EUROPEAN CENTRAL BANK

EUROSYSTEM

Economic Bulletin

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Contents

Economic, financial and monetary developments

Overview

At its meeting on 11 September 2025, the Governing Council decided to keep the three key ECB interest rates unchanged. Inflation is currently at around the 2% medium-term target and the Governing Council's assessment of the inflation outlook is broadly unchanged.

The September 2025 ECB staff macroeconomic projections for the euro area present a picture of inflation similar to that projected in June. They see headline inflation averaging 2.1% in 2025, 1.7% in 2026 and 1.9% in 2027. For inflation excluding energy and food, they expect an average of 2.4% in 2025, 1.9% in 2026 and 1.8% in 2027. The economy is projected to grow by 1.2% in 2025, revised up from the 0.9% expected in June. The growth projection for 2026 is now slightly lower, at 1.0%, while the projection for 2027 is unchanged at 1.3%.

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 grew by 0.7% in cumulative terms over the first half of 2025, on account of the resilience in domestic demand. The quarterly pattern showed stronger growth in the first quarter and weaker growth in the second quarter, partly reflecting an initial frontloading of international trade ahead of expected tariff increases and then a reversal of that effect.

Survey indicators suggest that both manufacturing and services continue to grow, signalling some positive underlying momentum in the economy. Even if demand for labour is softening, the labour market remains a source of strength, with the unemployment rate at 6.2% in July 2025. Over time, this should boost consumer spending, especially if, as foreseen in the September 2025 projections, people save less of their income. Consumer spending and investment should benefit from the Governing Council's past interest rate cuts feeding through to financing conditions. Investment should also be underpinned by substantial government spending on infrastructure and defence.

Trade tariffs and related uncertainty contributed to strong fluctuations in economic activity during the first half of 2025, with frontloading of activity, especially in Ireland. The unwinding of these factors in the second half of the year is expected to entail further volatility, blurring signals of the underlying momentum of the euro area economy. In fact, looking through the volatility caused by the fluctuations in Irish data, economic growth in the rest of the euro area was more stable, and it is expected to remain so in the second half of the year. Although the new US-EU trade agreement implies higher tariffs on euro area exports to the United States, it has helped to reduce trade policy uncertainty. The overall impact of the change in the global policy environment will only become clear over time. Later in the horizon economic growth in the euro area is projected to strengthen, supported by several factors. Rising real wages and employment, together with new government spending on infrastructure and defence, mainly in Germany, should bolster euro area domestic demand. Furthermore, less restrictive financing conditions – mainly reflecting recent monetary policy decisions – and a rebound in foreign demand in 2027 are also seen to support the growth outlook.

Annual average real GDP growth is projected to be 1.2% in 2025, 1.0% in 2026 and 1.3% in 2027. Compared with the June 2025 projections, the outlook for GDP growth has been revised up by 0.3 percentage points for 2025, reflecting better than expected incoming data and a carry-over effect from revisions to historical data. As not all of the data surprises relate to stronger than previously assumed frontloading of activity, they are only seen to be partly offset in the second half of the year. The appreciation of the euro and weaker foreign demand (in part related to somewhat higher tariffs than assumed in the June projections) have resulted in a 0.1 percentage point downward revision for 2026. The projection for 2027 remains unchanged.

The Governing Council considers it crucial to urgently strengthen the euro area and its economy in the present geopolitical environment. Fiscal and structural policies should make the economy more productive, competitive and resilient. One year on from the release of Mario Draghi’s report on the future of European competitiveness, it remains essential to follow up on its recommendations with further concrete action and to accelerate implementation, in line with the European Commission’s roadmap. Governments should prioritise growth-enhancing structural reforms and strategic investment, while ensuring sustainable public finances. It is critical to complete the savings and investments union and the banking union, to an ambitious timetable, and to rapidly establish the legislative framework for the potential introduction of a digital euro.

Inflation

Annual inflation remains close to the Governing Council’s target, edging up to 2.1% in August 2025 from 2.0% in July. Energy price inflation was -1.9%, after -2.4% in July, while food price inflation declined to 3.2% from 3.3%. Inflation excluding energy and food stayed constant at 2.3%. Services inflation edged down to 3.1%, from 3.2% in July, while goods inflation was unchanged at 0.8%.

Indicators of underlying inflation remain consistent with the Governing Council's 2% medium-term target. Year-on-year growth in compensation per employee was 3.9% in the second quarter, down from 4.0% in the previous quarter and 4.8% in the second quarter of 2024. Forward-looking indicators, including the ECB's wage tracker and surveys on wage expectations, suggest that wage growth will moderate further. Along with productivity gains, this will help keep a lid on domestic price pressures, even as profits recover from low levels.

The new ECB staff projections present a picture of inflation similar to that projected in June. Headline inflation, as measured by the Harmonised Index of Consumer Prices (HICP), is projected to move sideways, at around 2%, for the rest of 2025, and then to drop to an average of 1.7% in 2026 before recovering to 1.9% in 2027. The drop in 2026 reflects a further gradual easing in the non-energy components, while energy inflation is expected to remain volatile, but to rise over the projection horizon, in part because of the start of the EU Emissions Trading System 2 in 2027. Food inflation is expected to remain elevated initially, as lagged effects from past price increases in international food commodities feed through, but to moderate to rates somewhat above 2% in 2026 and 2027.

HICP inflation excluding energy and food is expected to fall from 2.4% in 2025 to 1.9% in 2026 and 1.8% in 2027, as wage pressures recede and services inflation moderates, while the appreciation of the euro feeds through the pricing chain and curbs goods inflation. Lower wage growth, as past real wage losses have been recouped, coupled with a recovery in productivity growth, is expected to lead to significantly slower unit labour cost growth.

Compared with the June 2025 projections, the outlook for headline HICP inflation has been revised up by 0.1 percentage points for both 2025 and 2026. This is on account of higher energy commodity price outcomes and assumptions, as well as lagged effects from higher international food commodity prices, which more than offset the effects of the appreciation of the euro. For 2027, the lagged effects of the appreciation of the euro are seen to predominate, resulting in a 0.1 percentage point downward revision.

Most measures of longer-term inflation expectations continue to stand at around 2%, supporting the stabilisation of inflation around the Governing Council's target.

Risk assessment

Risks to economic growth have become more balanced. While recent trade agreements have reduced uncertainty, a renewed worsening of trade relations could further dampen exports and drag down investment and consumption. A deterioration in financial market sentiment could lead to tighter financing conditions, greater risk aversion and weaker growth. Geopolitical tensions, such as Russia's unjustified war against Ukraine and the tragic conflict in the Middle East, remain a major source of uncertainty. By contrast, higher than expected defence and infrastructure spending, together with productivity-enhancing reforms, would add to growth. An improvement in business confidence could stimulate private investment. Sentiment could also be

lifted and activity spurred if geopolitical tensions diminished, or if the remaining trade disputes were resolved faster than expected.

The outlook for inflation remains more uncertain than usual, as a result of the still volatile global trade policy environment. A stronger euro could bring inflation down further than expected. Moreover, inflation could turn out to be lower if higher tariffs lead to lower demand for euro area exports and induce countries with overcapacity to further increase their exports to the euro area. Trade tensions could lead to greater volatility and risk aversion in financial markets, which would weigh on domestic demand and would thereby also lower inflation. By contrast, inflation could turn out to be higher if a fragmentation of global supply chains pushed up import prices and added to capacity constraints in the domestic economy. A boost in defence and infrastructure spending could also raise inflation over the medium term. Extreme weather events, and the unfolding climate crisis more broadly, could drive up food prices by more than expected.

Financial and monetary conditions

Since the Governing Council's monetary policy meeting in July 2025 short-term market rates have increased, while longer-term rates have remained broadly unchanged. However, the Governing Council's past interest rate cuts continued to lower corporate borrowing costs in July. The average interest rate on new loans to firms moved down to 3.5% in July, from 3.6% in June. The cost of issuing market-based debt was unchanged, at 3.5%. Loans to firms grew by 2.8%, slightly more strongly than in June, while the growth of corporate bond issuance rose to 4.1% from 3.4%. The average interest rate on new mortgages was again unchanged at 3.3% in July, while growth in mortgage lending picked up to 2.4%, from 2.2%.

Monetary policy decisions

The interest rates on the deposit facility, the main refinancing operations and the marginal lending facility were kept 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 11 September 2025, the Governing Council decided to keep the three key ECB interest rates unchanged. 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. 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.

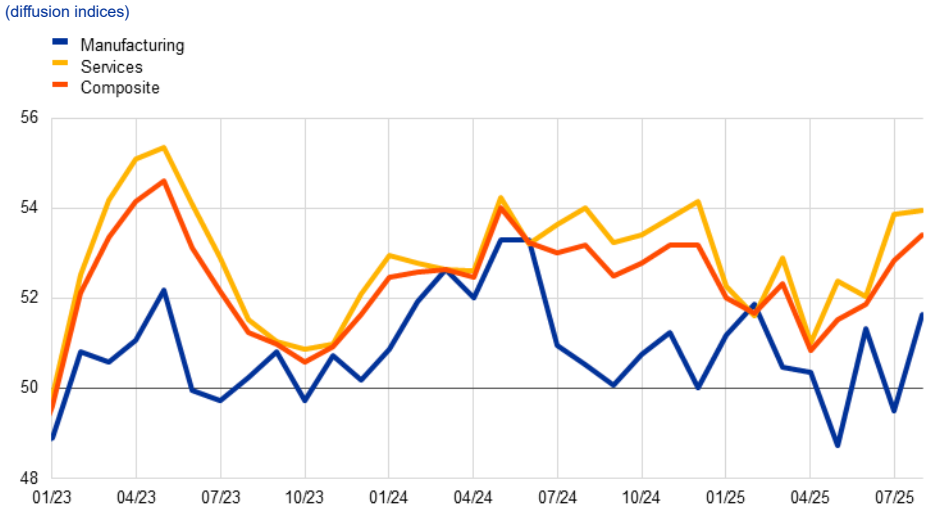
1 External environment

Global economic activity is expected to remain steady but subdued in the near term following stronger than expected growth in the first half of 2025 that is unlikely to be sustained. Global import growth is expected to decline, as the frontloading-related surge observed earlier in the year in anticipation of tariff increases is expected to fade away. Higher US tariffs and still elevated uncertainty are reshaping global trade flows and posing a risk to logistics, although global supply chain pressures appear to be contained so far. Disinflation seems to have paused in some advanced economies, with core goods inflation showing renewed momentum, particularly in the United States. Against this background, the September 2025 ECB staff macroeconomic projections for the euro area foresee a weaker global growth outlook going forward. Nevertheless, the slowdown in global activity is expected to be less steep than predicted in the June 2025 Eurosystem staff macroeconomic projections, reflecting positive data surprises, while fiscal expansion in the United States, receding trade policy uncertainty and easing global financial conditions are expected to cushion the impact of newly announced tariffs. Globally, headline consumer price index (CPI) inflation is expected to moderate over the projection horizon, notwithstanding the projected pick-up in headline CPI inflation in the United States in 2026 on account of tariffs, fiscal expansion and the depreciation of the US dollar.

Global growth (excluding the euro area) is expected to remain subdued but steady over the near term. Global GDP grew by 0.9% quarter-on-quarter in the second quarter, up from 0.7% in the first quarter. While activity surprised on the upside in major economies, such as the United States and China, it reflected large swings in net exports and inventories rather than underlying strength in the global economy. These frontloading-related distortions – due to precautionary behaviour by firms and consumers ahead of tariffs – are expected to fade gradually, meaning their temporary boost to activity is unlikely to be sustained into the second half of the year. Recent data support this assessment, with the ECB staff nowcasting model pointing to weaker real GDP growth in the third quarter. The global composite output Purchasing Managers' Index (PMI) improved in August, supported by the manufacturing sector rebounding out of contraction territory to 51.6, while services output remained broadly stable at 54.0 (Chart 1).

Chart 1

Global output PMI (excluding the euro area)



Sources: S&P Global Market Intelligence and ECB staff calculations.
Note: The latest observations are for August 2025.

The global growth outlook is expected to weaken, although less sharply than envisaged in the June 2025 Eurosystem staff macroeconomic projections. Global growth is projected to slow over the projection horizon, drifting below its pre-pandemic average (3.6%), as tariffs and policy uncertainty weigh on consumption and erode investment prospects. According to the September 2025 ECB staff macroeconomic projections, global real GDP is projected to grow at 3.3% in 2025 (down from 3.6% in 2024), with growth decreasing further to 3.1% in 2026 before recovering modestly to 3.3% in 2027.[1] While real GDP growth surprised on the upside in the second quarter of 2025 across major economies (e.g. in the United States, China and the United Kingdom), recent economic data point to a slowdown in activity in the second half of the year, notably amid weakening labour demand in the United States and decelerating retail sales and investment in China. Risks surrounding the global outlook remain tilted to the downside, as a re-escalation of the trade war could dampen activity. In addition, fiscal sustainability concerns in large advanced economies may trigger excessive financial market volatility and negative spillovers globally. On the upside, successful trade negotiations – particularly between the United States and China – could avert a major escalation of tariffs and help reduce global policy uncertainty.

Global trade dynamics are expected to weaken amid higher tariffs and persistent trade policy uncertainty, the apparent resilience in the first half of 2025 notwithstanding. Global trade slowed in the second quarter and is expected to soften further, offsetting the surge observed in the first quarter. The ECB trade tracker, which is based on incoming high-frequency indicators, points to subdued trade dynamics in the third quarter with the momentum still negative in July and August. According to the September 2025 ECB staff macroeconomic projections, global import growth is expected to decline significantly from 4.2% in 2024 to 2.8% in

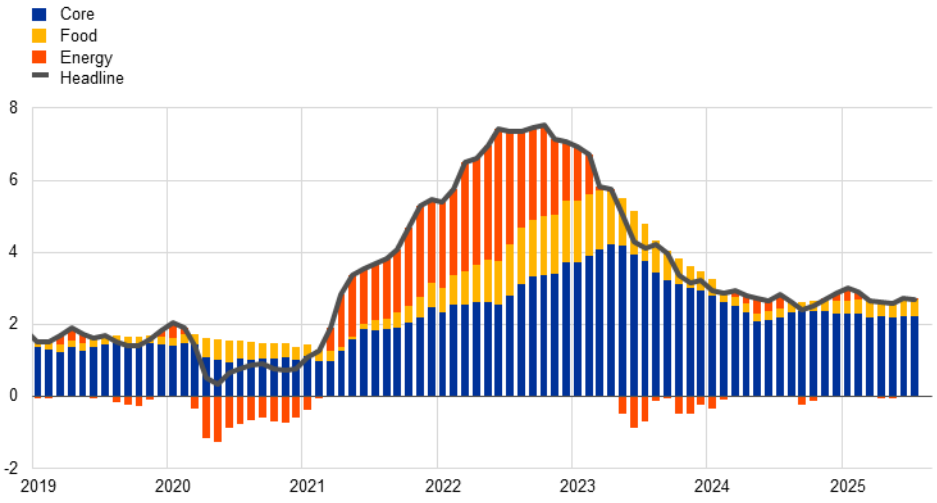
1 For further details, see "ECB staff macroeconomic projections for the euro area, September 2025", published on the ECB's website on 11 September 2025.

2025 and 1.5% in 2026, before recovering to 3.1% in 2027. The sharp slowdown going forward reflects the unwinding of earlier frontloading, the impact of tariffs and elevated trade policy uncertainty, which dampens investment, leading to a less trade-intensive composition of global demand. As US imports are expected to rebound after contracting in 2026, global trade is expected to recover somewhat in 2027, although at a slower pace than global real GDP growth. Compared with the June 2025 Eurosystem staff macroeconomic projections, global import growth has been revised down, largely due to newly implemented tariffs compounded by a downward reassessment of the import intensity of growth in China. Finally, while tariffs can pose challenges for logistics, broad-based global supply chain pressures are currently contained. Some signs of strain are visible in sectors such as aluminium, steel and textiles, but these remain far more muted than the disruptions observed during the post-pandemic period.

Headline inflation across Organisation for Economic Co-operation and Development (OECD) members remained above 2% and core inflation increased slightly in July. Excluding Türkiye, annual CPI inflation across the OECD remained stable at 2.7% in July (Chart 2). While both energy and food price inflation receded in July (by 0.6 percentage points compared with June to 0.2% for energy, and by 0.1 percentage points to 3.4% for food), core inflation increased slightly to 3.1%, up from 3.0% in both May and June. Looking forward, PMI surveys on input and output prices are signalling a slight acceleration over the near term in advanced economies, mostly driven by developments in the United States.

Chart 2
OECD CPI inflation

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



Sources: OECD and ECB staff calculations.
Notes: The OECD aggregate excludes Türkiye and is calculated using OECD CPI annual weights. The latest observations are for July 2025.

Annual headline CPI inflation across a broad group of advanced economies and emerging markets is projected to moderate further over the projection horizon, notwithstanding inflationary pressures in the United States. Compared with the June 2025 Eurosystem staff macroeconomic projections, inflation has been

revised downwards slightly for 2025 across large economies, such as the United States, China and India, owing to lower than expected data outturns in the second quarter. By contrast, inflation projections across a broad group of advanced economies and emerging markets have been revised upwards for 2026, as higher tariffs and fiscal expansion are projected to intensify inflationary pressures in the United States. This also partly reflects a delayed pass-through of tariffs, since duties primarily affected goods located upstream in supply chains and earlier frontloading allowed firms to build up inventories of tariffed goods. Globally, the upward revision of US headline CPI inflation in 2026 is partly offset by downward revisions across emerging market economies, reflecting in particular the weaker-than-expected inflation momentum in China and India. According to the September 2025 ECB staff macroeconomic projections, a global composite of headline CPI inflation across advanced and emerging economies is projected to moderate from 4.0% in 2024 to 3.2% in 2025, before easing further to 2.9% in 2026 and 2.5% in 2027.[2]

Oil prices increased owing to geopolitical tensions in the Middle East, while gas prices declined following peace talks between Russia and Ukraine. Oil prices rose by 1.4% over the review period (5 June to 10 September), driven by a sharp increase following Israeli and US military strikes on Iran in mid-June. The initial rise was, however, partly reversed, as the risk of further escalation subsided. Additional downward pressure came from two successive OPEC+ decisions to raise output, completing the unwinding of the 2.2 million barrels per day production cuts introduced by the cartel in November 2023 at a pace that has surprised markets. European gas prices initially came under pressure from abundant liquified natural gas supply and subdued domestic demand, which kept gas storage on track to reach adequate levels ahead of next winter. Prices fell further following the resumption of peace talks between Russia and Ukraine, reaching their lowest level in more than a year and declining by 14.6% over the review period. Metal prices increased by 1%, led by copper as markets anticipated the implementation of US tariffs on that commodity. However, initial gains were later partially reversed after the United States unexpectedly excluded refined copper from the measures, restricting its tariffs to semi-finished products. Food prices declined by 7.7%, mainly due to a drop in cocoa prices, which experienced volatile movements over the period owing to weather-related factors.

In the United States, core GDP components (private consumption and investment) decelerated in the first half of 2025, while inflation picked up partly due to tariffs. While real GDP growth rebounded to 0.7% quarter-on-quarter in the second quarter (after a 0.1% contraction in GDP in the previous quarter), it was driven by a strong net trade contribution and falling inventories largely offsetting earlier tariff-related trade dynamics. By contrast, real final sales to private domestic purchasers (excluding government expenditure, net trade and inventories) continued to decelerate in the second quarter. Activity is expected to moderate in the second half of the year as tariffs, weak confidence and slowing real disposable income growth weigh on consumption and investment. This is consistent with signs of

[2] ECB 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.

weakening labour demand as non-farm payrolls surprised on the downside in July and August, with sizeable downward revisions for previous months as well. On the nominal side, headline personal consumption expenditure (PCE) inflation remained unchanged at 2.6% in July, while core PCE inflation increased to 2.8% (up 0.1 percentage points compared with the previous month) amid signs that tariffs are starting to feed through to core goods prices, especially in categories closely linked to tariffed imports (e.g. household furnishings, recreation goods). While US producers and retailers may currently be absorbing most of the tariff increases – with high corporate profits and pre-emptive inventory accumulation acting as temporary buffers – the pass-through of higher tariffs to consumer prices is expected to increase over time. Against this background, and with inflationary pressures triggered by US fiscal expansion and US dollar depreciation, the September 2025 ECB staff macroeconomic projections foresee headline CPI inflation rising to 3.3% in 2026, markedly up from 2.8% in 2025. In his Jackson Hole speech on 22 August, Federal Reserve Chair Jerome Powell acknowledged that "downside risks to employment are rising" and noted that the balance of risks may warrant policy adjustment.

In China, export growth remained resilient, while domestic demand weakened further. The economy stayed broadly robust in the first half of 2025 amid strong export growth, but momentum slowed in the third quarter as July data on retail sales, industrial production and fixed asset investment all surprised on the downside. Beyond policy-supported sectors, domestic demand remains weak with a persistently soft housing market and subdued consumer spending outside of subsidised goods. Exports, however, continued to perform strongly in July and should remain resilient in the near term, supported by the extension of the US-China tariff pause to November. Inflationary pressures remained muted in July, with consumer prices flat at 0.0% year-on-year (down 0.1 percentage points from the previous month) and producer prices deeply in negative territory at -3.6% year-on-year (unchanged from the previous month). In response, authorities stepped up the "anti-involution" campaign in mid-2025, introducing stronger measures to curb predatory price competition and excess capacity, especially in green sectors, such as solar, batteries and electric vehicles. However, it remains unclear whether these initiatives will be sufficient to materially ease deflationary pressures going forward.

In the United Kingdom, real GDP growth moderated in the second quarter while inflation continued to increase. Output grew by 0.3% quarter-on-quarter in the second quarter, surprising on the upside but slowing from the first quarter when activity had been strongly supported by the frontloading of demand ahead of tariffs and tax measures. Looking ahead, activity is expected to remain moderate in the near term amid global headwinds and uncertainty surrounding the Autumn Budget, with anticipated tax increases likely to weigh on confidence. Annual headline inflation rose further to 3.8% in July (up 0.2 percentage points from the previous month), driven by persistent services inflation, with transport – especially volatile air fares – being the largest contributor. Inflation is projected to peak in the third quarter on account of regulated energy price changes, before gradually easing towards target. Against this backdrop, the Bank of England lowered its Bank Rate by 25 basis points to 4% in August.

2 Economic activity

Tariffs and related uncertainty contributed to strong fluctuations in economic activity during the first half of 2025, with frontloading of activity, especially in Ireland. Following the strong first-quarter outcome of 0.6%, real GDP growth slowed in the second quarter, edging up by 0.1%, quarter on quarter. Employment rose by 0.1% in the second quarter, at the same rate as GDP. From a sectoral perspective, the services sector was the main contributor to growth in the second quarter, growing at a similar pace to the first quarter. Meanwhile, growth in industry slowed vis-à-vis the first quarter as frontloading effects unwound, tariffs increased and geopolitical and trade policy uncertainty remained elevated. Survey data are sending somewhat mixed signals, but overall point to a continued modest expansion in activity in the third quarter of 2025. While uncertainty declined after the US-EU trade deal, it remains elevated by historical standards; this, combined with higher tariffs, the appreciation of the euro and increased global competition, is weighing on the short-term outlook, especially for the manufacturing sector. At the same time, growth in services is expected to remain the main driver of growth as consumers signal continued spending on services. While the labour market has softened over recent months, it remains a source of strength. Looking ahead, increased consumer spending, especially if people save less of their income, together with new government spending on infrastructure and defence, should bolster domestic demand in the euro area. Furthermore, less restrictive financing conditions – mainly reflecting recent monetary policy decisions – should also support a gradual recovery.

This outlook is reflected in the baseline scenario of the September 2025 ECB staff macroeconomic projections for the euro area*, which foresee annual real GDP growth of 1.2% in 2025, 1.0% in 2026 and 1.3% in 2027. Compared with the June 2025 Eurosystem staff macroeconomic projections, the outlook for GDP growth has been revised up for 2025 by 0.3 percentage points, reflecting better than expected incoming data and a carry-over effect from revisions to historical data. In addition, the appreciation of the euro and weaker foreign demand have led to a small downward revision of 0.1 percentage points to GDP growth for 2026, while the outlook for 2027 remained unchanged.*

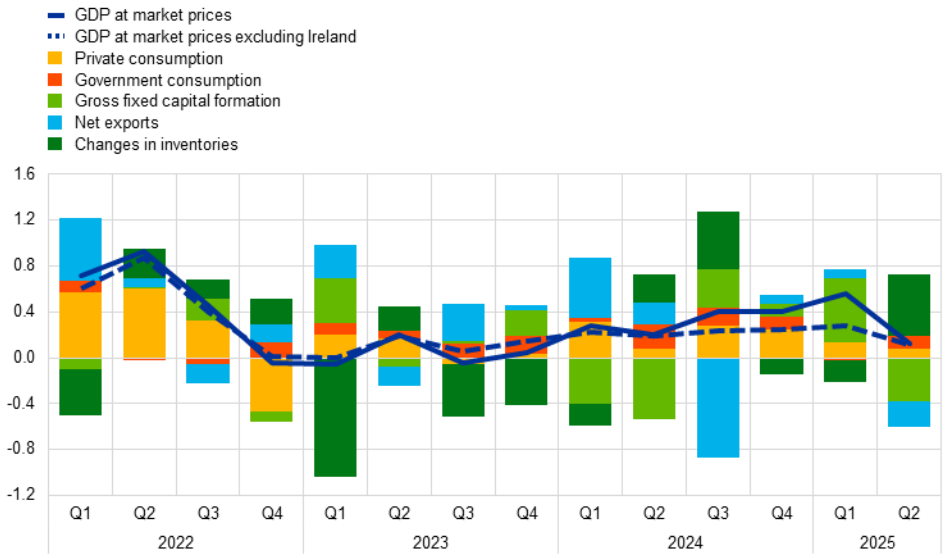
Real GDP growth slowed in the second quarter of 2025 amid persistent geopolitical and trade policy uncertainty (Chart 3). Following the strong first-quarter outcome, which was partly driven by firms frontloading exports ahead of the expected tariff hikes, GDP growth slowed in the second quarter, edging up by 0.1%, quarter on quarter, reflecting the unwinding of these effects (see Box 3 on how frontloading and uncertainty shaped recent developments). Despite higher volatility in the past two quarters (largely related to the impact from Irish data), the latest outcome marks the seventh consecutive quarter of positive growth in the euro area. The moderate expansion in euro area real GDP in the second quarter was supported by private and public consumption as well as changes in inventories. At the same time, exports and investment contracted – the latter on the back of a relatively large drop in non-construction investment, driven by developments in Irish intellectual property products. As imports displayed zero growth, net trade contributed negatively to growth in the second quarter. From a sectoral perspective, the services sector

was the main contributor to growth, expanding at a similar pace to the first quarter. Meanwhile, growth in industry slowed vis-à-vis the first quarter, reflecting the unwinding of frontloading effects and tariff increases. Furthermore, value added in construction fell, amply offsetting the strong rise seen in the first quarter.

Chart 3

Euro area real GDP and its components

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

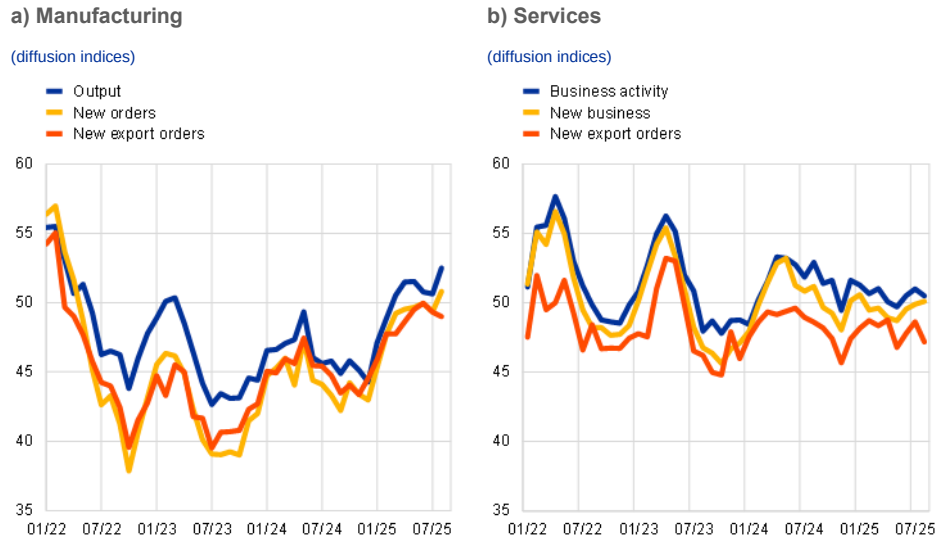


Sources: Eurostat and ECB calculations.
Note: The latest observations are for the second quarter of 2025.

