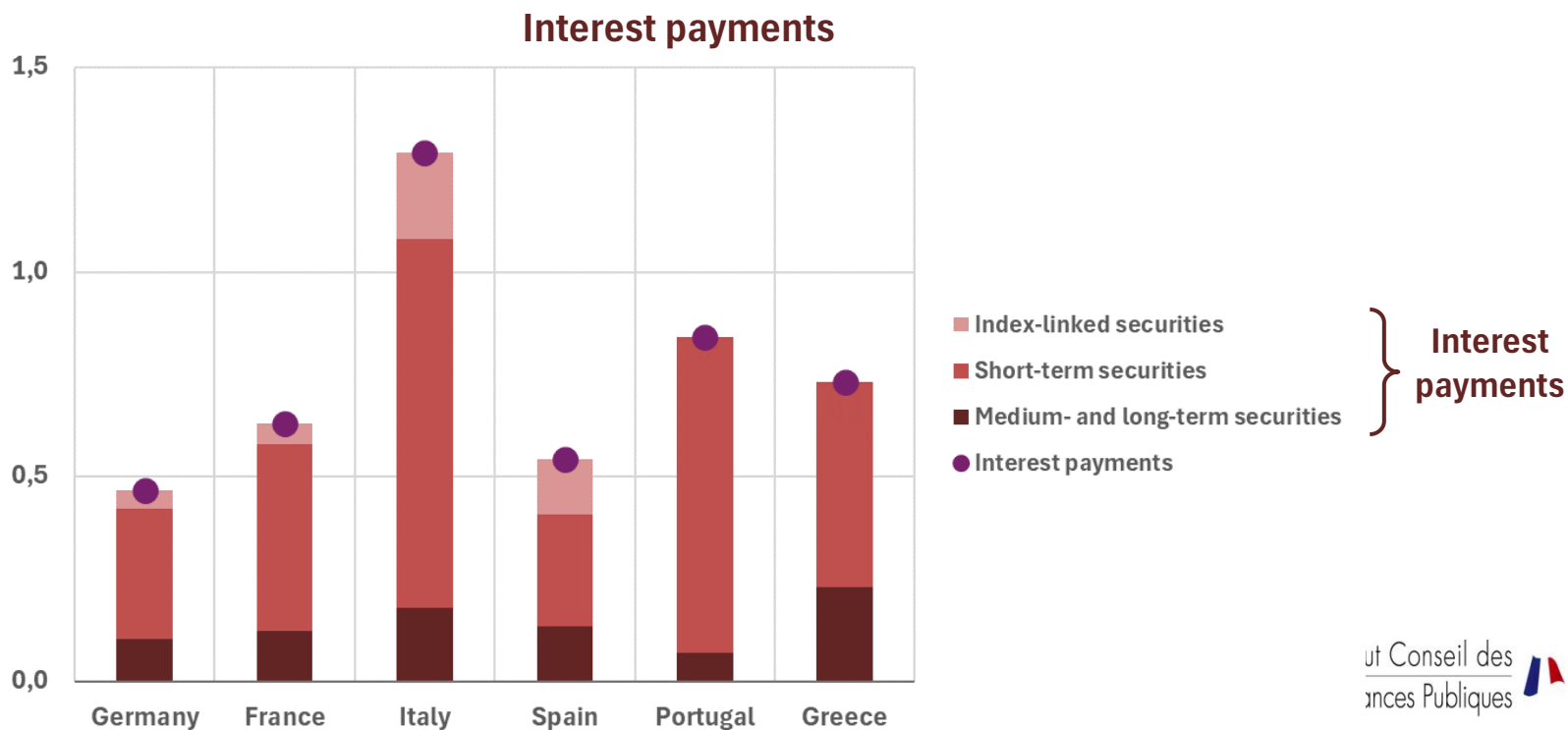


Impact of inflation on interest payments

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- Direct impact on **index-linked securities**
- Higher **short** and **long-term** interest rates
 - ▣ Impact on long rates \equiv higher inflation expectations. Gradual rollover, role of maturity

