EUROPEAN CENTRAL BANK

EUROSYSTEM

Macroeconomics of sovereign debt

Bank of Greece Conference on “Public Debt: Past Lessons, Future Challenges”

7 November 2024

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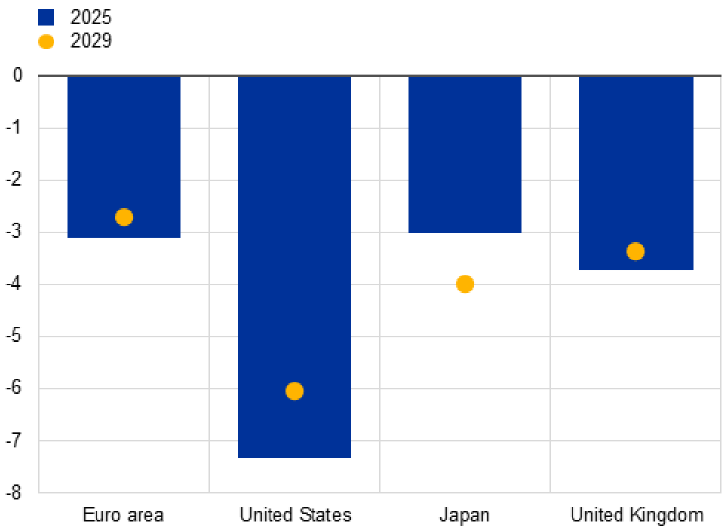
Member of the Executive Board

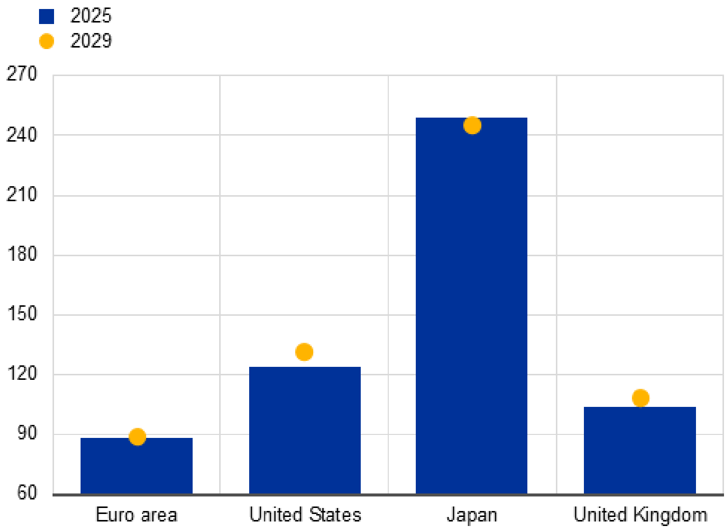
Global fiscal patterns

General government net lending/borrowing
(percentage of GDP)



Source: International Monetary Fund (2024), World Economic Outlook Database, October.

General government gross debt
(percentage of GDP)



Source: International Monetary Fund (2024), World Economic Outlook Database, 2024.
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ECB Monetary Policy Statement, October 2024

- “*Fiscal and structural policies should be aimed at making the economy more productive, competitive and resilient. That would help to raise potential growth and reduce price pressures in the medium term. To this end, it is crucial to swiftly follow up, with concrete and ambitious structural policies, on Mario Draghi's proposals for enhancing European competitiveness and Enrico Letta’s proposals for empowering the Single Market. Implementing the EU’s revised economic governance framework fully, transparently and without delay will help governments bring down budget deficits and debt ratios on a sustained basis. Governments should now make a strong start in this direction in their medium-term plans for fiscal and structural policies.*”

Stable public finances: smooth transmission of monetary policy

- Sovereign spread changes have a significant impact on domestic market funding and lending conditions.
- In times of heightened sovereign market stress, lending spreads increase substantially, and loan dynamics weaken strongly.
- The impact on lending conditions is stronger for countries with multiple imbalances.
- Monetary Union: single monetary policy; stabilisation role of national fiscal policies and national macroprudential policies (Martin, P. and Philippon, T. (2017), “Inspecting the Mechanism: Leverage and the Great Recession in the Eurozone”, *American Economic Review*).

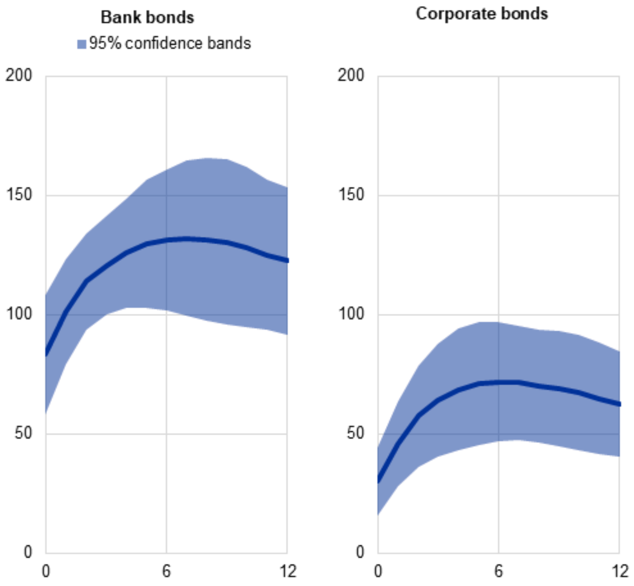
Risk management: scale back excessively high public debt ratios

