EUROPEAN CENTRAL BANK

EUROSYSTEM

Economic Bulletin

Issue 8 / 2025

Contents

Economic, financial and monetary developments **2**

Overview 2

1 External environment 7

2 Economic activity 12

3 Prices and costs 20

4 Financial market developments 27

5 Financing conditions and credit developments 32

6 Fiscal developments 40

Boxes **43**

1 Bulgaria adopts the euro 43

2 From text to trouble: understanding the limits of text-derived trade policy uncertainty measures 51

3 Tracking trade in real time: augmenting the nowcasting toolkit with satellite data 57

4 The household saving rate revisited: recent dynamics and underlying drivers 64

5 Has housing regained its allure? Insights from a new survey-based housing Sharpe ratio 69

6 Holding on: labour hoarding and firms' expectations 74

7 Inside the food basket: what is behind recent food inflation? 80

8 Liquidity conditions and monetary policy operations from 30 July to 4 November 2025 88

Articles **94**

1 What is the untapped potential of the EU Single Market? 94

2 Short-term forecasting of euro area economic activity in an uncertain world 114

Box 1 The revised system of bridge equations: technical summary 118

Box 2 A case study: short-term GDP forecasts for the third quarter of 2025 in real time 124

Statistics **S1**

Economic, financial and monetary developments

Overview

At its meeting on 18 December 2025, the Governing Council decided to keep the three key ECB interest rates unchanged. Its updated assessment reconfirmed that inflation should stabilise at the 2% target in the medium term.

According to the December 2025 Eurosystem staff macroeconomic projections for the euro area, headline inflation is expected to average 2.1% in 2025, 1.9% in 2026, 1.8% in 2027 and 2.0% in 2028. For inflation excluding energy and food, staff project an average of 2.4% in 2025, 2.2% in 2026, 1.9% in 2027 and 2.0% in 2028. Inflation has been revised up for 2026, mainly because services inflation is now expected to decline more slowly. Economic growth is expected to be stronger than in the September 2025 ECB staff macroeconomic projections for the euro area, driven especially by domestic demand. Growth has been revised up to 1.4% in 2025, 1.2% in 2026 and 1.4% in 2027 and is expected to remain at 1.4% in 2028.

The Governing Council is determined to ensure that inflation stabilises at its 2% target in the medium term. It will follow a data-dependent and meeting-by-meeting approach to determining the appropriate monetary policy stance. In particular, the Governing Council's interest rate decisions will be based on its assessment of the inflation outlook and the risks surrounding it, in light of the incoming economic and financial data, as well as the dynamics of underlying inflation and the strength of monetary policy transmission. The Governing Council is not pre-committing to a particular rate path.

Economic activity

The economy has been resilient. It grew by 0.3% in the third quarter of 2025, mainly reflecting stronger consumption and investment. Exports also increased, with a significant contribution from chemicals. The sectoral composition of growth was dominated by services, especially in the information and communication sector, while activity in industry and construction remained flat. This pattern of services-led growth is likely to continue in the near term.

The economy is benefiting from a robust labour market. Unemployment, at 6.4% in October 2025, is close to its historical low, and employment grew by 0.2% in the third quarter. At the same time, labour demand cooled further, with the job vacancy rate at its lowest level since the COVID-19 pandemic.

Domestic demand is expected to remain the main driver of euro area growth, bolstered by rising real wages and employment, in the context of resilient labour markets with record low unemployment rates. Additional government spending on

infrastructure and defence announced in 2025, especially in Germany, alongside improved financing conditions stemming from monetary policy rate cuts since June 2024, is also expected to support the domestic economy. On the external side, while competitiveness challenges persist, including some that are of a structural nature, exports are expected to pick up in 2026. This improvement is attributed to a rebound in foreign demand amid declining trade policy uncertainty, despite a gradually unfolding impact from higher tariffs. Annual average real GDP growth is projected to be 1.4% in 2025, 1.2% in 2026, 1.4% in 2027 and 1.4% in 2028. Compared with the September 2025 projections, GDP growth has been revised up over the whole projection horizon, reflecting better than expected data, reduced trade policy uncertainty, stronger foreign demand and lower energy commodity prices.

The Governing Council stresses the urgent need to strengthen the euro area and its economy in the present geopolitical context. It welcomes the European Commission's call for governments to prioritise sustainable public finances, strategic investment and growth-enhancing structural reforms. Unlocking the full potential of the Single Market is crucial. It is also vital to foster further capital market integration by completing the savings and investments union and the banking union to an ambitious timetable, and to rapidly adopt the Regulation on the establishment of the digital euro.

Inflation

Euro area annual inflation, as measured by the Harmonised Index of Consumer Prices (HICP), has been in a narrow range since spring 2025 and remained at 2.1% in November. Energy prices were 0.5% lower than in the previous November, after a larger decline in October 2025. Food price inflation was 2.4%, after 2.5% in October and 3.0% in September. Inflation excluding energy and food was steady at 2.4%, as goods and services inflation moved in opposite directions. Goods inflation declined to 0.5% in November, from 0.6% in October and 0.8% in September. Services inflation rose to 3.4% in October and 3.5% in November, from 3.2% in September.

Indicators of underlying inflation have changed little over recent months and remain consistent with the Governing Council's 2% medium-term target. While growth in unit profits was unchanged in the third quarter of 2025, unit labour costs grew at a slightly higher rate than in the second quarter. Compensation per employee rose at an annual rate of 4.0%. This was more than expected in the September 2025 staff projections and was due to payments over and above negotiated wages. Forward-looking indicators, such as the ECB's wage tracker and the results of surveys on wage expectations, suggest that wage growth will ease in the coming quarters, before stabilising somewhat below 3% towards the end of 2026.

Most measures of longer-term inflation expectations continue to stand at around 2%, supporting the stabilisation of inflation around the Governing Council's target. Inflation is projected to decrease from 2.1% in 2025 to 1.9% in 2026 and then to 1.8% in 2027, before rising to the Governing Council's medium-term target of 2% in 2028. The expected decline in headline inflation at the start of 2026 reflects a

downward base effect stemming from energy prices, while inflation in non-energy components should continue to ease throughout 2026. The contribution of energy inflation to headline inflation is expected to remain muted up to late 2027, before increasing notably in 2028 driven by the expected implementation of the EU Emissions Trading System 2 (ETS2), with an upward impact of 0.2 percentage points on headline inflation. HICP inflation excluding energy is expected to fall from 2.5% in 2025 to 2.2% in 2026 and to 2.0% in 2027 and 2028. Food inflation is projected to drop noticeably as the effects of prior price increases in global food commodities and adverse weather conditions over the summer subside, and is expected to stabilise at rates somewhat above 2% as of late 2026. HICP inflation excluding energy and food is projected to moderate from 2.4% in 2025 to 2.0% in 2028 as services inflation declines amid easing labour cost pressures, and as the past appreciation of the euro feeds through the pricing chain, curbing goods inflation. Wage growth should continue to moderate through 2026, before stabilising at around 3%, underpinned by a resilient labour market and productivity growth just slightly below 1%. Unit labour cost growth is expected to ease, although the impact on inflation is expected to be partly offset by a gradual recovery in profit margins over the projection horizon.

Compared with the September 2025 projections, the outlook for headline HICP inflation has been revised up by 0.2 percentage points for 2026, reflecting recent data surprises for HICP inflation and wage growth, with the latter leading to a notable upward revision to the wage outlook. The projection for HICP inflation has been revised down slightly for 2027. This is the result of an assumed lower contribution from energy inflation, since the implementation of ETS2 is now expected to be postponed from 2027 to 2028. However, this contribution is expected to be partly offset by stronger services inflation.

Risk assessment

While trade tensions have eased, the still volatile international environment could disrupt supply chains, dampen exports, and weigh on consumption and investment. A deterioration in global financial market sentiment could lead to tighter financing conditions, greater risk aversion and weaker growth. Geopolitical tensions, in particular Russia’s unjustified war against Ukraine, remain a major source of uncertainty. By contrast, planned defence and infrastructure spending, together with productivity-enhancing reforms, may drive up growth by more than expected. An improvement in confidence could stimulate private spending.

The outlook for inflation continues to be more uncertain than usual on account of the still volatile international environment. Inflation could turn out to be lower if the rise in US tariffs reduces demand for euro area exports and if countries with overcapacity increase their exports to the euro area. Moreover, a stronger euro could bring inflation down further than expected. An increase in volatility and risk aversion in financial markets could weigh on demand and thereby also lower inflation. By contrast, inflation could turn out to be higher if more fragmented global supply chains pushed up import prices, curtailed the supply of critical raw materials and added to

capacity constraints in the euro area economy. A slower reduction in wage pressures could delay the decline in services inflation. A boost in defence and infrastructure spending could also raise inflation over the medium term. Extreme weather events, and the unfolding climate and nature crises more broadly, could drive up food prices by more than expected.

Financial and monetary conditions

Market rates have increased since the Governing Council's last monetary policy meeting on 30 October 2025. Bank lending rates for firms have been broadly stable since the summer, after falling in response to its policy rate cuts over the previous year. In October they stood at 3.5%, unchanged from September. The cost of issuing market-based debt was 3.4%, also close to its September level. The average interest rate on new mortgages again held steady, at 3.3% in October.

Bank lending to firms grew by 2.9% on a yearly basis in October, unchanged from September. Corporate bond issuance rose by 3.2%, broadly unchanged as well. Mortgage lending strengthened, growing by 2.8% after 2.6% in September.

In line with the ECB's monetary policy strategy, the Governing Council thoroughly assessed the links between monetary policy and financial stability. Euro area banks are resilient, supported by strong capital and liquidity ratios, solid asset quality and robust profitability. However, geopolitical uncertainty and the possibility of a sudden repricing in global financial markets pose risks to financial stability in the euro area. Macroprudential policy remains the first line of defence against the build-up of financial vulnerabilities, enhancing resilience and preserving macroprudential space.

Monetary policy decisions

The interest rates on the deposit facility, the main refinancing operations and the marginal lending facility were unchanged at 2.00%, 2.15% and 2.40% respectively.

The asset purchase programme and pandemic emergency purchase programme portfolios are declining at a measured and predictable pace, as the Eurosystem no longer reinvests the principal payments from maturing securities.

Conclusion

At its meeting on 18 December 2025, the Governing Council decided to keep the three key ECB interest rates unchanged. It is determined to ensure that inflation stabilises at its 2% target in the medium term. It will follow a data-dependent and meeting-by-meeting approach to determining the appropriate monetary policy stance. The Governing Council's interest rate decisions will be based on its assessment of the inflation outlook and the risks surrounding it, in light of the incoming economic and financial data, as well as the dynamics of underlying inflation

and the strength of monetary policy transmission. The Governing Council is not pre-committing to a particular rate path.

In any case, the Governing Council stands ready to adjust all of its instruments within its mandate to ensure that inflation stabilises sustainably at its medium-term target and to preserve the smooth functioning of monetary policy transmission.

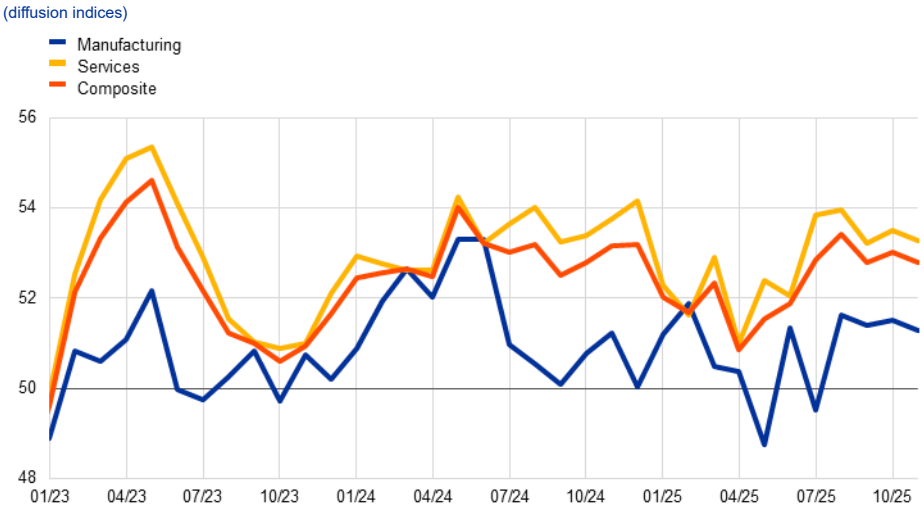
1 External environment

The global economy has shown resilience thus far despite the headwinds caused by tariffs and heightened uncertainty. This resilience is notably supported by investments related to artificial intelligence, particularly in the United States. These investments bolster global trade in technology products and drive gains in equity markets, although also raising concerns about valuations. A supportive policy mix across major economies has also mitigated some of the negative impact of trade tensions and uncertainty. Other positive developments are providing relief to the global economy. These include lower oil prices, easier financial conditions, lower tariffs and slightly reduced policy uncertainty. As a result, the global growth outlook in the December 2025 Eurosystem staff macroeconomic projections has been revised up slightly compared with the previous projections, although it remains subdued relative to its pre-pandemic average. Headline consumer price inflation across major advanced and emerging market economies is projected to decline gradually and at a somewhat faster pace compared with the previous projection exercise.

The global economy has shown resilience thus far despite the headwinds caused by tariffs and heightened uncertainty. Incoming data for the third quarter suggest a slight moderation in global economic activity compared with the second quarter of 2025. The global (excluding the euro area) composite output Purchasing Managers' Index (PMI) dropped slightly since the summer months to 52.8 in November (Chart 1). According to this survey indicator, economic activity in November slowed across most major economies. In the United States, the decline in services activity was partly offset by an improvement in manufacturing, while China recorded declines in both sectors. National data releases for the third quarter broadly confirm the expected moderation in growth, as embedded in the December 2025 Eurosystem staff macroeconomic projections.

Chart 1

Global output PMI (excluding the euro area)



Sources: S&P Global Market Intelligence and ECB staff calculations.
Note: The 50-index point line refers to the neutral threshold. The latest observations are for November 2025.

Looking ahead, several positive developments are expected to provide relief to the global economy. These include lower oil prices, easier financial conditions, reduced tariffs especially between the United States and China, and slightly reduced policy uncertainty. Positive economic data surprises from major economies have also contributed to a slightly improved global growth outlook, which nevertheless remains subdued relative to its pre-pandemic average. It is estimated to stand at 3.5% in 2025 before drifting lower to 3.3% in 2026.[1] The staff projections foresee that global growth will maintain this subdued momentum in both 2027 and 2028.

Slightly stronger global growth compared with the previous projections largely reflects a stronger growth outlook for both the United States and China. In addition to lower tariffs, the growth outlook for the United States has been revised upwards slightly due to more resilient domestic demand than previously expected, supported over the near term by positive wealth effects stemming from recent equity price developments and by overall higher fiscal spending assumptions. For China, real GDP growth projections for this year and next have also been slightly revised upwards to reflect stronger export dynamics than previously estimated and a larger assumed fiscal stimulus. The growth outlook for the United Kingdom has been revised downwards slightly owing to the foreseen fiscal consolidation measures.

Risks to the global growth outlook and the global inflation outlook are becoming more balanced as the key macroeconomic and financial risk factors become more two-sided. These include risks related to trade and fiscal policies, as well as risks related to artificial intelligence (AI) and geopolitical developments. For example, while trade tensions could escalate again, especially between the United States and China, which could have adverse effects on the global economy, the Trump Administration may also make progress on trade negotiations, which could have beneficial effects.

Global import growth is estimated to remain steady in 2025, although its momentum is expected to slow next year. Incoming data confirm that semiconductor exports linked to strong AI-related investment remained robust in the third quarter, especially in relation to developments in the United States. At the same time, trade in other goods turned out to be rather weak. Incoming data also confirm that Chinese export growth remains strong. Global import growth is projected to be 4.4% in 2025, largely reflecting strong import growth in the first half of the year related to frontloaded demand ahead of tariffs, before declining to 2.0% in 2026 due to the adverse impact of tariffs. Global import growth is then projected to recover to 3.1% in both 2027 and 2028. The outlook for global imports has been revised upwards significantly for this year and next compared with the previous projections, while the projection for 2027 remains unchanged. The stronger projected import growth is underpinned by lower tariffs agreed between the United States and China, as well as relatively strong growth momentum across emerging market economies. Among the latter group, India stands out in terms of its robust economic activity and import growth.

---

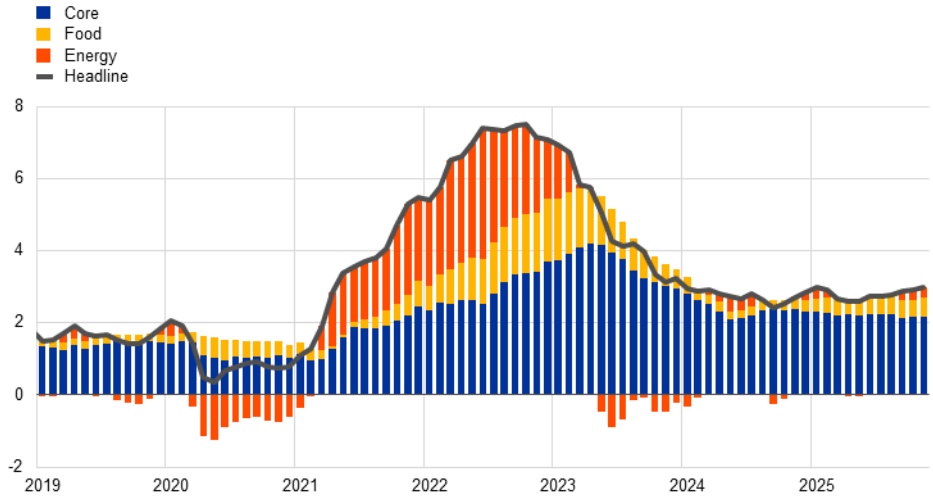
1 For further details, see "Eurosystem staff macroeconomic projections for the euro area, December 2025", published on the ECB's website on 18 December 2025.

Headline inflation across members of the Organisation for Economic Co-operation and Development (OECD) increased slightly in November. The annual rate of consumer price index (CPI) inflation across OECD member countries, excluding Türkiye, increased slightly to 3.0% in November from 2.9% in October. This increase was driven by a slightly higher contribution from the food and core components (Chart 2).

Chart 2

OECD CPI inflation

(year-on-year percentage changes, percentage point contributions)



Sources: OECD and ECB staff calculations.
Notes: The OECD aggregate includes euro area countries that are OECD members and excludes Türkiye. It is calculated using OECD CPI annual weights. The latest observations are for November 2025.

Global headline CPI inflation is projected to decline gradually and at a somewhat faster pace compared with the September projections.[2] It is expected to stand at 3.1% in 2025, 2.8% in 2026, 2.5% in 2027 and 2.6% in 2028. The slightly faster than previously projected decline in CPI inflation over the 2025-26 period reflects lower than expected inflation outcomes across most advanced economies, lower US-China tariffs, and the reassessment of the impact of tariffs on inflation in the United States, which is expected to be slightly lower compared with the previous projections. Furthermore, weaker domestic demand in China explains a more gradual than previously expected increase in consumer price inflation over the projection horizon. This effect on the emerging market aggregate is compensated by slightly higher projected inflation in other major economies, such as India and Russia.

Perceptions of increased prospects for a peace agreement in Ukraine weighed on energy commodity prices. Oil prices had initially been supported in the run-up to the October Governing Council meeting by the announcement of new US sanctions on Russia's two major oil-producing companies, Lukoil and Rosneft, which account for the major share of Russian exports. More recently, however, renewed

[2] Eurosystem staff macroeconomic projections for headline CPI inflation include a broader set of countries, notably large emerging markets (e.g. China, India, Brazil and Russia), which are not accounted for in OECD CPI inflation.

US efforts to advance peace negotiations in Ukraine have lowered the perceived likelihood of strict enforcement of these sanctions, placing downward pressure on prices. This downward pressure has been amplified by a supply surplus that has been building in the oil market for several months. Regarding gas prices, although a recent cold spell in western Europe temporarily lifted consumption and weighed on inventories, prices ultimately fell by 15% due to perceptions of some progress towards a potential Ukraine peace deal. Given Europe's continued efforts to end its reliance on Russian fossil fuels, this downward pressure is unlikely to stem from expectations of renewed Russian pipeline flows. Instead, it more likely reflects the possibility that a peace deal could lead to the removal of US sanctions affecting parts of Russia's liquefied natural gas export capacity. Metal prices rose by 2%, supported by renewed expectations of US tariffs on copper, which prompted traders to accelerate shipments to the United States. By contrast, food prices fell by 3% amid signs of a strong cocoa supply.

Economic activity in the United States has been adversely affected by the federal government shutdown. The shutdown lasted 43 days and delayed key data releases. It is expected to negatively affect growth also in the fourth quarter of 2025, whereas a large part of this effect is projected to be recouped in the first quarter of 2026. Private consumption exceeded expectations this year, supported by wealth gains among higher-income households amid booming equity markets. However, it is expected to slow as the labour market cools and households rebuild savings from low levels. In the third quarter, private consumption growth was strong, though it stalled in September on a monthly basis. Private sector proxies for private consumption signal weak growth in October and November, in line with declining consumer sentiment and a soft labour market. The boom in AI-related capital expenditures underpins a stronger private investment outlook. Net trade is expected to contribute positively to real GDP growth at the turn of the year. The labour market remains soft despite private sector job growth exceeding expectations in September, as the impact of this positive surprise was tempered by downward revisions to private employment in the previous months. Private sector data indicate very muted employment growth in October and November, while high-frequency indicators suggest increased lay-offs and stagnant employment growth. Hourly wage growth continues to moderate.

Meanwhile, tariffs are having an impact on consumer price inflation in the United States. Tariffs on consumer goods contributed to inflationary pressures, with momentum in goods inflation reaching its highest level since April 2023. Tariff-related price increases are expected to contribute to higher inflation in the fourth quarter. Services inflation continues to slowly follow a downward trend, mainly due to slowing housing cost inflation. Meanwhile, headline personal consumption expenditures (PCE) inflation increased slightly to 2.8% in September (by 0.1 percentage points), whereas core PCE inflation declined to 2.8% (by 0.1 percentage points). The Federal Open Market Committee lowered the target range for the federal funds rate at its December meeting (by 25 basis points) to 3.50-3.75%.

China's short-term outlook points to moderating growth momentum despite stronger than expected growth in the third quarter. Domestic demand is still

weak, even though real GDP grew by 1.1% quarter-on-quarter in the third quarter, exceeding market expectations. Net exports contributed positively, while indicators of domestic demand, such as retail sales and fixed-asset investment, weakened further in relation to subdued consumer confidence and ongoing adjustment in the residential property sector. According to the PMI survey, manufacturing activity contracted in November, while services sector activity softened but remained in expansionary territory. China's export performance has been robust, with nominal goods export growth reaching 5.8% in November in annual terms, supported by strong exports to the Association of Southeast Asian Nations (ASEAN), Africa and Europe. These increases more than compensated for the decline in US-bound exports. The recent US-China trade agreement, which reduces tariffs on Chinese imports, together with increased fiscal stimulus under China's new five-year plan, are expected to support economic growth over the projection horizon. However, structural challenges, such as the still ongoing correction in the residential real property sector, weigh on consumer sentiment and thus pose risks to the medium-term outlook for consumption. Headline consumer prices in China increased further in November, while producer price deflation persisted. Annual headline CPI inflation rose to 0.7% in November, the highest since February last year, up from 0.2% in October. The increase was in line with market expectations and was driven mainly by food prices due to supply shortages caused by adverse weather. Producer price inflation declined slightly to -2.2% in November from -2.1% in October, reflecting lower raw material and consumer durable goods prices.

In the United Kingdom, the economy exhibited modest growth in the third quarter of 2025. Private consumption remained weak, but residential investment provided some support. Flash PMI data for November suggest continued soft economic momentum into the fourth quarter, with services activity weakening and manufacturing output showing minor improvements. Headline CPI inflation eased to 3.6% in October, down from 3.8% in September. Core inflation also eased to 3.4%, driven by services inflation, which declined to 4.5%. Wage growth slowed but remained elevated. The autumn budget announced on 26 November includes higher fiscal spending in the coming years, whereas policy measures such as an extended freeze on personal tax thresholds are expected to generate additional fiscal revenues mostly as of 2028.

2 Economic activity

The euro area economy is proving to be resilient despite the challenging global environment. Real GDP increased by 0.3% in the third quarter of 2025, which was above the September 2025 ECB staff macroeconomic projections for the euro area. This followed volatile developments in the first half of the year, reflecting the effects of frontloading in response to higher US trade tariffs and related uncertainty, as well as the impact of sharp fluctuations in Irish data. Growth in the third quarter was driven by domestic demand and inventory accumulation on the expenditure side, with market services – particularly the information and communications sector – contributing in terms of value added, while industry and construction remained flat. Survey data currently signal continued moderate growth momentum in the fourth quarter of 2025, led by services activity. The labour market remains resilient, but shows signs of slowing, with notable differences across countries and sectors. The unemployment rate held steady at 6.4% in September and October, close to recent historical low levels.

Domestic demand is expected to support GDP growth in the near to medium term. Gains in real incomes and a resilient labour market are likely to sustain private consumption, and housing investment is expected to recover in the fourth quarter and beyond, as suggested by leading indicators. Business investment is also set to expand, driven by intangibles, while tangible investments are likely to remain more subdued in the near term. Factors such as rising demand, higher profits, reduced uncertainty, additional defence and infrastructure spending, as well as improved financing conditions, are expected to bolster investment and activity growth further in the medium term.

This outlook is broadly reflected in the December 2025 Eurosystem staff macroeconomic projections for the euro area, which foresee annual average real GDP growth of 1.4% in 2025, 1.2% in 2026, 1.4% in 2027 and 1.4% in 2028. Compared with the September 2025 projections, GDP growth has been revised up over the whole projection horizon.[3]

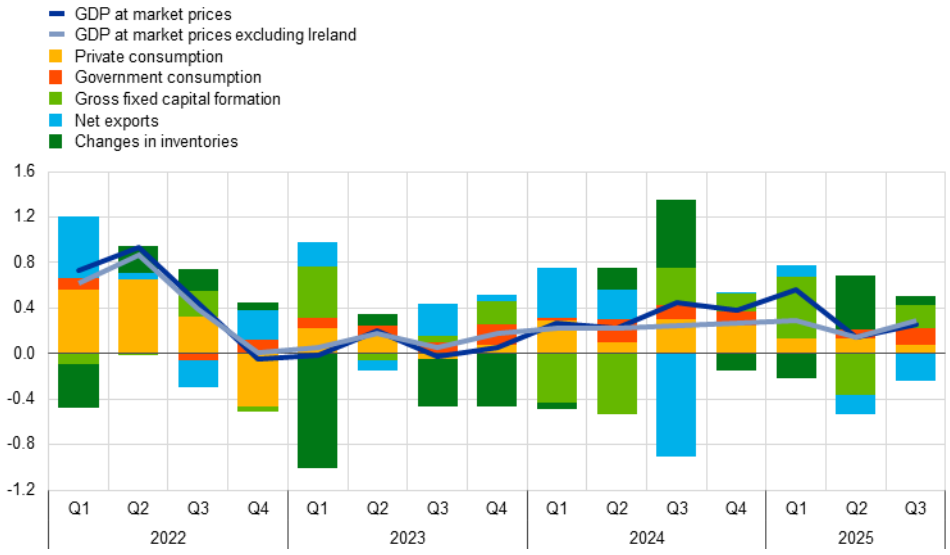
The euro area economy grew by 0.3% in the third quarter of 2025, according to the latest Eurostat estimate, after a volatile first half of the year (Chart 3). Growth in the third quarter was driven by domestic demand and inventory accumulation, while net trade contributed negatively, owing to strong import growth, particularly in Ireland. The rise in intangible investments and detailed services production data suggest that AI-related expenditure is increasing. Growth in gross value added in the third quarter was driven by market services, led by the information and communications sector, while the contributions from industry and construction were flat.

[3] See "Eurosystem staff macroeconomic projections for the euro area, December 2025", published on the ECB's website on 18 December 2025.

Chart 3

Euro area real GDP and its components

(quarter-on-quarter percentage changes; percentage point contributions)

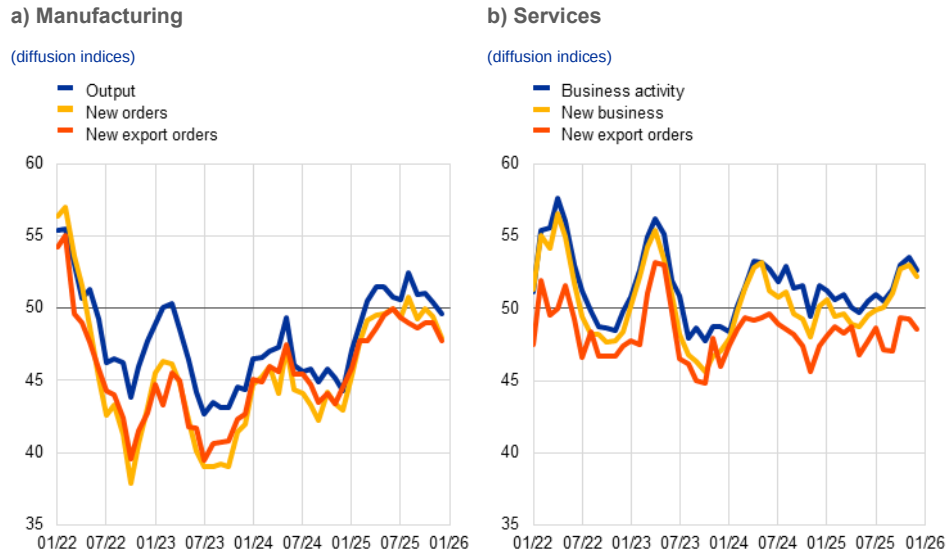


Sources: Eurostat and ECB calculations.
Note: The latest observations are for the third quarter of 2025.

Survey data indicate moderate growth momentum in the fourth quarter of 2025, driven by services activity. In the first month of the fourth quarter, industrial production excluding construction was 0.6% higher than in the third quarter, when it declined by 0.1%. As for survey data, the euro area composite output Purchasing Managers' Index (PMI) averaged 52.4 in the fourth quarter, up from 51.0 in the third quarter, while the monthly profile decreased from 52.8 in November to 51.9 in December. This decrease was driven by services business activity (which stood at 52.6) (Chart 4, panel b) and a fall in manufacturing output to below the no-growth threshold of 50, reaching 49.7 (Chart 4, panel a). Looking beyond the fourth quarter, forward-looking PMIs for new orders and business expectations continue to signal moderate services-led growth, while manufacturing performance appears to remain subdued in the near term.

Chart 4

PMI indicators across sectors of the economy



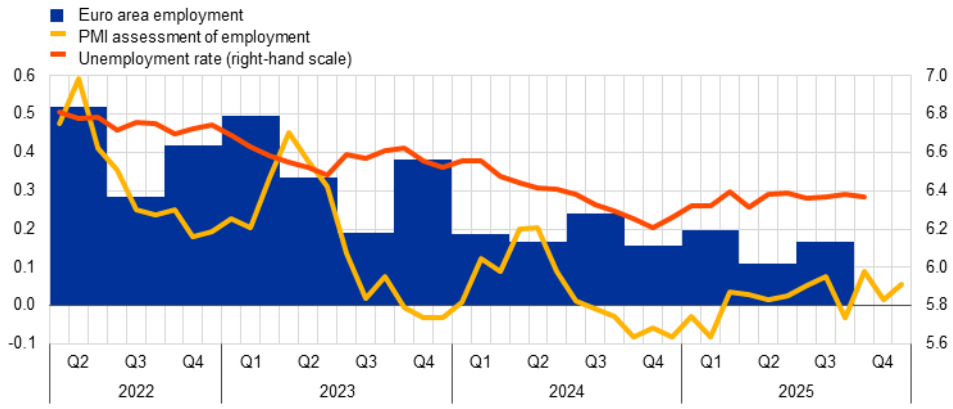
Source: S&P Global Market Intelligence.
Note: The latest observations are for December 2025.

The labour market remained resilient in the third quarter of 2025, although labour demand continued to gradually soften. Employment and total hours worked increased by 0.2% and 0.4% respectively in the third quarter of 2025 (Chart 5). The ongoing moderation in employment growth partly reflects a softening in labour demand, with the job vacancy rate declining to 2.2% in the third quarter, falling below the pre-pandemic levels observed in the fourth quarter of 2019. The labour force remained stable in the third quarter, with October numbers indicating month-on-month growth of 0.1%. At the same time, the unemployment rate stood at 6.4% in October, having stayed within a range of 6.3% to 6.4% since the beginning of the year.

Chart 5

Euro area employment, PMI assessment of employment and unemployment rate

(left-hand scale: quarter-on-quarter percentage changes, diffusion index; right-hand scale: percentages of the labour force)



Sources: Eurostat, S&P Global Market Intelligence and ECB calculations.
Notes: The two lines indicate monthly developments, while the bars show quarterly data. The PMI is expressed in terms of the deviation from 50, then divided by 10 to gauge quarter-on-quarter employment growth. The latest observations are for the third quarter of 2025 for euro area employment, December 2025 for the PMI assessment of employment and October 2025 for the unemployment rate.

Short-term labour market indicators point to slightly positive employment growth in the fourth quarter. The monthly composite PMI employment index stood at 50.6 in December, with a quarterly average of 50.5, suggesting broadly flat employment growth in the fourth quarter. PMI employment in the services sector has hovered at around 51 since the beginning of the year and stood at 51.3 in December, while the PMI employment indicator for manufacturing remained in negative territory, reaching 48.5 in the December release, with a quarterly average of 48.1.

Private consumption continued to expand in the third quarter of 2025 and is expected to maintain its momentum in the fourth quarter. Private consumption expanded by 0.2%, quarter on quarter, in the third quarter of the year, broadly in line with the dynamics observed in the second quarter (Chart 6, panel a). Spending on services continued to rise, while the consumption of goods moderated. Retail trade and services production increased modestly in the third quarter relative to the second, by 0.2 % and 0.3% respectively, quarter on quarter, while retail sales remained unchanged in October, in month-on-month terms. Survey evidence suggests robust momentum in private consumption heading into the year-end, with the European Commission's consumer confidence indicator holding steady in November. Business expectations for demand in retail trade and consumer services over the next three months improved in November, with demand for consumer services nearing pre-pandemic levels. Across contact-intensive services, the European Commission's indicators of expected demand weakened for accommodation services and, to a lesser extent, for food and beverage services, while strengthening for travel services. Along these lines, evidence from the Consumer Expectations Survey indicates that expectations for holiday-related purchases remain strong. Looking ahead, private consumption is expected to continue to expand, supported by the gains in real incomes from previous years. Although private consumption has lagged behind income growth so far, these gains

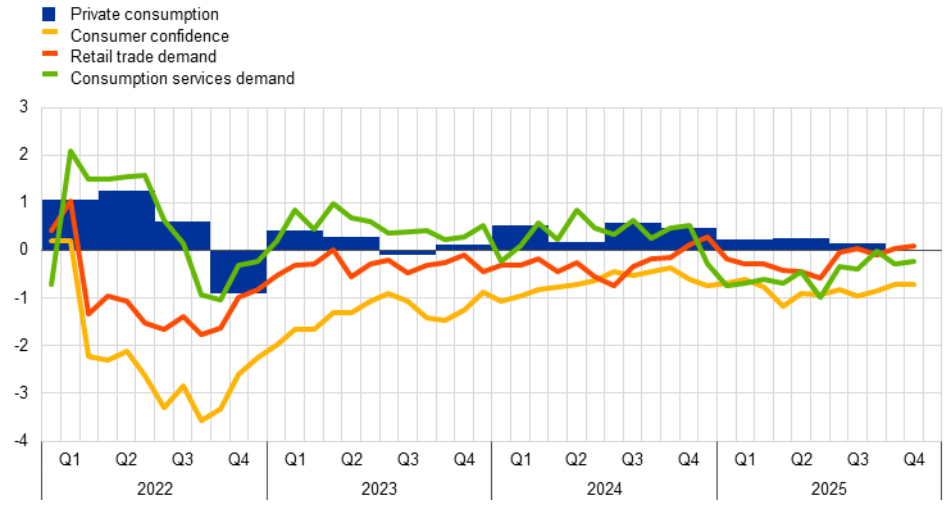
in real incomes are expected to gradually translate into stronger consumption momentum in the near term, despite the elevated saving rate (Chart 6, panel b). At the same time, according to the Consumer Expectations Survey, precautionary motives and Ricardian effects are influencing households' propensity to save (see Box 4).

Chart 6

Household consumption and confidence, business expectations; household saving rate and unemployment expectations

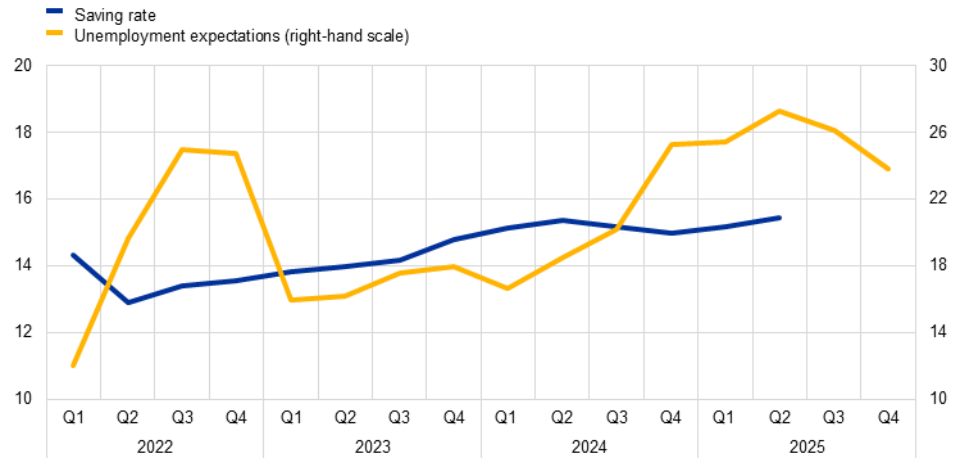
a) Consumer spending and confidence, business expectations

(quarter-on-quarter percentage changes, percentage point contributions; percentages of gross disposable income)



b) Household saving rate and unemployment expectations

(percentages of disposable income, net percentage balances)



Sources: Eurostat, European Commission and ECB calculations.
Notes: Business expectations for demand in retail trade (excluding motor vehicles) and for demand in consumption-weighted services refer to the next three months. "Consumption services demand" is based on the expected sectoral demand indicators of the European Commission's business survey of services, weighted according to the sectoral shares in domestic private consumption from the FIGARO input-output tables for 2022. The consumption services demand series is standardised for the period from 2005 to 2019, while retail trade demand and the consumer confidence series are standardised for the period from 1999 to 2019. The latest observations are for the second quarter of 2025 for the saving rate, the third quarter of 2025 for private consumption and November 2025 for all other variables.

Business investment grew robustly in the third quarter and is set to increase further. In the third quarter of 2025 business investment rose by 1.8%, quarter on

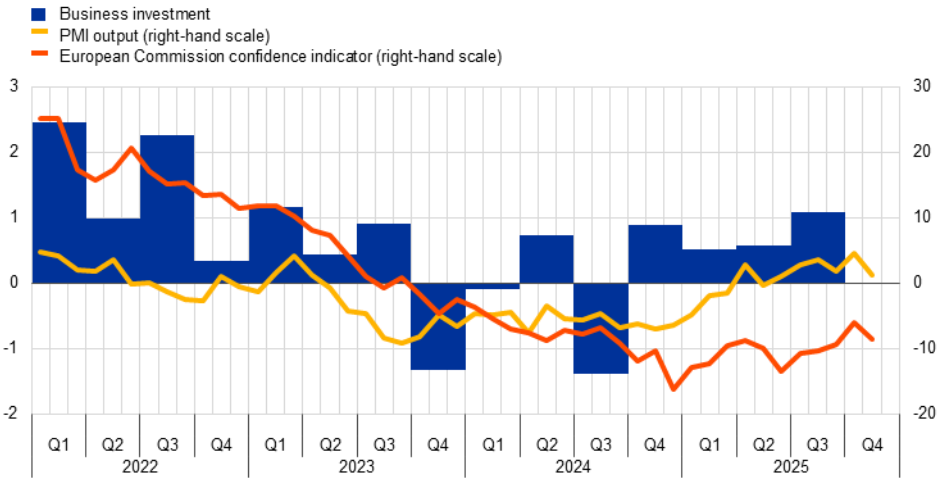
quarter, and by 1.1% when excluding volatile Irish intangibles. Excluding Irish intangibles, both tangible and intangible investment showed robust growth. Indicators for the capital goods sector in the fourth quarter, such as the PMI output indicator and the European Commission's confidence survey up to November, point to some weakness in tangible investment (Chart 7, panel a). Meanwhile, surveys on intangible services up to November, such as PMI activity and the European Commission's survey on expected demand over the next three months, indicate an ongoing rise in intangible investment. In the November Non-Financial Business Sector Dialogue (NFBD), firms reported increasing investment in e-commerce, data centres, software development and automation. Yet the NFBD revealed that high energy, labour and regulatory costs, as well as fears of overregulation of AI, remain substantial obstacles. Looking ahead, investment should be underpinned by rising overall demand, higher profits, declining uncertainty and additional defence and infrastructure initiatives, as well as the more supportive financing conditions over the past year. The simplification of EU regulations could also help accelerate investment. Nevertheless, some significant downside risks persist, as adverse effects from higher tariffs may still unfold. Firms participating in the NFBD were particularly concerned about China's rerouting of low-price high-tech exports – given its overcapacity and reduced export opportunities to the United States – which may erode margins and lead to market share losses in Europe.

Chart 7

Real investment dynamics and survey data

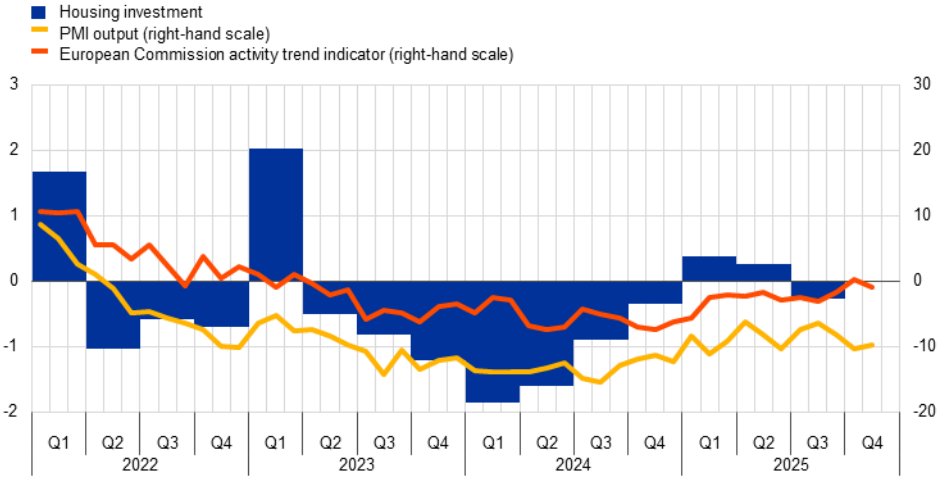
a) Business investment (excluding Irish intangibles)

(quarter-on-quarter percentage changes; percentage balances and diffusion index)



b) Housing investment

(quarter-on-quarter percentage changes; percentage balances and diffusion index)



Sources: Eurostat, European Commission, S&P Global Market Intelligence and ECB calculations.
Notes: The lines indicate monthly developments, while the bars refer to quarterly data. The PMIs are expressed in terms of the deviation from 50. In panel a), business investment is measured by non-construction investment excluding Irish intangibles. Short-term indicators refer to the capital goods sector. The European Commission's capital goods confidence indicator is normalised for the 1999-2019 average and standard deviation of the series. In panel b), the line for the European Commission's activity trend indicator refers to the weighted average of the building and specialised construction sectors' assessment of the trend in activity over the preceding three months, rescaled to have the same standard deviation as the PMI. The line for PMI output refers to housing activity. The latest observations are for the third quarter of 2025 for investment and November 2025 for PMI output and the European Commission's indicators.

Housing investment declined slightly in the third quarter of 2025 but is expected to return to moderate growth in the fourth quarter. Following two consecutive quarters of expansion earlier in the year, housing investment fell by 0.3%, quarter on quarter, in the third quarter, indicating that a sustained recovery has not yet taken hold (Chart 7, panel b). Production in building construction and specialised construction activities was, on average, 0.1% higher in the third quarter than in the preceding quarter. Forward-looking indicators present a mixed picture. The European Commission's indicator of recent trends in building and specialised

construction activity strengthened in October and November compared with the third quarter, whereas the PMI housing output index declined. Overall, however, housing investment is likely to resume a gradual recovery. This assessment is supported by a continued, albeit modest, increase in residential building permits in the third quarter, as well as by the ongoing rise in new housing loans. In addition, the Consumer Expectations Survey signals a growing attractiveness of housing as an investment, pointing to strengthening housing demand (see Box 5).

Euro area total exports picked up in the third quarter of 2025, rising by 0.7%, even though the underlying momentum remains weak. Euro area exports of goods increased markedly in the third quarter of 2025, rising by 1.5% quarter on quarter. This pick-up is partly attributable to higher pharmaceutical sales to the United States, which may have reflected a frontloading of exports by firms in anticipation of possible higher tariffs on those products. It also reflected increased exports of ingredients for weight loss drugs. Beyond pharmaceuticals, the euro area continues to suffer market share losses in many destinations and sectors amid stronger competition from China. This pattern is likely to persistently weigh on euro area exports. In the third quarter of 2025 imports of goods saw a moderate increase of 0.7%, with Chinese imports continuing to grow amid intensifying competition for euro area firms. At the same time, import prices continued to decline, falling by 2% in August in annual terms, reflecting the impact of the past appreciation of the euro and downward price pressures from China. Looking ahead, survey indicators continue to signal weakness in both manufacturing and services exports.

Compared with the September 2025 projections, real GDP growth has been revised up by 0.2 percentage points for 2025 and 2026 and by 0.1 percentage points for 2027. The upward adjustment for 2025 reflects revisions to past data, including the better than expected outturn for the third quarter of 2025. The somewhat lower trade policy uncertainty, stronger foreign demand and lower energy commodity prices have led to the upward revision to the growth outlook for 2026. Marginally stronger quarterly dynamics and a larger carry-over effect from the stronger growth momentum in 2026 together entail a small upward revision to the outlook for 2027. In terms of expenditure components, the largest upward revisions for 2025-27 relate to investment and, in particular, stronger business investment over the whole horizon and more dynamic government investment in 2027, as well as stronger government consumption in 2025-26. Net trade has also been revised up for 2025, reflecting the better than expected performance of exports in the first three quarters of the year.

3 Prices and costs

Annual euro area headline inflation, as measured by the Harmonised Index of Consumer Prices (HICP), continues to stand close to the Governing Council's 2% medium-term target. It remained at 2.1% in November 2025[4], as an increase in energy inflation was offset by a decline in food inflation. HICP excluding energy and food (HICPX) inflation was steady at 2.4%, as goods inflation and services inflation moved in opposite directions. Indicators of underlying inflation have changed little in recent months and remain consistent with the 2% target. While growth in unit profits was unchanged in the third quarter of 2025, unit labour costs grew at a slightly higher rate than in the second quarter. The year-on-year growth in compensation per employee was unchanged at 4.0% in the third quarter. Most measures of longer-term inflation expectations continue to stand at around 2%, supporting the stabilisation of inflation around the target.

The December 2025 Eurosystem staff macroeconomic projections for the euro area foresee headline inflation decreasing from 2.1% in 2025 to 1.9% in 2026 and then to 1.8% in 2027, before returning to the Governing Council's medium-term target of 2% in 2028. Compared with the September 2025 projections, headline inflation has been revised up for 2026 and revised down slightly for 2027.[5]

Euro area HICP inflation remained at 2.1% in November 2025 (Chart 8). This result follows a modest pick-up in services inflation and an increase in the energy component, which were offset by lower non-energy industrial goods (NEIG) inflation and food inflation. The annual rate of change in energy prices rose to -0.5% in November, up from -0.9% in October, driven by an increase in the transportation fuels component, which outweighed the declines in the electricity and gas components. Total food inflation edged down to 2.4% in November, from 2.5% in October. Looking at the individual food sub-components, the annual rate of change in processed food prices decreased slightly to 2.2% in November, from 2.3% in October, while that in unprocessed food prices was unchanged at 3.2%. HICPX inflation was stable for the third month in a row in November, standing at 2.4%. This reflects a modest decline in NEIG inflation to 0.5%, from 0.6% in October, which offset an equally sized increase in services inflation, up to 3.5% from 3.4% over the same period. Services inflation has been on an upward path in recent months, driven by higher annual rates of growth in the recreation sub-component – particularly for accommodation and package holidays – as well as in the transport and communication sub-components. Looking ahead, although services price pressures remain strong, the expected gradual easing of wage growth should contribute to services disinflation.

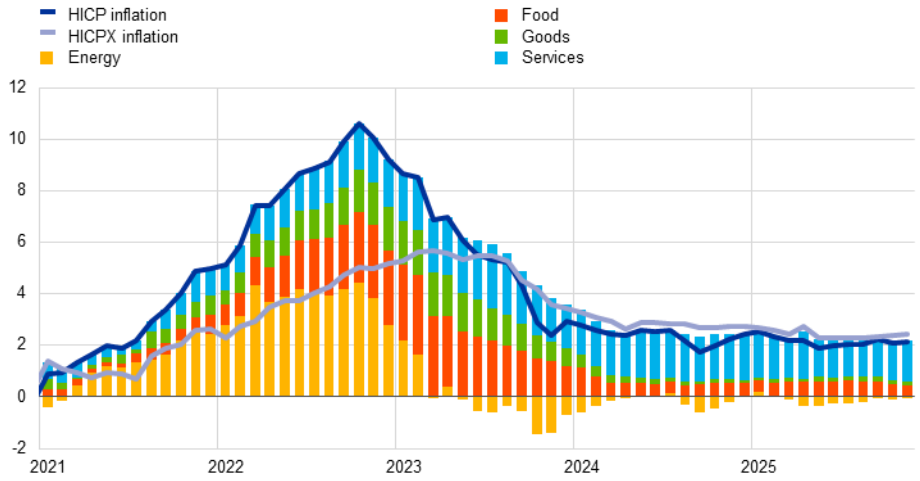
4 The cut-off date for data included in this issue of the Economic Bulletin was 17 December 2025. According to the flash estimate published by Eurostat on 7 January 2026, euro area annual inflation decreased to 2.0% in December 2025.

5 See "Eurosystem staff macroeconomic projections for the euro area, December 2025", published on the ECB's website on 18 December 2025.

Chart 8

Headline inflation and its main components

(annual percentage changes; percentage point contributions)



Sources: Eurostat and ECB calculations.
Notes: "Goods" refers to non-energy industrial goods. HICPX stands for HICP excluding energy and food. The latest observations are for November 2025.

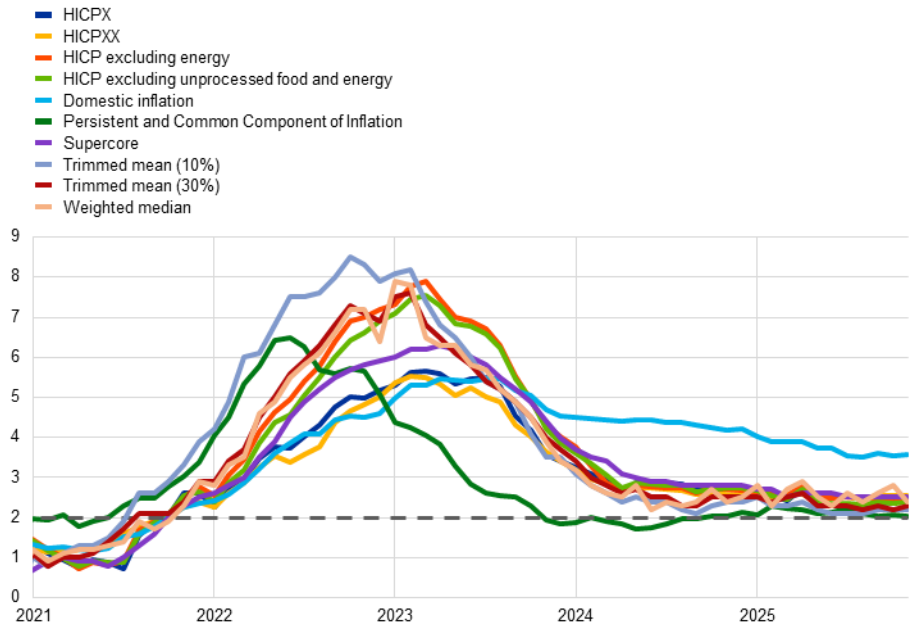
Indicators of underlying inflation have changed little over recent months and remain consistent with the ECB's 2% medium-term target (Chart 9). In November 2025, most measures of underlying inflation moved sideways and the range of indicator values was between 2.0% and 2.5%.[6] All permanent exclusion-based measures of inflation were unchanged from October, remaining between 2.4% and 2.5%. Movements in most temporary exclusion-based measures also pointed to a stabilisation of underlying inflation pressures in November. Domestic inflation, which includes mostly services items, increased slightly to 3.6% in November, from 3.5% in October. As for the model-based measures, the Persistent and Common Component of Inflation decreased to 2.0% in November, while the Supercore indicator, which comprises HICP items sensitive to the business cycle, held steady at 2.5% for the fifth consecutive month.

6 The range excludes domestic inflation.

Chart 9

Indicators of underlying inflation

(annual percentage changes)



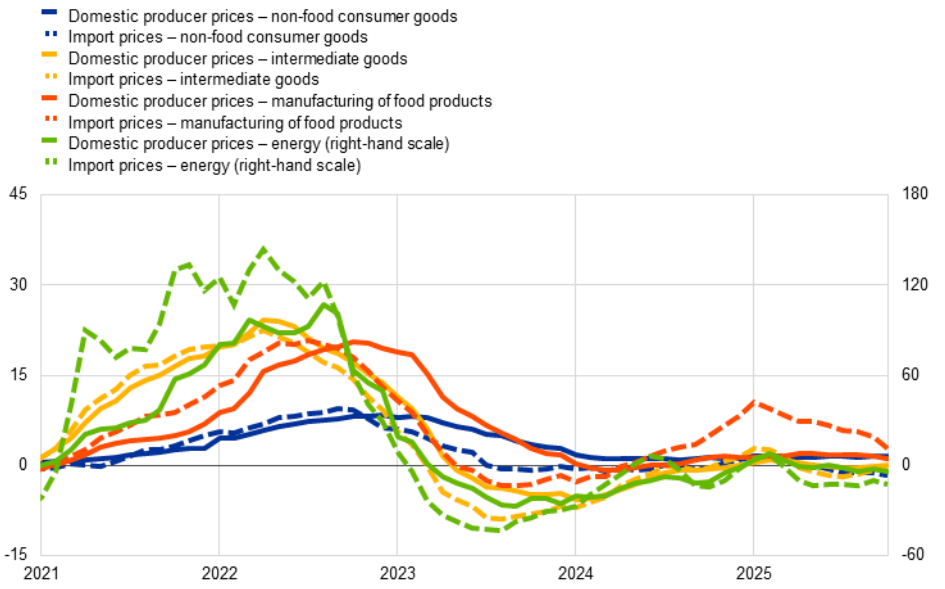
Sources: Eurostat and ECB calculations.
Notes: The grey dashed line represents the Governing Council's inflation target of 2% over the medium term. HICPX stands for HICP excluding energy and food; HICPXX stands for HICPX excluding travel-related items, clothing and footwear. The latest observations are for November 2025.

Measures of pipeline pressures indicate a gradual easing of inflation pressures (Chart 10). At the early stages of the pricing chain, producer price inflation for energy fell significantly, down to -3.9% in October 2025 from -2.4% in September, well below its peak of 7.8% in February. Over the same period, for intermediate goods, the annual growth rate of domestic producer prices increased to 0.1%, up from -0.1%, while that of import prices remained unchanged at -0.8%. At the later stages of the pricing chain, for non-food consumer goods, domestic producer price inflation remained unchanged at 1.5% in October, while import price inflation declined to -1.6% from -1.2% in September. At the same time, for manufactured food, the annual growth rate of producer prices decreased to 1.1%, down from 1.7%, while that of import prices continued to fall from its peak of 10.6% in January, dropping to 2.8% in October from 4.9% in September. Overall, the data suggest that pipeline pressures for both consumer goods and food have been easing, reflecting the appreciation of the euro and, possibly, China's increased focus on the euro area as an export market, putting downward pressure on import prices.

Chart 10

Indicators of pipeline pressures

(annual percentage changes)



Sources: Eurostat and ECB calculations.
Note: The latest observations are for October 2025.

