EUROPEAN CENTRAL BANK

EUROSYSTEM

Navigating stormy water: reflections on monetary policy

Isabel Schnabel
Member of the Executive Board of the ECB

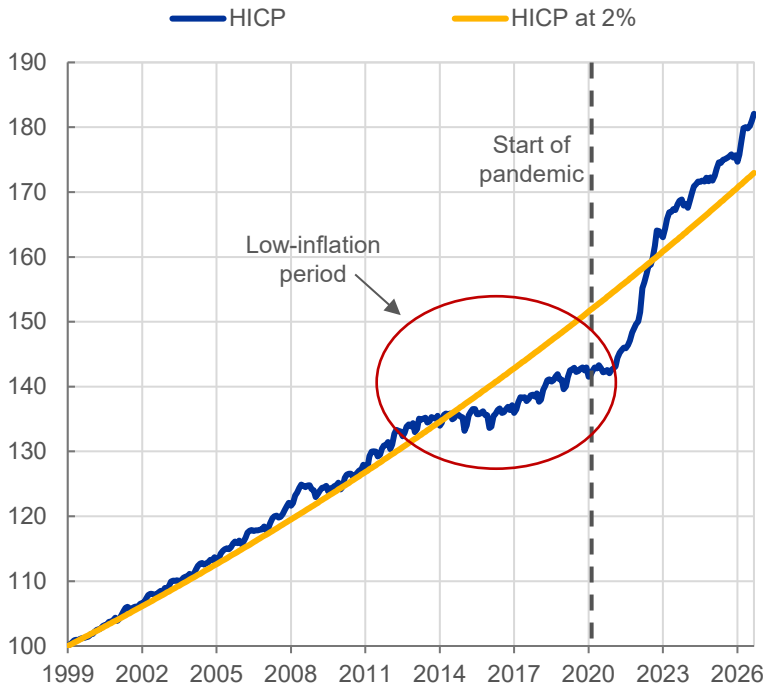


ECB Conference on Money Markets
Frankfurt am Main, 5 November 2026

Long period of low inflation obscured a shift from over- to underpredicting inflation

Euro area HICP inflation: cumulative price index

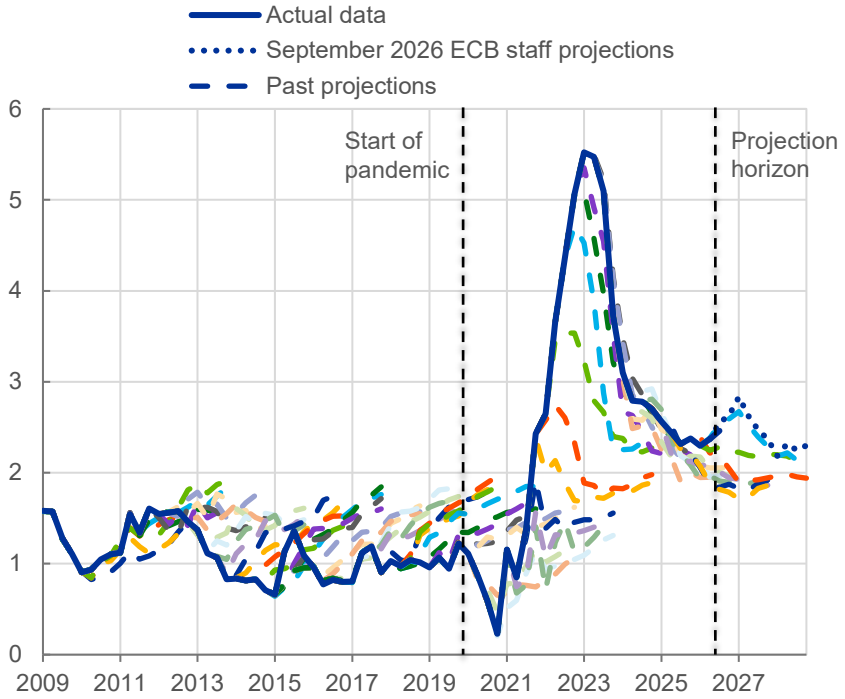
(index: Jan 1999 = 100)



Sources: Eurostat and ECB calculations.
Latest observation: September 2026.

Projections and realisation of euro area core inflation

(annual percentage changes)



Sources: ECB and Eurosystem staff macroeconomic projections.
Latest observation: 2026Q3. Projections run up to 2028Q4.

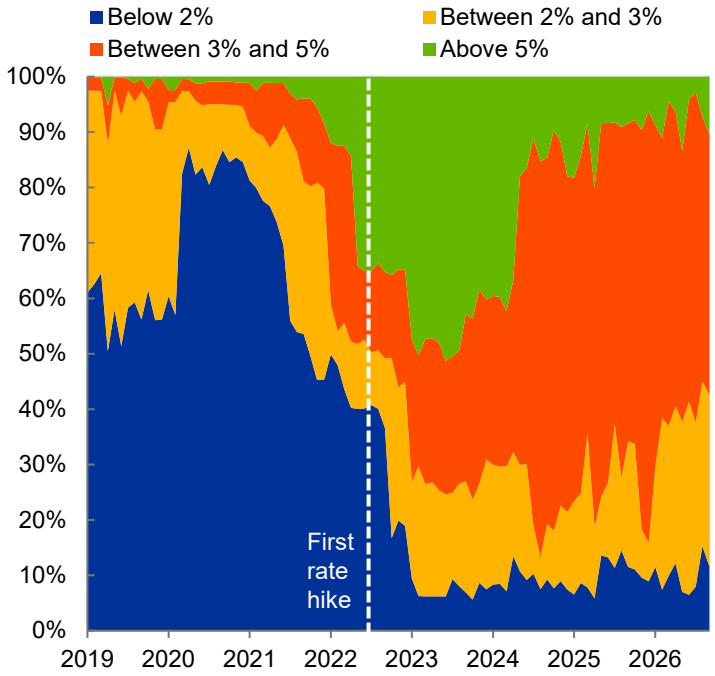
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Broadening price pressures offered an early warning of persistent inflation

Weighted distribution of price changes

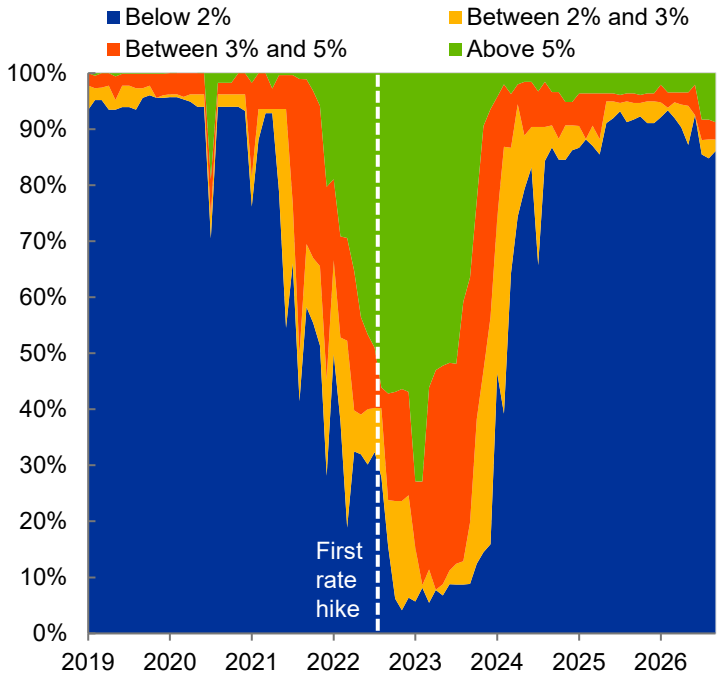
(percentage shares)

Services



Sources: Eurostat and ECB calculations.
Notes: The areas display the weighted share of services items for different annual percentage changes. Latest observation: September 2026.