- Lower vulnerability to financial, macroeconomic and external shocks
- Increased capacity to respond to major shocks (pandemic example)
- Gradual but frontloaded adjustment (Auclert A., T. Philippon and X. Ragot : "Putting French public finances on a sustainable footing", French Council of Economic Analysis, September 2024)
- Growth-maximising fiscal packages (low-multiplier tax options; prioritise high-multiplier spending options)
- Pro-growth structural reforms (even if limit to [r-g] mechanism)
- Green, digital, defence
- Ageing
- Role of national fiscal councils, national productivity councils

Pass-through of a sovereign spread shock

Pass-through to bond spreads

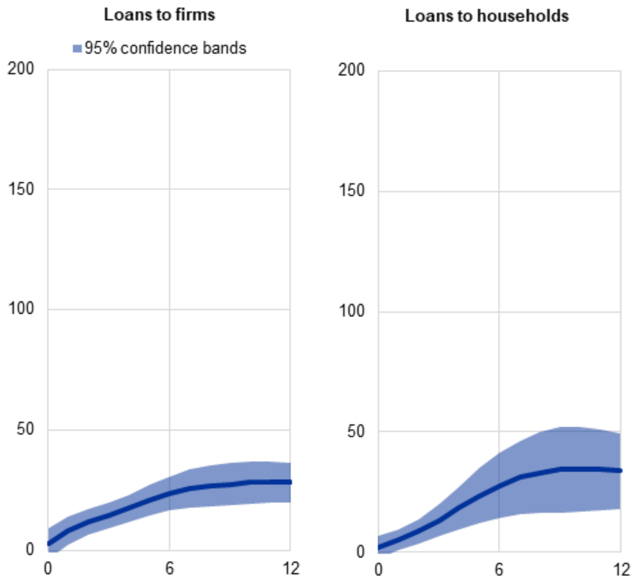
(horizontal axis: months; vertical axis: pass-through, percentage)



Sources: ECB and ECB calculations.
Notes: The chart shows model estimates of the pass-through of a five-year sovereign spread shock using country panel local projections. For each month h, the coefficient on the regressor $SovSpread_{t+h} - SovSpread_t$ is plotted. The analysis is restricted to DE, FR, IT, ES, NL, BE, AT, and FI.

Pass-through to lending rate spreads

(horizontal axis: months; vertical axis: pass-through, percentage)

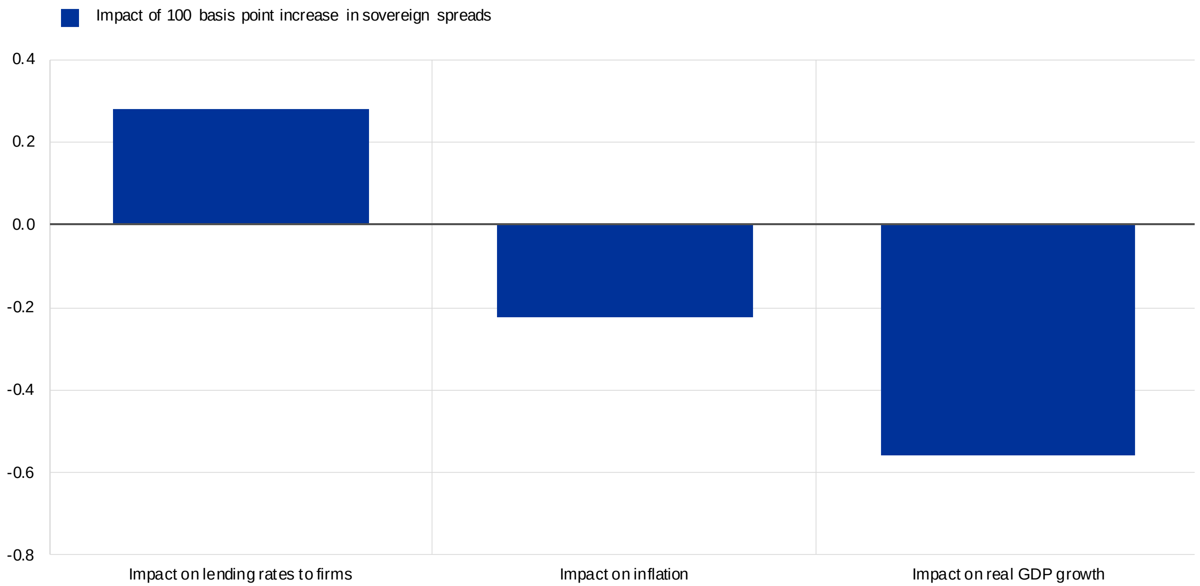


Sources: ECB and ECB calculations.
Notes: The chart shows model estimates of the pass-through of a five-year sovereign spread shock using country panel local projections. For each month h, the coefficient on the regressor $SovSpread_{t+h} - SovSpread_t$ is plotted. The analysis is restricted to DE, FR, IT, ES, NL, BE, AT, and FI.