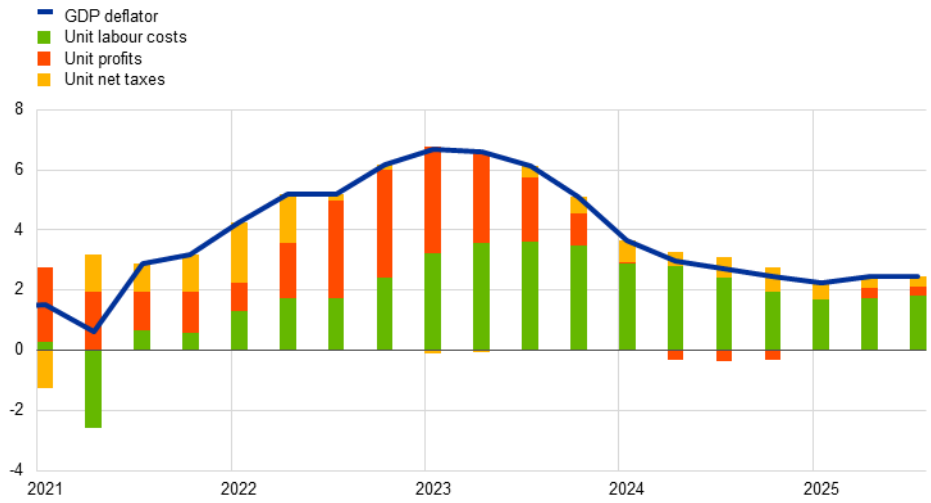
Domestic cost pressures, as measured by growth in the GDP deflator, remained broadly stable at 2.4% in the third quarter of 2025 (Chart 11). This reflected an uptick in the contribution from unit labour costs, which was offset by a stable contribution from unit profits and a decrease in that from unit net taxes. The slight increase in the yearly growth rate of unit labour costs was due to a moderate decline in the growth rate for labour productivity, down to 0.7% in the third quarter from 0.8% in the second quarter, and a stable growth rate for compensation per employee, which stood at 4.0% in the third quarter. The latter mirrored a decline in negotiated wage growth, down to 1.9% in the third quarter from 4.0% in the previous quarter, which was offset by a substantial increase in the wage drift component over the same period. The sharp drop in negotiated wage growth reflects the mechanical impact of large one-off payments made in 2024, which, at the same time, was also causing the volatility in the wage drift. Looking ahead, the ECB's wage tracker, which incorporates data on wage agreements negotiated up to the end of November 2025, continues to indicate that wage growth pressures will remain moderate in both the fourth quarter of 2025 and first half of 2026, before stabilising gradually in the second half of 2026.[7] The December 2025 Eurosystem staff macroeconomic projections for the euro area expect growth in compensation per employee to stand at 4.0%, on average, for 2025 and to moderate to 3.2% in 2026, 2.9% in 2027 and 3.0% in 2028.

[7] For further details, see "New data release: ECB wage tracker suggests lower wage growth and gradual normalisation of negotiated wage pressures in 2026", *press release*, ECB, 19 December 2025.

Chart 11

Breakdown of the GDP deflator

(annual percentage changes; percentage point contributions)



Sources: Eurostat and ECB calculations.
Notes: Compensation per employee contributes positively to changes in unit labour costs. Labour productivity contributes negatively. The latest observations are for the third quarter of 2025.

During the review period from 11 September to 17 December 2025, market-based measures of inflation compensation (Chart 12, panel a) were largely unchanged, as were longer-term inflation expectations among professional forecasters and monetary analysts. The one-year forward inflation-linked swap rate one year ahead, a market-based measure of short-term inflation compensation, remained broadly stable at around 1.8%. Inflation-linked markets appeared not to react strongly to the European Council's decision on 5 November 2025 to postpone the implementation of the EU Emissions Trading System 2 (ETS2) by one year, from 2027 to 2028. At medium and longer-term maturities, inflation compensation was similarly stable. The five-year forward inflation-linked swap rate five years ahead, adjusted for inflation risk premia, remained close to 2%. This suggests that longer-term market-based expectations remain well anchored to the Governing Council's inflation target. In both the ECB Survey of Professional Forecasters for the fourth quarter of 2025 and the ECB Survey of Monetary Analysts for December 2025, average and median longer-term inflation expectations remained at 2%.

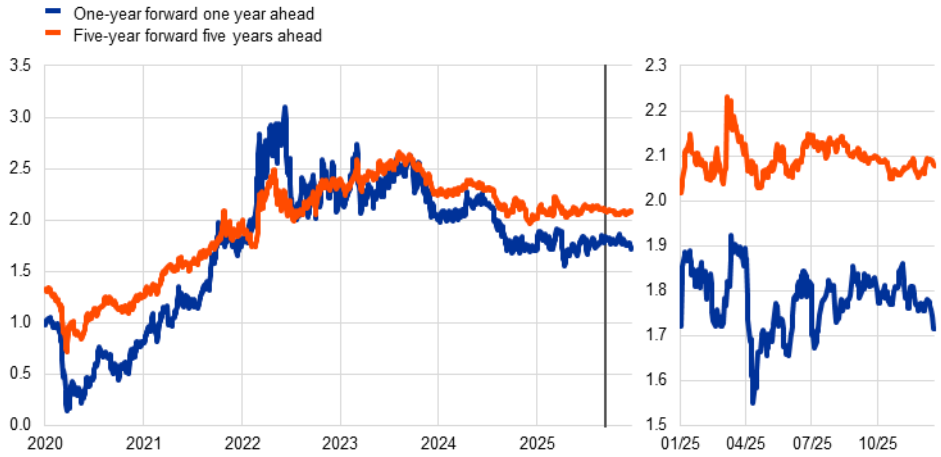
Consumer perceptions of past inflation, as well as their short and medium-term inflation expectations, remained stable in November 2025 (Chart 12, panel b). According to the ECB Consumer Expectations Survey for November 2025, the median rate of perceived inflation over the previous 12 months remained stable at 3.1%, unchanged since February 2025. Median expectations for headline inflation over the next 12 months (2.8%) and three years ahead (2.5%) have also remained unchanged since October and July respectively.

Chart 12

Market-based measures of inflation compensation and consumer inflation expectations

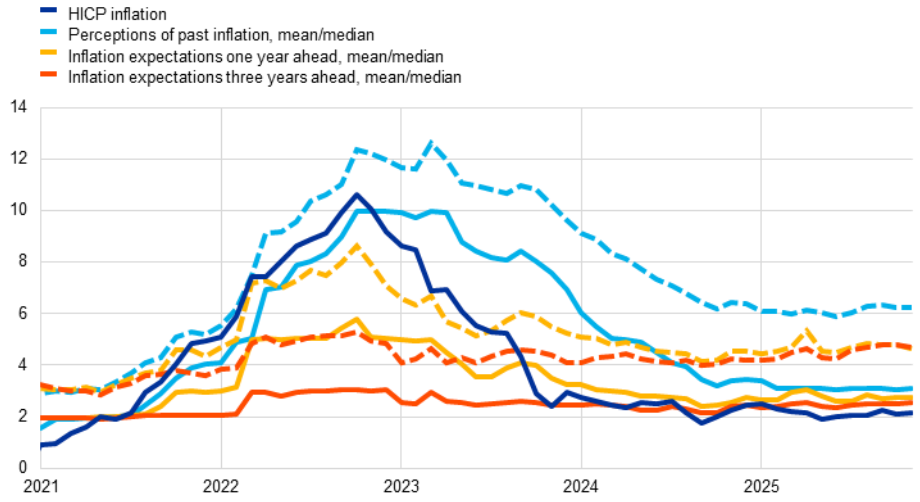
a) Market-based measures of inflation compensation

(annual percentage changes)



b) Headline HICP inflation and ECB Consumer Expectations Survey

(annual percentage changes)



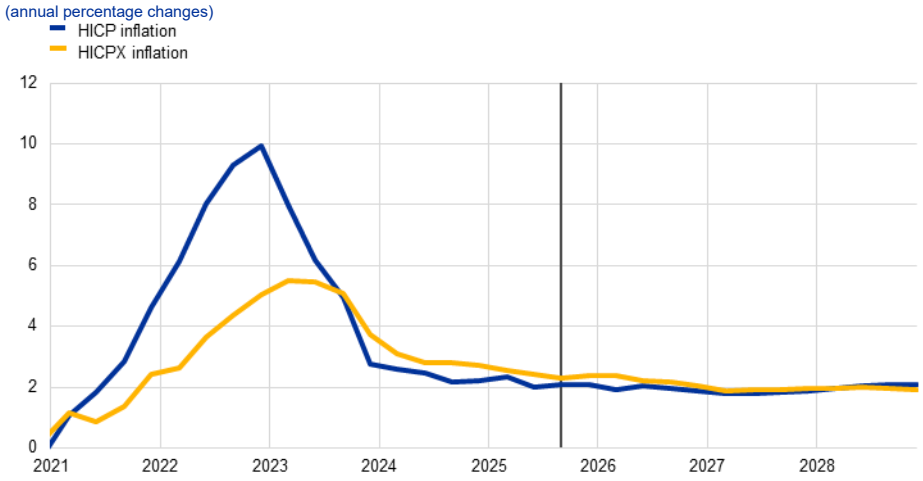
Sources: LSEG, Eurostat, ECB Consumer Expectations Survey and ECB calculations.
Notes: Panel a) shows forward inflation-linked swap rates over different time horizons for the euro area. The vertical grey line indicates the start of the review period on 11 September 2025. In panel b), the dashed lines show the mean rate and the solid lines show the median rate. The latest observations are for 17 December 2025 for panel a) and November 2025 for the measures in panel b).

The December 2025 projections expect headline inflation to average 2.1% in 2025, 1.9% in 2026 and 1.8% in 2027, before returning to the Governing Council's medium-term target of 2% in 2028 (Chart 13). Headline inflation is expected to remain at 2.1% in the last quarter of 2025, before falling somewhat below 2.0% in 2026 and remaining at those lower levels in 2027. The lower average rate projected for 2026 is related to energy base effects in the first quarter, weaker food inflation, and a decline in HICPX inflation owing to a moderation in services inflation. The further decrease in headline inflation in 2027 reflects a continued decline in HICPX inflation, which is partly offset by a reversion of energy inflation to zero rates, while food inflation should remain unchanged. Headline inflation is then

expected to rise in 2028, driven mainly by a significant increase in energy inflation owing to climate transition-related fiscal measures and, in particular, the introduction of the ETS2 scheme. Compared with the September 2025 projections, the outlook for headline inflation remains unchanged for 2025, whereas it has been revised upwards by 0.2 percentage points for 2026 and revised downwards by 0.1 percentage points for 2027. The upward revision for 2026 mainly reflects a stronger services inflation outlook, while the downward revision for 2027 is primarily due to the expected postponement of ETS2, partly offset by stronger services inflation. HICPX inflation is projected to decline from 2.4% in 2025 to 2.2% in 2026 and then to stabilise at or close to 2% towards the end of the projection horizon, driven by fading labour cost pressures on services inflation. Compared with the September 2025 projections, HICPX inflation is unchanged for 2025, while it has been revised upwards by 0.3 percentage points for 2026 and 0.1 percentage points for 2027.

Chart 13

Euro area HICP and HICPX inflation



Sources: Eurostat and Eurosystem staff macroeconomic projections for the euro area, December 2025.
Notes: The grey vertical line indicates the last quarter before the start of the projection horizon. The latest observations are for the third quarter of 2025 for the data and the fourth quarter of 2028 for the projections. The December 2025 projections were finalised on 3 December 2025 and the cut-off date for the technical assumptions was 26 November 2025. Both historical and projected data for HICP and HICPX inflation are reported at a quarterly frequency.

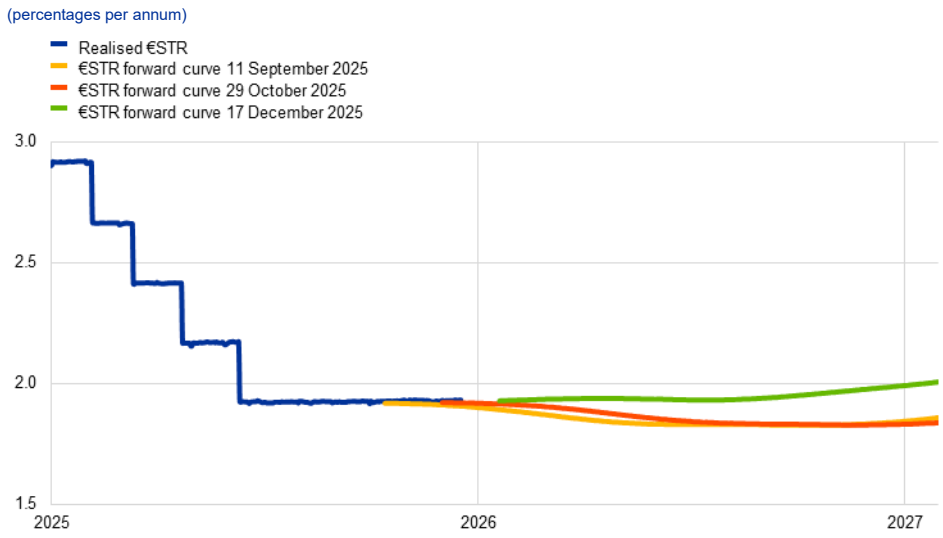
4 Financial market developments

Euro area short and long-term risk-free rates increased during the review period from 11 September to 17 December 2025, with markets effectively pricing out further interest rate cuts. Long-term sovereign bond yields ended the review period higher but spreads relative to risk-free rates narrowed. The increase in risk-free rates and sovereign yields was in line with a broader trend that saw yield curves steepen globally, largely on the back of a rise in real rates. Euro area equity markets recorded gains over the review period, notwithstanding temporary setbacks amid concerns about the valuations of artificial intelligence (AI) companies in the United States. Spreads in corporate bond markets narrowed further and currently stand at record lows, sustained by elevated risk appetite. In foreign exchange markets, the euro remained stable both against the US dollar (+0.3%) and in trade-weighted terms (+0.4%). The stability against the US dollar reflected better than expected macroeconomic developments in both the euro area and the United States, while the trade-weighted stability was due to offsetting exchange rate movements against trading partners.

Short and long-term risk-free rates in the euro area went up during the review period (Chart 14). The benchmark euro short-term rate (€STR) stood at 1.93% at the end of the review period, following the Governing Council's decisions to keep the three key ECB interest rates unchanged at its September and October meetings. Excess liquidity decreased by around €164 billion to €2,486 billion, mainly reflecting the continuing decline in the portfolios of securities held for monetary policy purposes. Very near-term forward rates rose over the review period, as markets priced out expectations of further interest rate cuts. The resurfacing of global trade uncertainty, which was mainly due to heightened tensions between the United States and China, prompted a brief decline in risk-free rates during October. This decrease was subsequently reversed amid improving trade sentiment, as the United States signed trade agreements with a number of Asian countries and geopolitical tensions in the Middle East declined. Following the Governing Council meeting on 30 October 2025, near-term policy rate expectations drifted higher as incoming data releases signalled that the euro area economy remained resilient. By the end of the review period, the €STR forward curve was pricing in cumulative interest rate hikes of 6 basis points by the end of 2026, a reversal from the cumulative interest rate cuts of 8 basis points that were priced in at the start of the review period. Looking beyond 2027, the €STR forward curve shifted upwards across all maturities, in line with a global steepening in yield curves driven mainly by higher real rates. Overall, the ten-year nominal overnight index swap (OIS) rate increased to 2.7% over the review period.

Chart 14

€STR forward rates

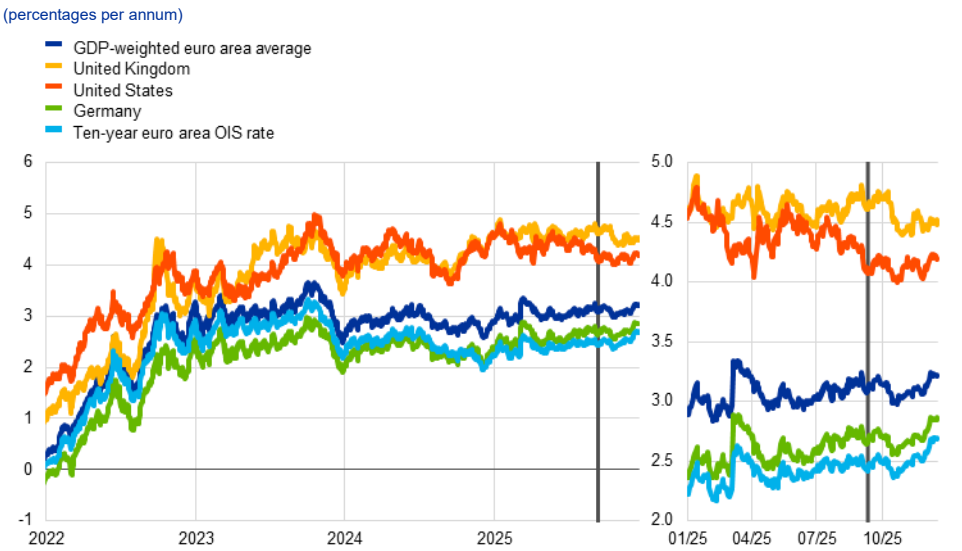


Sources: Bloomberg Finance L.P. and ECB calculations.
Note: The forward curve is estimated using spot OIS (€STR) rates.

Long-term sovereign bond yields ended the review period higher, while spreads relative to risk-free rates narrowed (Charts 15 and 16). The ten-year GDP-weighted euro area sovereign bond yield rose by 14 basis points over the review period, to stand at around 3.2%. Sovereign spreads relative to risk-free OIS rates narrowed, reflecting strong risk appetite across asset classes and a favourable market reassessment of the fiscal outlook for some countries, such as Spain and Italy. French sovereign yields performed similarly to those of other euro area countries, as political uncertainty in France waned. Meanwhile, a downgrade in France's sovereign credit rating prompted only a short-lived reaction in financial markets. Cross-country dispersion in sovereign spreads over risk-free rates declined throughout the review period, reaching historically low levels.

Chart 15

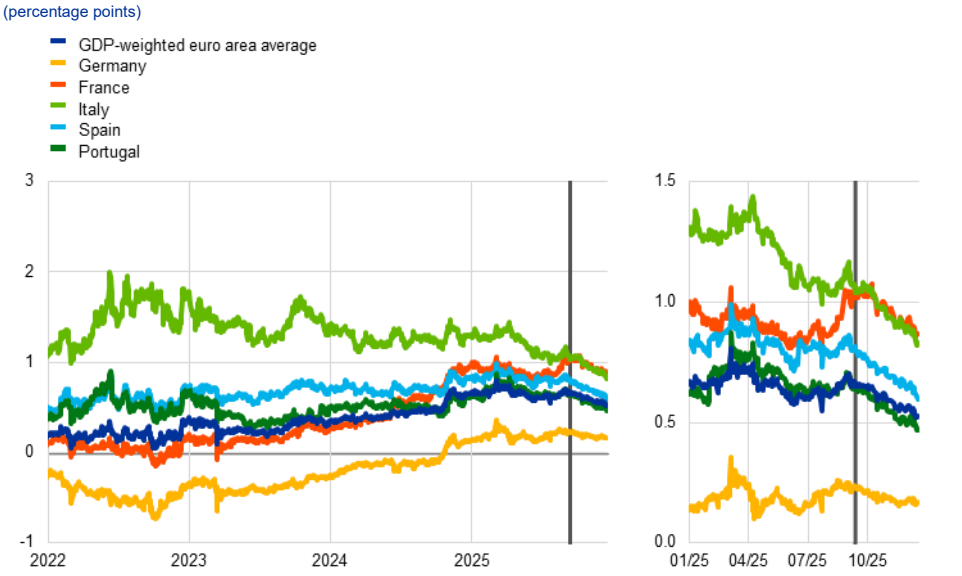
Ten-year sovereign bond yields and the ten-year OIS rate based on the €STR



Sources: LSEG and ECB calculations.
Notes: The vertical grey line denotes the start of the review period on 11 September 2025. The latest observations are for 17 December 2025.

Chart 16

Ten-year euro area sovereign bond spreads vis-à-vis the ten-year OIS rate based on the €STR



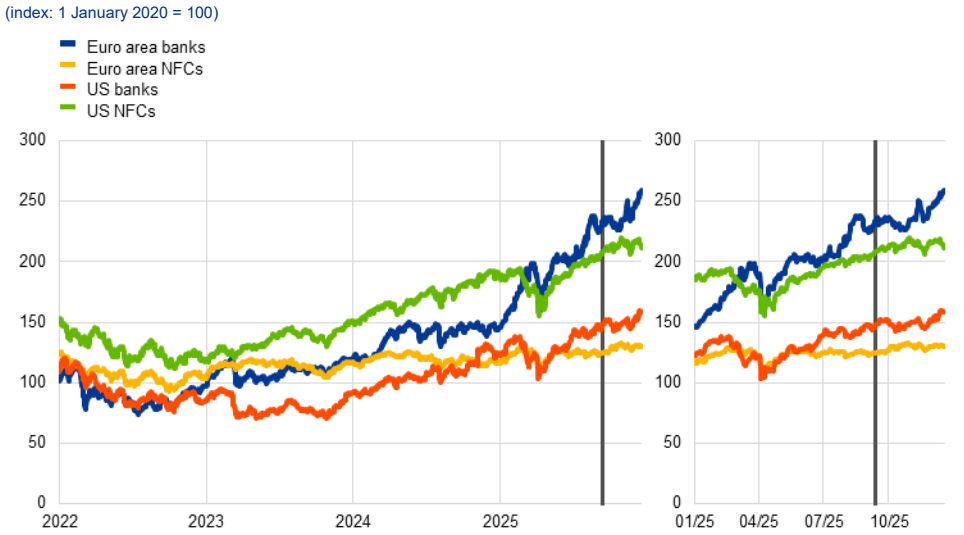
Sources: LSEG and ECB calculations.
Notes: The vertical grey line denotes the start of the review period on 11 September 2025. The latest observations are for 17 December 2025.

Euro area equity market indices moved higher over the review period, in spite of temporary setbacks reflecting concerns about AI-related valuations (Chart 17). Euro area stock market indices gained 4.9% over the review period, with the sub-index for non-financial corporations (NFCs) rising by 4% and bank stock prices increasing by 10.6%. Euro area financial equities gained on account of a sustained

increase in equity market valuations, underpinned by robust balance sheets and elevated profitability. US stock market indices strengthened by around 1.3%, with increases of 1.5% for NFCs and 6.8% for banks. The broader index for US financial firms went up by 1.1%. Despite the overall gains in both the euro area and the United States, investor unease about the valuations of US AI equities triggered a period of sell-off in November. However, subsequent strong earnings reports from some of the major AI-related firms helped to alleviate these concerns. Overall, euro area equities outperformed their US peers, owing partly to market reservations about stretched valuations, declining cash levels and growing financial interdependencies between AI companies in the United States.

Chart 17

Euro area and US equity price indices



Sources: LSEG and ECB calculations.
Notes: The vertical grey line denotes the start of the review period on 11 September 2025. The latest observations are for 17 December 2025.

In corporate bond markets, spreads on investment-grade and high-yield bonds narrowed further and are currently at record lows. Risk appetite remained high over the review period and supported favourable financing conditions in corporate bond markets, with spreads in the investment-grade and high-yield segments tightening by approximately 2 and 15 basis points respectively. Investment-grade spreads narrowed by 4 basis points for NFCs and remained broadly unchanged for financial firms. In the high-yield segment, spreads tightened by 19 basis points for NFCs and widened by around 35 basis points for financial corporations.

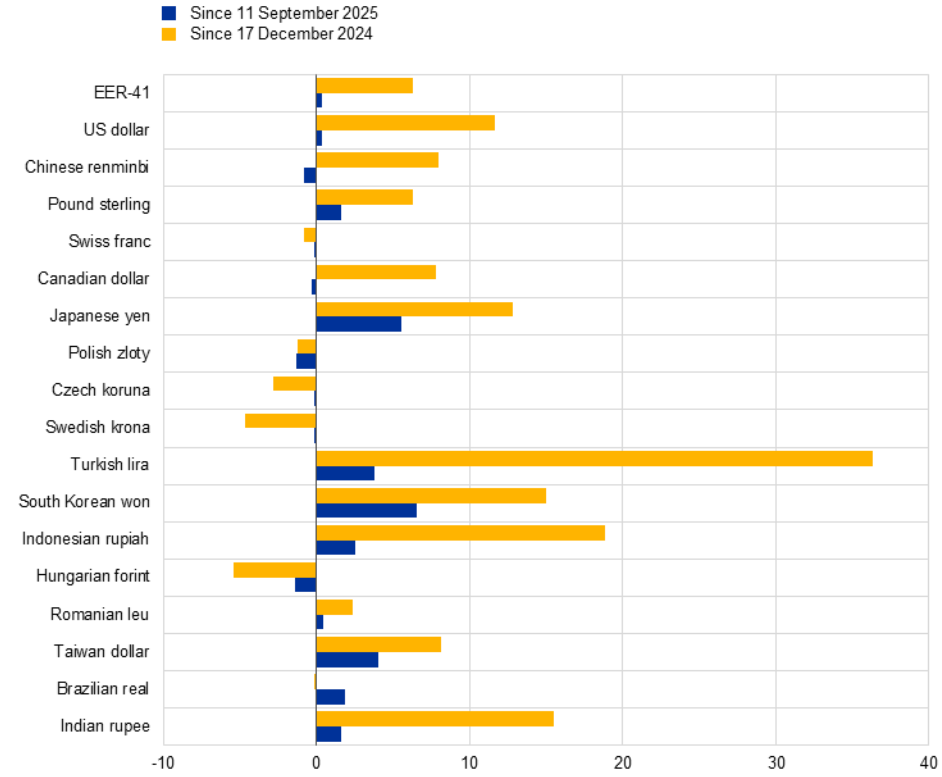
In foreign exchange markets, the euro was stable both against the US dollar and in trade-weighted terms (Chart 18). During the review period, the nominal effective exchange rate of the euro – as measured against the currencies of 41 of the euro area's most important trading partners – was stable (+0.4%). This stability reflected offsetting changes against different trading partners. Notably, the euro appreciated against the Japanese yen (+5.5%) and pound sterling (+1.6%), which reflected uncertainties surrounding the fiscal and monetary policy outlook in Japan and the United Kingdom. The upward pressure on the euro was compensated by a

depreciation against the Chinese renminbi (-0.8%) and Polish zloty (-1.3%). The euro remained stable against the US dollar (+0.3%) and hovered near its historical average of 1.18 during the review period, as the significant strengthening seen earlier this year levelled off. This stability reflected better than anticipated macroeconomic developments in both the euro area and United States, along with broadly unchanged relative monetary policy expectations.

Chart 18

Changes in the exchange rate of the euro vis-à-vis selected currencies

(percentage changes)



Source: ECB calculations.
Notes: EER-41 is the nominal effective exchange rate of the euro against the currencies of 41 of the euro area's most important trading partners. A positive (negative) change corresponds to an appreciation (depreciation) of the euro. All changes have been calculated using the foreign exchange rates prevailing on 17 December 2025.

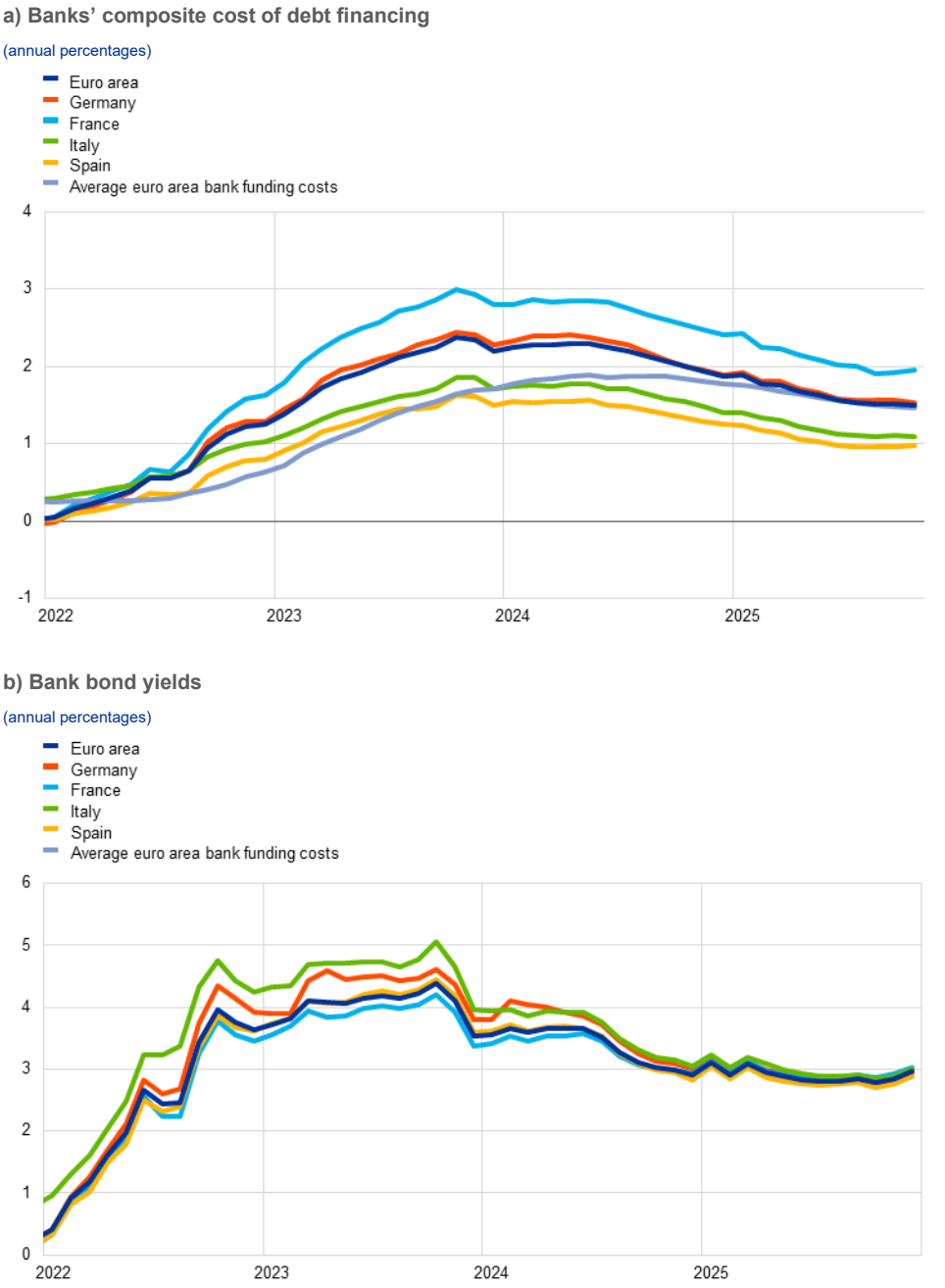
5 Financing conditions and credit developments

Bank lending rates for firms have been broadly stable since the summer, after falling in response to the ECB's past interest rate cuts. In October average interest rates on new loans to firms and on new mortgages remained at 3.5% and 3.3% respectively. Growth in loans to firms and households increased further but stayed moderate overall. Over the review period from 11 September to 17 December 2025, the cost of both market-based debt and equity financing rose, driven by higher risk-free rates. The annual growth rate of broad money (M3) was unchanged at 2.8% in October.

Bank funding costs were broadly stable in October 2025. The composite cost of debt financing for euro area banks stood at 1.5% in October (Chart 19, panel a). Bank bond yields stayed close to 3%, as indicated by data available in mid-December (Chart 19, panel b). Interest rates on overnight deposits and deposits redeemable at notice as well as interbank rates saw little change in October, while those on time deposits for households increased slightly. The gap between interest rates on time deposits and overnight deposits for both firms and households was broadly unchanged in October. The composite deposit rate remained stable at 0.9% in October, around 60 basis points below its May 2024 peak.

Chart 19

Composite bank funding costs in selected euro area countries



Sources: ECB, S&P Dow Jones Indices LLC and/or its affiliates, and ECB calculations.
Notes: Composite bank funding costs are an average of new business costs for overnight deposits, deposits redeemable at notice, time deposits, bonds and interbank borrowing, weighted by their respective outstanding amounts. Average bank funding costs use the same weightings but are based on rates for outstanding deposits and interbank funding, and on yield to maturity at issuance for bonds. Bank bond yields are monthly averages for senior tranche bonds. The latest observations are for October 2025 for the composite cost of debt financing for banks (panel a) and 17 December 2025 for bank bond yields (panel b).

Bank lending rates for firms and households have stabilised since September, against the backdrop of unchanged policy rates and limited moves in longer-term rates. The cost of bank borrowing for non-financial corporations (NFCs) remained unchanged at 3.5% in October 2025, around 1.8 percentage points down from its October 2023 peak, with minor variations across the larger euro area

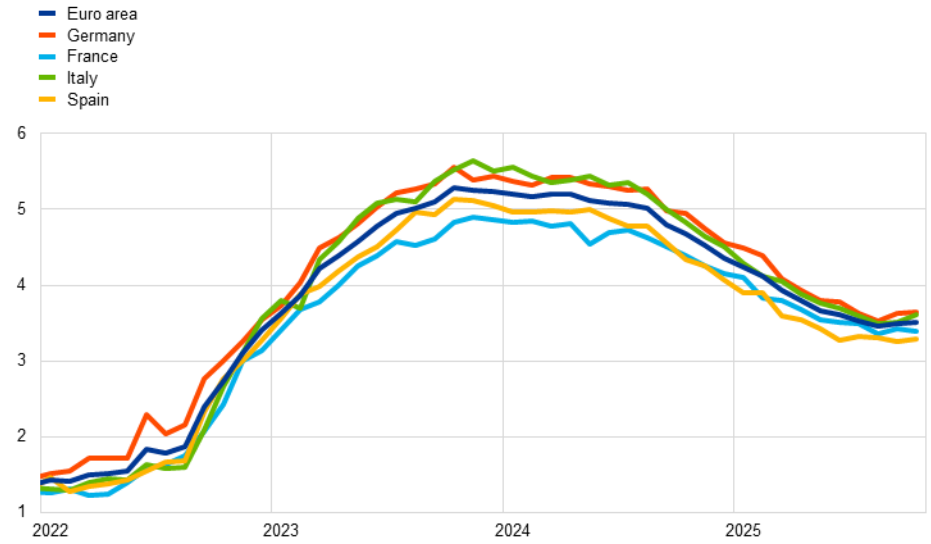
countries (Chart 20, panel a). The spread between interest rates on small and large loans to firms remained broadly stable in October, with uneven developments across the largest euro area economies. The cost of borrowing for households for house purchase was unchanged at 3.3% in October, around 70 basis points below its November 2023 peak, with some variation across the larger euro area countries (Chart 20, panel b). The gap between lending rates for households and those for firms, which had peaked at 140 basis points in March 2024, was stable at 20 basis points. The size of this gap mainly reflects the fact that loans to households typically have longer rate fixation periods in many euro area countries, making them less sensitive to fluctuations in short-term market rates.

Chart 20

Composite bank lending rates for firms and households in selected euro area countries

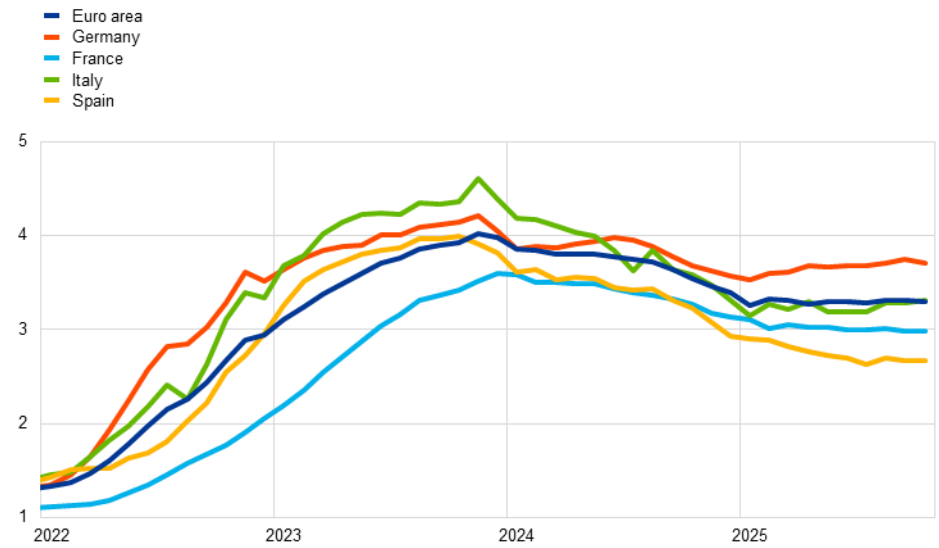
a) Rates on loans to NFCs

(annual percentages)



b) Rates on loans to households for house purchase

(annual percentages)



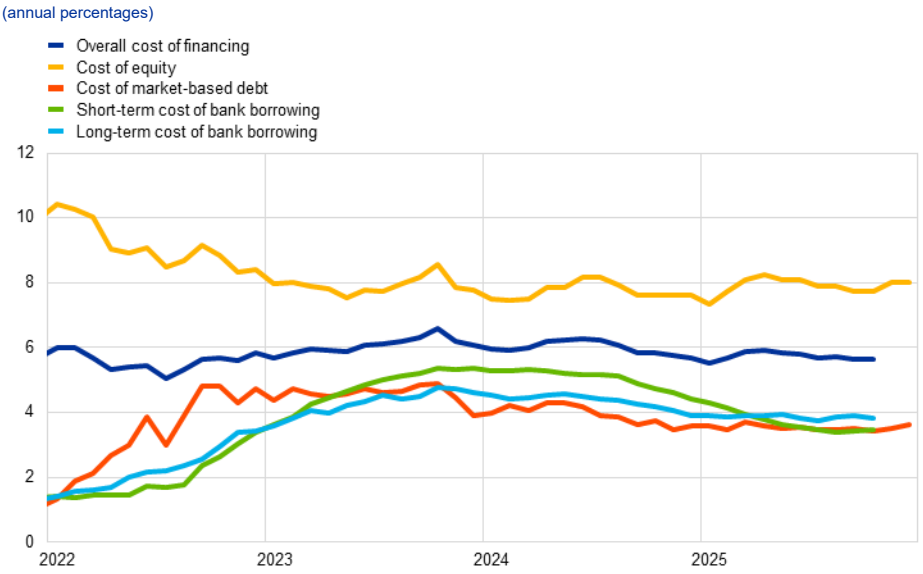
Sources: ECB and ECB calculations.
Notes: Composite bank lending rates are calculated by aggregating short and long-term rates using a 24-month moving average of new business volumes. The latest observations are for October 2025. In panel a), NFCs stands for non-financial corporations.

Over the review period from 11 September to 17 December 2025 the cost of both market-based debt and equity financing increased. The overall cost of financing for NFCs – the composite cost of bank borrowing, market-based debt and equity – was stable in October at 5.7%, unchanged from the previous month (Chart

21).[8] This stability reflected a higher cost of equity financing that was broadly offset by a decline in the cost of market-based debt observed in October relative to the previous month. Meanwhile, the cost of bank borrowing remained almost unchanged. Daily data for the entire review period from 11 September to 17 December 2025 show upward movements in both the cost of market-based debt and, to a lesser extent, the cost of equity financing. The increase in the cost of market-based debt was driven by the upward shift in risk-free rates while corporate bond spreads declined marginally. Similarly, the rise in the risk-free rate, as approximated by the ten-year overnight index swap rate, led to the increase in the cost of equity, despite a slight decline in the equity risk premium.

Chart 21

Nominal cost of external financing for euro area firms, broken down by component



Sources: ECB, Eurostat, Dealogic, Merrill Lynch, Bloomberg Finance L.P., LSEG and ECB calculations.
Notes: The overall cost of financing for non-financial corporations is based on monthly data and is calculated as a weighted average of the long and short-term costs of bank borrowing (monthly average data), market-based debt and equity (end-of-month data), based on their respective outstanding amounts. The latest observations are for 17 December 2025 for the cost of market-based debt and the cost of equity (daily data) and October 2025 for the overall cost of financing and the cost of borrowing from banks (monthly data).

Growth in loans to firms and households remained moderate and below historical averages. The annual growth rate of bank lending to firms was 2.9% in October 2025, unchanged from September. This rate had been gradually increasing since the beginning of 2025 but is still below its historical average of 4.3% (Chart 22, panel a). The annual growth in corporate debt financing rose slightly to 3.2% in October but remains well below its historical average of 4.8%. The ECB's October 2025 euro area bank lending survey revealed increased risk aversion among banks. It indicated a small, unexpected net tightening of credit standards for loans to firms and a slight net increase in demand for new loans which, however, remained weak overall. Loans to households continued to gradually recover, with the annual growth rate rising to 2.8% in October from 2.6% in September, still significantly below the historical average of 4.1% (Chart 22, panel b). Loans to households for house

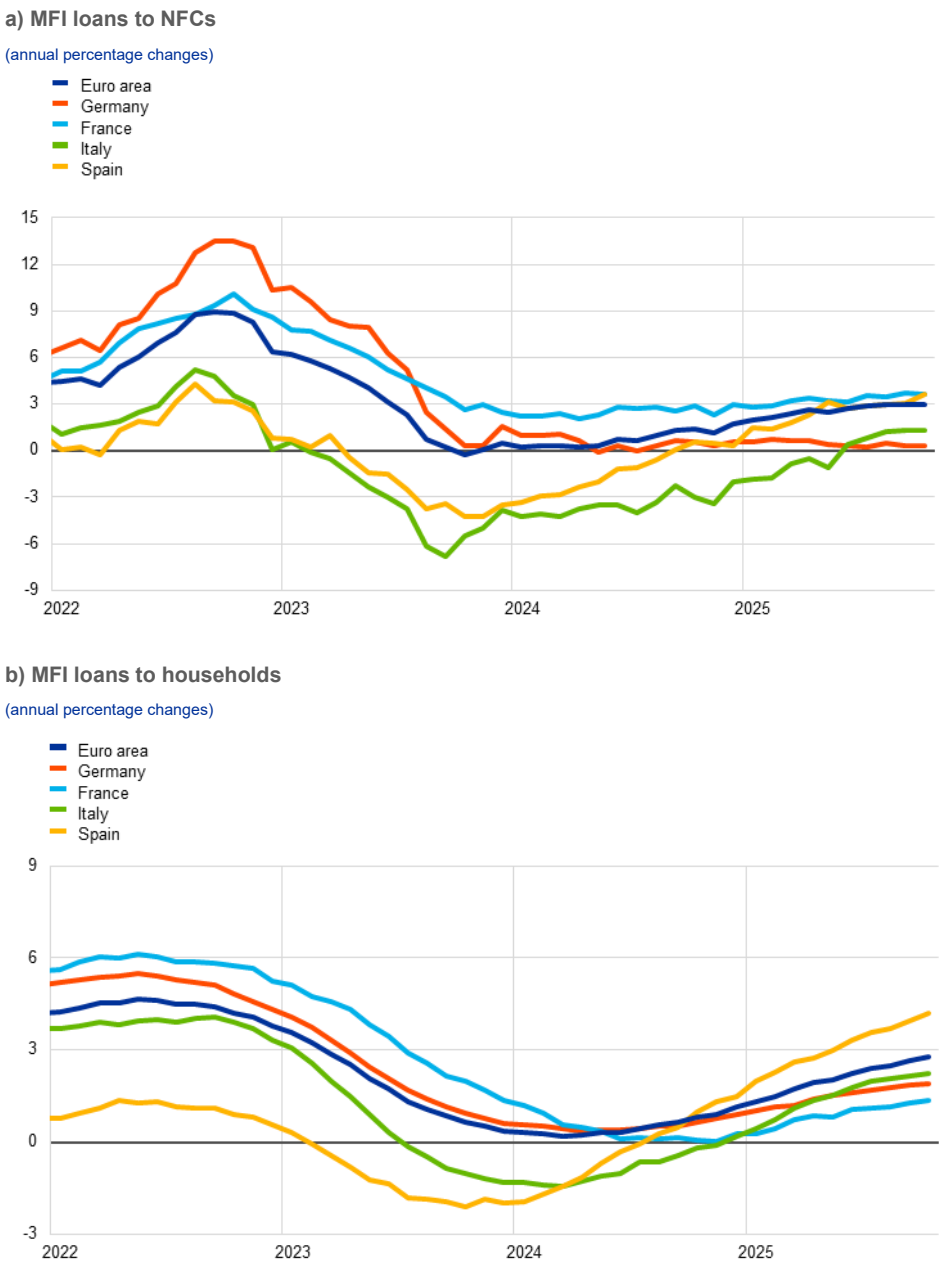
[8] Owing to lags in the availability of data for the cost of borrowing from banks, data on the overall cost of financing for NFCs are only available up to October 2025.

purchase and consumer credit growth both supported this upward trend. Other forms of lending to households, including loans to sole proprietors, remained weak. According to the ECB's most recent Consumer Expectations Survey, households perceived credit access to be slightly harder in October, although they expected it to remain stable over the next 12 months. The still relatively slow pace of growth in loans partly reflects higher levels of uncertainty about global economic policies. This factor was particularly prevalent in the first half of 2025, stemming, among other things, from trade policy developments in the United States.[9]

[9] See "More uncertainty, less lending: how US policy affects firm financing in Europe", *The ECB Blog*, 2 October 2025.

Chart 22

MFI loans in selected euro area countries



Sources: ECB and ECB calculations.
Notes: Loans from monetary financial institutions (MFIs) are adjusted for loan sales and securitisation; in the case of non-financial corporations (NFCs), loans are also adjusted for notional cash pooling. The latest observations are for October 2025.

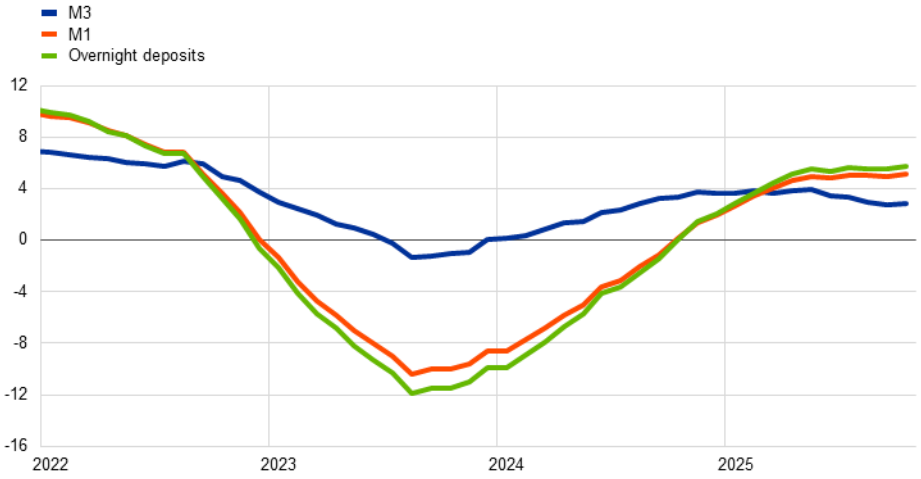
Annual growth in broad money (M3) stabilised in October, supported by stable dynamics in household and firm loans and deposits (Chart 23). The progressive decline in M3 growth seen since February 2025 halted in October as annual M3 growth was unchanged at 2.8%. This is well below the 4% rate reached in the first part of 2025 and its long-term average of 6.1%. Annual growth in narrow money (M1), which comprises the most liquid components of M3, increased at a relatively stable rate, to 5.2% in October from 5.0% in September. M1 growth continued to be driven by overnight deposits, reflecting a strong preference for liquid assets among

firms and households. From a counterpart perspective, loans to households and firms continued to make a moderate contribution to money creation. Net foreign monetary inflows appear to have lost strength and have become more volatile compared with 2024. Banks' purchases of government bonds were sustaining money growth in an environment of robust bond supply. This was amid the ongoing contraction of the Eurosystem balance sheet with a passive runoff of the asset purchase programme and pandemic emergency purchase programme portfolio which continued to weigh on M3 growth.

Chart 23

M3, M1 and overnight deposits

(annual percentage changes, adjusted for seasonal and calendar effects)



Source: ECB.
Note: The latest observations are for October 2025.

6 Fiscal developments

According to the December 2025 Eurosystem staff macroeconomic projections, the euro area general government budget deficit is expected to decline from 3.1% of GDP in 2024 to 3.0% of GDP in 2025 and then increase to 3.5% of GDP in 2027 before moderating to 3.4% of GDP in 2028. Broadly reflecting this path, the euro area fiscal stance is projected to tighten slightly in 2025, loosen in 2026 and then tighten again in 2027 and 2028. However, the fiscal policy assumptions and projections continue to be surrounded by a high degree of uncertainty.[10] *The European Commission has adopted the 2026 Autumn Package and expects the majority of Member States to be compliant with their commitments or to be at limited risk of being non-compliant, taking into account the activation of the national escape clause. At the same time, it is welcome that nationally financed investments are expanding in the euro area as a whole. Governments should prioritise sustainable public finances, strategic investment and growth-enhancing structural reforms.*

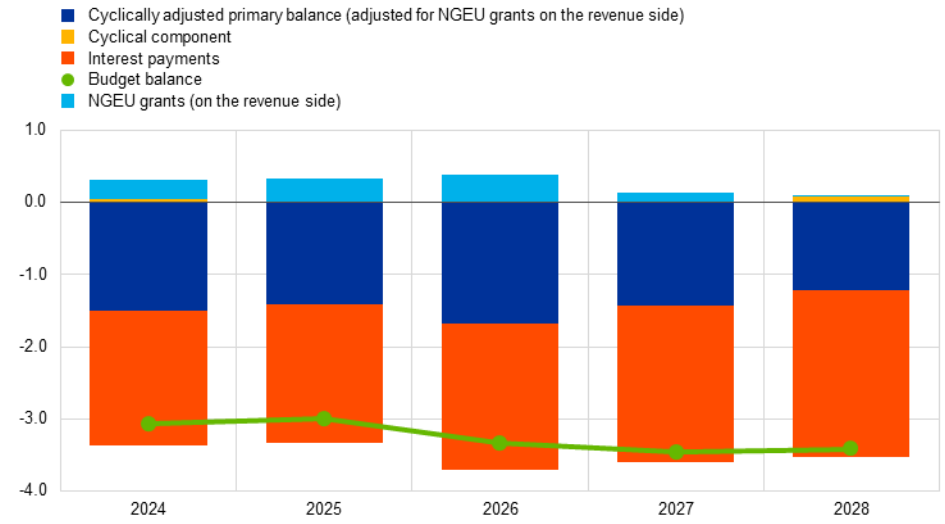
According to the December 2025 Eurosystem staff macroeconomic projections, the euro area general government budget balance is set to improve gradually over the projection horizon (Chart 24).[11] After a slight decline expected in 2025, the euro area budget deficit is projected to increase rather strongly to 3.5% of GDP in 2027 and to moderate only slightly to 3.4% of GDP in 2028. This increase reflects rising interest payments (from 1.9% of GDP in 2024 to 2.3% in 2028), which are only marginally offset by the impact of the economic cycle. Hence, the cyclical component remains broadly neutral over the projection horizon, turning slightly positive in 2028, and the cyclically adjusted primary balance remains broadly unchanged (when accounting for Next Generation EU (NGEU) grants). Compared with the September 2025 ECB staff projections, the projected budget balance path has been revised down slightly over 2025-27, mainly on account of the cyclically adjusted primary balance, which more than offsets the slight improvement in the cyclical component.

10 The fiscal plans of some large euro area countries are either not yet finalised or already outdated given the prevailing political situation.

11 For further details, see "Eurosystem staff macroeconomic projections for the euro area, December 2025", published on the ECB's website on 18 December 2025.

Chart 24

Budget balance and its components



Sources: ECB calculations and Eurosystem staff macroeconomic projections for the euro area, December 2025.
Note: The data refer to the aggregate general government sector of all 21 euro area countries.

After a slight tightening in 2025, the euro area fiscal stance is projected to loosen in 2026 and tighten again in 2027 and 2028.[12] The annual change in the cyclically adjusted primary balance, adjusted for grants extended to countries under the NGEU programme, points to a modest tightening over the coming years, except in 2026. The tightening in 2025 is mostly due to discretionary revenue measures, including increases in social security contributions and, to a lesser extent, increases in direct and indirect taxes. These increases were partly offset by continued growth in public spending. In 2026 the fiscal stance is projected to loosen, mainly on account of higher public investment. In 2027 consolidation in many countries (following, among other factors, the expiry of NGEU financing) is offset by stimulus, particularly in Germany. In addition, deferred NGEU-funded spending, mainly in Spain and Italy, mitigates the fiscal stance tightening in 2027. In 2028 the euro area fiscal stance is expected to continue tightening, albeit at a somewhat slower pace than in 2027. However, the modest tightening masks country heterogeneity, as a strongly loosening fiscal stance in Germany compensates for significant tightening in France, Spain and Italy. The tightening in Spain and Italy largely stems from a lower level of spending, mainly on capital transfers and investment previously financed from NGEU funding.

The euro area debt-to-GDP ratio is set on a rising path (Chart 25). The euro area debt-to-GDP ratio is projected to increase from 86.6% in 2024 to 89.2% in 2028 as primary deficits and positive deficit-debt adjustments outweigh the favourable,

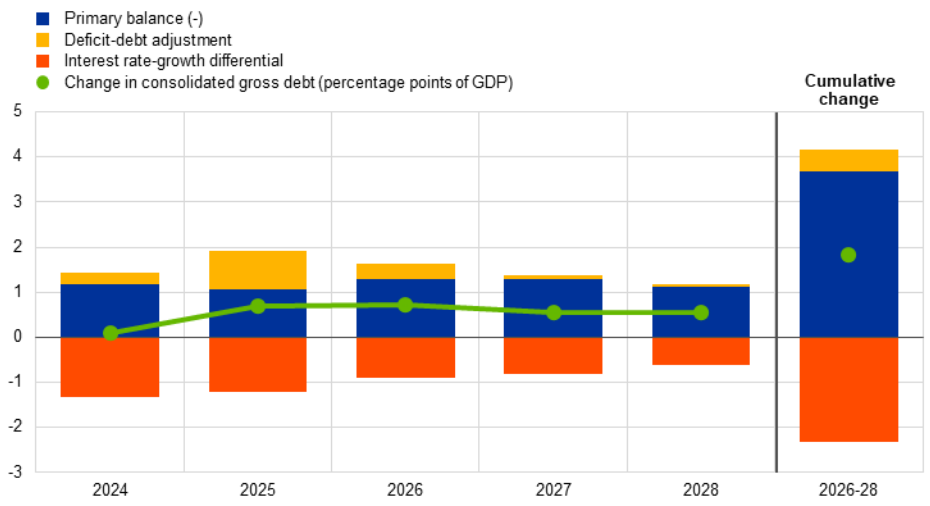
[12] The fiscal stance reflects the direction and size of the stimulus from fiscal policies to the economy beyond the automatic reaction of public finances to the business cycle. It is measured here as the change in the cyclically adjusted primary balance ratio net of government support to the financial sector. Given that the higher budget revenues related to NGEU grants from the EU budget do not have a contractionary impact on demand, the cyclically adjusted primary balance is adjusted to exclude those revenues. For more details on the euro area fiscal stance, see the article entitled "The euro area fiscal stance", *Economic Bulletin*, Issue 4, ECB, 2016.

though diminishing, effects of interest rate-growth differentials. Compared with the September 2025 projections, the government debt path has been revised down. The downward revision reflects base effects from statistical revisions in 2024 and more favourable interest rate-growth differentials.

Chart 25

Drivers of change in euro area government debt

(percentages of GDP, unless otherwise indicated)



Sources: ECB calculations and Eurosystem staff macroeconomic projections for the euro area, December 2025.
Note: The data refer to the aggregate general government sector of all 21 euro area countries.

On 25 November the European Commission adopted its 2026 Autumn Package, setting out economic and employment policy priorities. This package contains the Commission's assessment of EU Member States' compliance with the EU fiscal framework and provides guidance for their fiscal policies in 2026. It also includes the Commission's assessment of euro area countries' draft budgetary plans (DBPs) for 2026. However, not all euro area countries had submitted their budgetary plans to the Commission, mainly owing to their electoral cycles.[13] It is encouraging that, based on the Commission analysis, a majority of Member States are expected to be compliant with their commitments or at limited risk of being non-compliant, taking into account the activation of the national escape clause. It is also welcome that nationally financed investments are expanding in the euro area as a whole. Governments should prioritise sustainable public finances, strategic investment and growth-enhancing structural reforms.

[13] Belgium and Spain have yet to submit DBPs. Austria submitted a DBP covering 2025 and 2026 in May, and the Commission assessed it as being in line with the provisions of the Stability and Growth Pact.

Boxes

1 Bulgaria adopts the euro

Prepared by Matteo Falagiarda, Christine Gartner and Steffen Osterloh

On 1 January 2026 Bulgaria adopted the euro and became the 21st member of the euro area. The assessments set out in the latest convergence reports of the European Commission (2025) and the European Central Bank (ECB, 2025) paved the way for Bulgaria to adopt the euro and thereby further enlargement of the euro area following Croatia joining in 2023.[1] On 8 July 2025 the Council of the European Union formally approved the accession of Bulgaria to the euro area and determined a Bulgarian lev conversion rate of 1.95583 levs per euro. This rate had been the central rate of the lev during the country's participation in the exchange rate mechanism (ERM II).[2] Bulgaria's adoption of the euro demonstrates that euro area membership remains an attractive prospect in times of high uncertainty and geopolitical tensions.