Survey data are sending somewhat mixed signals, but overall point to a continued modest expansion in activity in the third quarter of 2025. The still elevated level of uncertainty, higher tariffs and the appreciation of the euro are weighing on the short-term outlook. The composite output Purchasing Managers' Index (PMI) rose to 51.0 on average in July and August (from 50.4 in the second quarter), indicating slow growth at around the same rate as in the second quarter. While growth in services is assessed to have slowed, it is still expected to be the main driver of growth, chiefly reflecting its larger size compared with the industrial sector. Meanwhile, activity in the manufacturing sector, which was more dynamic at the beginning of the year owing to the frontloading of exports in advance of higher tariffs, is expected to be more muted in the near term – although the latest readings show some improvement (Chart 4). The PMI for new orders portrays a similar picture, with overall slow dynamics. However, this indicator, which is more forward looking by nature, shows a somewhat more subdued improvement going into the fourth quarter of the year.

Chart 4

PMI indicators across sectors of the economy



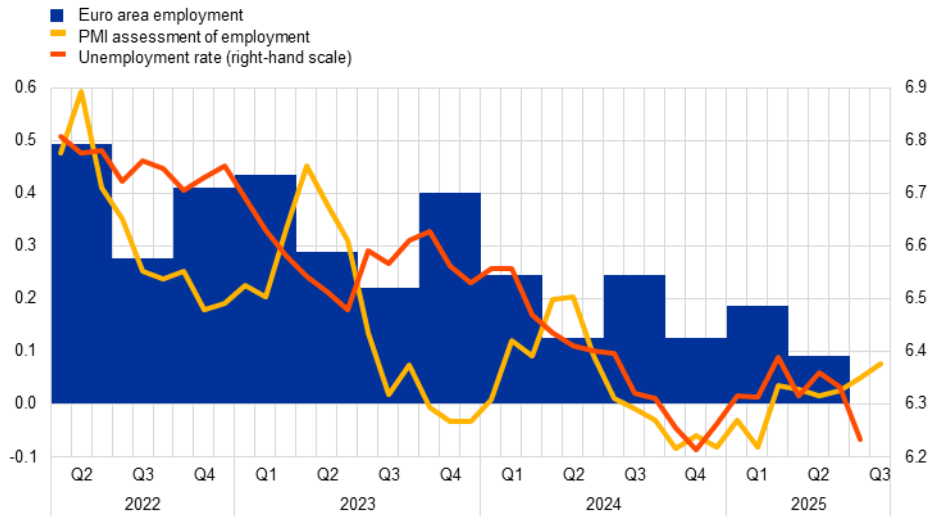
Source: S&P Global Market Intelligence.
Note: The latest observations are for August 2025.

Employment increased by 0.1% in the second quarter of 2025. After rising by 0.2% in the first quarter of 2025, employment growth slowed in the second quarter of the year, standing at 0.1% (Chart 5). This expansion masks diverging trends across the euro area. Among the largest euro area economies, employment growth was mainly driven by Spain while it was largely unchanged or slightly negative in Germany, France and Italy. At the same time, the euro area unemployment rate fell to 6.2% in July, remaining broadly stable at this level since mid-2024. Labour demand declined further, with the job vacancy rate falling to 2.3% in the second quarter, the same level seen in the fourth quarter of 2019.

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 the quarter-on-quarter employment growth. The latest observations are for the second quarter of 2025 for euro area employment, August 2025 for the PMI assessment of employment and July 2025 for the unemployment rate.

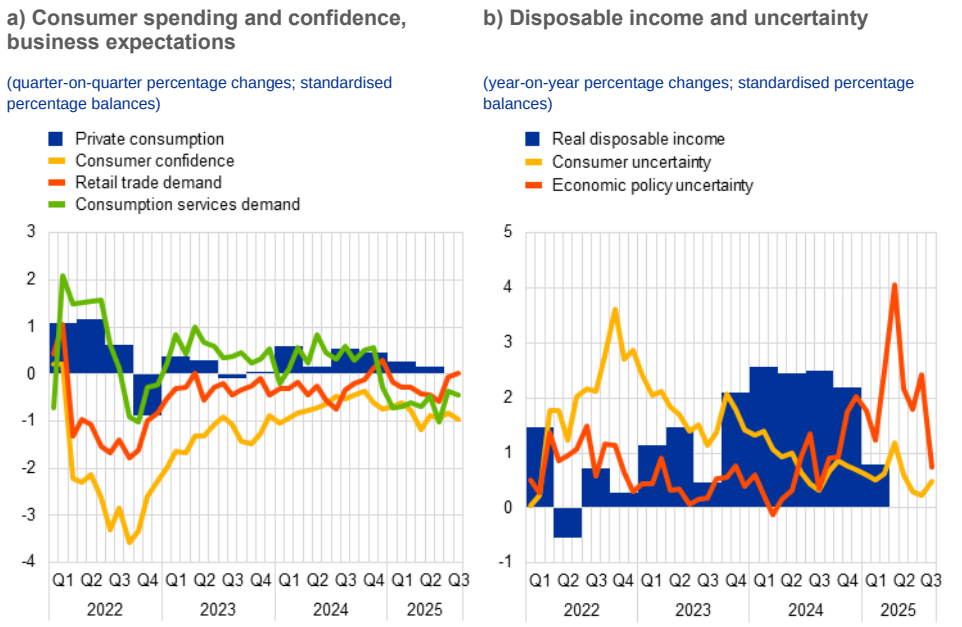
Short-term labour market indicators point to modest employment growth in the third quarter. The monthly composite PMI employment indicator increased from 50.5 in July to 50.8 in August, suggesting modest employment growth in the third quarter. The PMI employment indicator for services rose from 50.9 in July to 51.2 in August, while the PMI employment indicator for manufacturing edged down from 49.5 to 49.4.

Private consumption growth moderated in the second quarter of 2025, with survey data pointing to some improvement in spending momentum in the third quarter. Private consumption expanded by 0.1%, quarter on quarter, in the second quarter of 2025 (Chart 6, panel a), after increasing by 0.3% in the first quarter of the year. Household spending on services continued to increase, but goods consumption stagnated, as spending on non-durable goods dropped. Incoming data point to improving momentum in household spending growth in the near term, with sectoral differences persisting. While the European Commission's consumer confidence indicator remains subdued following a downtick in August, its average level for July and August is higher than in the second quarter. Retail trade fell in July. However, the European Commission's indicators of business expectations for demand in retail trade and in consumption-weighted services have improved notably since the second quarter (Chart 6, panel a), as activity in consumer services recovered (see Box 3). Consistent with the improvement in consumer expectations for major purchases in the next 12 months seen in July and August, the ECB's latest Consumer Expectations Survey also indicates that expectations for holiday-related purchases remain strong. Looking ahead, consumption growth should continue to benefit from past purchasing power gains, amid more favourable financing conditions and a notable easing in households' uncertainty about their financial situation after

the peak in late 2022 (Chart 6, panel b). However, despite the improvement in August, the still elevated broader economic policy uncertainty in relation to global developments, particularly the recent trade tensions, is likely to continue to weigh on consumption growth as households adjust their spending habits by reducing overall spending or switching away from US products (see Box 2).

Chart 6

Household consumption and confidence, business expectations; disposable income and uncertainty



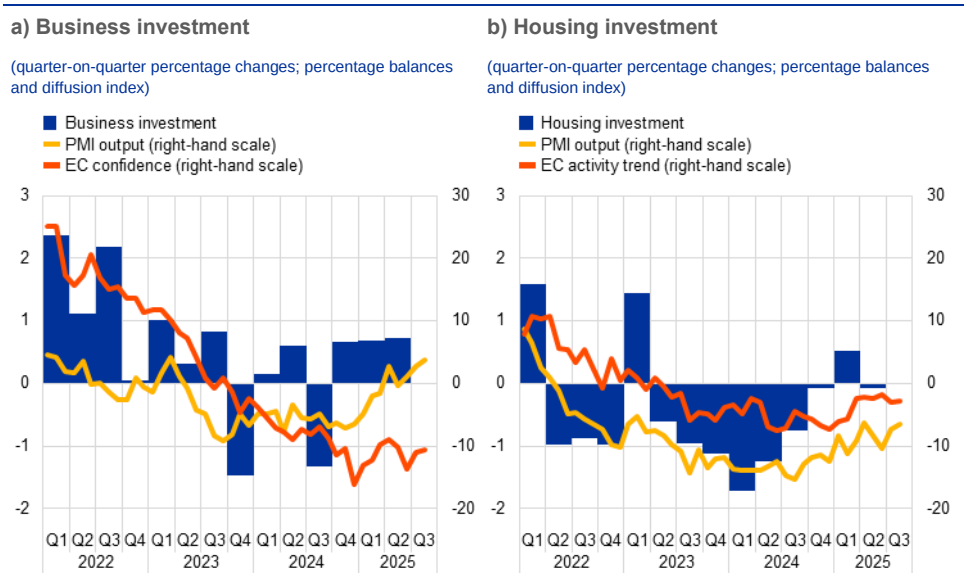
Sources: Eurostat, European Commission and ECB calculations.
Notes: Business expectations for demand in retail trade (excluding motor vehicles) and for demand in consumption-weighted services refer to the next three months. "Consumption services demand" is based on the expected sectoral demand indicators 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, consumer uncertainty and economic policy uncertainty are standardised for the period from April 2019 to August 2025 with respect to their averages for 2019, owing to data availability, while all other series are standardised for the period from 1999 to 2019. The economic policy uncertainty indicator is the GDP-weighted average of the standardised country series for Germany, France, Italy and Spain. The latest observations are for the second quarter of 2025 for private consumption, the first quarter of 2025 for real disposable income and August 2025 for all other items.

Business investment grew robustly in the second quarter of 2025 but is expected to slow in the second half of the year. Following growth of 0.7%, quarter on quarter, in both the first and the second quarter of 2025, euro area non-construction investment (excluding Irish intangibles) is expected to be muted in the coming quarters. Capital goods surveys available up to August are somewhat mixed, with PMI output moving further above 50, yet the European Commission's sentiment index points to weak activity. While domestic demand is supportive, other drivers of investment confirm the short-term weakness. For instance, uncertainty has remained elevated despite declining somewhat after the US-EU trade deal at the end of July and the non-financial corporate gross operating surplus rose modestly in the first quarter after seeing negative rates last year. In addition to higher tariffs, earnings calls reveal some possible adverse impact of the euro's appreciation on firms' profits. These factors could dampen investment depending on how firms hedge against currency risk, diversify activity and adjust their margins. In this context, euro area bankruptcies rose further in the second quarter of 2025, standing about 25% above

their 2019 level. This reflects both a necessary market adjustment in a period of structural change – as business registrations also grew to levels considerably above pre-pandemic levels – and weaker economic conditions. Beyond the short term, higher demand and spillovers from rising defence spending are seen to spur investment.

Chart 7

Real investment dynamics and survey data



Sources: Eurostat, European Commission (EC), 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. 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 compared with the preceding three months. The line for PMI output refers to housing activity. The latest observations are for the second quarter of 2025 for investment and August 2025 for all other items.

Housing investment declined slightly in the second quarter of 2025. Housing investment contracted by 0.1%, quarter on quarter, in the second quarter of 2025, following an expansion of 0.5% in the first quarter. Meanwhile, building construction production and specialised construction activities grew by 1.3% on average, compared with an increase of 0.6% in the first quarter. Looking ahead, survey-based activity indicators are presenting mixed signals about the short-term outlook for housing investment. The European Commission's trend indicator for building construction output and specialised construction activities edged down slightly on average in July and August, whereas the PMI for residential construction output registered a notable improvement (Chart 7, panel b). Although both indicators remained in negative growth territory, housing investment is expected to recover moderately in the near term. This outlook is supported by a continued rise in building permits for residential buildings, which increased by 1.1% on average in April and May compared with their first-quarter average, following gains in the previous two quarters. Even though permits are still at relatively low levels, the sustained upward trend signals strengthening demand for new residential buildings, which is expected to underpin the momentum of housing investment going forward.

The surge in euro area exports stemming from frontloading was partly reversed in the second quarter of 2025 and exports have likely been subdued over the summer. Exports of goods and services declined by 0.5% in the second quarter of 2025. Similar to the increase in the first quarter, about half of the fall in goods exports was related to pharmaceutical products, mainly from Ireland. Survey indicators point to subdued exports over the summer. While the US-EU agreement has reduced some of the trade policy uncertainty by setting a ceiling on the US import tariff at 15% for most EU goods exports, the appreciation of the euro will weigh on exports further ahead. On the imports side, volumes of goods and services remained anaemic overall in the second quarter of 2025 (+0.0%), with rising imports from the United States and China offsetting weaker imports from the rest of the world.

Compared with the June 2025 Eurosystem staff macroeconomic projections, the outlook for GDP growth has been revised up for 2025. This partly reflects better than expected incoming data. At the same time, the growth outlook for 2026 has been revised down slightly owing to the decline in competitiveness stemming from the appreciation of the euro and weaker foreign demand. Annual average real GDP growth is now expected to be 1.2% in 2025, 1.0% in 2026 and 1.3% in 2027. Tariffs and related uncertainty contributed to fluctuations in economic activity during the first half of the year and are expected to limit growth in the short term. However, as exporters adapt to the new US-EU trade agreement and trade policy uncertainty lessens, growth is likely to recover. Looking ahead, rising real wages and employment as well as new government spending on infrastructure and defence should bolster euro area domestic demand. Less restrictive financing conditions – mainly reflecting recent monetary policy decisions – and the expected rebound in foreign demand later in the horizon should also support economic activity.

3 Prices and costs

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. According to Eurostat's flash estimate, it edged up to 2.1% in August 2025, from 2.0% in July.[3] *This increase was mainly driven by a rise in energy inflation, which more than offset a decline in food inflation. HIPC inflation excluding energy and food (HICPX) was unchanged, reflecting a decline in services inflation and stable non-energy industrial goods (NEIG) inflation. Measures of underlying inflation remain consistent with the ECB's 2% medium-term target. Wage growth continues to moderate, with year-on-year growth in compensation per employee declining to 3.9% in the second quarter of 2025, down from 4.0% in the previous quarter and 4.8% in the second quarter of last year, as well as from 5.7% in the second quarter two years ago. Most measures of longer-term inflation expectations continue to stand at around 2%, supporting the stabilisation of inflation around the ECB's target.*

The September 2025 ECB staff macroeconomic projections for the euro area show a picture of inflation similar to that projected in June 2025 and foresee headline inflation averaging 2.1% in 2025, 1.7% in 2026 and 1.9% in 2027.[4]

According to Eurostat's flash estimate, euro area HICP inflation increased to 2.1% in August 2025, up from 2.0% in July (Chart 8).[5] This increase resulted from a rise in the annual rate of change of energy prices, to -1.9% in August from -2.4% in July, that was mainly driven by upward base effects, i.e. annual energy inflation increased, while, month on month, energy prices declined. Although a detailed breakdown for August is not yet available, July's data show an increase in the annual rates of electricity and transportation fuel prices, albeit with the latter remaining in negative territory; whereas gas prices decreased. Food inflation edged downwards, to 3.2% in August from 3.3% in July, driven by a decline in the year-on-year growth rate of processed food prices, to 2.6% from 2.7%, which was not fully offset by the increase in unprocessed food inflation, to 5.5% from 5.4%. For the fourth consecutive month, HICPX inflation remained unchanged at 2.3% in August, driven by the unchanged rate of NEIG inflation, at 0.8%, despite a slight decline in services inflation to 3.1% from 3.2%. Services inflation has been on a downward path over recent months. Following the July decomposition, the decrease in services inflation was primarily driven by a decline in recreational services inflation, notably for accommodation, package holidays and restaurant services.

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3 The cut-off date for data included in this issue of the Economic Bulletin was 10 September 2025. On 17 September 2025, Eurostat confirmed that the annual HICP inflation rate for August was 2.0%, revising its flash estimate downwards by 0.1 percentage points, from 2.1%.

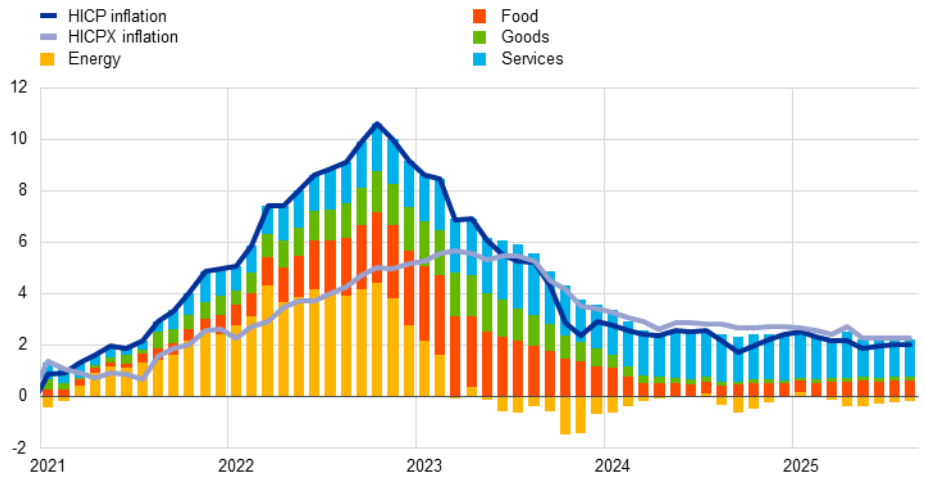
4 See "ECB staff macroeconomic projections for the euro area, September 2025", published on the ECB's website on 11 September 2025.

5 See footnote 1 for further information on the revision of the HICP inflation rate for August following the full HICP data release published on 17 September 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. The latest observations are for August 2025 (Eurostat's flash estimate).

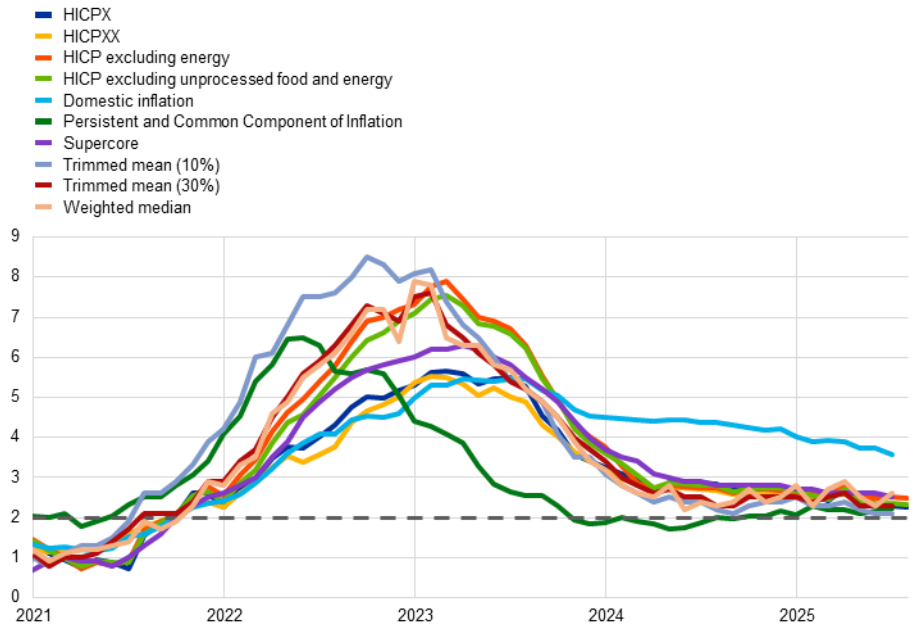
Most underlying inflation indicators were broadly unchanged in July and August 2025. In July, the range of the measures of underlying inflation remained relatively stable between 2.1% and 2.6%.[6] Almost all exclusion-based measures, including HICPX inflation excluding travel-related services items, clothing and footwear (HICPXX) and the 10% and 30% trimmed means, were unchanged in July, at a rate of 2.5%, 2.1% and 2.3%, respectively. The exceptions were the weighted median indicator, which increased to 2.6% in July from 2.3% in June, and domestic inflation, which declined slightly to 3.6% from 3.7% in the same period, consistent with the recent moderation in services inflation. As for the model-based measures, the Persistent and Common Component of Inflation rose slightly to 2.2% in July, from 2.1% in June, and the Supercore indicator (which comprises HICP items sensitive to the business cycle) edged downwards to 2.5% in July after remaining at 2.6% for four months in a row. Most exclusion-based measures available for August remained broadly stable.

[6] July 2025 is the latest month for which all indicators are available. The range excludes domestic inflation.

Chart 9

Indicators of underlying inflation

(annual percentage changes)



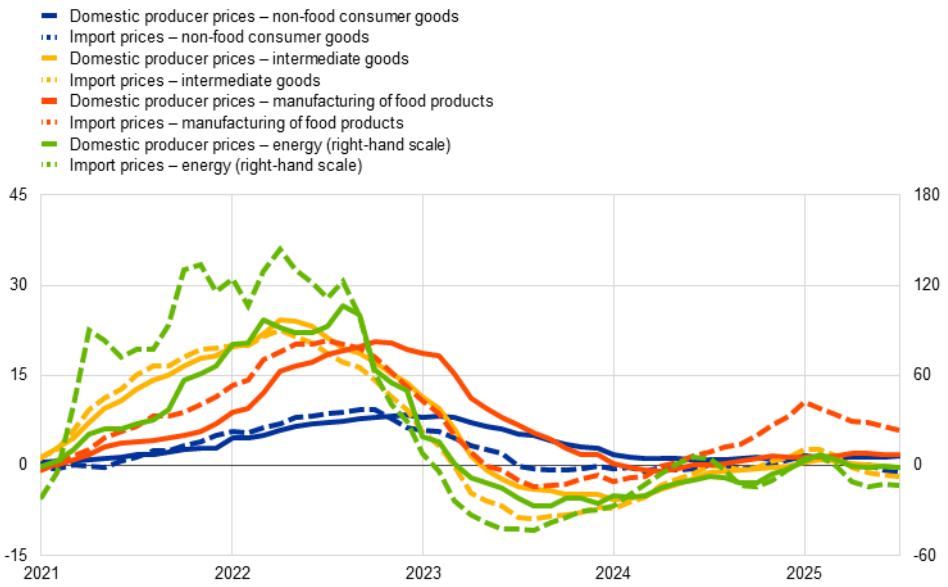
Sources: Eurostat and ECB calculations.
Notes: The grey dashed line represents the ECB's inflation target of 2% over the medium term. The latest observations are for August 2025 (Eurostat's flash estimate) for the HICPX, the HICP excluding energy, and the HICP excluding unprocessed food and energy, and for July 2025 for all other indicators.

Most measures of pipeline pressures indicate that the gradual easing at the initial stages of the pricing chain is continuing, whereas conditions at the later stages remain largely unchanged (Chart 10). At the early stages of the pricing chain, producer price inflation for energy decreased to -1.2% in July 2025 from 0.0% in June, well below its peak of 7.8% in February. The annual growth rate of producer prices for domestic sales of intermediate goods continued its downward path since February, edging down to -0.3% in July from -0.1% in June. At the later stages of the pricing chain, domestic producer price inflation for non-food consumer goods increased slightly to 1.6% in July from 1.5% in June, whereas producer prices for the manufacturing of food products were unchanged at 1.9% in July. Import price inflation for manufactured food also continued to decline from its peak at 10.6% in January, dropping to 5.9% in July from 6.6% in June. For intermediate goods, the annual growth rate of import prices remained in negative territory and decreased to -1.8% in July, down from -1.5% in June. Similarly for energy, the annual growth rate of import prices declined to -13.1%, from -12.7% in the same period. Overall, import price inflation has fallen significantly below its peaks earlier this year, signalling a drop in inflationary pressures originating from an easing in foreign supply chain pressures, as well as reflecting the appreciation of the euro.

Chart 10

Indicators of pipeline pressures

(annual percentage changes)



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

Domestic cost pressures, as measured by growth in the GDP deflator, rose to 2.5% in the second quarter of 2025, up from 2.3% in the first quarter (Chart 11). The increase in the annual growth rate of the GDP deflator reflects a higher contribution from unit profits, which outweighed the smaller contribution from unit labour costs and unit net taxes. The slight moderation in unit labour costs reflects a decline in compensation per employee growth, for which the year-on-year growth rate decreased to 3.9% in the second quarter of 2025, down from 4.0% in the previous quarter. At the same time, this decline indicates a drop in the annual growth rate of the wage drift (to -0.3% in the second quarter of 2025, down from 1.2% in the previous quarter), which was partially offset by an increase in the growth rate of negotiated wages (to 4.0%, up from 2.5%, in the same period). This increase reflects a low growth rate of negotiated wages in the first quarter of 2025, which was partly driven by negative base effects stemming from large-one off payments made in the first quarter of 2024 that were no longer a factor in 2025. Looking ahead, the ECB's wage tracker, which incorporates data on wage agreements negotiated up to the end of August 2025, suggests that wage growth pressures will ease in the second half of 2025 and stabilise in the first half of 2026.[7] This further moderation is expected to reflect the normalisation of wage negotiations following a period of high wage demands to successfully (albeit only gradually) restore workers' purchasing power relative to the fourth quarter of 2021. The September 2025 ECB staff macroeconomic projections for the euro area expect growth in compensation per

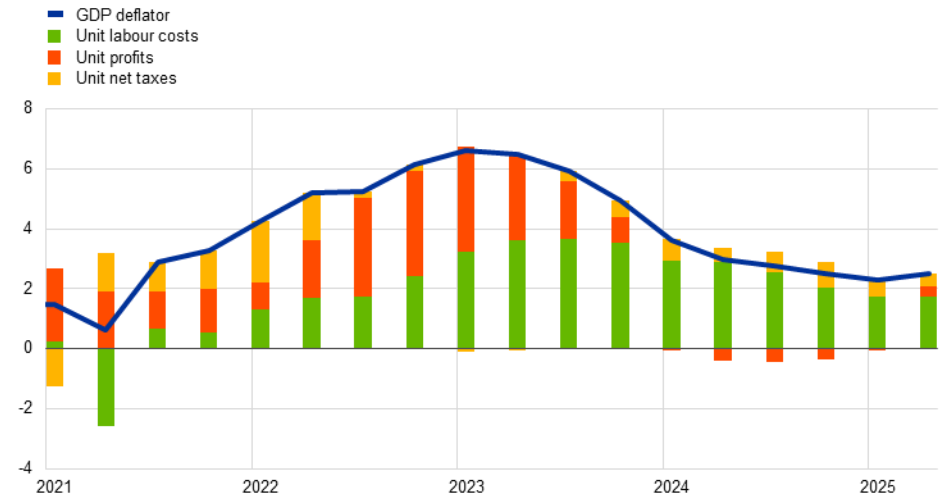
[7] For further details, see the press release entitled "New data release: Early signals from ECB wage tracker suggest lower and more stable wage pressures in first half of 2026", published on the ECB's website on 17 September 2025.

employee to stand at 3.4%, on average, for 2025 and to continue moderating to 2.7% in 2026.

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 second quarter of 2025.