Non-energy industrial goods



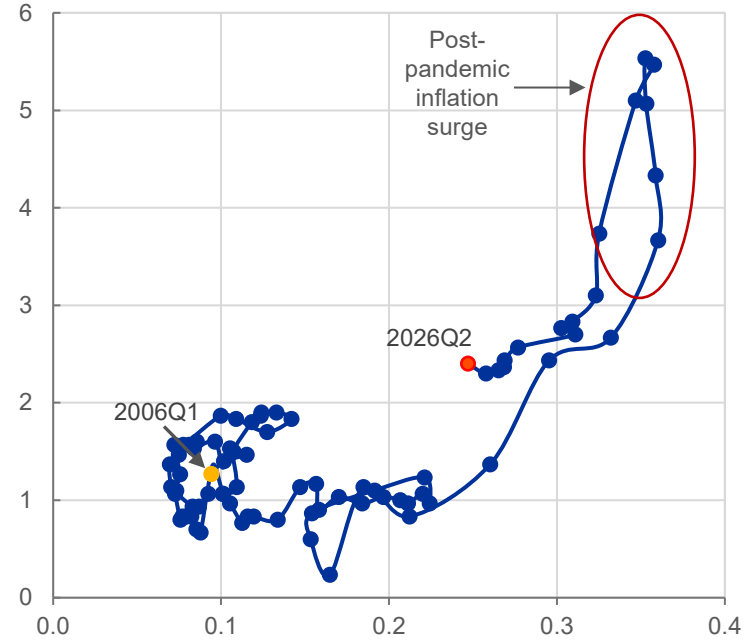
Sources: Eurostat and ECB calculations.
Notes: The areas display the weighted share of non-energy industrial goods items for different annual percentage changes. Latest observation: September 2026.

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The Phillips curve steepened as firms adjusted prices more frequently

Euro area Phillips curve

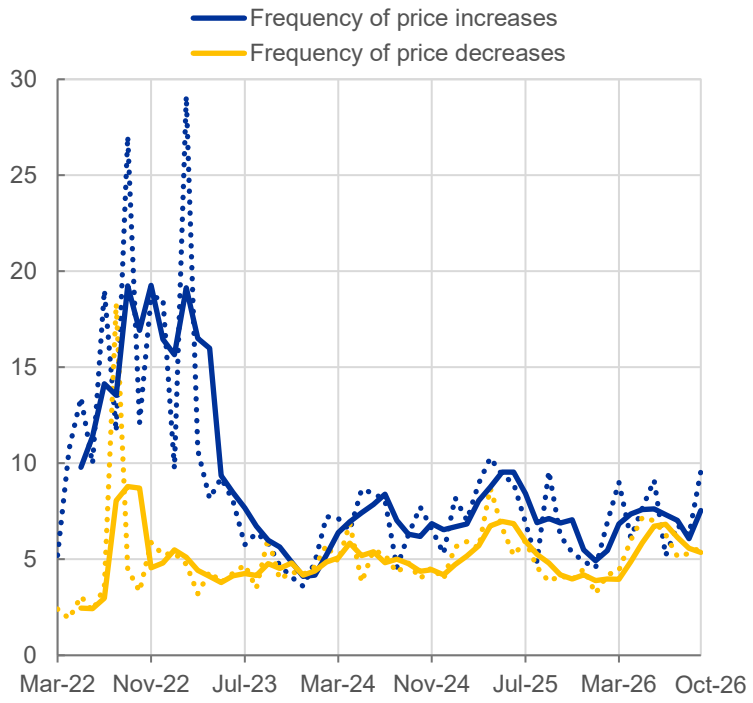
(y-axis: HICPX annual rate of change;
x-axis: vacancy-to-employment ratio)



Sources: Eurostat, Haver and ECB calculations.
Notes: Vacancy-to-employment ratio data refers to EA21 fixed composition.
Latest observation: 2026 Q2.

Frequency of price changes

(percent)

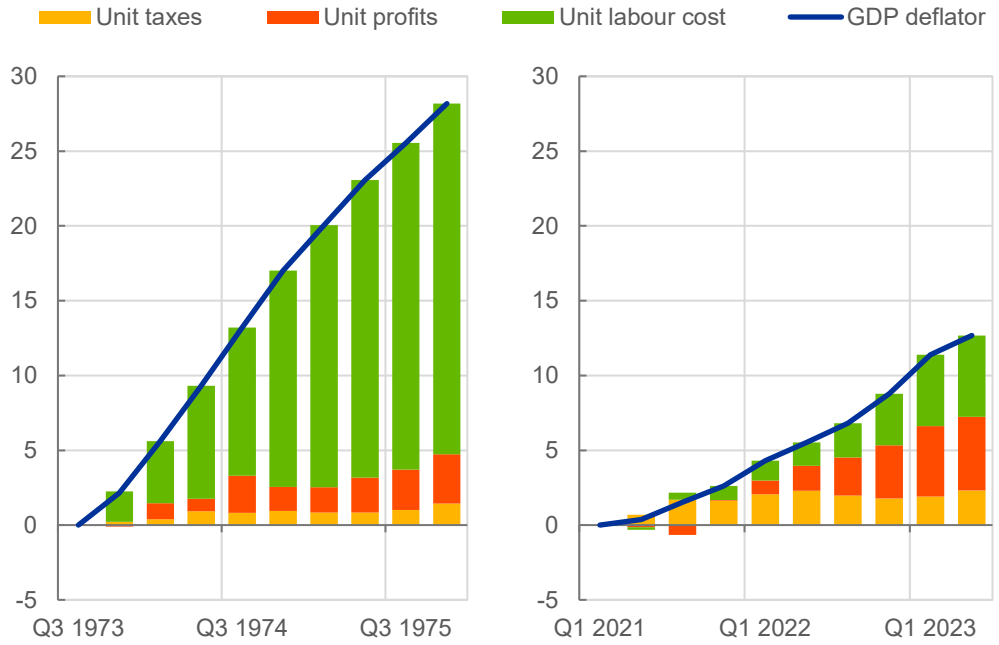


Sources: DPD, BIS Project Spectrum and ECB calculations.
Notes: Chart shows the average monthly frequency of price changes of food products across Germany, France, Spain and Italy (dotted lines) and its three-month moving average (solid lines). Latest observation: October 2026.

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Higher profits contributed to the post-pandemic inflation surge

GDP deflator in the euro area
(cumulated growth and contributions)

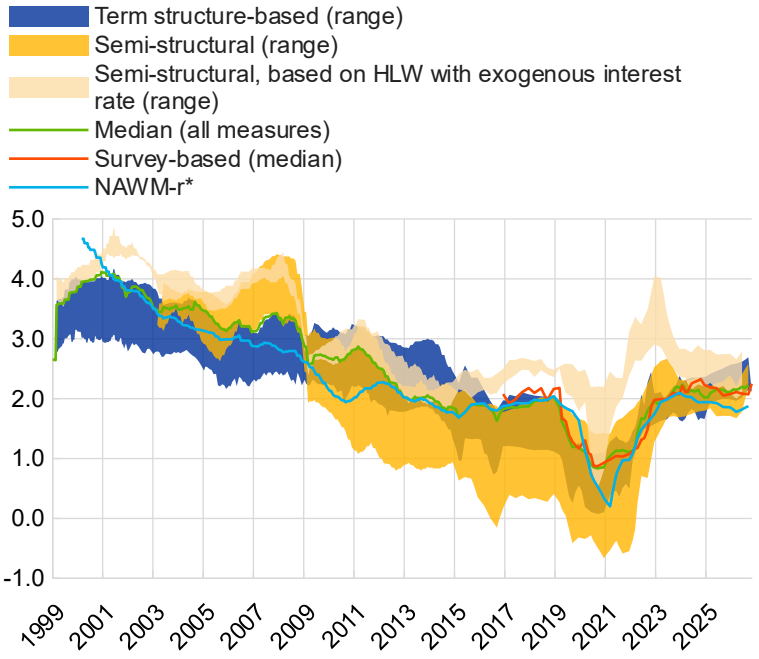


Sources: Eurostat and ECB calculations.
Notes: Cumulative changes since 1973Q3 and 2021Q1 respectively.
Latest observation: 1975Q4 and 2023Q2.