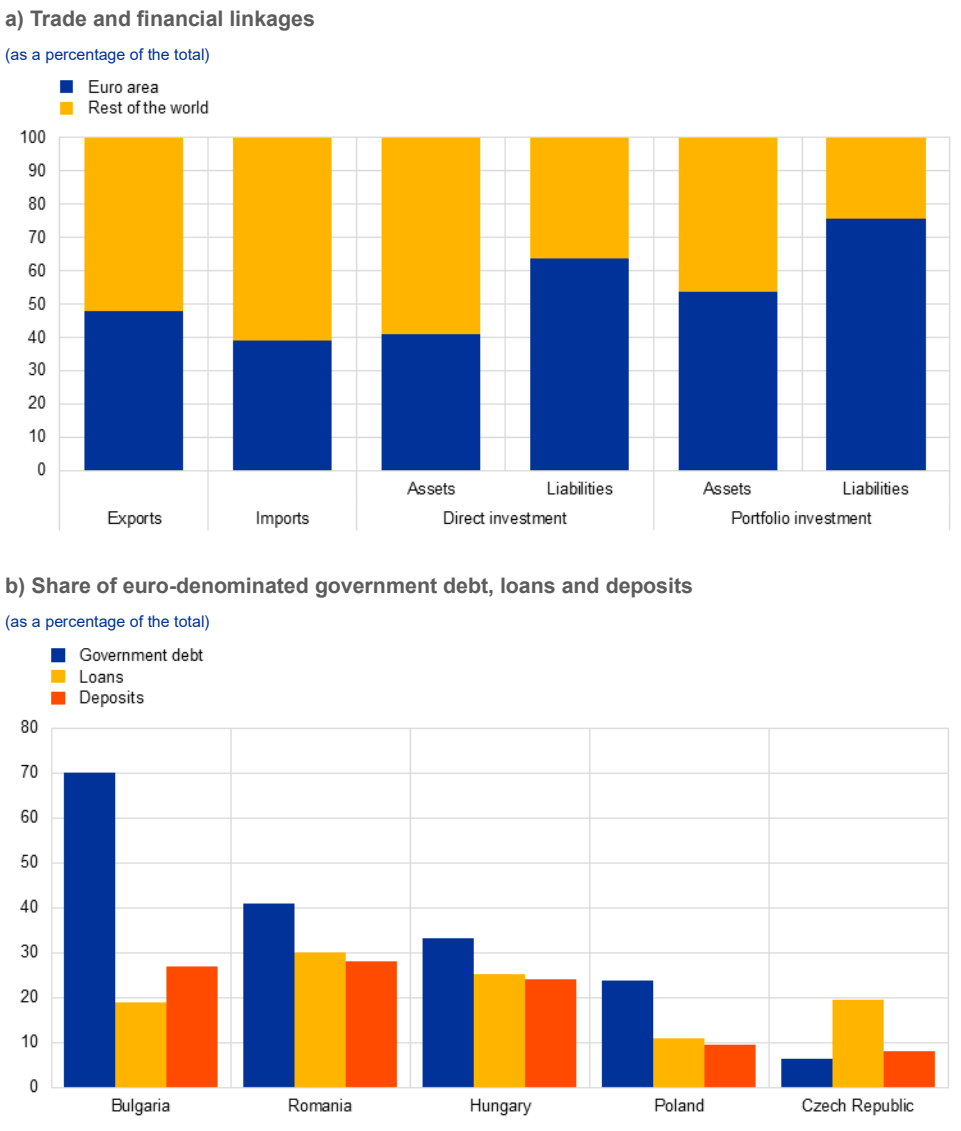
Bulgaria is well integrated with the euro area through trade and financial linkages. The country has a population of about 6.5 million and its GDP accounts for around 0.7% of euro area GDP. Its economic structure is broadly similar to that of the euro area as a whole, with industry (including construction) and services contributing around 29% and 68% respectively to gross value added, compared with around 26% and 72% in the euro area. The euro area is Bulgaria's main trading and financial partner (Chart A, panel a). Prior to adopting the euro, its economy showed a relatively high degree of euroisation. Around 70% of government debt, along with a significant share of the debt of non-financial corporations, was already denominated in euro, mirroring the currency composition of both household savings and firms' liquid assets, which are largely held in the form of deposits (Chart A, panel b). For over 25 years Bulgaria's monetary policy was aligned with that of the ECB through its currency board, which maintained a fixed BGN/EUR exchange rate. Bulgaria's deep integration with the euro area is reflected in the strong alignment of its business cycle with that of the euro area in the 15 years before euro adoption. Furthermore, banks owned by financial institutions domiciled in other euro area countries play a dominant role in the Bulgarian banking system.

1 See Falagiarda and Gartner (2022).

2 See Dorrucci et al. (2020).

Chart A

Bulgaria's linkages with the euro area



Sources: ECB and ECB staff calculations.
Notes: Panel a): the data are for 2024. Exports and imports refer to trade in goods only. Panel b): the data refer to outstanding amounts of loans to and deposits of domestic private sectors (other than monetary financial institutions) at the end of October 2025, and to the stock of general government debt at the end of 2024.

As with other countries that have adopted the euro, Bulgaria is expected to benefit from lower transaction and borrowing costs. Given Bulgaria's deep integration with the euro area and its commitment to maintaining sound fiscal, structural and financial policies, adopting the euro is expected to bring with it a number of economic advantages. These include: (i) increased foreign trade and investment driven by lower transaction costs; (ii) enhanced price transparency and comparability; and (iii) greater investor confidence.[3] The economy is also expected to gain from lower borrowing costs due to well-anchored inflation expectations and reduced regulatory costs for banks, such as lower reserve requirements.

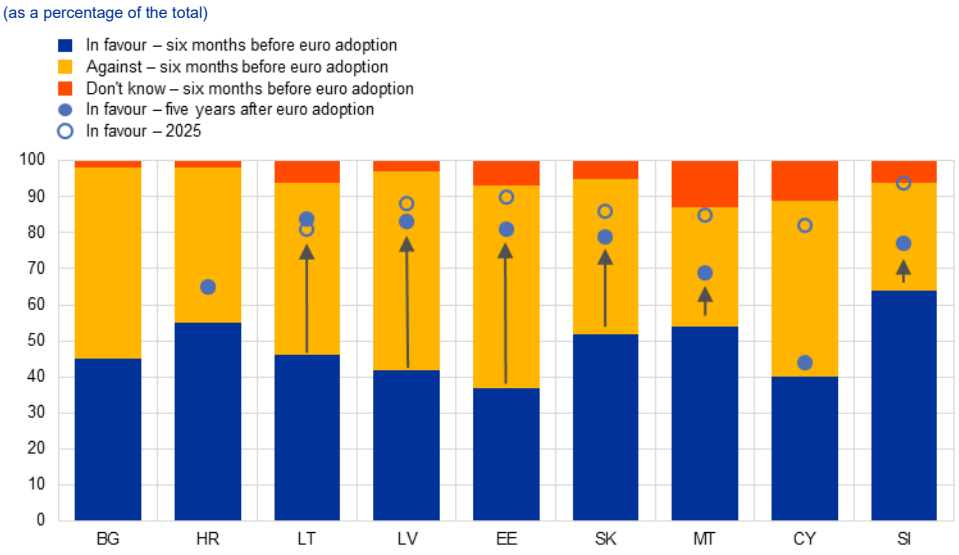
[3] Some of these advantages are already evident from Bulgaria's recent credit rating upgrades.

Furthermore, Bulgaria's euro adoption allows it to participate in the euro area's decision-making and shape relevant economic policies.

The costs and risks of adopting the euro are expected to be minor and largely one-off. When it comes to a country joining the euro area, the main sources of concern are the costs of the changeover and the potential for unjustified price increases when prices are converted to euro.[4] To allay these concerns, the Bulgarian authorities have implemented several measures, including enhanced price monitoring and inspections to address abusive practices, as well as a long mandatory period for the dual display of prices, which began on 8 August 2025 and will end on 8 August 2026. Nevertheless, public support for the euro in Bulgaria remains relatively low amid fears of price hikes. This was also the case for previous euro changeovers, with support then typically rising thereafter (Chart B).[5] Considering Bulgaria's high level of economic and financial integration with the euro area and its long-standing fixed BGN/EUR exchange rate, the loss of exchange rate flexibility as a stabilisation tool is practically inconsequential.

Chart B

Attitudes towards the euro



Source: European Commission (Eurobarometer).
Notes: The bars show responses to the question "Generally speaking, are you personally more in favour or against the idea of introducing the euro in your country?" in the Eurobarometer survey entitled "Introduction of the euro in the Member States that have not yet adopted the common currency". Full dots show responses to the question "Are you more in favour or against a European economic and monetary union with one single currency, the euro?" in the Standard Autumn Eurobarometer (Spring 2025 for Croatia). Empty dots show responses to the same question in the Standard Spring Eurobarometer 2025.

Since joining the EU in 2007, Bulgaria has made significant progress in converging towards the euro area. The excessive macroeconomic imbalances in existence before the COVID-19 pandemic – such as a negative external position, fragilities in the financial sector and high corporate indebtedness – have gradually been corrected with credible policy actions and prudent fiscal policies. Bulgaria has also made notable progress in terms of convergence in real terms: GDP per capita

4 For more details on the estimated impact on prices of the changeover in Croatia and during earlier euro changeovers, see Falagiarda et al. (2023).

5 See also Dreher and Hernborg (2025).

rose from around 35% of the euro area average in 2006 to just above 60% in 2025 (Chart C, panel a). Furthermore, it has achieved greater financial integration, with the close cooperation framework (established in 2020) helping to both align supervisory standards with those of the euro area and strengthen financial stability.

While Bulgaria's economy has weathered recent shocks relatively well, risks to inflation convergence remain. The Bulgarian economy proved resilient throughout the pandemic and in the face of recent energy price spikes and geopolitical tensions. Nevertheless, its small and open nature means that it remains exposed to external shocks.[6] Inflation remains vulnerable to external price fluctuations owing to the high energy intensity of production and the large share of energy and food in household consumption.[7] Strong wage and credit dynamics – though moderating – pose additional upside risks. Over the long term, Bulgaria's relatively low income and price levels, when compared with other countries that have adopted the euro (Chart C, panel b), suggest that real and nominal convergence will likely continue.

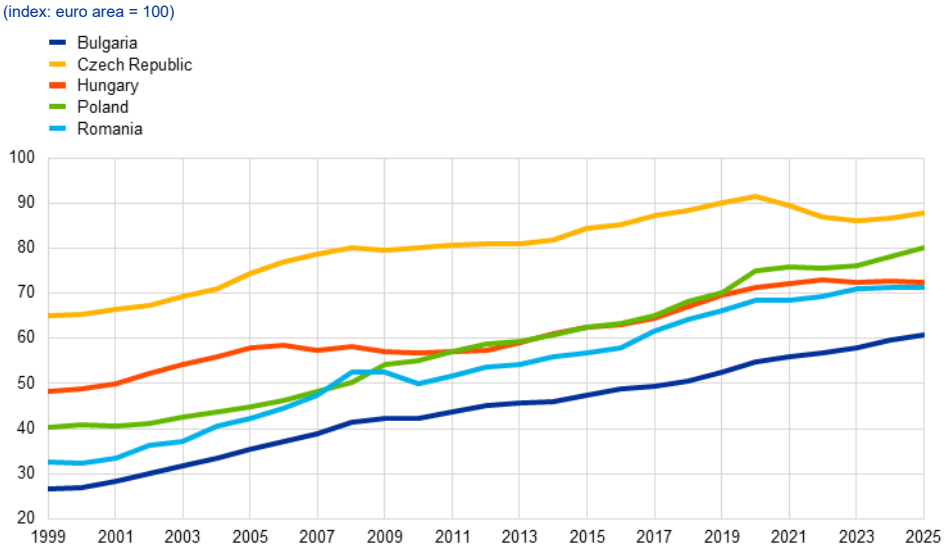
6 See, for example, Bijsterbosch et al. (2025).

7 See Falagiarda (2024) for more details on the reasons for and implications of high inflation in recent years in euro area central and eastern European (CEE) countries, whose economies have similar structural features to those of non-euro area CEE economies, such as Bulgaria.

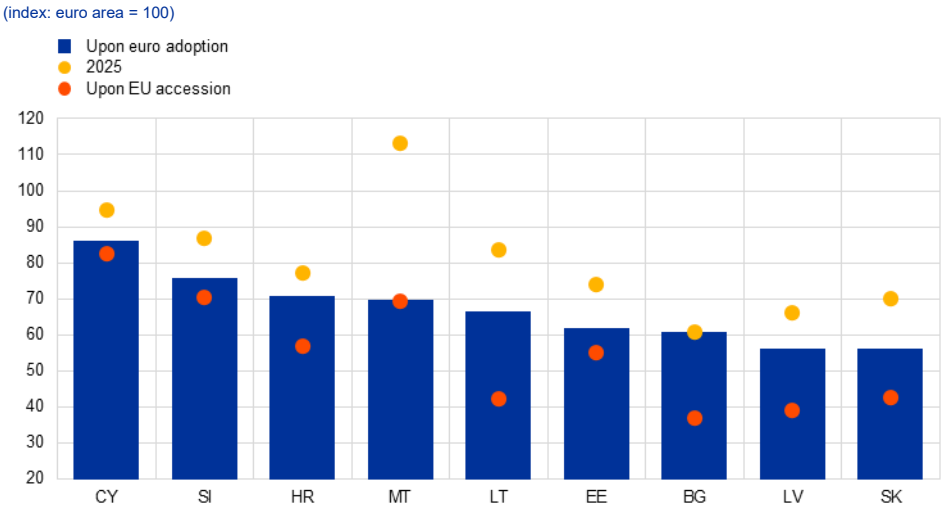
Chart C

Real GDP per capita relative to the euro area average

a) Evolution over time and compared with regional peers



b) Compared with other countries that have adopted the euro



Sources: European Commission (AMECO database) and ECB staff calculations.
Notes: Real GDP per capita is expressed in purchasing power units. The data for 2025 are taken from the European Commission's Autumn 2025 Economic Forecast. Panel b): the blue bars show real GDP per capita in the year preceding euro adoption (e.g. 2007 for Cyprus; 2025 for Bulgaria) relative to the euro area (EA20) average. The red dots show real GDP per capita in the year preceding EU accession (e.g. 2003 for Cyprus; 2006 for Bulgaria) relative to the EA20 average, while the yellow dots show the estimated level for 2025 relative to the EA20 average.

Bulgaria has maintained a sound fiscal record, but may face pressure to raise its relatively low levels of public expenditure. Under the currency board, the country recorded fiscal surpluses in 13 of the past 27 years, kept its debt ratio well below 60% of GDP (23.8% in 2024, the second lowest in the EU) and, from 2012, avoided being subject to an excessive deficit procedure. This strong fiscal performance was supported by prudent fiscal policy, which was required to sustain the credibility of the currency board. As Bulgaria adopts the euro and the constraints of the currency board fade, fiscal policy incentives may change. Should the perception emerge that fiscal discipline could become less strict, this could, over

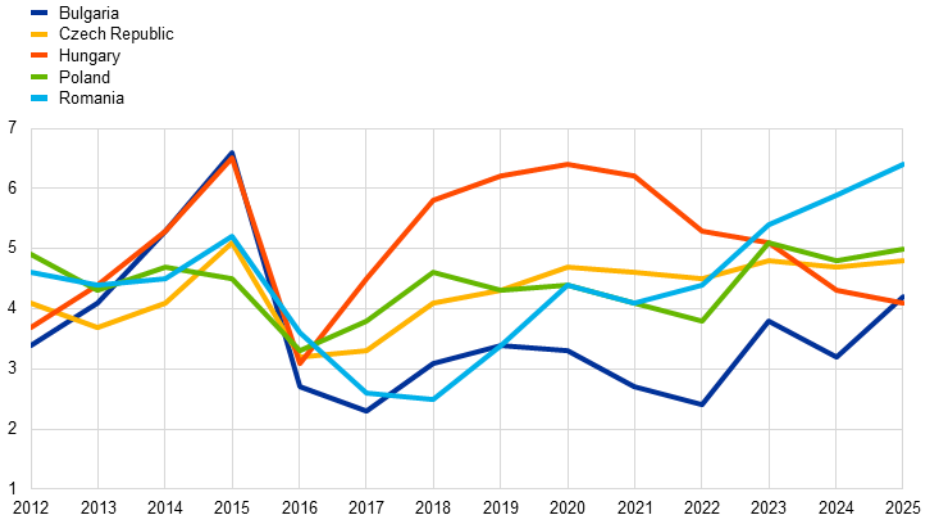
time, generate spending pressure, particularly for those economic functions for which the share of spending is currently relatively low. Notably, this is the case with public investment, which has remained persistently low compared with other CEE countries (Chart D, panel a), partly owing to the slower than initially planned deployment of Next Generation EU funds. Spending on social protection, health and education is also subdued compared with that in the euro area (Chart D, panel b). Should pressure to raise such government outlays transpose into increased expenditure, keeping the debt ratio stable would require higher tax revenues. Going forward, maintaining sound and growth-friendly public finances in line with the EU economic governance rules and supported by a strong national fiscal framework, together with continued structural reforms to bolster productivity, would be the best approach to achieving sustainable long-term economic convergence and avoiding undue inflationary pressures and losses of competitiveness that could hamper Bulgaria's long-term economic growth potential.

Chart D

Public investment and expenditure

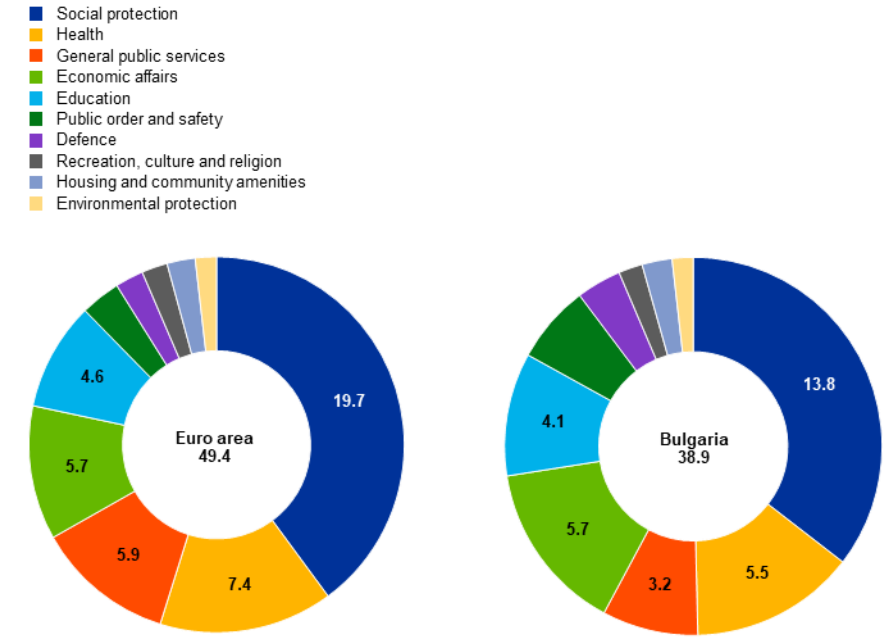
a) Public investment

(as a percentage of GDP)



b) General government expenditure, by economic function

(as a percentage of GDP)



Sources: European Commission (AMECO database), Eurostat (COFOG) and ECB staff calculations.
Notes: Panel a): the data for 2025 are taken from the European Commission's Autumn 2025 Economic Forecast. Panel b): the data are for 2023. The numbers shown in the white circles indicate the total.

References

Bijsterbosch, M., Falagiarda, M. and Žídeková, L. (2025), "From headlines to hard data: mapping the uneven impact of geopolitical risk in Europe", *The ECB Blog*, ECB, 28 November.

Dorrucci, E., Fidora, M., Gartner, C. and Zumer, T. (2020), "The European exchange rate mechanism (ERM II) as a preparatory phase on the path towards euro adoption – the cases of Bulgaria and Croatia", *Economic Bulletin*, Issue 8, ECB.

Dreher, F. and Hernborg, N. (2025), "Love at second sight: support for the euro before and after adoption", *The ECB Blog*, ECB, 4 November.

European Central Bank (ECB) (2025), *Convergence Report*, ECB, June.

European Commission (2025), "Convergence Report 2025 on Bulgaria", *European Economy Institutional Papers*, No 320, European Commission, 4 June.

Falagiarda, M. (2024), "Inflation in the eastern euro area: reasons and risks", *The ECB Blog*, ECB, 10 January.

Falagiarda, M. and Gartner, C. (2022), "Croatia adopts the euro", *Economic Bulletin*, Issue 8, ECB.

Falagiarda, M., Gartner, C., Mužić, I. and Pufnik, A. (2023), "Has the euro changeover really caused extra inflation in Croatia?", *The ECB Blog*, ECB, 7 March.

2 From text to trouble: understanding the limits of text-derived trade policy uncertainty measures

Prepared by Maximilian Schröder

Trade policy uncertainty has risen significantly in the face of higher tariffs and tariff threats, adding a new layer of complexity to assessing the global economic outlook. Shifts in tariff and trade policy, unpredictable communication and the move away from rules-based multilateralism towards bilateral leverage have heightened uncertainty for firms and investors. This has influenced sourcing, production and investment decisions, and may weigh on trade dynamics, investment and overall macroeconomic performance. Moreover, uncertainty can affect expectations and dampen activity even in the absence of concrete policy changes. Monitoring it has therefore become crucial to assessing the economic outlook. Trade policy uncertainty has been an important part of the technical assumptions underlying recent rounds of the Eurosystem/ECB staff macroeconomic projections for the euro area.[1]

However, trade policy uncertainty is unobservable and difficult to model. To capture it, indicators such as the trade policy uncertainty (TPU) index set out in Caldara et al. (2020) count press articles in which trade-related and uncertainty-related keywords appear in close proximity. This index, shown in Chart A for 1990-2025, remained subdued during 1990-2016 before rising during the first Trump election campaign and presidency as well as the first US-China trade conflict, in 2018-20. In April 2025 it reached a historical high when the second Trump Administration imposed a 10% baseline tariff on most imports and additional country-specific tariffs of up to 50%. Although the TPU index has since eased, it remains elevated by historical standards.

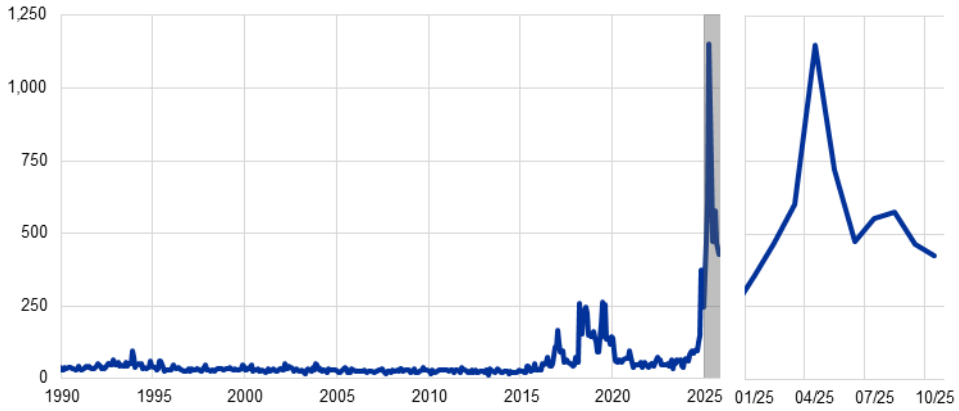
As regards gauging the macroeconomic effects of trade policy uncertainty, for the last couple of quarters standard linear models often imply implausibly large effects. One reason for this is that these models extrapolate from historical relations that may no longer hold. Another reason relates to the construction of the TPU index itself: the April spike implies that a very large proportion (around 10%) of all press articles in the underlying text data corpus mention trade policy uncertainty-related keywords, which suggests the index may have been inflated by heightened media attention or trade policy keywords being mentioned in the context of other topics.

[1] See Box 2 of "Eurosystem staff macroeconomic projections for the euro area, June 2025" and Box 1 of "ECB staff macroeconomic projections for the euro area, September 2025".

Chart A

Trade policy uncertainty index

(percentages of press articles mentioning TPU keywords, multiplied by 100)



Sources: Caldara et al. (2020) and ECB staff calculations.
Note: The chart shows the raw TPU index as reported by Caldara et al. (2020).

The contamination of text-based TPU indicators is likely related to media coverage of trade policy coinciding with broader economic or political reporting. One concern is that policy actions have heightened uncertainty not only in trade but also in other policy areas. As a result, measured trade policy uncertainty may overlap with other forms of uncertainty. For instance, an article published by Reuters in June (Saphir, 2025) mentions trade policy, but primarily in the context of geopolitical risk: "with the U.S. economy already expected to slow under pressure from the Trump administration's high import tariffs, a rise in oil prices resulting from the conflict [the strike on Iran] 'could provide powerful downward pressure on households' ability to spend...". Such reporting also highlights another borderline case: articles discussing the economic uncertainty regarding the effects of tariffs rather than uncertainty about trade policy itself, as in "and while it is also expected to show inflation running near the Fed's 2% goal last month, many Fed officials expect tariffs to feed into higher prices…" in the same article. Consequently, media reports may inflate counts of TPU-related keywords when the index is interpreted in a strictly economic sense. Against this background, this box cautions against mechanically interpreting TPU indicator readings as pure uncertainty shocks and proposes an alternative measure for use in standard macroeconomic models.

The standard TPU measure can be refined by eliminating contaminating influences. These influences become problematic when econometric analysis is seeking to disentangle distinct uncertainty channels, for instance in scenario analysis, and may lead to double-counting if readings from the raw TPU measure are treated as a primitive trade policy uncertainty shock. This box therefore proposes an alternative TPU measure, which uses the raw index cleaned for cases of keyword-driven co-mentions, such as those cited in the previous paragraph. Rather than being constructed from the ground up, the unadjusted series is cleaned indirectly by regressing it on a set of proxies, a constant and a COVID-19 pandemic dummy. This removes variation explained by historical co-movements of uncertainty-related keywords while preserving changes that extend beyond them. The first set of proxies controls for instances where broad uncertainty coverage inflates TPU counts, and

includes: the categorical economic policy uncertainty indices of Baker et al. (2016), excluding trade policy; the geopolitical risk index of Caldara and Iacoviello (2022); the CBOE Volatility Index (VIX); and oil price volatility. The second set addresses episodes when financial or supply chain stress drives reporting on trade-related risks: the US National Financial Conditions Index (NFCI) and the Global Supply Chain Pressure Index (GSCPI). Finally, the effective tariff rate, defined as customs revenues relative to imports, controls for cases where media coverage reflects realised changes in trade policy rather than uncertainty about future measures.[2]

The cleaned indicator shows significantly smaller spikes throughout 2025. Chart B, panel a) presents the cleaned TPU indicator alongside the untreated indicator.[3] While it maintains the primary characteristics of the original indicator, the spikes observed in 2025 are only 20% as high and exceed the levels observed during the first US-China trade conflict by a smaller margin.[4] Recent developments are generally comparable to those observed in measures of economic policy uncertainty (EPU), such as the news-based US EPU, the three-component US EPU and the global EPU illustrated in Chart B, panel b). The coincidence of spikes across different uncertainty measures in part explains the disproportionate spike in the raw TPU indicator if not controlled for. At the same time, the cleaned TPU indicator still spikes during the first US-China trade conflict, aligning well with the raw TPU. Taken together, this supports the view that the unadjusted TPU indicator may be misinterpreted in the present high-uncertainty environment unless a narrow interpretation of trade policy uncertainty shocks is adopted.

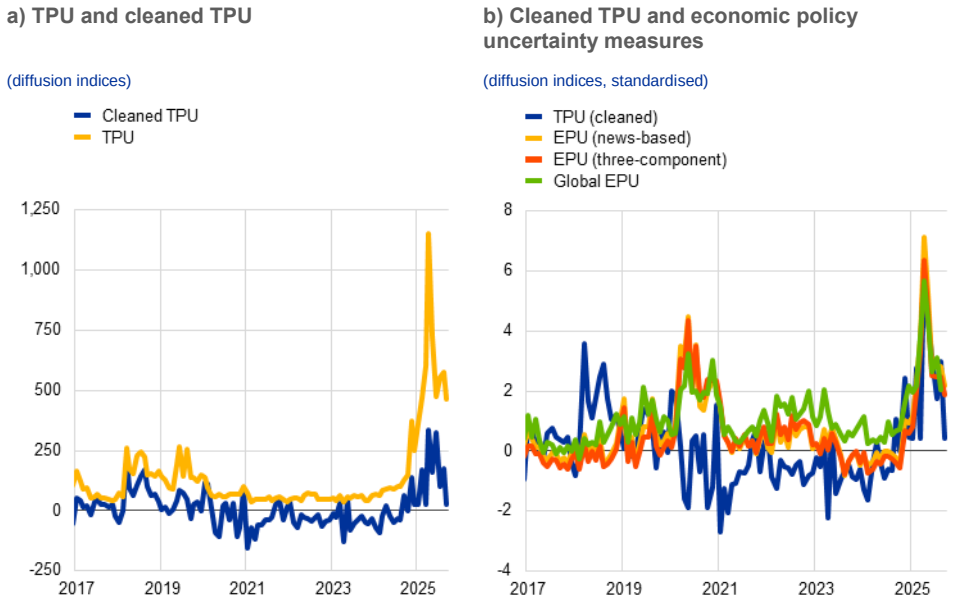
2 The effective tariff rate is outlier-adjusted.

3 The cleaned index is centred on its long-term historical average. Negative values hence indicate cleaned TPU levels below that average while positive values indicate above-average uncertainty.

4 The adjusted indicator is slightly more volatile, potentially adding noise to the analysis.

Chart B

The TPU index and other uncertainty measures



Sources: Panel a): Caldara et al. (2022) and ECB staff calculations; Panel b): Baker et al. (2016), Davis (2016) and ECB staff calculations.
Note: Latest observations: September 2025.

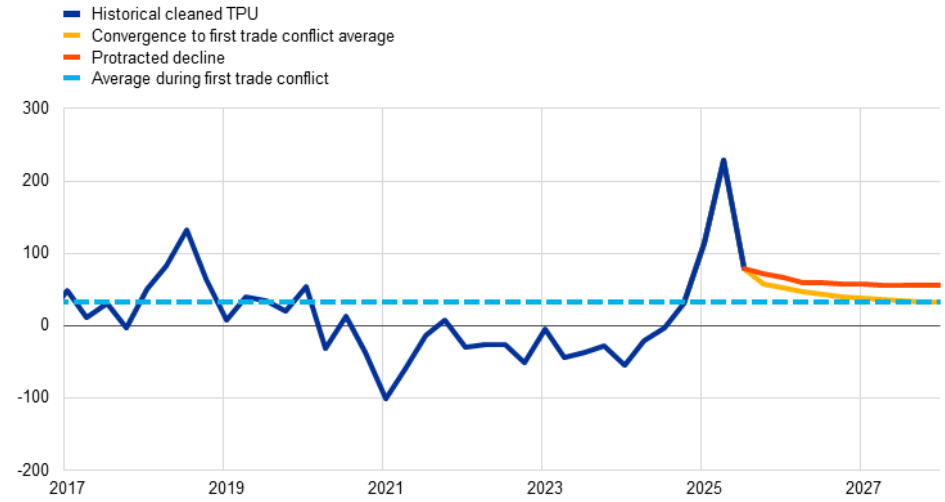
The adjusted TPU index allows counterfactual scenarios to be constructed that yield more plausible estimates of macroeconomic impacts. On the basis of the adjusted index, alternative paths for the degree of trade policy uncertainty can be defined and updated as new data become available, providing a flexible input for conditional forecasting and projection exercises. Chart C, panel a) illustrates two scenarios: one in which TPU declines from current levels to the average observed during the first trade conflict, and another that assumes a more protracted decline. Chart C, panel b) shows the corresponding effects on US GDP and on global GDP (excluding the US), taking into account TPU-implied shocks since the beginning of the year. Under these assumptions, GDP in the United States and the rest of the world would contract by about 0.1 percentage points by the end of 2027 if uncertainty fell back to first trade conflict levels, but by roughly 0.2 percentage points if uncertainty remained elevated for longer.

Chart C

The impact of trade policy uncertainty on growth

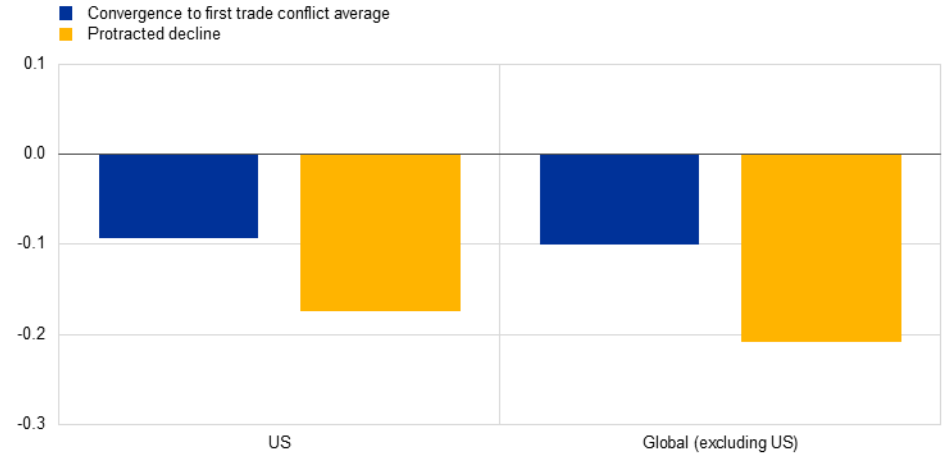
a) Evolution of trade policy uncertainty

(index, three-month moving averages)



b) Cumulative impact of uncertainty on GDP growth, 2025-27

(percentage points)



Source: ECB staff calculations.
Notes: Panel a): Latest observation: July 2025, extrapolations thereafter. Panel b): The impacts are computed from forecasts based on Bayesian vector autoregression models, conditional on the assumed path of cleaned TPU. The models include, for one region at a time, the cleaned TPU; the logs of GDP, investment and CPI; as well as a COVID-19 pandemic dummy. The TPU shock is identified with Cholesky identification.

In conclusion, adjusting TPU measures can improve their indicator properties and make them easier to interpret. This box argues that text-based measures of trade policy uncertainty might capture a broader concept of uncertainty than uncertainty surrounding trade policy announcements and implementation alone. Once confounding influences and media cycle effects are removed, adjusted measures of trade policy uncertainty yield less sizeable macroeconomic impacts than commonly reported in the literature. In addition, if a more restrictive definition of trade policy uncertainty is adopted, these alternative indicators can readily be used to define scenarios for conditional forecasting and projection exercises. In this context, the adjusted TPU index was used as a starting point for analysing the

impact of trade policy uncertainty in the Eurosystem/ECB staff macroeconomic projections for the euro area, and was employed both for baseline projections and scenario analysis.

References

Baker, S.R., Bloom, N. and Davis, S.J. (2016), “Measuring Economic Policy Uncertainty”, *The Quarterly Journal of Economics*, Vol. 131, Issue 4, November, pp. 1593-1636.

Caldara, D. and Iacoviello, M. (2022),“Measuring Geopolitical Risk”, *American Economic Review*, Vol. 112, No 4, April, pp. 1194-1225.

Caldara, D., Iacoviello, M., Molligo, P., Prestipino, A. and Raffo, A. (2020), “The economic effects of trade policy uncertainty”, *Journal of Monetary Economics*, Vol. 109, January, pp. 38-59.

Davis, S.J. (2016), “An Index of Global Economic Policy Uncertainty”, *NBER Working Papers*, No 22740, National Bureau of Economic Research, October.

Saphir, A. (2025), “US attack on Iran adds to economic uncertainty”, Reuters, 23 June.

3 Tracking trade in real time: augmenting the nowcasting toolkit with satellite data

Prepared by Rinalds Gerinovics and Baptiste Meunier

Recent shocks have underscored the importance of and challenges associated with monitoring global trade in a timely manner. The large effects of post-COVID-19 pandemic supply bottlenecks (2021-22), disruptions in the Panama Canal (2023) and the Red Sea (2024-25), and recent tariff escalations have highlighted the need for timely trade monitoring. This box outlines how the inclusion of real-time indicators derived from satellite data on vessel movements in an otherwise standard tracker can provide timely insights into global trade dynamics. The augmented tracker currently indicates subdued but improving trade dynamics.

ECB staff first developed a global trade tracker in 2020 to track world import growth (outside the euro area) using trade-related financial indicators; however, its accuracy was limited.[1] That initial version relied primarily on financial market data such as stock prices for global logistics companies. Following the methodology of Lewis et al. (2022), a principal components analysis was used to extract the underlying trend in an input dataset combining high-frequency (daily and weekly) data with monthly indicators.[2] Despite its timeliness compared with national accounts data, which are not released until 30-45 days after the end of the reference quarter, this version of the tracker exhibited limited out-of-sample accuracy.

New indicators based on vessel movements tracked by satellite offer real-time information on trade by country and commodity. The automatic identification system (AIS) is a tracking system through which ships transmit key information such as identity, position, speed, direction and navigational status (e.g. underway, at anchor) to satellites. Originally developed to prevent collisions, AIS data have become widely used in economics as these are daily data released with just a one-day publication lag. For the purpose of tracking trade, four indices are used: (1) country-level aggregate trade (imports and exports) constructed by counting the volume of cargo arriving at a country's ports; (2) maritime activity at key chokepoints based on the same method; (3) trade flows for key commodities – oil, liquified natural gas (LNG), iron, coal, bauxite – obtained by tracking tankers and bulk carriers; and (4) automotive exports obtained by tracking roll-on/roll-off ships (vessels dedicated to transporting vehicles).

The satellite-based indicators match key events in global trade well. For example, the surge in goods trade following the pandemic was mirrored by a large uptick in maritime traffic (Chart A, panel a). In the second quarter of 2025, the same data indicated a marked slowdown in US trade amid rising trade barriers and the contrasting resilience of China's trade. Likewise, the widespread post-pandemic supply bottlenecks were visible in the above-average congestion at major US ports

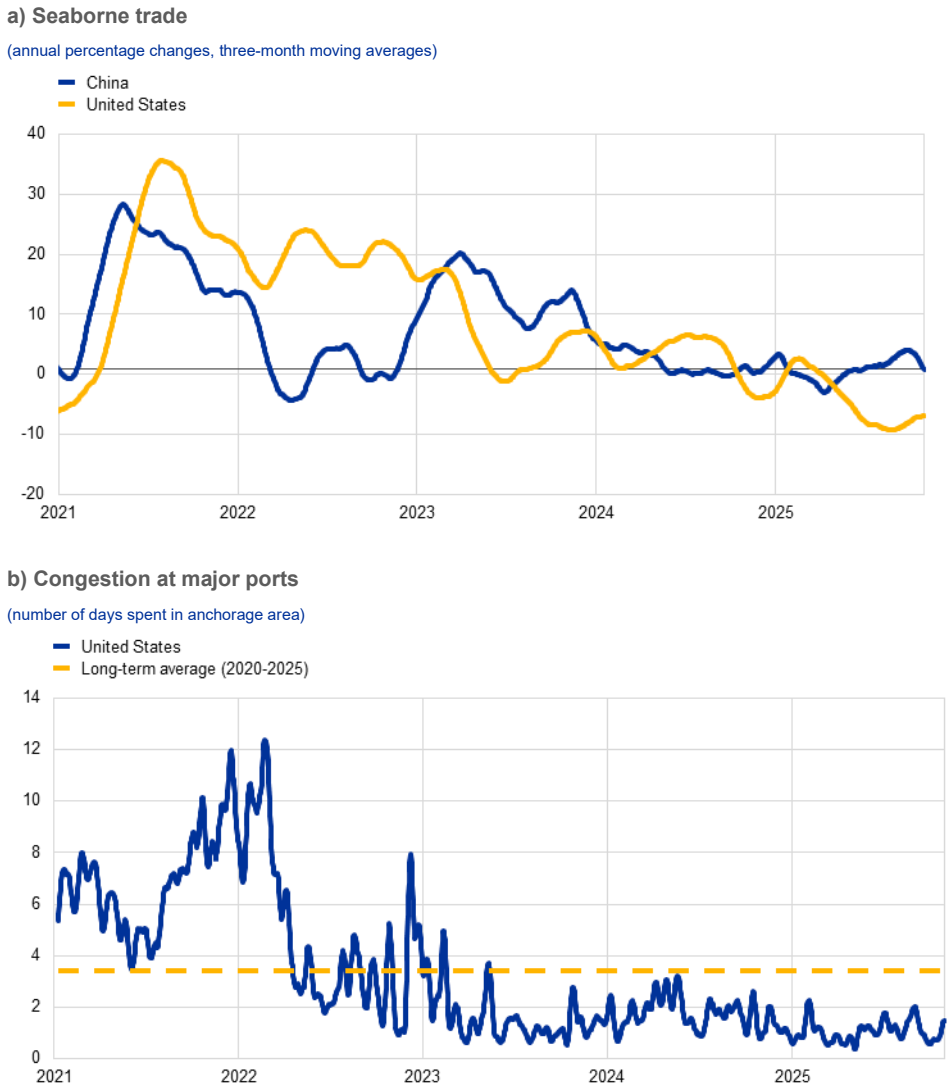
1 Delle Chiaie and Perez-Quirós (2020).

2 Monthly series help smooth out the volatility inherent in high-frequency data. Empirical tests show that monthly data improve in-sample correlation and out-of-sample predictive accuracy.

(Chart A, panel b). Another example was the attacks by Houthi rebels on Red Sea shipping in 2024, which prompted shipping companies to reroute vessels via the Cape of Good Hope (Chart A, panel c).

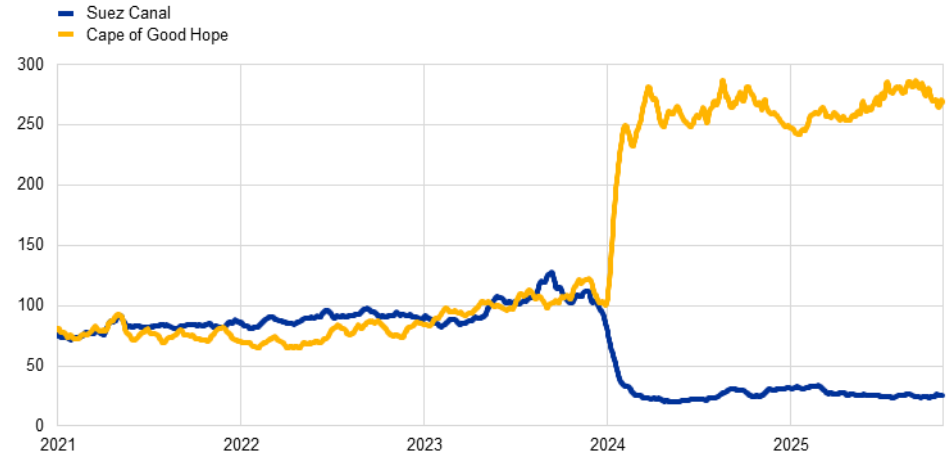
Chart A

Satellite-based trade indicators



c) Maritime activity at key chokepoints

(30-day moving averages; index: January to October 2023 = 100)



Sources: QuantCube and ECB staff calculations.
Notes: In panel b), the index is based on container ships at the ports of Los Angeles and Long Beach. The latest observations are for 30 October 2025.

Satellite-based indicators exhibit a stronger correlation with global trade than financial indicators, making them well-suited to augment the trade tracker. Statistical tests (Efron et al., 2004; Fan and Lv, 2008) assessing the predictive power of various daily and weekly indicators relative to global imports show that satellite-based series outperform market-based indicators (e.g. equity prices, shipping prices, commodity prices) and indicators from alternative data sources (e.g. Google Trends, flights data). For instance, some satellite-based indices (e.g. EU auto exports) have a Pearson correlation with global imports higher than 0.7 over the period 2016-24, while financial indicators have an average correlation of 0.4.

The revised global trade tracker incorporates the satellite data with the highest predictive power.[3] The selection follows the literature, which shows that factor models are significantly more accurate when selecting fewer but more informative predictors (Bai and Ng, 2008). The augmented tracker incorporates 47 series, of which 25 are weekly (four equity prices of shipping companies and 21 satellite-based indicators) and 22 are monthly (e.g. the new export orders Purchasing Managers' Index and customs data). Among country-specific indicators – for 12 countries accounting for 64% of global trade – the selection of data-driven variables reflects the central role of China, with several of the selected indicators being related to Chinese trade (auto exports, overall trade, and imports of LNG, iron and oil).

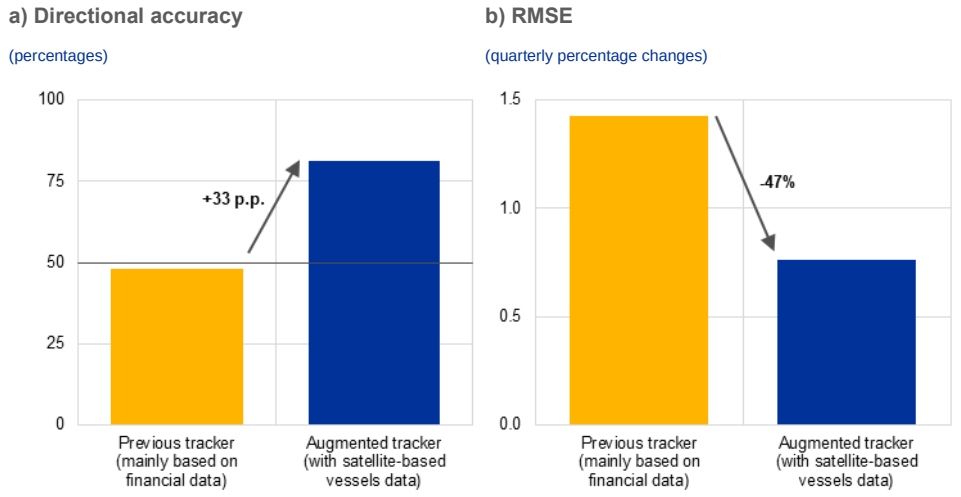
Satellite data substantially improve the forecast performance of the tracker, both in terms of directional accuracy (increased from 50% to 80%) and in terms of point accuracy (out-of-sample error cut by half). The out-of-sample directional forecast accuracy of the previous tracker was below 50%, meaning that it correctly predicted the direction of global trade growth less than half the time. By comparison, the revised tracker would have correctly predicted the direction in

3 Methodological refinements were applied to ensure consistency in transformations, starting points and principal component analysis sequencing. The regressor set was expanded with high-frequency adjustments following Wegmüller and Glocker (2023). Technical changes had limited impact on out-of-sample performance.

around 80% of cases over the period 2021-24 (Chart B, panel a).[4] Similar results are observed for point forecast accuracy, where the out-of-sample root mean squared error (RMSE) is reduced by around 50% (Chart B, panel b).

Chart B

Out-of-sample forecast accuracy



Sources: Bloomberg, S&P Global, Haver, QuantCube and ECB staff calculations.
Notes: Accuracy over the period 2021-24. In panel a), directional accuracy is the proportion of periods where the direction of change in actual global import growth (positive or negative) coincided with the direction predicted by the tracker.

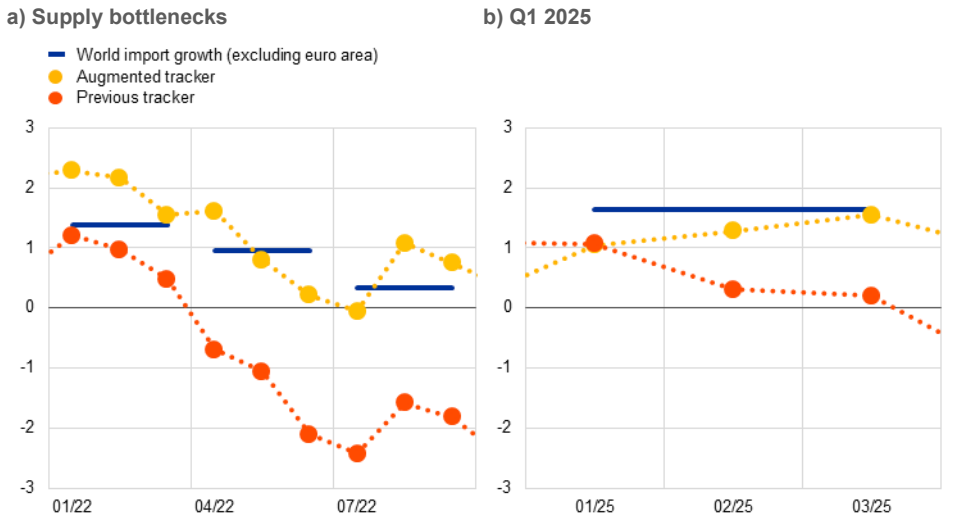
The augmented tracker particularly outperforms the previous tracker in periods when financial market variables diverge from global trade dynamics. Global trade is generally well-correlated with financial market movements (Barhoumi and Ferrara, 2015), but this relationship can lead to erroneous signals when financial markets widely decouple from trade dynamics. This occurred in 2022, when stock markets fell amid surging inflation and geopolitical shocks while global trade was resilient due to the gradual easing of supply bottlenecks (Chart C, panel a). A similar situation arose in the first quarter of 2025, when financial markets retreated due to policy uncertainty whereas global trade was boosted by a frontloading of imports ahead of tariffs (Chart C, panel b). In both episodes, the previous tracker pointed to global trade growth well below its actual pace, which the augmented tracker captured more accurately.

4 Predictions are in pseudo real time, meaning they account for publication delays but not revisions.

Chart C

Out-of-sample predictions

(three-month-on-three-month percentage changes)



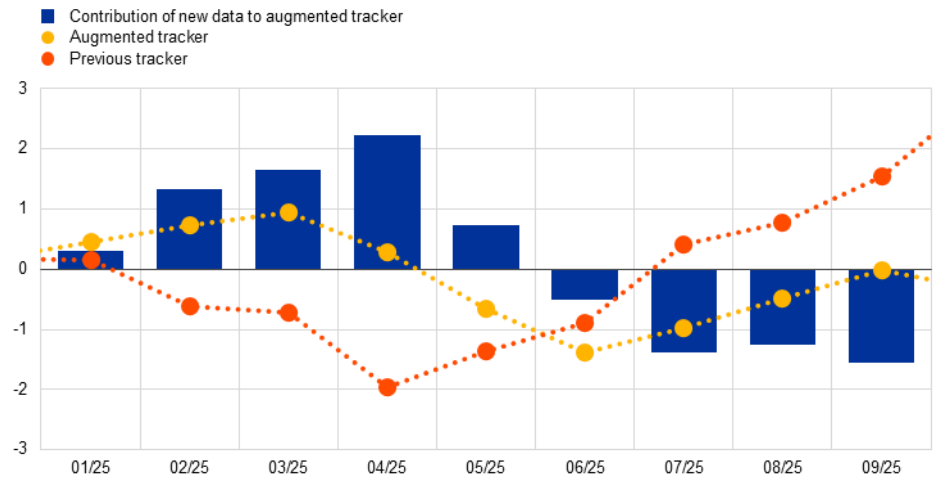
Sources: Bloomberg, S&P Global, Haver, QuantCube and ECB staff calculations.

The augmented tracker currently suggests that global trade remains subdued, albeit improving (Chart D). The augmented tracker indicates that global trade bottomed out in the second quarter of 2025, consistent with the sharp decline in US imports (-8% quarter-on-quarter), and improved in the third quarter. This rebound is in line with recent national accounts releases from China and South Korea showing strong export performance – bolstered in the case of South Korea by surging artificial intelligence (AI)-related shipments which partially offset the drag from tariffs. While the augmented tracker points to below-average trade growth, the previous tracker would have shown a significantly more optimistic picture driven by buoyant financial markets. In the augmented tracker, the new satellite data act to moderate such signals.

Chart D

Global trade tracker

(three-month-on-three-month percentage changes, deviation from 2016-24 average)



Sources: Bloomberg, S&P Global, Haver, QuantCube and ECB staff calculations.
Notes: The chart shows the deviation from the average growth over the period 2016-24 of 0.8%. "Contribution of new data to augmented tracker" is computed as the difference between the previous tracker and the augmented tracker.

The global trade tracker complements other trade forecasting tools, helping to form a top-down assessment of the short-term outlook. The tracker complements dynamic factor models and error-correction-based trade equations to serve as a starting point for trade analysis. It offers a timely pulse check by drawing on high-frequency data, making it more responsive to rapid shifts in trade dynamics than models based on monthly or quarterly data. Nevertheless, the tracker is a complement to rather than a substitute for other tools, as in normal times high-frequency data, which are inherently noisy, might be of second-order importance.

References

Bai, J. and Ng, S. (2008), "Forecasting economic time series using targeted predictors", *Journal of Econometrics*, Vol. 146, No 2, October, pp. 304-317.

Barhoumi, K. and Ferrara, L. (2015), "A World Trade Leading Index (WTLI)", *IMF Working Papers*, No 2015/020, International Monetary Fund, January.

Delle Chiaie, S. and Perez-Quirós, G. (2020), "Nowcasting economic activity and trade in times of COVID-19: are high frequency data useful?", unpublished manuscript.

Efron, B., Hastie, T., Johnstone, I. and Tibshirani, R. (2004), "Least angle regression", *The Annals of Statistics*, Vol. 32, No 2, April, pp. 407-499.

Fan, J., and Lv, J. (2008), "Sure independence screening for ultrahigh dimensional feature space", *Journal of the Royal Statistical Society Series B: Statistical Methodology*, Vol. 70, No 5, October, pp. 849-911.

Lewis, D., Mertens, K., Stock, J. and Trivedi, M. (2022), “Measuring real activity using a weekly economic index”, *Journal of Applied Econometrics*, Vol. 37, No 4, November, pp. 667-687.

Wegmüller, P. and Glocker, C. (2023), “US weekly economic index: Replication and extension”, *Journal of Applied Econometrics*, Vol. 38, No 6, September/October, pp. 977-985.

4 The household saving rate revisited: recent dynamics and underlying drivers

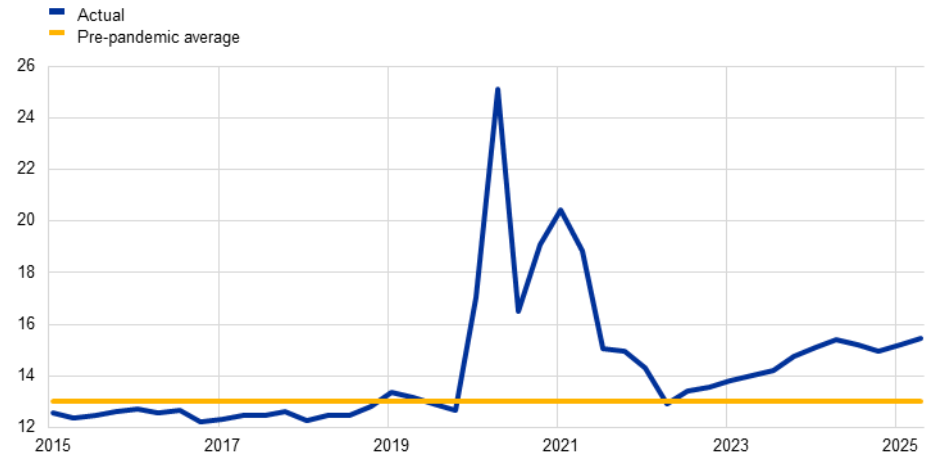
Prepared by Maria Dimou, Marco Flaccadoro and Johannes Gareis

After falling back from its pandemic-related peak, the household saving rate rose again from mid-2022 to mid-2024 and has since remained broadly stable at an elevated level (Chart A). The seasonally adjusted household saving rate, as reported in Eurostat's quarterly sector accounts (QSA), averaged around 13% between 1999 and 2019. After surging during the pandemic, in the second quarter of 2022 it returned to levels close to the historical average, before subsequently starting to rise again, reaching 15.4% by mid-2024. Since then, it has remained broadly stable at that elevated level. This box provides updated evidence on developments in the household saving rate and its recent drivers.[1]

Chart A

Household saving rate

(percentages of gross disposable income)



Sources: Eurostat, ECB, ECB and Eurostat (QSA) and ECB calculations.
Notes: Seasonally adjusted data. The pre-pandemic average is computed from the first quarter of 1999 to the fourth quarter of 2019. The latest observation is for the second quarter of 2025.

Since mid-2024, households' real disposable income and consumption have been growing at broadly similar rates, thereby stabilising the saving rate at a higher level than before the pandemic. According to a statistical decomposition, rising real income – particularly labour income – supported the saving rate prior to the pandemic, while higher real consumption exerted an offsetting effect (Chart B). Compared with the pre-pandemic period, income growth accelerated markedly from mid-2022 to mid-2024, driven mainly by stronger contributions from non-labour income – including self-employment income, net interest income, dividends and rents – and by net fiscal income related to fiscal measures introduced in response to the energy price shock, including untargeted support. These factors likely boosted

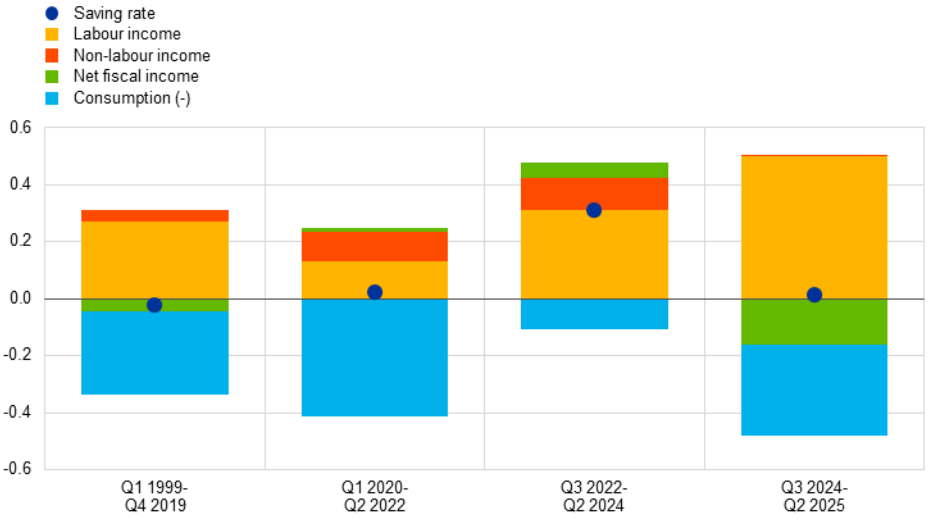
[1] For a discussion of the factors behind the rise in the household saving rate in the euro area from mid-2022 to mid-2024, see Bobasu et al. (2024).

the saving rate, as non-labour income accrues disproportionately to higher-income households who have a greater propensity to save.[2] Since mid-2024 the saving rate has remained broadly stable as real income and consumption dynamics have normalised, with stronger growth in labour income – reflecting real wage catch-up and sustained employment – offsetting declining non-labour income and the gradual withdrawal of fiscal support.

Chart B

Contribution of income and consumption growth to changes in the household saving rate

(quarterly percentage changes and percentage point contributions; averages)



Sources: Eurostat, ECB, ECB and Eurostat (QSA) and ECB calculations.
Notes: The quarterly change in the saving rate is approximately equal to the difference between quarterly growth in real disposable income and real consumption. Income is decomposed into labour income (compensation of employees), non-labour income (self-employment income, net interest income, dividends and rents) and net fiscal income (transfers and taxes on income and wealth). Income components and consumption are expressed in real terms using the private consumption deflator from the national accounts.