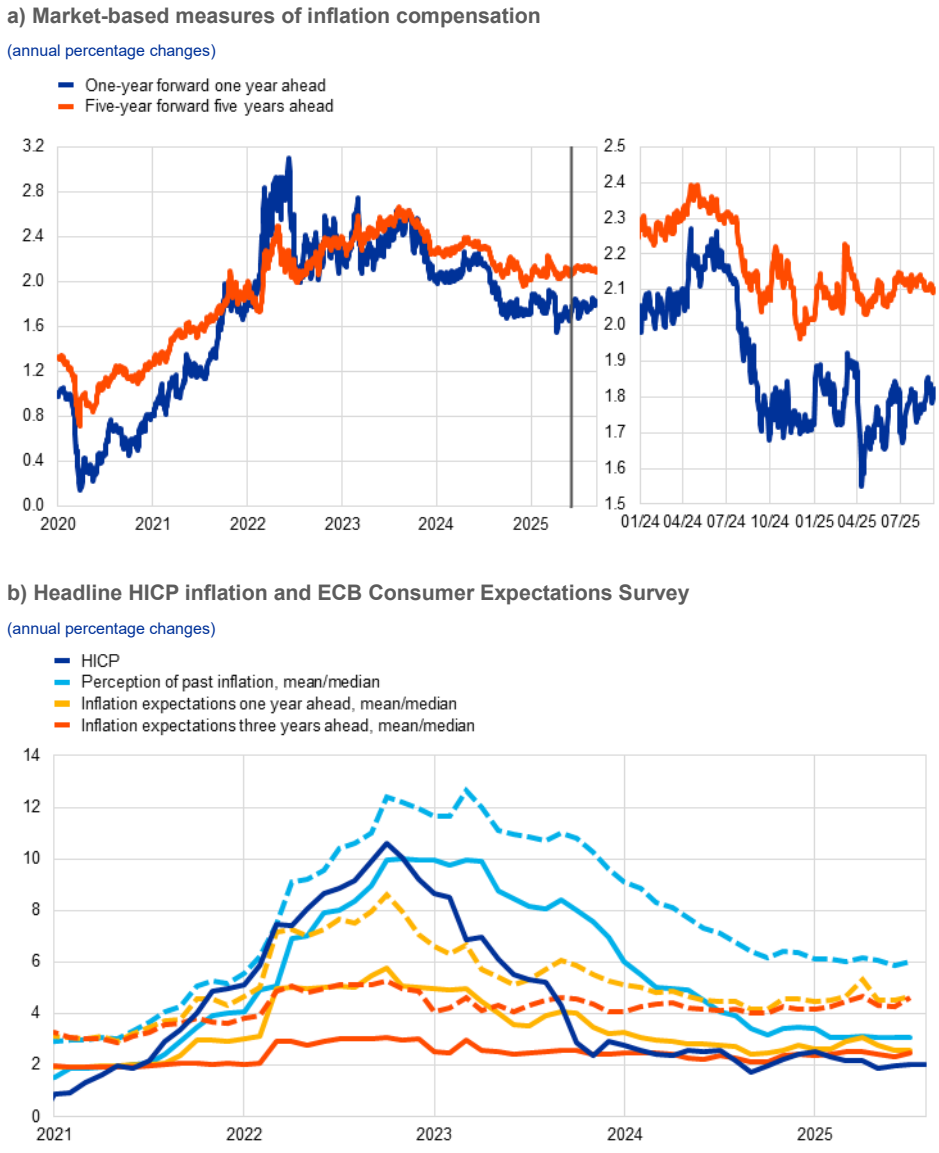
In the period since the July Governing Council meeting, there was little change in market-based and survey-based indicators of longer-term inflation expectations. Market-based measures of short-term inflation compensation remained broadly stable at levels below 2% (Chart 12). In both the ECB Survey of Professional Forecasters for the third quarter of 2025 and the ECB Survey of Monetary Analysts for September 2025, average and median longer-term inflation expectations remained at 2%. Shorter-term survey expectations for 2025 also stood at around 2%, with small changes reflecting recent data outcomes and movements in energy commodity prices. 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%, increasing by 7 basis points since the June Governing Council meeting, as somewhat higher oil prices pushed up near-term inflation expectations, outweighing the downward impact of the appreciation of the euro. At medium and longer-term maturities, the slight increase in inflation compensation primarily reflects a rise in inflation risk premia. This development left five-year forward inflation-linked swap rates five years ahead, adjusted for inflation risk premia, close to 2%.

Consumers' perceptions of past inflation and their short-term inflation expectations remained stable in July 2025, while their medium-term expectations increased slightly (Chart 12). According to the ECB Consumer Expectations Survey for July 2025, the median rate of perceived inflation over the previous 12 months also remained stable at 3.1% for the sixth consecutive month. Median expectations for headline inflation over the next 12 months were also unchanged at 2.6%, down noticeably from the 3.1% recorded in April 2025.

However, median expectations for three years ahead rose slightly to 2.5% in July, up from 2.4% in June.

Chart 12

Market-based measures of inflation compensation and consumer inflation expectations



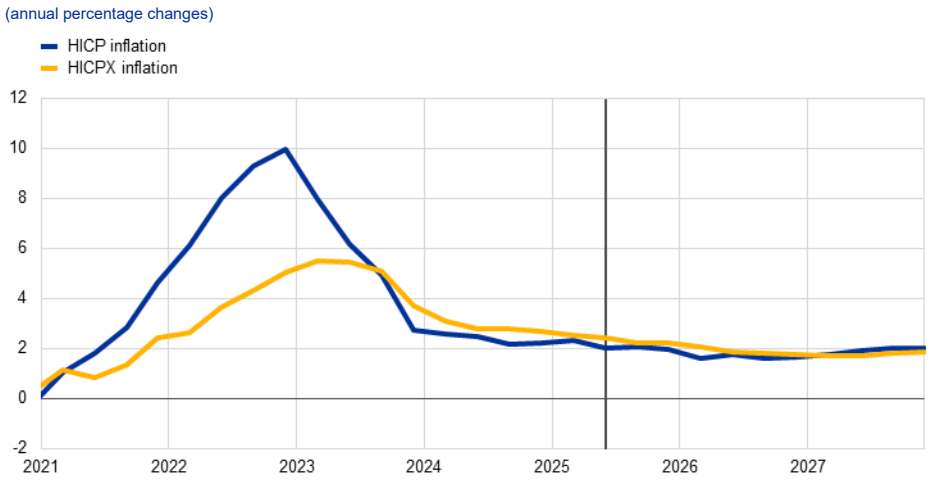
Sources: LSEG, Eurostat, ECB Consumer Expectations Survey and ECB calculations.
Notes: Panel a) shows forward inflation-linked swap rates over different horizons for the euro area. The vertical grey line indicates the start of the review period on 5 June 2025. In panel b), the dashed lines show the mean rate and the solid lines show the median rate. The latest observations are for 10 September 2025 for panel a), August 2025 (Eurostat's flash estimate) for the HICP and July 2025 for the other measures in panel b).

The September 2025 projections expect headline inflation to average 2.1% in 2025 and 1.7% in 2026, before edging up to 1.9% in 2027 (Chart 13). Headline inflation is expected to remain close to 2% in the second half of 2025 and to fall below 2% in and throughout 2026. This lower rate of headline inflation in 2026 reflects a decline in services and food inflation, as well as a slightly negative rate of energy inflation. Headline inflation is subsequently expected to rise in 2027, primarily

reflecting an upward impact from energy inflation linked to the introduction of a new EU Emissions Trading System 2. Compared with the June 2025 projections, the outlook for headline inflation has been revised upwards by 0.1 percentage points for both 2025 and 2026 and revised downwards by 0.1 percentage points for 2027. The upward revision reflects higher energy and food inflation, driven by higher than expected energy commodity prices, as well as the lagged impact of past increases in international food commodity prices, which outweighed the impact of the appreciation of the euro. For 2027, the lagged effects of the appreciation of the euro are expected to resonate, thus resulting in a downward revision. HICPX inflation is expected to decline from 2.4% in 2025 to 1.9% in 2026 and 1.8% in 2027, as wage pressures diminish and services inflation moderates, and also as the appreciation of the euro gradually feeds through the pricing chain to curb goods inflation. Compared with the June 2025 projections, HICPX inflation is broadly unrevised for 2025 and 2026, whereas it has been revised downwards by 0.1 percentage points for 2027.

Chart 13

Euro area HICP and HICPX inflation



Sources: Eurostat and ECB staff macroeconomic projections for the euro area, September 2025.
Notes: The grey vertical line indicates the last quarter before the start of the projection horizon. The latest observations are for the second quarter of 2025 for the data and the fourth quarter of 2027 for the projections. The September 2025 projections were finalised on 28 August 2025 and the cut-off date for the technical assumptions was 15 August 2025. Both historical and projected data for HICP and HICPX inflation are reported at a quarterly frequency.

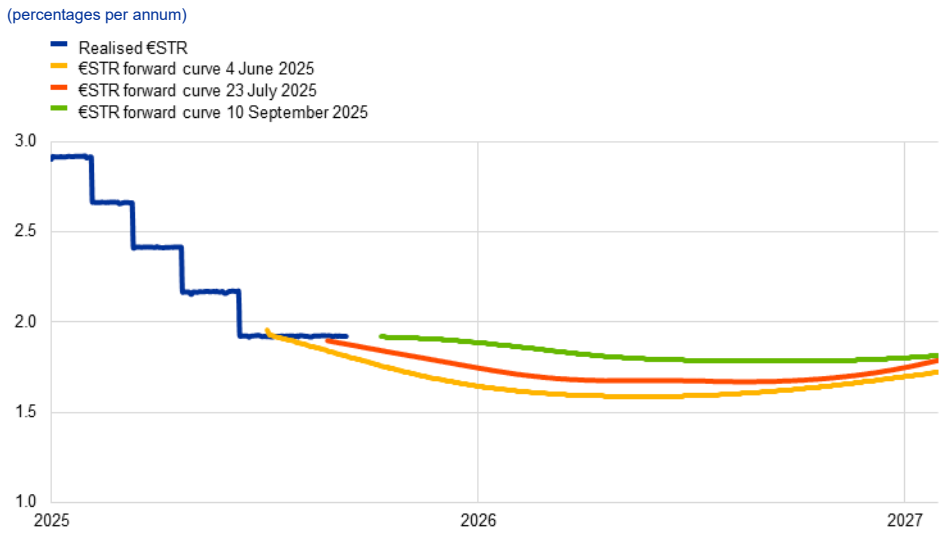
4 Financial market developments

During the review period from 5 June to 10 September 2025, euro area short-term risk-free rates increased, while longer-term risk-free rates remained broadly unchanged. Long-term sovereign bond yields ended the review period higher and spreads over risk-free overnight index swap (OIS) rates widened somewhat, albeit with some variation across countries. Euro area equity markets traded mainly sideways and continued to underperform their US counterparts, as weaker earnings expectations for non-financial corporations (NFCs), especially exporters exposed to US tariffs, were broadly offset by the solid performance of the financial sector. Spreads in corporate bond markets tightened further, fully reversing the tariff-related widening observed earlier in the year. In the foreign exchange market, the euro appreciated both against the US dollar (2.8%) and in trade-weighted terms (2.1%). This reflected a downward repricing of rate expectations in the United States and improved sentiment towards the euro, supported by relatively robust euro area fundamentals amid concerns over US tariff policies and fiscal sustainability.

Euro area short-term risk-free rates moved higher during the review period, while longer-term risk-free rates remained broadly unchanged (Chart 14). The benchmark €STR stood at 1.92% at the end of the review period, following the Governing Council's decisions to lower the three key ECB interest rates by 25 basis points at its June 2025 meeting and to keep them unchanged at its meeting in July. Excess liquidity decreased by around €57 billion to €2,651 billion. This mainly reflected the continuing decline in the portfolios of securities held for monetary policy purposes, which was partly offset by a decrease in euro-denominated liabilities such as government deposits. Very near-term forward rates rose notably following the Governing Council meetings in June and July. After the July meeting, near-term policy rate expectations drifted gradually higher, with the interest rate outlook showing limited reaction to incoming US tariff news, such as the EU-US trade deal announcement on 27 July, and to geopolitical tensions in the Middle East. By the end of the review period, the forward curve was pricing in cumulative interest rate cuts of 8 basis points by the end of 2025, down from 25 basis points priced in at the start of the review period. Looking further ahead, the €STR forward curve beyond 2027 remained broadly unchanged.

Chart 14

€STR forward rates

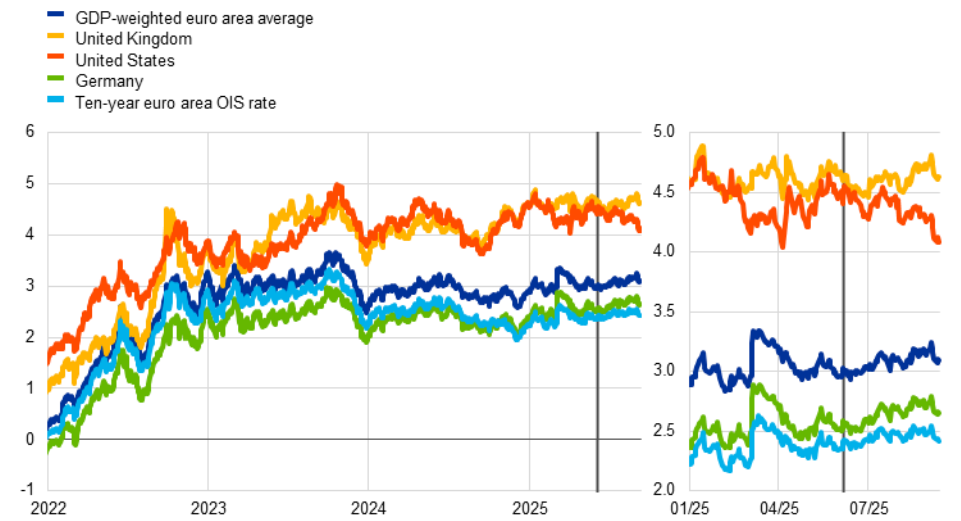


Sources: Bloomberg Finance L.P. and ECB calculations.
Note: The forward curve is estimated using spot OIS (€STR) rates.

Long-term sovereign bond yields ended the review period higher, with yield spreads widening somewhat (Charts 15 and 16). Notwithstanding some fluctuations, the ten-year nominal OIS rate remained broadly unchanged at 2.4% during the review period. Similarly, long-term real rates were largely stable as market participants took an overall neutral view of macroeconomic and geopolitical news during the period. The ten-year GDP-weighted euro area sovereign bond yield increased by 6 basis points to close at around 3.1%. Sovereign spreads over risk-free OIS rates widened at the end of the review period, with aggregate spreads increasing by 6 basis points, amid a global repricing caused partly by fiscal sustainability concerns in advanced economies. Against this backdrop, market participants paid closer attention to fiscal developments, particularly in France, where the announcement of a confidence vote for early September raised concerns about delays in fiscal consolidation. French sovereign yields increased by 20 basis points to stand at around 3.5% at the end of the review period. By contrast, Italian sovereign yields declined by 6 basis points, reinforcing the longer-running convergence trend in French and Italian sovereign spreads. Diverging from the global upward repricing, the ten-year US Treasury yield fell by around 35 basis points over the review period, to 4.1%. This decline was driven mainly by weaker than expected employment data released at the end of July and August, which led to a marked downward reassessment of near-term US policy rate expectations. As a result, the long-term interest rate differential between the euro area and the United States narrowed by approximately 35 basis points.

Chart 15

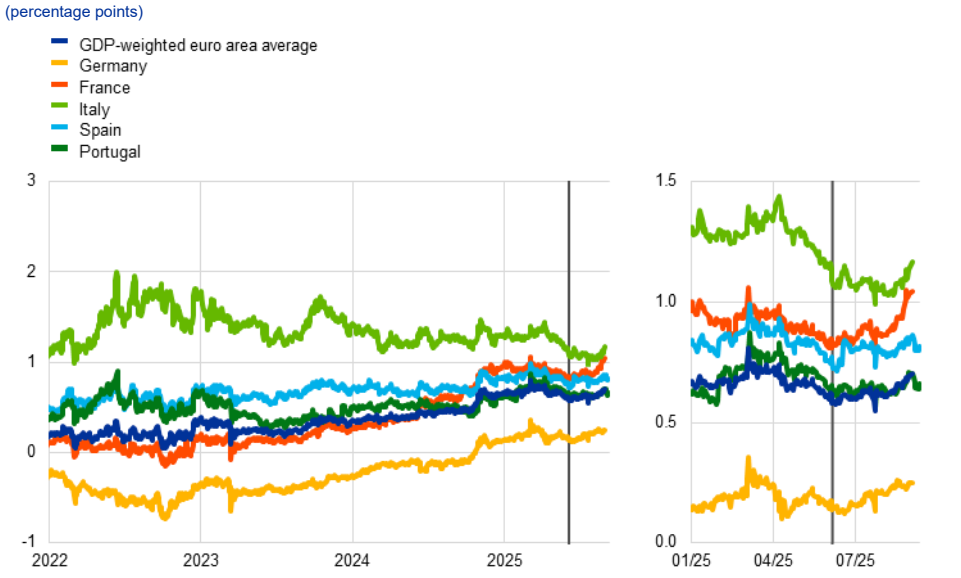
Ten-year sovereign bond yields and the ten-year OIS rate based on the €STR



Sources: LSEG and ECB calculations.
Notes: The vertical grey line denotes the start of the review period on 5 June 2025. The latest observations are for 10 September 2025.

Chart 16

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



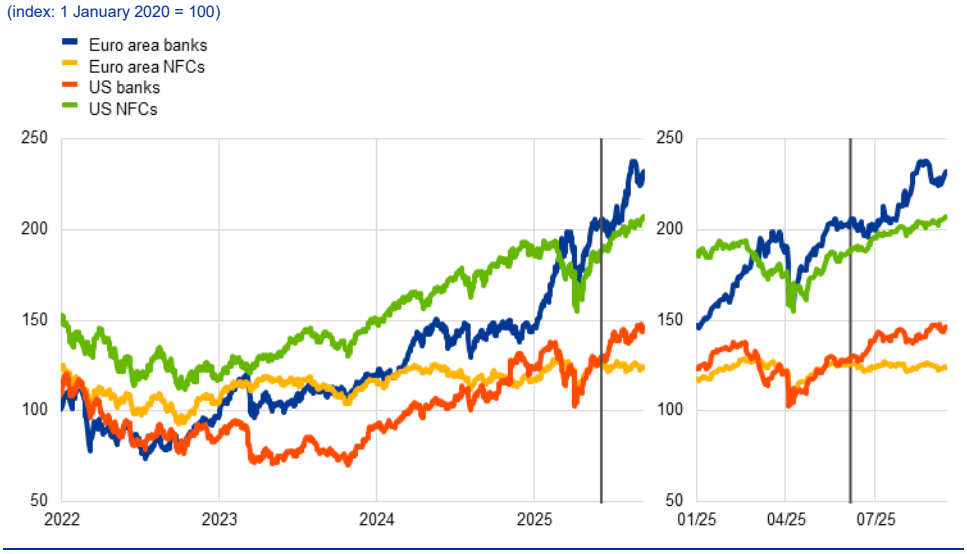
Sources: LSEG and ECB calculations.
Notes: The vertical grey line denotes the start of the review period on 5 June 2025. The latest observations are for 10 September 2025.

Euro area equity markets traded largely sideways over the review period, significantly underperforming their US counterparts (Chart 17). Euro area stock market indices remained unchanged over the review period as a whole, with the sub-index for NFCs declining by 1.5% while bank stock prices increased by 13.6%. Broad euro area indices gained on account of a strong revaluation of financial

companies, which benefited from a trend steepening in yield curves and higher trading profits, broadly offsetting the weak performance of non-financial equities. By contrast, US stock market indices strengthened by around 10%, with gains of 14.6% for banks and 10.6% for NFCs. This divergence between the euro area and US stock markets was partly due to renewed interest in US technology stocks amid a strong earnings season. Euro area firms with greater revenue exposure to the United States significantly underperformed less exposed firms, reflecting expectations of tariffs weighing on future earnings. The announcement on 27 July of the EU-US trade agreement introducing 15% tariffs on EU exports to the United States had little immediate impact, suggesting that markets had largely anticipated its effect on corporate earnings.

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 5 June 2025. The latest observations are for 10 September 2025.

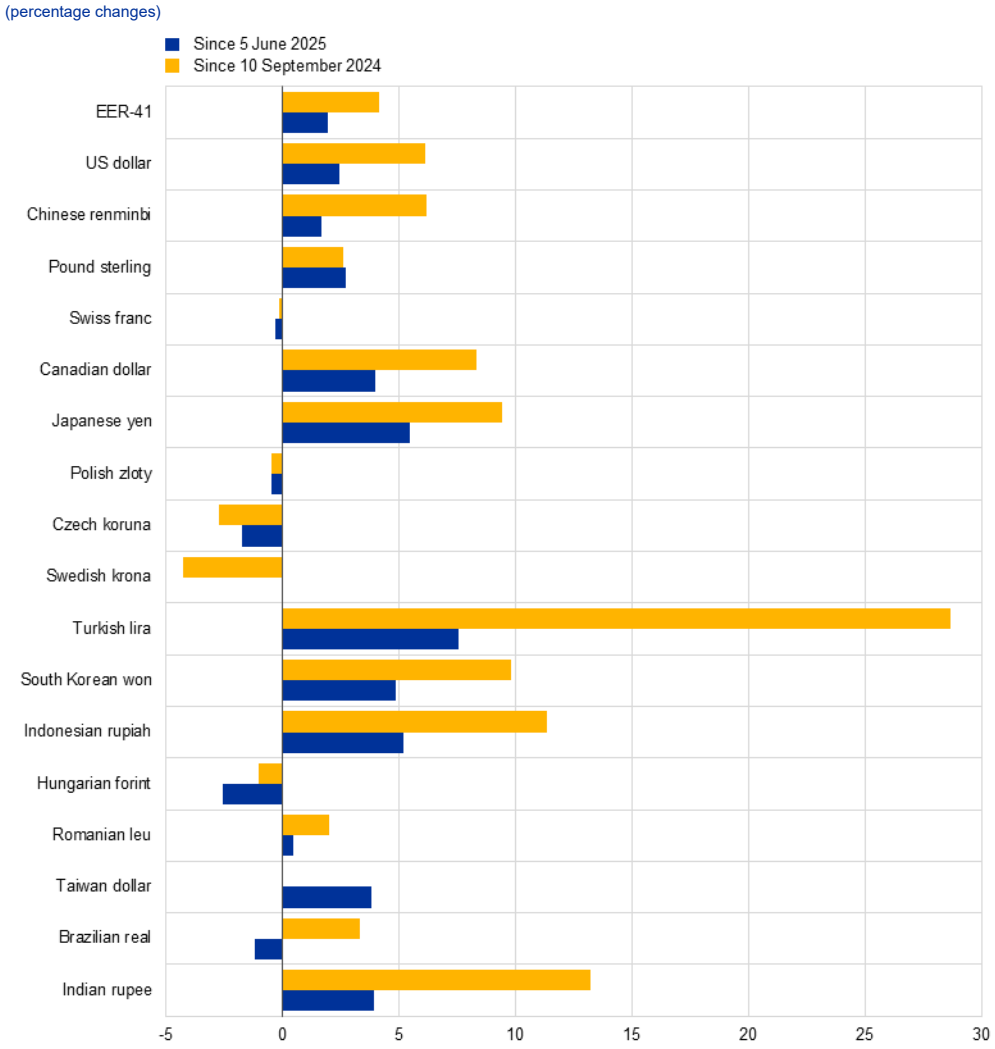
In corporate bond markets, spreads on investment-grade and high-yield bonds narrowed further, fully recovering from the tariff-related spike earlier this year. Despite elevated trade uncertainty, risk sentiment in the corporate bond market improved over the review period, with spreads in the investment-grade and high-yield segments narrowing by approximately 11 and 17 basis points respectively. In the high-yield segment, spreads on NFC bonds decreased by 24 basis points, while spreads on bonds issued by financial corporations widened by around 41 basis points.

In foreign exchange markets, the euro appreciated 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 – strengthened by 2.1%. The euro's appreciation was broad-based overall, with gains against most major and emerging market currencies. Notably, it rose by 5.2% against the Japanese yen, which partly reflected uncertainties surrounding Japan's political and monetary policy outlook. In

contrast, it weakened slightly by 0.3% against the Swiss franc, which continues to serve as a safe haven during periods of heightened uncertainty. Against the US dollar, it rose by 2.8% on the back of a downward repricing in US interest rate expectations and improved sentiment towards the euro, supported by relatively robust euro area fundamentals amid concerns over US tariff policies and fiscal sustainability. Trade uncertainty eased somewhat following the conclusion of the EU-US trade agreement in late July, which contributed to a temporary sharp depreciation of the euro and renewed demand for the US dollar. The euro also remained sensitive to shifts in market expectations regarding US monetary policy, with weaker US labour market data in early August supporting the euro as markets adjusted their expectations for US interest rates.

Chart 18

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



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 10 September 2025.

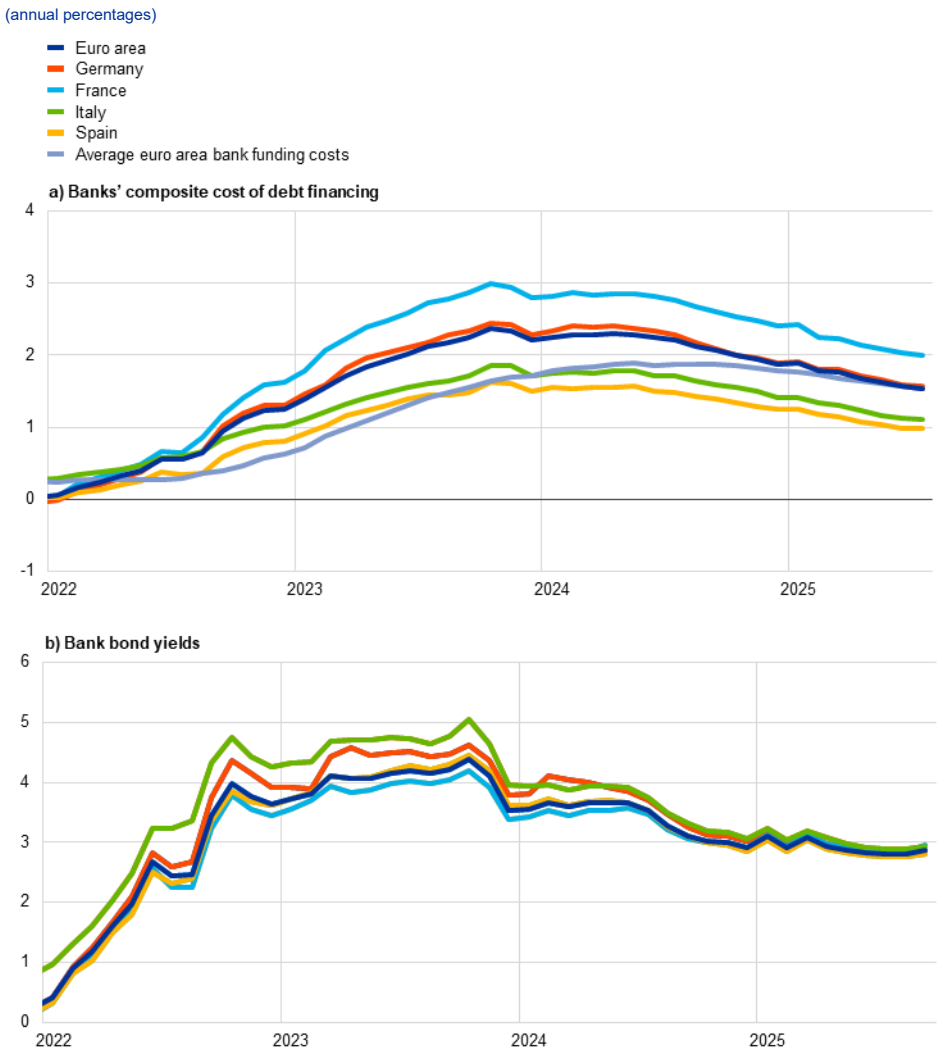
5 Financing conditions and credit developments

The past interest rate cuts continued to pass through to lower bank funding costs and corporate borrowing costs through July. Average interest rates on new loans to firms moved down to 3.5%, whereas average interest rates for households on new mortgages stood at 3.3%, having remained broadly stable since the start of the year. Growth in loans to firms and households continued to gradually recover but remained below historical averages, partly in response to elevated uncertainty. The growth of corporate bond issuance accelerated. Over the review period from 5 June to 10 September 2025, both the cost of market-based debt financing and, more notably, the cost of equity financing declined for firms on the back of narrowing corporate bond spreads and a lower equity risk premium respectively. The annual growth rate of broad money (M3) weakened, mainly owing to outflows from the non-bank financial sector, to stand at 3.4% in July.

Bank funding costs continued to decrease slowly through July 2025, reflecting the past policy rate cuts. The composite cost of debt financing for euro area banks − i.e. the index which measures marginal bank funding costs − fell slightly in July (Chart 19, panel a), reflecting the continued pass-through of the ECB's past policy rate cuts to deposit rates and interbank rates. Bank bond yields have fluctuated at levels around 3.0% since the beginning of the year, amid temporarily higher volatility in financial markets, related notably to uncertainty about US tariffs that has recently been partly resolved (Chart 19, panel b). The composite deposit rate declined further to reach 0.9% in July, down from its peak of 1.4% in May 2024. This fall has been driven by lower interest rates on the time deposits of firms and households and, to a lesser extent, on their overnight deposits. Thus, despite remaining significant, the remuneration gap between time deposits and overnight deposits for both firms and households has been gradually narrowing since peaking in October 2023.