Increasing lending rates due to sovereign stress also have macroeconomic effects

Impact of increase in sovereign spreads

(percentage points)



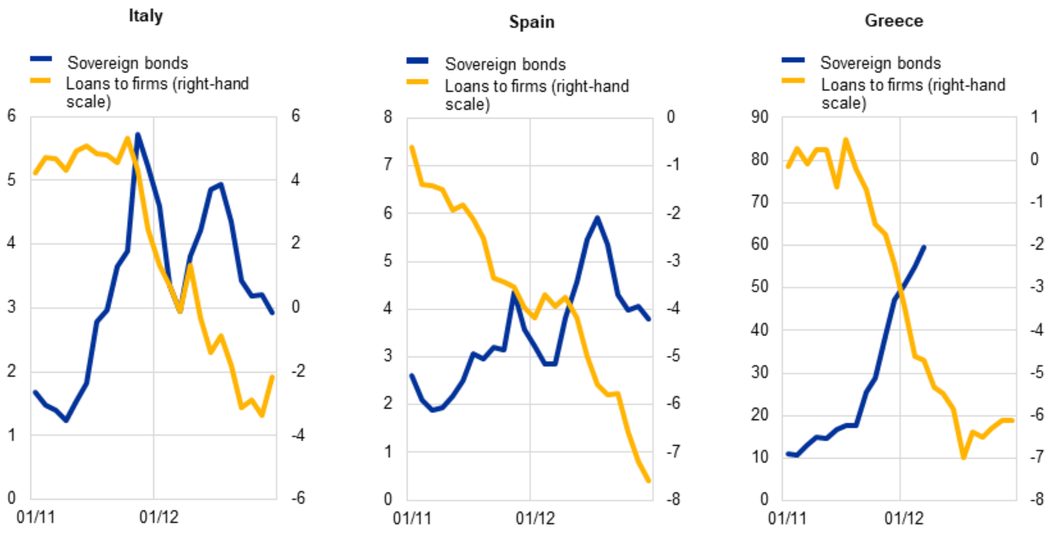
Sources: ECB and ECB calculations.

Notes: Impact on lending rates is based on local projection estimations of changes in sovereign spreads on lending rate spreads for loans to firms. The peak impact is plotted. Impact on inflation and GDP growth based on the median impact of the estimated change in lending rates from a range of ECB models, including the following six models: (1) Christiano, L., Rostagno, M., and Motto, R. (2010), "Financial factors in economic fluctuations", ECB Working Paper No. 1192; Christiano, L. Motto, R., and Rostagno, M. (2014). "Risk shocks". *American Economic Review*, 104: 1. (2) Altavilla, C., Canova, F. and Ciccarelli, M. (2020), "Mending the broken link: heterogeneous bank lending and monetary policy pass-through", *Journal of Monetary Economics*, 110: Issue C. (3) Darracq-Paries, M. and De Santis, R. (2015), "A non-standard monetary policy shock: The ECB's 3-year LTROs and the shift in credit supply", *Journal of International Money and Finance*, 54. (4) a medium-scale Bayesian vector autoregression (BVAR) model for the euro area; (5) the NAWM-II; and (6) the ECB-BASE.

Sovereign spreads and lending growth

Sovereign spreads and lending growth to firms

(percentage points)

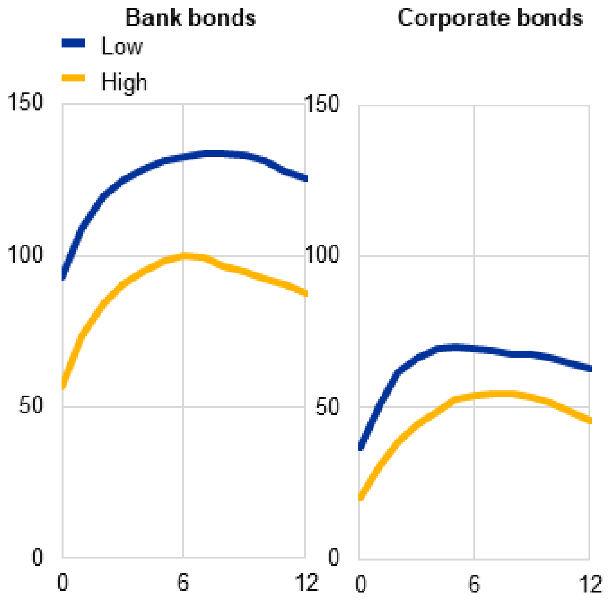


Sources: ECB (BSI) and ECB computations.
Notes: The sovereign spread considered is the five-year sovereign spread. Lending growth is adjusted for cash pooling and securitisation and not seasonally adjusted.
The latest observations are for August 2024.

Low capital ratios strengthen the pass-through

Pass-through of sovereign spread shock to bond spreads depending on bank capital ratios

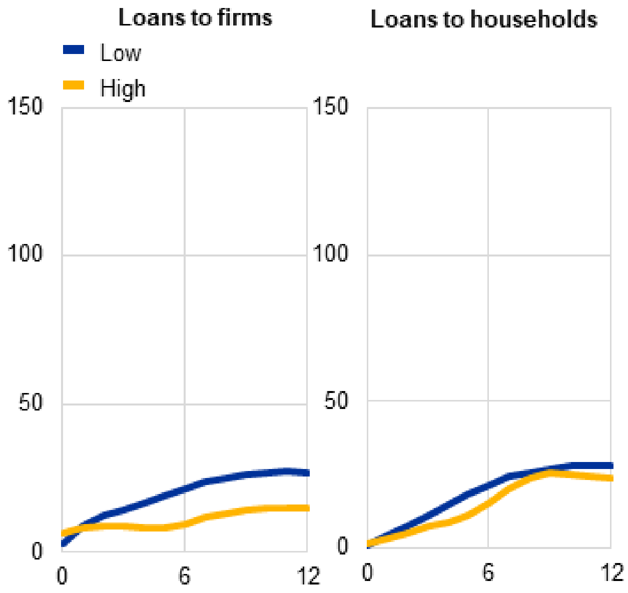
(horizontal-axis: months; vertical axis: pass-through, percentages)



Sources: ECB and ECB calculations.
Notes: The chart shows model estimates of the pass-through of a five-year sovereign spread shock using country panel local projections. For each month h, it plots the coefficient on the interaction between a dummy for whether the country has an average bank capital ratios below or above the median in the pooled distribution, and $SovSpread_{t+h} - SovSpread_t$. The regression also controls for a dummy for the presence of sovereign stress interacted with sovereign spread changes. The analysis is restricted to DE, FR, IT, ES, NL, BE, AT and FI.