Central banks should prioritise policy tools that can be reversed quickly

Nominal equilibrium rate in the euro area

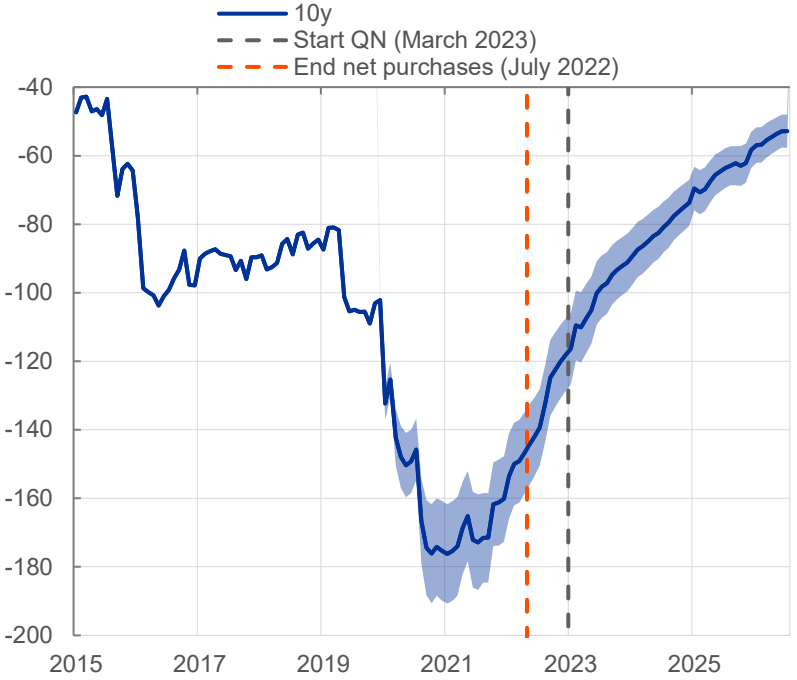
(percent per annum)



Sources: Eurosystem estimates and ECB calculations.
Notes: The latest observations for survey-based estimates are for Q3 2026 for Consensus and Q4 2026 for SMA; for semi-structural models, Q2 2026 for HLW, HLW-2y, HLW-5y, LT-BK and BMA, and Q3 2026 for Proxy and BM; for term structure-based estimates, Q3 2026 for Ajevskis, BGL, GI, TSM-CMT and Q4 2026 for GS; and for NAWM-r*, Q3 2026.

Estimated impact of APP and PEPP sovereign bond holdings on risk premia

(basis points)



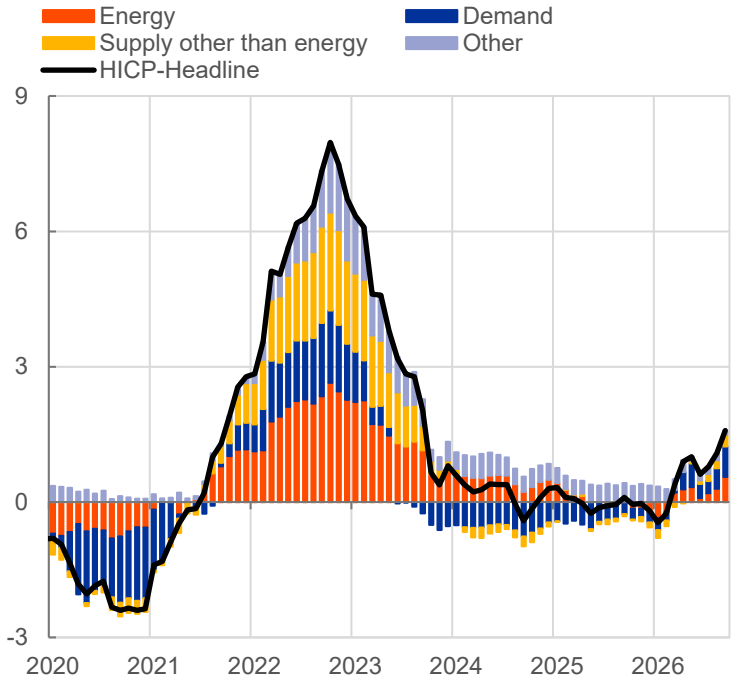
Sources: ECB calculations.
Notes: The upper range of estimates are derived using an arbitrage-free affine model of the term structure with a quantity factor (see Eser et al., 2023). The lower range is derived using an alternative version of this model recalibrated so that the model-implied yield reactions to the March PEPP announcement match the two-day yield changes observed after 18 March 2020. The model results are derived using GDP-weighted averages of the zero-coupon yields of the big-four sovereign issuers (DE, FR, IT, ES). Latest observation: September 2026 (monthly data).

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Overlapping shocks make the “last mile” of disinflation particularly challenging

Shock decomposition of euro area inflation

(annual percentage points in deviation from mean and initial conditions and percentage point contributions)



Source: ECB staff calculations based on Banbura, Bobeica, and Martínez Hernández (2023).
Notes: Historical decomposition based on a large BVAR model accounting for a rich set of inflation drivers, identified with zero and sign restrictions. “Energy” sums the contributions of oil and gas price shocks, “Demand” corresponds to domestic and foreign demand shocks, and “Supply other than energy” represents the contribution of global supply chain, domestic supply and labour market shocks. Latest observation: September 2026.

Services inflation

(percent)



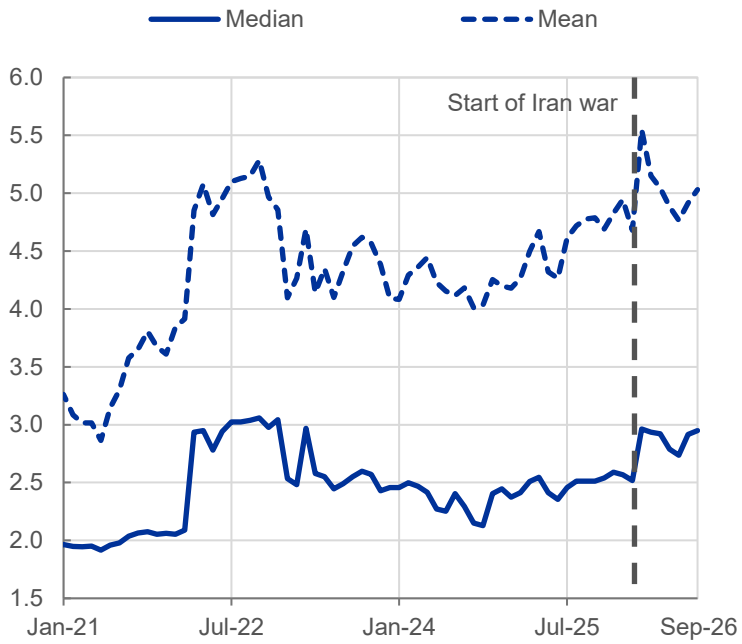
Sources: Eurostat and ECB calculations.
Latest observation: September 2026.