Chart 19

Composite bank funding costs in selected euro area countries



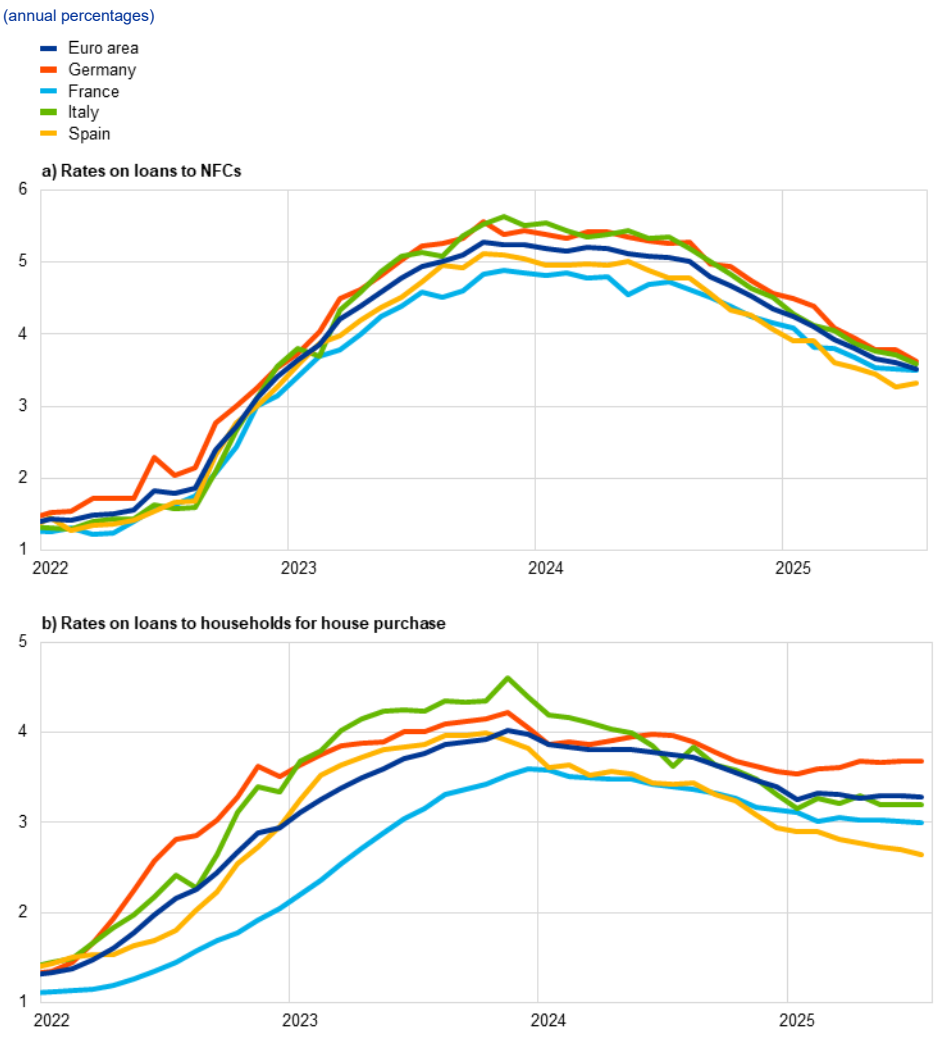
Sources: ECB, S&P Dow Jones Indices LLC and/or its affiliates, and ECB calculations.
Notes: Composite bank funding costs are an average of new business costs for overnight deposits, deposits redeemable at notice, time deposits, bonds and interbank borrowing, weighted by their respective outstanding amounts. 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 July 2025 for the composite cost of debt financing for banks (panel a) and 3 September 2025 for bank bond yields (panel b).

Bank lending rates for firms continued to decline, albeit at a slower pace, while mortgage rates for households remained broadly unchanged, reflecting differences in loan fixation periods. The cost of bank borrowing for non-financial corporations (NFCs) fell to 3.5% in July, a decrease of around 1.8 percentage points from its October 2023 peak (Chart 20, panel a). This decline was varied across euro area countries and uneven across maturities; it was most pronounced for medium-term loans with a maturity of between one and five years, driven by a number of large corporate loans. The spread between interest rates on small and large loans to firms narrowed in July. The cost of borrowing for households for house purchase remained broadly stable at 3.3% in July, around 80 basis points below its November 2023 peak, with minor variations across countries (Chart 20, panel b). The disparity between lending rates for households and those for firms mainly reflects differences

in loan fixation periods. Household loans typically have longer fixation periods in many jurisdictions, making them less sensitive to fluctuations in short-term market rates. In line with the steepening of the yield curve, the gap between corporate and mortgage lending rates continued to narrow, standing 116 basis points below its all-time high reached in March 2024.

Chart 20

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



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 July 2025. In panel a), NFCs stands for non-financial corporations.

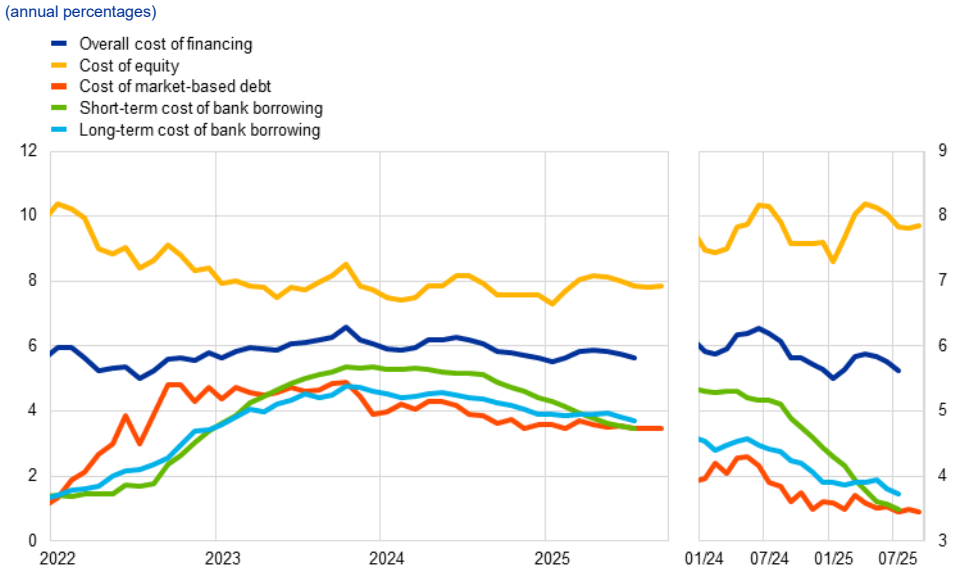
Over the review period from 5 June to 10 September 2025, both the cost of market-based debt financing and the cost of equity financing declined for firms. The overall cost of financing for NFCs – i.e. the composite cost of bank borrowing, market-based debt and equity – declined in July compared with the previous month and stood at 5.6% (Chart 21).[8] A sizeable drop in the cost of equity

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

financing was the main driver of the fall in the overall cost of financing. All other cost components also declined, albeit to a lesser extent. Daily data for the review period from 5 June to 10 September 2025 show that both the cost of market-based debt and, more sharply, the cost of equity financing declined further. The decline in the cost of market-based debt was driven by the compression of corporate bond spreads in both the investment-grade and, most noticeably, high-yield segments. The fall in the cost of equity financing over the same period reflected a decline in the equity risk premium, while the long-term risk-free rate, as approximated by the ten-year overnight index swap rate, remained stable.

Chart 21

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



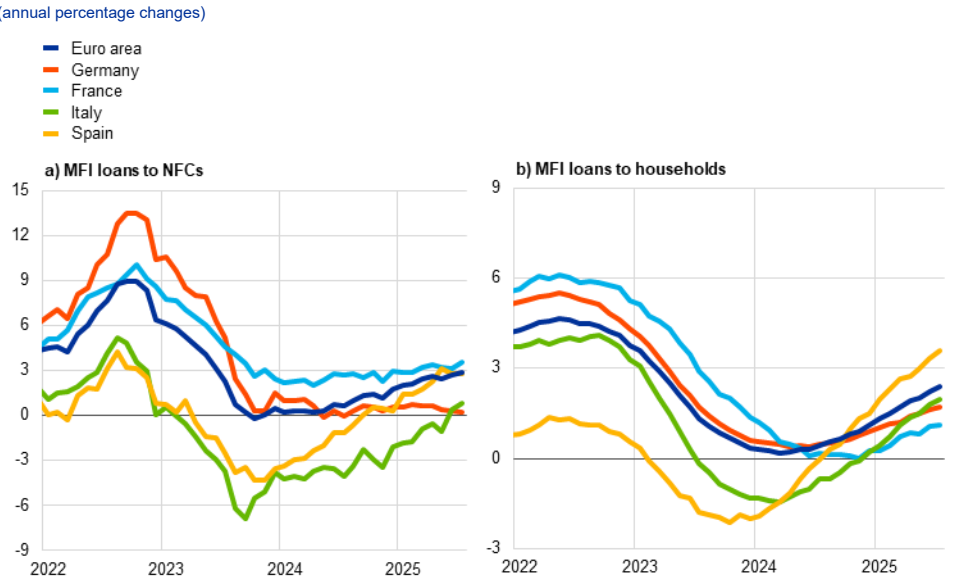
Sources: ECB, Eurostat, Dealogic, Merrill Lynch, Bloomberg Finance L.P., LSEG and ECB calculations.
Notes: The overall cost of financing for non-financial corporations is based on monthly data and is calculated as a weighted average of the long and short-term costs of bank borrowing (monthly average data), market-based debt and equity (end-of-month data), based on their respective outstanding amounts. The latest observations are for 10 September 2025 for the cost of market-based debt and the cost of equity (daily data) and July 2025 for the overall cost of financing and the cost of borrowing from banks (monthly data).

Growth in loans to firms and households recovered gradually through July but is showing signs of levelling off and remains below historical averages. The annual growth rate of bank lending to firms edged up to 2.8% in July 2025, after 2.5% in May and 2.7% in June. However, it still remains below its historical average of 4.3% (Chart 22, panel a). The gradual increase in annual growth reflects convergence towards stable short-term dynamics. In this context, net issuance of corporate debt increased to 4.1% in July from 3.4% in June. Net issuance in July was in line with the average observed since the beginning of the year, pointing to a stabilisation in the development of this source of funding. Recent short-term dynamics of loans to households also remain broadly stable. The annual growth rate of loans to households edged up gradually to reach 2.4% in July, from 2.2% in June, but is still significantly below the historical average of 4.1% (Chart 22, panel b). Loans to households for house purchase were still the primary driving force behind this upward trend, with consumer credit growth remaining stable at 4.6% in July. The recovery in loans to households appears to have lost momentum, however, as indicated by weaker monthly flows driven by mortgages despite the sustained

housing demand reflected in survey data. Other forms of household lending, including loans to sole proprietors, remained weak. Household sentiment regarding credit access remained broadly stable. According to the ECB's Consumer Expectations Survey, perceived credit access was unchanged overall in June and July, but households reported increasing difficulties in meeting their mortgage payments. Looking ahead, households expect credit access to remain unchanged over the next 12 months.

Chart 22

MFI loans in selected euro area countries



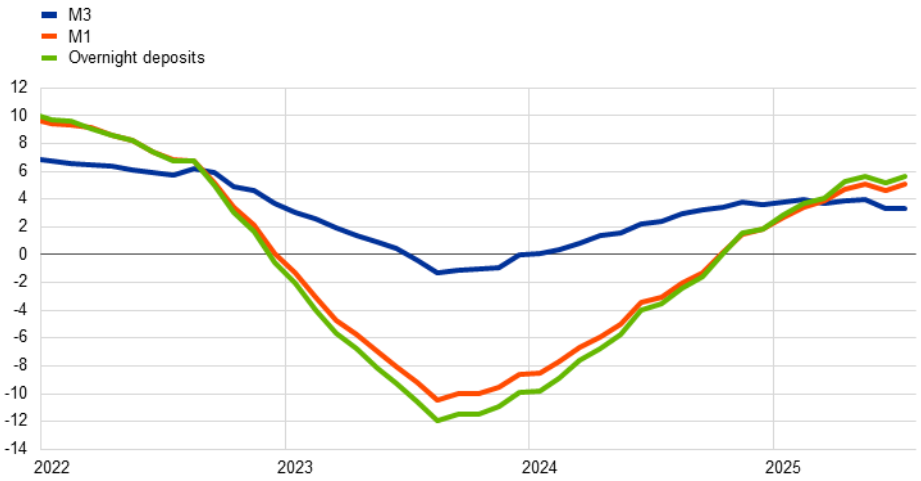
Sources: ECB and ECB calculations.
Notes: Loans from monetary financial institutions (MFIs) are adjusted for loan sales and securitisation; in the case of non-financial corporations (NFCs), loans are also adjusted for notional cash pooling. The latest observations are for July 2025.

Growth in broad money (M3) has slowed since May (Chart 23). Annual M3 growth stood at 3.4% in July, below the 3.9% average observed in the first five months of 2025. Annual growth of narrow money (M1), which comprises the most liquid components of M3, stood at 5.0% in July, a level around which it has been hovering since April. Non-core, volatile items appear to have played an important role in the recent dynamics of M3. From the perspective of individual components, the July data were driven by outflows of deposits held by non-bank financial institutions, partly reflecting heightened volatility. This contrasts with the contribution of households and firms, which remained stable overall. Amid the uncertain environment, both sectors showed a greater preference for liquidity and increased their holdings of overnight deposits accordingly. Moreover, households and firms paused their net withdrawal of time deposits, in line with a possible levelling off in the remuneration of these deposits. From the counterpart perspective, the July data reflect continued volatility in bank lending to firms, net foreign outflows and further volatile, non-structural components.

Chart 23

M3, M1 and overnight deposits

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



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

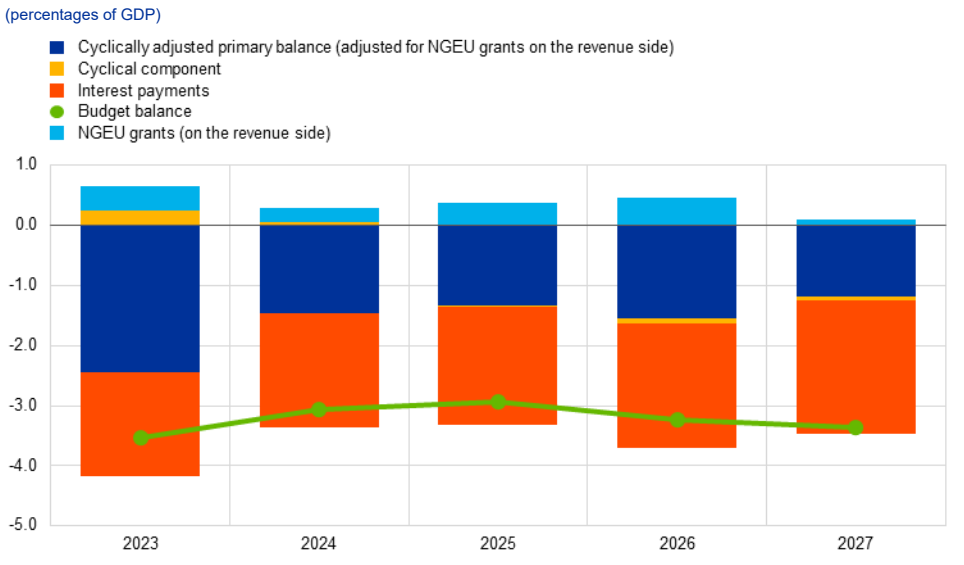
6 Fiscal developments

According to the September 2025 ECB staff macroeconomic projections for the euro area, the general government budget deficit, which stood at 3.1% of GDP in 2024, is estimated to decline to 2.9% in 2025 and then increase substantially to 3.4% of GDP in 2027. The euro area fiscal stance is projected to tighten only slightly in 2025, loosen in 2026 and then tighten again, somewhat more strongly, in 2027. The projected loosening in 2026 is mainly on account of higher public investment. The tightening in 2027 reflects primarily lower assumed government spending related to the discontinuation of the grants offered under the Next Generation EU (NGEU) programme. The euro area debt-to-GDP ratio is on an increasing path and projected to reach just under 90% of GDP by 2027, as the continuous primary deficits and positive deficit-debt adjustments more than offset favourable interest rate-growth differentials.

According to the September 2025 ECB staff macroeconomic projections, the euro area general government budget balance is expected to decline over the projection horizon (Chart 24).[9] The euro area budget deficit declined from 3.5% in 2023 to 3.1% of GDP in 2024. This was due to the unwinding of most of the remaining energy and inflation-related fiscal support measures. Looking ahead, it is expected to fall to 2.9% in 2025 but then increase to 3.2% of GDP in 2026 and further to 3.4% of GDP in 2027. This increase is mainly on account of higher interest payments, as longer maturity debt matures and is refinanced at higher interest rates, but also due to a slight deterioration in the cyclically adjusted primary balance and the cyclical component.

Chart 24

Budget balance and its components



Sources: ECB calculations and ECB staff macroeconomic projections for the euro area, September 2025.

9 See “ECB staff macroeconomic projections for the euro area, September 2025”, published on the ECB’s website on 11 September 2025.

Compared with the June projections, the budget balance has been revised upwards over the entire projection horizon, though mostly as of 2026. This improvement is driven by expectations that discretionary fiscal policies will be enhanced in 2026, then partly reversed in 2027. The budgetary tightening is mostly on account of upward revisions in net indirect taxes in Germany in the context of the 2026 budget discussion. These revisions relate to a lower than previously endorsed cut in the electricity tax and a lower increase in subsidies (linked to the electricity grid fee). Other sources of revisions include lower expected government consumption growth (relative to nominal potential GDP), particularly in France but also in Spain, as well as higher direct taxes on households in France. In 2027 a marginally less tight fiscal stance than foreseen in June mainly reflects upward revisions in government consumption and fiscal transfers in several countries, particularly Italy and the Netherlands. As a result, the euro area budget deficit as a percentage of GDP has been revised down by 0.2 percentage points in 2026 and by 0.1 percentage points in 2025 and 2027.

The euro area fiscal stance is projected to tighten only slightly in 2025, to loosen in 2026 and to tighten again somewhat more strongly in 2027.[10] After a significant tightening in 2024 on account of both non-discretionary factors and fiscal policy measures, the fiscal stance is projected to tighten only slightly in 2025 – mostly due to discretionary revenue measures. These include increases in social security contributions and, to a lesser extent, higher indirect and direct taxes. These tax increases are partly offset by continued growth in public spending. In 2026 the fiscal stance is projected to loosen, mainly on account of higher public investment. This reflects the higher defence and infrastructure spending already incorporated in the baseline for the June projections, particularly stemming from Germany (2026-27), as well as high NGEU-funded investment growth in Italy, Spain and some other countries. In 2027 the tightening in the NGEU-adjusted fiscal stance primarily reflects lower assumed government spending, as NGEU grant financing expires.

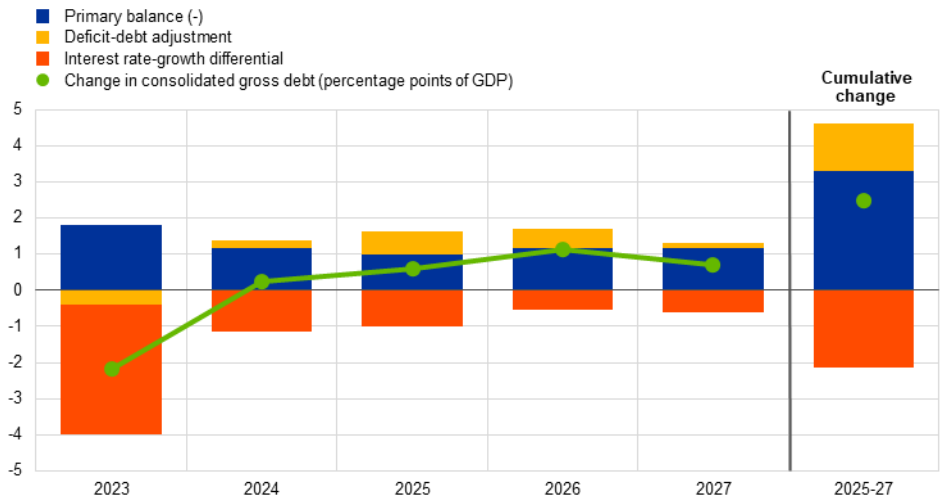
The euro area debt-to-GDP ratio is projected to increase slowly from 87.4% in 2024 to just below 90% in 2027 (Chart 25). The euro area debt-to-GDP ratio is seen on an increasing path as the ongoing primary deficits and positive deficit-debt adjustments more than offset the favourable, though rising, interest rate-growth differentials. Compared with the June projections, the debt ratio has been revised down, mainly on account of the lower cumulative primary deficits.

[10] 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.

Chart 25

Drivers of change in euro area government debt

(percentages of GDP, unless otherwise indicated)



Sources: ECB calculations and ECB staff macroeconomic projections for the euro area, September 2025.

The draft budgetary plans for 2026, which EU governments should submit by 15 October 2025, should underpin the execution of the medium-term fiscal plans. Governments should ensure sustainable public finances in line with the EU's economic governance framework, while prioritising essential growth-enhancing structural reforms and strategic investment. At the euro area level, a consolidation of public finances, designed in a growth-friendly manner, will be necessary over the coming years.

Boxes

1 How vulnerable is the euro area to restrictions on Chinese rare earth exports?

Prepared by Mattia Banin, Mario D'Agostino, Vanessa Gunnella and Laura Lebastard

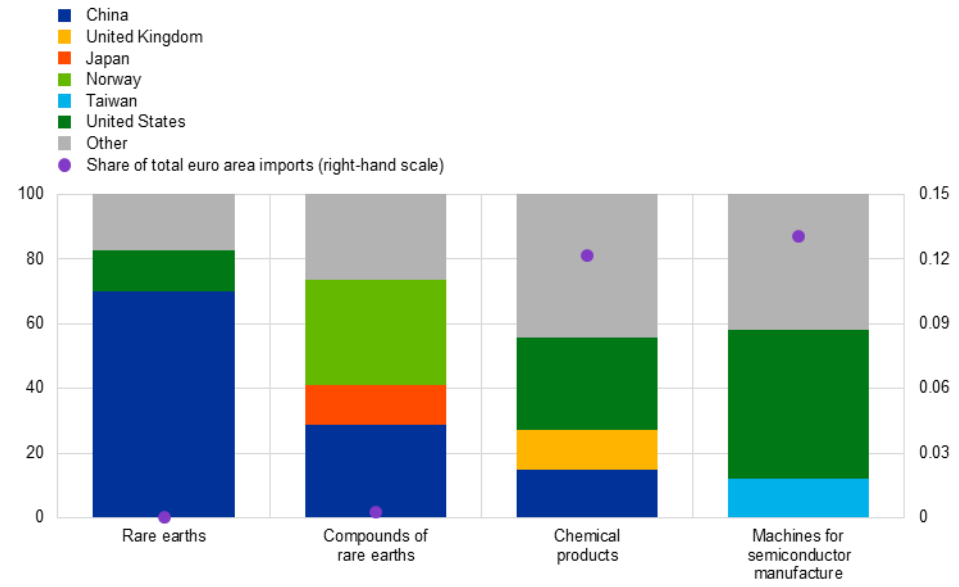
On 4 April 2025 China imposed export restrictions on rare earth elements, raising production challenges for some firms. The measures were introduced in retaliation for increased US tariffs on Chinese goods during escalating US-China trade tensions. They restrict Chinese exports of rare earth elements, compounds and related products, such as permanent magnets that are used across the defence, electric vehicle, energy and electronics industries (European Commission, 2020). The decision caused a supply shock: in May Chinese shipments of rare earth magnets dropped by approximately 75% compared with the previous year, which forced some carmakers to pause production.

The euro area is exposed to supply chain risks linked to Chinese exports of rare earth elements – it relies on direct imports from China and indirect supply via third parties. China dominates the global rare earth market, producing 95% of the world's rare earths. It also has a central position in refining other critical raw materials, such as lithium and cobalt (International Energy Agency, 2024). This underscores the pivotal role of China in global supply chains and highlights euro area vulnerabilities to geopolitical disruptions (International Relations Committee Work stream on Open Strategic Autonomy, 2023; Attinasi et al., 2025). China supplies 70% of the euro area's rare earth imports (Chart A, first column). Even where the euro area sources secondary products containing rare earth elements from countries other than China (Chart A, second to fourth columns), the suppliers depend heavily on China for raw rare earth elements. For example, the United States imports 80% of its rare earth elements from China – so the euro area remains indirectly exposed to Chinese supply chains when importing US products that use rare earths.

Chart A

Imported products facing Chinese export restrictions

(percentages)



Sources: Eurostat and ECB staff calculations.
Notes: Rare earths are HS (six-digit level of the World Customs Organization Harmonized System classification) code 280530, compounds of rare earths are HS code 284690, chemical products are HS code 382499 and machines for semiconductor manufacture are HS code 848690. The data are for 2024.

Supply shortages of rare earth elements would affect substantial parts of the manufacturing industry and cause widespread negative spillovers. Rare earth elements play a crucial role in the production of specific goods, including cars, computers and phones, in sectors that are central to the euro area production chain. A network analysis based on a Bloomberg database of companies' supplier-customer relationships indicates that over 80% of large European firms are no more than three intermediaries away from a Chinese rare earth producer (Chart B).[1,2] According to the data, only a few euro area firms procure rare earths directly from Chinese suppliers – for instance Airbus and BASF. Around a quarter of all firms – including Volkswagen, Renault and Telefónica – rely on just one intermediary. The intermediaries are often US tech firms making products with rare earths supplied by Chinese companies. This reliance on indirect supply chains amplifies the exposure of euro area companies to potential disruptions, as even minor interruptions in Chinese exports can cascade down to intermediaries and affect a broad range of industries.

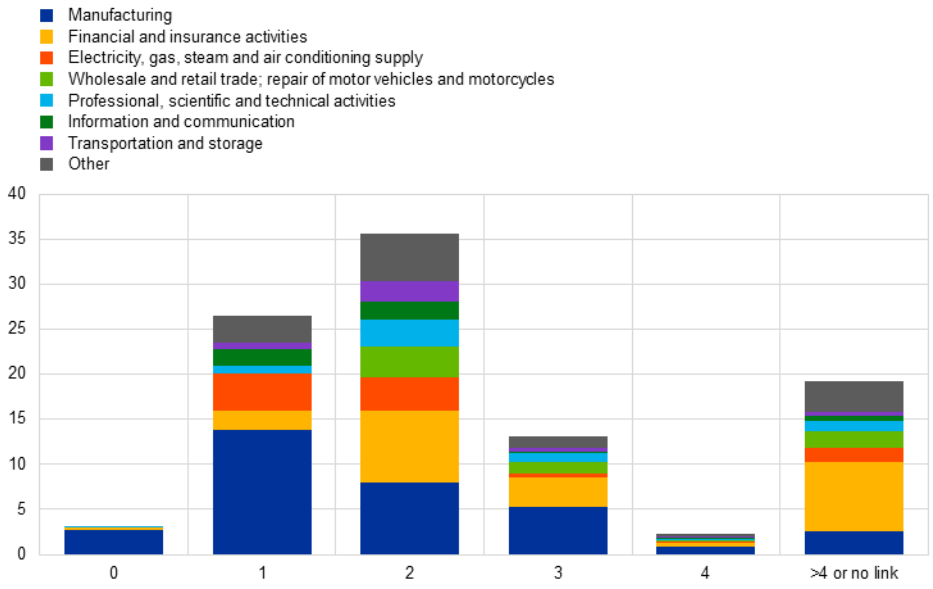
1 The database includes approximately 12,300 euro area firms. The euro area firms are not fully representative, as they are very large multinationals with a high number of suppliers. However, where information on revenues is available, they represent 30% of euro area revenues (40% when focusing on the manufacturing sector only) and are therefore likely to play an important role in aggregate economic activity. Any disruption to their production would also affect the ecosystem of smaller firms that depend on them within the supply chain.

2 By way of comparison, the average number of intermediaries for euro area firms to reach an oil producer is also around three.

Chart B

Number of intermediaries between euro area firms and Chinese rare earth suppliers

(percentages of euro area firms, weighted by revenue)



Sources: Bloomberg Finance L.P. and ECB staff calculations.
Notes: Firms are categorised by NACE (statistical classification of economic activities in the European Community) sector. The chart shows supply chain linkages between euro area firms and Chinese rare earth producers during the period 2020-24. Linkages are defined as supplier-customer relationships between two companies. A value of 0 indicates that euro area firms source rare earths directly from Chinese producers without intermediaries. Linkages between a Chinese rare earth supplier and a Chinese firm producing goods not subject to export restrictions are not included.