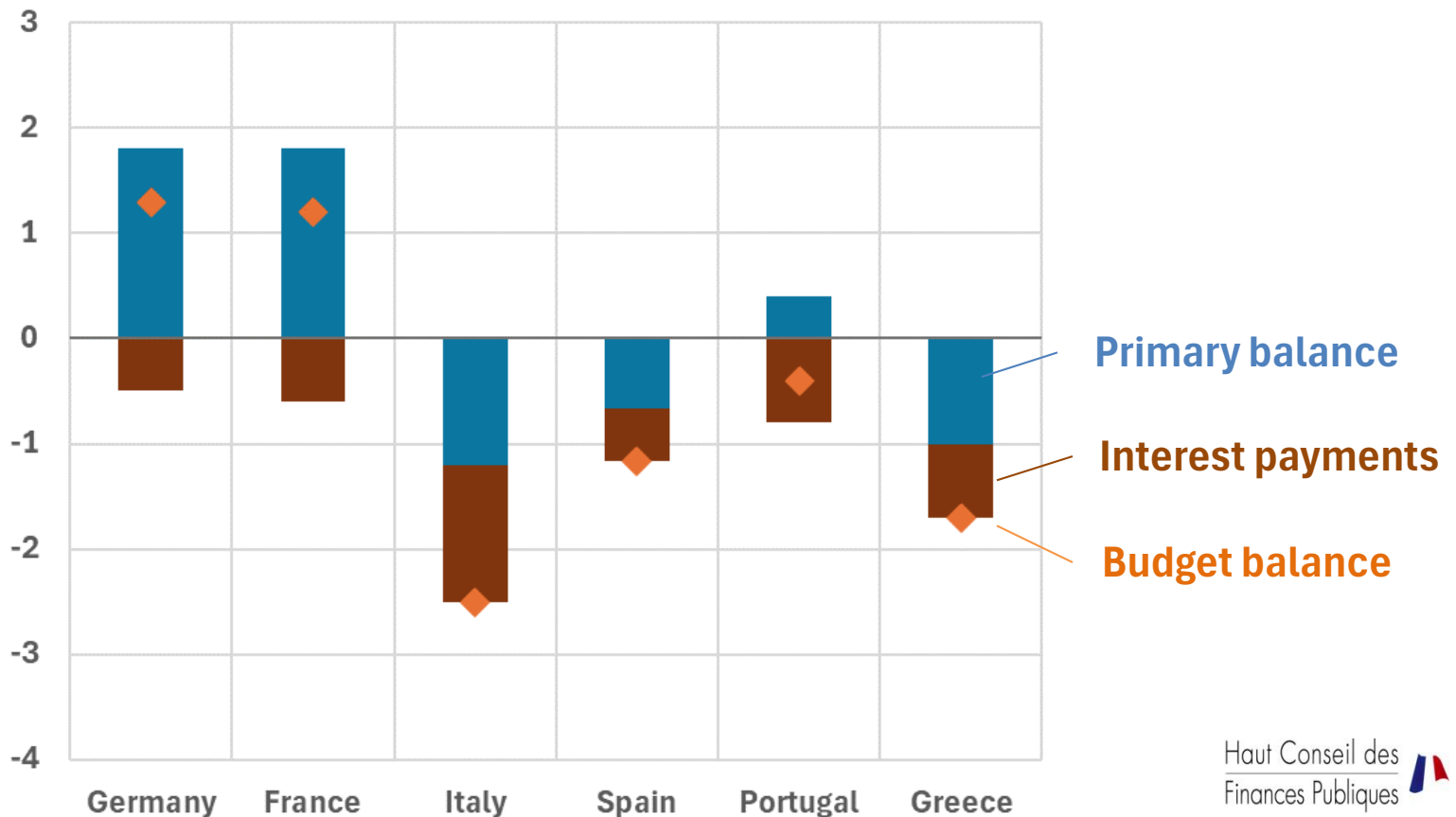
2022-2023 cumulated effect of inflation on the debt-to-GDP ratio (pp of GDP)