Pass-through of sovereign spread shock to lending rates depending on bank capital ratios

(horizontal-axis: months; vertical axis: pass-through, percentages)

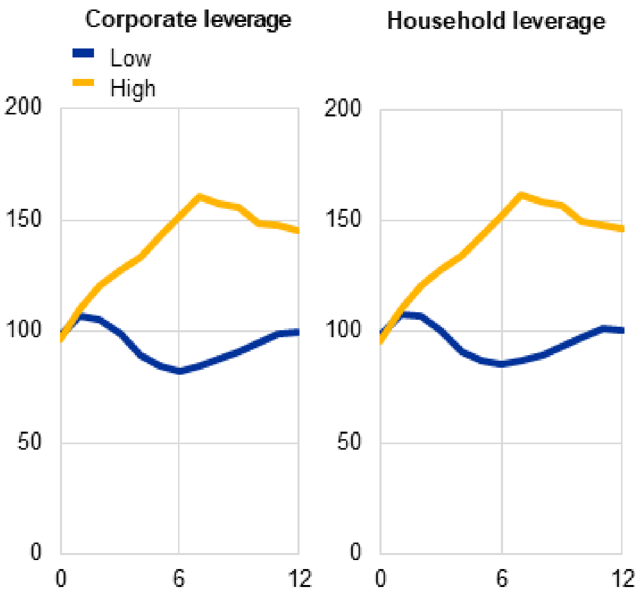


Sources: ECB and ECB calculations.
Notes: The chart shows model estimates of the pass-through of a five-year sovereign spread shock using country panel local projections. For each month h, it plots the coefficient on the interaction between a dummy for whether the country has an average bank capital ratios below or above the median in the pooled distribution, and $SovSpread_{t+h} - SovSpread_t$. The regression also controls for a dummy for the presence of sovereign stress interacted with sovereign spread changes. The analysis is restricted to DE, FR, IT, ES, NL, BE, AT and FI.

Private sector indebtedness and external imbalances amplify sovereign spread shocks

Impact of sovereign spread shock to sovereign spreads depending on private sector leverage

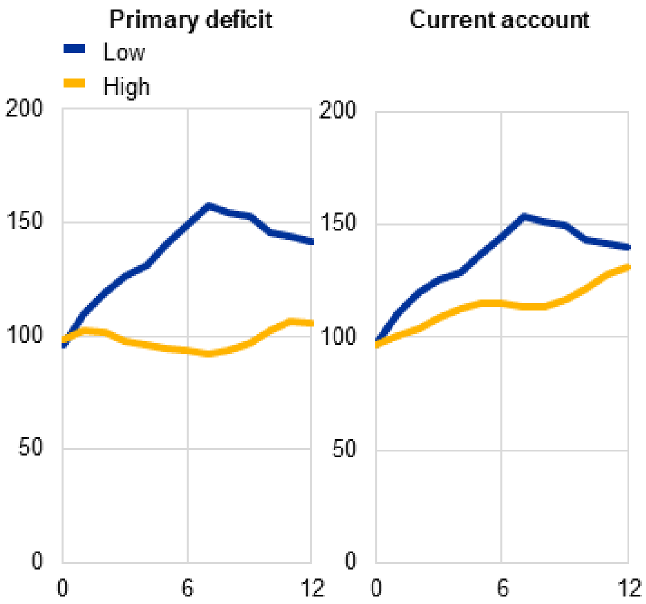
(horizontal-axis: months; vertical axis: pass-through, percentages)



Sources: ECB and ECB calculations.
Notes: The chart shows model estimates of the impact of a five-year sovereign spread shock using country panel local projections. For each month h, it plots the coefficient on the interaction between a dummy for whether the country has an average sector debt to GDP ratio below or above the median in the pooled distribution, and $SovSpread_{t+1} - SovSpread_t$. The regression also controls for a dummy for the presence of sovereign stress interacted with sovereign spread changes. The analysis is restricted to DE, FR, IT, ES, NL, BE, AT, FI, PT and IE.

Impact of sovereign spread shock to sovereign spreads depending on country imbalances

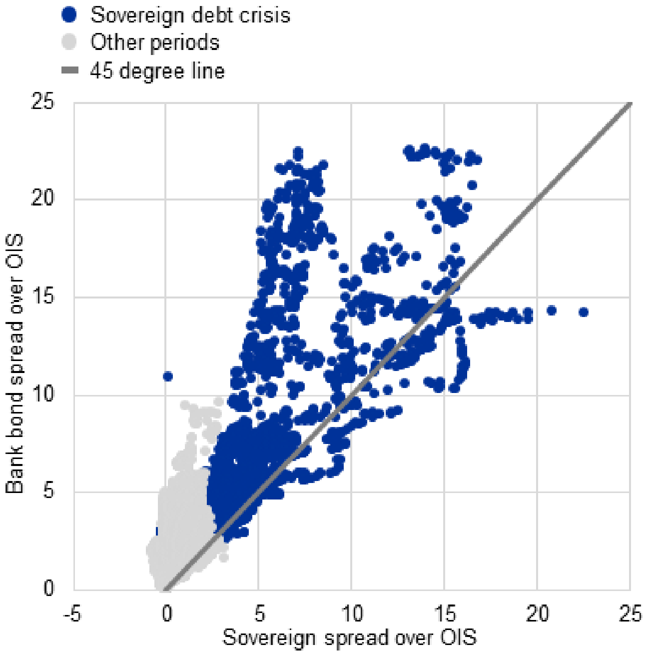
(horizontal-axis: months; vertical axis: pass-through, percentages)