Rising inflation expectations heighten risk of second-round effects

Consumer inflation expectations in the euro area

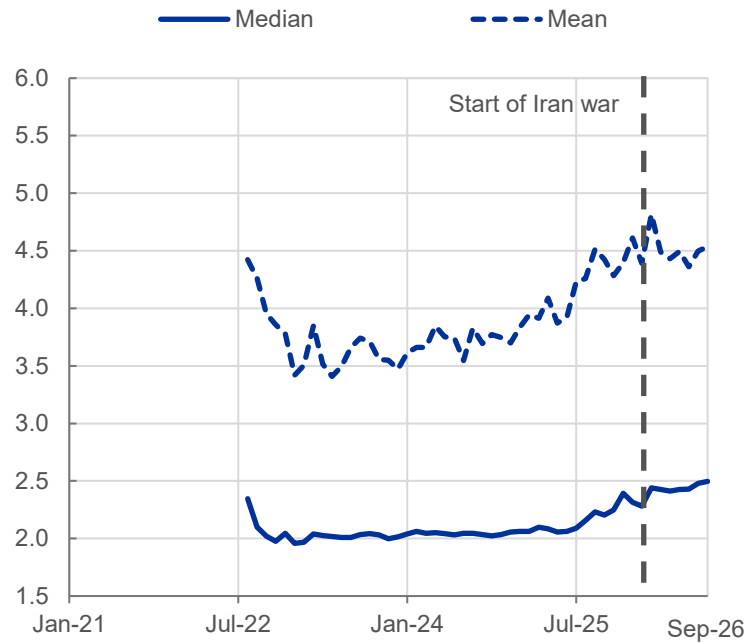
(percent)

Three years ahead



Sources: Eurostat and ECB Consumer Expectations Survey (CES).
Notes: The dashed blue line indicates the winsorised mean, while the solid line represents the median.
Latest observation: September 2026.

Five years ahead



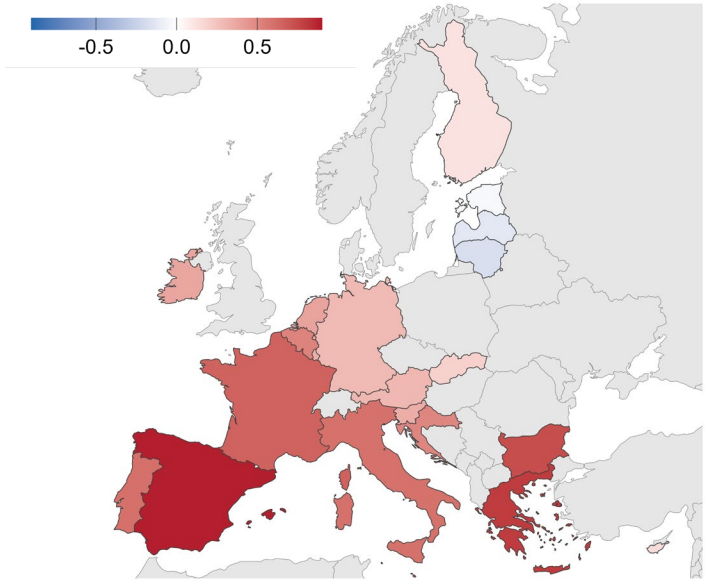
Sources: Eurostat and ECB Consumer Expectations Survey (CES).
Notes: The dashed blue line indicates the winsorised mean, while the solid line represents the median. These series were started only in September 2022.
Latest observation: September 2026.

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Climate change creates challenges for price stability

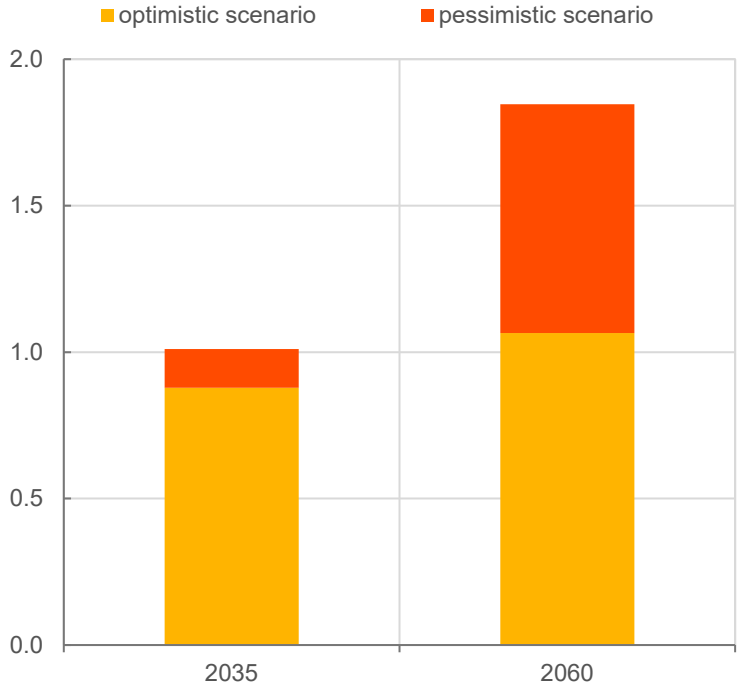
Impact of the 2025 heatwave on euro area unprocessed food price inflation after 12 months

(percentage points)



Estimated impact of summer heat on food price inflation in Europe under future projected climate

(percentage points)



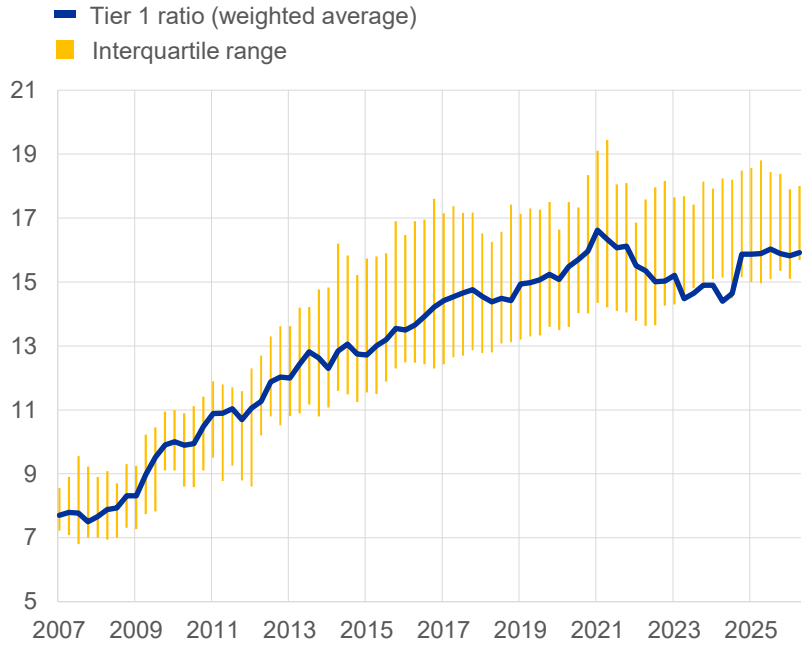
Sources: ECB analysis based on Kotz, M., Kuik, F., Lis, E. and C. Nickel (2024): "Global warming and heat extremes to enhance inflationary pressures." *Commun Earth Environ* 5, 116. Also see Bates, C., Kuik, F., Wieland, E. and Zekaite, Z. (2025), "Inside the food basket: what is behind recent food inflation?", *Economic Bulletin*, Issue 8, ECB. Notes: Both charts show the cumulative deviation of prices from baseline after 12 months due to extreme June/July/August temperatures. The charts are based on combining elasticities of a 1°C increase in temperatures with realised 2025 summer temperatures (left-hand side chart) and results from 21 global climate models (right-hand side chart). Elasticities are estimated with a global panel regression approach, using monthly prices and high-resolution climate data. Right-hand side chart: Projected temperatures of an extreme summer (i.e., in the upper tail of the temperature distribution) in future climates are retrieved from climate model results under an optimistic ("below 2C by 2100", RCP2.6) and a pessimistic ("hot house world", RCB8.5) emissions scenario. The estimates can be understood as the additional impact on food inflation attributed to future higher temperatures. The approach does not make any assumptions about future inflation dynamics, macroeconomic factors or adaptation to climate change and can therefore be understood as a stylised sensitivity analysis.