Full effect of the inflation shock on the budget balance

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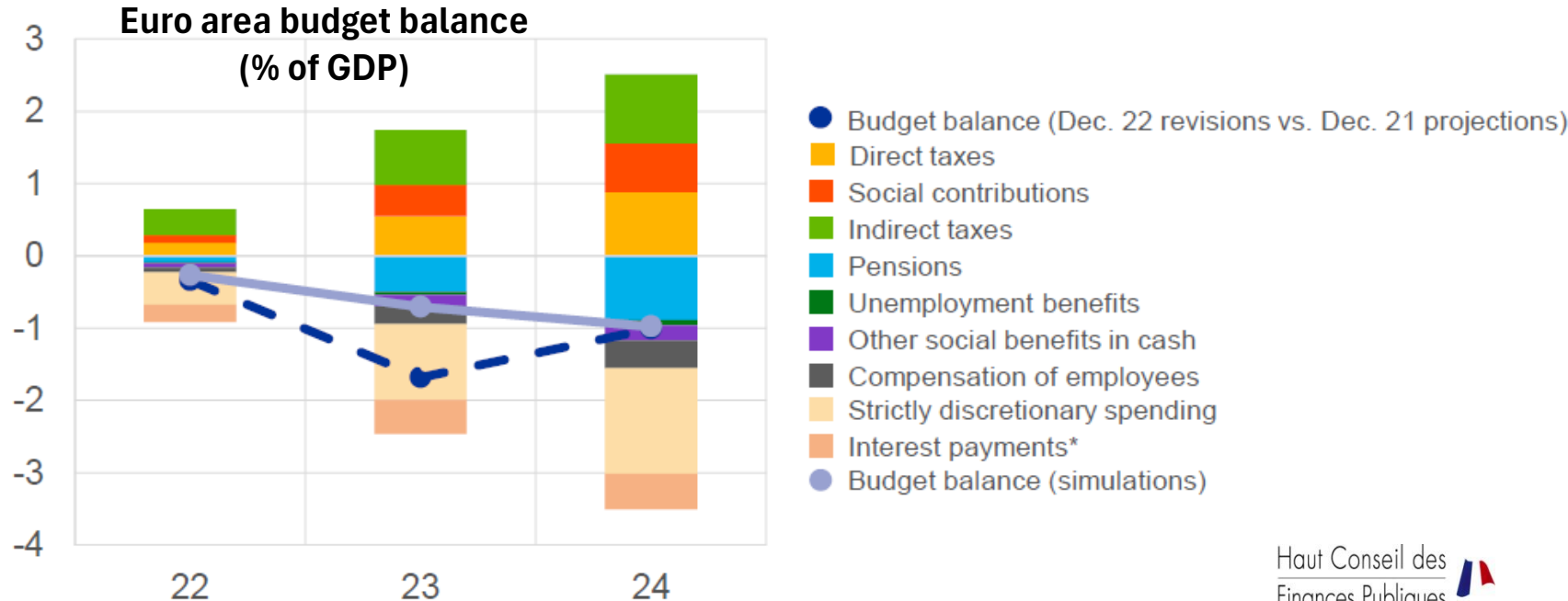
Impact of inflation on the budget balance
Cumulated 2022-2023 impact in pp of GDP