Sources: ECB and ECB calculations.
Notes: The chart shows model estimates of the impact of a five-year sovereign spread shock using country panel local projections. For each month h, it plots the coefficient on the interaction between a dummy for whether the country has an average government primary deficit or current account to GDP ratio below or above the median in the pooled distribution, and $SovSpread_{t+1} - SovSpread_t$. The regression also controls for a dummy for the presence of sovereign stress interacted with sovereign spread changes. The analysis is restricted to DE, FR, IT, ES, NL, BE, AT, FI, PT and IE.

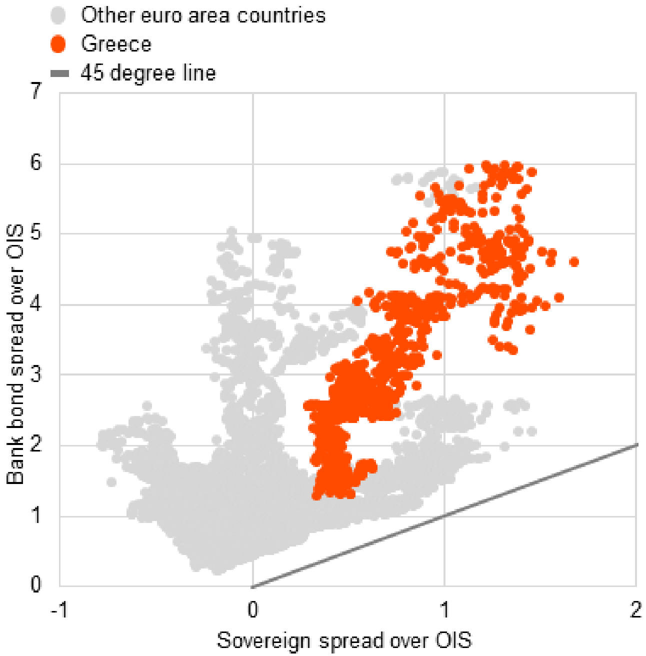
Sovereign and bank bond spreads

Sovereign crisis vs other periods
(percentage points)



Sources: IHS Markit Iboxx and ECB computations.
Notes: Each dot represents a country-day observation. Spreads are computed relative to maturity-matched overnight indexed swap (OIS) rates. Bank bond yields are shown as weighted averages of bank bond yields using outstanding amounts as weights. Sovereign spreads are based on five-year benchmark yields. The sample starts in June 2005. The sovereign crisis is dated from 1 April 2010 to 25 July 2014. The latest observations are for 11 October 2024.

Greece compared with euro area
(percentage points)

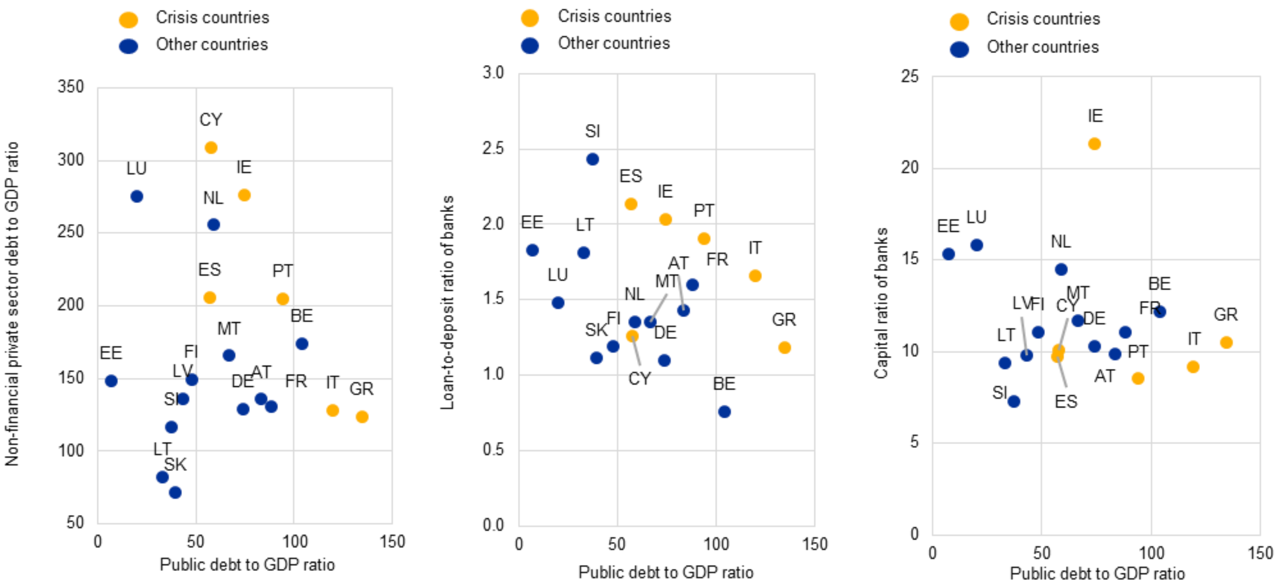


Sources: IHS Markit Iboxx and ECB computations.
Notes: Each dot represents a country-day observation. Spreads are computed relative to maturity-matched overnight indexed swap (OIS) rates. Bank bond yields are shown as weighted averages of bank bond yields using outstanding amounts as weights. Sovereign spreads are based on five-year benchmark yields. The sample starts in January 2021.
The latest observations are for 11 October 2024.