Empirical estimates indicate that the saving rate has remained elevated over the last year, as the negative contributions of declining real interest rates and improving real net wealth positions have not fully counterbalanced the support from strongly rising real labour income. An empirical model for real household consumption shows that, prior to the pandemic, higher real income – particularly labour income – raised the saving rate, as consumption did not adjust one-to-one with income, whereas increases in real net wealth lowered it by reducing households' incentives to save and, thus, encouraging higher consumption (Chart C). The rise in the saving rate between mid-2022 and mid-2024 reflected the rapidly increasing labour income, while stronger-than-usual growth in other income (i.e. the sum of non-labour and fiscal income) also made a significant positive contribution.[3] Lower real net wealth following the surge in inflation and higher real interest rates brought about by the monetary policy tightening provided additional upward contributions, while the legacy of the pandemic weighed on the saving rate as

2 For an overview of fiscal policy measures implemented in the euro area during the high-inflation period, see Bankowski et al. (2023).

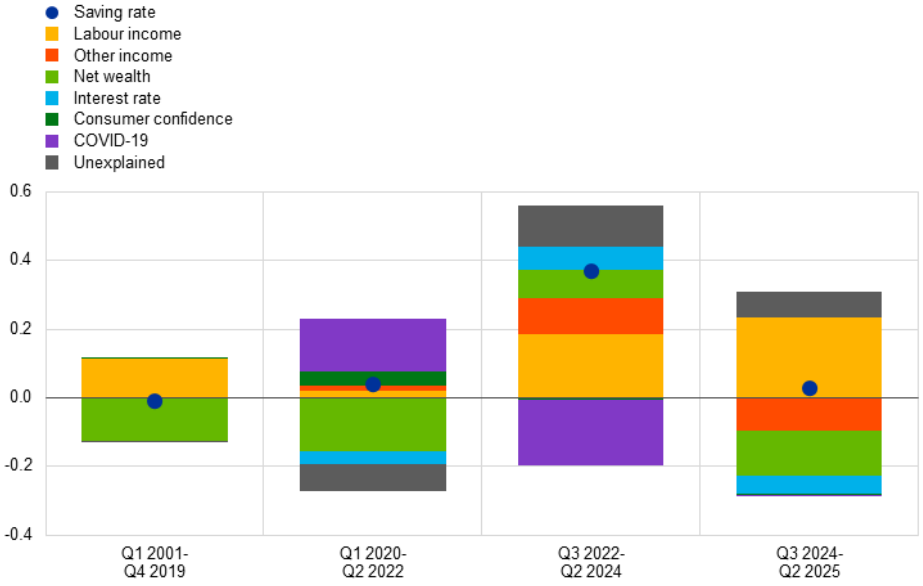
3 For an analysis of the recent developments of labour and other household income in the euro area and their role in the sluggish consumption growth in the post-pandemic period, see Ceci and Flaccadoro (2026).

consumption normalised. Since mid-2024, real labour income growth has increased once more, providing a strong upward push to the saving rate. This has been offset, however, by rising real net wealth – whose contribution to the saving rate returned to its historical average – declining real interest rates and a reversal of earlier increases in other income.

Chart C

Contributions to the change in the household saving rate: a model-based decomposition

(quarterly percentage changes and percentage point contributions; averages)



Sources: Eurostat, ECB, ECB and Eurostat (QSA) and ECB calculations.
Notes: The chart shows the contributions of real labour and other income (i.e. the sum of non-labour and fiscal income), real net wealth, real interest rates, consumer confidence, the COVID-19 pandemic and a residual component to the average changes in the household saving rate across distinct periods. The decomposition is based on an estimated error correction model for household consumption growth, taking real household income growth as given. Income components and net wealth are deflated using the private consumption deflator from the national accounts. The real interest rate is measured by the three-month EURIBOR adjusted for expected annual consumer price inflation from the European Commission's consumer survey. The model is estimated over the period from the first quarter of 1999 to the second quarter of 2025. For details of a similar model without COVID-19 dummies and without income being split into labour and other income, see Bobasu et al. (2024).

Households' uncertainty about their own financial situation also appears to play an important role in saving decisions. Household-level information from the Consumer Expectations Survey (CES) is used to shed light on factors not captured by standard macroeconomic determinants, as indicated by the positive unexplained component in the model-based decomposition since mid-2022 (Chart C). In particular, the analysis focuses on policy-related and individual uncertainty, as reflected in *Ricardian* and *precautionary* saving motives.[4] A new question fielded in the November 2025 CES questionnaire reveals that precautionary and Ricardian motives are each relevant for around 50% of respondents in their saving decisions, with 25-30% also indicating one or the other as the most important reason to save

[4] *Ricardian* motives refer to saving in anticipation of changes in taxation or government benefits as a result of the government's current borrowing (Barro, 1974). *Precautionary* motives refer to saving in order to shield consumption against unpredictable fluctuations in income (prudence vs. impatience) (Carroll, 1997).

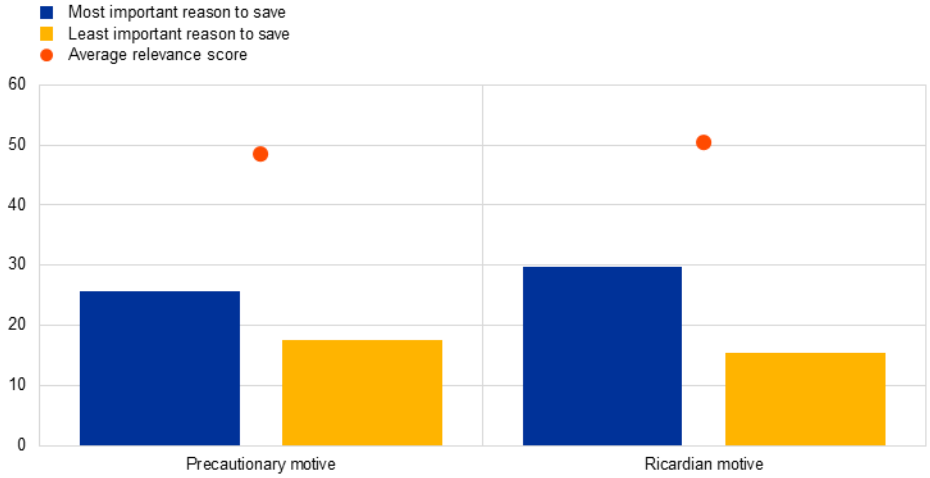
(Chart D, panel a).[5] A closer look at cross-sectional differences across participants shows that the importance of these two motives depends mainly on the economic constraints faced by respondents and the degree of uncertainty about their financial situation, while differences across income and age seem to play a more muted role (Chart D, panel b). Households with no self-reported liquidity constraints are more likely to attach significantly higher importance to both motives, consistent with their stronger capacity to plan and save ("unconstrained"). At the same time, respondents reporting a high degree of certainty about their future financial situation ("certain") attach significantly less importance to the two motives than households facing greater uncertainty. The similarities in the determinants of the two motives would suggest that they are close conceptually, with respondents tending to perceive the actions of the government as an additional source of income uncertainty. This is consistent with previous analysis that has highlighted the importance of geopolitical and policy uncertainty for consumer spending.[6]

Chart D

Prevalence of the precautionary and Ricardian motives among respondents and its determinants

a) Prevalence of precautionary and Ricardian motives across survey respondents

(relevance score (0-100) and percentages of respondents)

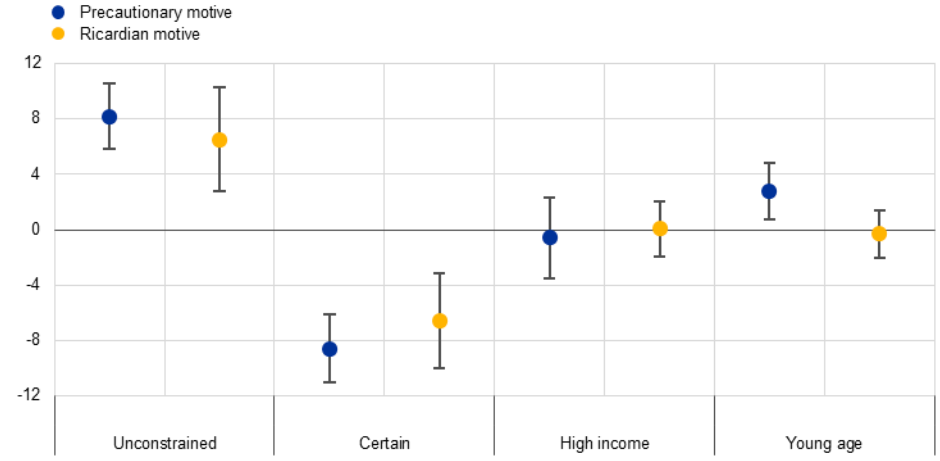


[5] Respondents were asked to evaluate on a scale from 0% (no role at all) to 100% (very important role) how selected motivations influenced their decisions to save. These motivations included the relative attractiveness of saving today (intertemporal substitution), a precautionary motive, concerns about changes in government taxation/benefits (Ricardian motive) and saving by habit.

[6] See, for instance, Andersson et al. (2024).

b) Determinants of prevalence of precautionary and Ricardian motives

(change in mean relevance score, percentage points)



Sources: CES weighted data and ECB calculations.
Notes: Panel b): The *unconstrained* dummy equals 1 for respondents indicating that they would have sufficient financial resources to cover an unexpected payment equal to their household's monthly income. The (self-reported) *certain* dummy equals 1 for respondents finding it easy or moderately easy to predict their future financial situation and 0 otherwise. The *high-income* dummy equals 1 for respondents with incomes above the median. *Young age* is equal to 1 for respondents up to 49 years old. Regressions include country fixed effects and are weighted using compound weights, defined as individual nominal savings as of October 2025 multiplied by survey weights. Standard errors are clustered at the country level.

Overall, model and survey-based evidence suggests that both conjunctural and behavioural factors have contributed to the saving rate remaining elevated but broadly stable. While income and wealth dynamics have largely returned to pre-pandemic patterns, heightened uncertainty and precautionary motives have likely continued to exert upward pressure on savings.

References

Andersson, M., Bobasu, A. and De Santis, R.A. (2024), "What are the economic signals from uncertainty measures?", *Economic Bulletin*, Issue 8, ECB.

Bankowski, K., Bouabdallah, O., Checherita-Westphal, C., Freier, M., Jacquinot, P. and Muggenthaler, P. (2023), "Fiscal policy and high inflation", *Economic Bulletin*, Issue 2, ECB.

Barro, R.J. (1974), "Are government bonds net wealth?", *Journal of Political Economy*, Vol. 82, No 6, pp. 1095-1117.

Bobasu, A., Gareis, J. and Stoevsky, G. (2024), "What explains the high household saving rate in the euro area?", *Economic Bulletin*, Issue 8, ECB.

Carroll, C.D. (1997), "Buffer-stock saving and the life cycle/permanent income hypothesis", *The Quarterly Journal of Economics*, Vol. 112, No 1, pp. 1-55.

Ceci, D. and Flaccadoro, M. (2026), "The recent weakness in household consumption: evidence from the euro area and Italy", *Occasional Papers*, Bank of Italy, forthcoming.

5 Has housing regained its allure? Insights from a new survey-based housing Sharpe ratio

Prepared by Niccolò Battistini, Adam Baumann, Johannes Gareis and Desislava Rusinova

Housing investment is a bellwether of the economy and the ECB Consumer Expectations Survey (CES) offers timely insights into how households perceive its attractiveness. Housing investment matters at both the individual and the aggregate level.[1] For many people it represents the most important financial decision in their lifetime, while at the macroeconomic level it primarily serves as a leading indicator of overall economic activity.[2] Taken together, these two perspectives suggest that household perceptions contain valuable information for tracking fluctuations in housing investment and also, potentially, for anticipating broader economic developments. The CES provides a direct, qualitative measure of household sentiment towards housing as an investment – namely the share of respondents who today consider buying a property in their neighbourhood as a good investment. To complement this measure, this box introduces an indirect, quantitative indicator of the attractiveness of housing investment for households: the Sharpe ratio, a widely used financial metric that relates the return on an investment to its risk.[3]

The housing Sharpe ratio is derived from household house price expectations, combined with a measure of the risk-free interest rate. Specifically, the indicator takes the population average of the mean household's one-year-ahead house price growth expectations and subtracts a risk-free return – proxied by the observed interest rate on one-year deposits. This difference is then divided by a measure of households' uncertainty regarding house price growth – calculated as the average of the standard deviations of household one-year-ahead house price growth expectations.[4] The ratio increases either when households expect stronger house

1 See Piazzesi and Schneider (2016) for a literature review on the characteristics of housing and housing markets and their link to monetary policy.

2 While residential investment is itself an expenditure component, it also has significant implications for other components. For instance, consumption of home goods increases when new or refurbished housing is equipped. Housing-related decisions tend to be strongly correlated across households, since they are affected by aggregate variables such as demographic transitions and credit and financing conditions. They therefore act as an important propagating mechanism for underlying shocks. Consequently, residential investment developments can have a wider impact on the economy. Residential investment developments in particular have been found to lead developments in GDP, especially before recessions. See, among others, Leamer (2007) and Leamer (2015) for the role of housing investment in the business cycle in the United States as well as Battistini et al. (2018) for its role as predictor of recessions in the euro area.

3 The Sharpe ratio measures how much excess return an investor receives for the additional volatility involved in holding a riskier asset. A higher ratio implies a higher return relative to the associated risk. The Sharpe ratio is used here as a cyclical indicator of the attractiveness of housing investment based on households' expectations, rather than as a tool for comparing its risk-return profile with that of other asset classes. Standard caveats apply, as housing returns differ from other assets in terms of liquidity, leverage and distributional features.

4 Individual distributions of household expectations are derived from a CES question in which respondents allocate probabilities (summing up to 100%) across ten bins for expected house price growth one year ahead, ranging from -12% to +12% year-on-year. These data allow an empirical probability density function to be fitted for each household in the panel, from which the individual mean and standard deviation can be computed.

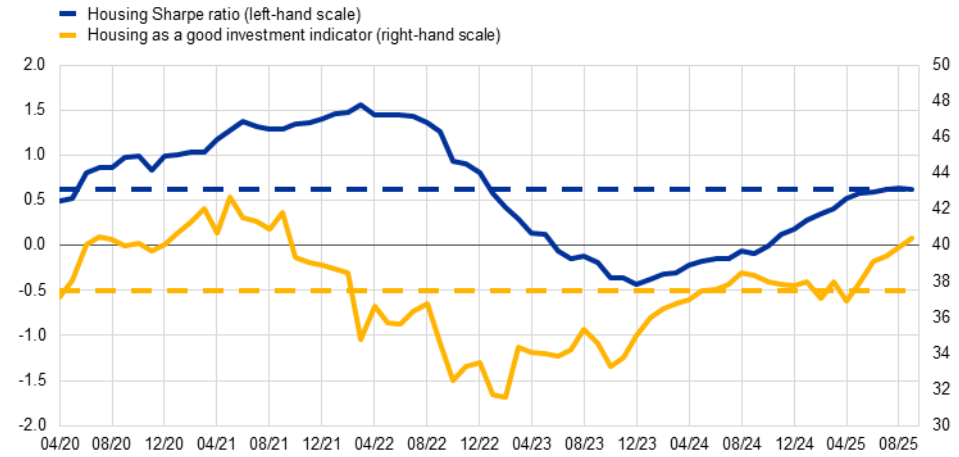
price growth relative to prevailing risk-free rates (i.e. a higher excess return on housing investment), or when they are more certain about their expectations. And when the opposite is the case, it falls. In this way, it captures shifts in the perceived financial attractiveness of housing investment.

The housing Sharpe ratio has improved markedly over the past year but has remained below its peak of early 2022 (Chart A). Following the COVID-19 pandemic, it rose to a high in early 2022 before falling sharply. A turning point occurred in late 2023, when the ratio began to recover steadily. By September 2025, it had risen slightly above its sample average but remained well below its previous peak. A broadly similar pattern is observed for the "housing as a good investment" indicator (the share of respondents who consider buying a property in their neighbourhood today as a good investment). This started both to decline and to recover somewhat earlier than the housing Sharpe ratio and stood slightly above its sample average in September 2025, though still below its 2021 peak.

Chart A

Housing Sharpe ratio and housing as a good investment indicator

(left-hand scale: mean indicator; right-hand scale: percentage of respondents)



Sources: CES and ECB staff calculations.
Notes: The housing as a good investment indicator measures the share of respondents who consider buying a property in their neighbourhood today to be a "good" or "very good" investment. The blue and yellow dashed lines represent the sample average of the housing Sharpe ratio (0.62) and the housing as a good investment indicator (37.5%) respectively. The latest observations are for September 2025.

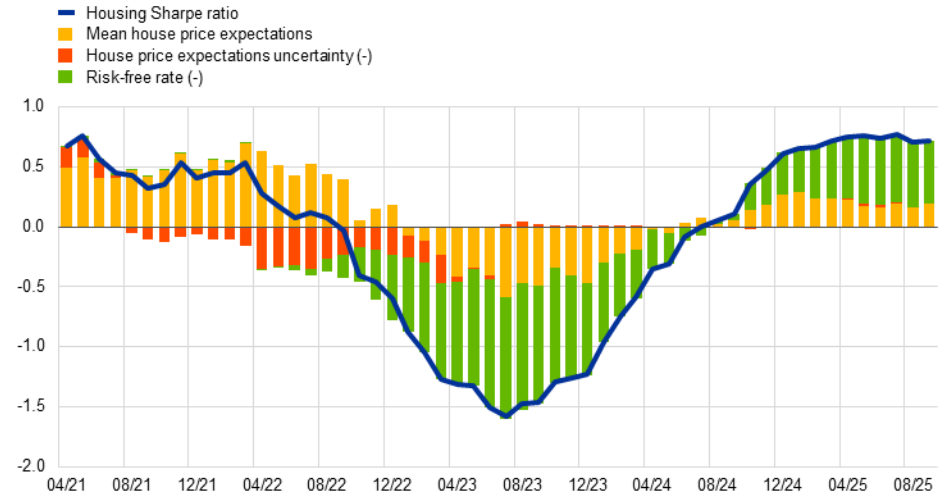
Looking at its components, in recent years the housing Sharpe ratio has mainly reflected fluctuations in house price growth expectations and in the risk-free interest rate (Chart B). Between the end of 2021 and mid-2023, the (year-on-year growth rate of the) housing Sharpe ratio fell strongly. First house price growth uncertainty and later mean house price growth expectations weighed on households' perceptions of the attractiveness of housing. In addition, the rise in the risk-free rate during the ECB's monetary policy tightening phase also exerted downward pressure on the housing Sharpe ratio from mid-2022 to late 2023. The increase in the housing Sharpe ratio since July 2023 has been supported by a rise in households' house price growth expectations, with only a minor contribution from

uncertainty.[5] Moreover, it has reflected the drop in the risk-free rate, as monetary policy has normalised again in response to easing inflationary pressures.

Chart B

Decomposition of the housing Sharpe ratio

(year-on-year changes in the mean indicator and contributions of its components)



Sources: CES and ECB staff calculations.
Note: The latest observations are for September 2025.

The average housing Sharpe ratio over the period from April 2020 to September 2025 varies markedly across households according to their demographic and economic characteristics, as views on both future house prices and the uncertainty around them differ (Chart C). On average, older, male, wealthier, employed and more financially literate households display higher Sharpe ratios than the respective reference group of households. This is largely owing to lower uncertainty around house price expectations, although differences in mean house price expectations also play a role for some categories. In terms of housing choices, households living in cities or suburban areas report higher ratios than those in rural areas, mainly reflecting higher mean house price growth expectations. Moreover, the housing Sharpe ratio is typically lower for homeowners than for renters, driven by lower mean expectations. Among homeowners however it does not differ significantly between outright owners and those with mortgages.[6]

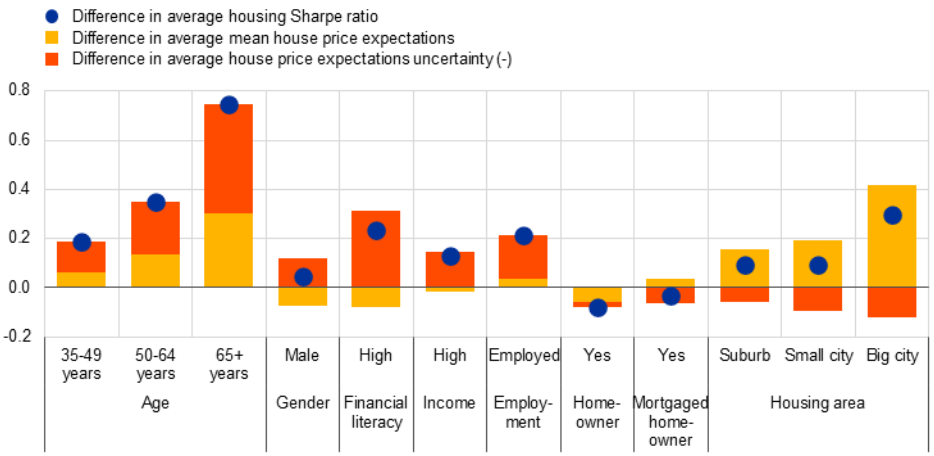
5 House price uncertainty has been on a slight downward trend since early 2022, despite significant volatility in households' expectations for house price growth, which initially lost steam then recovered momentum. This suggests that, while households revised their mean expectations notably, uncertainty about the magnitude of house price growth diminished, limiting the role of uncertainty in the housing Sharpe ratio.

6 These patterns in the housing Sharpe ratio across housing choices differ considerably from those in the qualitative indicator of housing as a good investment. According to the latter, homeowners perceive housing as a good investment significantly more often than renters do – and this holds especially for those with mortgages. See Battistini et al. (2023).

Chart C

Housing Sharpe ratio by economic and demographic characteristics of households

(difference from base category in average mean indicator and contributions of components)



Sources: CES and ECB staff calculations.
Notes: The reference groups (in order) are defined as follows: 18-34 years old; female; low financial literacy; low income; unemployed; not a homeowner; no mortgage; living in a village. Low income refers to the bottom 50% and high income to the top 20%. Financial literacy is split into two groups: individuals scoring 3 or 4 out of 4 on the CES financial literacy quiz (high literacy) and those scoring lower (low literacy). Homeowner = "no" if respondents are renters or inhabit the dwelling free of charge and "yes" if they reported owning (with or without a mortgage). Mortgaged homeowner = "no" if respondents reported owning their home outright and "yes" if they reported owning with a mortgage. The housing area categories are: (1) a big city with more than 500,000 inhabitants; (2) a suburb or the outskirts of a big city; (3) a city with up to 500,000 inhabitants; (4) a village or rural area. Average Sharpe ratios and contributions of components are calculated over the period from April 2020 to September 2025. The risk-free rate is excluded from these calculations, as it is constant across households.

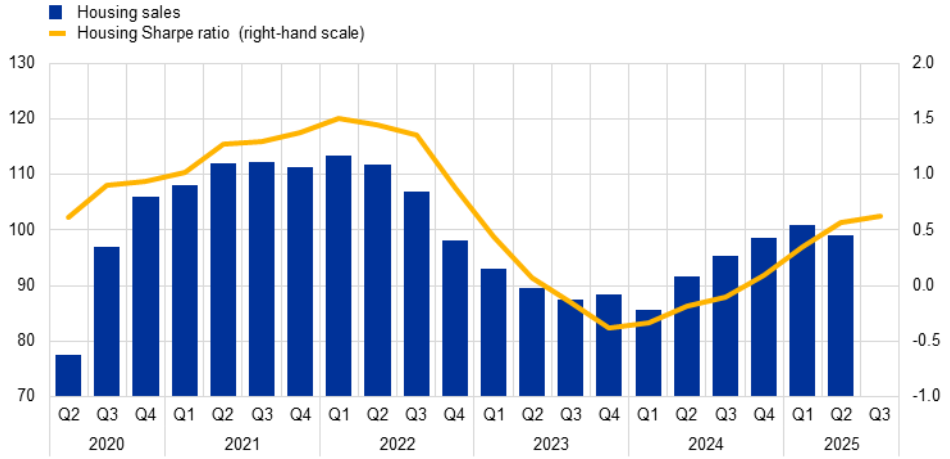
The housing Sharpe ratio points to a further moderate recovery in housing investment. A comparison of developments in the housing Sharpe ratio and actual housing sales shows a close correlation between the two series, suggesting that the housing Sharpe ratio is a relevant indicator for monitoring broader housing market developments (Chart D). Specifically, the increase in the ratio up to September 2025 indicates that housing sales are likely to continue rising, following their slight decline in the second quarter. This, in turn, should support a positive near-term outlook for housing investment and for home goods consumption, which both tend to follow developments in housing sales.[7]

[7] See Battistini and Gareis (2025).

Chart D

Housing sales and housing Sharpe ratio

(left-hand scale: index, 2019 = 100; right-hand scale: quarterly averages of mean indicator)



Sources: Eurostat, CES and ECB staff calculations.
Notes: Housing sales are based on an aggregate of Eurostat data and national data sources for euro area countries. The latest observations for housing sales and the housing Sharpe ratio are for the second quarter of 2025 and September 2025 respectively.

References

Battistini, N., Charalampakis, E., Gareis, J. and Rusinova, D. (2023), "Why has housing lost its lure? Evidence from the ECB's Consumer Expectations Survey", *Economic Bulletin*, Issue 5, ECB.

Battistini, N. and Gareis, J. (2025), "The ripple effects of monetary policy on housing and consumption", *The ECB Blog*, ECB, 31 July.

Battistini, N., Le Roux, J., Roma, M. and Vourdas, J. (2018), "The state of the housing market in the euro area", *Economic Bulletin*, Issue 7, ECB.

Leamer, E. (2007), "Housing IS the business cycle", Proceedings – Economic Policy Symposium – Jackson Hole, Federal Reserve Bank of Kansas City, pp. 149-233.

Leamer, E. (2015), "Housing Really Is the Business Cycle: What Survives the Lessons of 2008–09?", Journal of Money, Credit and Banking, Vol. 47, Issue S1, March/April 2015, pp. 43-50.

Piazzesi, M. and Schneider, M. (2016), "Housing and Macroeconomics", *Handbook of Macroeconomics*, Vol. 2, pp. 1547-1640.

6 Holding on: labour hoarding and firms' expectations

Prepared by Katalin Bodnár, Vasco Botelho, Laura Lebastard and Marco Weissler

Firms that have faced adverse shocks to their business activity can decide to either shed labour or hold on to their workforce, i.e. "hoard labour". Labour hoarding occurs when firms are willing to retain their workforce even when facing a weakening of current and/or expected business conditions, for example related to lower demand or reduced profitability. The ECB's labour hoarding indicator measures the share of firms that have not reduced their workforce (employment margin) despite a recent worsening in their business conditions (activity margin), using data from the Survey on the Access to Finance of Enterprises (SAFE) in the euro area (Chart A).[1] Labour hoarding was a significant phenomenon during 2022 following the energy crisis.[2] While the labour hoarding indicator has gradually eased since the period of high inflation (peaking at almost 30% in the third quarter of 2022), it is still higher than its average value of 13% before the pandemic. In the third quarter of 2025, 17% of firms undertook labour hoarding. The recent decline in labour hoarding is mostly related to the normalisation of the economic situation of firms, as a lower share have reported a deterioration in their specific business conditions in the last three to six months. Yet more firms are facing adverse shocks than before the pandemic, i.e. the activity margin is still above the level seen in the fourth quarter of 2019.

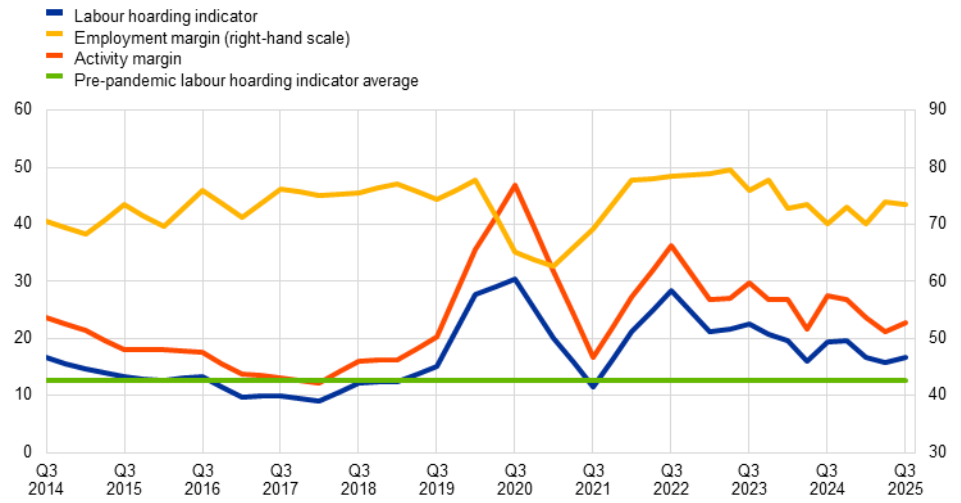
1 The ECB's labour hoarding indicator and its connection to the recent cyclical recovery in labour productivity are discussed in Botelho (2024) and Arce and Sondermann (2024).

2 The exceptional period of labour hoarding that occurred during the pandemic and the contribution of unique factors such as the widespread use of job retention schemes at that time are not covered in this box.

Chart A

Labour hoarding and firms' margins of adjustment

(shares of firms, in percentages)



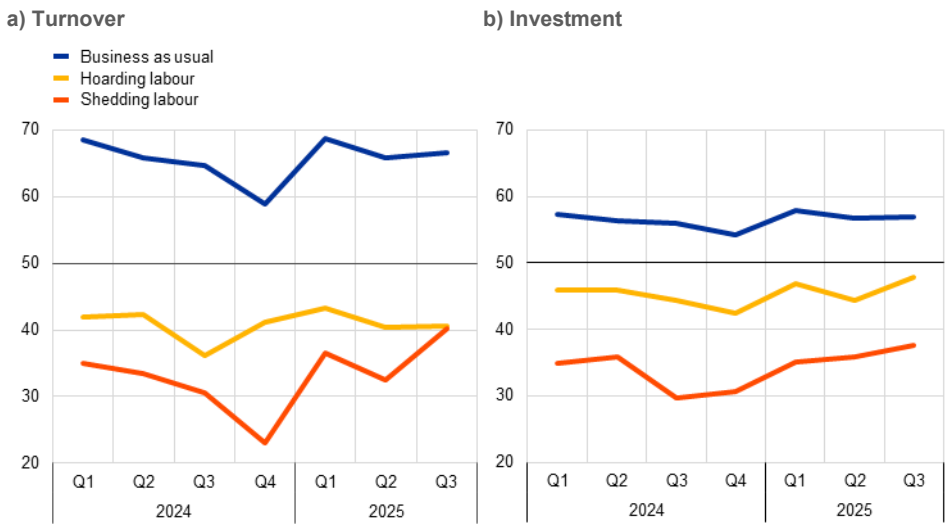
Sources: ECB and European Commission Survey on the Access to Finance of Enterprises (SAFE), and ECB staff calculations.
Notes: The activity margin reflects the share of firms that have reported facing a deterioration in their specific business conditions over the previous or current quarter, while the employment margin refers to the share of firms that have not reduced their workforce of all those that reported a deterioration in their business conditions. The ECB's labour hoarding indicator is the product of both margins. The pre-pandemic average of the labour hoarding indicator is calculated for the period from 2014 to 2019. The latest observations are for the third quarter of 2025.

Firms' decisions to hoard labour reflect their expectations about future business conditions (Chart B). We categorise firms into three groups: (1) those not reporting a deterioration in their past business conditions ("business as usual"); (2) those that have faced adverse shocks but have not reduced their workforce ("hoarding labour"); and (3) those that have faced adverse shocks and have reduced their number of employees ("shedding labour") during the last quarter. Firms in the "business as usual" category do not expect their sales or their investment to deteriorate in the next three months. Firms in the other two groups expect lower sales and investment, but firms hoarding labour tend to be less pessimistic about the near future than firms shedding employees. This suggests that labour hoarding decisions depend on firms' expectations about their future business conditions, at least in the short term.

Chart B

Firms' short-term expectations about turnover and investment

(diffusion index; 50 = neutral territory)



Sources: ECB and European Commission Survey on the Access to Finance of Enterprises (SAFE), and ECB staff calculations.
Notes: The "business as usual" category includes firms that have not reported a past deterioration in their specific business conditions; firms in the "hoarding labour" group have faced adverse shocks but have not reduced their workforce during the last quarter and firms in the "shedding labour" group have faced adverse shocks and have reduced their workforce. Firms' expectations are for the next quarter. Levels above 50 signal an increase and levels below 50 indicate a decrease. The latest observations are for the third quarter of 2025.

Firms hoarding labour expect higher labour cost growth than other firms that have faced a deterioration in activity, mainly owing to expectations of higher employment growth (Chart C). The labour cost growth expectations of firms in the labour hoarding group are slightly lower than those of firms in the "business as usual" category but generally above the expectations of firms that have shed labour. Decomposing this expected labour cost growth into employment and wage growth expectations shows that firms in the "business as usual" category expect employment to increase over the next year. Firms in the labour hoarding group expect employment to be broadly unchanged, while firms that have already shed labour expect employment growth to remain negative. However, firms in all groups tend to expect a similar moderation in nominal wage growth per worker. This pattern suggests that collective bargaining and centralised wage-setting mechanisms could play an important role.[3] Thus, differences in expected labour cost growth owe mainly to differing employment growth expectations across the groups of firms.

[3] Similarity in wage growth is also consistent with a fully decentralised competitive labour market as wages equalised in a competitive labour market. See Bates et al. (2025) for an overview of recent wage growth developments. Additionally, Bates et al. (2024) provide an analysis of collective bargaining agreements.

Chart C

Firms' expectations about growth in their total labour costs, employment and wages

(annual percentage changes)

Sources: ECB and European Commission Survey on the Access to Finance of Enterprises (SAFE), and ECB staff calculations.
Notes: The charts show firms' expectations for the next 12 months. Total labour cost growth is calculated as employment growth times nominal wage growth. The latest observations are for the third quarter of 2025.

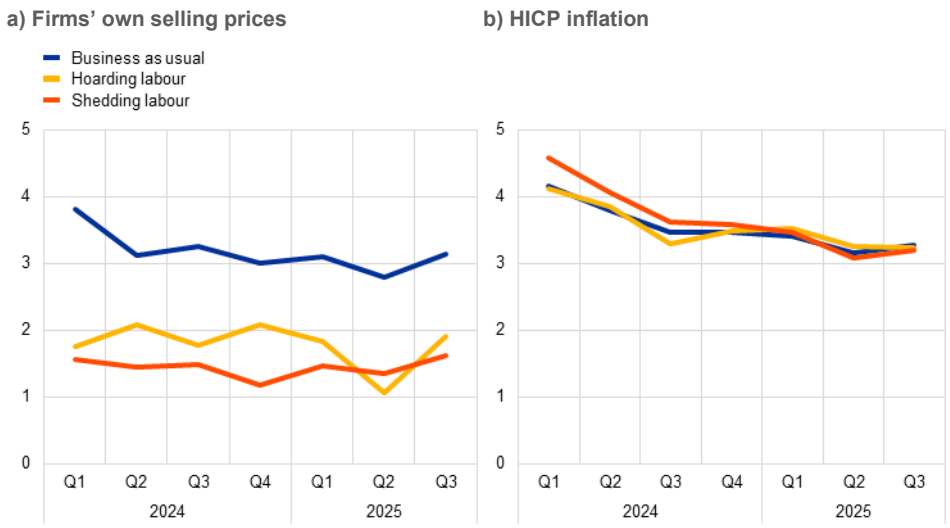
Firms reporting a deterioration in business activity tend to have lower expectations about future increases in their selling prices one year ahead (Chart D). Firms in the "business as usual" category expect their selling prices to continue to increase at a faster pace (by 3.1% year on year in the third quarter of 2025) than firms that have been negatively affected by shocks to their business activity in the past (1.9% for firms hoarding labour and 1.6% for firms not hoarding labour in the third quarter of 2025). These differences are not driven by firms' expectations about the Harmonised Index of Consumer Prices (HICP), as all groups have similar HICP inflation expectations on average. This suggests that independently of the decision to hoard labour, firms affected by a deterioration in their business activity do not expect to be able to increase their prices by as much as their peers, hinting at weaker demand for their products or stronger competitive pressures. This weaker pricing power while facing similar wage growth could erode profit margins, forcing these firms to explore other channels to lower their labour costs.[4]

[4] Ferrando et al. (2025) link HICP inflation expectations with employment growth expectations, although this channel contributes little to developments in inflation expectations over time.

Chart D

Firms' expectations about selling prices and inflation

(annual percentage changes)



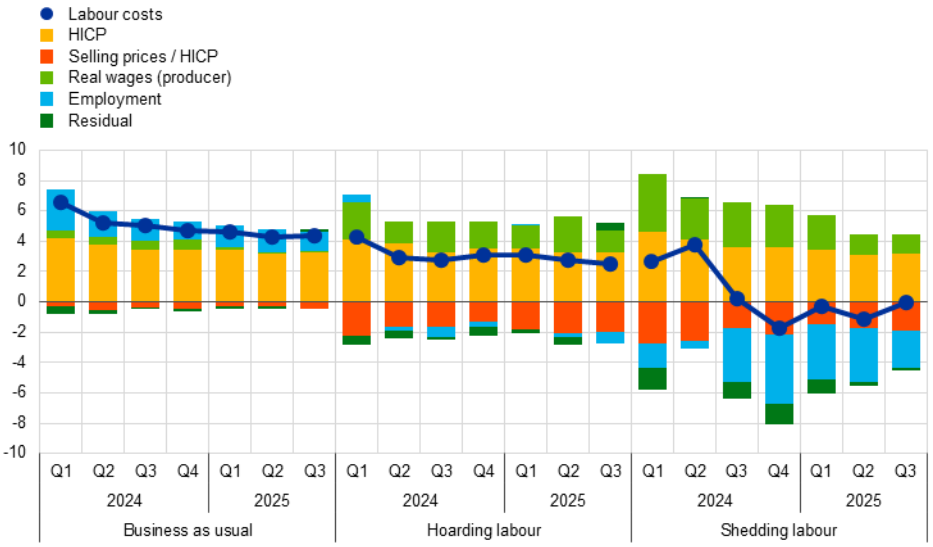
Sources: ECB and European Commission Survey on the Access to Finance of Enterprises (SAFE), and ECB staff calculations.
Notes: The charts show firms' expectations for the next 12 months. The latest observations are for the third quarter of 2025.

Overall, there is evidence of a link between firms' labour hoarding decisions and their future labour cost growth expectations. Chart E illustrates the factors driving firms' total labour cost growth expectations across the groups. The higher labour cost growth expectations of firms in the "business as usual" category can be explained by their higher employment expectations (blue bars). By contrast, firms in the labour hoarding and labour shedding groups expect lower employment growth, but higher wage costs once deflated by their own selling prices (light green bars). This indicator of real wages is the relevant price of labour for the firms as it reflects their capacity to finance labour costs by raising their selling prices. Given that firms in the labour hoarding and labour shedding groups expect to be less able to increase their selling prices in the future, they expect their current workforce to become relatively more expensive in the coming year. Accordingly, firms' labour cost growth expectations offer valuable insights for assessing labour hoarding decisions. They also help to better understand the cyclical recovery in labour productivity that usually follows periods characterised by strong labour hoarding.

Chart E

Decomposition of labour cost growth expectations by firm group

(annual percentage changes and percentage point contributions)



Sources: ECB and European Commission Survey on the Access to Finance of Enterprises (SAFE), and ECB staff calculations.
Notes: The chart decomposes the evolution of firms' expected labour costs in terms of their components: employment, real wages and selling price inflation. The indicator for real wages reflects the firm's ability to finance labour costs by increasing its selling prices. For the same wage increase, a worker becomes more expensive if the firm is less able to increase its prices in comparison with its peers. The price inflation component has been rewritten in terms of firms' HICP expectations. Thus, the "Selling prices / HICP" component is the ratio between selling price inflation expectations and HICP inflation expectations, and provides an indication of how firms expect their selling prices to evolve in comparison with HICP inflation. The decomposition is additive, with the components summing up to the expected total labour cost. The residual caters for possible aggregation biases, as all responses are firms' reported expectations over the next year and are retrieved from the SAFE. The latest observations are for the third quarter of 2025.

References

Arce, Ó. and Sondermann, D. (2024), "Low for long? Reasons for the recent decline in productivity", *The ECB Blog*, ECB, 6 May.

Bates, C., Bodnár, K., Healy, P. and Roca I Llevadot, M. (2025), "Wage developments during and after the high inflation period", *Economic Bulletin*, Issue 1, ECB.

Bates, C., Botelho, V., Holton, S., Roca I Llevadot, M. and Stanislao, M. (2024), "The ECB wage tracker: your guide to euro area wage developments", *The ECB Blog*, ECB, 18 December.

Botelho, V. (2024), "Higher profit margins have helped firms hoard labour", *Economic Bulletin*, Issue 4, ECB.

Ferrando, A., Lamboglia, S. and Rariga, J. (2025), "Determinants of inflation expectations of firms in the SAFE", *Economic Bulletin*, Issue 4, ECB.

7 Inside the food basket: what is behind recent food inflation?

Prepared by Colm Bates, Friderike Kuik, Elisabeth Wieland and Zivile Zekaite

Understanding the persistent food inflation in 2025 is important, not least because food price dynamics play a significant role in consumers' inflation perceptions and short-term inflation expectations. People pay special attention to food price developments because they purchase food frequently, it accounts for a sizeable share of their budgets and there is limited scope for substitution. This means food purchases may disproportionately influence their beliefs about overall inflation.[1] In its Consumer Expectations Survey (CES), the European Central Bank (ECB) has collected detailed information about inflation perceptions and expectations regarding major consumer basket items on a semi-regular basis since 2022. The analysis shows that perceived and expected food inflation have a relatively strong influence on overall inflation perceptions and one-year expectations (Chart A, panel a). At longer horizons, food does not play such an outsized role. Furthermore, almost two-thirds of respondents stated that food prices influence their inflation expectations, a higher share than for any other basket item (Chart A, panel b). These respondents were more likely to expect inflation above the ECB's 2% target for the next 12 months than the remaining third. Understanding recent food price dynamics is therefore important both for monitoring overall inflation and for assessing consumers' expectations.

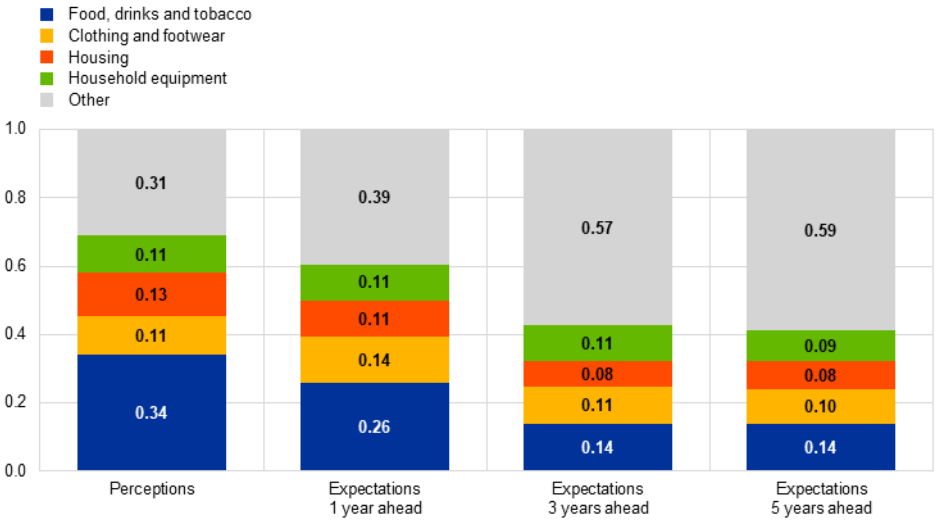
1 See D'Acunto et al. (2025) and the references therein.

Chart A

Relevance of food prices for inflation expectations

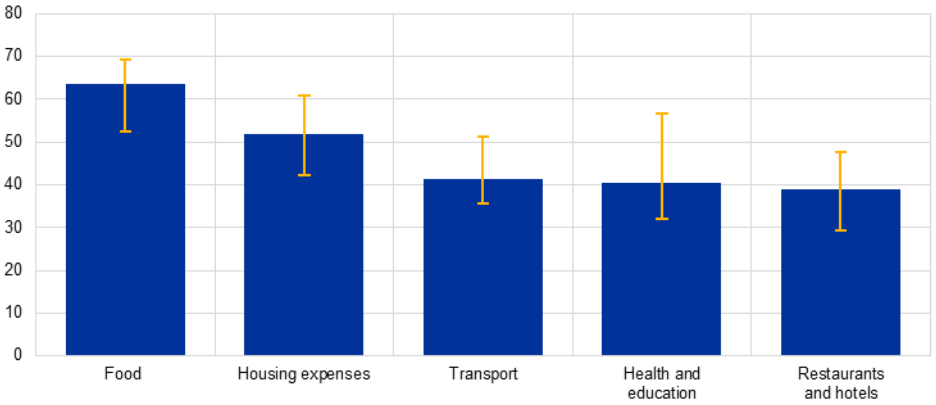
a) Relative importance of food inflation for inflation perceptions and expectations

(relative weights)



b) Top five drivers of consumer inflation expectations

(percentages, percentage share of respondents)



Sources: ECB CES, ECB calculations.
Notes: The chart in panel a) shows the relative weights of consumer basket items based on the additional explanatory power of the items in the regressions for inflation perceptions (first bar) and expectations (controlling for perceptions, remaining bars) over a regression using only fixed effects. The "Other" category includes the contributions of the items "Health", "Transport", "Communication", "Recreation and culture", "Education", and "Restaurants and hotels". CES data are for December 2022, January, July and December 2023, January 2024, and May and June 2025. Panel b) indicates responses to the following question in the CES: *When you think about how prices in general in the country you currently live in will change over the next 12 months, which of the items listed below influence your expectations?* Yellow ranges indicate the minimum and maximum shares reported across countries. "Food" refers to food and drinks, including tobacco.

Food inflation has remained elevated this year, but this is mainly due to only a few items.[2] The annual rate of euro area HICP food inflation had declined to stand at 2.4% in November 2025, having peaked at 15.5% in March 2023. It averaged 2.9% in 2025 (January-November) and has remained above its pre-pandemic long-term average of 2.2% since December 2021. Among the different HICP food components, the main drivers of the above-average inflation rate in 2025 are "coffee, tea and cocoa", "sugar, jam, honey, chocolate and confectionary" (sweets) and

2 See also Bobeica, Koester and Nickel (2025).

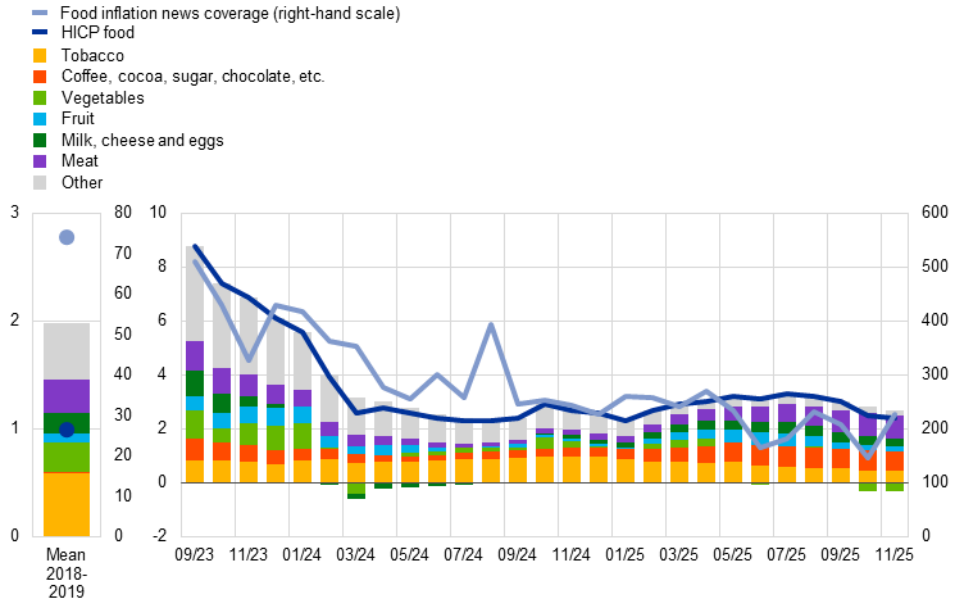
“meat”. In recent months, coffee, tea, cocoa, sweets and meat accounted for over 50% of the annual food inflation rate, despite having a weight of less than 25% in HICP food. By contrast, the contributions of the remaining food items have largely normalised since the 2022-23 inflation surge. Attention to food inflation in the media has also eased, but it remains higher than in 2019 (Chart B, panel a). More recently, month-on-month growth rates suggest easing price pressures for some items, for instance, coffee, tea, cocoa and sweets (Chart B, panel b), and annual rates have started to come back closer to their long-term average.

Chart B

HICP food inflation

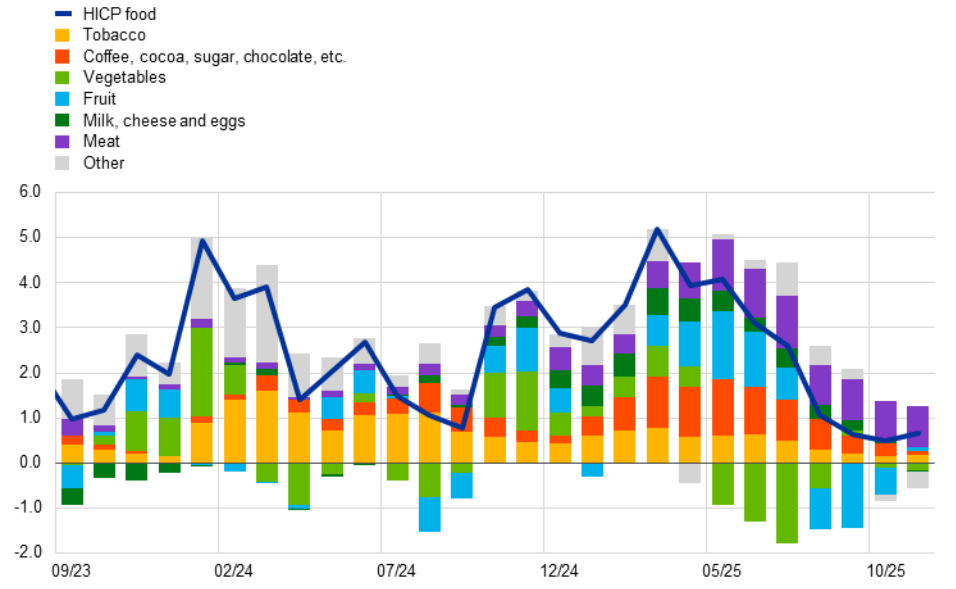
a) HICP food inflation and media attention

(left-hand scale: annual percentage changes, percentage point contributions; right-hand scale: index)



b) Short-term price dynamics of HICP food

(3-month moving average of annualised month-on-month percentage changes, percentage point contributions)



Sources: Eurostat, Factiva and ECB calculations.
Notes: Based on 15 COICOP categories (mostly four-digit level). "Other" includes "Bread and cereals", "Fish", "Oils and fats", "Food products n.e.c.", "Mineral waters, soft drinks, fruit and vegetable juices", "Spirits", "Wine" and "Beer". "Food inflation news coverage" is the monthly average of an updated underlying daily index as described by Aarab et al. (2025). The latest observations are for November 2025.

Food commodity prices have been important drivers of recent consumer food price increases, reflecting extreme weather events as well as other structural factors. Cocoa and coffee commodity prices reached new peaks in early 2025, having more than doubled since January 2024 (Chart C, panel a). While cocoa and

coffee commodity prices have eased somewhat from their respective peaks, past increases have been passed through to consumer food prices with a delay. These increases can be partly attributed to extreme weather (Kotz et al., 2025). Similarly, findings from the ECB's recent contacts with non-financial companies suggest that food price developments are also affected by climate change (Kuik et al., 2025). For example, we estimate that the 2025 summer heat wave could increase unprocessed food prices in the euro area by 0.4 to 0.7 percentage points after one year.[3] On the other hand, European meat (especially beef) prices have been driven by a continuing structural decline in supply, amid robust demand.[4] As such, European farm-gate prices for meat peaked in June 2025 – 17% higher than in January 2024 – before easing slightly thereafter.

[3] Based on an update of the analysis published in Kotz et al. (2024).

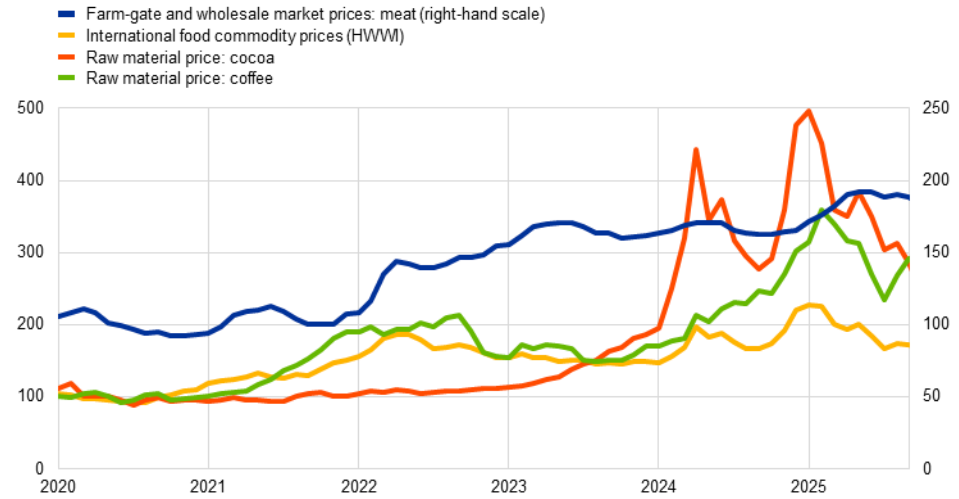
[4] See the European Commission's factsheet on the meat market for details.

Chart C

Drivers of HICP food inflation

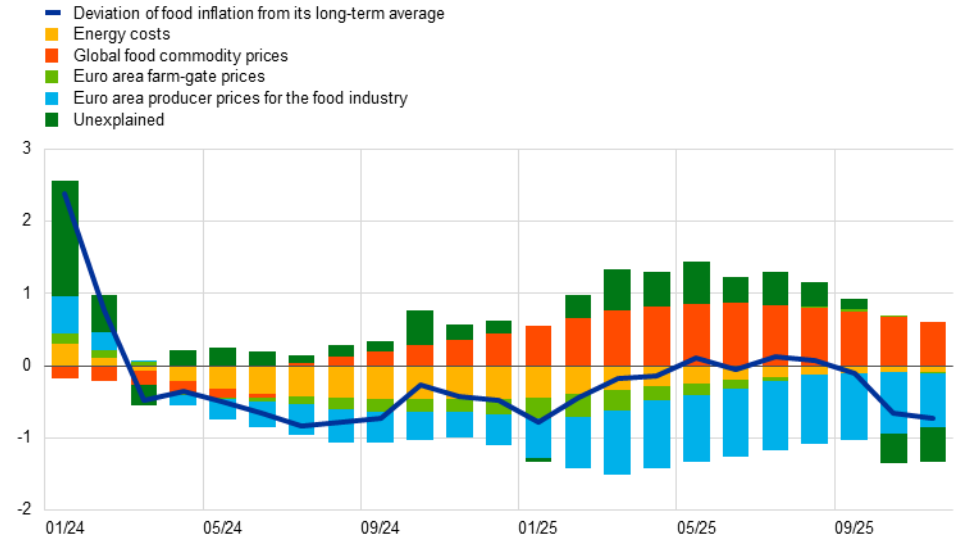
a) Developments in food commodity prices

(indices, 2020 = 100)



b) Model-based decomposition of HICP food inflation

(percentage point contributions to deviations from long-term averages)



Sources: Eurostat, European Commission, HWWI and ECB calculations.
Notes: In panel a), the latest observations are November 2025. In panel b), the chart shows a Bayesian Vector Autoregression-based decomposition of the drivers behind the deviation in euro area food inflation from its long-term average (and initial condition) using the ECB's BEAR toolbox. Identification of the drivers follows the Cholesky decomposition outlined in Ferrucci et al. (2012), which imposes the following order of innovations: global food commodity prices (in euro, from HWWI), euro area producer prices for energy, euro area farm-gate prices, producer prices in the food sector, consumer prices. This ordering is consistent with the pricing chain assumption. The estimation sample is from December 1996 to November 2025.

A model-based decomposition of food inflation into its drivers also suggests that commodity prices have played a more important role recently (Chart C, panel b).[5] The decomposition shows a moderation of cost pressures in recent months on the back of slightly lower contributions from international commodity prices and a smaller (now negative) contribution from an "unexplained" component

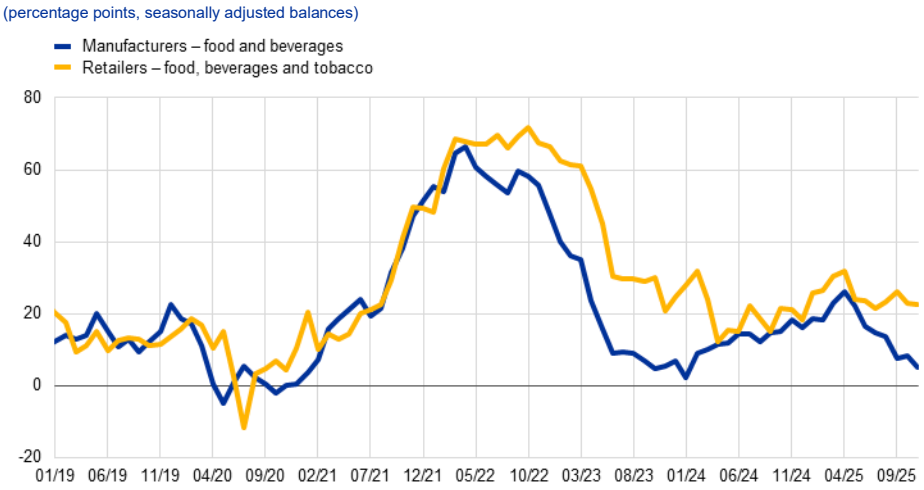
[5] For details on the model-based decomposition see Kuik et al. (2024).

which may be linked to pass-through from past wage growth in the retail sector.[6] For example, the latest data on sectoral compensation per employee show that wage growth in the trade, transport, and accommodation sector – encompassing the food retail sector – remained elevated in the first half of 2025, above its pre-pandemic average.