Comparison with other findings

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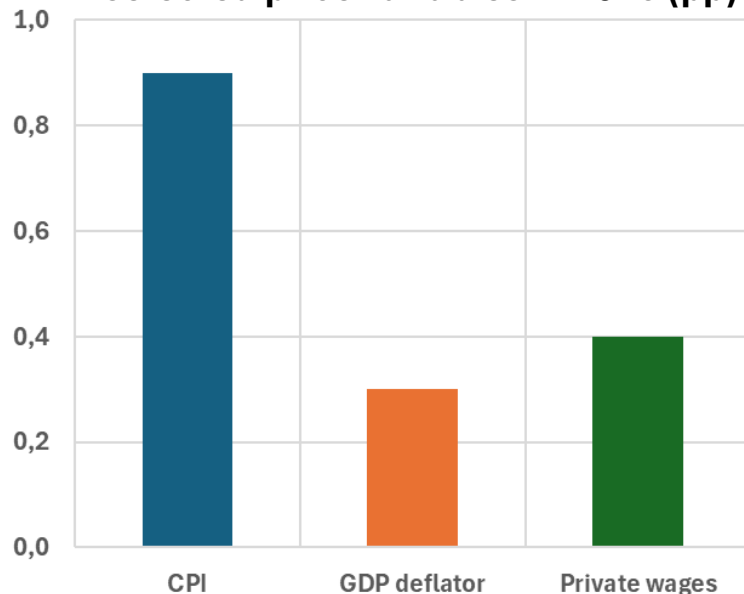
- Favorable impact of inflation shock on budget balances a common finding (IMF 2023, EC 2023)
- Nature of inflation: terms of trade vs internal (Benassy-Quéré, 2022)
- Bańkowski et alii (ECB, 2023): The 2022 inflation surge negatively affected euro area budget balance in 2022-2024



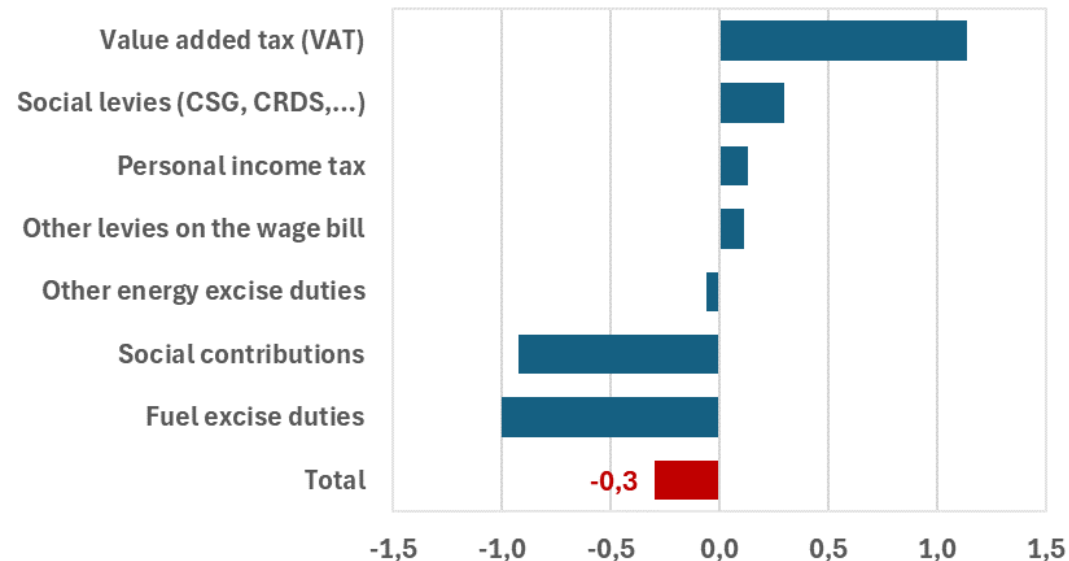
The 2026 'external inflation shock': HCFP staff finds zero net effects on revenues, negative effects on budget balance

- In the 2026 Annual Progress Report of the MTP, the HCFP quantified the impact of the recent inflation surge on revenues and the budget balance.
 - ▣ No net revenue gains
 - ▣ Higher interest payments due to the index-linked securities, pressure on other spending

Impact of the energy prices shock on selected price variables in 2026 (pp)