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Resilient banking sector was a pre-condition for monetary policy to act as needed

Capital ratios of euro area banks

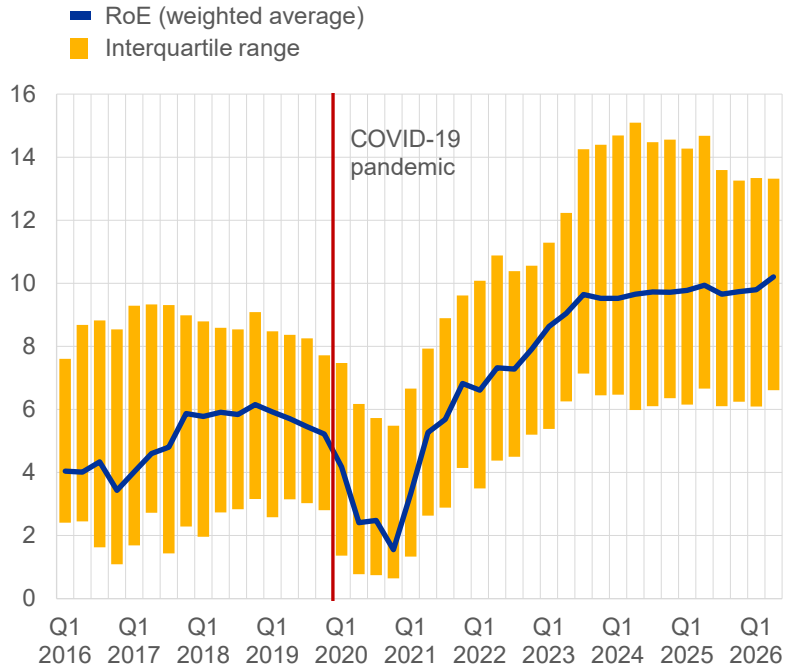
(percent)



Source: Bloomberg.
Notes: Weighted average Tier 1 ratio for an unbalanced sample of up to 76 euro area banks.
Latest observation: Q2 2026.

Euro area banks' return on equity (RoE)

(percent)

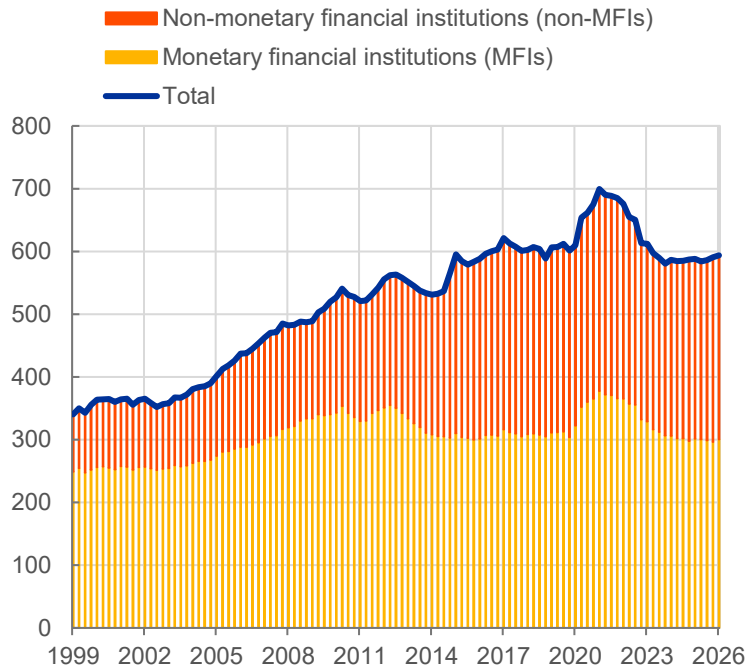


Sources: ECB supervisory data and ECB calculations.
Notes: The sample are all SSM significant institutions.
Latest observation: Q2 2026.

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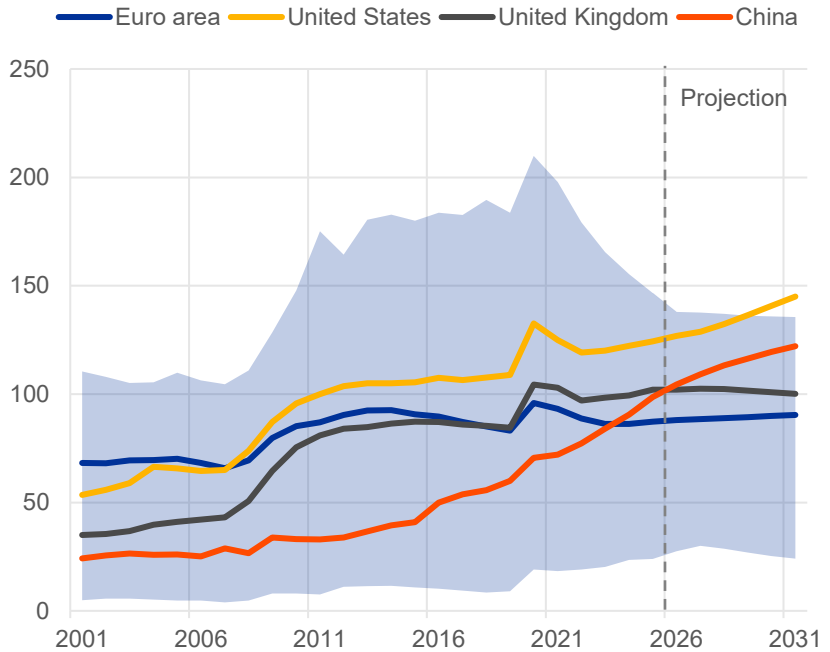
Rise of non-banks and public debt pose risks to monetary dominance

Financial asset holdings in the euro area
(percent of annualised GDP)



Sources: ECB, Eurostat and ECB calculations.
Notes: Non-monetary financial institutions include investment funds, insurance corporations and pension funds and other financial intermediaries.
Latest observation: 2026 Q1.

General government gross debt
(percent of GDP)



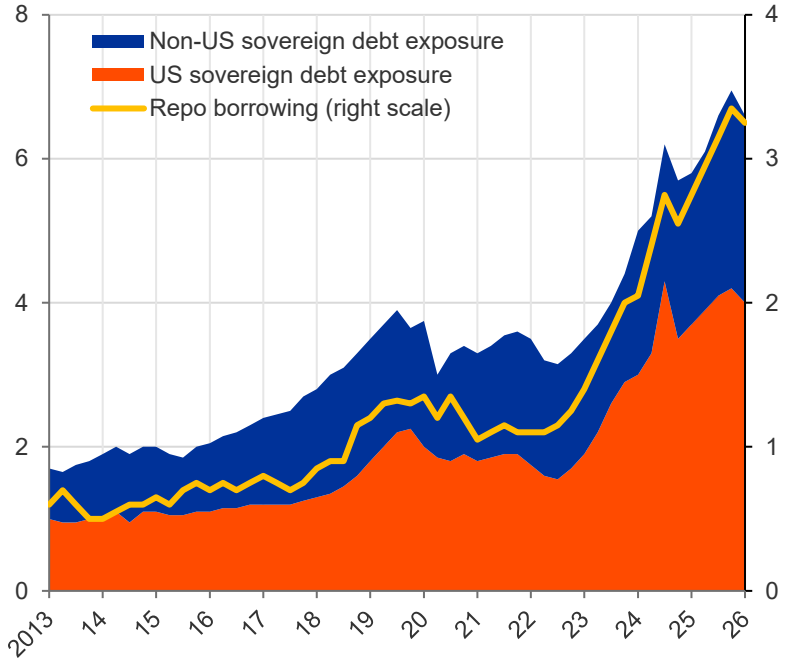
Source: IMF World Economic Outlook, October 2026.
Notes: Shaded blue area denotes the range of debt levels among euro area member states.