Looking ahead, food inflation is expected to ease further, supported in the near term by easing selling price expectations. The December 2025 Eurosystem staff macroeconomic projections for the euro area expect food inflation to decline in the short term, reaching 2.1% in the third quarter of 2026, and to remain at moderate levels throughout the rest of the projection horizon. In the very near term, this view is supported by manufacturers of food and beverages in the European Commission's business survey, whose selling price expectations for the next three months have declined since April, falling below the long-term average observed between 1999 and 2019 (Chart D). In contrast, selling price expectations among retailers of food, beverages and tobacco moderated less markedly and have also remained above their long-term average, which could partly reflect the still elevated wage growth in this sector.

Chart D

Selling price expectations of food manufacturers and retailers – next three months



Source: European Commission.
Notes: Balances are constructed as the difference between the percentages of respondents giving positive and negative replies. The latest observation is for November 2025.

References

Aarab, I., Bańbura, M., Bobeica, E. and Leguay, E. (2025), "Monitoring attention to inflation in the news", *Economic Bulletin*, Issue 6, ECB.

Bobeica, E., Koester, G. and Nickel, C. (2025), "When groceries bite: the role of food prices for inflation in the euro area", *The ECB Blog*, ECB, 25 September.

6 Note that the model implicitly considers wages in the producing sector via producer prices.

D'Acunto, F., De Fiore, F., Sandri, D. and Weber, M. (2025), "A global survey of household perceptions and expectations", *BIS Quarterly Review*, September 2025.

Ferrucci, G., Jiménez-Rodríguez, R. and Onorante, L. (2012), "Food Price Pass-Through in the Euro Area: Non-Linearities and the Role of the Common Agricultural Policy", *International Journal of Central Banking*, Vol. 8, March 2012, pp. 179-218.

Kotz, M., Donat, M.G., Lancaster, T., Parker, M., Smith, P., Taylor, A. and Vetter, S.H. (2025), "Climate extremes, food price spikes, and their wider societal risks", *Environmental Research Letters*, Vol. 20, No 8.

Kotz, M., Kuik, F., Lis, E. and Nickel, C. (2024), "Global warming and heat extremes to enhance inflationary pressures", *Nature Communications Earth & Environment*, Vol. 5, No 115.

Kuik, F., Lis, E.M., Paredes, J. and Rubene, I. (2024), "What were the drivers of euro area food price inflation over the last two years?", *Economic Bulletin*, Issue 2, ECB.

Kuik, F., Morris, R., Roma, M. and Slavík, M. (2025), "Main findings from the ECB's recent contacts with non-financial companies", *Economic Bulletin*, Issue 7, ECB.

8 Liquidity conditions and monetary policy operations from 30 July to 4 November 2025

Prepared by Kristian Tötterman and Samuel Bieber

This box describes the Eurosystem liquidity conditions and monetary policy operations in the fifth and sixth reserve maintenance periods of 2025. Together, these two maintenance periods ran from 30 July to 4 November 2025 (the "review period").

Excess liquidity in the euro area banking system continued to decline gradually. Liquidity provision decreased over the review period, owing primarily to lower Eurosystem holdings under the asset purchase programme (APP) and pandemic emergency purchasing programme (PEPP) following the discontinuation of APP reinvestments at the beginning of July 2023 and PEPP reinvestments at the end of December 2024. This decrease was partly offset by the continuing reduction in liquidity absorption through net autonomous factors.

Liquidity analysis of autonomous factors

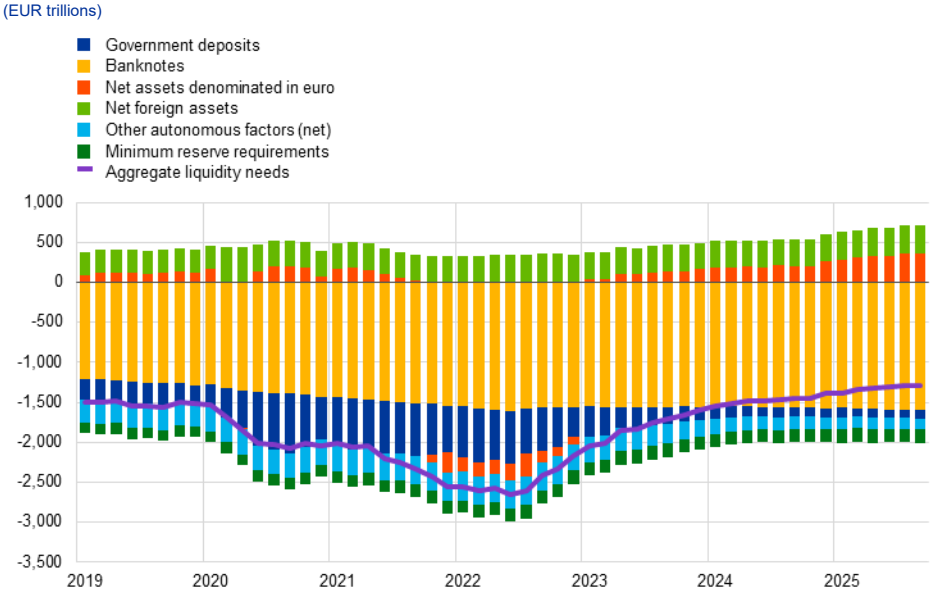
Starting with this issue of the Economic Bulletin, there is a slight change to how Eurosystem balance sheet items are categorised in this box. This is to enhance understanding of the factors that drive changes in autonomous factors and their liquidity implications. For the analysis of Eurosystem liquidity conditions, autonomous factors are categorised as follows: (i) net assets denominated in euro, (ii) net foreign assets, (iii) government deposits, (iv) banknotes, and (v) other autonomous factors (net). The first two factors are liquidity-providing in net terms, while the remaining three factors are liquidity-absorbing in net terms. The allocation of balance sheet items to these groups has now changed slightly. First, the revaluation accounts of non-euro holdings, which were previously categorised as other autonomous factors (net), have been integrated into the net foreign assets category, making the typically minimal liquidity impact of changes in that category more transparent. Second, net assets denominated in euro now encompass all major euro-denominated, non-monetary policy-related deposit-taking and investment activities. Previously, only some of these activities were assigned to this category, while the remaining items were allocated to other autonomous factors (net). Third, the residual other autonomous factors (net) category now includes significantly fewer balance sheet items, such as the Eurosystem's capital, reserves and provisions. The historical time series, which reflect this revised breakdown, are available on the ECB Data Portal under the Liquidity table publication.

Liquidity needs

The average daily liquidity needs of the banking system, defined as the sum of net autonomous factors and reserve requirements, decreased by €30 billion to €1,288 billion over the review period (Chart A). This decline was driven by an increase in liquidity-providing autonomous factors and a slight reduction in liquidity-absorbing autonomous factors. Minimum reserve requirements remained stable at €168 billion, with no effect on overall liquidity needs (Table A).

Chart A

Changes in aggregate liquidity needs



Source: ECB.
Note: The latest observations are for the sixth maintenance period of 2025.

Liquidity-providing autonomous factors rose by €28 billion over the review period, mainly reflecting an increase of €25 billion in net assets denominated in euro. This overall increase was primarily attributable to the continued decline in euro-denominated non-monetary policy deposits. Euro-denominated non-monetary policy investments went up slightly, which also contributed to the increase in net assets denominated in euro. Meanwhile, net foreign asset holdings rose marginally by €3 billion, with only a minimal impact on overall liquidity conditions.

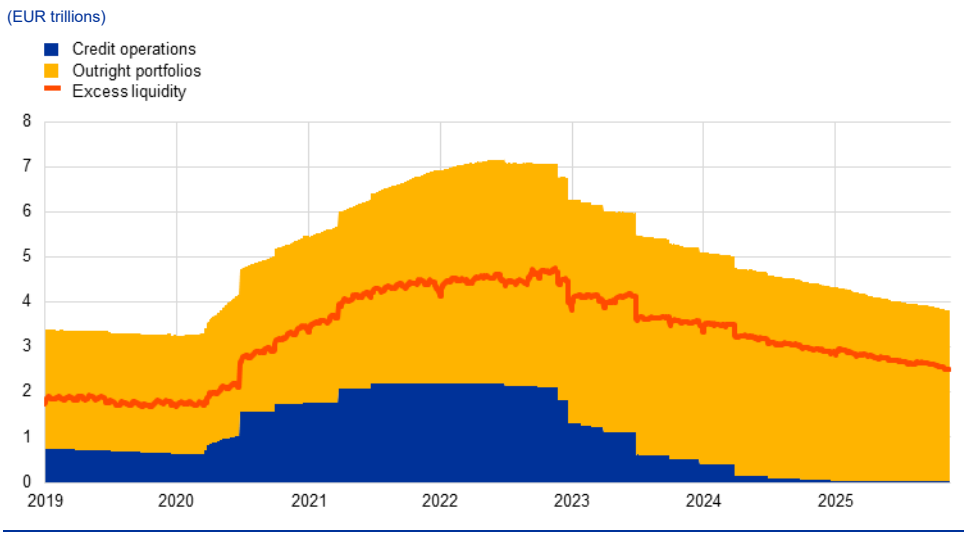
Liquidity-absorbing autonomous factors decreased by €3 billion over the review period, owing primarily to a decline in other autonomous factors. On average, net other autonomous factors fell by €18 billion, which mainly reflected a reduction on the liability side. Government deposits increased slightly by €6 billion to €110 billion, driven by higher government issuance in the autumn and, consequently, larger cash buffers held by national treasuries. The average value of banknotes in circulation increased slightly by €8 billion over the review period, reaching €1,591 billion.

Liquidity provided through monetary policy instruments

The average amount of liquidity provided through monetary policy instruments decreased by €127 billion to €3,901 billion over the review period (Chart B). The decline in the liquidity supply was largely driven by a reduction in Eurosystem outright portfolios.

Chart B

Changes in daily liquidity provided through open market operations and excess liquidity



Source: ECB.
Note: The latest observations are for the sixth maintenance period of 2025.

The average amount of liquidity provided through outright monetary policy portfolio holdings went down by €125 billion to €3,881 billion over the review period. This decline was due to maturing APP and PEPP holdings not being reinvested.

The average amount of liquidity provided through credit operations fell by €3 billion to €21 billion over the review period. The average outstanding amount of main refinancing operations (MROs) and three-month longer-term refinancing operations (LTROs) decreased by around €1 billion and €2 billion respectively. Banks' muted participation in these regular operations reflects their comfortable liquidity position and the availability of alternative funding sources at attractive market rates and maturities.

Excess liquidity

Excess liquidity decreased by €97 billion to €2,614 billion over the review period (Chart B). Excess liquidity is the sum of bank reserves held in excess of minimum reserve requirements and banks' recourse to the deposit facility net of their recourse to the marginal lending facility. It reflects the difference between the total liquidity provided to the banking system via monetary policy instruments and the

liquidity needed by banks to cover their minimum reserves. Having peaked at €4,748 billion in November 2022, excess liquidity has since declined steadily.

Interest rate developments

During the review period, the Governing Council kept the three key ECB interest rates unchanged – including the deposit facility rate, through which it steers the monetary policy stance. The rates on the deposit facility, MROs and marginal lending facility remained at 2.00%, 2.15% and 2.40% respectively (Table B).

The average euro short-term rate (€STR) marginally increased over the review period, while maintaining a negative spread relative to the deposit facility rate. On average, the €STR was 7.5 basis points below the deposit facility rate over the review period, with this spread narrowing slightly from 7.9 basis points during the third and fourth maintenance periods of 2025.

The average euro area repo rate, as measured by the RepoFunds Rate Euro index, remained closer to the deposit facility rate than to the €STR. On average, the repo rate was equal to the deposit facility rate over the review period, which was also the case in the third and fourth maintenance periods of 2025.

Table A

Eurosystem liquidity conditions

(averages; EUR billions)

	Current review period: 30 July-4 November 2025						Previous review period: 23 April-29 July 2025	
	Fifth and sixth maintenance periods		Fifth maintenance period: 30 July-16 September 2025		Sixth maintenance period: 17 September-4 November 2025		Third and fourth maintenance periods	
Liquidity-providing factors								
Autonomous factors	713	(+28)	711	(+24)	715	(+4)	685	(+43)
- Net foreign assets	356	(+3)	354	(+0)	358	(+5)	353	(+6)
- Net assets denominated in euro	357	(+25)	358	(+24)	357	(-1)	332	(+37)
Monetary policy operations	3,901	(-127)	3,931	(-57)	3,871	(-60)	4,028	(-156)
- MROs	9	(-1)	8	(-0)	10	(+2)	10	(+0)
- LTROs	12	(-2)	12	(-1)	11	(-1)	13	(-3)
- Outright portfolios	3,881	(-125)	3,911	(-56)	3,850	(-61)	4,005	(-154)
- Other liquidity provision	0	(+0)	0	(+0)	0	(+0)	0	(+0)
Liquidity-absorbing factors								
Autonomous factors	1,844	(-3)	1,838	(-7)	1,850	(+12)	1,847	(+6)
- Banknotes in circulation	1,591	(+8)	1,593	(+5)	1,590	(-2)	1,583	(+14)
- Government deposits	110	(+6)	104	(+1)	116	(+11)	104	(-5)
- Other autonomous factors (net)	143	(-18)	141	(-13)	144	(+3)	161	(-2)
Monetary policy operations								
- Other liquidity absorption	0	(+0)	0	(+0)	0	(+0)	0	(+0)
Liquidity and standing facilities								
- Credit institutions' current accounts	174	(+1)	173	(+1)	175	(+1)	172	(+0)
- Minimum reserve requirements[1)]	168	(+1)	168	(+1)	168	(-0)	167	(+0)
- Marginal lending facility	0	(+0)	0	(+0)	0	(+0)	0	(-0)
- Deposit facility	2,608	(-98)	2,643	(-28)	2,573	(-70)	2,705	(-120)
- Excess liquidity[2)]	2,614	(-97)	2,648	(-28)	2,579	(-69)	2,711	(-120)
Other liquidity-based information								
- Aggregate liquidity needs[3)]	1,288	(-30)	1,283	(-30)	1,292	(+8)	1,318	(-36)
- Net autonomous factors[4)]	1,120	(-31)	1,116	(-31)	1,124	(+8)	1,151	(-37)

Source: ECB.
Notes: All figures in the table are rounded to the nearest €1 billion. Figures in brackets denote the change from the previous review or maintenance period. MROs stands for main refinancing operations and LTROs for longer-term refinancing operations.
1) Memo item that does not appear on the Eurosystem balance sheet and should therefore not be included in the calculation of total liabilities.
2) Computed as the sum of current accounts above minimum reserve requirements and the recourse to the deposit facility minus the recourse to the marginal lending facility.
3) Computed as the sum of net autonomous factors and minimum reserve requirements.
4) Computed as the difference between autonomous liquidity factors on the liabilities side and autonomous liquidity factors on the assets side.

Table B

Interest rate developments

(averages; percentages and percentage points)

	Current review period: 30 July-4 November 2025				Previous review period: 23 April-29 July 2025			
	Fifth maintenance period: 30 July-16 September 2025		Sixth maintenance period: 17 September-4 November 2025		Third maintenance period: 23 April-10 June 2025		Fourth maintenance period: 11 June-29 July 2025	
MROs	2.15	(+0.00)	2.15	(+0.00)	2.40	(-0.25)	2.15	(-0.25)
Marginal lending facility	2.40	(+0.00)	2.40	(+0.00)	2.65	(-0.25)	2.40	(-0.25)
Deposit facility	2.00	(+0.00)	2.00	(+0.00)	2.25	(-0.25)	2.00	(-0.25)
€STR	1.92	(+0.00)	1.93	(+0.00)	2.17	(-0.25)	1.92	(-0.25)
RepoFunds Rate Euro	1.99	(-0.01)	2.00	(+0.00)	2.25	(-0.24)	2.00	(-0.24)

Sources: ECB, CME Group and Bloomberg Finance L.P.
Notes: Figures in brackets denote the change in percentage points from the previous review or maintenance period. MROs stands for main refinancing operations and €STR for euro short-term rate.

Articles

1 What is the untapped potential of the EU Single Market?

Prepared by Roberto Bernasconi, Naïm Cordemans, Vanessa Gunnella, Giacomo Pongetti and Lucia Quaglietti

1 Introduction

The EU Single Market brings together 450 million people and 26 million businesses. It is one of the cornerstones of European integration, serving as a dynamic engine for welfare gains, competitiveness and resilience. By facilitating the free movement of goods, services, capital and labour, it has enhanced economic efficiency through economies of scale, stronger competition and increased innovation. ECB research indicates that between 1993 and 2014 the Single Market increased real GDP per capita by 12-22% across founding Member States (Lehtimäki and Sondermann, 2020), while studies by Mion and Ponattu (2019) estimate average annual welfare gains of around €840 per person, expressed in 2016 prices.

The Single Market delivers broad economic and strategic benefits for the EU and its Member States. A well-functioning Single Market improves productivity and resilience because it provides the scale for companies to innovate and grow. It also promotes price convergence and strengthens the transmission of monetary policy, which are of particular relevance to the ECB. Moreover, as underlined by Letta (2024) and Draghi (2024), it stands as Europe's first line of defence in the face of a rapidly evolving geopolitical landscape.

However, the Single Market continues to face structural obstacles that prevent the realisation of its full potential. Remaining barriers – particularly to the cross-border provision of services, but also to the circulation of goods and the free movement of labour and capital – limit the depth of integration and the scope of potential welfare gains.[1] Overcoming these limitations is essential for further strengthening the EU's resilience, fostering competitiveness, enhancing defence capabilities and safeguarding economic stability.

This article assesses part of the untapped potential of the Single Market, specifically addressing the circulation of goods and services. The first section briefly traces the historical development of the Single Market and examines the current degree of trade integration. The second section describes the barriers that impede the free movement of goods and services within the EU. The third section quantifies the scale of the barriers through the lens of a gravity model. And finally,

[1] See European Commission (2025a).

the fourth section assesses the potential welfare gains achievable through further integration.

2 Current level of integration of goods and services in the Single Market

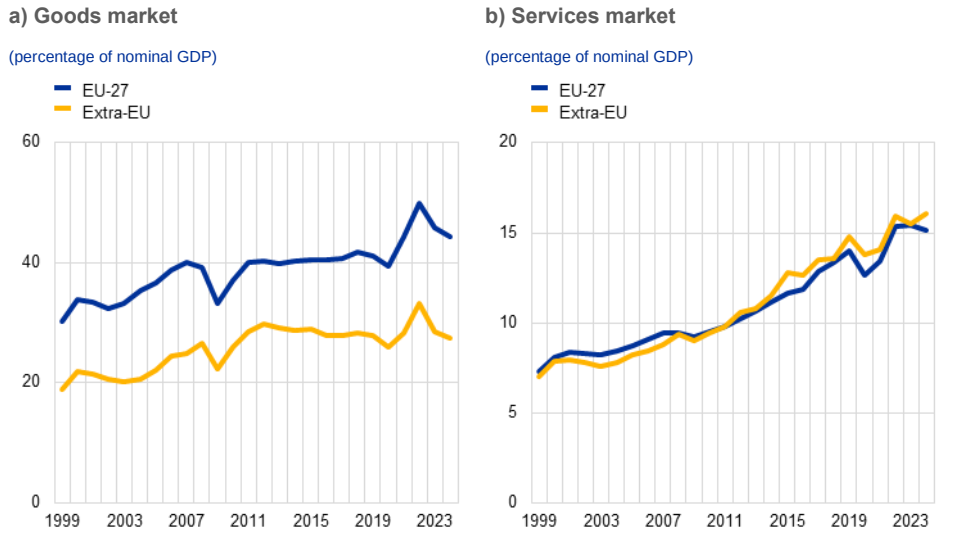
The Treaty of Rome, which created the European Economic Community (EEC), laid the foundation for a common market and customs union. The 1957 Treaty introduced the "four freedoms": the free movement of goods, services, capital and people. The initial emphasis was on reducing customs duties and quotas on goods, which were fully eliminated by 1968 with the creation of the EEC customs union. The Single European Act of 1986 set the goal of a fully integrated internal market by tackling non-tariff barriers, paving the way for the Single Market's official launch in January 1993. For goods, it removed customs formalities, reduced technical barriers through mutual recognition and replaced VAT border checks with harmonised rules. For services, the Services Directive adopted in December 2006 addressed obstacles to cross-border provision, with the aim of removing discriminatory practices based on nationality or residence and fostering administrative cooperation.[2]

Removing barriers to the movement of goods has resulted in rapid EU goods trade integration, while services markets remain less integrated. Chart 1 compares intra-EU and extra-EU trade, used as an indicator of the degree of integration within and outside the Single Market respectively. Trade in goods has clearly benefited from deeper integration within the EU, which is not the case for services. In 2024 cross-border trade in goods within the EU accounted for over 40% of EU GDP, up from 30% in 1999 and around 16 percentage points higher than trade between the EU and the rest of the world. Over the same period, intra-EU trade in services rose from 8% of GDP in 1999 to 16% in 2024, a level very similar to extra-EU trade in services. This contrast between goods and services integration is all the more striking given that services account for nearly three-quarters of economic activity in the EU.

[2] However, the scope of the Directive was limited to selected sectors, excluding areas such as energy, financial services, transport, telecommunication and healthcare.

Chart 1

Intra-EU and extra-EU trade



Sources: Eurostat and ECB calculations.

Comparatively low services trade integration can be attributed, in part, to the localised nature of services. Many services, such as healthcare, education, legal consultancy or real estate, may require proximity to the consumer or adaptation to local cultural, legal or linguistic contexts, making cross-border provision more challenging. To some extent, it also reflects the fact that a significant share of service provision occurs via the establishment of subsidiaries or branches.[3]

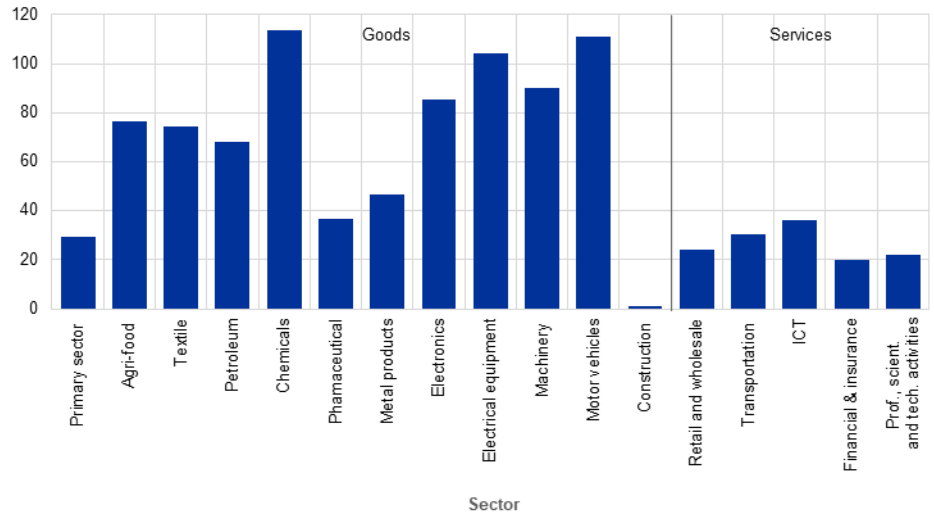
The depth of Single Market integration varies significantly across subsectors. Highly harmonised manufacturing industries such as motor vehicles, chemicals and electronics benefit from EU-wide standards, mutual recognition agreements and extensive cross-border supply chains. For example, the automotive sector relies on cross-border supply chains for parts and assembly, while chemicals and electronics benefit from harmonised EU standards that ease trade across Member States. In contrast, primary goods, such as food products and pharmaceutical products, remain far less integrated because of a combination of national regulations, differences in standards and logistical barriers, as well as non-policy determinants such as cultural factors, consumer preferences and limited tradability of certain products (Chart 2).[4] Service sectors display an equally uneven landscape. Business and support services achieve relatively high integration under the Services Directive, whereas retail, construction, professional activities and real estate face persistent national and local barriers.

[3] Many services require the establishment of local subsidiaries or branches, which are classified as foreign direct investment (FDI) rather than cross-border service exports. The value of services provided through these local establishments does not appear in cross-border trade statistics. This means that official data on intra-EU trade in services might understate the actual level of integration, as they do not capture the substantial volume of services delivered via FDI channels.

[4] Chart 2 reports intra-EU trade data based on gross exports, which include both final and intermediate products. While this leads to some degree of double counting due to intermediate goods crossing borders multiple times before final production, it also highlights the depth of economic integration and the significance of intra-EU value chain linkages.

Chart 2
Intra-EU trade by sector

(percentage of each sector value added)



Sources: OECD TiVA 2025 and ECB calculations.
Notes: Data refer to 2022. Sector trade from input-output tables includes gross final and intermediate trade.

3 What are the barriers that impede integration of the EU Single Market?

Barriers persist within the EU Single Market.[5] They originate from a multitude of sources, including: (a) differences in national rules or regulations; (b) cumbersome administrative procedures; (c) inconsistent application of EU rules and gold-plating; and (d) national anticompetition practices that put non-domestic firms at a disadvantage. In addition, barriers can also differ across sectors. Goods markets often face divergent technical standards, non-tariff barriers and high compliance costs. Services face challenges from labour mobility restrictions and regulatory differences, which complicate cross-border business. Regulatory fragmentation can hinder trade and investment in both goods and services. This section presents a short overview of the principal barriers affecting intra-EU trade, categorised according to the source of the barriers.

A. Regulatory barriers

Regulatory barriers refer to fragmented rules or requirements that restrict the free movement of goods and services across borders. Different rules and standards across Member States may limit cross-border market access or raise compliance costs for firms. Significant disparities in product standards and technical requirements persist across the EU. A fragmented value added tax regime – with 27 distinct national frameworks – is also an obstacle to cross-border trade. For services, the recognition of professional qualifications impedes worker mobility.

5 See Draghi (2024) and Letta (2024).

B. Administrative barriers

Administrative barriers typically encompass lengthy, cumbersome or unclear procedures that complicate compliance and delivery. Administrative barriers arise typically from the procedures surrounding the implementation and enforcement of regulations. These include complex authorisation procedures, excessive documentation requirements, delays in obtaining permits or a lack of coordination between national authorities. Exporters may need import licences, conformity assessments and tailored documentation for national regulations, while lengthy product registration and a lack of digital reporting systems complicate compliance. In the field of services, residency and nationality requirements – while mostly curbed by EU law – can still arise through national rules like residency obligations for legal accountability.

C. Enforcement barriers

Enforcement barriers relate to the inconsistent application of EU rules or lack of oversight mechanisms. Differences in the interpretation and application of EU directives across Member States undermine the Single Market, as national authorities often prioritise domestic standards over EU law, creating legal uncertainty or failing to meet minimum standards. Gold-plating – the practice of adding national requirements beyond the minimum required to implement EU law – further increases costs and burdens, forcing companies to adapt to varying obligations.

D. Competition-related barriers

Competition-related barriers relate to discriminatory practices or unequal treatment that put non-domestic firms at a disadvantage. For both goods and services, legal constraints such as local language requirements, price controls and nationally restricted tax incentives or targeted subsidies raise operational costs or restrict access for foreign competitors. In the services sector, fragmentation stems from local content requirements, which are officially prohibited but are often introduced in disguised form. In sectors like energy, defence and telecommunications, public procurement processes tend to favour domestic firms. Studies indicate that only about 5% of public procurement contracts are awarded to non-domestic firms.[6]

E. Other barriers

Obstacles to the effective functioning of the Single Market are compounded by multiple layers of structural and practical barriers. Accessing clear and comprehensive information remains a major challenge within the Single Market, as businesses frequently face difficulties finding up-to-date guidance on national rules and requirements. Lengthy enforcement processes and inefficient judicial systems further fracture the regulatory landscape and undermine legal certainty. In the financial sector, the lack of a fully realised Capital Markets Union – with a single supervisor and harmonised resolution mechanisms – undermines cross-border investment and financial integration. These issues are further compounded by

6 European Centre for International Political Economy (2021).

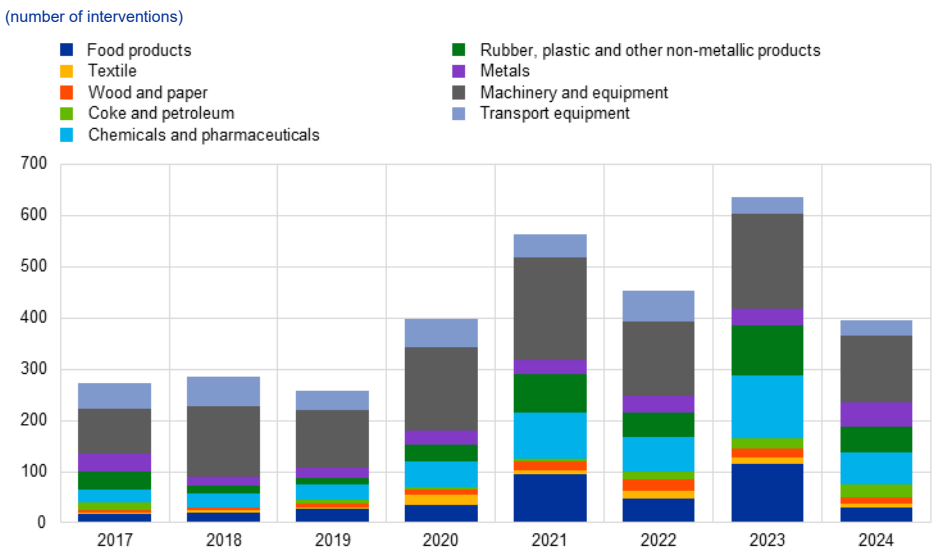
patchy transport and digital communication infrastructure, which restricts efficient connectivity.

Data on barriers that hinder the functioning of the Single Market are limited. Regulatory restrictions, administrative requirements and other barriers can be difficult to capture and complex to quantify. Existing indicators often rely on subjective evaluations, expert assessments or partial coverage, with limited consistency across sectors and time. Some indicators rely on expert assessments of regulatory frameworks to quantify restrictions in the services sector, while others systematically record and classify policy measures deemed harmful to trade. EU-level data focus on the implementation of and compliance with EU rules. By contrast, a few business surveys capture firms' perceptions of administrative burdens, market access obstacles and regulatory uncertainty. The European Commission (2025a) indicates that, while over the years the EU has removed many barriers to trade in the Single Market, new sources of fragmentation continue to appear. This results in a pattern of increased barriers. Specifically, the Commission has identified a set of the "Terrible 10" barriers which persistently fragment cross-border activity despite harmonised EU rules (European Commission, 2025a). These include discriminatory authorisation procedures, disproportionate professional qualification requirements, unjustified territorial supply constraints, limits on cross-border establishment, barriers to digital and data mobility, and restrictions on the provision of services across borders.

The data that are available suggest there are still hurdles to overcome for the Single Market to function more efficiently. The Global Trade Alert (GTA) database reveals that Member States still enact trade-distortive interventions, demonstrating that internal barriers still characterise the Single Market. By impeding or disincentivising trade, these measures could translate into material costs. A substantial proportion of these measures involve subsidies and export-supporting policies, which often create competitive imbalances within the Single Market. Machinery and food products are consistently among the most affected sectors in the manufacturing industry (Chart 3).

Chart 3

Interventions hindering intra-EU trade by sector



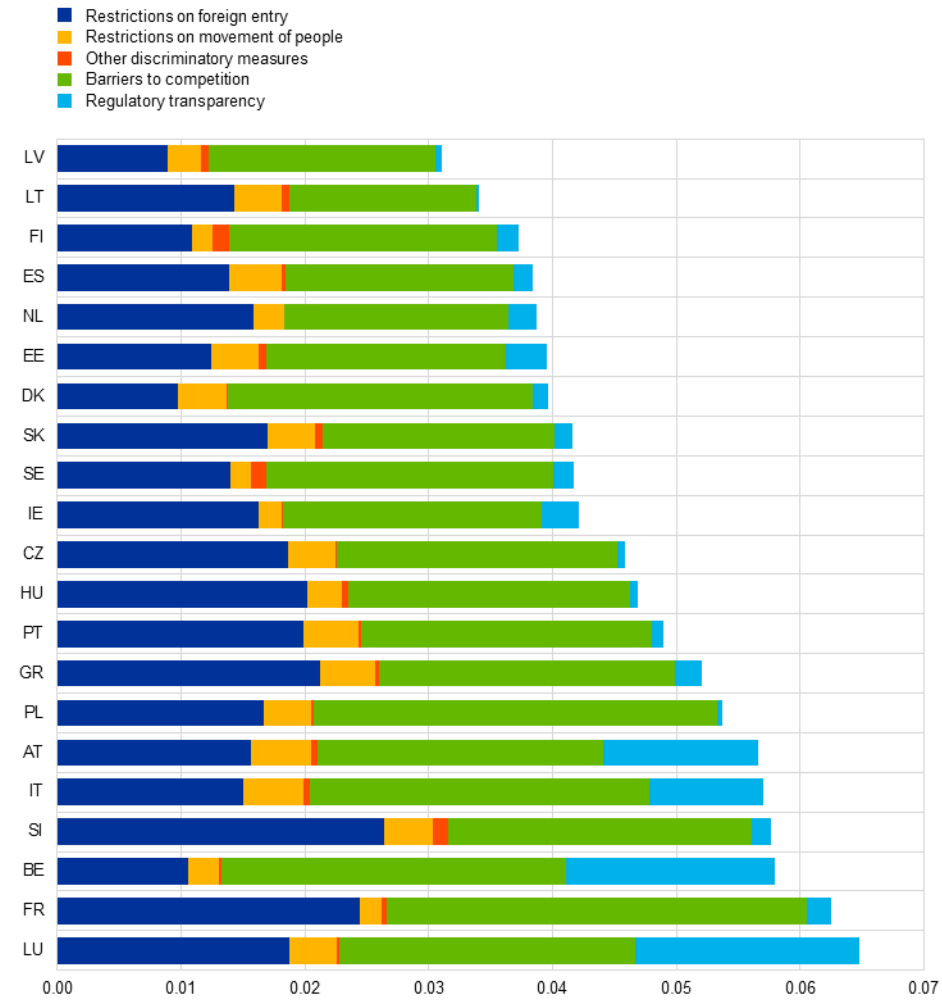
Sources: GTA and ECB calculations.
Note: Interventions classified as harmful are reported.

The data also indicate that restrictions on competition and foreign entry of firms form the bulk of the barriers within the Single Market for services. Data on barriers that hinder the functioning of the Single Market are limited also in the case of services. Still, the OECD STRI indicator can offer a useful proxy. Specifically, Chart 4 illustrates the distribution of barriers by policy area for EU countries, highlighting the relative importance of different types of barriers. Data point to a marked variation in the degree of services restrictions across EU Member States and categories. Some countries like Luxembourg and Belgium exhibit higher overall restrictiveness levels, largely driven by foreign entry and competition barriers, while others, such as Latvia and Lithuania, maintain comparatively open regulatory environments.[7]

[7] The STRI indicator follows the principle of the most-favoured nation (MFN), documenting regimes applied to countries that do not benefit from preferential treatment. The EEA STRI indices reveal that remaining trade restrictions on services within the EEA are considerably lower than barriers for third countries, meaning that the introduction of the EU Single Market has significantly reduced services trade barriers in comparison with MFN applied policies.

Chart 4

2023 service trade restrictiveness



Sources: OECD and ECB calculations.
Notes: Data refer to 2023. A higher value indicates a more restricted market. The index offers a structured cross-country comparison of regulatory barriers affecting trade in services, from the perspective of the importer. It is a composite index, with scores ranging from 0, indicating a fully open economy, to 1, indicating a completely closed economy. The index summarises regulatory barriers across five specific policy areas: foreign entry, movement of people, discriminatory measures, competition and regulatory transparency.

4 Quantifying the untapped economic potential of the Single Market

Quantifying the magnitude of trade barriers is key to assessing their economic impact and identifying policies to address them. However, measuring the scale of trade barriers is challenging. As section two discussed, obstacles to trade vary across Member States and sectors and evolve as legislation and national practices change. Comprehensive and comparable indicators are limited, since many barriers – such as gold-plating, licensing complexity or differences in enforcement – are difficult to observe directly or quantify systematically.

To address the lack of data on trade barriers, the literature has adopted an indirect, model-based approach to infer their magnitude. The few existing analyses rely on the estimation of gravity models – the workhorse framework of international trade analysis.[8] These models consider the determinants of trade flows between two countries, such as economic size, distance, shared language and borders. By incorporating these determinants, the gravity model allows for the quantification of other, additional costs associated with cross-border trade between EU Member States, relative to domestic trade, including possible observable and unobservable frictions that have an impact on trade. These reflect a wide range of influences, including trade-related costs and barriers that can be amended through policy actions, such as regulatory differences and restrictions to competition, but also factors such as cultural mismatches and national preferences.

Estimates of trade costs are typically expressed relative to domestic trade and as ad valorem tariff equivalents, as if they were a percentage tariff on the value of traded products. Estimating the costs influencing cross-border trade in relation to domestic trade means in practice that the estimate captures how much more – or less – economic exchange occurs across an international border compared with trade within the same country. Estimates are often expressed as tariff equivalents to provide an intuitive metric for comparison. However, this should not be interpreted to mean that they are directly comparable to tariffs applied at customs borders. Instead, the tariff equivalent gives a simple numerical indication of the extent of the frictions that limit trade across national borders – the higher the tariff equivalent, the larger the implied trade frictions relative to domestic trade.

Studies based on these methods suggest that substantial costs to integration persist, although the range of estimates is very large. Using a gravity framework, recent studies reveal that, while intra-EU trade costs have declined over time, considerable obstacles remain, especially for services. They also vary widely. The estimated tariff equivalent costs for goods trade were 13% for EU15 and 8% for EU28 in 2017 (Head and Mayer, 2021), 44% for EU27 in 2020 (IMF, 2025), and 60% for the euro area in 2020 (Airaudo et al., 2025). Head and Mayer (2025) indicate that this dispersion reflects differences in estimation strategies, data sources, variables used as controls, estimation choices and the time periods considered. For services, trade costs remain significantly higher. Adilbish et. al (2025) estimate a tariff equivalent of 110% for services, underscoring the scale of impediments to full integration.[9] Fontagné and Yotov (2025) find that only half of the potential benefits from EU membership have been realised to date.[10]

---

8 The gravity model is a widely used framework in international economics to explain trade flows between two regions or countries. It is based on the analogy with Newton's law of gravity: trade between two economies increases with their economic "mass" (typically measured by GDP) and decreases with the "distance" between them, which captures trade costs such as transport expenses, cultural differences or regulatory barriers.

9 Head and Mayer (2021) provide estimates that are significantly lower than those reported in other studies. This difference is attributed to their use of a cross-sectional estimation approach, which relies on intra-EU trade flows and inferred domestic trade flows. By applying a consistent methodology to both EU and US data, their approach ensures comparability across US and EU regions.

10 To quantify the potential gains from further integration within the Single Market, Fontagné and Yotov (2025) benchmark, for each country-industry pair, the gains achieved to date against the largest historical reduction in bilateral trade costs observed within the Single Market.

The analysis we present in this section deploys a similar gravity specification. It uses the methodology proposed by Head and Mayer (2021) to address two major questions: (i) How has the integration of the Single Market evolved over the past 20 years?; and (ii) to what extent does the Single Market remain incomplete? The evolution of trade costs within the Single Market is estimated over time – separately for goods and services – using a gravity model, and barriers are expressed in tariff-equivalent terms.[11] In addition, the analysis provides an estimate of barriers across sectors.[12]

The estimates provide an upper bound for the level of trade costs within the Single Market. The wide range of estimates highlights the significant complexity involved in measuring trade costs. A key challenge is disentangling frictions that are amendable through policy actions (for example through regulatory change) from other structural or behavioural costs that also influence trade flows. Within the gravity framework, trade costs are estimated as a "catch-all" measure for the costs of trading, once the standard determinants have been accounted for. However, these estimates also capture non-policy-related factors that reduce trade, such as taste differences, domestic bias, limited substitutability between products, or the intrinsic limited tradability of some goods and services. As a result, gravity-based estimates overstate the true magnitude of policy-induced trade barriers, and consequently the extent to which barriers within the Single Market can be reduced through policy reforms.[13] Therefore, these estimates are best viewed as an upper bound on the costs associated specifically with trade barriers.

Given concerns about correctly judging the degree to which trade barriers can be lowered through policy actions, this article also adopts a comparative approach by evaluating intra-EU trade costs against a "friction-light" benchmark country. Several existing studies in the literature analyse the estimated scale of trade costs in isolation, which, as stated above, carries the risk of overstating the extent to which policy interventions can reduce them. In contrast, this analysis aims to compare estimated trade barriers to those of a benchmark country – defined as an EU Member State exhibiting low estimated trade costs and a high degree of trade integration. This provides a more realistic counterfactual that can demonstrate the potential for deepening EU integration if all Member States were to

11 This article provides estimates of both changes in trade costs and the overall level of trade costs. All models are estimated using the Poisson pseudo-maximum likelihood (PPML) estimator. Goods data come from the OECD TiVA 2025 release (1995-2022), and services data from OECD BATIS (2005-2023). Changes in trade costs are estimated using a yearly country-pair panel that includes domestic flows, following Head and Mayer (2021). The specification includes exporter-time, importer-time, and pair fixed effects. Borders vary over time and are grouped into three categories: EU-EU, EU-ROW, and ROW-ROW. As a result, estimated changes in trade costs are interpreted relative to the initial-year trade costs for ROW-ROW flows. To estimate the levels of trade costs, a yearly country-pair-sector panel is used, again including domestic flows. This specification retains exporter-time and importer-time fixed effects but replaces pair fixed effects with standard gravity controls such as distance, common language, contiguity, common religion and colonial ties.

12 All estimates are reported using the EU in changing composition. Estimates are broadly similar if the model is instead estimated with a constant EU membership.

13 Head and Mayer (2025) use social network data derived from Facebook to analyse the impact of social connections on trade within the EU. Their findings demonstrate that controlling for social connectivity significantly reduces estimated border effects.

reduce barriers to the levels of the benchmark country.[14] The use of a benchmark in the estimation helps to mitigate some limitations related to estimating the levels of barriers as described above.[15] Indeed, for policy purposes, it may be more appropriate to focus on the integration already achieved in the chosen benchmark country rather than on the absolute level of intra-EU barriers – which partly reflect structural factors beyond the reach of policymakers.

5 Measuring trade barriers in goods markets

The integration of EU goods markets has progressed steadily over recent decades. Chart 5, panel a), illustrates the evolution of estimated trade costs – expressed as ad valorem tariff equivalents – within EU Member States, between EU and non-EU partners, and across countries in the rest of the world over time. In 1995, intra-EU trade costs were already almost 19% lower than those for trade between non-EU countries, reflecting the early benefits of Single Market integration (Chart 5, panel a). By 2022, this gap between intra-EU trade costs and non-EU trade costs had narrowed somewhat, while intra-EU trade costs had decreased, in absolute terms, by an additional 7 percentage points. The most substantial decreases in trade costs occurred in energy and agriculture and food products – industries that have benefited from continued policy reforms and harmonisation efforts within the Single Market. For instance, the liberalisation of the energy market, including electricity and gas, and the common agricultural policy reforms have helped to reduce trade costs for these sectors.

[14] The level of trade costs for the chosen benchmark is estimated using a specification similar to that described in footnote 9, with additional border dummy variables included to identify the border between the benchmark and the rest of the EU. The empirical approach follows Larch et al. (2023).

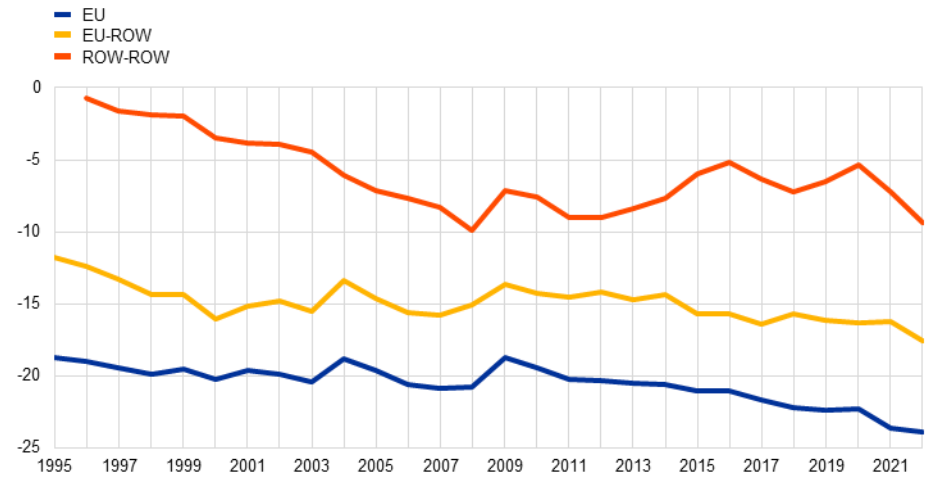
[15] The use of a benchmark helps mitigate these concerns since it reflects a country operating under similar regulatory requirements, market structures and product characteristics as other EU Member States. To the extent that these underlying factors are comparable, differences in estimated trade costs between the benchmark and other countries are more likely to reflect policy-amenable frictions rather than structural or non-policy-related determinants. This therefore tempers the risk of overstating the scope for policy-driven reductions in trade barriers.

Chart 5

Estimated trade costs for the Single Market in goods

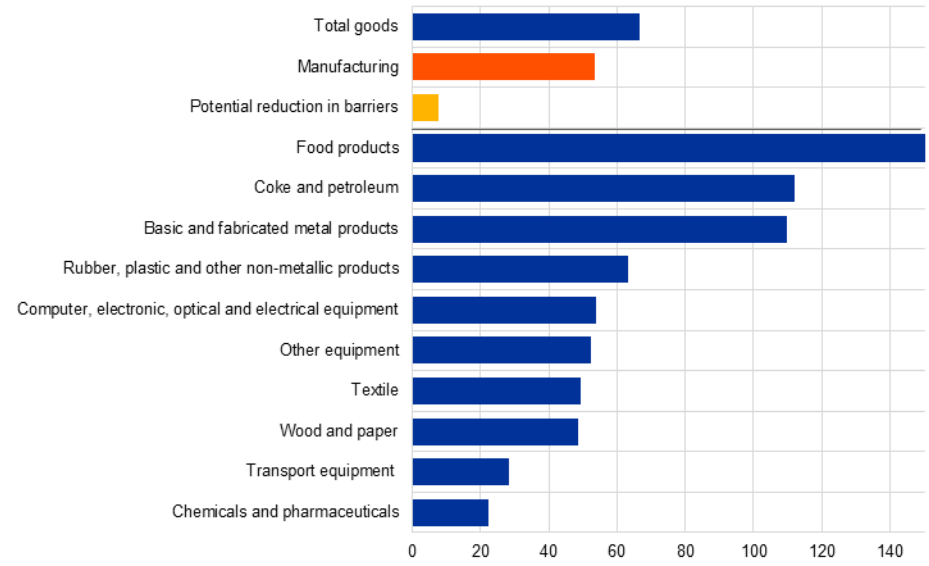
a) Changes in trade costs

(percentage points)



b) Estimated level of EU trade costs by sector in 2022

(percentages, percentage points)



Sources: OECD TiVA 2025 and ECB calculations.
Notes: Panel a): the chart is based on a gravity estimation (see footnote 11) and shows the change in trade barriers for intra-EU trade (blue line), in trade barriers between EU countries and the rest of the world (ROW, yellow line) and for countries in the rest of the world (red line). Each point represents a difference in trade barriers with respect to the 1995 ROW-ROW barriers. Panel b): the chart is based on a gravity estimation (see footnote 11) and shows the ad valorem tariff equivalent level of barriers to trade within the EU across subsectors, for goods as a whole, and for a regression including only the manufacturing sectors. Regression coefficients are converted into ad valorem tariff equivalents using sector-specific elasticities from Fontagné et al. (2022). The potential reduction in barriers (yellow bar) reports the difference in estimated trade costs in the Single Market between the rest of the EU and the Netherlands (the country displaying the highest integration within the EU). The difference is computed as in Yotov and Larch (2023).

Nonetheless, the empirical estimates suggest that trade costs of intra-EU trade in goods remain high. Regression results (Chart 5, panel b) indicate that in 2022 intra-EU trade frictions for goods – i.e. the costs of trading with other EU countries relative to trading domestically – remain significant, at 67% on aggregate for goods

and 54% when considering only the manufacturing sector.[16] Within manufacturing, intra-EU costs for food products are the highest, with an ad valorem tariff equivalent of 150%, which may reflect the complexity of food trade within the EU and the limited scope of the common agricultural policy. In contrast, intra-EU trade costs in the chemical and pharmaceutical sectors are lower, which may reflect the significant efforts towards harmonisation and mutual recognition tools in these sectors.

Comparisons to the friction-light benchmark country – in this case the Netherlands – suggest there is scope to bolster goods trade integration. As stated above, taken in isolation estimates of the level of trade costs can overstate the extent of barriers within the Single Market that can be reduced through policy reforms. Instead, comparison to a benchmark country that has already achieved high integration may be more insightful. Looking across countries, the Netherlands is the Member State with the lowest estimated costs for trade in goods with other EU countries. To quantify the potential for reducing barriers, the gravity regression analysis compares the level of trade costs between the Netherlands and other EU Member States with that of other Member States. This approach calculates the gap between the benchmark and the average trade integration levels across the EU. The regression analysis suggests that, if other countries were to achieve similar levels of integration as this benchmark, intra-EU frictions for trade in goods could be lowered by an average of around 8 percentage points (Chart 5, panel b). That suggests there is scope for relatively substantial gains in integration from countries reaching this benchmark – an aggregate reduction of barriers to trade of 8 percentage points would be broadly similar to the progress made in deepening integration over the past two decades (Chart 5, panel a).

6 Measuring trade barriers in services markets

The integration of EU services markets has also advanced gradually over the past decades. In 2005 intra-EU service trade costs were slightly higher than those affecting countries in the rest of the world. By 2023, intra-EU service trade costs were estimated to have fallen by approximately 7 percentage points (Chart 6a). The most rapid integration has taken place in financial services and in information and communication, where frictions fell by 10 and 9 percentage points respectively between 2005 and 2023. In contrast, progress has been slower in the wholesale and retail sectors, professional services and transport and construction-related services.

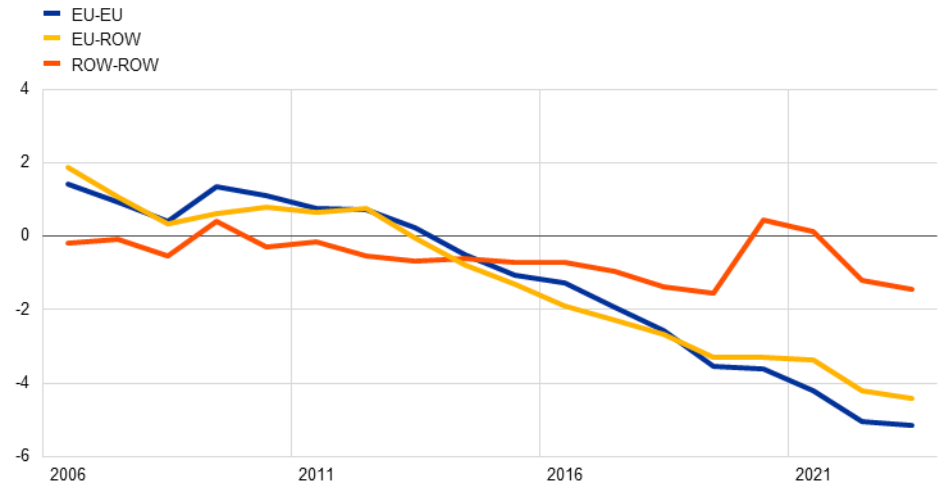
[16] The choice of the trade elasticity of substitution plays an important role in the estimation of ad valorem tariff equivalents. We use elasticities as in Fontagné et al. (2022) and then aggregate them using value added shares. Head and Mayer (2021) used an elasticity of 5. Using this elasticity instead would raise our estimate of tariff-equivalent trade costs to 78%. Previous findings by the IMF (2024) estimated intra-EU trade barriers at 44% for the manufacturing sector. While also relying on elasticities drawn from Fontagné et al. (2022), IMF analysis uses customs data for trade flows and input-output tables for intra-country flows for 1995-2020. The aggregate result is the output-weighted average of the estimated level of barriers at industry level.

Chart 6

Estimated trade costs for the Single Market in services

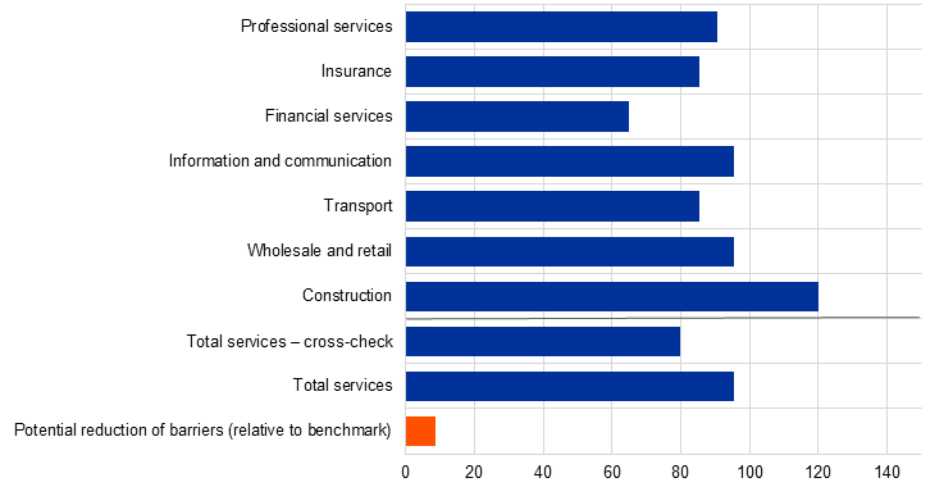
a) Changes in barriers – tariff equivalent

(percentage points)



b) Estimated level of EU trade costs by sector – tariff equivalent in 2023

(percentages, percentage points)



Sources: OECD and ECB calculations.
Notes: Panel a): the chart is based on a gravity estimation (see footnote 11) and shows changes in trade costs for intra-EU trade (blue line), trade between EU countries and the rest of the world (ROW, red line) and trade between countries in the rest of the world (yellow line). Coefficients are converted into ad valorem tariff equivalents using an elasticity of 7.8 (in line with Freeman et al., 2025).[17] Each point is obtained by differencing with respect to the 2004 ROW-border coefficient. Panel b): this is also based on a gravity estimation (see footnote 11) and shows the level coefficient of an intra-EU dummy across subsectors and for the sector services as a whole. Coefficients are also converted into ad valorem tariff equivalents. The red bar shows the estimated difference between the estimated intra-EU barriers and the benchmark. The difference is computed as in Yotov and Larch (2023).

Despite this progress, substantial frictions continue to impede cross-border trade in services. Chart 6, panel b) presents estimates of the level of trade costs in 2023, expressed as ad valorem tariff equivalents. Although gradual liberalisation has taken place over recent decades, significant obstacles remain – particularly in the

17 Previous studies, including IMF (2024), use a similar elasticity of substitution for goods and services. Due to the large difference in tradability of services compared with goods, in this article we deploy a services-specific elasticity as estimated by Freeman et al. (2025). Using an elasticity of substitution similar to the one used in the IMF study would result in a tariff-equivalent level of barriers of around 115%.

construction sector, where trade costs are estimated to amount to a tariff exceeding 120%. On average, intra-EU trade costs approximate an ad valorem tariff of around 95% when compared to domestic trade. This implies that trading services across EU borders is almost twice as costly as trading within national borders.[18]

The analysis also highlights untapped potential for further integration (Chart 6, panel b). Just as for goods, if taken in isolation, the estimates presented in the previous paragraph overstate the extent of barriers within the Single Market that can be reduced through policy reforms. A more realistic assessment of the untapped potential of the Single Market is provided by the benchmarking exercise. The empirical estimates again suggest that the Netherlands is the benchmark to assess the scope for deeper EU integration in services markets. This is broadly consistent with the indications provided by the OECD Service Trade Restrictiveness Index, which suggests that the Netherlands has a relatively low level of regulatory restrictiveness (Chart 4). The trade costs estimated for the benchmark remain well below the EU average. If other countries were to achieve similar levels of integration, the estimates suggest a reduction in trade costs of around 9 percentage points. As with the goods market, these estimates suggest there is scope for relatively substantial gains in integration if countries can reach this benchmark: a 9 percentage point reduction is similar to the decrease in barriers achieved in the past two decades.

7 Removing barriers to the Single Market: what is the economic impact?

To assess the potential economic gains from reducing barriers within the Single Market, we carry out model-based counterfactual simulations. The simulations are based on a computable general-equilibrium model of trade (Antràs and Chor, 2018), which captures how changes in trade costs affect the economy. The model considers several economic channels through which lower barriers influence trade and welfare. The substitution effect captures that, as cross-border trade becomes easier and cheaper across Europe, firms and consumers substitute more expensive domestically produced goods and services with cheaper imports from other EU countries. In addition, lower barriers lead to lower prices for intermediate and final goods, reducing production costs for firms and increasing real purchasing power for consumers. Together, these mechanisms raise overall efficiency, stimulate competition and expand market opportunities across Member States.