Impact of the energy prices shock on mandatory levies (€Bn)



**Denominator / debt effects
of 2022-2023 inflation**

Denominator effects: GDP-deflator effect is large, and largely dominates real GDP effect

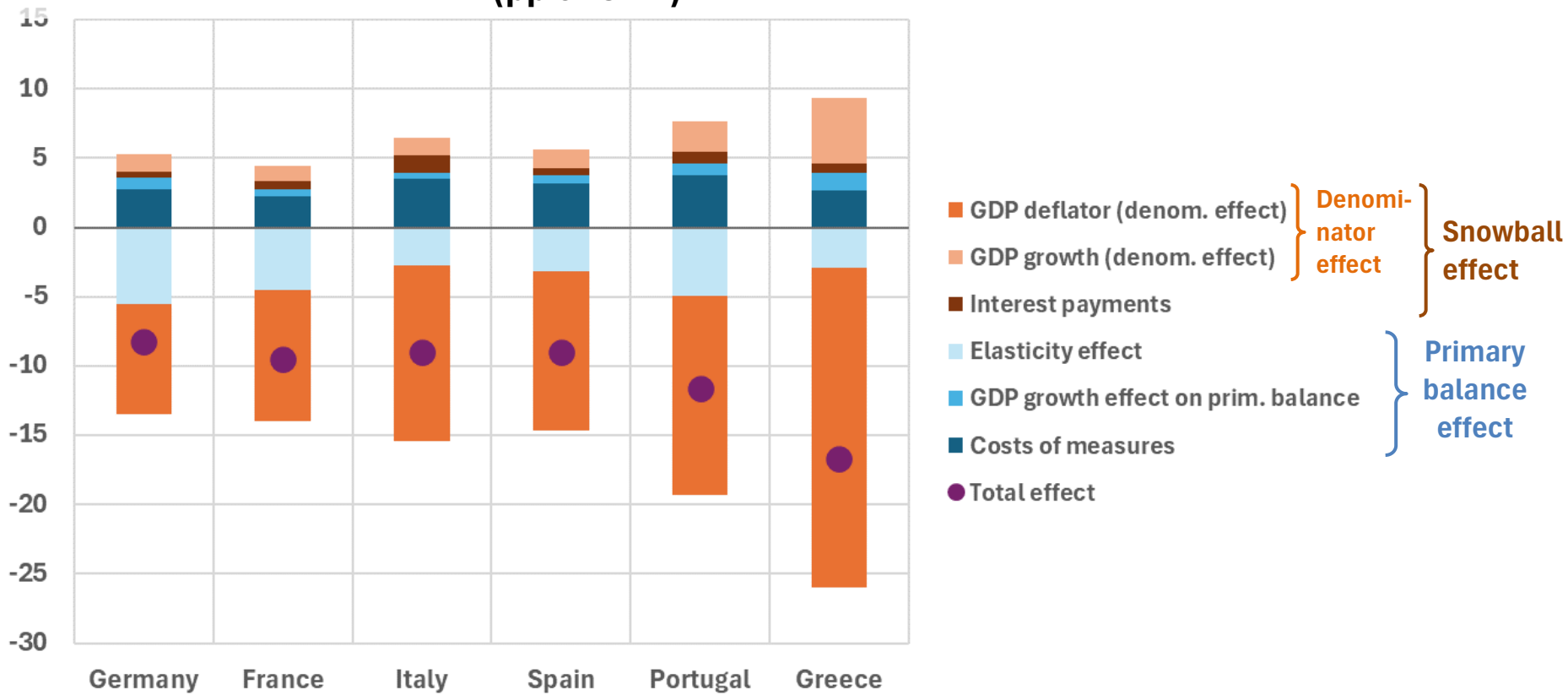
2022-2023 cumulated effect of inflation on the debt-to-GDP ratio (pp of GDP)

Denominator effect



Total impact of 2022-2023 inflation on debt ratio is dominated by the (favorable) denominator effect