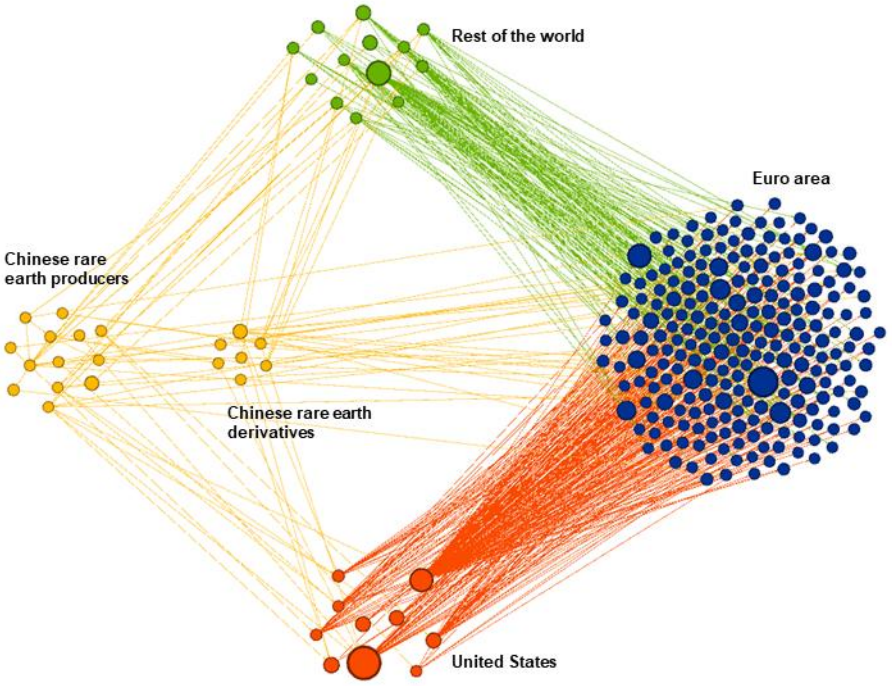
The nature of rare earth dependencies differs across sectors. Manufacturing industries are particularly exposed, as shortages of rare earth materials can potentially stop production. The car industry, for instance, relies heavily on permanent magnets made from rare earth elements. Similarly, the energy sector is highly dependent on rare earths for the neodymium magnets used in wind turbines. By contrast, services sectors are less vulnerable, as rare earths are typically used as a one-off intermediate input.

The network of Chinese rare earth suppliers reveals a dense web of global industrial linkages. Direct customer relations are at the core of the rare earth network, which involves firms across Asia (outside China, mostly Japan), the European Union and North America. Many of these operate in tech, energy and advanced manufacturing sectors. Figure A illustrates the network of Chinese rare earth producers and derivatives, showing direct links between euro area firms and rare earth producers, as well as linkages via single intermediary firms (corresponding to the first two columns of Chart B). Out of the 1,767 euro area firms in the sample, 11 direct links from rare earth companies to euro area firms are visible; there are 16 links to rare earth derivative firms and 223 firms are linked via just one intermediary (around 13%).[3]

[3] When also considering firms without revenue information available (12,300 firms), those connected directly and indirectly via one intermediary amount to around 550.

Figure A

Linkages between Chinese rare earth producers and euro area firms



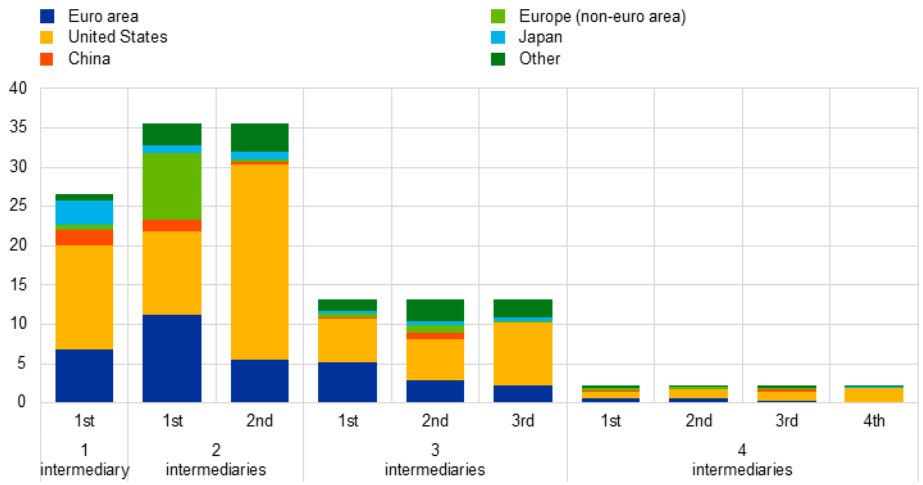
Sources: Bloomberg Finance L.P. and ECB staff calculations.
Notes: Chinese nodes are producers of rare earths and derivatives. The chart illustrates Chinese rare earth firms' direct and indirect (via the first intermediary) links to euro area firms. The size of the nodes reflects revenues. Only firms with revenues considered in the network.

A sudden stop in the supply of rare earth elements from China to the United States would have significant repercussions for euro area firms because of the central position of US firms in the global supply network. US firms serve as the largest pivotal intermediary, supplying euro area firms with transformed goods derived from rare earth elements (Chart C). The US firms – including prominent tech companies such as Microsoft, Apple and Intel – operate in strategic industries like semiconductor fabrication, precision magnet production and chemical processing, and they depend on sourcing raw materials from China. This demonstrates the euro area's indirect exposure to Chinese rare earth suppliers. Only 157 US firms act as direct intermediaries between euro area firms and Chinese rare earth exporters. However, these firms supply products to many euro area counterparts – disruptions to sources of rare earth elements could cause cascading effects across supply chains.

Chart C

Nationality of intermediaries between euro area firms and Chinese rare earth firms

(percentages of euro area firms, weighted by revenue)

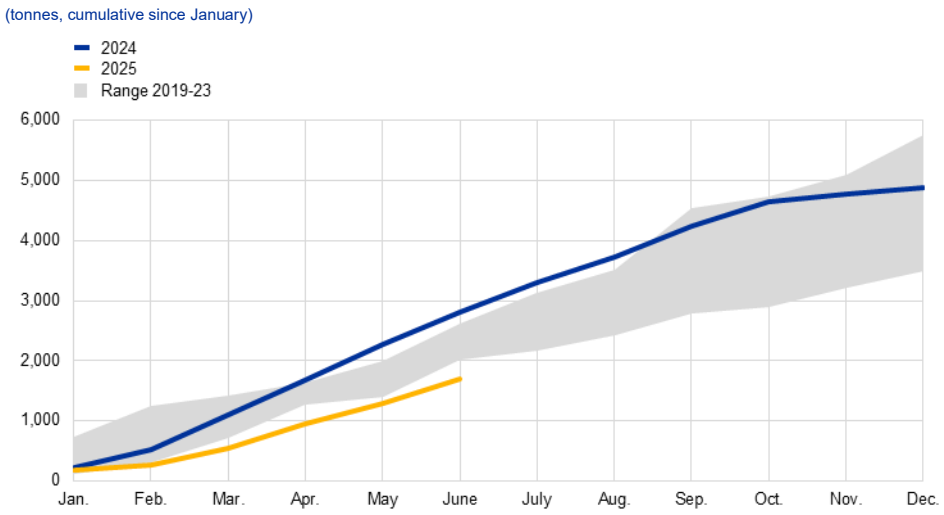


Sources: Bloomberg Finance L.P. and ECB staff calculations.
Notes: The first intermediary is the closest link to the euro area firms, while the intermediary with the highest number is the closest link to the Chinese firms producing rare earths.

The restriction of rare earth exports by China has already caused disruptions in the global value chain and affected some European firms. The euro area had generally not stockpiled rare earth elements before the restrictions came into effect – by June, aggregate imports from China were below typical levels (Chart D). In that month, the European car industry raised the alarm, citing critically low stocks causing several production lines and plants to shut down across Europe (European Association of Automotive Suppliers, 2025). China's delay in processing export licence applications caused part of these disruptions. However, European authorities have since negotiated to enable some European firms to fast-track licence approvals.

Chart D

Euro area imports of rare earths from China



Sources: Eurostat and ECB staff calculations.
Notes: A combination of the first two columns in Chart A (HS code 280530 and HS code 284690) is shown. The latest observation is for June 2025.

China is leveraging its quasi-monopoly on rare earth elements in international trade disputes. By restricting exports of rare earths in response to US tariffs, China has shown its willingness to use these elements to pressure trading partners. In a similar manner, China could use rare earths to exert pressure in ongoing trade negotiations with the EU. The European Parliament has urged the Commission to address these vulnerabilities by quickly implementing the Critical Raw Materials Act (CRM Act). Among other things, the CRM Act aims to improve Europe's position by diversifying imports of critical raw materials and enhancing recycling efforts (European Parliament, 2025).

The euro area remains exposed to inflation-related and economic risks as a consequence of its reliance on China supplying rare earth elements to critical industries. Supply chain disruptions stemming from China's export restrictions could lead to higher input costs for manufacturers, particularly in the automotive, electronics and renewable energy sectors. This increase in costs could drive up consumer prices and contribute to inflationary pressures. In addition, shortages of materials could also halt production, which would weigh on industrial output and dampen overall economic activity. The pandemic highlighted the fragility of global supply chains and showed how sudden disruptions can cascade across industries and sectors. Model-based estimates suggest that disruptions to the supply of critical inputs, like rare earth elements, could disproportionately affect downstream industries (Attinasi et al., 2025). Current indicators do not suggest that supply chain pressures and price increases are immediately imminent. However, it is crucial to remain vigilant and closely monitor developments given the potential for rapid shifts in global supply dynamics. Network analysis, as demonstrated in this study, could serve as a monitoring tool to identify potential supply chain vulnerabilities.

References

Attinasi, M.-G., Boeckelmann, L., Gerinovics, R. and Meunier, B. (2025), "Unveiling the hidden costs of critical dependencies", *Economic Bulletin*, Issue 5, ECB.

European Association of Automotive Suppliers (2025), "Urgent action needed as China's export restrictions on rare earths disrupt European automotive supply chains", *press release*, 4 June.

European Commission (2020), "Critical raw materials for strategic technologies and sectors in the EU", Publications Office of the European Union.

European Commission (2025), "Critical Raw Materials Act".

European Parliament (2025), "Commission must tackle China's export restrictions on rare earth elements", *press release*, 10 July.

International Energy Agency (2024), "Global Critical Minerals Outlook 2024", IEA Publications.

International Relations Committee Work stream on Open Strategic Autonomy (2023), "The EU's Open Strategic Autonomy from a central banking perspective", *Occasional Paper Series*, No 311, ECB.

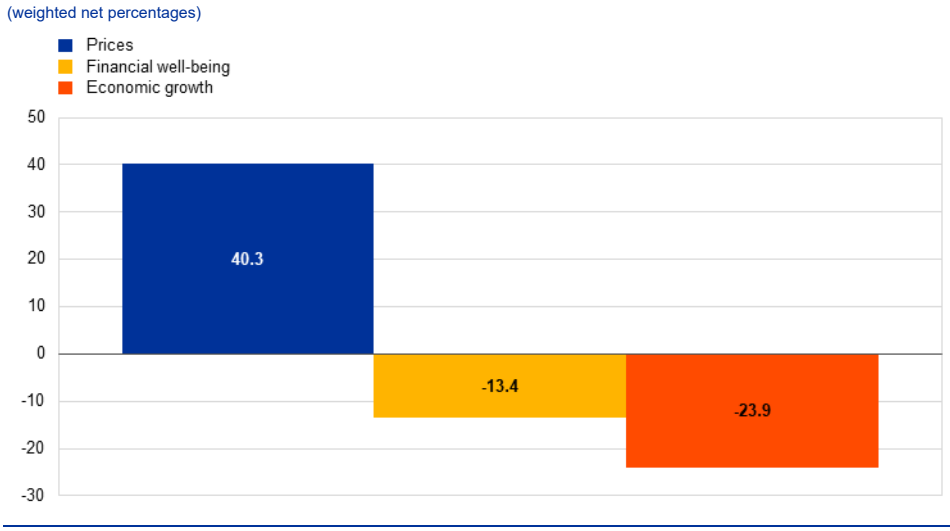
2 Consumer expectations and actions during the recent trade tensions

Prepared by Adam Baumann, Luca Caprari, Maarten Dossche, Georgi Kocharkov and Omiros Kouvavas

Recent trade tensions and tariff announcements are significantly affecting the behaviour and expectations of European consumers. ECB Consumer Expectations Survey (CES) data collected in June 2025 reveal that European consumers expect tariffs to adversely affect inflation, household finances and economic growth.[1] A net balance of 40% of respondents view the tariffs as inflationary, a net balance of 13% see them as having a negative impact on their finances, and a net balance of 24% believe the tariffs will dampen economic growth (Chart A).

Chart A

Household expectations regarding the impact of higher tariffs



Source: ECB (June 2025 CES).
Notes: Population-weighted data. Question wording: “Since entering office in January, the US President has announced the potential imposition of tariffs, and in response several countries (including the European Union) have announced retaliatory measures. Assuming such tariffs are in place, how do you think they will affect (if at all) each of the following over the next 12 months?”. Mean weighted net percentages calculated by weighting responses as follows: “Increase a lot” (+1), “Increase a little” (+0.5), “Decrease a little” (-0.5), “Decrease a lot" (-1).

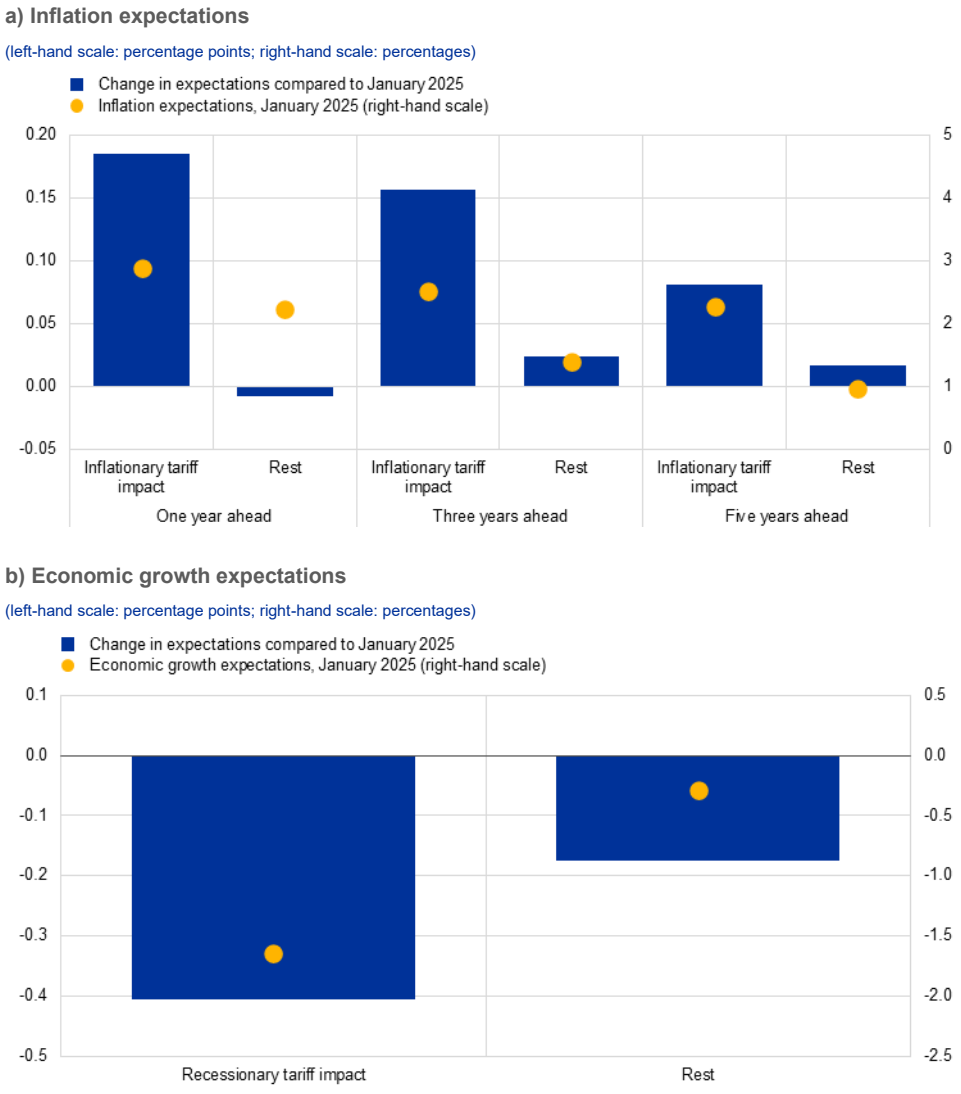
Consumers who view tariffs as inflationary have adjusted their inflation expectations upward. The data show that, for the group that considered tariffs inflationary in the June 2025 survey, inflationary expectations also increased compared to January 2025, by around 0.2 percentage points for the one year ahead, 0.13 percentage points for the three years ahead and 0.06 percentage points for the five years ahead horizon (Chart B, panel a). The small increase in long-term inflation

1 See Baumann et al. (2025a) for a detailed analysis of recent developments in consumer confidence and the corresponding muted growth in consumption.

expectations among respondents who view tariffs as inflationary suggest that the perceived impact of tariffs on inflation may not be wholly transitory.

Chart B

Changes in expectations due to tariffs



Source: ECB (June 2025 CES).
Notes: Population-weighted data. Panel a) shows the difference between inflation expectations in January 2025 and the average of inflation expectations in April, May and June 2025 for respondents who believe tariffs will increase inflation and for those who do not for three horizons: one year ahead, three years ahead and five years ahead. Panel b) shows the difference between economic growth expectations in January 2025 and the average of economic growth expectations in April, May and June 2025 for respondents who believe tariffs will dampen economic growth and for those who do not.

Similarly, concerns about economic growth have increased among those who see tariffs as recessionary. Consumers who perceive tariffs as recessionary have reduced their expectations for economic growth over the next 12 months by 0.4 percentage points since January 2025, compared to a decrease of only 0.2 percentage points among other respondents (Chart B, panel b). These findings echo the message of Chart A, that trade tensions are driving a more pessimistic economic outlook among households.

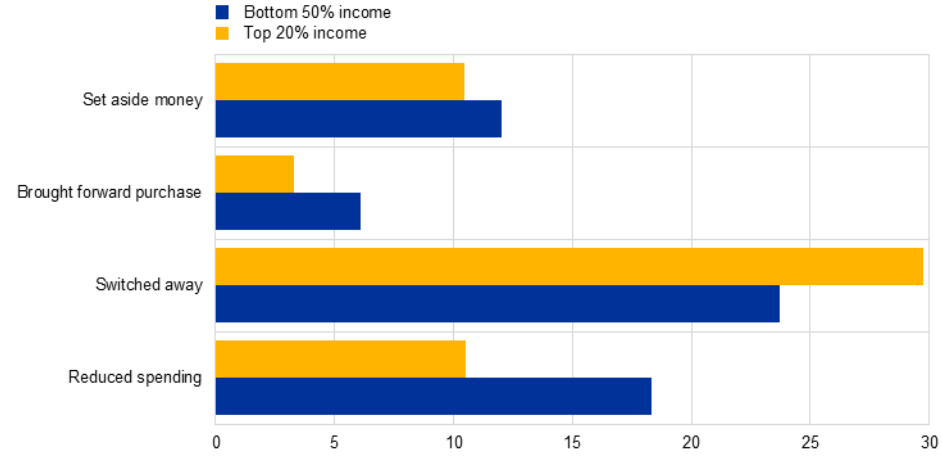
In response to tariff-related concerns, consumers are altering their spending habits in notable ways. Approximately 26% of respondents reported switching away from US products, while around 16% indicated that they have reduced their overall spending (Chart C, panel a).[2] These behavioural shifts vary across income groups: high-income households are more likely to switch away from US goods, while lower-income households are more inclined to cut back their overall spending.

Chart C

Actions taken by CES respondents after the tariff announcements

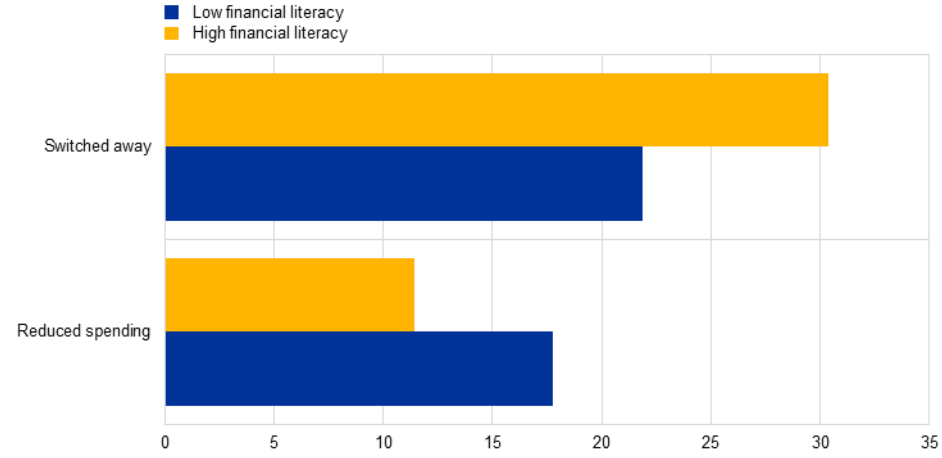
a) Actions taken, by level of income

(percentages of respondents)



b) Actions taken, by degree of financial literacy

(percentages of respondents)



Source: ECB (June 2025 CES).
Notes: Population-weighted data. Percentages of respondents who took a specific action after the announcement of potential tariffs. In panel a), income quantiles are derived from reported household income by wave and country. In panel b), financial literacy is based on scores achieved in a CES financial "quiz" on a scale of 0 to 4, where 4 is high and less than 3 is low financial literacy.

Financial literacy and preferences for switching away appear to play a role in shaping these actions. As highlighted in Baumann et al. (2025b), many consumers were already willing to switch away from US products prior to the tariff

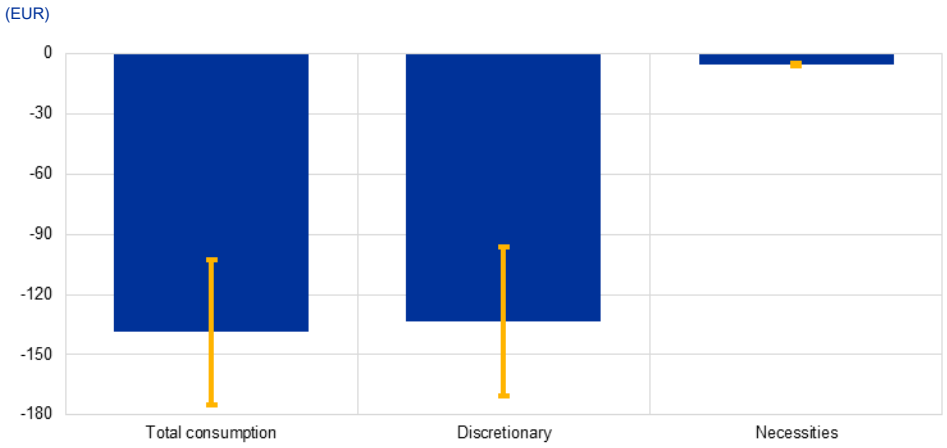
[2] The reported switch away from US products has occurred despite the significant depreciation of the US dollar.

announcements of the US Administration in April 2025.[3] In the June 2025 survey, consumers with higher financial literacy were more likely to report switching away from US products, while those with lower financial literacy were more likely to report reducing their overall consumption (Chart C, panel b).

The reduction in spending is driven by cuts in discretionary expenditure. Consumers who reported adjusting their consumption following tariff announcements reduced their overall nominal spending more than the comparison group, as estimated by the difference between the two groups and their consumption in January and April 2025. As expected, this reduction was driven entirely by discretionary spending, while spending on necessities remained largely unaffected (Chart D).

Chart D

Difference-in-difference estimates of consumption reduction in response to trade tensions



Source: ECB (June 2025 CES).
Notes: Population-weighted data. Difference in the change in level of consumption between January 2025 and April 2025 for those who reported that they had reduced spending after the tariff announcements and those who did not. Necessities include food, beverages, housing costs and utilities, while all other consumption is discretionary. Yellow lines represent 90% confidence intervals.

These findings highlight the tangible effects of trade tensions on the behaviour and economic expectations of European consumers. By altering inflation and growth expectations and prompting shifts in spending behaviour, tariffs have introduced a layer of uncertainty that is influencing both the decisions of individual households and, possibly, broader economic developments.

[3] Looking at those respondents who in March 2025 reported preferences as the main reason for potential substitution, responses in the June 2025 survey indicate that roughly 40% have now acted on those intentions.

References

Baumann, A., Caprari, L., Dossche, M., Kocharkov, G. and Kouvavas, O. (2025a), "Consumer confidence and household consumption decisions", *Economic Bulletin*, Issue 5, ECB.

Baumann, A., Caprari, L., Dossche, M., Kocharkov, G. and Kouvavas, O. (2025b), "How European consumers respond to US tariffs", *VoxEU Column*, Centre for Economic Policy Research, 16 July.

3 Manufacturing versus services: how frontloading and uncertainty shaped recent developments

Prepared by Niccolò Battistini and Johannes Gareis

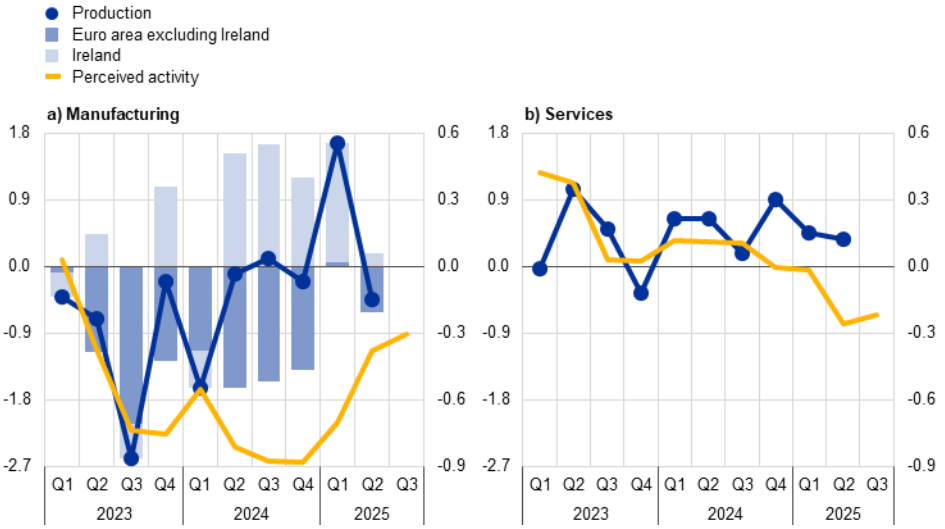
Manufacturing activity returned to growth in early 2025, while services activity slowed, marking a reversal of the previous trends in the two sectors. Hard data on production show that manufacturing activity contracted significantly in 2023 and 2024. In the first quarter of 2025, however, manufacturing rebounded as the contraction in the euro area excluding Ireland came to an abrupt halt, while the expansion in Ireland accelerated (Chart A). By contrast, services activity, which had continued to expand in the previous two years, lost momentum. Survey data on business perceptions from the European Commission corroborate this reversal. Manufacturing firms indicated a marked rise in perceived activity, which, however, remained below its long-term average. Conversely, services firms reported a fall in perceived activity below its historical norm. The earlier divergence between manufacturing and services reflected the energy-induced inflation surge and the ensuing monetary policy tightening, which weighed particularly on manufacturing, while services were supported by the post-pandemic normalisation of consumption patterns.[1] While some of these drivers have reversed, new factors have emerged. Temporary frontloading ahead of higher US tariffs likely supported the manufacturing rebound, while rising uncertainty surrounding trade policy (and, more broadly, economic policy) appears to have dampened overall activity. This box examines frontloading and trade policy uncertainty through the lens of granular sectoral data and discusses the short-term outlook for manufacturing and services activity.

[1] For an assessment of the impact of past monetary policy tightening on manufacturing and services activity, see Battistini and Gareis (2023).

Chart A

Production and perceived activity in manufacturing and services

(left-hand scale: quarter-on-quarter percentage changes and percentage point contributions; right-hand scale: standardised percentage balances)



Sources: Eurostat, European Commission and ECB calculations.
Notes: Services production refers to the business economy excluding financial and public services. Perceived activity refers to the assessment made by firms of changes in production over the past three months for manufacturing and of demand over the past three months for services. Survey indicators are standardised over the period from January 1999 up to the latest observation. Quarterly averages for the most recent observations are computed from available monthly observations. The latest monthly observations are for June 2025 for manufacturing production, May 2025 for services production and July 2025 for surveys.