Reducing trade barriers within the Single Market, as identified in the benchmark exercises of the previous sections, could result in substantial long-term welfare gains, particularly in services. The analysis in Chart 7 evaluates the potential gains from closing the gap with the benchmark country in the goods and services markets. In practice, a counterfactual exercise evaluates the gains in terms of increased trade and welfare resulting from the reduction of trade

[18] IMF (2024) estimates a tariff equivalent of around 110% for services. The difference can be traced mainly to the use of a higher trade elasticity of substitution in this article.

barriers quantified in the benchmark exercise – 8 percentage points in goods and 9 percentage points in services within the EU. A reduction of barriers for goods would lead to an increase in intra-EU trade of 4.4% and estimated welfare gains of 1.3%. However, lower trade barriers for services would achieve a larger increase in trade (14.5%) and a larger welfare increase (1.8%). The higher gains from services reflect their significant potential for further integration (as services sectors face higher initial trade barriers). It also reflects the importance of services in the overall economy, as they represent a larger share of domestic expenditure and have downstream linkages. Therefore, a comparable cost reduction generates greater effective integration and broader general-equilibrium gains.

A modest reduction in Single Market barriers could compensate the likely trade losses from higher US tariffs. In the current geopolitical context, enhancing EU integration is especially important to mitigate the adverse effects of external trade tensions, such as those caused by recent US tariffs.[19] The ECB staff projections estimated that higher tariffs and uncertainty would cumulatively lower GDP by around 0.7 percentage points over the period 2025 to 2027.[20] Our simulation shows that achieving a reduction of just 2% in goods and services barriers within the Single Market could, in the long run, fully compensate for the projected impact on GDP of higher US tariffs. That would lead to an increase in intra-EU trade of around 3%. Of course, this would be unlikely to substitute for lost US trade immediately, as any structural adjustments within the Single Market would take time to materialise. Sustained regulatory, administrative and enforcement efforts would be required. Nonetheless, the estimates highlight the potential to take advantage of the vast size of the EU internal market. Trade within the EU accounts for more than half of total intra- and extra-euro area exports. Even a small increase in intra-EU trade could significantly offset external trade disruptions, demonstrating the economic potential of the Single Market.

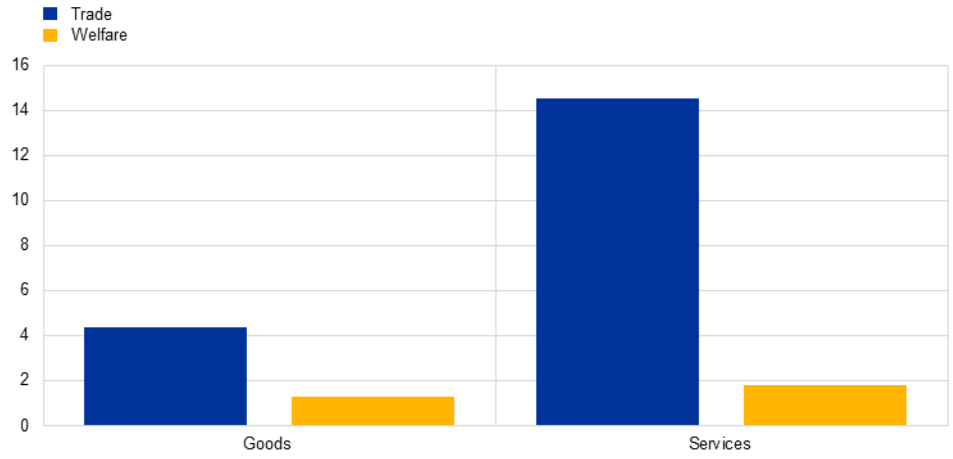
19 See Lagarde (2025).

20 See the September 2025 ECB staff macroeconomic projections for the euro area for details of the estimated losses arising from the US tariffs for the euro area.

Chart 7

Welfare effects of decreasing Single Market trade barriers

(percentage change effect of decreasing trade costs)



Sources: OECD TiVA 2025, Antràs and Chor (2018) and ECB calculations.
Notes: The EU aggregate welfare effect is calculated as a value added weighted average of effects obtained for Member States.

8 Conclusion

The Single Market is a vital asset for the European Union and its Member States, underpinning prosperity both within the EU and in its relations with the wider world. In the current context of elevated global uncertainty, the completion of the Single Market is more crucial than ever for advancing the EU's principal agendas: improving living standards, enhancing resilience and competitiveness, building defence capabilities and achieving economic security.

This article helps to show the untapped potential of the Single Market. In line with earlier analyses, it estimates the evolution of trade costs within the Single Market using a gravity model framework, with frictions expressed in terms of their tariff-equivalent value. Those empirical estimates suggest that frictions to intra-EU trade remain elevated, with estimates suggesting a tariff equivalent (i.e. the higher costs of trading with other EU countries compared with trading domestically) of 67% for goods and 95% for services. However, as discussed, these figures capture a broad set of factors. Those include costs that could be addressed by policies (e.g. regulatory or administrative changes) but also factors for which it may not be feasible – or even desirable – to eliminate them by policy actions – for example, preferences, home bias and limited tradability. As a result, these estimates likely overstate the true magnitude of policy-induced barriers. As with similar studies in the literature, they are best interpreted as upper bounds for the trade frictions that can be reduced through policy action.

These findings underscore the considerable benefits for Member States in achieving greater integration. Benchmarking against an EU country that has already achieved relatively high integration – in these estimates the Netherlands – can provide a more realistic counterfactual that can demonstrate the potential for

deepening EU integration. The analysis indicates that frictions could be further reduced by some 8 percentage points for goods and 9 percentage points for services if other countries were to achieve a similar degree of integration. That would represent substantial gains in integration, broadly similar to the progress made in deepening integration in goods and services markets over the past two decades. Model estimates suggest this could unlock significant economic potential, with estimated welfare gains of up to 1.3% for convergence in the goods sector and up to 1.8% in the service sector.

Moreover, the EU could derive even greater benefits from completing the Single Market and complementing it with growth-enhancing policies. The estimates of the untapped potential presented in this article are conservative, as they capture only the gains from all Member States reaching the degree of intra-EU trade achieved by the most integrated country. This falls short of the deeper integration that could be unlocked from the full potential of the Single Market and the implementation of Europe's broader competitiveness agenda. As highlighted by Draghi (2024) and Letta (2024), achieving a truly unified market for services requires a very ambitious reduction of remaining regulatory and administrative barriers across Member States. The European Commission's Single Market Strategy (2025b), which focuses on eliminating the ten most significant obstacles to the Single Market while revitalising the services sector and enhancing support for small and medium-sized enterprises, is a step in the right direction and deserves strong support.

Finally, further data collection on the precise nature and intensity of remaining barriers would be valuable. Based on more granular data, a deeper analysis of the existing barriers and their relative magnitude could be pursued. This would help to further inform the debate on specific measures.

References

Adilbish, O.E., Cerdeiro, D.A., Duval, R.A., Hong, G.H., Mazzone, L., Rotunno, L., Toprak, H.H. and Vaziri, M. (2025), "Europe's Productivity Weakness: Firm-Level Roots and Remedies," *IMF Working Papers*, No 040, International Monetary Fund.

Airaudo, F., Gaillard, A., Santacreu, A.M. and de Soyres, F. (2025), "Recent Evolutions in the Global Trade System: From Integration to Strategic Realignment", *Working Papers*, 2025-027, Federal Reserve Bank of St. Louis.

Anderson, J.E. and Van Wincoop, E. (2003), "Gravity with Gravitas: A Solution to the Border Puzzle", *American Economic Review*, 93(1), pp. 170-192.

Arampatzi, A.S. et al. (2025), "Capital Markets Union: A Deep Dive - Five Measures to Foster a Single Market for Capital", *Occasional Paper Series*, No 369, ECB.

Campos, N.F., Coricelli, F. and Moretti, L. (2014), "Economic Growth and Political Integration: Estimating the Benefits from Membership in the European Union Using the Synthetic Counterfactuals Method", *IZA Discussion Paper Series*, No 8162, Institute for the Study of Labor (IZA).

Dahlberg, E. et al. (2020), *Legal obstacles in Member States to Single Market rules*, Publication for the Committee on Internal Market and Consumer Protection, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg.

Dorn, F., Flach, L. and Gourevich, I. (2024), "Building a Stronger Single Market: Potential for Deeper Integration of the Services Sector within the EU", *EconPol Policy Report*, No 52, November.

Draghi, M. (2024), The Future of European Competitiveness, European Commission, September.

European Centre for International Political Economy (2021), *Participation of foreign bidders in EU public procurement*, European Commission.

European Commission (2025a), *The 2025 Annual Single Market and Competitiveness Report*, COM (2025) 26 final, Brussels, 29 January.

European Commission (2025b), *The Single Market: Our European home market in an uncertain world – A Strategy for making the Single Market simple, seamless and strong*, COM(2025) 500 final, Brussels, 21 May.

Filip, P. et al. (2025), "Why a more competitive economy matters for monetary policy", *The ECB Blog*, ECB, 11 February.

Fontagné, L. and Yotov, Y.V. (2022), "Tariff-based product-level trade elasticities", *Journal of International Economics*, Volume 137, 2022.

Fontagné, L. and Yotov, Y.V. (2025), "The Low-Hanging Fruit of the Single European Market: New Methods and Measures", *Working Paper* No 202522. Center for Global Policy Analysis, LeBow College of Business, Drexel University.

Freeman, R. et al. (2025), "Unlocking New Methods to Estimate Country-Specific Effects and Trade Elasticities with the Structural Gravity Model", *Journal of Applied Econometrics*, Vol. 40 Issue 6, pp. 669-684.

Head, K. and Mayer, T. (2021), "The United States of Europe: A Gravity Model Evaluation of the Four Freedoms", *Journal of Economic Perspectives*, 35(2), pp. 23-48.

Helliwell, J.F. (1998), *How Much Do National Borders Matter?*, Brookings Institution Press.

in 't Veld, J. (2019), "Quantifying the Economic Effects of the Single Market in a Structural Macromodel", *European Economy Discussion Papers*, No 094, European Commission, Directorate-General for Economic and Financial Affairs.

International Monetary Fund (IMF) (2024), "Europe's Choice: Policies for Growth and Resilience", *IMF news article*, 16 December.

Lagarde, C. (2025), "Remarks by Christine Lagarde, President of the ECB, at the panel on the 'Global Economic Outlook' at the 40th Annual G30 International Banking Seminar", Washington DC, 18 October.

Larch, M., Tan, S. and Yotov, Y. (2023), "A simple method to ex-ante quantify the unobservable effects of trade liberalization and trade protection", *Journal of Comparative Economics*, Volume 51, Issue 4.

Lehtimäki, J. and Sondermann, D. (2020), "Baldwin vs. Cecchini Revisited: The Growth Impact of the European Single Market", *Working Paper Series*, No 2392, ECB, April.

Letta, E. (2024), *Much more than a market: speed, security, solidarity*, European Commission, April.

McCallum, J. (1995), "National Borders Matter: Canada–U.S. Regional Trade Patterns", *American Economic Review*, 85(3), pp. 615-623.

Mion, G. and Ponattu, D. (2019), "Estimating economic benefits of the Single Market for European countries and regions", *Bertelsmann Stiftung Policy Paper*.

Monteagudo, J., Rutkowski, A. and Lorenzani, D. (2012), "The economic impact of the Services Directive: A first assessment following implementation", *Economic Papers*, No 456, European Commission, Directorate-General for Economic and Financial Affairs.

Nitsch, V. (2000), "National Borders and International Trade: Evidence from the European Union", *Canadian Journal of Economics*, 33(4), pp. 1091-1105.

Parsons, C. and Smith, A. (2022), "The 'Completeness' of the EU Single Market in Comparison to the United States", *Single Market Economics Papers*, WP2022/7, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs (European Commission), Chief Economist Team.

Santamaria, M., Ventura, J. and Yeşilbayraktar, U. (2023), "Exploring European Regional Trade", *Journal of International Economics*, 146(C).

Tinbergen, J. (1962), *Shaping the World Economy: Suggestions for an International Economic Policy*, The Twentieth Century Fund.

Wolf, H.C. (2000), "Intranational Home Bias in Trade", *The Review of Economics and Statistics*, 82(4), pp. 555-563.

Wolfmayr, Y. and Pfaffermayr, M. (2022), "The EU Services Directive: Untapped Potentials of Trade in Services", *FIW Research Reports*, No 03, July.

2 Short-term forecasting of euro area economic activity in an uncertain world

Prepared by Sercan Eraslan, Andrea Fabbri and Lorena Saiz

1 Introduction

Assessing the short-term growth outlook and the associated risks based on incoming data is key to making monetary policy decisions. Central banks therefore develop and continuously refine their short-term GDP forecasting models that are specifically designed to give timely, reliable and data-driven insight into the current state of the economy and the near-term growth outlook. For example, since 2015 the ECB has employed a set of "workhorse" models to forecast near-term real GDP growth in the euro area (see Bańbura and Saiz, 2020).

A series of major shocks in recent years has significantly disrupted the performance of traditional forecasting methods, making it harder to produce accurate forecasts. Events such as the COVID-19 pandemic and Russia's unjustified war against Ukraine have triggered sizeable fluctuations in economic variables and heightened the levels of uncertainty surrounding such forecasts. These events have compounded the well-known challenges inherent in real-time economic forecasting, including combining information from data collected at different frequencies (e.g. monthly versus quarterly) and accounting for differences in data release calendars, publication delays and data revisions.

Against this background, this article examines the recent enhancements made to the short-term forecasting models employed at the ECB. Our 2025 monetary policy strategy assessment underlined the importance of continuously refining forecasting tools and maintaining a broad and versatile analytical toolbox in an uncertain and rapidly changing world. To address this need, a two-fold strategy was devised to update and finetune the short-term forecasting framework. First, the existing ECB workhorse models were finely tested and improved. The purpose of these revisions was to increase the accuracy and reliability of both point and density forecasts of real GDP growth in the euro area. Density forecasts are particularly important for quantifying forecast uncertainty and can be used to evaluate short-term risks surrounding Eurosystem/ECB staff macroeconomic projections. Second, alternative approaches using advanced machine learning methods were explored to complement the traditional workhorse models. While still in an experimental phase, these innovative tools can help to address instabilities and capture possible non-linearities in economic relations.

The remainder of this article is structured as follows. Section 2 assesses the key challenges for forecasting euro area economic activity since the onset of the pandemic. Section 3 introduces the revised short-term forecasting toolbox, including the workhorse models, and provides a real-time evaluation of their forecast

performance. Section 4 explores a complementary machine learning approach. Section 5 concludes.

2 Forecasting challenges since the pandemic

The extreme economic developments during the pandemic were almost impossible to forecast in real time. As standard models were challenged, the ECB used several innovative approaches to forecast euro area real GDP growth, taking into account the unique characteristics and implications of the pandemic (see, for example, Battistini et al., 2020).

Since the pandemic, further major shocks have put additional strain on forecasting models, which have struggled to adapt to an environment where historical patterns may no longer serve as reliable benchmarks for the future. Similar to the pandemic, shocks such as Russia's war against Ukraine, with the associated energy crisis and inflation surge, and the more recent geopolitical and trade tensions have strongly affected the euro area economy. These disruptions have also caused considerable fluctuations in key economic indicators, posing major challenges when updating and re-estimating short-term forecasting models, making it more difficult to discern economic relations. The sudden and extreme fluctuations in economic activity disrupted seasonal patterns, creating problems for traditional seasonal adjustment methods and leading to potential distortions in the adjusted data. In addition, revisions to GDP and other economic data have been more frequent and substantial than in the past, adding another layer of complexity.[1]

These shocks have had highly heterogeneous effects across sectors, which are not easily captured by short-term forecasting models. During the pandemic, contact-intensive services, such as hospitality, travel and entertainment, were hit particularly hard owing to restrictions on movement and social interaction, while other services, such as digital services and e-commerce, experienced elevated demand. The subsequent energy crisis further exacerbated sectoral disparities, as energy-intensive industries, such as manufacturing and transport, faced sharp increases in production costs. These sector-specific shifts in economic activity posed significant challenges for short-term GDP forecasting models, increasing the divergence between survey-based data and hard economic indicators. Thus, it has become evident that forecasting models require greater flexibility and adaptability to account for rapid changes in sectoral composition and their impact on aggregate output.

Structural factors and underlying trends, such as climate change, demographic changes (e.g. an ageing population) and the growth of digital technologies, also play a role. While these factors are expected to have a significant impact on the economy in the medium to long term, they may also

[1] Another persistent challenge is volatility in the area of intellectual property product investments, especially those relating to the activities of multinational corporations in Ireland. Even before the pandemic, volatile intellectual property product investments in Ireland had disproportionately affected euro area GDP figures. Since the pandemic, this volatility has intensified, further distorting aggregate data and complicating the assessment of economic developments (see Andersson et al., 2024).

influence short-term economic developments. However, their gradual and multifaceted nature makes it challenging to incorporate them into short-term forecasting models.

These issues have collectively challenged the performance of the existing short-term forecasting models used at the ECB. While the revised short-term forecasting toolbox described in this article does not resolve all these issues, it addresses some of the key challenges, such as changes in the relation between survey data and hard indicators, heightened volatility, forecast uncertainty (including parameter uncertainty) and the incorporation of additional data sources to more comprehensively capture different aspects of the economy. However, issues such as seasonal adjustment, intellectual property product investments in Ireland and structural changes do not fall within the scope of the revised toolbox.

3 The revised short-term forecasting toolbox

Central banks use a variety of econometric models for business cycle analysis and short-term forecasting of economic activity. Among the most widely used are simple linear regression models (bridge equations), dynamic factor models (DFMs), vector autoregressive models (VARs) and mixed data sampling (MIDAS) models. Each of these model classes has distinct characteristics that make them well suited for short-term forecasting, and all have been widely applied by academics, central banks and other forecasters.[2]

The previous generation of short-term forecast models for euro area real GDP growth was based on a system of linear regressions or bridge equations.[3] This framework (hereinafter the "old ECB models") relied on a system of linear regressions (bridge equations) to forecast quarterly GDP growth using a set of quarterly predictors and monthly predictors aggregated to quarterly frequency. The old ECB models adopted a supply perspective for real GDP measurement, given its more complete and timelier data coverage and greater accuracy relative to the demand perspective.[4] The monthly predictors included in the bridge equations for GDP growth forecasts were, in turn, forecast using auxiliary models (DFMs and VARs) incorporating information from other monthly variables. The dataset used was of medium size (30 indicators) and combined hard indicators (e.g. industrial production, retail sales) with soft data (surveys) and financial indicators. Finally, in addition to producing point forecasts, this framework provided density forecasts to capture the uncertainty around the point forecasts as well as a decomposition of the drivers of forecast revisions between updates (a "news analysis").

---

2 See, for example, Linzenich and Meunier (2024) for the toolbox developed at the ECB; Deutsche Bundesbank (2023); and Almuzara et al. (2023).

3 See Bańbura and Saiz (2020) for an overview of the old ECB models for short-term forecasting of euro area economic activity.

4 The supply perspective for GDP measurement relies on the production of goods and services (value added in industry and services), whereas the demand perspective considers the total amount spent on goods and services (consumption and investment).

The old ECB models provided reasonably accurate euro area real GDP growth forecasts until late 2019. However, their performance deteriorated following the outbreak of the pandemic. While their performance has recovered somewhat, ECB staff refined this framework, placing particular emphasis on improving its forecast performance in the post-pandemic period and developing approaches that are more robust to the impact of large shocks. The following subsection describes the features of this new framework. To facilitate comparison, Table 1 outlines the characteristics of the old and new frameworks.

Table 1
Characteristics of old and new ECB models

	Old ECB models	New ECB models
Bridge equations	Six bridge equations of two types (supply side, survey-based) • Supply side predictors: industrial production and value added in services • Survey-based predictors: composite output Purchasing Managers' Index and construction output Purchasing Managers' Index	Two bridge equations of one type (supply side) • Supply side predictors: value added in services, value added in construction and value added in industry
Auxiliary models	Three VARs, two DFMs Monthly frequency Constant volatility	Three VARs, three DFMs Quarterly and monthly frequency Stochastic volatility
Point forecasts	Mean	Median[1)]
Density forecasts	Combination of six normal densities	Combination of two densities

1) Owing to the increased volatility of the data, point forecasts in new ECB models are calculated using the median of the distribution of possible outcomes. The median provides more stable forecasts than the mean, as it is less influenced by extreme values.

3.1 Revised bridge equation framework

The revised framework is still based on bridge equations, which are relatively flexible despite their simplicity. The new ECB models continue to deploy a system of linear regression models, focusing on forecasting GDP growth from the supply side (i.e. value added by sector). This approach was preferred because it is straightforward to estimate, easy to interpret and communicate, and provides better forecast accuracy compared with other models. At the same time, despite its simple structure, the bridge equation framework is flexible since it can accommodate a range of auxiliary model classes.

The new ECB models incorporate two types of state-of-the-art auxiliary models. Like its predecessor, the new model relies on the same two auxiliary model types: DFMs and VARs.[5] However, these auxiliary models were comprehensively revised, combining monthly and quarterly indicators and including time-varying volatility to better capture changes in the dynamics of economic data (see Box 1 for technical details of the revised framework).

5 While models such as DFMs and VARs have distinctive features making them suitable for forecasting, their accuracy may change over time against the background of a rapidly changing economic environment. Integrating these model classes into the bridge equation system allows their forecasting strengths to be exploited, while mitigating model uncertainty.

The set of predictors was revised to include newly available data, such as services production, and to achieve a more balanced proportion of survey-based and hard indicators. This adjustment addresses the limitations of relying on survey-based or qualitative indicators, which, despite being timely and informative, have shown a weaker and less stable relation with economic activity in recent years. Furthermore, the lack of hard indicators for the services sector was identified as a factor in the deterioration in the performance of the old ECB models.

Like their predecessors, the new ECB models can produce both point and density forecasts. Point forecasts give a single, central estimate of where GDP is expected to go and are the primary forecasts reported. However, since the pandemic, heightened uncertainty has made it increasingly important to look beyond single-point predictions and to focus on density forecasts. Density forecasts offer a range of possible GDP outcomes and their associated probabilities. In simple terms, the width of the density forecast indicates the uncertainty surrounding the point forecast.

The new framework continues to report the impact of incoming data on forecast revisions. In addition to point and density forecasts, the new framework also provides a decomposition of GDP growth forecast revisions (i.e. the difference between consecutive GDP forecasts) into the model-based surprises or "news" content in the releases of monthly and quarterly predictors (plus the effects of historical data revisions and parameter re-estimation).[6] Accordingly, the sign of the news (positive or negative) indicates whether the new data release was better or worse than expected by the model. For the sake of clarity, the news decomposition is grouped into broad categories of economic indicators, such as services indicators, industry indicators and surveys (see Box 2 for an illustration of the use of the revised framework in practice for real-time, short-term forecast analysis).

Box 1
The revised system of bridge equations: technical summary

Prepared by Sercan Eraslan and Lorena Saiz

The revised toolbox continues to rely on a bridge equation system – a short-term forecasting model widely used among central banks and other forecasters.[7] It is a simple linear regression, in which the quarterly indicator of interest (e.g. quarterly real GDP growth) is predicted using other quarterly regressors, such as its supply-side GDP components (e.g. value added in industry, services and construction). Accordingly, the bridge equation for quarterly GDP growth can be specified as follows:

$$y_{m,t}^{Q} = \alpha + \sum_{i=1}^{k} \beta_i X_{i,t}^{Q} + \epsilon_t^{Q}$$

where $y_{m,t}^{Q}$ is the target indicator and $X_{i,t}^{Q}$ is the predictor indicator i $(i = 1, \dots, k)$ at the same frequency. The intercept is denoted by α, while β_i is the regression coefficients and ϵ_t^{Q} captures

6 See Bańbura and Modugno (2014) for a detailed overview of the news decomposition and Bańbura and Saiz (2020) for its implementation in euro area real GDP growth forecasts at the ECB.

7 A bridge equation is typically a linear regression that connects a low-frequency target variable with one or more high frequency indicators, effectively creating a bridge between them.

the regression residual. The bridge equation system consists of two linear regressions. Both include the same set of quarterly predictors: value added in industry, value added in services and value added in construction ($k = 3$), which are predicted by two different auxiliary models ($m = 1, 2$). These equations are estimated using Bayesian techniques and assuming normal-inverse-gamma priors. The estimation sample starts in 1995.

Each of the quarterly predictors used to forecast GDP growth is forecast by means of a dynamic factor model (DFM) and a vector autoregressive model (VAR). Both models include quarterly and monthly indicators (i.e. mixed frequencies), are estimated using Bayesian techniques, and feature time-varying stochastic volatilities leading to better predictions of economic activity in times of high uncertainty. Both models can also handle different data frequencies and missing observations effectively. In addition, certain model properties, such as the common factor structure in DFMs and the outlier correction for time-varying volatilities in VARs, help to filter out noise in the data.

The mixed-frequency DFM mainly follows the approach proposed by Antolín-Díaz et al. (2017, 2024) and combines it with the suggestion of Camacho and Pérez-Quirós (2010) in dealing with survey-based indicators in the model.[8] For each quarterly GDP predictor, a separate auxiliary DFM is estimated using a small set of monthly indicators. Each DFM includes one common factor and a number of idiosyncratic components which follow a second-order autoregressive process. The model is specified and estimated in state-space form using Bayesian techniques, with the residuals in both the measurement and transition equations exhibiting stochastic volatility and outlier adjustment in line with Carriero et al. (2024).

The mixed-frequency VAR model extends the Bayesian VARs with stochastic volatility and outlier adjustments to a mixed-frequency setting. Specifically, the mixed-frequency auxiliary VAR models allow for t-distributed errors and outlier adjustment in the stochastic volatility, making it more robust to large shocks and outliers. The VAR estimation is based on Bayesian techniques, using the algorithm developed by Chan et al. (2023) for sampling missing observations (e.g. due to mixed frequencies or publication lags). In line with the approach used for the auxiliary DFMs, separate auxiliary VARs are estimated for each quarterly predictor using the same datasets as the DFMs. Each VAR is specified with three lags and with Minnesota priors for the coefficients.

Finally, the quarterly GDP growth forecasts are generated in two steps. First, the forecasts for quarterly predictors – value added in industry, in services, in construction – are produced using the auxiliary models. Second, the predictions for these indicators are used in the two bridge equations to generate forecasts of GDP growth. Based on Bayesian estimation techniques, all the probability distributions are estimated for the two steps. The individual probability distributions for GDP growth are pooled to calculate both point and density forecasts for GDP growth. Point forecasts for GDP growth are obtained as the median of the combined density forecasts from the two bridge equations. The predictive densities take into account time-varying volatilities and therefore consider both changing parameters and residual uncertainties surrounding the central tendency of GDP growth forecasts.

[8] The original model proposed by Antolín-Díaz et al. (2017, 2024) also allows for gradual shifts in long-term growth. However, a preliminary analysis found this feature not to be beneficial to the performance of the model in forecasting euro area real GDP growth.

3.2 Forecast performance

A real-time forecast evaluation exercise was conducted for the new ECB models, with a particular focus on post-pandemic performance. The forecast accuracy of the models was compared both with the old ECB models and with Eurosystem/ECB staff macroeconomic projections. For this purpose, real-time vintages of the dataset were constructed using information from the ECB Data Portal.[9]

The evaluation of its performance follows the publication calendars for statistical data (such as industrial production) and survey-based sentiment indicators (such as the Purchasing Managers Index). This leads to a biweekly forecast calendar, producing a total of 12 estimates for each target quarter in the evaluation sample, meaning that at each point in time, forecasts are generated for the next two quarters to be released. The first forecast is generated approximately five months before the end of the target quarter and the final forecast is produced two weeks after the quarter ends. For the point forecasts, the accuracy is assessed using the bias to measure systematic overprediction or underprediction and the mean absolute forecast error (MAFE) to evaluate the average size of forecast errors regardless of the sign.[10] The evaluation period spans the post-pandemic period, from the first quarter of 2022 to the second quarter of 2025. Both metrics are calculated using the first release (preliminary flash estimate) of GDP growth published around 30 days after the end of the reference quarter.

The forecast accuracy of the new ECB models in the post-pandemic period is noticeably higher than that of their predecessors.[11] Chart 1 shows the bias (panel a) and MAFE (panel b) for the old ECB models (yellow bars) and the new ECB models (blue bars) as well as for the Eurosystem/ECB staff macroeconomic projections (red line) for the entire evaluation period. While forecasts based on the old ECB models tended to underpredict real GDP growth, as indicated by their negative bias, the new ECB models generally exhibit a bias much closer to zero. The new ECB models are also more accurate overall, as demonstrated by their lower MAFE values compared with the old ECB models. However, while forecast accuracy typically improves (i.e. MAFE decreases) as more information becomes available, the accuracy of the forecasts in this case was more erratic. This could be attributed to the relatively short evaluation sample, which coincided with a period of heightened uncertainty due to successive shocks to euro area economic activity. These include Russia's war against Ukraine, with the subsequent surge in energy prices and inflation, and, more recently, trade-related uncertainties. When comparing the forecast performance of the new ECB models with the Eurosystem/ECB staff macroeconomic projections (which incorporate expert judgement), no systematic

9 For indicators without real-time vintages, the latest available (final) vintage is used to replicate the publication lag for past vintages (i.e. pseudo-real time).

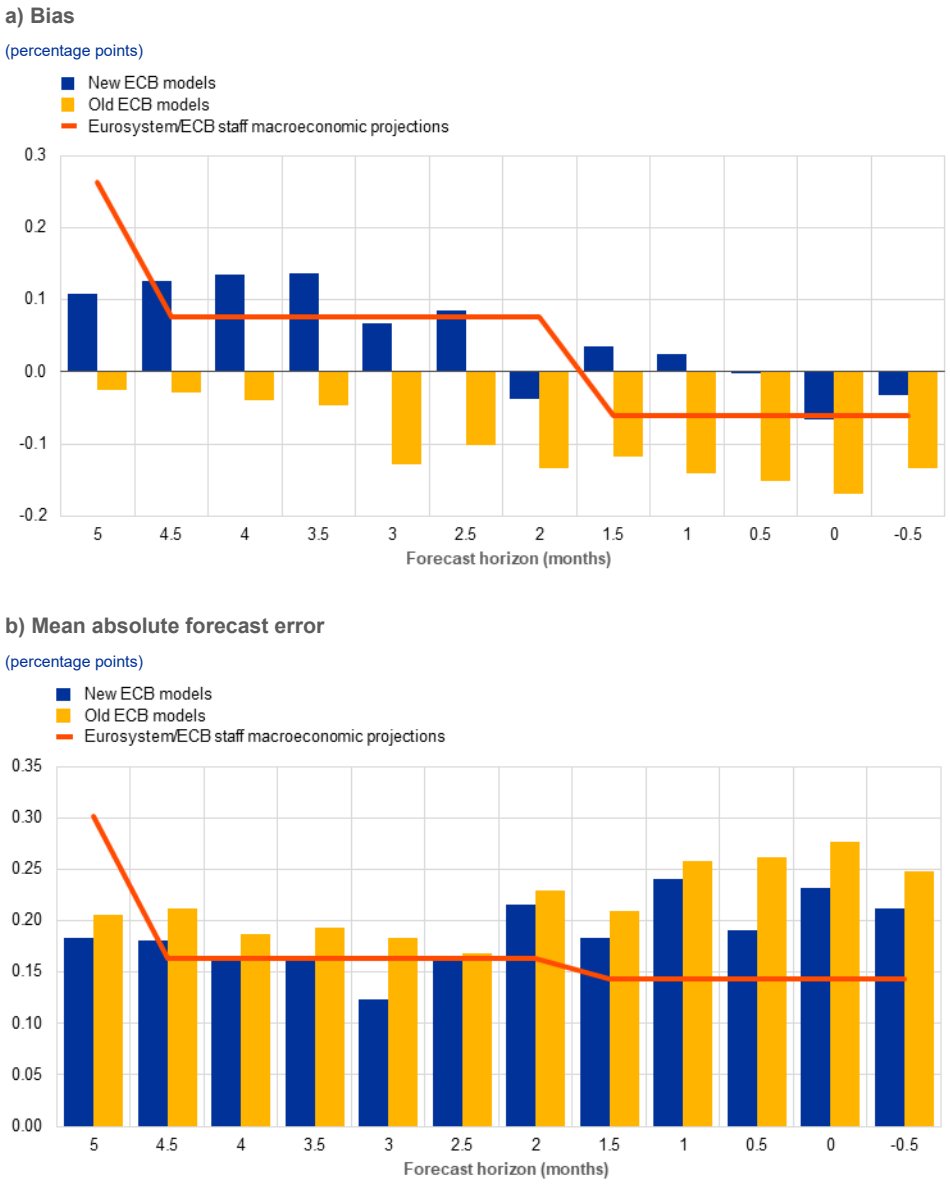
10 Bias measures average forecast errors considering the sign of such errors. Accordingly, positive (negative) bias indicates that the model is overpredicting (underpredicting) the target on average.

11 However, the old ECB models had a better forecast performance than the new models during the pre-pandemic period.

direction of bias was observed in either. However, the macroeconomic projections proved to be more accurate overall.

Chart 1

Forecast accuracy of ECB models and Eurosystem/ECB staff macroeconomic projections since 2022



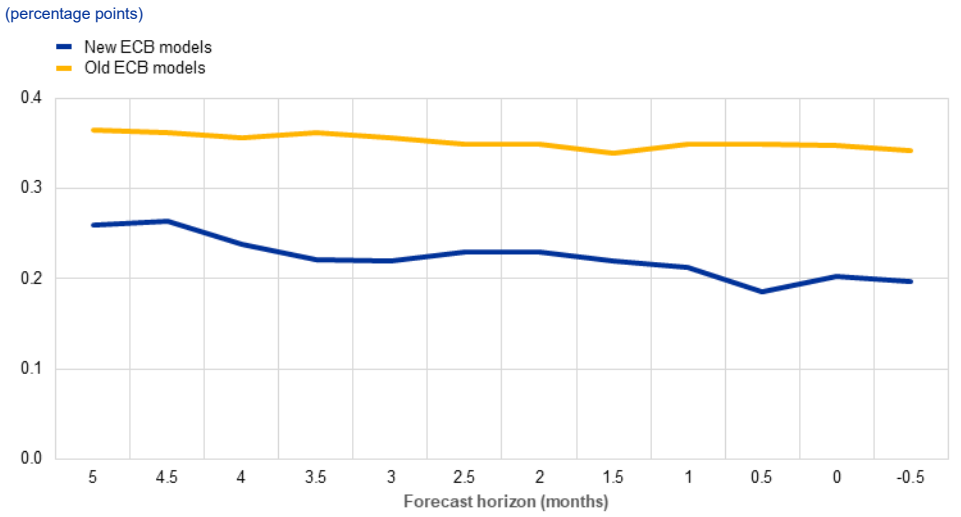
Source: ECB calculations.
Notes: For each quarter, a sequence of 12 real-time forecast updates is evaluated. The forecast horizon (x-axis) is defined as the distance (in months) between the date of the forecast and the end of the reference quarter. A convention is adopted in line with the fact that Eurosystem/ECB staff macroeconomic projections are finalised around the middle of the second month of each quarter (1.5 or 4.5 months before the end of the reference quarter). Bias is defined as the average difference between the forecast and the outcome. A positive (negative) bias indicates overprediction (underprediction). The forecast accuracy is measured by the mean absolute forecast error. GDP forecasts are evaluated against the preliminary flash estimate of GDP growth (released at the end of the first month of the following quarter).

The new ECB models also deliver more accurate density forecasts. In addition to evaluating the point forecasts, the accuracy of the entire forecast distribution is assessed. To this end, the continuous ranked probability score (CRPS), which compares predicted distributions to actual outcomes, is used to evaluate the density

forecasts produced by the old and new ECB models. The Eurosystem/ECB staff macroeconomic projections are not included in this evaluation, as they do not provide density forecasts.[12] Chart 2 shows that the new ECB models deliver more accurate probabilities (lower CRPS) than the old ECB models at all forecast horizons. This result is unsurprising, as the inclusion of time-varying volatilities enhances the calibration of the forecast densities.

Chart 2

Density forecast accuracy – continuous ranked probability score



Source: ECB calculations.
Notes: See the notes to Chart 1. The continuous ranked probability score measures the accuracy of density forecasts using the expected absolute difference between the forecast distribution and the realised value. Lower values indicate more accurate and better calibrated forecasts.

4 Complementary framework: a quantile regression forest model

Machine learning models are used increasingly for economic forecasting thanks to their flexibility and strong predictive performance. Unlike traditional time series forecasting models, which rely on specific econometric frameworks and parametric assumptions, machine learning models identify patterns directly from the data. This enables them to capture complex, possibly non-linear relations among variables. Although machine learning models typically treat observations as independent and do not explicitly account for temporal dependencies, this feature can be advantageous in rapidly changing environments where recent lags may be less informative or where underlying dynamics take time to unfold.

This section briefly describes one specific machine learning model – the quantile regression forest (QRF) model – that has been tested for short-term GDP forecasting. QRF models are a well-established machine learning method that is already deployed at the ECB to predict short-term inflation dynamics with

[12] The implementation of the continuous ranked probability score follows Panagiotelis and Smith (2008), p. 719.

comparatively high accuracy.[13] The QRF model combines the concept of a quantile regression, which estimates specific percentiles of the distribution of the target variable, with the predictive power of an ensemble of decision trees (i.e. forests).[14] By aggregating predictions from many trees, the QRF model provides both a point forecast and a predictive distribution of the target variable, which is particularly useful for assessing uncertainty and risk. An additional advantage of this approach is the possibility of assessing the contribution of each predictor to the forecast using Shapley values.[15] This feature enables the impact of new data releases on the forecast revisions to be evaluated (similar to the news analysis in the bridge equation framework), thereby enhancing transparency and interpretability and reducing the perception of the model as a "black box".

The model is estimated using contemporaneous relations between GDP growth and a broad set of economic indicators. The dataset includes industrial production, trade, surveys, financial activity and other hard data, all originally available at a monthly frequency. These are aggregated to quarterly frequency using simple averages to match the GDP data, while missing values are projected through an autoregressive integrated moving average (ARIMA) model. Forecasts are then produced using indicators at quarterly frequency for the target quarter. The forest is estimated using hyperparameters recommended in the literature on regressions, ensuring model stability and a balance between bias and variance.[16]

A real-time forecast evaluation exercise was performed for the post-pandemic period to assess the performance of the QRF model. The evaluation period spanned from the first quarter of 2022 to the second quarter of 2025 (as in Section 3.2). Six forecasts were produced for each quarter, starting five months before the end of the target quarter.[17] Chart 3 reports the forecast accuracy, showing the bias (panel a) and the MAFE (panel b) for both the QRF and the new ECB models. The QRF model displays a somewhat smaller bias in magnitude but with the same sign across all the forecast horizons. In MAFE terms, the QRF exhibits larger errors than the new ECB models at the beginning of the forecast horizon, but its accuracy improves steadily as more data become available and surpasses that of the new ECB models towards the end of the target quarter. This improvement was most pronounced in 2022, when the QRF showed higher predictive accuracy, possibly due to non-linearities as a result of the lingering effects of the pandemic and the emerging energy crisis (e.g. reopening of the economy, supply-chain disruptions). However, over a longer evaluation sample starting in 2017 (not shown), the model's performance was slightly worse than that of the new ECB models. Overall, the QRF model performs well as a tool for short-term GDP forecasting, particularly during

13 See Lenza et al. (2025).

14 A decision tree works by dividing data into smaller and smaller groups based on the values of input variables such as industrial production, consumer confidence and retail sales. In each step, the tree tries to make predictions as accurately as possible by splitting the data on the basis of the variable that explains the most variation in the target value.

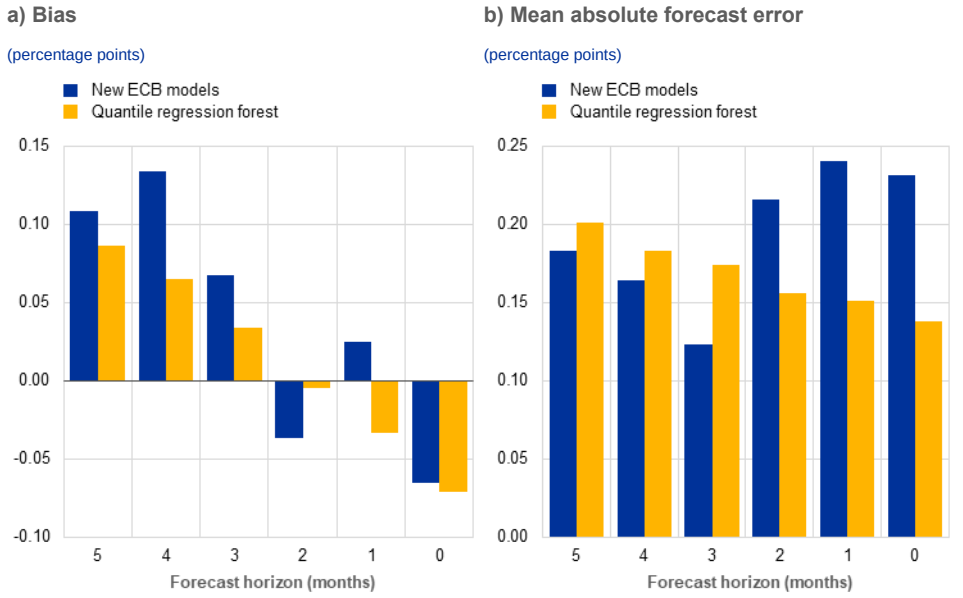
15 Shapley values attribute each feature's contribution to a specific forecast in a fair and consistent way (Lundberg et al., 2019).

16 The model considers 1,000 trees with a minimum of ten observations per leaf and one-third of the available predictors considered at each split.

17 The results of the mid-month forecasts are not shown in Chart 3 but follow the same pattern.

periods of economic instability, and can serve as a useful cross-check against the main workhorse models.

Chart 3
Forecast accuracy of the quantile regression forest model



Source: ECB calculations.
Notes: The forecast horizon (x-axis) is defined as the distance (in months) between the date of the forecast and the end of the reference quarter. Bias is defined as the average difference between the forecast and the outcome. A positive (negative) bias indicates overprediction (underprediction). The forecast accuracy is measured by the mean absolute forecast error. GDP forecasts are evaluated against the preliminary flash estimate of GDP growth (released at the end of the first month of the following quarter).

Box 2
A case study: short-term GDP forecasts for the third quarter of 2025 in real time

Prepared by Sercan Eraslan, Andrea Fabbri and Lorena Saiz

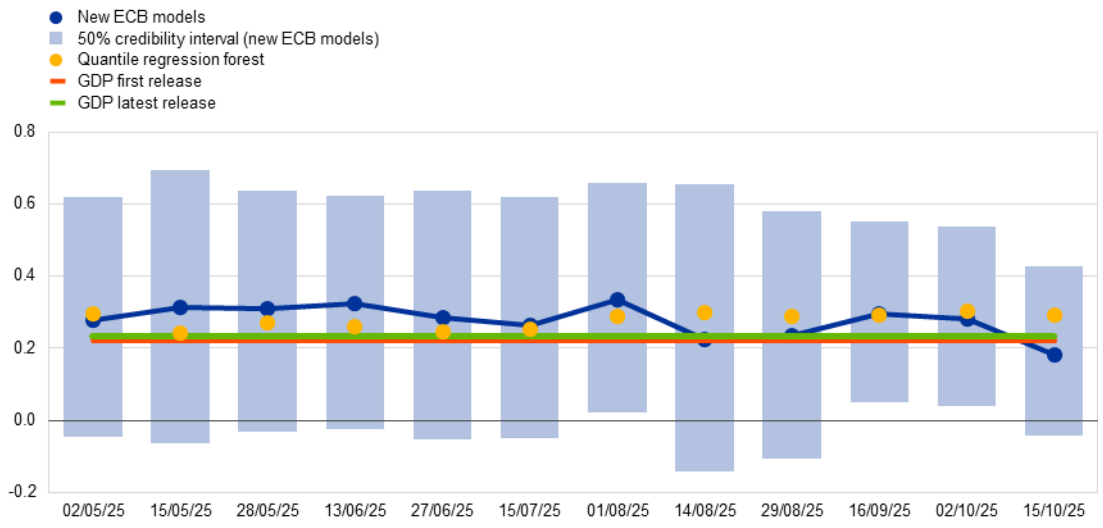
This box presents an illustrative case to show how short-term GDP forecasting models are used in the day-to-day work of the ECB. Focusing on the third quarter of 2025, this box shows the developments in the point and density forecasts produced by the new ECB models and assesses the impact of incoming data on forecast revisions.

Chart A displays the sequence of 12 real-time forecasts of euro area real GDP growth for the third quarter of 2025 based on the new ECB models. Besides the point forecasts, the chart shows the range of possible outcomes within a 50% credibility interval. The first forecast was made at the beginning of May 2025, five months ahead of the release of the preliminary flash estimate of GDP. The forecasts were subsequently updated biweekly, with the final forecast generated two weeks before the GDP release on 30 October. Over the forecast horizon, the median GDP growth prediction fluctuated between 0.2% and 0.3%, declining just below 0.2% in the final mid-October iteration. This final forecast was close to the preliminary flash GDP estimate, which fell within the 50% credibility interval of the combined density forecast from the new ECB models. Forecasts produced by the complementary QRF model closely mirrored the forecasts generated by the new ECB models, with the final forecast resulting slightly above the realised value.

Chart A

Real GDP growth forecasts for the third quarter of 2025

(quarter-on-quarter percentage changes)



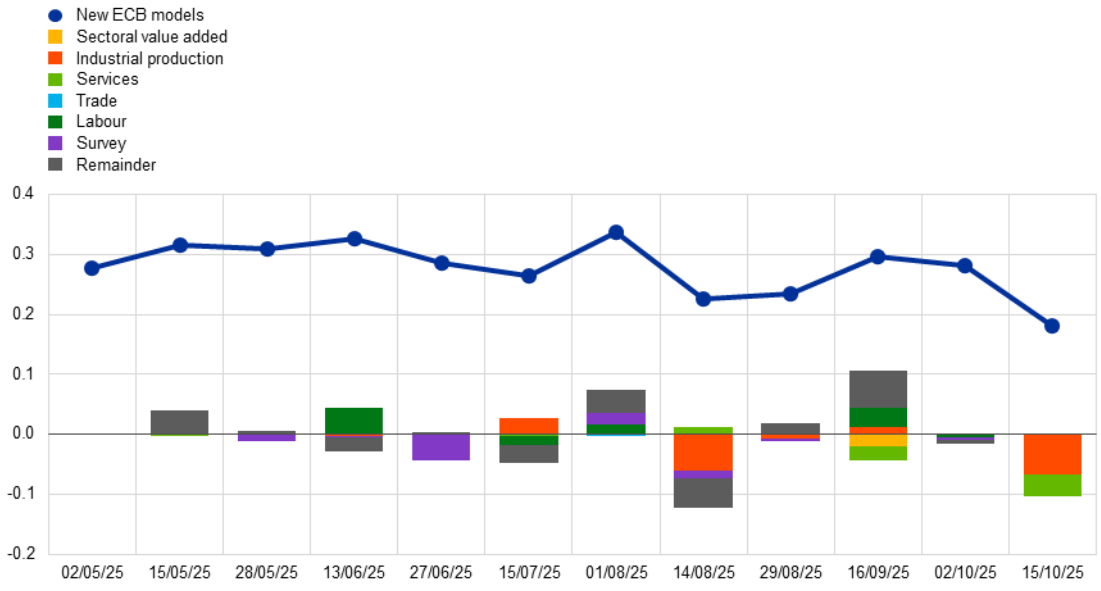
Sources: Eurostat and ECB calculations.
Notes: The blue line represents the point forecasts for real GDP growth in the third quarter of 2025 based on the new ECB models from different forecast updates (x-axis). The bars indicate the range of possible outcomes with a 50% probability (50% credibility interval or interquartile range) based on the new ECB models. The point forecasts of the complementary quantile regression forest model are shown as yellow dots. The red and green lines refer, respectively, to the preliminary flash estimate (30 October) and the flash estimate (14 November) of GDP growth published by Eurostat.

Chart B illustrates the analysis of the drivers of forecast revisions between consecutive updates for the third quarter of 2025. The bars represent model-based surprises that drive GDP forecast revisions, grouped into various indicator categories. For example, negative surprises in survey data (purple bars) contributed to downward revisions of GDP forecasts between May and July 2025. During the same period, positive surprises in the labour market indicators and in industrial production data (dark green bars and red bars respectively) pushed GDP forecasts upwards. The most significant forecast adjustments occurred later in the forecast horizon, specifically in both mid-August and mid-October. Both revisions were largely driven by negative surprises in industrial production data, with the downward revision in the final update also reflecting negative surprises in services data (light green bars). Chart B also highlights the impact of historical data revisions on forecast revisions, which are captured by the remainder category (dark grey bars). For instance, the upward revision of the forecast of 16 September 2025 was primarily driven by the remainder, largely reflecting the significant effect of industrial production data revisions on the GDP growth forecasts.

Chart B

Model-based news and revisions to real GDP growth forecasts for the third quarter of 2025

(quarterly percentage changes and percentage point contributions)



Source: ECB calculations.
Notes: The blue line represents the median point forecasts of the new ECB models (from the combined density of two bridge equations) for real GDP growth in the third quarter of 2025 from different forecast updates (x-axis). The bars indicate the decomposition of forecast revisions between consecutive updates into news stemming from different groups of indicators: Sectoral value added = sectoral value added GDP components; Industrial production = industrial production indicators; Services = services and retail indicators; Trade = international trade-related indicators; Labour = labour market indicators; Survey = survey-based indicators; Remainder = effects of historical data revisions and parameter re-estimations.

5 Conclusions

Over the past five years, a series of major shocks have posed significant challenges to economic modelling and short-term GDP forecasting. The pandemic and its associated supply-chain disruptions, the Russian invasion of Ukraine and the subsequent energy crisis and surge in inflation, and the more recent trade-related uncertainties have all contributed to sizeable fluctuations in economic activity and a more dynamic and unpredictable economic and political environment. As a result, model and forecast uncertainty have increased.

In response to the evolving economic environment, the ECB's toolbox for short-term GDP forecasting has been comprehensively updated. This revision has focused on improving forecast performance by addressing heightened volatility and model uncertainty. A two-fold strategy was devised to update and finetune the short-term GDP forecasting framework. First, the workhorse models based on the bridge equation framework were comprehensively revised and improved. The revision incorporated state-of-the-art auxiliary DFMs and VARs with time-varying volatility. In addition, newly available indicators, such as those for the services sector, were incorporated into the dataset, building on the recommendations of Bańbura and Saiz (2020). Second, alternative approaches using advanced machine learning methods were explored to complement the traditional workhorse models. Notably, the QRF model exhibited a forecast accuracy comparable to that of the workhorse models in the post-pandemic period for both current quarter and one-

quarter ahead GDP growth forecasts. This is particularly noteworthy given the purely data-driven nature of this machine learning model in contrast to the careful variable selection and parameterisation required for the workhorse models. However, it remains unclear whether the relatively strong performance of the QRF model is specific to the current highly volatile environment.

Nevertheless, it is important to recognise that the post-pandemic period continues to be marked by unusually high uncertainty, necessitating frequent and systematic evaluations and reviews of the forecasting models to ensure their accuracy. As emphasised in the ECB's 2025 monetary policy strategy assessment, forecast performance will be monitored regularly and the short-term GDP forecasting models will be revised as needed. Furthermore, continued exploration of new data sources and advanced machine learning methods should remain a priority to further enhance short-term macroeconomic forecasting.

References

Almuzara, M., Baker, K., O'Keeffe, H. and Sbordone, A. (2023), "The New York Fed Staff Nowcast 2.0", *New York Fed Staff Nowcast Technical Paper*, Federal Reserve Bank of New York, June.

Andersson, M., Blatnik, N., Byrne, S., Emter, L., González Pardo, B., Jarvis, V., Schmitz, M., Zorell, N. and Zwick, C. (2024), "Intangible assets of multinational enterprises in Ireland and their impact on euro area activity", *Occasional Paper Series*, No 350, ECB, June.

Antolín-Díaz, J., Drechsel, T. and Petrella, I. (2017), "Tracking the slowdown in long-run GDP growth, *The Review of Economics and Statistics*, Vol. 99, No 2, May, pp. 343-356.

Antolín-Díaz, J., Drechsel, T. and Petrella, I. (2024), "Advances in nowcasting economic activity: The role of heterogeneous dynamics and fat tails", *Journal of Econometrics*, Vol. 238, No 2, January.

Bańbura, M. and Modugno, M. (2014), "Maximum likelihood estimation of factor models on datasets with arbitrary pattern of missing data", *Journal of Applied Econometrics*, Vol. 29, No 1, pp. 133-160.

Bańbura, M. and Saiz, L. (2020), "Short-term forecasting of euro area economic activity at the ECB", *Economic Bulletin*, Issue 2, ECB.

Battistini, N., de Bondt, G., de Santis, R.A. and Saiz, L. (2020), "Assessing short-term economic developments in times of COVID-19", *Economic Bulletin*, Issue 8, ECB.

Camacho, M. and Pérez-Quirós, G. (2010), "Introducing the euro-sting: Short-term indicator of euro area growth", *Journal of Applied Econometrics*, Vol. 25, No 4, June/July, pp. 663-694.

Carriero, A., Clark, T.E., Marcellino, M. and Mertens, E. (2024), "Addressing COVID-19 Outliers in BVARs with Stochastic Volatility", *The Review of Economics and Statistics*, Vol. 106, No 5, September, pp. 1403-1417.

Chan, J.C., Poon, A. and Zhu, D. (2023), "High-dimensional conditionally Gaussian state space models with missing data", *Journal of Econometrics*, Vol. 236, No 1, September.

Deutsche Bundesbank (2023), "Models for short-term economic forecasting during the recent crises", *Monthly Report*, Vol. 75, No 9, September, pp. 61-78.

Meinshausen, N. (2006), "Quantile Regression Forests", *Journal of Machine Learning Research*, Vol. 7, pp. 983-999.

Lenza, M., Moutachaker, I. and Paredes, J. (2025), "Density forecasts of inflation: A quantile regression forest approach", *European Economic Review*, Vol. 178, September.

Linzenich, J. and Meunier, B. (2024), "Nowcasting made easier: a toolbox for economists", *Working Paper Series*, No 3004, ECB, December.

Lundberg, S.M., Erion, G.G. and Lee, S.I. (2019), "Consistent Individualized Feature Attribution for Tree Ensembles", *arXiv*.

Panagiotelis, A. and Smith M. (2008), "Bayesian density forecasting of intraday electricity prices using multivariate skew t distributions", *International Journal of Forecasting*, Vol. 24, No 4, pp. 710-727.

Probst, P., Wright, M.N., and Boulesteix, A-L. (2019), "Hyperparameters and tuning strategies for random forest", *WIREs Data Mining and Knowledge Discovery*, Vol. 9, No 3, May/June.

Statistics

Contents

1	External environment	S 2
2	Economic activity	S 3
3	Prices and costs	S 9
4	Financial market developments	S 13
5	Financing conditions and credit developments	S 18
6	Fiscal developments	S 23

Further information

Data published by the ECB can be accessed from the ECB Data Portal:	https://data.ecb.europa.eu/
Detailed tables are available in the ”Publications” section of the ECB Data Portal:	https://data.ecb.europa.eu/publications
Methodological definitions, general notes and technical notes to statistical tables can be found in the ”Methodology” section of the ECB Data Portal:	https://data.ecb.europa.eu/methodology
Explanations of terms and abbreviations can be found in the ECB’s statistics glossary:	https://www.ecb.europa.eu/home/glossary/html/glossa.en.html

Conventions used in the tables

-	data do not exist/data are not applicable
.	data are not yet available
...	nil or negligible
(p)	provisional
s.a.	seasonally adjusted
n.s.a.	non-seasonally adjusted

1 External environment

1.1 Main trading partners, GDP and CPI

	GDP[1] (period-on-period percentage changes)						CPI (annual percentage changes)				
	G20	United States	United Kingdom	Japan	China	Memo item: euro area	United States	United Kingdom (HICP)	Japan	China	Memo item: euro area[2] (HICP)
	1	2	3	4	5	6	7	8	9	10	11
2022	3.5	2.5	5.1	1.3	3.1	3.6	8.0	9.1	2.5	2.0	8.4
2023	3.4	2.9	0.3	0.7	5.4	0.4	4.1	7.4	3.3	0.2	5.4
2024	3.2	2.8	1.1	-0.2	5.0	0.9	2.9	2.5	2.7	0.2	2.4
2024 Q4	0.9	0.5	0.2	0.3	1.5	0.4	2.7	2.5	2.9	0.2	2.2
2025 Q1	0.8	-0.2	0.7	0.4	1.2	0.6	2.7	2.8	3.8	-0.1	2.3
Q2	0.9	0.9	0.3	0.5	1.0	0.1	2.4	3.5	3.5	0.0	2.0
Q3	.	.	0.1	-0.6	1.1	0.3	2.9	3.8	2.9	-0.2	2.1
2025 June	-	-	-	-	-	-	2.7	3.6	3.3	0.1	2.0
July	-	-	-	-	-	-	2.7	3.8	3.1	0.0	2.0
Aug.	-	-	-	-	-	-	2.9	3.8	2.7	-0.4	2.0
Sep.	-	-	-	-	-	-	3.0	3.8	2.9	-0.3	2.2
Oct.	-	-	-	-	-	-	.	3.6	3.0	0.2	2.1
Nov.	-	-	-	-	-	-	.	3.2	.	.	2.1

Sources: Eurostat (col. 6, 11); BIS (col. 7, 8, 9, 10); OECD (col. 1, 2, 3, 4, 5).
1) Quarterly data seasonally adjusted; annual data unadjusted.
2) Data refer to the changing composition of the euro area.