Public, private and banking sector imbalances at the onset of the sovereign crisis

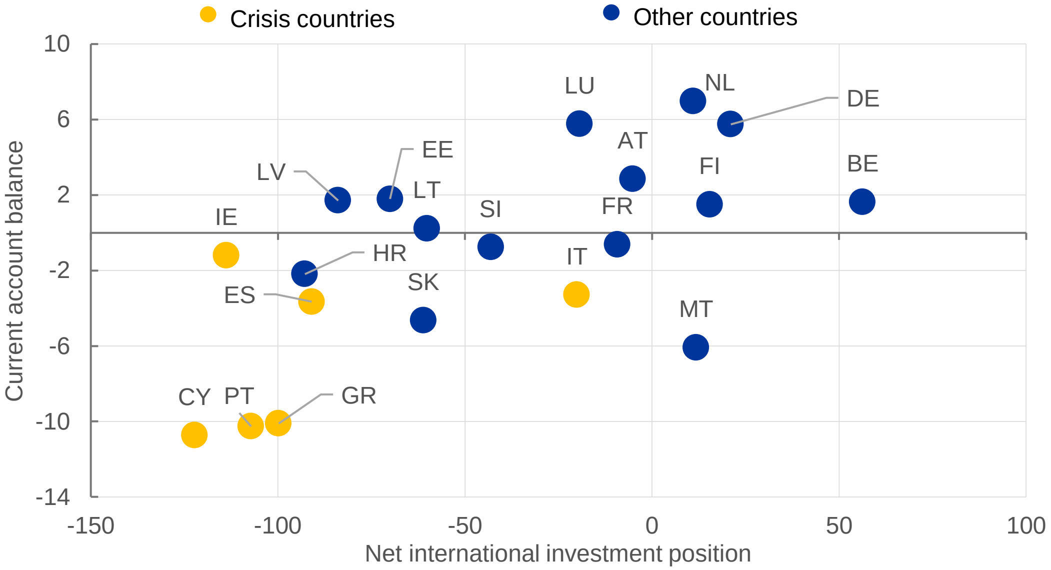
Country public debt vs private debt, bank loan-to-deposit ratios, and bank capital ratios pre-sovereign crisis

(x-axis: percentages; y-axis: percentage in left panel, ratio in middle panel, percentages in right panel)



Sources: ECB and ECB calculations.
Notes: Non-financial private sector debt-to-GDP ratio is calculated as the ratio of consolidated non-financial corporation debt and total household debt over GDP. All ratios are observed as of June 2010.

Net international investment position and current account balance
(percentages of GDP)

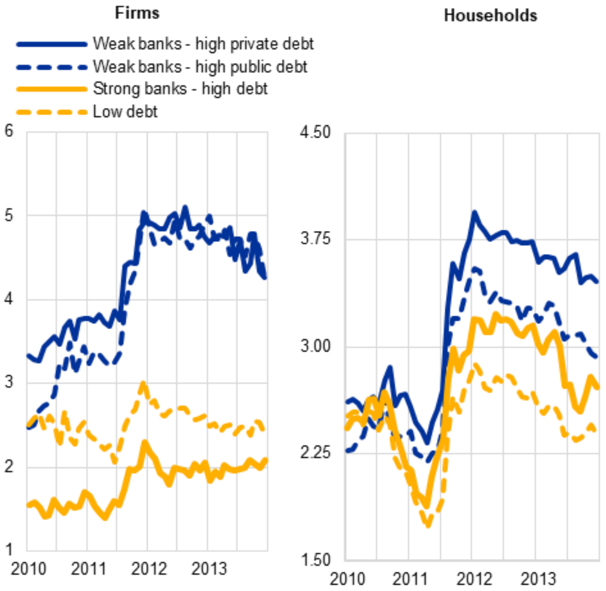


Source: ECB.
Note: The data are for 2010.

Lending spreads and lending growth in the sovereign crisis by level of imbalances

Lending spreads throughout the sovereign crisis

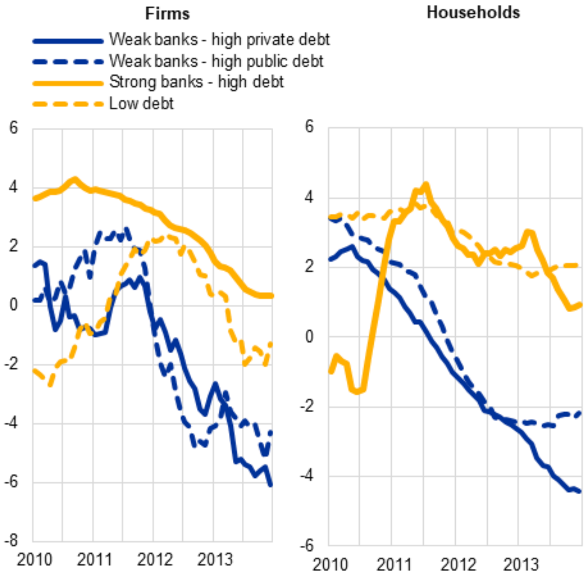
(percentages)



Sources: ECB and ECB calculations.
Notes: Countries with weak banks and high private debt are CY, ES, IE and PT; countries with weak banks and high public debt are GR and IT; countries with strong banks and high debt are BE and NL; low-debt countries are the other countries. The average across each group of countries is displayed. Lending spreads are computed relative to the maturity-matched OIS.