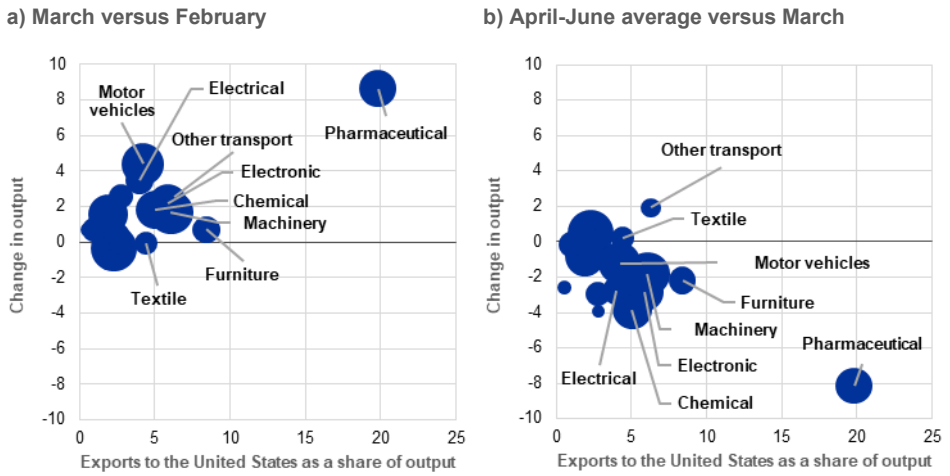
Frontloading ahead of higher US tariffs likely provided a temporary boost to manufacturing activity in the first quarter of 2025. According to corporate surveys, frontloading reflected a temporary surge in US demand for euro area goods ahead of the tariff increases scheduled for April (Melemenidis et al., 2025). This is consistent with the timing and magnitude of the fluctuations in manufacturing output. Manufacturing output rose sharply in the first quarter after two years of decline, largely driven by a strong increase in March – when it peaked, before falling between April and June. Temporary frontloading effects are also evident when comparing the exposure of different sectors to exports to the United States with their output dynamics (Chart B). Output in sectors with higher US export exposure recorded a stronger increase in March (Chart B, panel a) and a sharper decline between April and June (Chart B, panel b). The pharmaceutical industry illustrates these dynamics most clearly, given its high US export exposure. Production in this sector rose by nearly 9% in March compared with February, then fell by a similar amount on average in the second quarter. Across countries, these developments largely reflected the high volatility of pharmaceutical output in Germany, the Netherlands and, most likely, Ireland.[2]

[2] Pharmaceutical output in Germany and the Netherlands rose by about 19% and 17% between February and March and declined by about 15% and 26% on average in the second quarter compared with March, respectively. While no official production data are available for the Irish pharmaceutical industry, Irish output in the “modern sector” (including pharmaceuticals) as well as exports of pharmaceutical products to the United States increased sharply in March before declining in the second quarter, which may suggest a similar output profile.

Chart B

Manufacturing sector production and exposure to US exports

(period-on-period percentage changes)



Sources: Eurostat, European Commission and ECB calculations.
Notes: The size of the dots reflects the sectoral share of total gross value added. The labels identify sectors where US exports exceed 3% of sectoral output. Sectoral input-output data are based on FIGARO tables for 2022. The latest observations are for June 2025.

While manufacturing activity was temporarily supported by frontloading, rising trade policy uncertainty has likely contributed to the recent loss of momentum in services. Following the US Administration's tariff announcement on 2 April, trade policy uncertainty surged to a historic high, well above the levels observed during previous episodes of trade tensions, such as the US-China disputes in President Trump's first term (Chart C).[3] Empirical evidence shows that trade policy uncertainty disproportionately weighs on business investment (Caldara et al., 2020; Andersson et al., 2024) and on related sectoral activity (De Santis and Zimic, 2019). Granular and timely survey data across sectors support this finding. During the first Trump Administration, perceived activity declined among manufacturing and business services firms – both closely tied to business investment – while remaining resilient among consumer services firms (Chart C, panel a).[4] Similarly, at the current juncture, heightened trade policy uncertainty has likely weighed more on manufacturing and business services than on consumer services. In the case of manufacturing, however, this negative impact has so far been amply offset by positive frontloading effects, which have temporarily boosted output (Chart C, panel b).

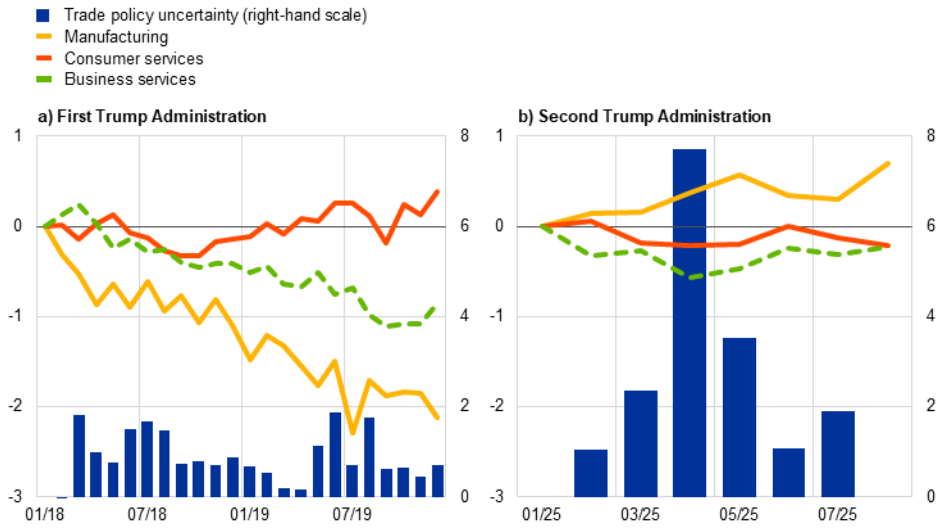
3 Trade policy uncertainty in this box refers to the index developed by Caldara et al. (2020), which is constructed by counting the frequency of joint occurrences of trade policy and uncertainty terms in major US newspapers. For an early assessment of the importance of trade policy uncertainty compared with other uncertainty measures during the first Trump Administration, see Azqueta-Gavaldón et al. (2019).

4 The increasing trade policy uncertainty during President Trump's first term should be only one factor behind the decline in perceived activity in manufacturing and business services. This development may also have been influenced by other factors, including difficulties in the automotive industry owing to the introduction of new emissions standards, financial turmoil in emerging markets and Brexit (Gunnella and Quaglietti, 2019).

Chart C

Trade policy uncertainty and perceived activity in manufacturing and services

(left-hand scale: cumulative changes in standardised percentage balances; right-hand scale: cumulative change in standardised index)



Sources: Eurostat, European Commission, Caldara et al. (2020) and ECB calculations.
Notes: Perceived activity refers to the assessment made by firms of changes in production over the past three months for manufacturing and of demand over the past three months for services. Consumer services include accommodation and food as well as travel agency, broadcasting and postal activities; business services include the remaining professional activities, warehousing, publishing (mainly software) and repair of computers. For the measure of trade policy uncertainty, see Caldara et al. (2020). Cumulative changes are computed from January 2018 in panel a) and from January 2025 in panel b). The latest observations are for July 2025.

Several factors are driving the outlook for manufacturing and services, with no clear signal yet as to which will prevail. European Commission survey data indicate that activity has fallen somewhat in consumer services, while recovering slightly in business services, in the third quarter to date, as trade policy uncertainty has abated (Chart C, panel b). Moreover, manufacturing activity has risen further above its level at the start of the year. Looking at risks from uncertainty, if trade policy uncertainty were to remain elevated by historical standards, its dampening effects could continue to weigh on services and become visible in manufacturing as frontloading unwinds. However, the trade agreement between the EU and the United States could trigger a fast decline in such uncertainty, mitigating some of its adverse effects. In addition to uncertainty-related risks, other factors are likely to shape the outlook. Headwinds stem from the appreciation of the euro and the impact of higher tariffs, while delayed effects from monetary policy loosening and possible support from increased spending on defence and infrastructure provide countervailing tailwinds.

References

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

Azqueta-Gavaldón, A., Hirschbühl, D., Onorante, L. and Saiz, L. (2019), "Sources of economic policy uncertainty in the euro area: a machine learning approach", *Economic Bulletin*, Issue 5, ECB.

Battistini, N. and Gareis, J. (2023), "Monetary policy and the recent slowdown in manufacturing and services", *Economic Bulletin*, Issue 8, ECB.

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.

De Santis, R.A. and Zimic, S. (2019), "Domestic versus foreign factors behind the fall in euro area industrial production", *Economic Bulletin*, Issue 6, ECB.

Gunnella, V. and Quaglietti, L. (2019), "The economic implications of rising protectionism: a euro area and global perspective", *Economic Bulletin*, Issue 3, ECB.

Melemenidis, A., Morris, R. and Roma, M. (2025), "Main findings from the ECB's recent contacts with non-financial companies", *Economic Bulletin*, Issue 5, ECB.

4 Are workers willing to accept pay cuts in exchange for remote working flexibility?

Prepared by António Dias da Silva and Marco Weissler

Since the pandemic, working from home has become more common in the euro area.[1] According to Eurostat, the share of employees aged 20-64 who at least sometimes worked from home doubled between 2019 and 2024, from 11.7% to 22.4%.[2] Among respondents to the ECB Consumer Expectations Survey (CES), working from home was even more common than this, as in May 2024, 33.6% of employees reported working at least two days per week from home. This discrepancy could be attributable to methodological differences and, given that the CES is conducted online, to potential sampling differences. The CES also shows that these remote working patterns seem to have become well established, having remained broadly stable from 2024 to 2025. Non-wage benefits – including remote working possibilities – are often offered by firms as an alternative to higher wages. Previous international research on this question has often found that employees would be willing to forgo a part of their wages in exchange for being able to work from home (Aksoy et al., 2022, Nagler et al., 2024 and Cullen et al., 2025). This box analyses how much euro area employees value having the option to work from home.

According to the CES, a hybrid working pattern remains the most common and preferred option among employees who work remotely. In 2025, 55.7% of employees did not work from home at all, 11.9% worked from home around one day per week, 21.9% worked from home between two and four days per week ("hybrid working") and 10.6% worked from home five or more days per week (Chart A).[3] Comparing employees' actual remote working patterns with their desired remote working patterns reveals some significant differences. The largest gap is observed for employees who currently work from home one day per week, followed by those who never work from home and then those who work fully remotely. Overall, a hybrid working pattern appears to be the preferred remote working option, with most hybrid workers (84%) expressing satisfaction with their current arrangement. Interestingly, 43% of employees who work fully remotely would prefer to spend fewer days working away from the office. This suggests that remote working may be driven more by necessity or employer requirements than by preference.[4]

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1 In this box, "working from home" and "remote working" are used interchangeably to refer to work done away from an office or other traditional workplace, whether at the employee's place of residence or at another location of their choice.

2 These shares refer to workers aged 20-64 who are not self-employed. Additionally, while the current share of employees working from home is higher than in 2019, it is lower than in 2021 and 2022, in line with the evidence for the United States (Bick et al., 2025). See Dias da Silva et al. (2023) for an analysis of developments in remote working in the euro area during the pandemic.

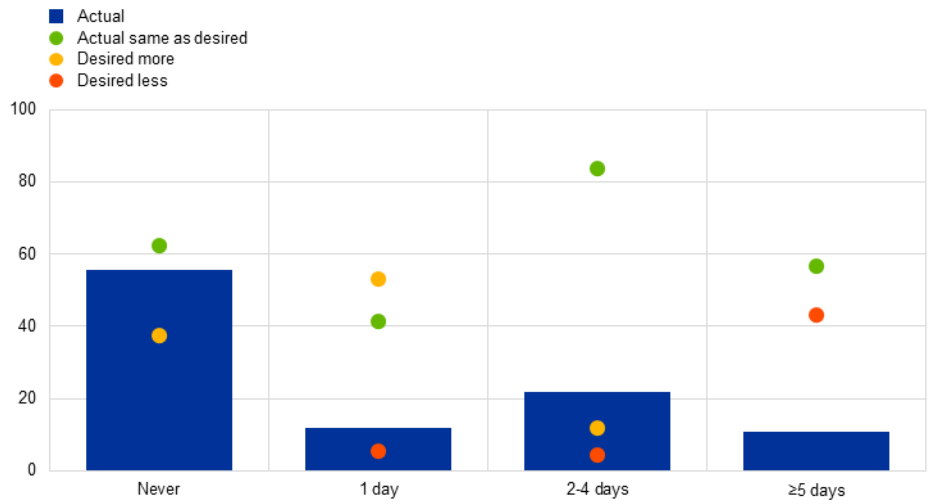
3 The aggregate figures conceal substantial differences across occupations according to the feasibility of working remotely, as shown in Dias da Silva et al. (2023).

4 Only half of the employees who reported working fully remotely in May 2024 still had this working pattern as of May 2025, compared with 74% for those with a hybrid working pattern and 88% for those rarely/never working from home. This suggests that working fully remotely is not a persistent working pattern.

Chart A

Actual remote workdays per week and desired remote workdays

(bars: percentage of employees; dots: percentage of employees in each bar)

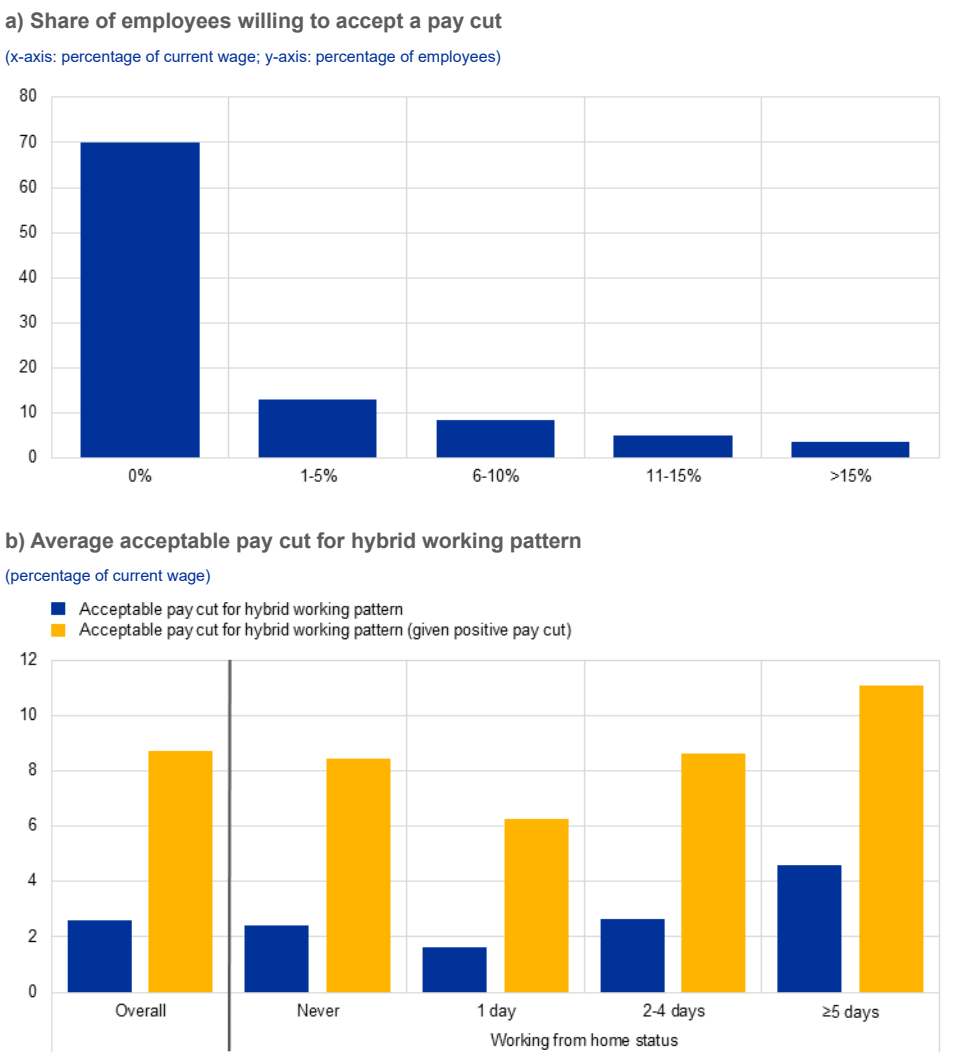


Source: ECB Consumer Expectations Survey (CES).
Notes: Results from the CES annual labour market module completed in May 2025 for employees aged 20-64. These results are based on the following questions: "How many days have you tended to work from home in a typical week over the last three months?" and "Looking one year ahead, how often during a typical week would you like to have paid workdays at home?".

Employees are not willing to give up a large share of their wages for a hybrid working pattern, despite their high satisfaction with their current working from home arrangements. In May 2025, CES respondents were asked to assume their employer did not allow working from home and indicate what level of pay cut they would be willing to accept (as a percentage of their current pay) in exchange for the option to work from home two or three days per week. Results show that 70% of employees would not be willing to accept a pay cut to work from home. However, 13% of employees would accept a pay cut of between 1% and 5%, while 8% would accept a reduction of between 6% and 10% (Chart B, panel a).

Chart B

Willingness to accept a pay cut in exchange for hybrid working pattern



Source: ECB Consumer Expectations Survey (CES).
Notes: Results from the CES annual labour market module completed in May 2025 for employees aged 20-64. The results in panel b) are based on the following question: "Imagine your employer did not allow its employees to work from home. Hypothetically, how much of a pay cut would you be willing to accept (as a percentage of your current pay) for the option to work from home two or three days a week?". The results exclude workers with a job that cannot be done remotely.

The average pay cut that employees would accept to work two or three days per week from home is 2.6%. This is significantly lower than other estimates in the empirical literature. Barrero et al. (2021) estimate that US workers would accept a pay cut of 7% to work from home two or three days per week. Nagler et al. (2024) estimate that workers in Germany are willing to give up 7.7% of their earnings to work fully remotely and 5.4% to work remotely two days per week. Focusing on the tech sector in the United States, Cullen et al. (2025) estimate that workers are willing to forgo around 25% of their total pay to take up a remote position instead of one that is fully in-person.

We find a large variation in the willingness to accept a pay cut across the different working from home patterns. Employees who currently work from home more frequently tend to be willing to accept a higher pay cut to preserve this working

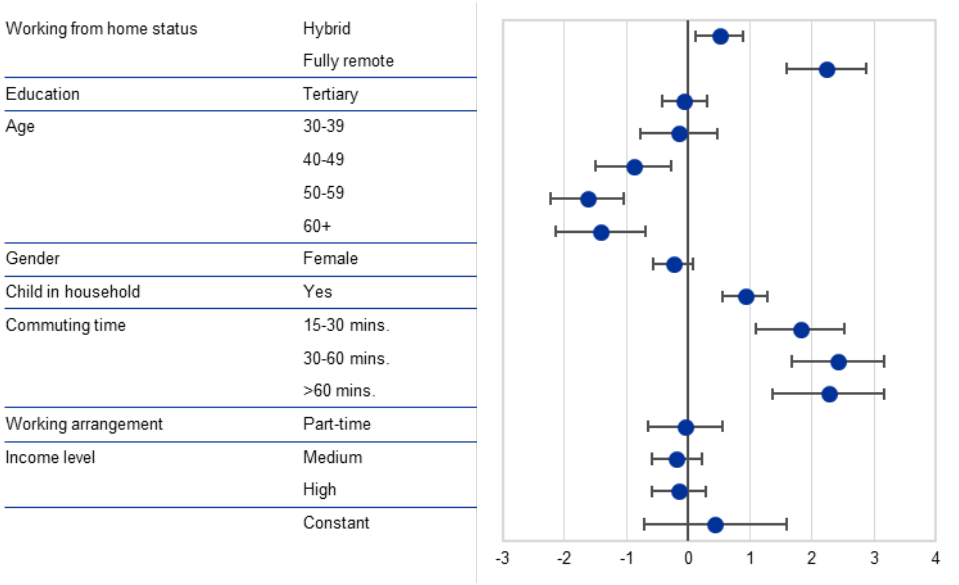
arrangement (Chart B, panel b). Employees who work fully remotely are willing to accept a pay cut of 4.6%. By contrast, those who currently work from home one day per week would accept a pay cut of only 1.6%. Among those willing to accept a pay cut, the average acceptable pay cut is much higher (8.7%). This suggests that while most employees are not very willing to give up their pay to work from home, it is a valuable non-wage benefit for some.

Personal and job characteristics influence how much employees value the option to work from home (Chart C). Younger workers tend to value remote working more highly than older workers. Employees with children in their household tend to value remote working highly (see, for example, Aksoy et al., 2025), as do those with longer commutes. By contrast, income, education level and gender appear to have little impact on how much employees value remote working.

Chart C

Willingness to accept a pay cut: regression results for personal and job characteristics

(percentage of current wage)



Sources: ECB Consumer Expectations Survey (CES) and ECB staff calculations.
Notes: Results from the CES annual labour market module completed in May 2025 for employees aged 20-64. Coefficients and 95% confidence bands from a linear regression with heterogeneity-robust standard errors. Omitted benchmarks are "Never" and "1 day per week" (for working from home status), "20-29" (for age), "0-15 min" (for commuting time) and "Low" (for income level). Income groups are defined as terciles of trimmed hourly wages in April 2025. The results exclude workers with a job that cannot be done remotely. Example for illustrative purposes: workers with a hybrid working pattern (2-4 days from home per week) are, on average, willing to accept a pay cut of an estimated 0.5 percentage points higher than workers who rarely or never work from home. There is a 95% probability that the true value of this estimate lies between 0.1 and 0.9 percentage points, i.e. it is likely larger than zero.

Several other factors may influence these results. Remote working comes with challenges such as social isolation, fewer opportunities to connect with colleagues and concerns about visibility at work. This may explain why many employees are not willing to accept a pay cut in exchange for hybrid working possibilities. However, for some employees – particularly those with children or long commutes – working from home is highly valued, as it can help them balance their work and personal life. It can also enable workers facing specific external circumstances to participate in the labour market or accept jobs that they would otherwise not be able to do, for

instance by reducing commuting costs or facilitating caretaking responsibilities. Remote working flexibility can therefore play a role in attracting and retaining workers, especially in tight labour markets where skilled staff are scarce.

References

Aksoy, C. G., Barrero, J. M., Bloom, N., Davis, S. J., Dolls, M. and Zarate, P. (2022), "Working from Home Around the World", *Brookings Papers on Economic Activity,* The Brookings Institution, pp. 281-330.

Aksoy, C. G., Barrero, J. M., Bloom, N., Davis, S. J. Dolls, M. and Zarate, P. (2025), "Working from Home in 2025: Five Key Facts", Stanford Institute for Economic Policy Research, Stanford University, 14 April.

Barrero, J. M., Bloom, N. and Davis, S. J. (2021), "Why Working from Home Will Stick", *NBER Working Paper*, No 28731, April.

Bick, A., Blandin, A., Caplan, A. and Caplan, T. (2025), "The work from home divide: Insights from six US surveys", *VoxEU column*, 4 March.

Cullen, Z., Pakzad-Hurson, B. and Perez-Truglia, R. (2025), "Home Sweet Home: How Much Do Employees Value Remote Work?" *AEA Papers and Proceedings*, Vol. 115, pp. 276-281, May.

Dias da Silva, A., Georgarakos, D. and Weissler, M. (2023), "How people want to work – preferences for remote work after the pandemic", *Economic Bulletin*, Issue 1, ECB.

Nagler, M., Rincke, J. and Winkler, E. (2024), "Working from home, commuting, and gender", *Journal of Population Economics*, Vol. 37, Art. No 58, 8 June, pp. 1-23.

5 Monitoring attention to inflation in the news

Prepared by Ilias Aarab, Marta Bańbura, Elena Bobeica and Emma Leguay

The degree of attention people devote to inflation can affect inflation expectations, the pass-through of shocks to inflation and the transmission of monetary policy. Specifically, the level of attention shapes how inflation expectations are formed, which are central to price and wage dynamics. Attention to inflation varies over time.[1] When it is high, expectations are more sensitive to developments, potentially leading to a stronger and faster pass-through to actual prices and wages. Research also shows that responsiveness to monetary policy can differ between those who are attentive to inflation and those who are not. As such, the degree of attention may influence the effectiveness of monetary policy transmission (Pfäuti, 2024; Song and Stern, 2024).

We proxy the attention paid to inflation by measuring how prominently the topic features in the news. Surveys can provide a direct measure of attention via tailored questions, but news coverage offers an indirect alternative, reflecting the information available to economic agents.[2] News coverage has been found to shape consumers' perceptions and expectations, as households rely on the media to stay informed about price developments.[3] In addition, news data are available at high frequency and in a timely manner.

This box puts forward a dictionary-based measure of inflation attention, which draws on a large corpus of articles in general content newspapers from the four largest euro area countries. To measure inflation attention in the euro area, we follow the methodology proposed by Baker et al. (2016) to derive an index of economic policy uncertainty. We calculate the proportion of newspaper articles that contain one or more keywords associated with inflation.[4] We use articles published in their original languages in newspapers from France, Germany, Italy and Spain.[5] These articles are sourced from Factiva, a news database maintained by Dow Jones. After applying several preprocessing and "cleaning" steps, the resulting dataset contains over three million articles, with an average of 10,000 articles

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1 Individuals often do not gather or process all available information when making decisions, either owing to cognitive limitations or the costs of doing so. In the latter case, they tend to prioritise the signals that are most relevant (Handel and Schwartzstein, 2018; Coibion et al., 2018). This mechanism, known as "rational inattention" (for a review, see Maćkowiak et al., 2023), can influence expectations and therefore has significant implications for economic dynamics.

2 Other studies have looked at other data sources, such as X (formerly Twitter), Google Trends or television coverage, both for the United States and European countries, and found similar results to those presented in this box (see, for example, Buelens, 2023; Korenok et al., 2022).

3 See, for instance, Larsen et al. (2021); Nimark and Pitschner (2019); and Arndt (2024).

4 Apart from "inflation" itself, we also use several related terms and expressions, including synonyms for price increases, dynamics and pressures, developments in purchasing power and currency value, along with their grammatical variants in each language.

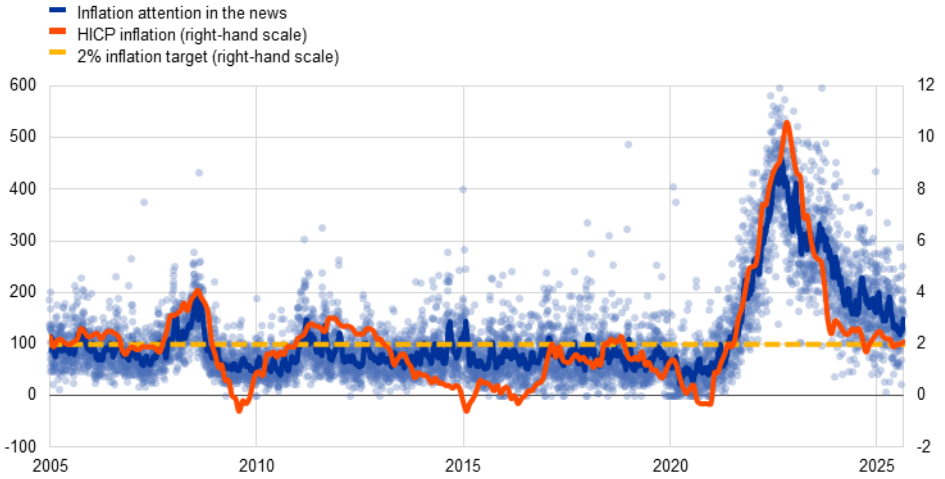
5 France: *Le Monde*, *Les Echos*, *Le Figaro*; Germany: *Der Tagesspiegel*, *Die Welt*, *Die Süddeutsche Zeitung*; Italy: *Il Corriere della Sera*, *Il Sole 24 Ore*, *La Repubblica*, *La Stampa*; Spain: *El Mundo*, *El País*, *Expansión*, *La Vanguardia*.

published each month.[6] For each language, we construct a set of inflation-related keywords (the "dictionary") and calculate the daily proportion of articles in each newspaper's corpus that contain at least one of these keywords. The daily time series for each newspaper is standardised to have a unit standard deviation over the period 1997-2011. We then compute the average of these standardised proportions across the different newspapers to get the consolidated daily time series. Finally, this time series is normalised to have a mean of 100 over the same 1997-2011 period.[7] Thus, an inflation attention index value of 500 means that attention to inflation is five times higher than the average inflation attention between 1997 and 2011. Our inflation attention index exhibits a strong correlation (0.85) with inflation over the whole available sample period.

Chart A

Inflation attention in the news and HICP inflation

(left-hand scale: index of relative number of articles; right-hand scale: annual percentage changes)



Sources: Dow Jones Factiva, Eurostat and ECB calculations.
Notes: Inflation attention in the news is calculated using the 28-day moving average of the daily index. The daily index is represented as blue shaded dots. The latest observations are for August 2025.