2 Economic activity

2.1 GDP and expenditure components

(quarterly data seasonally adjusted; annual data unadjusted)

	GDP											
	Total	Domestic demand								External balance [1]		
		Total	Private consumption	Government consumption	Gross fixed capital formation				Changes in inventories [2]	Total	Exports [1]	Imports [1]
					Total	Total construction	Total machinery	Intellectual property products				
	1	2	3	4	5	6	7	8	9	10	11	12
Current prices (EUR billions)												
2022	13,757.9	13,486.6	7,258.1	2,941.9	3,017.6	1,555.4	871.5	584.5	269.0	-271.3	7,421.7	7,150.4
2023	14,663.7	14,137.7	7,750.7	3,097.3	3,214.9	1,641.8	929.2	637.6	74.8	-525.9	7,378.5	6,852.5
2024	15,231.4	14,563.9	8,029.7	3,259.8	3,209.9	1,648.3	922.9	632.4	64.5	-667.5	7,489.3	6,821.8
2024 Q4	3,866.3	3,705.1	2,032.0	830.6	815.5	416.4	232.2	165.3	27.0	-161.2	1,885.7	1,724.5
2025 Q1	3,905.6	3,745.9	2,055.0	835.8	836.9	421.3	232.0	182.0	18.2	-159.7	1,931.9	1,772.2
Q2	3,936.6	3,775.3	2,066.2	845.8	829.1	423.4	234.1	169.8	34.3	-161.3	1,911.9	1,750.6
Q3	3,969.1	3,813.9	2,080.5	856.6	840.7	426.2	237.4	175.4	36.1	-155.2	1,924.5	1,769.3
as percentage of GDP												
2024	100.0	95.6	52.7	21.4	21.1	10.8	6.1	4.2	0.4	-4.4	-	-
Chain-linked volumes (prices for the previous year)												
quarter-on-quarter percentage changes												
2024 Q4	0.4	0.4	0.5	0.6	0.7	0.9	0.9	0.2	-	-	0.1	0.1
2025 Q1	0.6	0.5	0.2	0.0	2.6	0.5	0.0	11.4	-	-	2.3	2.2
Q2	0.1	0.3	0.3	0.4	-1.7	0.0	0.5	-8.5	-	-	-0.4	-0.1
Q3	0.3	0.5	0.2	0.7	0.9	0.0	1.1	3.1	-	-	0.7	1.3
annual percentage changes												
2022	3.6	4.0	5.3	1.3	2.1	-0.1	4.1	4.9	-	-	7.3	8.4
2023	0.4	0.1	0.5	1.5	2.4	1.0	2.2	6.3	-	-	-1.2	-2.0
2024	0.9	0.6	1.3	2.2	-2.0	-1.4	-2.0	-3.3	-	-	0.6	-0.1
2024 Q4	1.3	1.6	1.8	2.2	-2.1	-0.5	-1.0	-7.3	-	-	0.4	0.9
2025 Q1	1.6	2.3	1.5	2.1	2.4	0.4	-0.4	11.3	-	-	2.5	4.0
Q2	1.6	2.6	1.6	1.5	3.2	1.1	-0.7	15.8	-	-	0.5	2.7
Q3	1.4	1.7	1.1	1.7	2.5	1.4	2.6	5.3	-	-	2.7	3.6
contributions to quarter-on-quarter percentage changes in GDP; percentage points												
2024 Q4	0.4	0.4	0.3	0.1	0.2	0.1	0.1	0.0	-0.1	0.0	-	-
2025 Q1	0.6	0.5	0.1	0.0	0.5	0.1	0.0	0.5	-0.2	0.1	-	-
Q2	0.1	0.3	0.1	0.1	-0.4	0.0	0.0	-0.4	0.5	-0.2	-	-
Q3	0.3	0.5	0.1	0.1	0.2	0.0	0.1	0.1	0.1	-0.2	-	-
contributions to annual percentage changes in GDP; percentage points												
2022	3.6	3.9	2.8	0.3	0.5	0.0	0.3	0.2	0.3	-0.2	-	-
2023	0.4	0.1	0.3	0.3	0.5	0.1	0.1	0.3	-1.0	0.4	-	-
2024	0.9	0.6	0.7	0.5	-0.4	-0.2	-0.1	-0.1	-0.1	0.3	-	-
2024 Q4	1.3	1.5	1.0	0.5	-0.5	-0.1	-0.1	-0.3	0.6	-0.2	-	-
2025 Q1	1.6	2.2	0.8	0.4	0.5	0.0	0.0	0.5	0.4	-0.5	-	-
Q2	1.6	2.5	0.8	0.3	0.7	0.1	0.0	0.6	0.7	-1.0	-	-
Q3	1.4	1.7	0.6	0.4	0.5	0.2	0.2	0.2	0.2	-0.3	-	-

Sources: Eurostat and ECB calculations.
1) Exports and imports cover goods and services and include cross-border intra-euro area trade.
2) Including acquisitions less disposals of valuables.

2 Economic activity

2.2 Value added by economic activity

(quarterly data seasonally adjusted; annual data unadjusted)

	Gross value added (basic prices)											
	Total	Agriculture, forestry and fishing	Manufacturing energy and utilities	Construction	Trade, transport, accommodation and food services	Information and communication	Finance and insurance	Real estate	Professional, business and support services	Public administration, education, health and social work	Arts, entertainment and other services	Taxes less subsidies on products
	1	2	3	4	5	6	7	8	9	10	11	12
	Current prices (EUR billions)											
2022	12,365.4	217.8	2,423.2	647.7	2,360.6	638.7	543.7	1,340.4	1,491.1	2,319.4	382.8	1,392.5
2023	13,265.9	224.4	2,615.9	710.9	2,462.9	697.3	600.3	1,472.4	1,614.5	2,455.4	411.8	1,397.8
2024	13,715.2	233.5	2,579.1	731.4	2,550.1	734.1	633.3	1,536.5	1,690.4	2,595.0	431.9	1,516.1
2024 Q4	3,480.3	59.6	661.3	183.8	644.2	187.2	159.3	386.0	428.4	661.2	109.2	386.0
2025 Q1	3,508.8	60.3	665.6	186.9	648.5	188.9	160.9	387.7	431.1	668.4	110.5	396.8
Q2	3,541.8	62.0	666.4	189.6	654.6	191.1	161.9	390.6	436.1	677.4	112.3	394.8
Q3	3,567.8	63.2	666.1	190.6	658.3	193.5	164.7	393.0	441.2	684.2	113.0	401.3
	as percentage of value added											
2024	100.0	1.7	18.8	5.3	18.6	5.4	4.6	11.2	12.3	18.9	3.1	-
	Chain-linked volumes (prices for the previous year)											
	quarter-on-quarter percentage changes											
2024 Q4	0.3	0.7	0.2	0.1	0.2	0.9	0.3	0.4	-0.1	0.5	-1.1	1.6
2025 Q1	0.6	1.4	2.0	0.6	0.3	0.8	0.1	0.2	0.3	0.2	0.3	-0.2
Q2	0.2	-1.0	0.2	0.0	0.3	0.5	-0.4	0.0	0.3	0.2	0.3	0.0
Q3	0.3	0.5	0.0	0.0	0.4	0.9	1.0	0.2	0.4	0.3	0.3	-0.1
	annual percentage changes											
2022	4.0	-0.5	0.7	-0.4	8.8	6.6	-2.1	2.4	5.9	2.8	17.3	0.7
2023	0.7	-2.7	-1.7	1.7	-0.2	6.7	-2.6	2.1	2.2	1.0	3.5	-1.7
2024	0.9	-0.5	-0.7	-0.7	0.9	2.9	1.7	1.6	1.8	1.5	1.6	0.5
2024 Q4	1.0	0.3	-0.6	-0.9	1.1	2.7	2.1	1.5	1.0	1.8	1.9	5.0
2025 Q1	1.5	1.0	3.0	-0.4	0.9	3.4	0.0	0.9	1.2	1.7	1.3	2.7
Q2	1.4	1.1	2.9	0.2	1.1	3.6	-0.2	0.8	0.7	1.3	1.1	2.8
Q3	1.4	1.7	2.3	0.7	1.3	3.1	0.9	0.8	0.9	1.3	-0.2	1.2
	contributions to quarter-on-quarter percentage changes in value added; percentage points											
2024 Q4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-
2025 Q1	0.6	0.0	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-
Q2	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-
Q3	0.3	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	-
	contributions to annual percentage changes in value added; percentage points											
2022	4.0	0.0	0.1	0.0	1.6	0.4	-0.1	0.3	0.7	0.6	0.5	-
2023	0.7	0.0	-0.3	0.1	0.0	0.3	-0.1	0.2	0.3	0.2	0.1	-
2024	0.9	0.0	-0.1	0.0	0.2	0.2	0.1	0.2	0.2	0.3	0.0	-
2024 Q4	1.0	0.0	-0.1	0.0	0.2	0.1	0.1	0.2	0.1	0.3	0.1	-
2025 Q1	1.5	0.0	0.6	0.0	0.2	0.2	0.0	0.1	0.1	0.3	0.0	-
Q2	1.4	0.0	0.5	0.0	0.2	0.2	0.0	0.1	0.1	0.2	0.0	-
Q3	1.4	0.0	0.4	0.0	0.2	0.2	0.0	0.1	0.1	0.2	0.0	-

Sources: Eurostat and ECB calculations.

2 Economic activity

2.3 Employment [1)]

(quarterly data seasonally adjusted; annual data unadjusted)

	Total	By employment status		By economic activity									
		Employees	Self-employed	Agriculture forestry and fishing	Manufacturing, energy and utilities	Construction	Trade, transport, accommodation and food services	Information and communication	Finance and insurance	Real estate	Professional, business and support services	Public administration, education, health and social work	Arts, entertainment and other services
	1	2	3	4	5	6	7	8	9	10	11	12	13
Persons employed													
as a percentage of total persons employed													
2022	100.0	86.0	14.0	2.9	14.2	6.4	24.2	3.3	2.3	1.1	14.2	24.9	6.5
2023	100.0	86.1	13.9	2.8	14.1	6.4	24.3	3.4	2.3	1.1	14.2	24.8	6.6
2024	100.0	86.1	13.9	2.8	14.0	6.4	24.4	3.4	2.3	1.0	14.2	25.0	6.5
annual percentage changes													
2022	2.4	2.5	1.4	-0.7	1.2	3.6	3.3	5.8	0.1	3.5	3.9	1.5	1.1
2023	1.5	1.6	1.1	-1.1	0.8	1.6	2.0	4.1	0.7	2.0	1.8	1.3	1.7
2024	0.9	1.0	0.6	-0.9	0.3	0.9	1.1	2.0	1.5	-0.6	0.7	1.5	0.7
2024 Q4	0.7	0.8	0.3	-2.2	0.1	0.7	1.2	1.3	1.7	0.3	0.1	1.4	0.3
2025 Q1	0.8	0.9	0.1	-1.5	-0.2	0.8	0.6	1.0	1.5	3.0	0.7	1.4	1.0
Q2	0.7	0.7	0.8	-1.9	-0.3	1.1	0.9	0.5	1.3	3.4	1.0	1.1	0.3
Q3	0.6	0.6	0.5	-1.6	-0.2	1.5	0.5	-0.1	1.3	2.7	0.9	1.0	0.7
Hours worked													
as a percentage of total hours worked													
2022	100.0	81.7	18.3	3.8	14.7	7.4	25.0	3.5	2.4	1.1	14.2	22.0	5.9
2023	100.0	81.9	18.1	3.7	14.6	7.3	25.1	3.6	2.4	1.1	14.2	22.0	5.9
2024	100.0	82.0	18.0	3.6	14.5	7.3	25.1	3.7	2.4	1.1	14.2	22.2	5.9
annual percentage changes													
2022	3.8	3.9	3.3	-1.0	1.3	4.3	7.6	6.2	-0.6	5.7	4.7	1.1	4.8
2023	1.7	2.0	0.6	-1.4	1.1	1.3	2.0	4.0	0.8	1.6	2.1	1.9	2.4
2024	1.1	1.2	0.6	-0.6	0.3	1.1	1.1	2.2	1.5	0.0	1.2	1.8	1.1
2024 Q4	1.0	1.2	0.2	-1.6	-0.1	0.8	1.2	1.6	0.9	1.9	0.8	1.9	1.2
2025 Q1	0.4	0.6	-0.7	-2.4	-0.8	0.6	0.2	1.0	1.0	2.4	0.3	1.2	1.7
Q2	0.3	0.5	-0.2	-2.6	-0.8	1.3	0.4	0.2	1.0	2.5	0.6	0.7	1.2
Q3	0.8	0.9	0.5	-2.3	0.0	1.5	0.8	-0.3	1.3	3.8	1.1	1.2	1.7
Hours worked per person employed													
annual percentage changes													
2022	1.3	1.3	1.8	-0.3	0.1	0.7	4.2	0.4	-0.7	2.2	0.8	-0.4	3.7
2023	0.2	0.4	-0.4	-0.3	0.2	-0.2	0.0	0.0	0.1	-0.4	0.3	0.6	0.6
2024	0.2	0.2	0.1	0.3	0.0	0.1	0.0	0.2	-0.1	0.6	0.5	0.3	0.4
2024 Q4	0.2	0.4	-0.1	0.7	-0.2	0.1	0.0	0.3	-0.8	1.6	0.6	0.6	0.9
2025 Q1	-0.4	-0.2	-0.8	-0.9	-0.6	-0.2	-0.5	0.0	-0.5	-0.6	-0.3	-0.2	0.6
Q2	-0.4	-0.2	-0.9	-0.7	-0.5	0.2	-0.5	-0.3	-0.3	-0.9	-0.3	-0.4	0.8
Q3	0.2	0.2	0.0	-0.7	0.2	0.0	0.2	-0.2	0.0	1.1	0.3	0.2	0.9

Sources: Eurostat and ECB calculations.
1) Data for employment are based on the ESA 2010.

2 Economic activity

2.4 Labour force, unemployment and job vacancies

(seasonally adjusted, unless otherwise indicated)

	Labour force, millions	Under-employment, % of labour force	Unemployment [1]												Job vacancy rate [3]
			Total		Long-term unemploy-ment, % of labour force [2]	By age				By gender					
						Adult		Youth		Male		Female			
			Millions	% of labour force		Millions	% of labour force	Millions	% of labour force	Millions	% of labour force	Millions	% of labour force		
	1	2	3	4	5	6	7	8	9	10	11	12	13		14
% of total in 2024			100.0			78.7		21.3		51.2		48.8			
2022	167.404	3.1	11.369	6.8	2.7	9.124	6.0	2.245	14.6	5.718	6.4	5.651	7.2		3.2
2023	169.704	2.9	11.166	6.6	2.4	8.874	5.8	2.292	14.5	5.644	6.3	5.522	6.9		3.1
2024	171.293	2.8	10.918	6.4	2.1	8.596	5.5	2.322	14.6	5.592	6.1	5.326	6.6		2.6
2024 Q4	171.634	2.8	10.634	6.2	2.0	8.359	5.4	2.275	14.4	5.469	6.0	5.165	6.4		2.5
2025 Q1	172.628	2.8	10.988	6.4	2.1	8.630	5.5	2.358	14.8	5.609	6.1	5.379	6.6		2.4
Q2	173.027	2.8	11.092	6.4	2.1	8.756	5.6	2.336	14.7	5.735	6.2	5.357	6.6		2.3
Q3	173.021	2.8	11.110	6.4	2.0	8.750	5.6	2.360	14.9	5.694	6.2	5.416	6.7		2.1
2025 May	-	-	11.040	6.4	-	8.699	5.5	2.341	14.7	5.723	6.2	5.317	6.6		-
June	-	-	11.052	6.4	-	8.725	5.6	2.327	14.6	5.701	6.2	5.351	6.6		-
July	-	-	11.004	6.4	-	8.711	5.5	2.293	14.5	5.658	6.2	5.346	6.6		-
Aug.	-	-	11.010	6.4	-	8.706	5.5	2.304	14.6	5.658	6.2	5.352	6.6		-
Sep.	-	-	11.046	6.4	-	8.704	5.5	2.342	14.8	5.668	6.2	5.378	6.6		-
Oct.	-	-	11.033	6.4	-	8.681	5.5	2.352	14.8	5.652	6.1	5.381	6.6		-

Sources: Eurostat and ECB calculations.
1) Where annual and quarterly Labour Force Survey data have not yet been published, they are estimated as simple averages of the monthly data. Fully break-free euro area and EU time-series were published for the first time in February 2022, following the implementation of the Integrated European Social Statistics Framework Regulation in 2021. For details of the break correction, see Eurostat (2024) EU labour force survey – correction for breaks in time series, Statistics Explained, updated 13 September 2024.
2) Not seasonally adjusted.
3) The job vacancy rate is equal to the number of job vacancies divided by the sum of the number of occupied posts and the number of job vacancies, expressed as a percentage. Data are non-seasonally adjusted and cover industry, construction and services (excluding households as employers and extra-territorial organisations and bodies).

2.5 Short-term business statistics

	Industrial production						Construc-tion production	Retail sales				Services produc-tion [1]	New passenger car regis-trations
	Total (excluding construction)		Main Industrial Groupings										
	Total	Manu-facturing	Inter-mediate goods	Capital goods	Consumer goods	Energy		Total	Food, beverages, tobacco	Non-food	Fuel		
	1	2	3	4	5	6	7	8	9	10	11	12	13
% of total in 2021	100.0	88.7	32.4	33.2	22.5	11.9	100.0	100.0	38.1	54.4	7.5	100.0	100.0
annual percentage changes													
2022	1.8	2.5	-1.3	3.7	5.9	-3.4	2.1	1.1	-2.7	3.5	4.5	10.0	-4.3
2023	-1.7	-1.2	-6.2	3.1	-1.0	-5.0	2.1	-1.9	-2.6	-1.0	-1.7	2.3	14.6
2024	-3.0	-3.3	-3.9	-5.0	-0.1	0.0	-1.0	1.2	0.5	1.7	0.7	1.6	-0.1
2024 Q4	-1.6	-1.9	-2.5	-4.0	2.2	0.3	-0.1	2.3	1.1	3.1	0.9	2.0	-2.2
2025 Q1	1.5	1.6	-1.0	-1.7	9.5	0.7	-0.3	2.4	1.4	3.1	1.6	2.8	-2.8
Q2	1.3	1.3	-1.3	0.5	6.0	1.2	0.8	3.0	2.2	3.6	3.9	2.4	-0.8
Q3	1.5	1.6	-0.6	1.1	5.0	0.5	0.5	1.9	1.0	2.8	1.4	2.7	6.1
2025 May	3.0	3.0	-1.6	2.9	9.2	2.3	0.7	2.3	1.0	3.0	2.8	2.4	5.8
June	0.6	0.5	-1.4	-0.6	4.4	3.0	-0.1	3.8	2.6	4.7	4.3	3.5	-11.6
July	1.9	2.2	-0.9	2.1	6.2	0.3	0.7	2.6	1.2	4.1	2.2	2.9	6.7
Aug.	1.2	1.5	-1.6	-0.1	7.3	-0.7	1.0	1.8	0.9	2.7	0.8	2.4	7.7
Sep.	1.2	1.2	0.4	1.1	1.9	2.0	-0.4	1.2	0.9	1.5	1.1	2.7	4.0
Oct.	2.0	1.5	0.5	0.5	4.5	4.5	0.5	1.5	0.9	2.1	1.8	.	5.3
month-on-month percentage changes (s.a.)													
2025 May	1.0	0.6	-1.6	1.1	6.3	3.5	-1.4	-0.2	-0.5	0.0	-1.0	0.3	-1.4
June	-0.7	-0.7	0.0	-1.4	-3.9	1.4	0.2	0.5	0.5	0.6	0.8	0.1	-5.5
July	0.6	0.9	0.5	1.8	2.0	-1.9	0.6	-0.1	-0.7	0.6	-1.2	0.3	4.9
Aug.	-1.0	-1.0	-0.2	-1.9	-0.2	-0.1	-0.2	0.0	0.4	-0.5	-0.3	-0.1	0.8
Sep.	0.2	-0.3	0.3	0.1	-2.3	1.1	-0.6	0.1	-0.2	0.0	0.0	0.0	0.2
Oct.	0.8	0.6	0.3	0.5	1.4	1.1	0.9	0.0	0.3	-0.2	0.3	.	0.7

Sources: Eurostat, ECB calculations and European Automobile Manufacturers Association (col. 13).
1) Excluding trade and financial services.

2 Economic activity

2.6 Opinion surveys
(seasonally adjusted)

	European Commission Business and Consumer Surveys (percentage balances, unless otherwise indicated)							
	Economic sentiment indicator (long-term average = 100)	Manufacturing industry		Consumer confidence indicator	Construction confidence indicator	Retail trade confidence indicator	Service industries	
		Industrial confidence indicator	Capacity utilisation (%)				Services confidence indicator	Capacity utilisation (%)
	1	2	3	4	5	6	7	8
1999-21	.	.	.	.	.	.	.	.
2023	96.2	-6.1	80.7	-17.4	-1.3	-4.2	6.7	90.4
2024	95.7	-11.0	78.4	-14.0	-4.5	-6.9	6.3	90.1
2025	.	.	77.6	.	.	.	.	90.0
2025 Q1	95.5	-11.3	77.2	-14.1	-3.3	-5.8	4.4	90.3
Q2	94.4	-11.0	77.5	-15.7	-3.4	-7.8	2.4	89.8
Q3	95.6	-10.3	77.8	-15.0	-3.3	-6.9	4.1	89.9
Q4	.	.	78.0	.	.	.	.	90.1
2025 June	94.2	-11.8	.	-15.3	-2.9	-7.6	3.2	.
July	95.8	-10.4	77.8	-14.7	-3.1	-6.6	4.3	89.9
Aug.	95.4	-10.2	.	-15.5	-3.5	-6.3	4.0	.
Sep.	95.7	-10.3	.	-14.9	-3.2	-7.7	3.9	.
Oct.	96.8	-8.5	78.0	-14.2	-2.5	-6.9	4.2	90.1
Nov.	97.0	-9.3	.	-14.2	-1.7	-5.7	5.7	.

Source: European Commission (Directorate-General for Economic and Financial Affairs).

2.7 Summary accounts for households and non-financial corporations
(current prices, unless otherwise indicated; not seasonally adjusted)

	Households							Non-financial corporations					
	Saving rate (gross)	Debt ratio	Real gross disposable income	Financial investment	Non-financial investment (gross)	Net worth [2]	Housing wealth	Profit rate [3]	Saving rate (gross)	Debt ratio [4]	Financial investment	Non-financial investment (gross)	Financing
	Percentage of gross disposable income (adjusted) [1]		Annual percentage changes					Percentage of gross value added		Percentage of GDP	Annual percentage changes		
	1	2	3	4	5	6	7	8	9	10	11	12	13
2022	13.5	90.7	0.8	2.1	12.5	2.5	8.1	37.9	5.2	72.6	4.9	9.9	3.4
2023	14.2	84.7	1.2	1.9	2.4	4.2	1.8	37.1	5.9	68.5	1.6	3.6	0.8
2024	15.2	81.7	2.4	2.3	-2.8	4.7	3.4	35.5	4.2	67.1	1.8	-2.4	0.9
2024 Q3	15.1	82.1	2.7	2.3	-2.5	5.9	2.9	35.7	4.7	67.4	1.9	3.7	0.9
Q4	15.2	81.7	2.3	2.3	-1.6	4.7	3.4	35.5	4.2	67.1	1.8	2.6	0.9
2025 Q1	15.2	81.3	1.1	2.4	0.2	4.5	4.6	35.5	3.8	67.0	2.8	8.2	1.7
Q2	15.2	81.5	1.3	2.6	2.8	4.9	4.7	35.3	3.5	66.3	2.6	11.8	1.6

Sources: ECB and Eurostat.
1) Based on four-quarter cumulated sums of saving, debt and gross disposable income (adjusted for the change in pension entitlements).
2) Financial assets (net of financial liabilities) and non-financial assets. Non-financial assets consist mainly of housing wealth (residential structures and land). They also include non-financial assets of unincorporated enterprises classified within the household sector.
3) The profit rate is gross entrepreneurial income (broadly equivalent to cash flow) divided by gross value added.
4) Defined as consolidated loans and debt securities liabilities.

2 Economic activity

2.8 Euro area balance of payments, current and capital accounts

(EUR billions; seasonally adjusted unless otherwise indicated; transactions)

	Current account											Capital account [1]	
	Total			Goods		Services		Primary income		Secondary income			
	Credit	Debit	Balance	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit
	1	2	3	4	5	6	7	8	9	10	11	12	13
2024 Q4	1,486.3	1,412.3	74.0	703.7	622.3	381.9	334.7	352.2	351.5	48.6	103.7	35.7	23.8
2025 Q1	1,552.7	1,485.4	67.3	758.1	644.1	391.8	363.4	354.3	390.8	48.5	87.1	31.9	26.6
Q2	1,498.1	1,408.2	89.9	713.8	627.5	387.4	346.2	348.3	339.0	48.5	95.5	18.6	17.3
Q3	1,485.8	1,410.6	75.2	708.3	628.3	387.6	349.3	341.0	335.9	48.9	97.1	22.7	14.1
2025 Apr.	498.6	475.9	22.7	239.4	207.9	127.2	117.3	115.6	118.2	16.4	32.5	5.8	5.3
May	501.4	470.9	30.5	238.4	205.8	129.2	114.7	117.7	119.0	16.1	31.4	5.9	5.4
June	498.1	461.5	36.7	236.1	213.9	131.1	114.2	115.0	101.8	16.0	31.6	6.9	6.6
July	497.0	467.1	29.9	236.2	211.6	128.1	115.6	116.1	107.5	16.5	32.4	9.1	4.1
Aug.	492.3	470.1	22.2	233.3	208.1	129.7	116.1	113.0	113.8	16.4	32.2	5.9	5.0
Sep.	496.5	473.4	23.1	238.9	208.6	129.7	117.7	111.9	114.6	16.0	32.5	7.7	5.0
12-month cumulated transactions													
2025 Sep.	6,022.9	5,716.5	306.3	2,884.0	2,522.3	1,548.6	1,393.7	1,395.7	1,417.1	194.5	383.5	108.9	81.8
12-month cumulated transactions as a percentage of GDP													
2025 Sep.	38.4	36.5	2.0	18.4	16.1	9.9	8.9	8.9	9.0	1.2	2.4	0.7	0.5

1) The capital account is not seasonally adjusted.

2.9 Euro area external trade in goods [1], values and volumes by product group [2]

(seasonally adjusted, unless otherwise indicated)

	Total (n.s.a.)		Exports (f.o.b.)					Imports (c.i.f.)					
			Total				Memo item:	Total				Memo items:	
	Exports	Imports	Total	Intermediate goods	Capital goods	Consumption goods	Manufacturing	Total	Intermediate goods	Capital goods	Consumption goods	Manufacturing	Oil
	1	2	3	4	5	6	7	8	9	10	11	12	13
Values (EUR billions; annual percentage changes for columns 1 and 2)													
2024 Q4	1.3	2.5	716.2	335.9	139.8	226.7	594.5	687.5	382.2	113.8	172.8	496.8	71.0
2025 Q1	8.0	7.9	769.4	377.6	145.4	230.8	641.1	708.7	400.0	115.1	178.1	508.6	67.6
Q2	0.1	1.8	725.7	338.6	139.6	229.7	604.7	692.1	383.0	117.4	176.3	505.9	59.4
Q3	1.5	1.8	723.9	339.2	145.3	223.6	601.2	688.7	376.2	119.0	175.6	508.6	62.2
2025 May	1.3	-0.9	243.7	115.7	46.4	76.0	203.4	227.4	125.7	38.3	58.1	165.6	19.4
June	0.7	6.9	237.7	108.7	46.6	76.0	197.2	234.8	128.4	40.4	60.3	172.9	19.1
July	0.6	2.9	239.0	109.9	49.5	75.3	198.2	231.9	127.5	39.8	59.4	170.5	21.7
Aug.	-4.4	-3.5	237.1	109.1	47.8	74.1	195.8	226.9	123.9	39.1	57.7	167.4	20.3
Sep.	7.7	5.7	247.8	120.3	48.0	74.2	207.2	229.8	124.9	40.1	58.6	170.7	20.2
Oct.	1.0	-3.6	236.3	.	.	.	192.6	222.3	.	.	.	163.2	.
Volume indices (2000 = 100; annual percentage changes for columns 1 and 2)													
2024 Q4	-2.3	1.7	93.8	87.2	90.6	108.0	94.1	100.1	95.4	98.3	109.7	100.3	134.9
2025 Q1	0.6	2.1	98.0	93.3	94.4	108.3	98.7	100.7	96.2	98.3	110.8	101.1	129.1
Q2	-2.7	1.2	94.1	87.3	90.6	109.0	94.4	101.0	95.5	101.5	111.3	101.5	134.9
Q3	0.3	3.0	95.1	88.2	94.5	106.7	95.3	101.9	96.1	103.9	111.5	103.2	135.5
2025 Apr.	-5.8	-2.5	93.6	87.2	89.5	108.1	93.8	99.6	94.8	100.0	108.5	100.2	134.4
May	-0.7	0.0	95.6	89.7	91.7	109.3	96.1	100.1	94.9	99.4	110.3	100.1	135.9
June	-1.4	6.4	93.2	85.1	90.7	109.6	93.2	103.2	96.8	105.2	115.3	104.3	134.3
July	0.0	3.8	94.8	86.5	96.4	107.9	94.9	102.1	96.6	103.7	111.5	103.1	136.4
Aug.	-5.7	-1.4	93.8	86.2	94.5	106.3	93.7	101.5	95.8	103.9	110.5	103.0	135.1
Sep.	6.0	6.2	96.7	91.8	92.6	105.9	97.4	102.1	95.8	104.1	112.4	103.6	135.1

Sources: ECB and Eurostat.
1) Differences between ECB's b.o.p. goods (Table 2.8) and Eurostat's trade in goods (Table 2.9) are mainly due to different definitions.
2) Product groups as classified in the Broad Economic Categories.

3 Prices and costs

3.1 Harmonised Index of Consumer Prices [1)]

(annual percentage changes, unless otherwise indicated)

	Total					Total (s.a.; percentage change vis-à-vis previous period) [2)]						Administered prices	
	Index: 2015 = 100	Total		Goods	Services	Total	Processed food	Unprocessed food	Non-energy industrial goods	Energy (n.s.a.)	Services	Total HICP excluding administered prices	Administered prices
		Total	Total excluding food and energy										
	1	2	3	4	5	6	7	8	9	10	11	12	13
% of total in 2024	100.0	100.0	70.6	55.1	44.9	100.0	15.1	4.3	25.7	9.9	44.9	88.5	11.5
2022	116.8	8.4	3.9	11.9	3.5	-	-	-	-	-	-	8.5	7.8
2023	123.2	5.4	4.9	5.7	4.9	-	-	-	-	-	-	5.5	4.9
2024	126.1	2.4	2.8	1.1	4.0	-	-	-	-	-	-	2.3	3.3
2024 Q4	126.9	2.2	2.7	0.8	3.9	0.5	0.8	1.9	0.2	-0.6	0.7	2.0	4.3
2025 Q1	127.3	2.3	2.6	1.2	3.7	0.8	0.5	0.6	0.2	2.9	0.8	2.2	3.7
Q2	128.9	2.0	2.4	0.8	3.5	0.2	0.5	1.3	0.1	-4.1	1.0	1.9	3.0
Q3	129.3	2.1	2.3	1.2	3.2	0.6	0.7	1.3	0.3	0.3	0.7	2.0	2.8
2025 June	129.1	2.0	2.3	0.9	3.3	0.2	0.1	0.5	0.0	0.2	0.4	1.9	2.8
July	129.1	2.0	2.3	1.1	3.2	0.3	0.2	0.9	0.2	1.0	0.2	1.9	2.9
Aug.	129.3	2.0	2.3	1.1	3.1	0.2	0.2	0.3	0.0	-0.7	0.4	2.0	2.7
Sep.	129.4	2.2	2.4	1.4	3.2	0.1	0.2	-0.1	0.1	-0.1	0.2	2.2	2.7
Oct.	129.7	2.1	2.4	1.0	3.4	0.2	0.1	-0.2	-0.1	-0.2	0.4	2.1	2.4
Nov.	129.3	2.1	2.4	1.0	3.5	0.2	0.1	0.1	0.0	0.9	0.2	2.1	2.4

	Goods						Services					
	Food (including alcoholic beverages and tobacco)			Industrial goods			Housing		Transport	Communication	Recreation and personal care	Miscellaneous
	Total	Processed food	Unprocessed food	Total	Non-energy industrial goods	Energy	Total	Rents				
	14	15	16	17	18	19	20	21	22	23	24	25
% of total in 2024	19.5	15.1	4.3	35.6	25.7	9.9	9.6	5.6	7.4	2.2	16.4	9.3
2022	9.0	8.6	10.4	13.6	4.6	37.0	2.4	1.7	4.4	-0.2	6.1	2.1
2023	10.9	11.4	9.1	2.9	5.0	-2.0	3.6	2.7	5.2	0.2	6.9	4.0
2024	2.9	3.2	1.9	0.0	0.8	-2.2	3.3	2.9	4.2	-0.9	4.9	4.0
2024 Q4	2.7	2.8	2.3	-0.2	0.6	-2.2	3.3	3.0	5.0	-2.2	4.6	4.0
2025 Q1	2.6	2.6	2.9	0.5	0.6	0.4	3.3	2.9	3.9	-1.9	4.2	4.1
Q2	3.1	2.7	4.6	-0.5	0.6	-3.2	3.3	3.0	4.4	-2.1	3.8	3.9
Q3	3.2	2.6	5.2	0.1	0.8	-1.6	3.2	2.9	3.7	-1.2	3.2	3.8
2025 June	3.1	2.6	4.6	-0.3	0.5	-2.6	3.3	3.0	4.0	-1.9	3.5	3.7
July	3.3	2.7	5.4	-0.1	0.8	-2.4	3.2	2.9	4.1	-1.9	3.0	3.9
Aug.	3.2	2.6	5.5	0.0	0.8	-2.0	3.2	2.9	3.6	-1.7	3.1	3.8
Sep.	3.0	2.6	4.7	0.5	0.8	-0.4	3.2	2.9	3.3	-0.1	3.4	3.7
Oct.	2.5	2.3	3.2	0.2	0.6	-0.9	3.2	2.9	3.9	0.6	3.4	3.7
Nov.	2.4	2.2	3.2	0.3	0.5	-0.5	3.2	3.0	3.4	0.1	3.9	3.7

Sources: Eurostat and ECB calculations.
1) Data refer to the changing composition of the euro area.
2) In May 2016 the ECB started publishing enhanced seasonally adjusted HICP series for the euro area, following a review of the seasonal adjustment approach as described in Box 1, Economic Bulletin, Issue 3, ECB, 2016 (https://www.ecb.europa.eu/pub/pdf/ecbu/eb201603.en.pdf).

3 Prices and costs

3.2 Industry, construction and property prices

(annual percentage changes, unless otherwise indicated)

	Industrial producer prices excluding construction [1]										Construction [2]	Residential property prices	Experimental indicator of commercial property prices [3]
		Total		Industry excluding construction and energy						Energy			
							Consumer goods						
	Total (index: 2021 = 100)	Total	Manufacturing	Total	Intermediate goods	Capital goods	Total	Food, beverages and tobacco	Non-food				
	1	2	3	4	5	6	7	8	9	10	11	12	13
% of total in 2021	100.0	100.0	77.8	72.3	30.9	19.3	22.2	15.7	6.5	27.7			
2022	132.7	32.7	17.0	13.8	19.8	7.1	12.2	16.6	6.8	81.1	11.9	7.3	0.4
2023	130.0	-2.1	1.9	3.7	-0.2	4.8	8.3	8.4	5.6	-13.3	6.9	-1.2	-8.2
2024	124.6	-4.2	-0.6	-0.1	-2.4	1.6	1.6	0.3	1.2	-12.3	2.2	2.0	-4.5
2024 Q4	126.2	-1.5	-0.2	0.9	-0.3	1.4	2.0	1.4	1.2	-6.0	1.0	4.1	-1.3
2025 Q1	127.7	2.3	0.7	1.3	0.7	1.7	2.1	1.5	1.6	5.0	1.0	5.3	.
Q2	123.5	0.5	-0.1	1.0	0.2	1.7	2.2	1.9	1.4	-0.7	0.9	5.1	.
Q3	124.1	-0.2	0.4	1.0	-0.2	1.8	2.3	1.8	1.5	-2.5	1.5	.	.
2025 May	122.9	0.3	-0.1	1.1	0.2	1.7	2.2	2.0	1.4	-1.5	-	-	-
June	124.0	0.6	0.1	0.9	-0.1	1.7	2.4	1.8	1.5	0.0	-	-	-
July	124.5	0.2	0.1	1.0	-0.3	1.8	2.3	1.8	1.6	-1.0	-	-	-
Aug.	124.0	-0.6	0.3	1.0	-0.3	1.8	2.3	1.9	1.4	-4.1	-	-	-
Sep.	123.9	-0.2	0.8	0.9	-0.1	1.8	2.3	1.7	1.5	-2.4	-	-	-
Oct.	124.0	-0.5	0.5	0.9	0.1	1.7	1.9	1.1	1.5	-3.9	-	-	-

Sources: Eurostat, ECB calculations, and ECB calculations based on MSCI data and national sources (col. 13).
1) Domestic sales only.
2) Output prices for residential buildings.
3) Experimental data based on non-harmonised sources (see https://www.ecb.europa.eu/stats/ecb_statistics/governance_and_quality_framework/html/experimental-data.en.html for further details).

3.3 Commodity prices and GDP deflators

(annual percentage changes, unless otherwise indicated)

	GDP deflators								Oil prices (Brent spot, US Dollar)	Non-energy commodity prices (EUR)					
			Domestic demand				Exports [1]	Imports [1]		Import-weighted [2]			Use-weighted [2]		
	Total (s.a.; index: 2020 = 100)	Total	Total	Private consumption	Government consumption	Gross fixed capital formation				Total	Food	Non-food	Total	Food	Non-food
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
% of total										100.0	45.5	54.6	100.0	50.4	49.6
2022	107.4	5.2	7.1	6.8	4.4	8.1	12.9	17.6	103.8	18.3	28.8	9.6	19.3	27.7	10.9
2023	113.9	6.1	4.8	6.3	3.7	4.1	0.7	-2.2	83.7	-12.8	-11.6	-14.0	-13.7	-12.5	-15.0
2024	117.3	3.0	2.4	2.3	2.9	1.9	0.9	-0.4	82.0	9.4	13.6	5.1	9.2	12.2	5.5
2024 Q4	118.4	2.4	1.8	1.7	2.3	1.9	1.8	0.4	75.8	17.7	23.5	11.8	17.8	21.9	12.8
2025 Q1	119.0	2.2	2.1	2.0	2.7	1.7	2.2	2.0	76.7	20.0	28.2	11.4	19.2	24.8	12.2
Q2	119.7	2.4	2.1	1.9	2.7	2.1	0.5	-0.3	68.9	-2.0	1.9	-6.2	-2.3	0.6	-6.0
Q3	120.4	2.4	2.2	2.1	2.6	1.8	0.2	-0.5	69.9	-0.7	-0.2	-1.1	-1.8	-1.8	-1.9
2025 June	-	-	-	-	-	-	-	-	72.9	-3.3	-1.0	-5.7	-3.3	-1.2	-6.0
July	-	-	-	-	-	-	-	-	72.2	-3.2	-3.8	-2.5	-3.3	-3.5	-3.1
Aug.	-	-	-	-	-	-	-	-	69.1	1.2	2.4	-0.1	-0.4	-0.1	-0.8
Sep.	-	-	-	-	-	-	-	-	68.2	0.1	0.8	-0.6	-1.7	-1.8	-1.6
Oct.	-	-	-	-	-	-	-	-	65.2	-2.1	-3.4	-0.8	-3.8	-5.3	-2.0
Nov.	-	-	-	-	-	-	-	-	64.1	-5.0	-8.8	-0.6	-6.4	-9.7	-2.1

Sources: Eurostat, ECB calculations and LSEG (London Stock Exchange Group) (col. 9).
1) Deflators for exports and imports refer to goods and services and include cross-border trade within the euro area.
2) Import-weighted: weighted according to 2009-11 average import structure; use-weighted: weighted according to 2009-11 average domestic demand structure.

3 Prices and costs

3.4 Price-related opinion surveys
(seasonally adjusted)

	European Commission Business and Consumer Surveys (percentage balance)				
	Selling price expectations (for next three months)				Consumer price trends over past 12 months
	Manufacturing	Retail trade	Services	Construction	
	1	2	3	4	5
1999-21	29.8	22.6	9.5	17.5	28.6
2022	48.5	53.1	27.4	42.1	71.6
2023	9.1	28.8	19.6	14.8	74.5
2024	6.0	14.5	15.2	4.5	55.1
2024 Q4	7.4	13.8	14.9	4.8	48.8
2025 Q1	10.1	16.7	14.7	4.6	50.3
Q2	8.2	16.2	14.0	3.2	49.3
Q3	7.8	16.8	13.7	2.8	47.7
2025 June	6.0	16.3	13.4	2.1	49.1
July	9.1	16.8	13.8	3.2	49.0
Aug.	7.0	16.8	14.8	0.9	47.1
Sep.	7.3	16.9	12.6	4.4	47.1
Oct.	7.8	16.2	12.2	6.6	48.0
Nov.	9.9	18.4	13.3	7.9	47.5

Source: European Commission (Directorate-General for Economic and Financial Affairs).

3.5 Labour cost indices
(annual percentage changes, unless otherwise indicated)

			By component		For selected economic activities		
	Total (index: 2020=100)	Total	Wages and salaries	Employers' social contributions	Business economy	Mainly non-business economy	Memo item: Indicator of negotiated wages [1]
	1	2	3	4	5	6	7
% of total in 2020	100.0	100.0	75.3	24.7	69.0	31.0	
2022	105.6	4.5	3.7	6.9	5.0	3.4	3.0
2023	110.4	4.6	4.5	4.8	4.9	4.0	4.4
2024	115.6	4.7	4.7	4.5	4.7	4.5	4.5
2024 Q4	122.5	3.7	4.1	2.6	4.0	3.2	4.1
2025 Q1	112.3	3.7	3.6	3.9	4.2	2.6	2.5
Q2	124.2	3.9	3.8	4.3	4.4	3.0	4.0
Q3	115.5	3.3	3.0	4.0	3.3	3.1	1.9

Sources: Eurostat and ECB calculations.
1) Experimental data based on non-harmonised sources (see https://www.ecb.europa.eu/stats/ecb_statistics/governance_and_quality_framework/html/experimental-data.en.html for further details).

3 Prices and costs

3.6 Unit labour costs, compensation per labour input and labour productivity

(annual percentage changes, unless otherwise indicated; quarterly data seasonally adjusted; annual data unadjusted)

			By economic activity									
	Total (index: 2020 =100)	Total	Agriculture, forestry andfishing	Manu-facturing, energy and utilities	Con-struction	Trade, transport, accom-modation and food services	Information and commu-nication	Finance and insurance	Real estate	Professional, business and support services	Public ad-ministration, education, health and social work	Arts, enter-tainment and other services
	1	2	3	4	5	6	7	8	9	10	11	12
Unit labor costs												
2022	102.8	3.2	4.2	4.5	8.4	0.7	2.1	5.4	6.0	3.7	2.1	-6.7
2023	109.4	6.4	6.4	8.3	4.6	7.7	2.4	9.7	3.3	5.5	5.1	3.4
2024	114.3	4.5	3.3	5.4	5.9	4.5	3.0	3.5	1.1	3.6	4.7	3.9
2024 Q4	115.4	3.5	2.1	4.6	5.7	4.3	3.0	1.7	1.5	3.7	3.7	2.7
2025 Q1	116.1	3.0	1.9	0.0	5.1	3.9	1.5	4.5	4.2	3.8	4.0	3.2
Q2	117.3	3.1	1.8	0.4	5.6	3.3	0.6	5.8	5.8	4.6	3.9	4.1
Q3	118.3	3.2	1.7	1.3	4.4	3.1	1.1	4.2	6.0	3.7	3.9	5.7
Compensation per employee												
2022	109.0	4.5	4.5	3.9	4.2	6.1	2.8	3.0	4.8	5.7	3.4	8.3
2023	114.8	5.3	4.7	5.6	4.8	5.4	4.9	6.0	3.3	5.9	4.8	5.3
2024	119.9	4.5	3.7	4.3	4.2	4.4	4.0	3.7	3.4	4.8	4.7	4.8
2024 Q4	121.6	4.1	4.8	3.9	4.0	4.2	4.3	2.2	2.8	4.5	4.1	4.4
2025 Q1	122.8	3.9	4.5	3.2	3.9	4.2	3.9	2.9	2.0	4.3	4.3	3.5
Q2	124.1	4.0	4.9	3.6	4.6	3.5	3.7	4.3	3.1	4.3	4.1	4.8
Q3	125.3	4.0	5.0	3.8	3.6	3.9	4.3	3.8	4.1	3.7	4.2	4.7
Labour productivity per person employed												
2022	106.1	1.2	0.2	-0.5	-3.9	5.4	0.7	-2.2	-1.1	2.0	1.3	16.0
2023	104.9	-1.1	-1.6	-2.5	0.2	-2.1	2.5	-3.4	0.1	0.3	-0.3	1.8
2024	104.9	0.0	0.4	-1.0	-1.6	-0.1	0.9	0.2	2.2	1.1	0.0	0.9
2024 Q4	105.3	0.6	2.6	-0.6	-1.6	-0.1	1.3	0.4	1.2	0.8	0.4	1.7
2025 Q1	105.7	0.9	2.5	3.2	-1.1	0.3	2.3	-1.6	-2.0	0.5	0.3	0.3
Q2	105.7	0.8	3.0	3.2	-0.9	0.2	3.1	-1.4	-2.5	-0.3	0.2	0.7
Q3	105.8	0.7	3.3	2.5	-0.8	0.7	3.2	-0.4	-1.8	0.0	0.3	-0.9
Compensation per hour worked												
2022	103.4	3.2	5.8	3.9	4.0	1.7	2.5	3.6	3.3	4.4	3.8	4.9
2023	108.5	4.9	4.1	5.4	4.7	5.1	5.1	5.7	3.6	5.4	4.2	4.5
2024	113.1	4.2	3.7	4.4	4.2	4.3	3.7	3.7	2.8	4.0	4.4	4.5
2024 Q4	114.2	3.7	3.7	4.0	3.9	3.8	4.0	2.8	2.7	3.7	3.5	4.0
2025 Q1	115.7	4.1	4.7	3.8	4.1	4.3	3.8	3.4	2.5	4.5	4.5	2.9
Q2	116.9	4.2	4.7	4.1	4.1	3.6	3.9	4.6	4.1	4.7	4.6	4.1
Q3	117.8	3.8	6.0	3.6	3.4	3.3	4.8	4.0	4.2	3.6	4.1	4.0
Hourly labour productivity												
2022	100.1	-0.1	0.5	-0.6	-4.6	1.2	0.3	-1.6	-3.2	1.2	1.7	11.9
2023	98.9	-1.3	-1.3	-2.7	0.4	-2.1	2.5	-3.4	0.5	0.0	-0.8	1.1
2024	98.7	-0.2	0.0	-1.0	-1.7	-0.1	0.7	0.3	1.6	0.6	-0.3	0.5
2024 Q4	98.7	0.3	1.9	-0.5	-1.7	-0.1	1.0	1.3	-0.3	0.2	-0.1	0.8
2025 Q1	99.5	1.2	3.5	3.8	-0.9	0.8	2.3	-1.1	-1.4	0.8	0.4	-0.4
Q2	99.5	1.2	3.7	3.8	-1.1	0.7	3.4	-1.2	-1.7	0.1	0.6	-0.1
Q3	99.4	0.6	4.1	2.3	-0.8	0.5	3.5	-0.3	-2.9	-0.3	0.1	-1.8

Sources: Eurostat and ECB calculations.

4 Financial market developments

4.1 Money market interest rates
(percentages per annum, period averages)

	Euro area [1]					United States	Japan
	Euro short-term rate (€STR)	1-month deposits (EURIBOR)	3-month deposits (EURIBOR)	6-month deposits (EURIBOR)	12-month deposity (EURIBOR)	Secured overnight financing rate (SOFR)	Tokyo overnight average rate (TONAR)
	1	2	3	4	5	6	7
2022	-0.01	0.09	0.35	0.68	1.10	1.63	-0.03
2023	3.21	3.25	3.43	3.69	3.86	5.00	-0.04
2024	3.64	3.56	3.57	3.48	3.27	5.15	0.12
2025 June	2.01	1.93	1.98	2.05	2.08	4.32	0.48
July	1.92	1.89	1.99	2.06	2.08	4.34	0.48
Aug.	1.92	1.89	2.02	2.08	2.11	4.34	0.48
Sep.	1.92	1.90	2.03	2.10	2.17	4.30	0.48
Oct.	1.93	1.91	2.03	2.11	2.19	4.20	0.48
Nov.	1.93	1.91	2.04	2.13	2.22	3.97	0.48

Source: LSEG and ECB calculations.
1) Data refer to the changing composition of the euro area.

4.2 Yield curves
(End of period; rates in percentages per annum; spreads in percentage points)

	Spot rates					Spreads			Instantaneous forward rates			
	Euro area [1] [2]					Euro area [1] [2]	United States	Japan	Euro area [1] [2]			
	3 months	1 year	2 years	5 years	10 years	10 years - 1 year	10 years - 1 year	10 years - 1 year	1 year	2 years	5 years	10 years
	1	2	3	4	5	6	7	8	9	10	11	12
2022	1.71	2.46	2.57	2.45	2.56	0.09	-0.84	0.41	2.85	2.48	2.47	2.76
2023	3.78	3.05	2.44	1.88	2.08	-0.96	-0.92	0.64	2.25	1.54	1.76	2.64
2024	2.58	2.18	2.01	2.13	2.45	0.27	0.41	0.63	1.86	1.89	2.50	2.91
2025 June	1.86	1.82	1.84	2.16	2.68	0.86	0.32	0.82	1.80	1.96	2.76	3.48
July	1.90	1.89	1.94	2.25	2.76	0.87	0.33	0.87	1.91	2.08	2.83	3.58
Aug.	1.94	1.90	1.92	2.22	2.79	0.89	0.45	0.88	1.89	2.03	2.83	3.72
Sep.	1.94	1.94	1.99	2.27	2.78	0.83	0.58	0.82	1.97	2.12	2.82	3.63
Oct.	1.90	1.90	1.95	2.23	2.72	0.82	0.45	0.89	1.93	2.08	2.76	3.56
Nov.	1.95	1.96	2.01	2.28	2.77	0.81	0.47	1.02	1.99	2.13	2.80	3.64

Source: ECB calculations.
1) Data refer to the changing composition of the euro area.
2) ECB calculations based on underlying data provided by Euro MTS Ltd and ratings provided by Fitch Ratings.

4.3 Stock market indices
(index levels in points; period averages)

	Dow Jones EURO STOXX Indices												United States	Japan
	Benchmark		Main industry indices											
	Broad index	50	Basic materials	Consumer services	Consumer goods	Oil and gas	Financials	Industrials	Technology	Utilities	Telecoms	Health care	Standard & Poor's 500	Nikkei 225
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
2022	414.6	3,757.0	937.3	253.4	171.3	110.0	160.6	731.7	748.4	353.4	283.2	825.8	4,098.5	27,257.8
2023	452.0	4,272.0	968.5	292.7	169.2	119.2	186.7	809.8	861.5	367.8	283.1	803.6	4,285.6	30,716.6
2024	502.8	4,870.4	992.6	299.1	161.1	123.9	231.6	951.6	1,069.3	378.7	301.6	792.1	5,430.7	38,395.3
2025 June	561.8	5,325.1	972.2	257.8	162.5	134.4	317.4	1,161.2	1,110.0	457.0	367.1	801.4	6,030.0	38,458.3
July	566.7	5,351.7	958.0	261.1	157.2	137.2	324.3	1,192.4	1,098.2	454.6	358.5	805.9	6,296.5	40,173.0
Aug.	571.9	5,373.8	964.5	254.6	152.4	139.4	348.1	1,188.0	1,048.5	452.3	357.4	835.5	6,408.9	42,299.9
Sep.	572.8	5,408.0	947.6	257.8	148.6	138.8	344.7	1,198.6	1,083.0	445.8	350.4	840.5	6,584.0	44,218.5
Oct.	594.4	5,641.1	940.9	266.6	150.6	143.2	345.2	1,246.9	1,194.5	478.4	354.1	905.0	6,735.7	48,521.1
Nov.	593.5	5,634.1	927.2	266.6	152.1	150.5	353.1	1,210.9	1,153.6	499.4	340.0	913.0	6,740.9	50,111.1

Source: LSEG.

4 Financial market developments

4.4 MFI interest rates on loans to and deposits from households (new business) [1), 2)]

(percentages per annum, period average, unless otherwise indicated)

	Deposits				Revolving loans and overdrafts	Extended credit card credit	Loans for consumption			Loans to sole proprietors and unincorporated partnerships	Loans for house purchase					
			With an agreed maturity of:				By initial period of rate fixation				By initial period of rate fixation					
	Overnight	Redeemable at notice of up to 3 months	Up tp 2 years	Over 2 years			Floating rate and up to 1 year	Over 1 year	APRC [3)]		Floating rate and up to 1 year	Over 1 and up to 5 years	Over 5 and up to 10 years	Over 10 years	APRC [3)]	Composite cost-of-borrowing indicator
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2024 Nov.	0.35	1.76	2.61	2.52	7.96	16.84	6.52	7.69	8.41	4.58	4.27	3.62	3.43	3.16	3.72	3.47
Dec.	0.35	1.76	2.45	2.51	7.91	16.84	6.76	7.48	8.26	4.36	4.15	3.57	3.36	3.09	3.64	3.39
2025 Jan.	0.34	1.75	2.33	2.41	7.80	16.77	7.16	7.69	8.50	4.42	4.06	3.49	2.88	2.97	3.34	3.25
Feb.	0.32	1.55	2.20	2.35	7.75	16.69	6.79	7.66	8.38	4.45	4.00	3.52	3.37	3.09	3.61	3.33
Mar.	0.31	1.52	2.09	2.23	7.73	16.63	6.96	7.57	8.28	4.35	3.92	3.50	3.36	3.10	3.57	3.32
Apr.	0.29	1.50	1.96	2.28	7.53	16.58	6.95	7.59	8.31	4.29	3.85	3.48	3.32	3.04	3.52	3.27
May	0.29	1.45	1.85	2.21	7.48	16.50	6.77	7.60	8.32	4.22	3.70	3.42	3.45	3.12	3.58	3.30
June	0.27	1.44	1.78	2.19	7.41	16.48	6.68	7.47	8.17	4.10	3.61	3.41	3.47	3.12	3.58	3.30
July	0.25	1.43	1.74	2.19	7.28	16.44	6.68	7.53	8.18	4.11	3.56	3.38	3.45	3.12	3.57	3.28
Aug.	0.25	1.22	1.72	2.16	7.27	16.40	7.12	7.54	8.25	4.15	3.59	3.40	3.46	3.18	3.62	3.31
Sep.	0.25	1.21	1.76	2.14	7.35	16.42	6.74	7.46	8.18	4.14	3.53	3.39	3.49	3.17	3.61	3.31
Oct.	0.25	1.21	1.78	2.17	7.38	16.40	6.40	7.42	8.10	4.18	3.52	3.37	3.48	3.16	3.59	3.31

Source: ECB.
1) Data refer to the changing composition of the euro area.
2) Including non-profit institutions serving households.
3) Annual percentage rate of charge (APRC).

4.5 MFI interest rates on loans to and deposits from non-financial corporations (new business) [1), 2)]

(Percentages per annum; period average, unless otherwise indicated)

	Deposits			Revolving loans and overdrafts	Other loans by size and initial period of rate fixation									Composite cost-of-borrowing indicator
		With an agreed maturity of:			Up to EUR 0.25 million			over EUR 0.25 and up to 1 million			over EUR 1 million			
	Overnight	Up tp 2 years	Over 2 years		Floating rate and up to 3 months	Over 3 months and up to 1 year	Over 1 year	Floating rate and up to 3 months	Over 3 months and up to 1 year	Over 1 year	Floating rate and up to 3 months	Over 3 months and up to 1 year	Over 1 year	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
2024 Nov.	0.81	2.92	2.65	4.80	4.80	4.99	5.29	4.62	4.26	3.85	4.42	4.20	3.70	4.52
Dec.	0.77	2.80	2.80	4.64	4.63	4.78	5.08	4.47	4.13	3.76	4.31	4.06	3.63	4.36
2025 Jan.	0.76	2.67	2.58	4.48	4.35	4.60	4.82	4.33	4.02	3.75	4.18	3.87	3.65	4.25
Feb.	0.72	2.50	2.73	4.33	4.37	4.54	4.79	4.22	3.81	3.69	3.98	3.75	3.58	4.11
Mar.	0.67	2.33	2.54	4.21	4.02	4.53	4.81	3.97	3.77	3.69	3.67	3.78	3.67	3.94
Apr.	0.60	2.15	2.65	4.03	3.91	4.20	4.78	3.86	3.59	3.70	3.55	3.51	3.66	3.80
May	0.58	2.06	2.56	3.91	3.78	4.22	4.88	3.67	3.49	3.68	3.30	3.48	3.66	3.66
June	0.53	1.93	2.58	3.82	3.70	4.19	4.89	3.54	3.40	3.63	3.29	3.41	3.54	3.60
July	0.51	1.88	2.49	3.68	3.52	4.06	4.76	3.55	3.41	3.61	3.24	3.41	3.47	3.52
Aug.	0.51	1.88	2.29	3.65	3.59	4.04	4.75	3.54	3.41	3.64	3.07	3.35	3.63	3.45
Sep.	0.52	1.90	2.30	3.69	3.59	4.11	4.90	3.50	3.37	3.62	3.13	3.39	3.61	3.50
Oct.	0.52	1.91	2.47	3.66	3.59	4.12	4.81	3.51	3.42	3.63	3.19	3.26	3.54	3.51

Source: ECB.
1) Data refer to the changing composition of the euro area.
2) In accordance with the ESA 2010, in December 2014 holding companies of non-financial groups were reclassified from the non-financial corporations sector to the financial corporations sector.