Lending growth throughout the sovereign crisis

(annual percentage change)



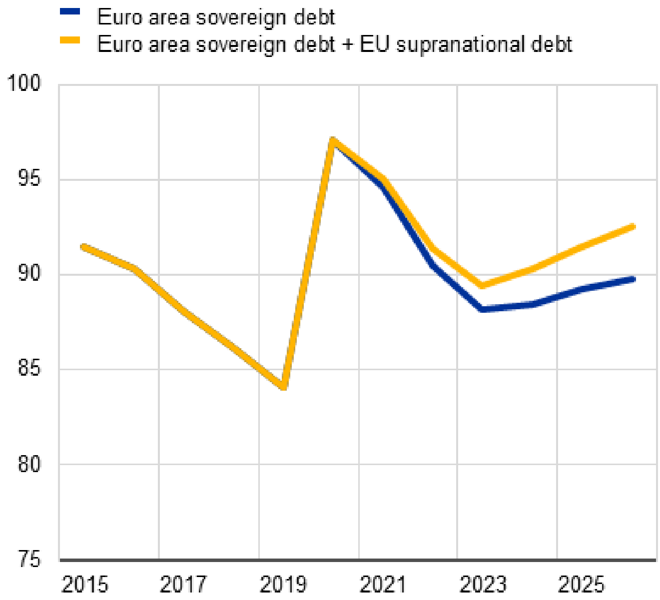
Sources: ECB and ECB calculations.
Notes: Countries with weak banks and high private debt are CY, ES, IE and PT; countries with weak banks and high public debt are GR and IT; countries with strong banks and high debt are BE and NL; low-debt countries are the other countries. The average across each group of countries is displayed.

More Europe

- Scope to boost EU potential output via joint initiatives and coordinated policies; also open strategic autonomy
- Letta Report
- Draghi Report: “a severe but just diagnosis” (President Lagarde, 12 September)
- “Mind the gap: Europe’s strategic investment needs and how to support them”, *The ECB Blog*, 27 June 2024
- Capital Markets Union, Banking Union
- EU public goods: common debt issuance

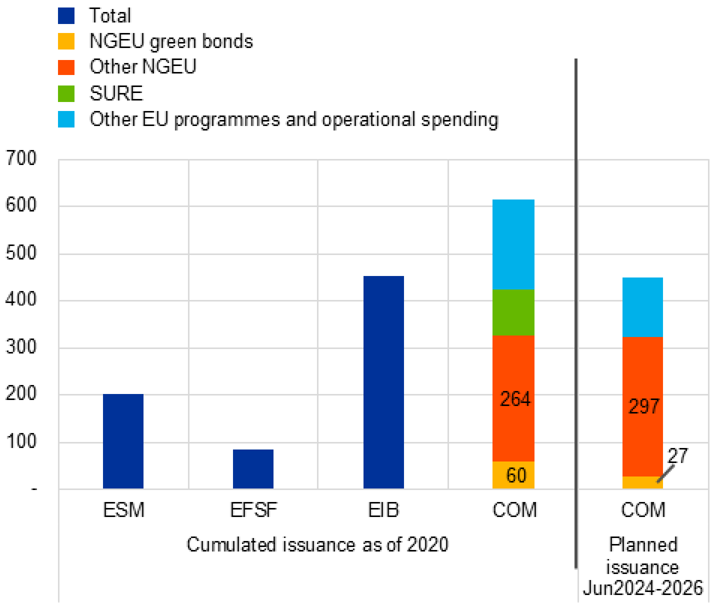
EU supranational debt has increased considerably in recent years

Gross debt
(percentages of euro area GDP)



Source: September 2024 Eurosystem staff macroeconomic projections.
Notes: Supranational EU debt (not reflected in the euro area aggregate) is the gross outstanding debt of the EU institutions, including NGEU financing. Supranational EU debt is not an official statistic, but an internal estimate.

Debt issuance of European Commission and other EU supranational entities since 2020
(EUR billions)