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Non-banks and shorter bond maturities amplify monetary policy transmission

Hedge funds: sovereign bond exposure and repo borrowing

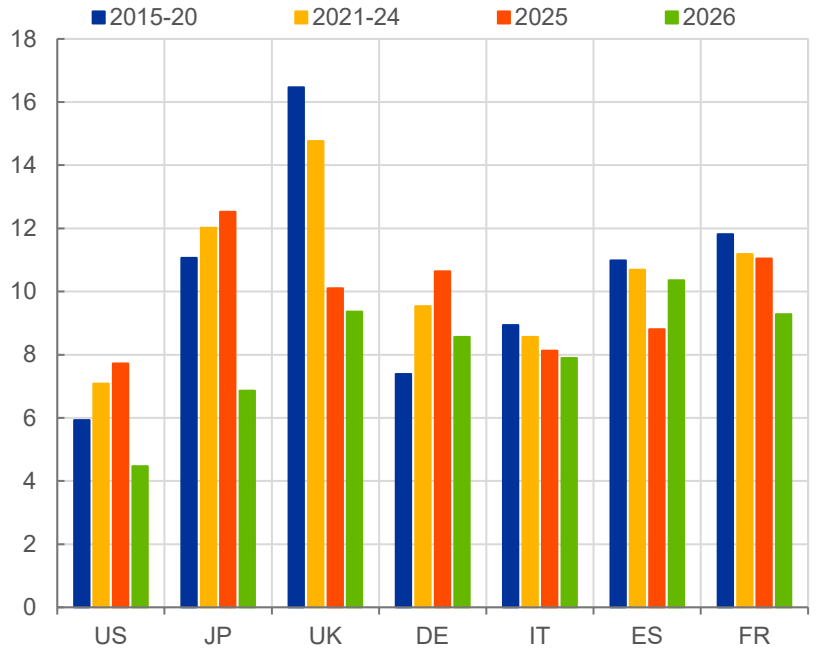
(US dollar trillions)



Source: IMF Global Financial Stability Report, October 2026.
Notes: The chart shows long notional exposures to sovereign debt.

Weighted average maturity of new government debt issuance

(years)



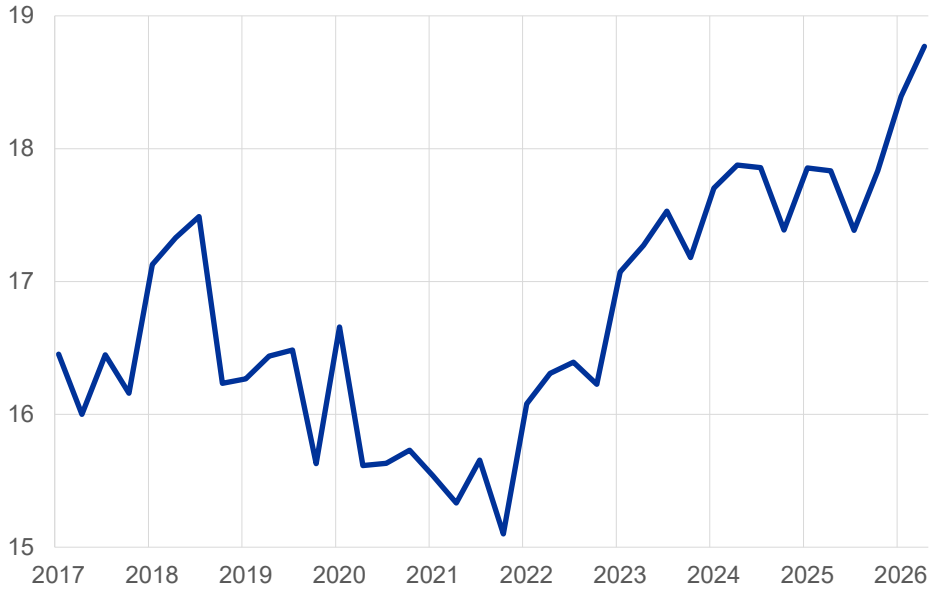
Sources: CSDB and ECB calculations.
Notes: Weighted average maturity at issuance of new government debt securities in domestic currency, with taps assigned to the year in which they take place. Bonds are weighted by gross issuance, while bills (original maturity of up to one year) are weighted by their net issuance, i.e. the change in the stock of bills over the year. Period figures are simple averages of annual values. For 2026, total bills issuance for the year is an estimate based on data available until October.

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Banks increasingly rely on non-banks for funding, creating risk of spillovers

Euro area banks' funding from NBFIs

(Q1 2017-Q2 2026, percentages of total bank liabilities)



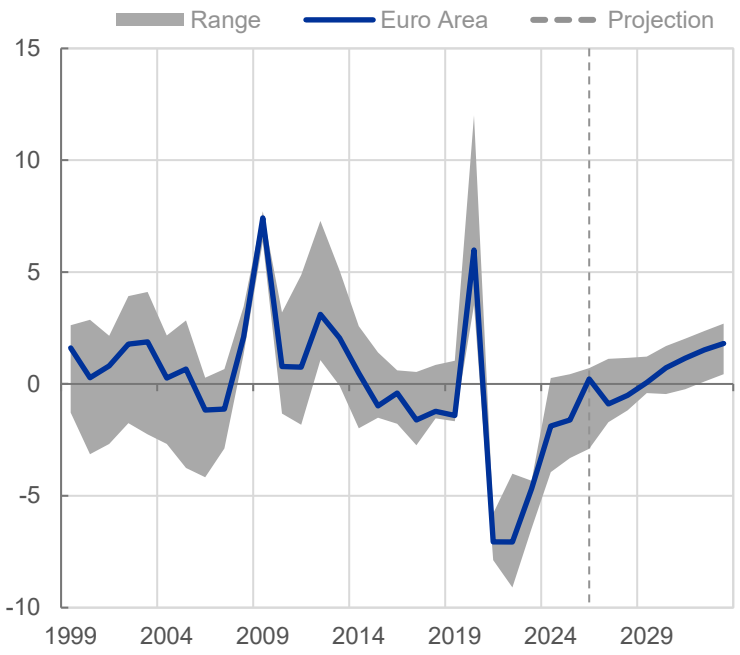
Source: ECB (supervisory data, SHSS) and ECB calculations.
Notes: The share is calculated at the consolidated level for a sample of 114 significant institutions. Funding from NBFIs includes deposits, repos, bond holdings, short positions and derivatives (i.e. those with a negative fair value). Latest observation: Q2 2026.

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Higher interest rates worsen *r-g* differential, as potential growth trends downwards

Differential between the interest rate and nominal growth

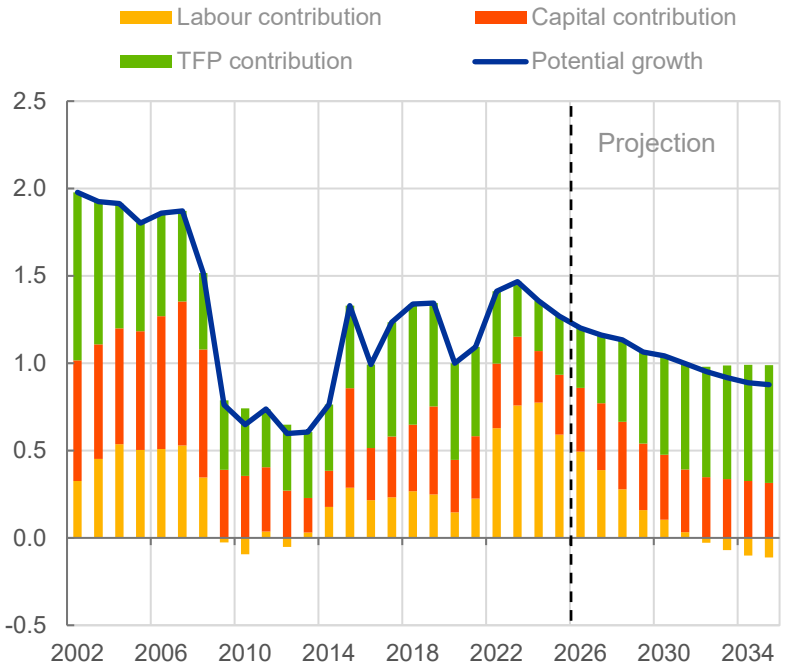
(percentage points)



Source: European Commission Spring Forecast and debt sustainability analysis.
Notes: Forecast updated using financial assumptions as of the cut-off date of 12 October 2026. The interest rate refers to the average interest rate on outstanding debt and growth refers to the growth rate of GDP in nominal terms. The grey shaded area represents the range across Germany, France, Italy and Spain.