4 Financial market developments

4.6 Debt securities issued by euro area residents, by sector of the issuer and original maturity

(EUR billions; transactions during the month and end-of-period outstanding amounts; market values)

	Outstanding amounts							Gross issues [1]						
	Total	MFIs	Non-MFI corporations			General government		Total	MFIs	Non-MFI corporations			General government	
			Financial corporations other than MFIs		Non-financial corporations	Total	of which central government			Financial corporations other than MFIs		Non-financial corporations	Total	of which central government
			Total	FVCs						Total	FVCs			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Short-term														
2022	1,393.4	489.2	142.9	81.2	94.4	666.8	621.7	499.1	199.7	116.9	90.3	48.1	134.3	96.8
2023	1,574.3	622.7	164.1	105.0	85.7	701.8	659.1	537.2	242.1	117.5	91.3	49.1	128.5	104.6
2024	1,600.4	581.3	207.0	122.1	70.3	741.9	674.7	522.5	207.6	137.8	107.7	39.8	137.3	110.2
2025 June	1,610.4	602.7	213.5	129.9	90.0	704.1	633.9	544.3	229.7	147.7	118.3	43.6	123.3	94.7
July	1,615.3	600.4	217.6	123.7	96.6	700.6	631.3	565.6	238.7	159.1	124.4	47.3	120.6	99.8
Aug.	1,660.6	632.2	220.4	123.5	98.2	709.9	640.6	534.6	240.4	136.1	109.9	30.9	127.3	103.3
Sep.	1,633.1	603.5	221.0	131.7	92.6	716.0	635.0	590.0	235.6	159.1	128.5	46.2	149.1	111.6
Oct.	1,649.4	602.4	208.9	115.6	96.7	741.4	662.5	601.1	228.0	160.2	125.6	45.6	167.2	136.5
Nov.	1,647.6	613.8	195.7	106.1	91.8	746.3	660.3	518.9	215.3	138.1	114.2	37.2	128.3	104.6
Long-term														
2022	17,803.3	3,909.6	3,106.2	1,394.4	1,432.8	9,354.6	8,644.3	294.5	76.9	68.3	31.7	17.1	132.3	123.0
2023	19,423.8	4,445.9	3,239.5	1,432.1	1,548.9	10,189.5	9,450.5	322.0	93.4	68.0	31.0	21.3	139.3	130.8
2024	20,532.1	4,768.5	3,503.2	1,523.7	1,653.1	10,607.4	9,835.6	350.9	89.1	86.0	35.0	27.0	148.8	138.1
2025 June	21,134.1	4,845.5	3,573.8	1,592.8	1,713.4	11,001.3	10,216.0	470.2	114.4	142.0	84.5	40.0	173.8	163.6
July	21,206.4	4,874.9	3,620.0	1,604.2	1,721.2	10,990.2	10,201.3	352.9	83.9	97.8	37.6	25.4	145.8	136.5
Aug.	21,181.2	4,870.2	3,632.3	1,618.2	1,710.9	10,967.9	10,179.7	255.1	53.8	74.9	36.5	10.2	116.3	111.9
Sep.	21,301.7	4,870.0	3,644.7	1,623.1	1,733.8	11,053.1	10,264.6	422.2	94.1	114.3	43.4	44.0	169.8	161.5
Oct.	21,460.2	4,913.7	3,691.0	1,638.3	1,743.5	11,112.0	10,312.1	392.3	89.0	115.6	44.5	35.8	151.9	141.1
Nov.	21,587.3	4,944.4	3,749.3	1,670.8	1,761.6	11,132.1	10,330.1	387.5	99.0	118.1	55.3	40.8	129.6	120.4

Source: ECB.
1) In order to facilitate comparison, annual data are averages of the relevant monthly data.

4.7 Annual growth rates and outstanding amounts of debt securities and listed shares

(EUR billions and percentage changes; market values)

	Debt securities							Listed shares			
	Total	MFIs	Non-MFI corporations			General government		Total	MFIs	Financial corporations other than MFIs	Non-financial corporations
			Financial corporations other than MFIs		Non-financial corporations	Total	of which central government				
			Total	FVCs							
	1	2	3	4	5	6	7	8	9	10	11
Outstanding amount											
2022	19,196.7	4,398.8	3,249.2	1,475.5	1,527.2	10,021.5	9,266.0	8,688.0	531.1	1,286.4	6,869.9
2023	20,998.1	5,068.7	3,403.6	1,537.1	1,634.6	10,891.2	10,109.6	9,673.3	625.3	1,418.9	7,628.6
2024	22,132.5	5,349.7	3,710.2	1,645.8	1,723.4	11,349.3	10,510.3	10,151.6	755.1	1,585.6	7,810.4
2025 June	22,744.4	5,448.2	3,787.3	1,722.7	1,803.5	11,705.4	10,849.9	10,914.2	1,012.8	1,802.3	8,098.7
July	22,821.7	5,475.3	3,837.7	1,727.9	1,817.8	11,690.9	10,832.6	11,056.7	1,097.7	1,814.0	8,144.6
Aug.	22,841.8	5,502.3	3,852.7	1,741.7	1,809.0	11,677.8	10,820.2	11,086.0	1,119.5	1,838.4	8,127.6
Sep.	22,934.8	5,473.6	3,865.7	1,754.8	1,826.4	11,769.1	10,899.6	11,312.2	1,165.1	1,870.9	8,275.7
Oct.	23,109.6	5,516.1	3,899.9	1,753.9	1,840.2	11,853.4	10,974.6	11,527.1	1,164.1	1,855.4	8,507.2
Nov.	23,234.9	5,558.2	3,945.0	1,777.0	1,853.4	11,878.4	10,990.4	11,503.9	1,204.0	1,857.3	8,442.1
Growth rate [1]											
2025 Apr.	4.4	1.8	8.1	9.6	2.1	4.8	4.7	-0.1	-2.0	-0.3	0.1
May	4.8	3.5	8.0	8.8	3.3	4.6	4.6	-0.1	-1.7	-0.2	0.1
June	5.2	4.7	9.2	11.0	3.2	4.6	4.5	-0.2	-0.9	-0.7	-0.1
July	5.5	4.9	9.3	11.0	3.9	4.8	4.8	-0.1	-0.7	-0.4	0.0
Aug.	5.5	5.4	9.5	11.5	3.4	4.6	4.6	-0.1	-0.5	-0.5	0.0
Sep.	5.1	3.7	9.4	11.5	3.4	4.7	4.7	0.0	0.7	-0.6	0.0
Oct.	5.2	4.0	9.5	10.0	3.2	4.7	4.6	-0.1	0.6	-0.7	0.0
Nov.	5.7	5.0	9.7	9.7	3.7	5.0	4.7	-0.1	0.4	-0.7	-0.1

Source: ECB.
1) For details on the calculation of growth rates, see the Technical Notes.

4 Financial market developments

4.8 Effective exchange rates [1)]

(period averages; index: 1999 Q1=100)

	EER-18						EER-41	
	Nominal	Real CPI	Real PPI	Real GDP deflator	Real ULCM	Real ULCT	Nominal	Real CPI
	1	2	3	4	5	6	7	8
2022	95.3	90.8	93.2	84.2	63.9	82.3	116.1	90.8
2023	98.1	94.0	97.5	88.9	67.3	85.8	121.8	94.7
2024	98.4	94.4	97.6	89.6	67.6	86.9	124.1	95.0
2024 Q4	97.6	93.6	96.7	88.9	66.1	86.1	123.6	94.1
2025 Q1	97.1	93.3	96.1	88.4	63.6	85.4	122.9	93.5
Q2	100.6	96.5	100.8	92.0	65.3	88.7	127.7	96.7
Q3	102.3	98.1	103.3	.	.	.	130.1	98.4
2025 June	101.3	97.0	101.7	-	-	-	128.5	97.2
July	102.3	98.1	102.9	-	-	-	129.9	98.4
Aug.	102.2	98.0	103.2	-	-	-	129.9	98.3
Sep.	102.4	98.3	103.7	-	-	-	130.5	98.7
Oct.	102.1	97.8	103.6	-	-	-	129.9	98.1
Nov.	102.0	97.7	103.7	-	-	-	129.7	97.8
Percentage change versus previous month								
2025 Nov.	-0.1	-0.1	0.0	-	-	-	-0.2	-0.3
Percentage change versus previous year								
2025 Nov.	4.6	4.4	7.3	-	-	-	5.0	4.0

Source: ECB.
1) For a definition of the trading partner groups and other information see the General Notes to the Statistics Bulletin.

4.9 Bilateral exchange rates

(period averages; units of national currency per euro)

	Chinese renminbi	Czech koruna	Danish krone	Hungarian forint	Japanese yen	Polish zloty	Pound sterling	Romanian leu	Swedish krona	Swiss franc	US Dollar
	1	2	3	4	5	6	7	8	9	10	11
2022	7.079	24.566	7.440	391.286	138.027	4.686	0.853	4.9313	10.630	1.005	1.053
2023	7.660	24.004	7.451	381.853	151.990	4.542	0.870	4.9467	11.479	0.972	1.081
2024	7.787	25.120	7.459	395.304	163.852	4.306	0.847	4.9746	11.433	0.953	1.082
2024 Q4	7.675	25.248	7.459	407.465	162.549	4.307	0.832	4.9754	11.494	0.936	1.068
2025 Q1	7.655	25.082	7.460	405.023	160.453	4.201	0.836	4.9763	11.235	0.946	1.052
Q2	8.197	24.920	7.461	404.114	163.813	4.262	0.849	5.0323	10.955	0.937	1.134
Q3	8.360	24.498	7.464	395.800	172.286	4.258	0.866	5.0703	11.121	0.935	1.168
2025 June	8.270	24.804	7.460	402.078	166.523	4.266	0.850	5.0454	11.009	0.938	1.152
July	8.375	24.625	7.463	399.192	171.531	4.254	0.865	5.0716	11.199	0.932	1.168
Aug.	8.344	24.517	7.464	396.454	171.790	4.261	0.865	5.0651	11.161	0.939	1.163
Sep.	8.359	24.347	7.464	391.630	173.549	4.259	0.869	5.0740	11.000	0.935	1.173
Oct.	8.281	24.315	7.468	389.912	176.153	4.249	0.872	5.0872	10.970	0.929	1.163
Nov.	8.215	24.234	7.468	384.201	179.316	4.238	0.880	5.0867	10.991	0.929	1.156
Percentage change versus previous month											
2025 Nov.	-0.8	-0.3	0.0	-1.5	1.8	-0.3	1.0	0.0	0.2	0.0	-0.6
Percentage change versus previous year											
2025 Nov.	7.2	-4.2	0.1	-6.1	9.9	-2.2	5.5	2.2	-5.1	-0.7	8.7

Source: ECB.

4 Financial market developments

4.10 Euro area balance of payments, financial account

(EUR billions, unless otherwise indicated; outstanding amounts at end of period; transactions during period)

	Total [1]			Direct investment		Portfolio investment		Net financial derivatives	Other investment		Reserve assets	Memo: Gross external debt
	Assets	Liabilities	Net	Assets	Liabilities	Assets	Liabilities		Assets	Liabilities		
	1	2	3	4	5	6	7	8	9	10	11	12
Outstanding amounts (international investment position)												
2024 Q3	34,799.4	33,379.6	1,419.8	12,322.2	9,633.2	13,983.3	15,946.6	8.2	7,165.9	7,799.8	1,319.7	16,660.7
Q4	36,033.2	34,180.5	1,852.7	12,734.9	9,946.1	14,749.7	16,509.1	-2.1	7,155.8	7,725.4	1,394.8	16,712.7
2025 Q1	36,245.3	34,558.7	1,686.6	12,701.6	9,910.1	14,448.6	16,539.6	36.6	7,547.4	8,109.0	1,511.0	16,994.8
Q2	35,846.4	34,411.9	1,434.5	12,383.7	9,659.4	14,516.3	16,720.0	19.3	7,465.1	8,032.5	1,462.1	16,900.6
Outstanding amounts as percentage of GDP												
2025 Q2	231.1	221.9	9.2	79.8	62.3	93.6	107.8	0.1	48.1	51.8	9.4	109.0
Transactions												
2024 Q4	68.2	-23.1	91.3	56.8	55.1	239.9	178.9	9.7	-242.0	-257.2	3.7	-
2025 Q1	811.7	714.1	97.6	138.2	45.9	213.8	202.1	-8.3	468.8	466.1	-0.8	-
Q2	284.5	192.0	92.5	-66.0	-76.7	200.3	168.5	-2.4	143.8	100.2	8.8	-
Q3	260.1	221.2	39.0	32.4	51.9	214.0	179.9	1.9	5.8	-10.6	5.9	-
2025 Apr.	98.8	79.2	19.5	6.5	15.7	28.4	-36.5	-13.2	72.0	100.0	5.1	-
May	67.5	31.5	36.1	-34.8	-54.7	59.8	76.2	11.1	29.1	10.0	2.3	-
June	118.2	81.3	36.9	-37.7	-37.7	112.1	128.8	-0.3	42.7	-9.8	1.4	-
July	23.5	20.3	3.1	28.9	23.4	51.0	55.5	-2.9	-53.6	-58.5	0.1	-
Aug.	133.4	149.9	-16.5	-2.7	18.4	55.9	58.8	6.6	72.5	72.7	1.2	-
Sep.	103.3	50.9	52.4	6.2	10.2	107.2	65.7	-1.7	-13.0	-24.9	4.6	-
12-month cumulated transactions												
2025 Sep.	1,424.5	1,104.1	320.4	161.4	76.2	868.1	729.4	0.9	376.5	298.5	17.6	-
12-month cumulated transactions as percentage of GDP												
2025 Sep.	9.1	7.1	2.0	1.0	0.5	5.5	4.7	0.0	2.4	1.9	0.1	-

Source: ECB.
1) Net financial derivatives are included in total assets.

5 Financing conditions and credit developments

5.1 Monetary aggregates [1)]

(EUR billions and annual growth rates; seasonally adjusted; outstanding amounts and growth rates at end of period; transactions during period)

	M3											
	M2							M3-M2				Total
	M1			M2-M1			Total					
	Currency in circulation	Overnight deposits	Total	Deposits with an agreed maturity of up to 2 years	Deposits redeemable at notice of up to 3 months	Total		Repos	Money market fund shares	Debt securities with a maturity of up to 2 years	Total	
	1	2	3	4	5	6	7	8	9	10	11	12
Outstanding amounts												
2022	1,537.9	9,767.0	11,304.9	1,365.2	2,568.2	3,933.5	15,238.4	122.3	647.0	51.9	821.2	16,059.6
2023	1,534.0	8,821.3	10,355.2	2,295.2	2,462.7	4,757.9	15,113.1	183.5	740.3	72.8	996.6	16,109.7
2024	1,554.5	9,049.1	10,603.6	2,530.8	2,469.9	5,000.7	15,604.3	253.8	880.6	37.8	1,172.2	16,776.5
2024 Q4	1,554.5	9,049.1	10,603.6	2,530.8	2,469.9	5,000.7	15,604.3	253.8	880.6	37.8	1,172.2	16,776.5
2025 Q1	1,558.2	9,125.3	10,683.6	2,485.3	2,491.1	4,976.3	15,659.9	241.9	894.8	43.6	1,180.3	16,840.2
Q2	1,563.9	9,245.4	10,809.3	2,404.1	2,512.6	4,916.7	15,726.0	257.5	920.6	26.6	1,204.7	16,930.7
Q3 [p]	1,574.9	9,321.2	10,896.1	2,354.6	2,538.5	4,893.2	15,789.3	258.6	927.6	7.3	1,193.5	16,982.8
2025 May	1,561.3	9,211.0	10,772.3	2,448.2	2,504.1	4,952.3	15,724.5	247.4	910.1	35.2	1,192.7	16,917.2
June	1,563.9	9,245.4	10,809.3	2,404.1	2,512.6	4,916.7	15,726.0	257.5	920.6	26.6	1,204.7	16,930.7
July	1,567.0	9,247.0	10,814.0	2,405.7	2,519.4	4,925.1	15,739.0	242.8	918.0	24.9	1,185.7	16,924.7
Aug.	1,570.5	9,270.9	10,841.5	2,388.8	2,526.0	4,914.8	15,756.3	240.6	914.8	16.1	1,171.5	16,927.8
Sep.	1,574.9	9,321.2	10,896.1	2,354.6	2,538.5	4,893.2	15,789.3	258.6	927.6	7.3	1,193.5	16,982.8
Oct. [p]	1,579.2	9,415.7	10,994.9	2,363.7	2,543.1	4,906.8	15,901.7	247.7	911.3	25.1	1,184.2	17,085.8
Transactions												
2022	68.8	-58.0	10.8	430.2	58.0	488.2	499.0	3.4	3.7	78.4	85.5	584.5
2023	-5.3	-966.3	-971.6	923.3	-100.1	823.2	-148.4	39.8	93.6	23.3	156.7	8.3
2024	21.2	181.3	202.5	202.2	9.8	212.0	414.4	75.6	129.8	-34.7	170.7	585.1
2024 Q4	12.1	170.7	182.8	-55.9	47.7	-8.2	174.6	17.4	21.5	-12.9	26.0	200.6
2025 Q1	3.7	95.0	98.7	-40.2	14.2	-26.0	72.7	-10.5	11.0	8.7	9.3	82.0
Q2	5.7	142.9	148.6	-71.0	21.1	-49.8	98.8	18.3	23.5	-16.9	25.0	123.7
Q3 [p]	11.0	79.4	90.4	-49.1	25.9	-23.2	67.2	1.4	4.4	-16.8	-11.1	56.2
2025 May	1.1	32.0	33.1	-9.8	7.8	-2.0	31.0	-8.3	10.3	-4.3	-2.3	28.8
June	2.6	43.7	46.3	-39.8	8.6	-31.2	15.2	11.4	9.8	-9.1	12.0	27.2
July	3.0	-2.2	0.9	-0.9	6.7	5.8	6.7	-15.5	-3.5	-0.8	-19.7	-13.1
Aug.	3.6	29.2	32.7	-14.6	6.7	-8.0	24.8	-1.4	-4.1	-7.8	-13.4	11.4
Sep.	4.4	52.4	56.8	-33.6	12.6	-21.0	35.8	18.3	11.9	-8.2	22.0	57.8
Oct. [p]	4.3	58.8	63.1	-10.5	4.5	-6.0	57.1	-17.4	-17.1	17.9	-16.6	40.5
Growth rates												
2022	4.7	-0.6	0.1	46.8	2.3	14.2	3.4	2.8	0.6	479.5	11.5	3.8
2023	-0.3	-9.9	-8.6	67.2	-3.9	20.9	-1.0	32.6	14.5	42.7	19.1	0.1
2024	1.4	2.0	1.9	8.8	0.4	4.4	2.7	41.6	17.5	-50.1	17.2	3.6
2024 Q4	1.4	2.0	1.9	8.8	0.4	4.4	2.7	41.6	17.5	-50.1	17.2	3.6
2025 Q1	1.7	4.4	4.0	0.7	2.3	1.5	3.2	25.7	11.7	-40.5	10.7	3.7
Q2	1.9	5.3	4.8	-5.3	3.4	-1.1	2.9	26.2	11.9	-54.2	11.1	3.5
Q3 [p]	2.1	5.5	5.0	-8.4	4.5	-2.1	2.7	11.2	7.0	-82.2	4.3	2.8
2025 May	1.9	5.5	5.0	-2.6	3.1	0.2	3.4	21.4	13.5	-45.8	11.3	3.9
June	1.9	5.3	4.8	-5.3	3.4	-1.1	2.9	26.2	11.9	-54.2	11.1	3.5
July	1.9	5.6	5.1	-5.4	3.7	-0.9	3.1	8.6	9.9	-54.2	6.4	3.3
Aug.	2.0	5.6	5.0	-6.3	3.9	-1.3	3.0	-0.1	7.7	-65.1	2.7	2.9
Sep.	2.1	5.5	5.0	-8.4	4.5	-2.1	2.7	11.2	7.0	-82.2	4.3	2.8
Oct. [p]	2.1	5.7	5.2	-7.9	4.5	-1.8	2.9	0.5	5.4	-46.1	1.9	2.8

Sources: ECB.
1) Data refer to the changing composition of the euro area.

5 Financing conditions and credit developments

5.2 Deposits in M3 [1)]

(EUR billions and annual growth rates; seasonally adjusted; outstanding amounts and growth rates at end of period; transactions during period)

	Non-financial corporations [2)]					Households [3)]							
	Total	Overnight	With an agreed maturity of up to 2 years	Redeemable at notice of up to 3 months	Repos	Total	Overnight	With an agreed maturity of up to 2 years	Redeemable at notice of up to 3 months	Repos	Financial corporations other than MFIs and ICPFs [2)]	Insurance corporations and pension funds	Other general government [4)]
	1	2	3	4	5	6	7	8	9	10	11	12	13
Outstanding amounts													
2022	3,351.7	2,712.3	498.7	134.5	6.2	8,371.0	5,536.9	437.3	2,396.0	0.8	1,304.5	230.5	565.2
2023	3,317.0	2,403.6	770.8	131.0	11.6	8,417.7	5,105.9	1,014.6	2,295.9	1.3	1,258.6	227.0	542.4
2024	3,415.8	2,479.2	792.1	133.4	11.1	8,748.8	5,189.3	1,255.4	2,302.7	1.3	1,358.8	231.9	548.3
2024 Q4	3,415.8	2,479.2	792.1	133.4	11.1	8,748.8	5,189.3	1,255.4	2,302.7	1.3	1,358.8	231.9	548.3
2025 Q1	3,415.8	2,479.9	786.2	139.1	10.6	8,798.5	5,255.9	1,224.6	2,316.8	1.1	1,361.3	228.7	539.4
Q2	3,439.3	2,506.4	779.7	143.9	9.3	8,842.8	5,333.2	1,175.2	2,333.3	1.1	1,360.0	233.3	544.3
Q3 [p]	3,469.1	2,538.4	778.9	145.8	6.0	8,900.8	5,402.8	1,139.1	2,357.8	1.1	1,336.6	229.2	537.3
2025 May	3,451.7	2,499.1	801.1	142.0	9.5	8,836.0	5,312.9	1,194.3	2,327.7	1.1	1,350.0	230.8	542.3
June	3,439.3	2,506.4	779.7	143.9	9.3	8,842.8	5,333.2	1,175.2	2,333.3	1.1	1,360.0	233.3	544.3
July	3,456.0	2,516.8	784.9	144.5	9.8	8,870.4	5,356.0	1,173.4	2,340.0	1.0	1,317.1	223.6	547.8
Aug.	3,464.4	2,525.2	784.9	145.0	9.3	8,881.0	5,373.5	1,160.5	2,346.0	1.1	1,309.7	226.5	544.8
Sep.	3,469.1	2,538.4	778.9	145.8	6.0	8,900.8	5,402.8	1,139.1	2,357.8	1.1	1,336.6	229.2	537.3
Oct. [p]	3,476.4	2,556.2	763.6	148.0	8.6	8,920.0	5,418.7	1,139.5	2,360.8	1.0	1,403.4	223.7	546.7
Transactions													
2022	115.7	-96.1	207.4	5.9	-1.5	295.4	164.0	74.8	56.5	0.1	6.8	5.0	10.7
2023	-38.9	-313.8	270.9	-1.6	5.6	18.4	-459.0	571.9	-95.1	0.5	-51.0	-2.1	-29.6
2024	89.4	69.7	16.5	3.0	0.2	293.7	49.3	235.9	8.4	0.1	78.7	3.9	3.2
2024 Q4	27.3	59.7	-38.9	7.0	-0.5	120.2	84.5	-4.8	40.1	0.3	34.6	0.5	-2.6
2025 Q1	7.7	6.3	-3.9	5.5	-0.2	51.0	74.0	-30.1	7.4	-0.3	11.4	-2.3	-9.2
Q2	36.0	34.4	-2.4	4.8	-0.8	48.9	80.5	-47.5	15.9	0.0	15.8	5.9	4.9
Q3 [p]	34.5	32.6	-0.6	2.0	0.4	58.7	70.1	-35.8	24.5	0.0	-24.4	-4.0	-7.2
2025 May	19.0	12.0	7.6	1.5	-2.0	23.4	29.8	-12.7	6.2	0.1	-14.1	-9.6	2.9
June	-6.1	11.4	-19.4	1.9	0.0	8.5	21.2	-18.3	5.6	0.0	16.5	3.1	2.0
July	13.2	8.2	4.0	0.6	0.4	26.8	22.4	-2.2	6.7	-0.1	-45.4	-10.0	3.5
Aug.	11.3	10.3	0.9	0.5	-0.4	11.7	18.1	-12.5	6.0	0.1	-3.5	3.2	-3.0
Sep.	9.9	14.0	-5.5	0.8	0.5	20.2	29.6	-21.2	11.8	0.0	24.5	2.8	-7.7
Oct. [p]	6.7	17.3	-15.4	2.2	2.6	18.6	15.6	0.1	3.0	-0.1	6.7	-5.5	9.0
Growth rates													
2022	3.6	-3.4	70.4	4.6	-17.5	3.7	3.0	20.7	2.4	18.1	0.8	2.2	1.9
2023	-1.2	-11.5	54.2	-1.2	90.8	0.2	-8.2	129.4	-4.0	64.0	-3.8	-0.9	-5.2
2024	2.7	2.9	2.2	2.3	2.0	3.5	1.0	23.2	0.4	3.7	6.1	1.7	0.6
2024 Q4	2.7	2.9	2.2	2.3	2.0	3.5	1.0	23.2	0.4	3.7	6.1	1.7	0.6
2025 Q1	2.4	4.2	-3.9	9.5	-2.8	3.6	3.5	7.5	1.9	6.0	9.9	2.6	-0.5
Q2	1.8	4.3	-6.8	13.1	-9.4	3.3	4.9	-2.6	2.8	-8.6	7.9	7.2	2.1
Q3 [p]	3.1	5.5	-5.5	15.2	-9.2	3.2	6.1	-9.4	3.9	-0.5	2.8	0.0	-2.6
2025 May	2.6	4.7	-4.8	12.0	7.3	3.6	4.7	0.4	2.6	4.5	9.3	7.0	2.1
June	1.8	4.3	-6.8	13.1	-9.4	3.3	4.9	-2.6	2.8	-8.6	7.9	7.2	2.1
July	2.7	5.0	-5.5	13.8	5.1	3.4	5.4	-4.6	3.1	0.7	5.4	3.7	1.1
Aug.	2.8	5.2	-5.8	14.4	-2.3	3.4	5.6	-5.6	3.3	5.7	1.7	4.1	0.3
Sep.	3.1	5.5	-5.5	15.2	-9.2	3.2	6.1	-9.4	3.9	-0.5	2.8	0.0	-2.6
Oct. [p]	3.5	5.7	-5.1	15.4	13.6	3.0	5.8	-9.8	3.9	3.0	3.1	0.8	-0.8

Sources: ECB.
1) Data refer to the changing composition of the euro area.
2) In accordance with the ESA 2010, in December 2014 holding companies of non-financial groups were reclassified from the non-financial corporations sector to the financial corporations sector. These entities are included in MFI balance sheet statistics with financial corporations other than MFIs and insurance corporations and pension funds (ICPFs).
3) Including non-profit institutions serving households.
4) Refers to the general government sector excluding central government.

5 Financing conditions and credit developments

5.3 Credit to euro area residents [1)]

(EUR billions and annual growth rates; seasonally adjusted; outstanding amounts and growth rates at end of period; transactions during period)

	Credit to general government			Credit to other euro area residents								
	Total	Loans	Debt securities	Total	Loans						Debt securities	Equity and non-money market fund investment fund shares
					Total		To non-financial corporations [3)]	To households [4)]	To financial coprorations other than MFIs and ICPFs [3)]	To insurance corporations and pension funds		
					Total	Adjusted loans [2)]						
	1	2	3	4	5	6	7	8	9	10	11	12
Outstanding amounts												
2022	6,345.2	999.3	5,320.8	15,400.9	13,000.1	13,171.5	5,135.0	6,632.1	1,086.9	146.1	1,565.4	835.5
2023	6,297.5	988.8	5,283.4	15,501.0	13,044.9	13,250.5	5,130.8	6,649.1	1,127.7	137.3	1,559.1	897.0
2024	6,249.8	986.9	5,237.1	15,788.9	13,257.4	13,501.4	5,189.1	6,678.6	1,251.3	138.5	1,580.0	951.5
2024 Q4	6,249.8	986.9	5,237.1	15,788.9	13,257.4	13,501.4	5,189.1	6,678.6	1,251.3	138.5	1,580.0	951.5
2025 Q1	6,267.5	996.6	5,245.0	15,868.4	13,333.5	13,588.9	5,203.4	6,722.3	1,271.1	136.6	1,562.1	972.8
Q2	6,274.4	1,007.8	5,240.5	15,956.2	13,409.7	13,679.3	5,213.5	6,767.1	1,285.1	144.0	1,571.4	975.1
Q3	6,287.6	1,017.1	5,244.4	16,021.5	13,447.3	13,720.1	5,244.9	6,808.9	1,257.9	135.6	1,567.1	1,007.1
2025 May	6,296.1	1,007.8	5,262.2	15,909.6	13,376.9	13,633.2	5,207.4	6,755.9	1,275.9	137.7	1,563.8	968.9
June	6,274.4	1,007.8	5,240.5	15,956.2	13,409.7	13,679.3	5,213.5	6,767.1	1,285.1	144.0	1,571.4	975.1
July	6,285.9	1,012.5	5,247.3	15,980.9	13,420.6	13,687.6	5,222.2	6,779.9	1,281.3	137.1	1,571.1	989.3
Aug.	6,264.1	1,013.8	5,224.2	15,997.4	13,422.1	13,698.1	5,237.5	6,794.4	1,253.9	136.3	1,575.0	1,000.2
Sep.	6,287.6	1,017.1	5,244.4	16,021.5	13,447.3	13,720.1	5,244.9	6,808.9	1,257.9	135.6	1,567.1	1,007.1
Oct.	6,310.6	1,025.3	5,259.2	16,106.3	13,510.9	13,781.9	5,256.9	6,817.8	1,302.2	134.1	1,572.7	1,022.7
Transactions												
2022	177.0	8.7	166.9	635.2	623.6	680.1	268.4	241.7	126.9	-13.4	18.0	-6.4
2023	-161.9	-17.3	-144.9	51.0	23.2	73.3	-6.5	8.5	29.5	-8.3	-17.1	44.9
2024	-64.4	-1.2	-63.6	287.6	228.8	273.6	76.1	45.2	106.5	1.0	11.6	47.1
2024 Q4	-5.5	8.1	-13.7	151.2	115.9	115.2	53.5	26.9	30.3	5.2	12.7	22.6
2025 Q1	38.8	9.3	29.5	102.1	98.4	109.4	27.6	48.5	24.3	-1.9	-14.9	18.5
Q2	-17.0	11.1	-28.2	104.9	95.5	106.6	25.0	45.8	16.8	7.8	10.4	-0.9
Q3	19.0	8.3	10.6	67.6	47.0	49.6	35.9	45.0	-25.5	-8.4	-6.4	26.9
2025 May	-13.3	8.3	-21.7	18.0	14.7	13.3	1.1	14.3	-2.1	1.5	-1.4	4.6
June	-18.1	0.3	-18.2	57.1	41.0	52.3	12.7	14.1	7.8	6.5	8.9	7.2
July	16.1	4.6	11.4	19.7	8.2	6.0	7.8	13.6	-6.1	-7.0	-1.6	13.1
Aug.	-15.7	1.3	-17.0	21.3	7.8	15.6	15.6	15.6	-22.6	-0.7	3.3	10.1
Sep.	18.7	2.4	16.3	26.5	30.9	28.1	12.5	15.9	3.3	-0.7	-8.1	3.7
Oct.	9.5	8.1	1.3	73.7	56.3	60.8	12.1	9.8	35.9	-1.5	4.9	12.5
Growth rates												
2022	2.7	0.9	3.1	4.3	5.0	5.4	5.5	3.8	13.4	-8.4	1.2	-0.7
2023	-2.5	-1.7	-2.7	0.3	0.2	0.6	-0.1	0.1	2.7	-5.7	-1.1	5.3
2024	-1.0	-0.1	-1.2	1.9	1.8	2.1	1.5	0.7	9.4	0.7	0.7	5.2
2024 Q4	-1.0	-0.1	-1.2	1.9	1.8	2.1	1.5	0.7	9.4	0.7	0.7	5.2
2025 Q1	0.5	1.8	0.2	2.2	2.4	2.6	2.2	1.5	9.0	-0.7	-0.9	4.9
Q2	0.1	2.7	-0.4	2.7	2.8	3.0	2.3	2.1	7.7	11.1	0.8	4.7
Q3	0.6	3.8	0.0	2.7	2.7	2.8	2.8	2.5	3.8	2.0	0.1	7.2
2025 May	0.6	3.3	0.1	2.5	2.6	2.8	2.4	1.9	7.6	5.6	0.4	3.7
June	0.1	2.7	-0.4	2.7	2.8	3.0	2.3	2.1	7.7	11.1	0.8	4.7
July	0.6	3.6	0.0	2.7	2.6	2.8	2.5	2.3	4.8	3.5	1.3	5.8
Aug.	0.1	3.4	-0.5	2.7	2.6	2.8	2.7	2.4	3.3	1.9	1.0	7.1
Sep.	0.6	3.8	0.0	2.7	2.7	2.8	2.8	2.5	3.8	2.0	0.1	7.2
Oct.	0.7	3.9	0.0	2.9	2.9	3.0	2.9	2.6	5.5	-1.1	-0.2	8.0

Source: ECB.
1) Data refer to the changing composition of the euro area.
2) Adjusted for loan sales and securitisation (resulting in derecognition from the MFI statistical balance sheet) as well as for positions arising from notional cash pooling services provided by MFIs.
3) In accordance with the ESA 2010, in December 2014 holding companies of non-financial groups were reclassified from the non-financial corporations sector to the financial corporations sector. These entities are included in MFI balance sheet statistics with financial corporations other than MFIs and insurance corporations and pension funds (ICPFs).
4) Including non-profit institutions serving households.

5 Financing conditions and credit developments

5.4 MFI loans to euro area non-financial corporations and households [1)]

(EUR billions and annual growth rates; seasonally adjusted; outstanding amounts and growth rates at end of period; transactions during period)

	Non-financial corporations [2)]					Households [3)]				
	Total		Up to 1 year	Over 1 and up to 5 years	Over 5 years	Total		Loans for consumption	Loans for house purchase	Other loans
	Total	Adjusted loans [4)]				Total	Adjusted loans [4)]			
	1	2	3	4	5	6	7	8	9	10
Outstanding amounts										
2022	5,135.0	5,127.1	969.3	1,076.1	3,089.6	6,632.1	6,833.2	714.7	5,214.3	703.1
2023	5,130.8	5,139.1	915.6	1,089.6	3,125.7	6,649.1	6,867.3	731.1	5,229.1	688.9
2024	5,189.1	5,204.0	930.7	1,097.7	3,160.6	6,678.6	6,929.5	744.8	5,255.6	678.2
2024 Q4	5,189.1	5,204.0	930.7	1,097.7	3,160.6	6,678.6	6,929.5	744.8	5,255.6	678.2
2025 Q1	5,203.4	5,224.3	926.5	1,112.4	3,164.5	6,722.3	6,971.9	750.4	5,294.0	678.0
Q2	5,213.5	5,250.2	929.3	1,114.8	3,169.4	6,767.1	7,016.7	757.7	5,333.4	676.1
Q3	5,244.9	5,283.1	927.5	1,127.0	3,190.4	6,808.9	7,061.0	767.3	5,369.2	672.4
2025 May	5,207.4	5,230.9	926.1	1,108.7	3,172.6	6,755.9	7,002.0	754.0	5,324.6	677.3
June	5,213.5	5,250.2	929.3	1,114.8	3,169.4	6,767.1	7,016.7	757.7	5,333.4	676.1
July	5,222.2	5,257.0	925.6	1,120.8	3,175.8	6,779.9	7,030.4	760.3	5,345.9	673.8
Aug.	5,237.5	5,274.5	929.5	1,123.2	3,184.7	6,794.4	7,045.5	764.1	5,357.1	673.2
Sep.	5,244.9	5,283.1	927.5	1,127.0	3,190.4	6,808.9	7,061.0	767.3	5,369.2	672.4
Oct.	5,256.9	5,288.2	934.9	1,126.2	3,195.7	6,817.8	7,073.8	771.1	5,373.8	672.9
Transactions										
2022	268.4	308.0	77.5	77.5	113.4	241.7	250.2	23.0	218.3	0.4
2023	-6.5	24.4	-44.8	10.5	27.8	8.5	26.9	19.1	10.3	-20.9
2024	76.1	88.0	21.8	14.5	39.8	45.2	77.1	26.6	28.3	-9.7
2024 Q4	53.5	45.4	21.0	9.1	23.3	26.9	36.7	10.1	16.0	0.8
2025 Q1	27.6	31.7	-2.4	19.6	10.4	48.5	48.7	8.8	39.8	0.0
Q2	25.0	36.6	8.8	8.0	8.2	45.8	47.4	6.9	37.7	1.1
Q3	35.9	36.5	0.0	13.1	22.8	45.0	47.6	11.2	36.3	-2.5
2025 May	1.1	2.1	-2.4	1.0	2.4	14.3	14.3	1.2	13.3	-0.2
June	12.7	23.4	5.9	7.9	-1.1	14.1	18.0	2.8	9.9	1.5
July	7.8	6.4	-4.2	5.1	6.9	13.6	14.3	3.1	12.5	-2.0
Aug.	15.6	16.9	2.7	3.8	9.1	15.6	16.0	4.2	11.5	-0.1
Sep.	12.5	13.2	1.6	4.2	6.8	15.9	17.3	3.8	12.3	-0.3
Oct.	12.1	5.1	7.2	-2.3	7.2	9.8	19.9	4.3	4.6	0.8
Growth rates										
2022	5.5	6.3	8.7	7.7	3.8	3.8	3.8	3.3	4.4	0.1
2023	-0.1	0.5	-4.6	1.0	0.9	0.1	0.4	2.7	0.2	-2.9
2024	1.5	1.7	2.4	1.3	1.3	0.7	1.1	3.7	0.5	-1.4
2024 Q4	1.5	1.7	2.4	1.3	1.3	0.7	1.1	3.7	0.5	-1.4
2025 Q1	2.2	2.4	4.7	3.3	1.1	1.5	1.7	3.7	1.4	-0.7
Q2	2.3	2.7	3.9	4.1	1.3	2.1	2.3	4.5	2.1	-0.3
Q3	2.8	2.9	3.0	4.6	2.1	2.5	2.6	5.0	2.5	-0.1
2025 May	2.4	2.5	4.6	3.4	1.4	1.9	2.1	4.0	1.9	-0.4
June	2.3	2.7	3.9	4.1	1.3	2.1	2.3	4.5	2.1	-0.3
July	2.5	2.9	3.4	4.6	1.5	2.3	2.4	4.5	2.2	-0.1
Aug.	2.7	3.0	3.6	4.7	1.7	2.4	2.5	4.8	2.3	0.0
Sep.	2.8	2.9	3.0	4.6	2.1	2.5	2.6	5.0	2.5	-0.1
Oct.	2.9	2.9	2.9	4.4	2.3	2.6	2.8	5.2	2.6	0.1

Source: ECB.
1) Data refer to the changing composition of the euro area.
2) In accordance with the ESA 2010, in December 2014 holding companies of non-financial groups were reclassified from the non-financial corporations sector to the financial corporations sector. These entities are included in MFI balance sheet statistics with financial corporations other than MFIs and insurance corporations and pension funds (ICPFs).
3) Including non-profit institutions serving households.
4) Adjusted for loan sales and securitisation (resulting in derecognition from the MFI statistical balance sheet) as well as for positions arising from notional cash pooling services provided by MFIs.

5 Financing conditions and credit developments

5.5 Counterparts to M3 other than credit to euro area residents [1)]

(EUR billions and annual growth rates; seasonally adjusted; outstanding amounts and growth rates at end of period; transactions during period)

	MFI liabilities						MFI assets			
		Longer-term financial liabilities vis-à-vis other euro area residents						Other		
	Central government holdings [2)]	Total	Deposits with an agreed maturity of over 2 years	Deposits redeemable at notice of over 3 months	Debt securities with a maturity of over 2 years	Capital and reserves	Net external assets	Total	Repos with central counter-parties [3)]	Reverse repos to central counter-parties [3)]
	1	2	3	4	5	6	7	8	9	10
Outstanding amounts										
2022	669.5	6,739.9	1,782.4	45.9	2,109.5	2,802.1	1,347.4	375.5	137.2	147.2
2023	476.9	7,337.9	1,826.7	90.5	2,415.1	3,005.6	1,853.9	272.1	152.1	152.6
2024	395.9	7,850.0	1,841.9	117.2	2,590.7	3,300.2	2,666.3	317.4	140.4	136.0
2024 Q4	395.9	7,850.0	1,841.9	117.2	2,590.7	3,300.2	2,666.3	317.4	140.4	136.0
2025 Q1	388.3	7,934.3	1,834.5	121.7	2,576.4	3,401.7	2,793.1	233.7	182.9	161.3
Q2	409.4	7,907.9	1,833.3	129.6	2,562.3	3,382.8	2,827.8	189.5	177.9	165.9
Q3 (p)	430.1	8,092.1	1,842.2	132.5	2,589.9	3,527.5	3,052.0	143.9	168.3	168.6
2025 May	451.5	7,957.8	1,830.7	126.2	2,573.4	3,427.5	2,898.8	221.9	181.4	177.6
June	409.4	7,907.9	1,833.3	129.6	2,562.3	3,382.8	2,827.8	189.5	177.9	165.9
July	397.0	7,958.1	1,835.1	132.5	2,583.8	3,406.7	2,864.3	148.7	173.5	166.9
Aug.	412.7	7,967.2	1,839.2	132.9	2,575.7	3,419.4	2,885.2	161.0	206.3	179.4
Sep.	430.1	8,092.1	1,842.2	132.5	2,589.9	3,527.5	3,052.0	143.9	168.3	168.6
Oct. (p)	441.4	8,212.6	1,849.1	132.4	2,614.5	3,616.6	3,182.1	140.8	297.9	242.5
Transactions										
2022	-72.6	52.1	-89.1	-4.5	12.5	133.3	-61.4	-186.8	10.4	18.0
2023	-199.0	325.1	24.9	40.2	227.5	32.5	437.1	-191.7	17.1	9.0
2024	-80.6	279.7	15.1	26.7	164.8	73.1	532.5	28.5	-11.7	-16.7
2024 Q4	-9.8	82.6	4.8	3.2	11.1	63.5	85.8	41.9	-44.5	-52.6
2025 Q1	-7.2	4.6	-4.3	5.6	11.5	-8.3	21.1	-82.7	42.4	25.3
Q2	21.2	35.0	4.3	7.9	36.5	-13.7	127.0	-34.9	-5.0	4.7
Q3 (p)	19.1	35.4	9.0	3.6	31.3	-8.5	62.4	-38.3	-9.6	2.7
2025 May	19.7	31.7	-0.8	2.4	29.3	0.9	51.4	24.0	-13.2	4.2
June	-42.1	13.8	5.0	3.3	10.7	-5.2	6.6	-46.7	-3.6	-11.7
July	-14.0	9.3	0.4	2.9	11.0	-5.0	-4.9	-48.6	-4.4	1.0
Aug.	15.7	8.6	5.3	0.3	1.5	1.4	14.4	15.7	32.8	12.4
Sep.	17.4	17.5	3.3	0.3	18.7	-4.9	52.8	-5.3	-38.0	-10.7
Oct. (p)	10.4	19.3	6.0	-0.2	18.6	-5.1	29.1	-42.1	60.7	21.1
Growth rates										
2022	-9.8	0.8	-4.8	-13.0	0.5	4.7	-	-	7.8	12.7
2023	-29.6	4.7	1.4	80.3	10.7	1.1	-	-	12.4	6.0
2024	-16.9	3.8	0.8	29.5	6.9	2.3	-	-	-7.7	-10.9
2024 Q4	-16.9	3.8	0.8	29.5	6.9	2.3	-	-	-7.7	-10.9
2025 Q1	-6.6	2.5	0.3	17.9	3.5	2.5	-	-	2.7	-7.4
Q2	-0.9	2.3	0.6	19.4	3.8	1.6	-	-	-2.6	-6.0
Q3 (p)	5.7	2.0	0.8	17.9	3.6	1.0	-	-	-9.0	-10.5
2025 May	7.8	2.4	0.5	17.4	3.5	2.2	-	-	14.0	7.6
June	-0.9	2.3	0.6	19.4	3.8	1.6	-	-	-2.6	-6.0
July	-1.7	2.4	0.9	20.5	4.0	1.3	-	-	4.0	7.8
Aug.	-3.5	2.1	1.1	19.6	3.2	1.3	-	-	6.8	5.1
Sep.	5.7	2.0	0.8	17.9	3.6	1.0	-	-	-9.0	-10.5
Oct. (p)	1.7	2.1	1.2	16.4	4.1	0.6	-	-	35.0	10.2

Sources: ECB.
1) Data refer to the changing composition of the euro area.
2) Comprises central government holdings of deposits with the MFI sector and of securities issued by the MFI sector.
3) Not adjusted for seasonal effects.

6 Fiscal developments

6.1 Deficit/surplus

(as a percentage of GDP; flows during one-year period)

	Deficit (-)/surplus (+)					Memo item:
	Total	Central government	State government	Local government	Social security funds	Primary deficit (-)/ surplus (+)
	1	2	3	4	5	6
2021	-5.1	-5.1	0.0	0.0	0.0	-3.7
2022	-3.4	-3.7	0.0	0.0	0.3	-1.7
2023	-3.5	-3.5	-0.2	-0.2	0.4	-1.8
2024	-3.1	-2.7	-0.2	-0.3	0.1	-1.2
2024 Q3	-3.2	.	.	.	.	-1.4
Q4	-3.1	.	.	.	.	-1.2
2025 Q1	-3.0	.	.	.	.	-1.0
Q2	-2.8	.	.	.	.	-0.9

Sources: ECB for annual data; Eurostat for quarterly data.

6.2 Revenue and expenditure

(as a percentage of GDP; flows during one-year period)

	Revenue						Expenditure						
		Current revenue						Current expenditure					
	Total	Total	Direct taxes	Indirect taxes	Net social contribu-tions	Capital revenue	Total	Total	Compen-sation of employ-ees	Inter-mediate consump-tion	Interest	Social benefits	Capital expenditure
	1	2	3	4	5	6	7	8	9	10	11	12	13
2021	46.9	46.1	13.0	13.2	15.0	0.8	52.0	46.9	10.3	6.0	1.4	23.7	5.1
2022	46.5	45.7	13.3	12.9	14.6	0.8	49.9	44.7	9.8	5.9	1.7	22.4	5.2
2023	45.9	45.0	13.1	12.4	14.5	0.9	49.4	44.0	9.8	5.9	1.7	22.2	5.3
2024	46.4	45.6	13.3	12.4	14.7	0.8	49.5	44.5	9.9	6.0	1.9	22.8	5.0
2024 Q3	46.3	45.4	13.3	12.3	14.7	0.9	49.5	44.4	9.9	5.9	1.9	22.7	5.2
Q4	46.4	45.6	13.3	12.4	14.7	0.8	49.5	44.5	9.9	6.0	1.9	22.8	5.0
2025 Q1	46.6	45.8	13.3	12.4	14.8	0.8	49.5	44.6	10.0	6.0	1.9	22.9	5.0
Q2	46.7	45.9	13.3	12.4	14.9	0.8	49.5	44.6	10.0	6.0	1.9	22.9	5.0

Sources: ECB for annual data; Eurostat for quarterly data.

6.3 Government debt-to-GDP ratio

(as a percentage of GDP; outstanding amounts at end of period)

	Total	Financial instrument			Holder			Original maturity		Residual maturity			Currency	
		Currency and de-posits	Loans	Debt securi-ties	Resident creditors		Non-resident credi-tors	Up to 1 year	Over 1 year	Up to 1 year	Over 1 and up to 5 years	Over 5 years	Euro or participating currencies	Other curren-cies
					Total	MFIs								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
2021	93.8	2.9	13.8	77.1	54.5	40.9	39.3	9.8	84.0	17.3	29.8	46.8	92.4	1.4
2022	89.3	2.6	13.1	73.5	52.4	39.5	36.9	8.6	80.7	16.0	28.3	45.1	88.4	0.9
2023	87.0	2.4	12.1	72.5	49.1	35.7	37.8	7.8	79.2	14.9	27.9	44.1	86.2	0.8
2024	87.1	2.2	11.8	73.1	46.7	33.7	40.4	7.7	79.4	14.4	28.2	44.5	86.3	0.8
2024 Q3	87.7	2.2	11.7	73.7	.	.	.	.	.	.	.	.	.	.
Q4	87.1	2.2	11.8	73.1	.	.	.	.	.	.	.	.	.	.
2025 Q1	87.7	2.3	11.6	73.8	.	.	.	.	.	.	.	.	.	.
Q2	88.2	2.2	11.7	74.3	.	.	.	.	.	.	.	.	.	.

Sources: ECB for annual data; Eurostat for quarterly data.

6 Fiscal developments

6.4 Annual change in the government debt-to-GDP ratio and underlying factors [1)]

(as a percentage of GDP; flows during one-year period)

	Change in debt-to-GDP ratio [2)]	Primary deficit (+)/ surplus (-)	Deficit-debt adjustment								Interest-growth differential	Memo item: Borrowing requirement
			Total	Transactions in main financial assets					Revaluation effects and other changes in volume	Other		
				Total	Currency and deposits	Loans	Debt securities	Equity and investment fund shares				
	1	2	3	4	5	6	7	8	9	10	11	12
2021	-2.7	3.7	-0.1	0.6	0.4	0.1	0.0	0.1	-0.1	-0.6	-6.2	5.1
2022	-4.5	1.7	-0.1	-0.2	-0.7	0.3	0.1	0.1	0.6	-0.5	-6.1	2.7
2023	-2.4	1.8	-0.3	-0.4	-0.5	-0.1	0.1	0.1	0.6	-0.5	-3.8	2.6
2024	0.1	1.2	0.3	0.0	-0.4	0.1	0.2	0.1	0.3	0.0	-1.4	3.1
2024 Q3	-0.3	1.4	0.0	-0.2	-0.4	0.1	0.1	0.0	0.3	-0.1	-1.7	2.9
Q4	0.1	1.2	0.3	0.0	-0.4	0.1	0.2	0.1	0.2	0.1	-1.4	3.1
2025 Q1	0.3	1.0	0.6	0.3	-0.1	0.1	0.1	0.1	0.2	0.0	-1.3	3.3
Q2	0.5	0.9	0.9	0.7	0.4	0.0	0.1	0.1	0.2	0.0	-1.3	3.5

Sources: ECB for annual data; Eurostat for quarterly data.
1) Intergovernmental lending in the context of the financial crisis is consolidated except in quarterly data on the deficit-debt adjustment.
2) Calculated as the difference between the government debt-to-GDP ratios at the end of the reference period and a year earlier.

6.5 Government debt securities [1)]

(debt service as a percentage of GDP; flows during debt service period; average nominal yields in percentages per annum)

	Debt service due within 1 year [2)]					Average residual maturity in years [3)]	Average nominal yields [4)]						
	Total	Principal		Interest			Outstanding amounts					Transactions	
										Fixed rate			
		Total	Maturities of up to 3 months	Total	Maturities of up to 3 months		Total	Floating rate	Zero coupon	Total	Maturities of up to 1 year	Issuance	Redemption
	1	2	3	4	5	6	7	8	9	10	11	12	13
2022	12.8	11.6	4.1	1.2	0.3	8.1	1.6	1.2	0.4	1.9	2.0	1.1	0.5
2023	12.8	11.5	4.1	1.3	0.3	8.1	2.0	1.3	2.1	2.0	1.7	3.6	2.0
2024	12.4	11.0	4.1	1.4	0.4	8.2	2.1	1.3	1.9	2.2	1.9	3.5	2.9
2024 Q4	12.4	11.0	4.1	1.4	0.4	8.2	2.1	1.3	1.9	2.2	1.9	3.5	2.9
2025 Q1	12.4	10.9	3.7	1.5	0.4	8.3	2.2	1.3	2.0	2.2	1.9	3.3	2.9
Q2	12.9	11.4	3.2	1.5	0.4	8.3	2.2	1.3	1.6	2.2	2.1	3.1	2.8
Q3	13.3	11.8	3.7	1.5	0.4	8.2	2.1	1.3	1.5	2.2	1.9	2.9	2.6
2025 May	12.8	11.4	3.2	1.5	0.4	8.3	2.2	1.3	1.8	2.2	2.0	3.2	2.8
June	12.9	11.4	3.2	1.5	0.4	8.3	2.2	1.3	1.6	2.2	2.1	3.1	2.8
July	12.9	11.4	3.6	1.5	0.4	8.3	2.1	1.3	1.6	2.2	2.0	3.0	2.7
Aug.	13.1	11.6	3.8	1.5	0.4	8.2	2.1	1.3	1.4	2.2	2.0	2.9	2.7
Sep.	13.3	11.8	3.7	1.5	0.4	8.2	2.1	1.3	1.5	2.2	1.9	2.9	2.6
Oct.	13.1	11.6	3.4	1.5	0.4	8.2	2.1	1.3	1.5	2.2	1.9	2.8	2.6

Source: ECB.
1) At face value and not consolidated within the general government sector.
2) Excludes future payments on debt securities not yet outstanding and early redemptions.
3) Residual maturity at the end of the period.
4) Outstanding amounts at the end of the period; transactions as 12-month average.

6 Fiscal developments

6.6 Fiscal developments in euro area countries

(as a percentage of GDP; flows during one-year period and outstanding amounts at end of period)

	Belgium	Germany	Estonia	Ireland	Greece	Spain	France	Croatia	Italy	Cyprus
	1	2	3	4	5	6	7	8	9	10
	Government deficit (-)/surplus (+)									
2021	-5.4	-3.2	-2.5	-1.3	-7.2	-6.7	-6.6	-2.6	-8.9	-1.6
2022	-3.6	-1.9	-1.0	1.6	-2.6	-4.6	-4.7	0.1	-8.1	2.7
2023	-4.0	-2.5	-2.7	1.4	-1.4	-3.3	-5.4	-0.8	-7.2	1.7
2024	-4.4	-2.7	-1.7	4.0	1.2	-3.2	-5.8	-1.9	-3.4	4.1
2024 Q3	-4.3	-2.8	-2.7	4.3	0.8	-2.8	-5.7	-2.1	-5.2	3.6
Q4	-4.4	-2.7	-1.7	4.0	1.2	-3.2	-5.8	-1.9	-3.4	4.1
2025 Q1	-4.6	-2.4	-1.2	4.0	2.5	-3.2	-5.7	-2.6	-3.4	4.2
Q2	-4.7	-2.2	-0.9	3.7	2.2	-3.2	-5.6	-3.0	-2.9	4.4
	Government debt									
2021	108.7	67.9	18.4	52.4	197.3	115.7	112.8	78.2	145.8	96.5
2022	103.4	64.4	19.2	42.9	177.8	109.3	111.4	68.5	138.4	80.3
2023	102.4	62.3	20.2	41.8	164.3	105.2	109.8	60.9	133.9	71.1
2024	103.9	62.2	23.5	38.3	154.2	101.6	113.2	57.4	134.9	62.8
2024 Q3	104.8	62.0	23.8	40.0	158.3	104.2	113.7	59.2	135.6	66.7
Q4	103.9	62.2	23.5	38.3	153.6	101.6	113.2	57.4	134.9	62.8
2025 Q1	106.0	62.0	23.9	34.5	152.4	103.4	114.1	58.3	137.4	62.1
Q2	106.2	62.4	23.2	33.3	151.2	103.4	115.8	57.5	138.3	61.2

	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Austria	Portugal	Slovenia	Slovakia	Finland
	11	12	13	14	15	16	17	18	19	20
	Government deficit (-)/surplus (+)									
2021	-7.2	-1.1	1.1	-7.0	-2.3	-5.7	-2.8	-4.6	-5.1	-2.7
2022	-4.9	-0.7	0.2	-5.3	0.0	-3.4	-0.3	-3.0	-1.6	-0.2
2023	-2.4	-0.7	-0.7	-4.4	-0.4	-2.6	1.3	-2.6	-5.3	-2.9
2024	-1.8	-1.3	0.9	-3.5	-0.9	-4.7	0.5	-0.9	-5.5	-4.4
2024 Q3	-1.7	-1.4	0.5	-3.0	-0.3	-3.9	0.6	-1.7	-5.2	-4.2
Q4	-1.8	-1.3	0.9	-3.5	-0.9	-4.7	0.5	-0.9	-5.5	-4.4
2025 Q1	-1.2	-1.3	0.5	-3.1	-1.3	-4.9	0.7	-1.6	-5.3	-4.2
Q2	-1.7	-1.8	-0.4	-4.0	-1.4	-4.9	0.5	-1.8	-4.8	-3.9
	Government debt									
2021	45.9	43.3	24.2	49.8	50.5	82.4	123.9	74.8	60.2	73.1
2022	44.4	38.3	24.9	50.3	48.4	78.1	111.2	72.8	57.8	74.0
2023	44.4	37.1	24.7	47.0	45.8	77.8	96.9	68.3	55.8	77.1
2024	46.6	38.0	26.3	46.2	43.7	79.9	93.6	66.6	59.7	82.5
2024 Q3	47.4	38.0	25.6	44.9	42.6	81.6	95.9	66.3	60.1	82.2
Q4	46.6	38.0	26.3	46.2	43.7	79.9	93.6	66.6	59.7	82.5
2025 Q1	45.4	40.4	26.1	46.7	43.2	83.1	95.0	69.5	63.2	84.2
Q2	48.0	39.1	25.1	46.9	42.7	82.3	96.8	69.4	62.9	88.4

Source: Eurostat.

Postal address 60640 Frankfurt am Main, Germany
Telephone +49 69 1344 0
Website www.ecb.europa.eu

For specific terminology please refer to the ECB glossary (available in English only).

The cut-off date for the statistics included in this issue was 17 December 2025.

PDF ISSN 2363-3417, QB-01-25-069-EN-N
HTML ISSN 2363-3417, QB-01-25-069-EN-Q