While attention to inflation in the news has decreased from its peak in 2022, it remains higher than the levels observed prior to the inflation surge (Chart A). As inflation rates rose sharply in the euro area and beyond and higher prices eroded purchasing power, news articles increasingly focused on inflation dynamics. This heightened attention to inflation during the inflation surge highlights the influence of the broader economic environment on attention patterns, as documented in several

6 This methodology assumes a high quality of textual data. To ensure this, we apply several preprocessing steps designed to exclude documents that are unlikely to be relevant and to clean other data artefacts that might blur the signal. Examples of documents that are unlikely to be relevant include those that are extremely short or extremely long, those containing explicitly re-published content, and those whose subject code falls outside the list of economics-related categories.

7 Our methodology differs from that of Baker et al. (2016) in two ways. First, we compute the index at a daily frequency, whereas they use a monthly frequency. This approach was chosen since sufficient data are available and we are interested in capturing high-frequency news, which provides valuable information ahead of the monthly release of the harmonised index of consumer prices (HICP). Second, for the standardisation and normalisation steps, we use the period 1997-2011, whereas they use the period 1985-2009. This adjustment includes the sovereign debt crisis, which is of particular relevance for European countries.

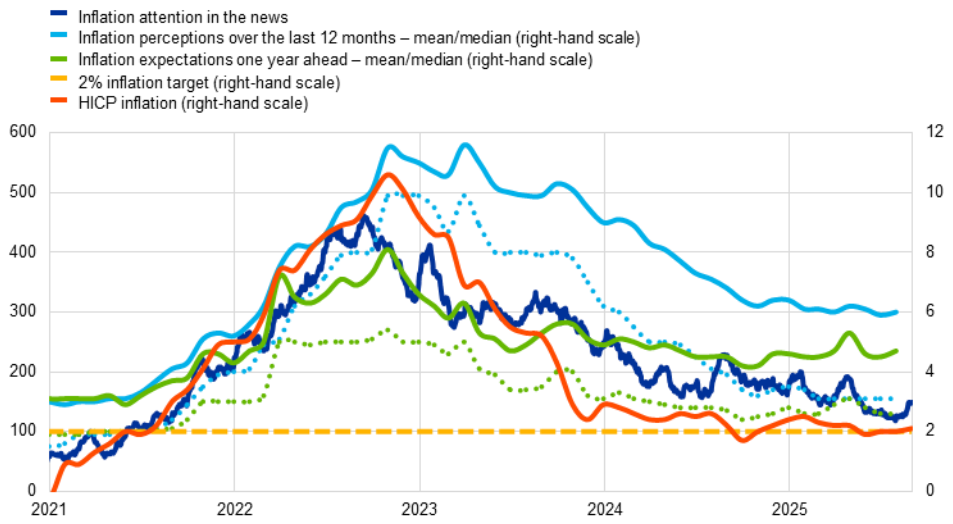
studies.[8] Even though inflation has now been close to the ECB's 2% medium-term target for some time, media coverage of inflation is still relatively high.[9] This persistence may reflect the longer-lasting effects of the most significant inflationary episode experienced by the euro area in recent history. The memory of high inflation is still fresh in people's minds, price levels are elevated compared with pre-surge levels and purchasing power has been recovering only gradually (Bates et al., 2025).

The sustained attention to inflation in the news has coincided with people's perceptions that the decline in inflation was slower than it actually was. According to the ECB Consumer Expectations Survey, consumers' perceptions of inflation rose sharply in response to increasing inflation but declined more gradually once actual inflation began to ease (Chart B). This slower adjustment likely contributed to the persistence of elevated inflation expectations, particularly one year ahead, given the strong relationship between the two variables. The level of inflation-related coverage in the news correlates closely with consumers' perceptions of past inflation and their short-term expectations, both during the rise in inflation and its subsequent decline. Similar to inflation attention in the news, both perceptions and expectations have remained somewhat elevated compared with pre-surge levels, even as actual inflation has unwound more quickly.

Chart B

Inflation attention, perceptions and expectations in the recent high inflation period

(left-hand scale: index of relative number of articles; right-hand scale: annual percentage changes)



Sources: Dow Jones Factiva, Consumer Expectations Survey, Eurostat and ECB calculations.
Notes: Inflation attention in the news is calculated using the 28-day moving average of the daily index. Inflation perceptions and inflation expectations show the mean rate reported in the survey's responses with solid lines, and the median rate with dotted lines. The latest observations are for August 2025 for inflation attention in the news and HICP inflation, and for July 2025 for inflation perceptions over the last 12 months and inflation expectations one year ahead.

Attention to inflation in general has moderated somewhat this year but, while it has normalised for the energy sub-component, it remains elevated for food. By the end of August, inflation attention was lower than it was at the beginning of the

8 Bracha and Tang (2025); Coibion and Gorodnichenko (2025); and Weber et al. (2025).

9 A similar pattern can be observed in the United States, with a different measure of inflation attention (Pfäuti, 2025).

year. A temporary spike in news coverage about inflation occurred in early April, coinciding with the announcement of US tariffs on 2 April, but subsided as tariff-related tensions eased. A closer look at energy and food – two sub-components which were central to the initial inflation surge and highly influential for expectations – reveals some commonalities and some contrasting trends. During the inflation surge, both inflation sub-components received significantly more attention in the news than inflation in general. Specifically, coverage of energy inflation grew up to seven times its historical average, and coverage of food inflation reached a level up to eleven times its historical average. In comparison, news about overall inflation increased around fivefold. Attention to energy inflation has largely returned to pre-surge levels, whereas food inflation continues to receive considerable media coverage.[10] This pattern is consistent with food inflation remaining elevated at 3.2% year-on-year in August 2025 and food prices in general still significantly exceeding pre-pandemic levels.

Overall, attention to inflation has declined, underscoring the relevance of the broader economic environment in shaping media coverage. However, attention remains above the levels seen before the inflation surge. This may reflect inflation rates for certain items, such as food, that are still higher than pre-pandemic levels, as well as the longer-lasting effects of the most pronounced inflationary episode in recent euro area history on Europeans' collective memory. Such enduring attention could have implications for how future shocks propagate through the economy (Salle et al., 2023; Pfäuti, 2025).

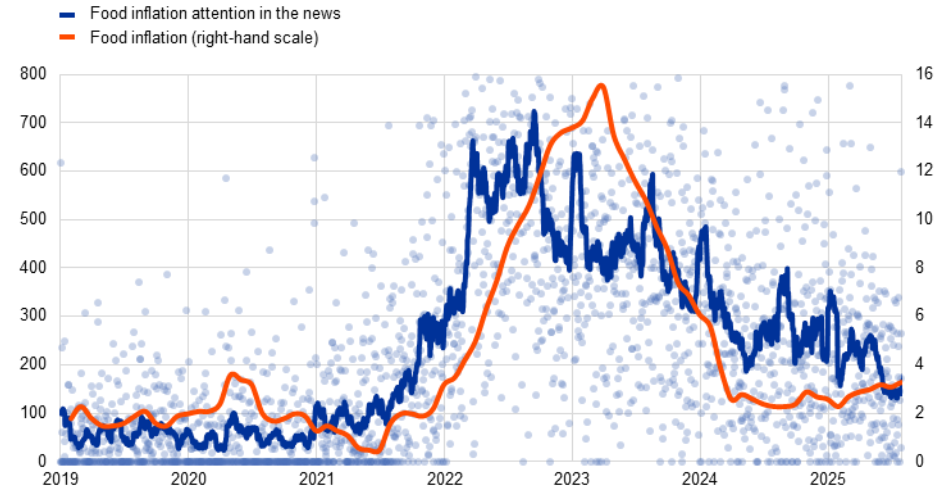
[10] To analyse the sub-components of inflation, we build on the methodology of Baker et al. (2016) by following a hierarchical labelling approach and adding a layer in the keyword matching mechanism. Specifically, within the set of inflation-related articles, we identify those containing one or more keywords broadly associated with the sub-component. We then compute the proportion of these articles relative to the total number of articles published, rather than restricting the calculation to the subset of inflation-related articles alone. The same standardisation and normalisation steps used for the overall inflation attention index are applied. By focusing on inflation-tagged articles and applying large dictionaries specific to food and energy, we maximise recall without losing precision.

Chart C

Attention to sub-components of inflation in the news

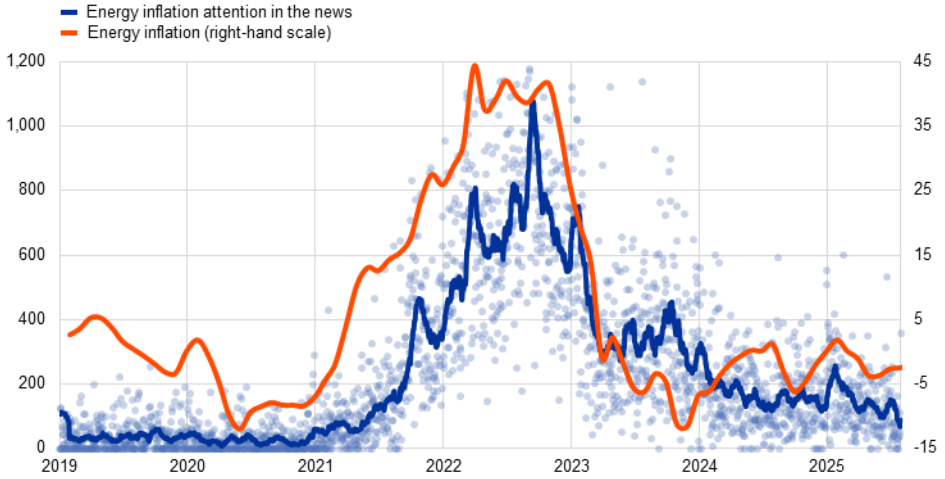
a) Food inflation attention

(left-hand scale: index of relative number of articles; right-hand scale: annual percentage changes)



b) Energy inflation attention

(left-hand scale: index of relative number of articles; right-hand scale: annual percentage changes)



Sources: Dow Jones Factiva, Eurostat and ECB calculations.
Notes: Food inflation attention in the news and energy inflation attention in the news are calculated using the 28-day moving averages of the daily indices. The daily indices are represented as blue shaded dots. The daily indices are normalised to have a mean of 100 over the period 1997-2011. A food inflation attention index value of 700 means that attention to the food sub-component of inflation is seven times higher than the average food inflation attention between 1997 and 2011. The latest observations are for August 2025.

References

Arndt, S. (2024), "Different Newspapers – Different Inflation Perceptions", *Working Paper*, Heidelberg University, June.

Baker, S.R., Bloom, N. and Davis, S.J. (2016), "Measuring Economic Policy Uncertainty", *The Quarterly Journal of Economics*, Vol. 131, No 4, November, pp. 1593-1636.

Bates, C., Bodnár, K., Botelho, V. and Rousseau, F. (2025), "Real wage catch-up in the euro area", *Economic Bulletin*, ECB, Issue 5.

Bracha, A. and Tang, J. (2025), "Inflation Levels and (In)Attention", *The Review of Economic Studies*, Vol. 92, No 3, May, pp. 1564-1594.

Buelens, C. (2023), "Googling "Inflation": What does Internet Search Behaviour Reveal about Household (In)attention to Inflation and Monetary Policy?", *Discussion Papers*, No 183, European Commission, March.

Coibion, O. and Gorodnichenko, Y. (2025), "Inflation, Expectations and Monetary Policy: What Have We Learned and to What End?", *Discussion Paper Series*, IZA Institute of Labor Economics, No 17919, May.

Coibion, O., Gorodnichenko, Y. and Kumar, S. (2018), "How Do Firms Form Their Expectations? New Survey Evidence", *American Economic Review*, Vol. 108, No 9, September, pp. 2671-2713.

Handel, B. and Schwartzstein, J. (2018), "Frictions or Mental Gaps: What's Behind the Information We (Don't) Use and When Do We Care?", *Journal of Economic Perspectives*, Vol. 32, No 1, pp. 155-178.

Korenok, O., Munro, D. and Chen, J. (2022), "Inflation and attention thresholds", *Discussion Paper*, No 1175, Global Labor Organization

Larsen, V.H., Thorsrud, L.A. and Zhulanova, J. (2021), "News-driven inflation expectations and information rigidities", *Journal of Monetary Economics*, Vol. 117, pp. 507-520.

Maćkowiak, B., Matějka, F. and Wiederholt, M. (2023), "Rational Inattention: A Review", *Journal of Economic Literature*, Vol. 61, No 1, March, pp. 226-273.

Nimark, K.P. and Pitschner, S. (2019), "News media and delegated information choice", Journal of Economic Theory, Vol. 181, May, pp. 160-196.

Pfäuti, O. (2025), "The Inflation Attention Threshold and Inflation Surges", *Papers 2308.09480*, arXiv.org, revised 2025.

Pfäuti, O. (2024), "Inflation – Who Cares? Monetary Policy in Times of Low Attention", *Journal of Money, Credit and Banking*, Vol. 57, No 5.

Salle, I., Gorodnichenko, Y. and Coibion, O. (2023), "Lifetime Memories of Inflation: Evidence from Surveys and the Lab", *NBER Working Paper*, No 31996, December.

Song, W. and Stern, S. (2024), "Firm Inattention and the Efficacy of Monetary Policy: A Text-Based Approach", *The Review of Economic Studies*, Vol. 92, No 5, October, pp. 3438-3469.

Weber, M., Candia, B., Afrouzi, H., Ropele, T., Lluberas, R., Frache, S., Meyer, B., Kumar, S., Gorodnichenko, Y., Georgarakos, D., Coibion, O., Kenny, G. and Ponce,

J. (2025), “Tell Me Something I Don't Already Know: Learning in Low- and High-Inflation Settings”, *Econometrica*, Vol. 93, No 1, January, pp. 229-264.

6 Liquidity conditions and monetary policy operations from 23 April to 29 July 2025

Prepared by Samuel Bieber and Vladimir Tsonchev

This box describes the Eurosystem liquidity conditions and monetary policy operations in the third and fourth reserve maintenance periods of 2025. Together, these two maintenance periods ran from 23 April to 29 July 2025 (the "review period").

Average excess liquidity in the euro area banking system continued to decline. Liquidity provision decreased, owing 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. The decrease was partly offset by the continuing reduction in liquidity absorption through net autonomous factors.

Liquidity needs

The average daily liquidity needs of the banking system, defined as the sum of net autonomous factors and reserve requirements, fell by €36 billion to €1,318 billion over the review period. This reflected the fact that liquidity-absorbing autonomous factors increased by less than liquidity-providing autonomous factors (Table A). Minimum reserve requirements remained at €167 billion, having no impact on aggregate liquidity needs.

Liquidity-absorbing autonomous factors rose by €60 billion over the review period, owing mainly to a rise in other autonomous factors. On average, net other autonomous factors grew by €52 billion. This was due primarily to an increase of around €70 billion in the revaluation accounts because of higher gold prices (see the paragraph on liquidity-providing autonomous factors below), which was partially offset by a decrease in Eurosystem capital and reserves following the losses in 2024. Government deposits fell slightly by €5 billion to €104 billion. The overall decrease in this item since 2022 reflects changes in the remuneration of government deposits held with the Eurosystem, which have made it financially more attractive to place funds in the market, as well as the normalisation of cash buffers held by national treasuries. Following the usual pattern for the time of year, the average value of banknotes in circulation increased over the review period, rising by €14 billion to €1,583 billion.

Liquidity-providing autonomous factors went up by €97 billion, which primarily reflected an increase of €74 billion in net foreign assets. This rise in net foreign asset holdings was driven mainly by higher gold prices. Net assets denominated in euro grew by €23 billion over the review period.

Table A

Eurosystem liquidity conditions

Liabilities

(averages; EUR billions)

	Current review period: 23 April-29 July 2025						Previous review period: 5 February-22 April 2025	
	Third and fourth maintenance periods		Third maintenance period: 23 April-10 June 2025		Fourth maintenance period: 11 June-29 July 2025		First and second maintenance periods	
Liquidity-absorbing autonomous factors	2,861	(+60)	2,877	(+52)	2,845	(-33)	2,801	(+61)
Banknotes in circulation	1,583	(+14)	1,579	(+7)	1,587	(+8)	1,569	(-0)
Government deposits	104	(-5)	104	(+4)	103	(-1)	109	(-2)
Other autonomous factors (net)[1]	1,174	(+52)	1,194	(+41)	1,154	(-40)	1,122	(+63)
Current accounts above minimum reserve requirements	5	(-0)	6	(+0)	5	(-1)	5	(-0)
Minimum reserve requirements[2]	167	(+0)	167	(+1)	167	(-0)	167	(+3)
Deposit facility	2,705	(-120)	2,740	(-67)	2,671	(-69)	2,825	(-92)
Liquidity-absorbing fine-tuning operations	0	(+0)	0	(+0)	0	(+0)	0	(+0)

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.
1) Computed as the sum of the revaluation accounts, other claims and liabilities of euro area residents, and capital and reserves.
2) Memo item that does not appear on the Eurosystem balance sheet and should therefore not be included in the calculation of total liabilities.

Assets

(averages; EUR billions)

	Current review period: 23 April-29 July 2025						Previous review period: 5 February-22 April 2025	
	Third and fourth maintenance periods		Third maintenance period: 23 April-10 June 2025		Fourth maintenance period: 11 June-29 July 2025		First and second maintenance periods	
Liquidity-providing autonomous factors	1,710	(+97)	1,722	(+65)	1,699	(-23)	1,613	(+133)
Net foreign assets	1,330	(+74)	1,345	(+58)	1,315	(-29)	1,256	(+85)
Net assets denominated in euro	380	(+23)	377	(+6)	384	(+6)	357	(+48)
Monetary policy instruments	4,029	(-156)	4,068	(-78)	3,989	(-80)	4,185	(-162)
Open market operations	4,029	(-156)	4,068	(-78)	3,989	(-80)	4,185	(-162)
Credit operations	23	(-2)	25	(+1)	21	(-4)	26	(-14)
- MROs	10	(+0)	11	(+1)	8	(-3)	9	(-1)
- Three-month LTROs	13	(-3)	14	(-1)	13	(-1)	16	(+2)
- TLTRO III	0	(+0)	0	(+0)	0	(+0)	0	(-16)
Outright portfolios[1]	4,005	(-154)	4,043	(-78)	3,968	(-76)	4,159	(-147)
Marginal lending facility	0	(-0)	0	(+0)	0	(-0)	0	(+0)

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, LTROs for longer-term refinancing operations and TLTRO III for the third series of targeted longer-term refinancing operations.
1) With the discontinuation of net asset purchases, the individual breakdown of outright portfolios is no longer shown.

Other liquidity-based information

(averages; EUR billions)

	Current review period: 23 April-29 July 2025						Previous review period: 5 February-22 April 2025	
	Third and fourth maintenance periods		Third maintenance period: 23 April-10 June 2025		Fourth maintenance period: 11 June-29 July 2025		First and second maintenance periods	
Aggregate liquidity needs[1]	1,318	(-36)	1,323	(-11)	1,313	(-10)	1,354	(-69)
Net autonomous factors[2]	1,151	(-37)	1,156	(-12)	1,146	(-9)	1,188	(-72)
Excess liquidity[3]	2,711	(-120)	2,746	(-67)	2,676	(-70)	2,830	(-92)

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.
1) Computed as the sum of net autonomous factors and minimum reserve requirements.
2) Computed as the difference between autonomous liquidity factors on the liabilities side and autonomous liquidity factors on the assets side. For the purposes of this table, items in the course of settlement are also added to net autonomous factors.
3) 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.

Interest rate developments

(averages; percentages and percentage points)

	Current review period: 23 April-29 July 2025				Previous review period: 5 February-22 April 2025			
	Third maintenance period: 23 April-10 June 2025		Fourth maintenance period: 11 June-29 July 2025		First maintenance period: 5 February-11 March 2025		Second maintenance period: 12 March-22 April 2025	
MROs	2.40	(-0.25)	2.15	(-0.25)	2.90	(-0.25)	2.65	(-0.25)
Marginal lending facility	2.65	(-0.25)	2.40	(-0.25)	3.15	(-0.25)	2.90	(-0.25)
Deposit facility	2.25	(-0.25)	2.00	(-0.25)	2.75	(-0.25)	2.50	(-0.25)
€STR	2.17	(-0.25)	1.92	(-0.25)	2.67	(-0.25)	2.42	(-0.25)
RepoFunds Rate Euro	2.25	(-0.24)	2.00	(-0.24)	2.73	(-0.23)	2.49	(-0.25)

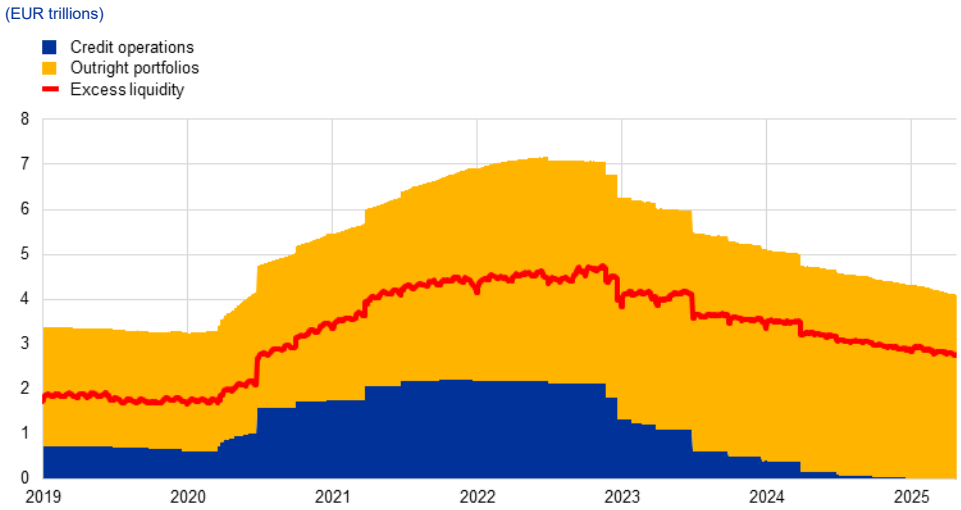
Sources: ECB, CME Group and Bloomberg Finance L.P.
Notes: Figures in brackets denote the change in percentage points from the previous review or maintenance period. MROs stands for main refinancing operations and €STR for euro short-term rate.

Liquidity provided through monetary policy instruments

The average amount of liquidity provided through monetary policy instruments decreased by €156 billion to €4,029 billion over the review period (Chart A).
The decline in liquidity supply was driven primarily by a reduction in Eurosystem outright portfolios and, to a lesser extent, in credit operations.

Chart A

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



Source: ECB.
Note: The latest observations are for 29 July 2025.

The average amount of liquidity provided through outright monetary portfolio holdings decreased by €154 billion to €4,005 billion over the review period. This decline was due to the continued maturing of APP and PEPP holdings in the absence of any reinvestments.[1]

The average amount of liquidity provided through credit operations fell by €2 billion to €23 billion over the review period. The average outstanding amount of main refinancing operations (MROs) was stable, at €10 billion, while that of three-month longer-term refinancing operations (LTROs) went down by €3 billion to €13 billion. Banks' declining participation in these regular operations reflects their comfortable liquidity position in aggregate and the availability of alternative funding sources at attractive market rates and maturities.

Excess liquidity

Average excess liquidity decreased by €120 billion to €2,711 billion over the review period (Chart A). 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.

1 Securities held in the outright portfolios are carried at amortised cost and adjusted at the end of each quarter, which has a marginal impact on the changes in the outright portfolios.

Interest rate developments

At its meeting on 5 June 2025, the Governing Council decided to cut all three key ECB interest rates – including the deposit facility rate, through which it steers the monetary policy stance – by 25 basis points. This brought the rates on the deposit facility, MROs and marginal lending facility down to 2%, 2.15% and 2.4% respectively.

The evolution of the average euro short-term rate (€STR) over the review period reflected the ECB's rate cuts, while maintaining a negative spread relative to the deposit facility rate. On average, the €STR was 7.9 basis points below the deposit facility rate over the review period, compared with an average of 8.4 basis points during the first and second maintenance periods of 2025. The pass-through of policy rate changes to unsecured money market rates was complete and immediate.

The pass-through of policy rate changes to repo rates was also smooth and immediate. 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 equalled the deposit facility rate over the review period, whereas it was 1.3 basis points below it in the first and second maintenance periods of 2025. The continued gradual narrowing of the spread between repo rates and the deposit facility rate reflects the increasing availability of collateral as a result of higher net issuance by sovereigns and the decline in Eurosystem APP and PEPP holdings.

Articles

1 Macroeconomic impacts of higher defence spending: a model-based assessment

Prepared by Nikola Bokan, Pascal Jacquinot, Magdalena Lalik, Georg Müller, Romanos Priftis and Rodolfo Rigato

1 Introduction

This article uses a suite of models to analyse the macroeconomic impact of higher government defence spending. In June 2025 members of the North Atlantic Treaty Organization (NATO) committed to increase core defence and other related spending by a volume unprecedented in recent history. In light of this pledge, we revisit the size of fiscal multipliers and their determinants across a range of ECB macroeconomic models. This article complements previous ECB analyses by highlighting the role of model differences in the quantification of economic effects of public spending.[1]

Simulations are conducted around an increase in government consumption from 2% of GDP in 2024 to 3% of GDP by 2028 that illustrates a stylised expansion of defence-related purchases (Chart 1).[2] The increase begins in 2025, reaches its peak by early 2028 and remains at this higher level for ten years, after which it gradually returns to its original level.

Using alternative model settings makes it possible to explore the determinants of fiscal multipliers and inflation estimates. This article looks at the effects of public spending increases on macroeconomic variables under a benchmark setting before studying the transmission under alternative specifications. It shows (i) the importance of private sector expectations about future financial market developments and deficit financing; (ii) the distributional aspects of increased government spending; and (iii) the extent of intra-euro area spillovers, which in turn vary depending on the instrument used or the origin of imports. The model-based assessment is complemented by Box 1, which puts the model-based results into perspective by providing an overview of fiscal multipliers in the relevant empirical literature on defence spending.

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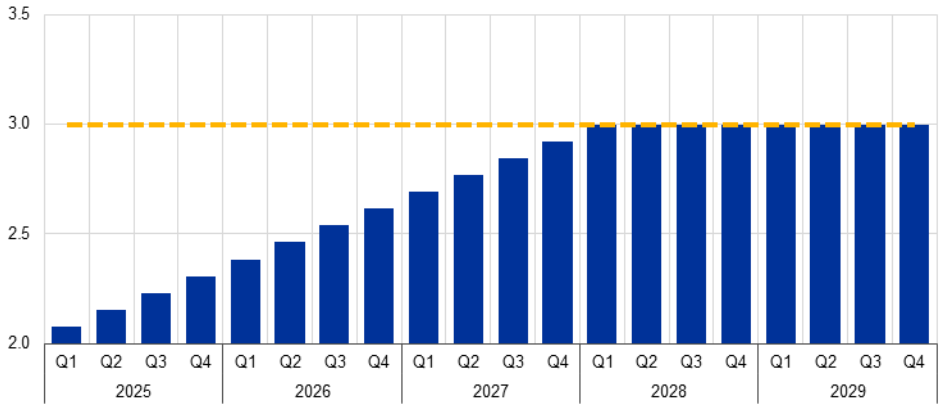
1 For previous studies investigating the implications of euro area governments' defence spending plans for macroeconomic baseline projections and risk analysis, see Checherita-Westphal et al. (2025). That analysis focuses on new defence spending announced since February 2025, the associated risks, its country-specific compositional aspects and selected state dependencies. The simulations were conducted using the ECB's projection models and assumed no monetary policy reaction.

2 Most results in this article hold for increases in government spending of different magnitudes, as long as the effect on macroeconomic variables is scaled accordingly. NATO allies' latest pledge is to increase core defence spending to 3.5% of GDP and to add further security-related spending of 1.5% of GDP such that total defence-related spending amounts to 5% of GDP. This annual spending is set to be achieved by 2035. The spending pattern in our analysis is therefore a stylised interpretation of the exact timing of the expenditure.

Chart 1

Counterfactual path of the increase in government defence spending

(percentage of GDP)



Source: Authors' assumptions.