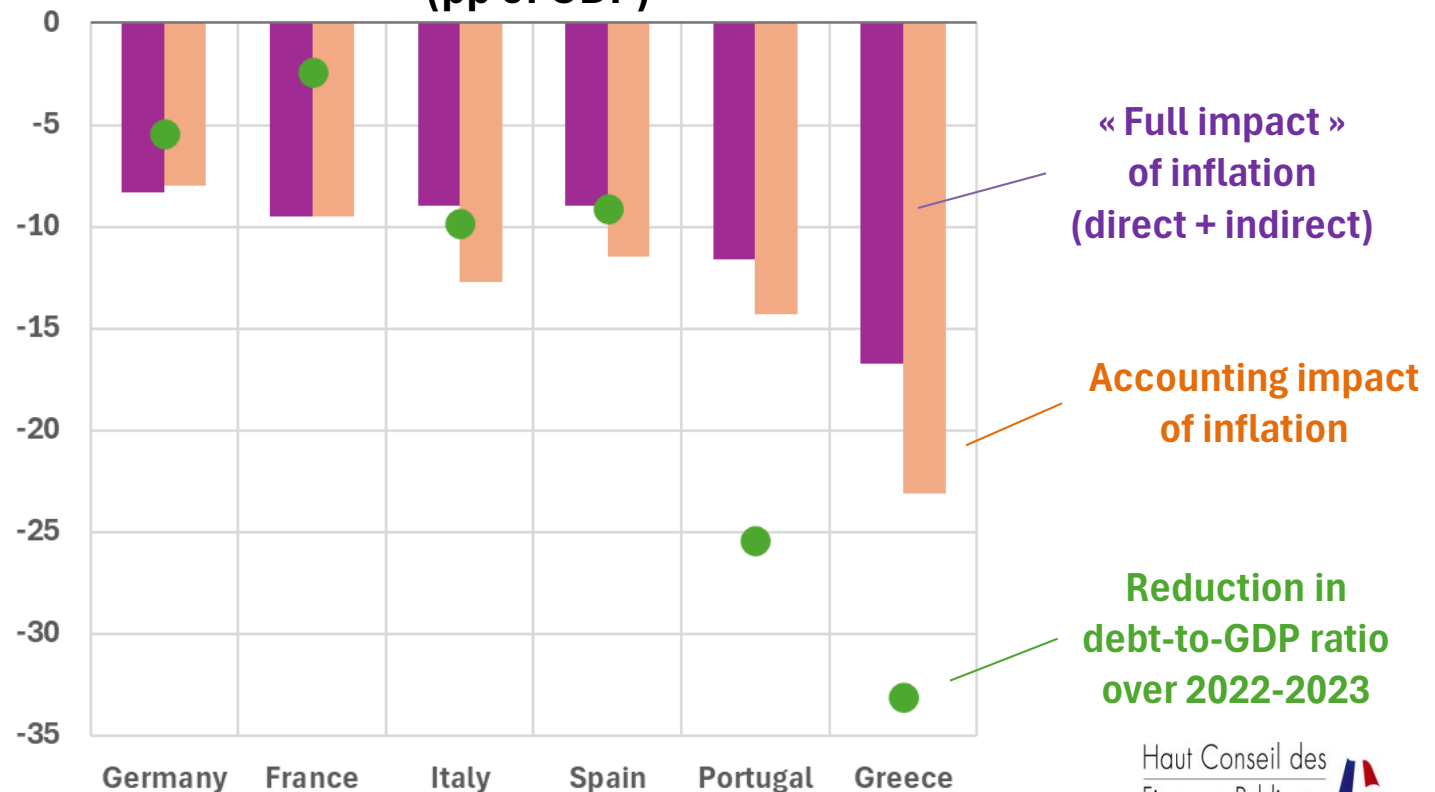
2022-2023 cumulated effect of inflation on the debt-to-GDP ratio
(pp of GDP)