Euro area potential GDP growth

(annual change in % and percentage point contributions)



Source: European Commission Spring 2026 Forecast.
Notes: The projections start in 2026, with a cut-off date of April 2026.

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Fiscal sustainability, credible monetary policy and higher productivity growth improve *r-g*

10-year GDP-weighted sovereign-OIS spread and inflation risk premium

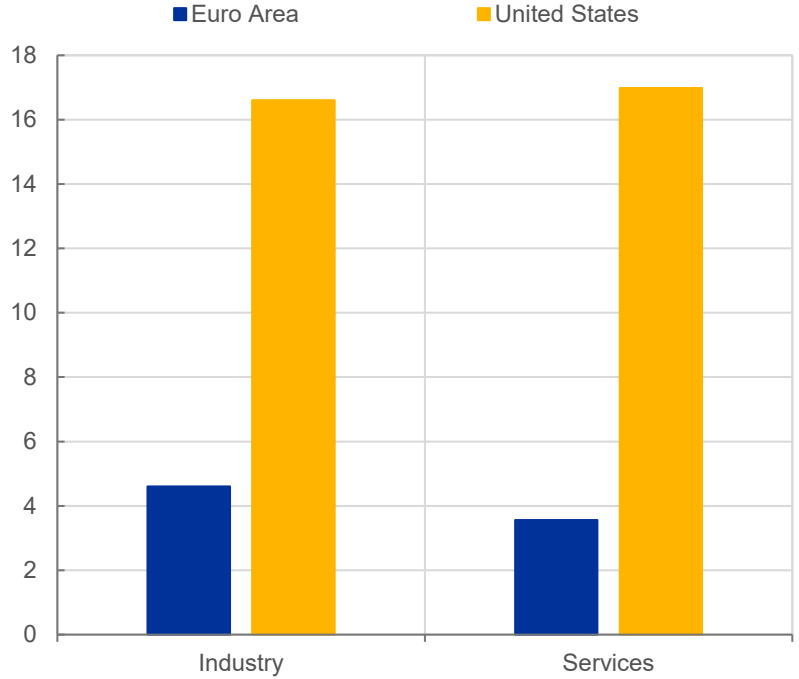
(percentages per annum)



Sources: Bloomberg, LSEG and ECB calculations
Notes: The spread is the difference between the euro area 10-year sovereign yield and the 10-year euro area OIS rate. Inflation risk premia are average estimates from two affine term structure models as in Joslin, Singleton and Zhu (2011) applied to ILS rates non adjusted for the indexation lag (see Burban et al. (2022), ECB Economic Bulletin Issue 8, 2021, Box 4).
Latest observation: 28 October 2026.

Hourly labour productivity growth

(cumulative change from 2019Q4 to 2026Q2)

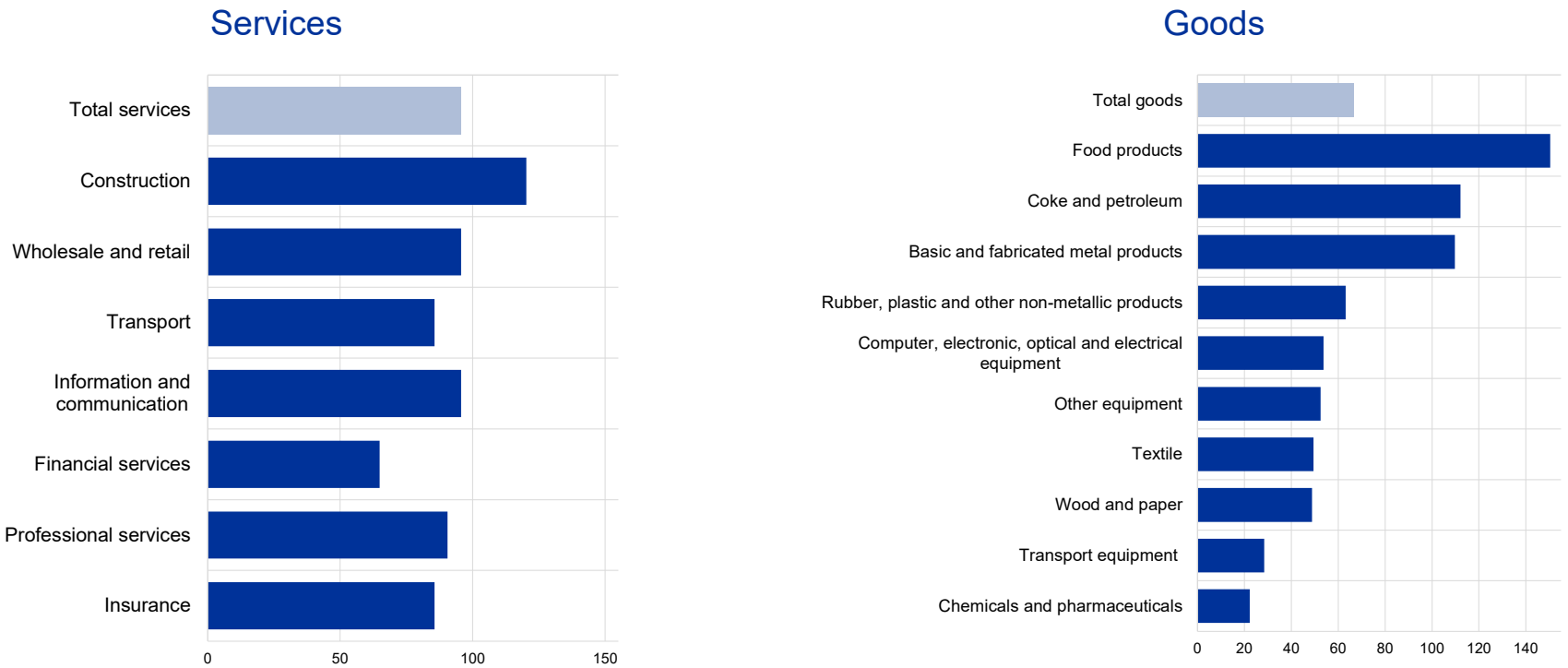


Sources: Eurostat, Bureau of Economic Analysis and Bureau of Labour Statistics.
Notes: Services include market and public services.