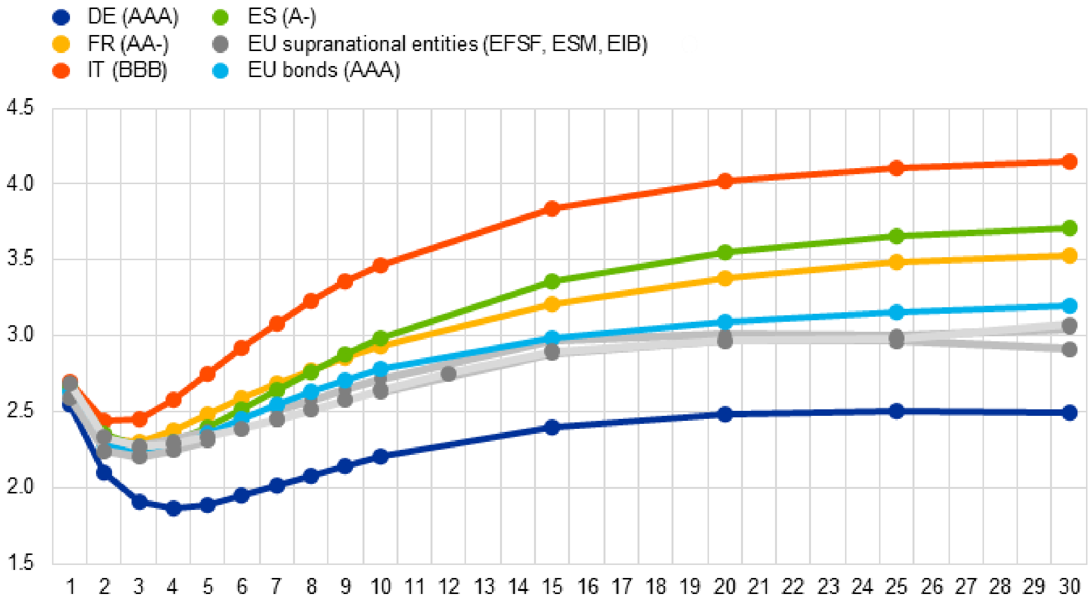


Sources: European Commission and ECB estimates.
Notes: Expected total issuance estimated by the COM of about €75 billion per semester might vary depending on COM disbursement needs.
The latest observation is for May 2024.

EU perceived as less liquid than other AAA-rated sovereigns

Yield curves: EU bonds vs bonds issued by the four largest euro area economies and EU supranational entities

(percentage points)

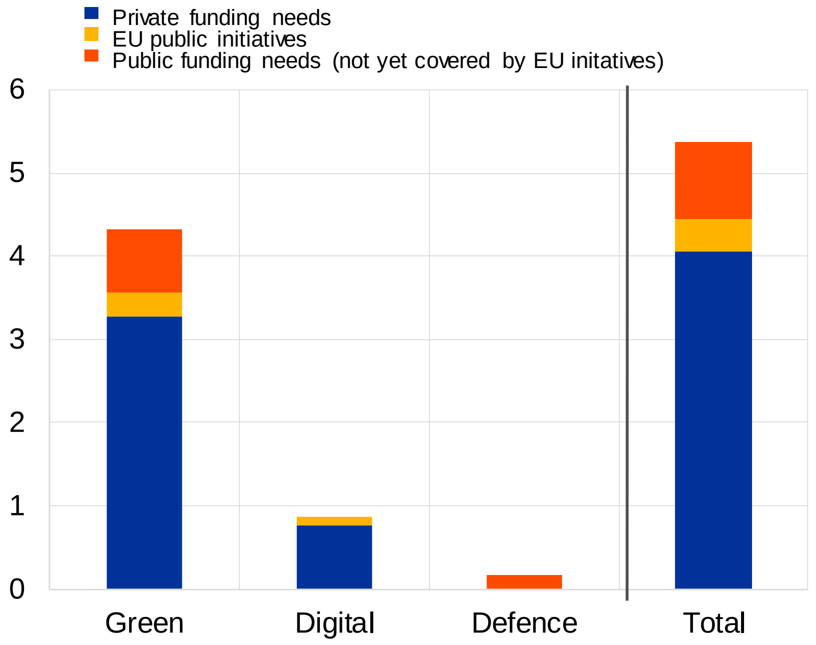


Sources: Bloomberg and ECB staff calculations.
Notes: EU supranational entities refer to (i) European Financial Stability Facility (EFSF), (ii) European Stability Mechanism (ESM) and (iii) European Investment Bank (EIB).
Cut-off date is 24 September 2024.

The European Union has massive strategic investment needs

Additional cumulated EU private and public investment needs and its funding: estimates for green and digital transitions and defence spending

(2025-2031; by funding entities and in EUR trillions)



Sources: European Commission (2023), *Strategic Foresight Report: sustainability and people's wellbeing at the heart of Europe's Open Strategic Autonomy*; European Defence Fund (EDF); NATO; ECB staff own calculations; ECB (2024), "Mind the gap: Europe's strategic investment needs and how to support them", *The ECB Blog*, 27 June.

Notes: The chart shows the additional investment which is the difference between total investment needs and historical averages. The funding of the cumulative additional investment needs is decomposed into what is expected to be financed by the private vs the public sector. Planned EU investment funding initiatives include the EU budget, the Recovery and Resilience Facility (RRF) of Next Generation EU (NGEU) until end-2026, the European Investment Bank and other EU funds.

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Options to address additional investment needs in the European Union

	Initiatives supporting private investment	Initiatives supporting public investment
EU Level	• Complete capital markets and banking unions • Enhance EU internal market • 28th regime for corporate law, to which firms in the EU could opt in(*) • Single EU platform for education, innovation and research ("fifth freedom") • Enhancing role of EIB\EBRD	• Investment-friendly EU fiscal rules • Maximise the positive impact of NGEU, REPowerEU • Reprioritise EU budget • Increase EU own resources • Joint debt issuance to fund investment in genuine European public goods
National level	• Improve framework conditions for doing business • Lower regulatory burden • More investment-friendly corporate taxation	• Build fiscal space for investment in multi-year fiscal-structural plans • Enhance administrative capacity and adopt best practices for high-quality public investment • Reprioritise public expenditure and improve quality of public finance

Source: ECB (2024), "Mind the gap: Europe's strategic investment needs and how to support them", *The ECB Blog*, 27 June.
Note: (*) See Letta, E. (2024), "Much more than a market – Speed, Security, Solidarity", *report on reform of the Single Market mandated by the EU Council and the Commission*.

Wrap-up

- Complementarities: national fiscal frameworks, European-level policy actions
- Stable national and area-wide public finances central to smooth monetary policy transmission
- More Europe: pro-growth, pro-resilience