However, other factors than inflation have impinged on the evolution of debt ratios

- **Initial budgetary position** far more favorable in Greece and Portugal (public balance >> debt-stabilizing balance) than in France (public balance << debt-stabilizing balance)

Reduction in debt-to-GDP ratio in 2022-2023 and cumulated effect of inflation (pp of GDP)

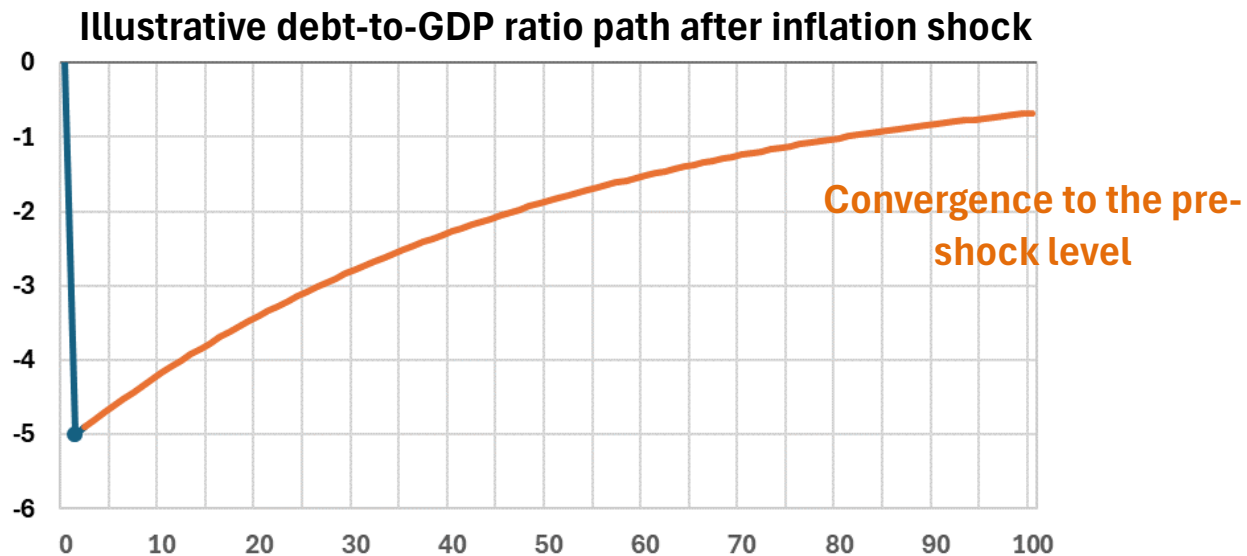


Longer-run effects of
inflation?

Debt-reduction probably long-lasting ... but not necessarily 'permanent'

□ Stylised benchmark

- Primary balance returns to baseline
 - Real interest rate returns to baseline (Fisher), also real growth
- As maturing debt is refinanced, debt ratio eventually returns to pre-shock trajectory