28th regime could reduce regulatory barriers impeding EU Single Market

Estimated level of EU trade costs by sector – tariff equivalent

(percentages)



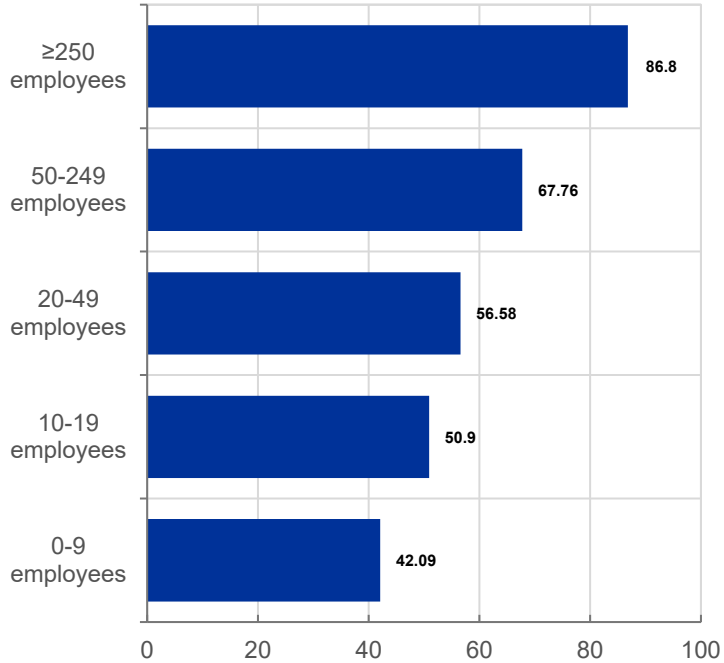
Sources: OECD (BaTiS), OECD (TiVA 2025) and ECB calculations.
Notes: The charts are based on gravity estimations (Bernasconiet al. 2025) and show the estimated intra-EU trade barriers across subsectors and for services and goods as a whole. Regression coefficients are converted into ad valorem tariff equivalents; for goods, sector-specific elasticities from Fontagné et al. (2022) are used. Tariff equivalent is for 2023 for services and 2022 for goods.

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Europe needs larger firms and a more integrated Single Market to reap AI gains

EU: Labour productivity by enterprise size

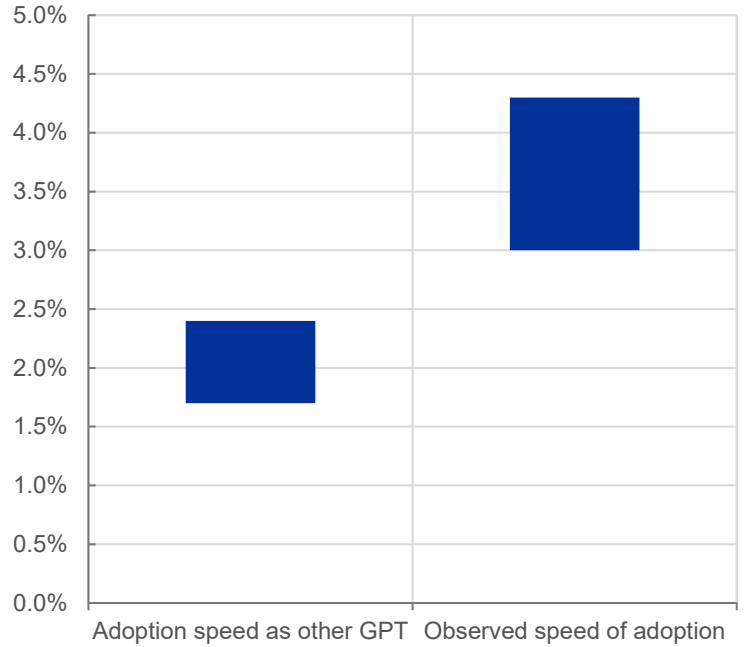
(2023; EUR thousands per person employed)



Sources: Eurostat business demography statistics and structural business.
Notes: Coverage includes NACE Rev. 2 sections B-S (excluding O and S94). Labour productivity is measured as value added at factor cost per person employed.

Range of estimated TFP impact of AI under different scenarios

(% increase over 10 years)

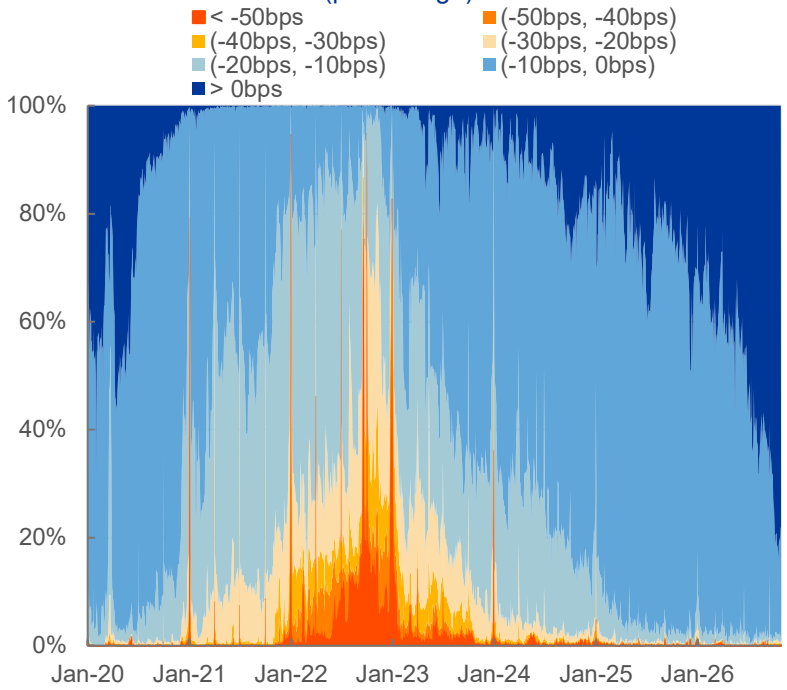


Source: ECB calculations based on CES data.
Notes: The blue bars indicate the range of estimates across scenarios reflecting different assumptions about the share of the economy exposed to AI, which may remain constant over time (at either a low or high level) or increase as AI capabilities improve.

Large central bank balance sheets can distort markets and increase bank fragility

Share of repo trade volumes split by rate buckets relative to DFR

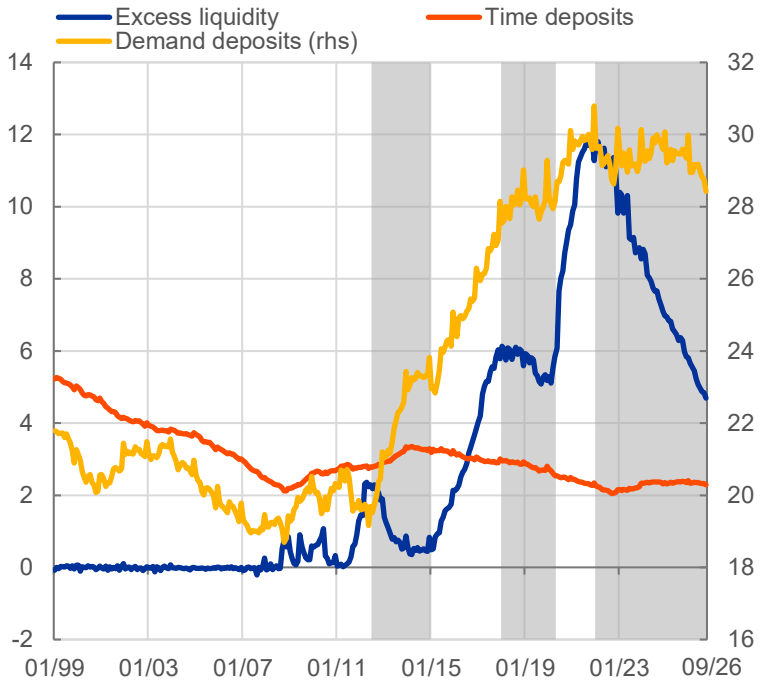
(percentage)



Sources: MMSR and ECB calculations.
Notes: The chart shows the share of repo traded volume within spread to the DFR intervals. Repo trades are filtered for minimum nominal value and observation days are filtered for trade count. The chart includes both general and special collateral issued by DE, FR, IT and ES governments.
Latest observations: 27 October 2026.

Excess liquidity and deposits in the euro area

(percentage of banks' total assets)



Sources: ECB (BSI, ILM) and ECB calculations.
Notes: Shaded areas represent periods when excess liquidity was kept stable or reduced as a result of policy decisions. Demand deposits are defined as M3 deposits from the non-financial private sector and time deposits are defined as total deposits from the non-financial private sector net of demand deposits.
Latest observation: September 2026.

Thank you very much for your attention!

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