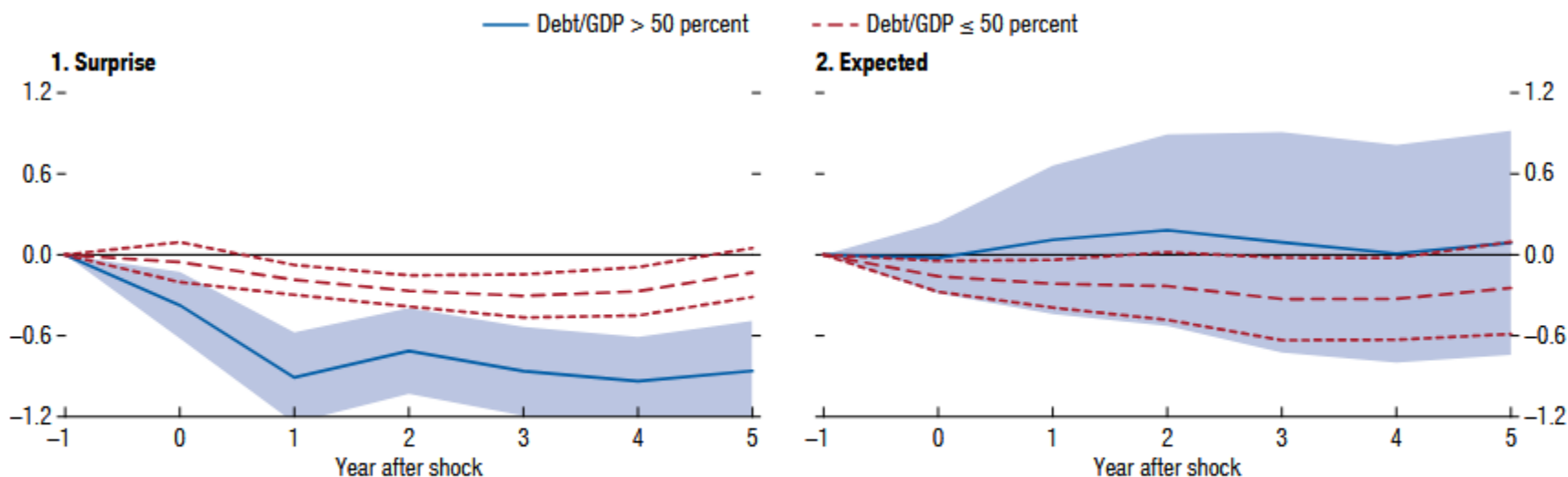


Pre-shock trajectory: Nominal interest rate $i = 2.0\%$. GDP deflator $\pi = 2.0\%$. GDP real growth $g = 2.0\%$
- Primary balance $pb = -2.0$ pp of GDP. Debt-to-GDP ratio before shock $d = 100$ pp of GDP

Only surprise inflation can work, anticipated inflation does not

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Figure 2.3. Debt Reaction to Surprise versus Expected Growth Spikes in the GDP Deflator
(Percent of GDP)



Source: IMF staff estimates using data from the IMF Public Finances in Modern History and World Economic Outlook databases.

Note: Fixed effects ordinary least squares regressions include 85 countries during the period with available data 1992–2019. Countries with population of less than 1 million in 2019 are excluded as well as observations with annual surprise or expected inflation higher than 30 percent in absolute terms or for which the original data source changes. Expected inflation is defined as the one-year-ahead forecast; surprise inflation is realized minus expected inflation. The panels plot the average impulse response and the 90 percent confidence bands (blue shaded areas and red short-dashed lines), with standard errors clustered at the country level. See Online Annex 2.2 for details.

Source: IMF Fiscal Monitor, April 2023

Concluding remarks and open questions

Concluding remarks and open questions for the discussion (1/2)

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- The **unexpected 2022-2023 inflation** surge seems to have had **mixed effects on EU budget balances**
- Surprise domestic inflation **did contribute significantly to falling debt ratios**
- **Some countries took better advantage** than others, due to policies and gaps in pre-inflation fiscal positions
- **Those debt-reducing gains are persistent** but whether they are 'permanent' is less clear
- **Such gains cannot be sustainably repeated** unless one renounces a stable and open financial environment

Concluding remarks and open questions for discussion (2/2)

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- **Opportunistic use of inflation by fiscal policy**
 - ▣ To what extent can fiscal consolidation take advantage of inflation surprises, via sub-indexation or fiscal drag ?
 - ▣ Limiting support measures to 'TTT'
- **EU fiscal framework** (fixed multiannual spending):
 - ▣ This fosters consolidation with positive inflation shocks, but leads to fiscal loosening with negative inflation surprises → Implications for implementing fiscal surveillance?
- **Monetary policy**
 - ▣ In the next 5-10 years, debt stabilisation in highly-indebted countries may be harder with mild lowflation (e.g. 1,5% average) than the opposite → Implications ?

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