2 Benchmarking fiscal multipliers across models

To cover a wide range of transmission channels, the analysis uses both semi-structural and dynamic stochastic general equilibrium (DSGE) models developed at the ECB. The semi-structural models employed include core projection models, namely the ECB-MC model (Angelini et al., forthcoming) and its euro area counterpart, ECB-BASE (Angelini et al., 2019 and Bańkowski, 2023). We also use a version of the latter that incorporates forward-looking expectations: ECB-REBASE (Adjemian et al., 2024). In addition, we employ two DSGE models. The first is an extended version of the ECB's NAWM-E model (Coenen et al., 2024), which incorporates a global and regionally disaggregated structure.[3] The second, which is a newly developed model with household heterogeneity – a so-called Heterogeneous-Agent New Keynesian model, or HANK model (see Kase and Rigato, 2025) – allows us to capture distributional effects more explicitly. We introduce the same government purchase shock into all models and harmonise the simulation modalities to the extent possible. Importantly, monetary policy is assumed to be active across all simulations.[4]

The average output multiplier of government spending across models is 0.93 over a two-year horizon, although there is substantial heterogeneity. Chart 2 shows the GDP multiplier and the impact on GDP growth and HICP (Harmonised Index of Consumer Prices) inflation for each model. The multipliers shown here are within the range of those in the empirical literature (Box 1). Overall, semi-structural models display higher multipliers than DSGE models. This mostly owes to (i) the

3 The extension uses a calibrated non-linear NAWM-E to study spillovers within the monetary union in the spirit of EAGLE (Gomes et al., 2012) by allowing a dual-region disaggregation of the euro area into one core country (either Germany, Spain, France, Italy or the Netherlands) and a rest of the euro area aggregate.

4 The rules according to which the central bank sets the interest rate in the models all follow the same principles of stabilising variations in inflation and output. The exact formulation and calibration of the rules are model-specific.

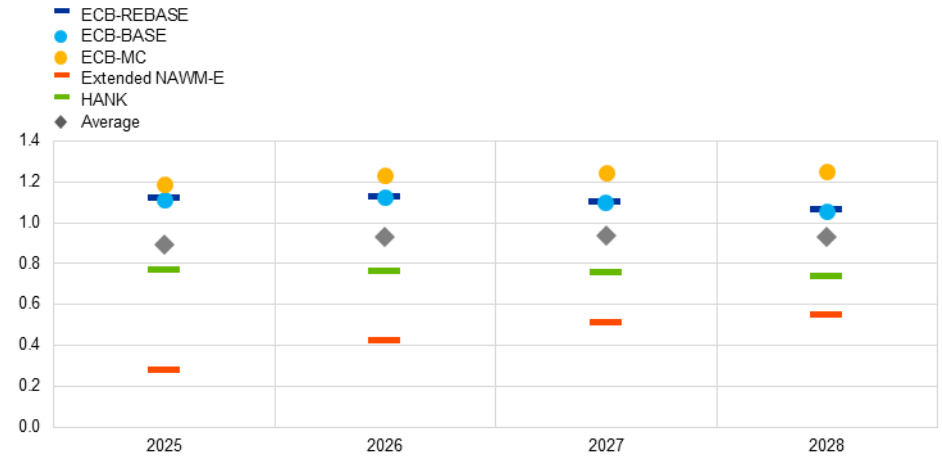
absence of expectation channels regarding the financing of the resulting deficit through taxation in the benchmark setting, and (ii) the smaller effects of interest rates on consumption decisions. By contrast, in DSGE models, the additional spending is necessarily financed with a mix of debt and taxes, which leads to stronger crowding-out owing to the effects of taxation on private sector expectations of future disposable income. Semi-structural models also tend to display a weaker role for monetary policy stabilisation. On the contrary, DSGE models feature strong inter-temporal reallocation via the real interest rate channel. The nominal-side transmission also differs depending on the properties of the model, with the HANK model displaying stronger effects on HICP inflation, mostly because inflation is more sensitive to economic cost pressures in the parameterisation used. The global and regional extension of NAWM-E shows weaker effects, and semi-structural forecast models fall somewhere in between. Given the numerous model-specific characteristics that affect the size of the fiscal multiplier, the following sections explore how the transmission mechanism of government spending can vary when relevant channels are altered.

Chart 2

Impact of an increase in government consumption across models

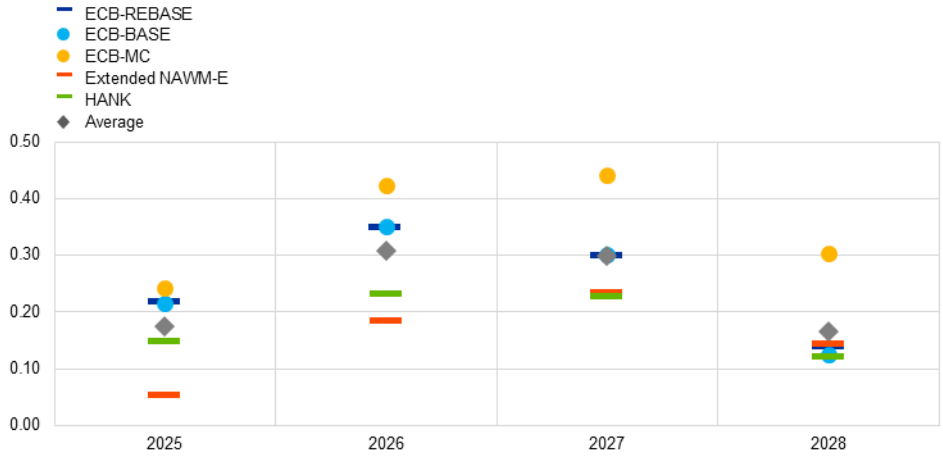
a) GDP multiplier

(relative change in GDP per unit change in government spending)



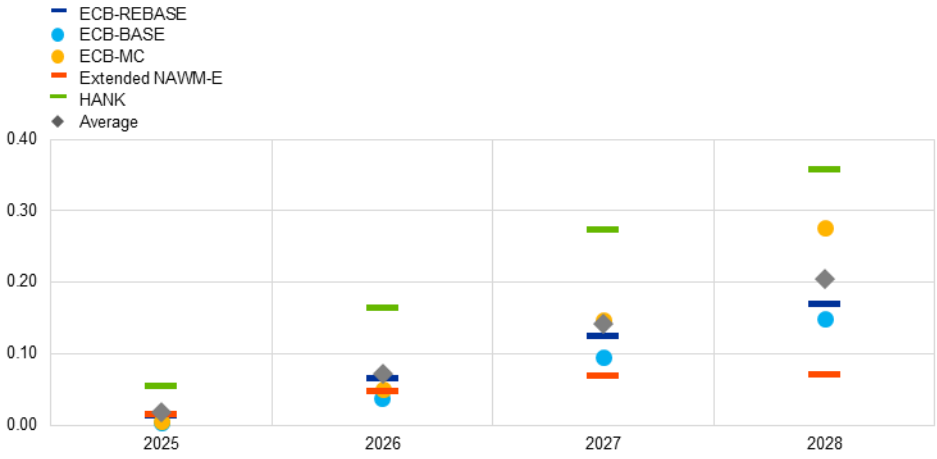
b) GDP growth

(percentage point deviation from baseline)



c) HICP inflation

(percentage point deviation from baseline)



Source: ECB staff calculations.
Notes: The government consumption shock is calibrated as a linear increase of 1% of GDP over three years; the level then remains constant over the medium term (Chart 1). The GDP multiplier at horizon k is defined as $\frac{\sum_{t=1}^{k}\beta^t(Y_t-Y)}{\sum_{t=1}^{k}\beta^t(G_t-G)}$ where Y_t and G_t refer to real GDP and government spending respectively, letters without subscripts refer to steady state or baseline values and β is a discount factor. The benchmark simulation modalities incorporate active monetary policy. All the models except for the extended NAWM-E operate without open-economy feedback and without exchange rate reactions. The semi-structural models assume full deficit financing of the fiscal spending, as their benchmark setting does not feature a tax rule ("fixed tax rate"). The additional expenditure is then financed with public debt issuance.

3 The role of expectations: anticipating financial market responses and future disposable income

Private sector expectations can greatly influence the macroeconomic effects of increased government spending. To understand this interaction, we compare the predictions of two models with different assumptions regarding the expectations formations mechanism. The first model (ECB-BASE) assumes backward-looking expectations. Generally speaking, this implies that economic agents form their expectations on the basis of historical regularities and past information only. By contrast, the second model (ECB-REBASE) assumes that agents are forward-looking and incorporate news about future shocks and economic developments into their current decisions. This expectation formation mechanism is called model-consistent expectations.

Stronger forward-looking behaviour leads to an earlier and faster increase in financing rates, with an adverse impact on investment, but may stimulate consumption via households' expectations of higher future income.[5] Chart 3 compares the macroeconomic response with backward-looking (blue lines) and forward-looking (yellow lines) expectations with unchanged tax rates. Under backward-looking expectations, there is consumption and investment crowding-in as

[5] It is assumed that there is no sovereign risk premium response to an increase in public debt. Therefore, the analysis in this article abstracts from the possible implications of a higher and increasing level of debt in individual countries. We also abstract from the banking sector transmitting the easing of balance sheet constraints to borrowing conditions and, more generally, set any financing spreads to the baseline level. Therefore, in these simulations, only expectations about future policy rates affect long-term interest rates (expectation hypothesis), which are then allowed to change external financing rates (via composite interest rates with constant spreads). The term premium is fixed to its baseline value throughout all simulations.

the economy gradually becomes aware of the demand and income impulse, with financial conditions tightening only gradually. Under the forward-looking setting, expectations of future policy rate hikes are reflected in long-term interest rates sooner, and the resulting worsening of borrowing conditions adversely affects investment dynamics over the shorter horizon. Generally, consumption decisions are also affected by tighter borrowing conditions, albeit to a much lesser extent than investment decisions. Instead, consumption increases on account of higher expected income.[6] The prospects of higher income in the future are anticipated in the forward-looking model, which leads to stronger consumption dynamics. In both the BASE and the REBASE model specifications, private consumption and investment are estimated to be crowded out over the longer run as the effects of higher production and incomes start to fade and the financial market tightening causes the economy to contract. Anticipation of the spending pattern in the forward-looking model also leads to mild frontloading in price and wage setting dynamics and, in turn, to a somewhat faster increase in HICP inflation.

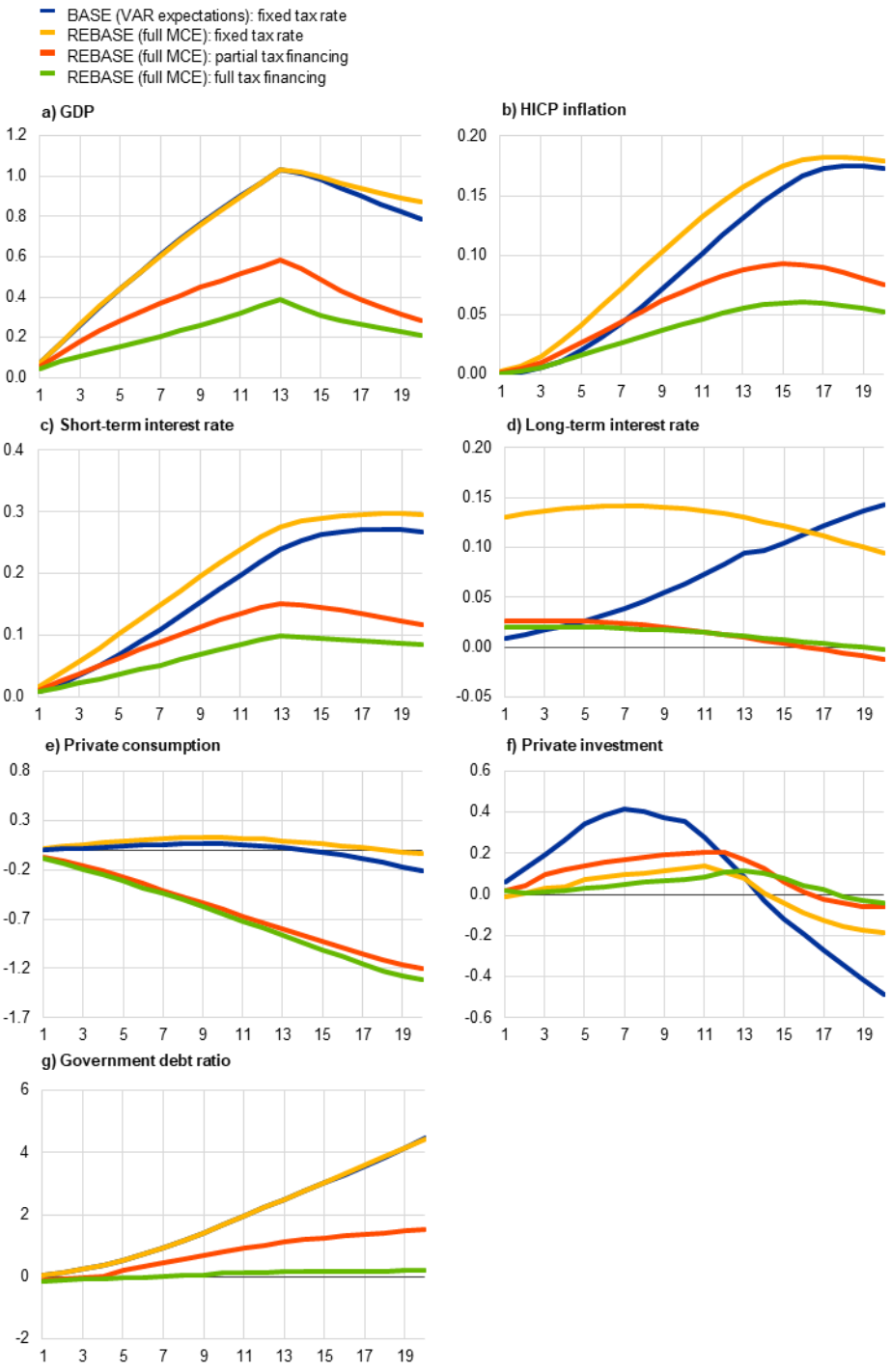
The output multiplier is considerably lower if the public deficit is expected to be financed through an increase in labour taxes. The red and green lines in Chart 3 show specifications where the budget deficit is financed via an increase in taxes on labour income, which introduces an anticipation of future tax hikes at the onset of the increase in military spending. Two financing assumptions for the deficit are shown: a partial tax-financing scheme that still leads to a mild increase in public debt and an illustrative extreme case of full financing via higher taxes. In the forward-looking model, households internalise the repercussions for their future disposable income streams and strongly curtail their current consumption. Despite lower price pressures being somewhat beneficial for investment owing to rather limited changes to financial indicators, the bulk of the output multiplier is determined by consumption dynamics. As a result, output multipliers are dampened considerably.

6 In addition to the anticipation of future labour income, another positive effect on consumption stems from the accrual of additional financial wealth at higher interest rates. However, this effect is less important.

Chart 3

The role of expectations through the lens of ECB-(RE)BASE

(x-axis: quarters; y-axis: deviation from the balanced growth path/baseline)



Source: ECB staff calculations using the BASE and REBASE models.
Notes: The spending increase is interpreted as a government consumption (purchases) shock. The simulations are run with active monetary policy and an active tax rate response wherever indicated. The exchange rate, the term premium and financing spreads are not allowed to react to the shock. "VAR expectations" refers to expectations formed through a vector autoregression that is a simplified model of the full model economy that is based on historical regularities and fed by current and past information only. "Full MCE" refers to model-consistent expectations assumed across all sectors of the model economy. Year-on-year HICP inflation is expressed as percentage point deviations from its baseline growth rate. Interest rates are expressed as percentage point deviations of the annualised rate from its baseline rate. The annualised government debt ratio (relative to GDP) is expressed as percentage point deviations from its baseline ratio. All other variables are shown as percentage deviations from the baseline level.

4 Distributional consequences and the role of marginal propensities to consume

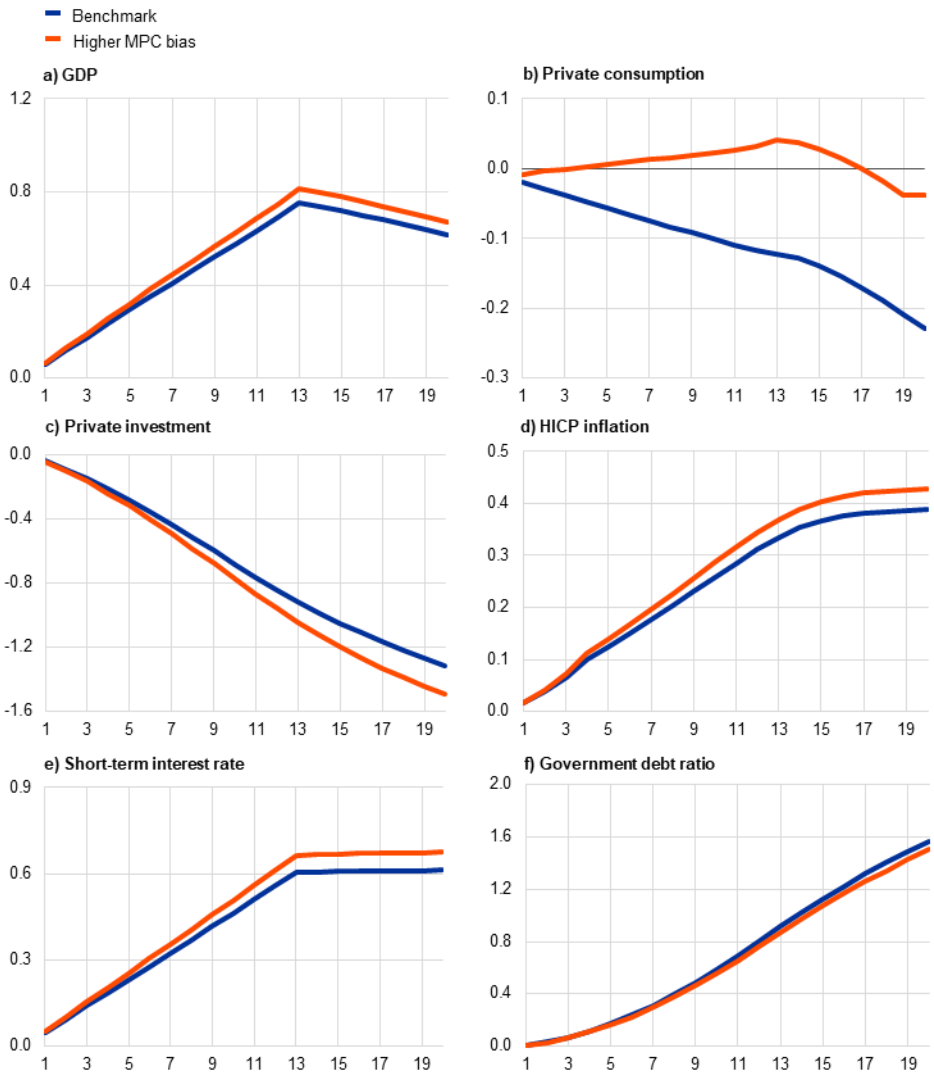
This section explores the distributional aspects of the fiscal stimulus. It employs the HANK model, which features heterogenous households with large and dispersed marginal propensities to consume (MPCs). As is typical in this class of model, and in line with empirical evidence, households at the bottom of the income distribution have higher MPCs than those at the top. Like in the other models, an increase in government spending is associated with an increase in real GDP, despite a crowding-out effect on private consumption. The blue lines on Chart 4 show the implications of the fiscal shock under a benchmark specification of the HANK model. Private consumption and investment are significantly crowded out owing to both higher interest rates and higher labour taxes.

The effects of fiscal policy are amplified when the additional government spending is targeted towards sectors that employ low-income households. The red lines on Chart 4 show the results under this alternative specification. Since MPCs are negatively correlated with income, in this case the additional spending generates an additional stimulus to private consumption. In contrast to the benchmark specification, there is initially a slight crowding-in effect on private consumption. Consequently, HICP inflation is higher than in the benchmark, as are short-term interest rates. This generates a larger crowding-out of private investment, but the fiscal multiplier remains higher than in the benchmark specification.

Chart 4

The role of non-Ricardian behaviour and MPC heterogeneity

(x-axis: quarters; y-axis: deviations from steady state)



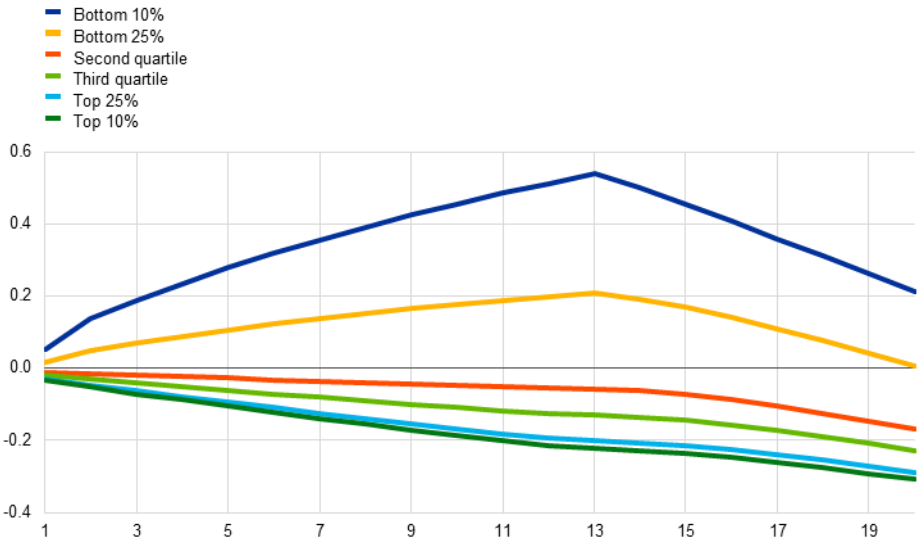
Source: ECB staff calculations using the HANK model.
Notes: GDP, private consumption and private investment are shown as percentage deviations from the steady state. HICP inflation and the short-term interest rate are in percentage points, while government debt is expressed as a percentage of steady state output.

The effects of additional military spending on consumption are positive at the bottom of the wealth distribution and negative at the top. Chart 5 shows the distributional consequences of the increase in government spending under the benchmark specification of the HANK model. Each line corresponds to a different group of households in terms of wealth holdings. There is a clear pattern: households at the bottom of the wealth distribution increase consumption, whereas consumption at the middle and top is crowded out. Since MPCs are larger at the bottom, the increase in labour demand and wages coming from the additional government spending tends to stimulate consumption for those households. At the middle and top of the wealth distribution, higher interest rates and expectations of higher future taxes play a larger role, leading to the observed crowding-out.

Chart 5

Effects of additional government spending across the wealth distribution

(x-axis: quarters; y-axis: percentage deviation of consumption from steady state)



Source: ECB staff calculations using the HANK model.
Note: The lines show the average consumption of different household groups sorted by wealth and expressed as percentage deviations from steady state values.

5 Backloaded versus frontloaded spending

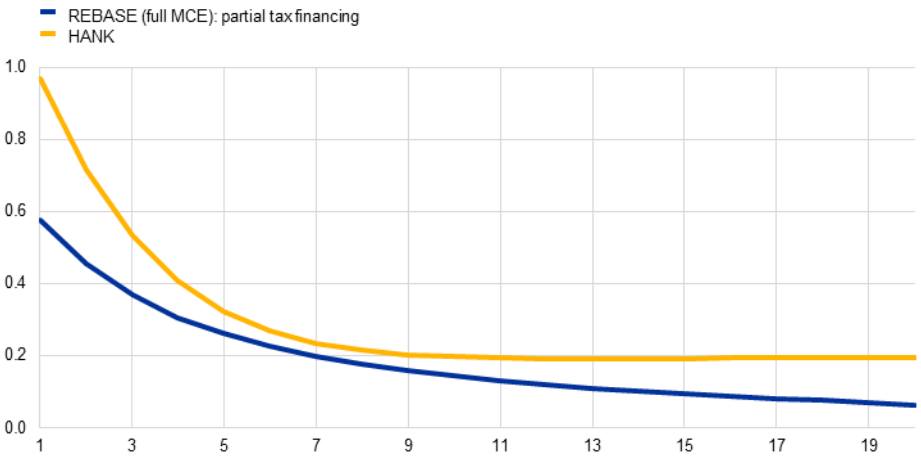
This section explores how fiscal multipliers vary when additional government spending is announced in advance of its implementation. This is particularly relevant in the case of the current defence-related commitments, as these have been publicly announced and discussed well in advance of the actual spending, which materialises over a longer period. In contrast to social transfers that are related to automatic stabilisers, discretionary defence spending measures are backloaded and gradual.

Backloaded spending leads to substantially lower effects on real GDP. Chart 6 shows fiscal multipliers for pre-announced fiscal shocks in the REBASE and HANK models. Each point on the curve corresponds to the fiscal multiplier of a one-time increase in government consumption as a function of the number of quarters by which its announcement precedes its implementation. Notably, the spending increase is identical – only the implementation date changes. When agents are forward-looking, the fiscal multipliers decrease as the time between announcement and implementation increases. This is because the prospect of increases in taxes and interest rates owing to future increases in government expenditure leads to an immediate crowding-out of private spending.

Chart 6

Dynamic multipliers of pre-announced shocks

(x-axis: number of quarters between spending announcement and implementation; y-axis: long-run present-value multiplier)



Source: ECB staff calculations using REBASE and HANK models.
Notes: Each point corresponds to the long-run present-value multiplier for a spending increase implemented at different points in time. The long-run present-value multiplier is the cumulative multiplier over the entire horizon. For REBASE, the specification with a tax rule is shown. "Full MCE" refers to model-consistent expectations assumed across all sectors of the model economy.

6 Cross-country spillovers

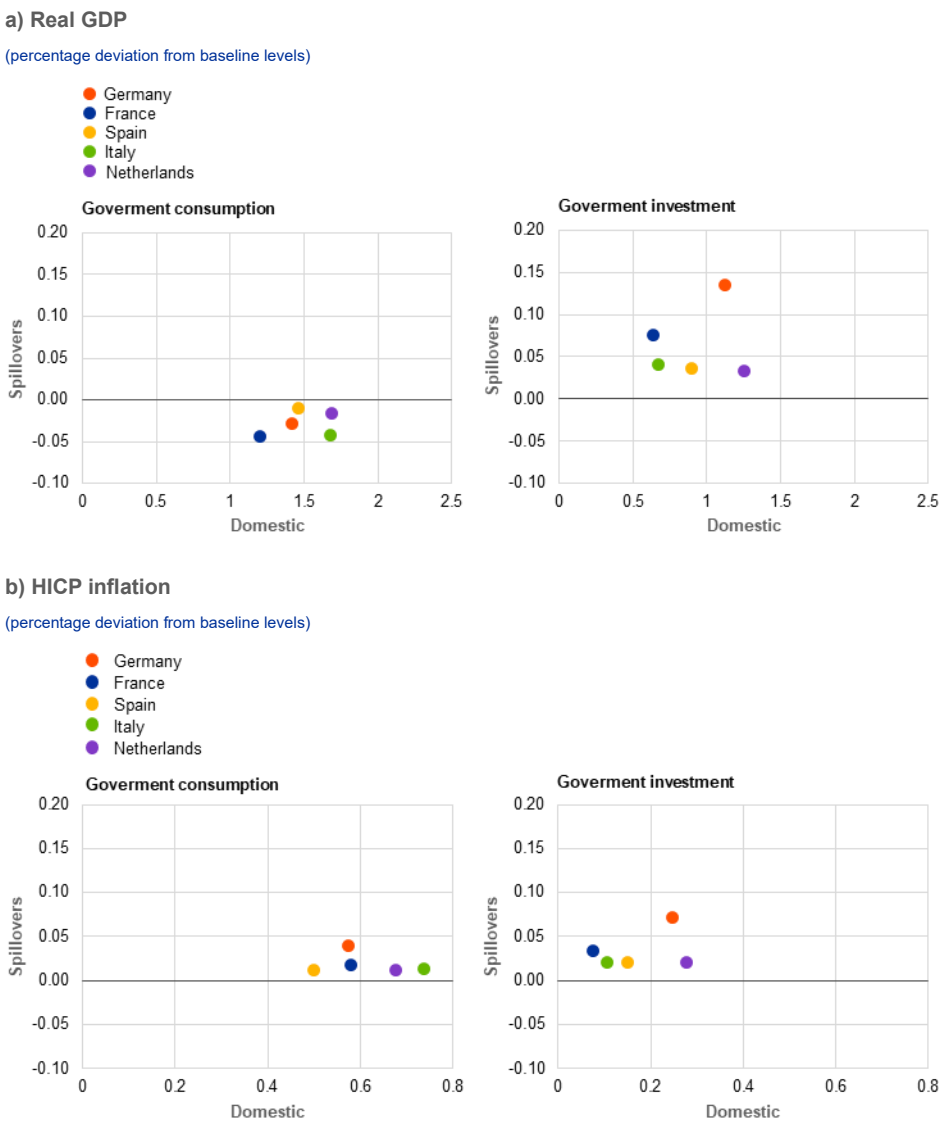
This section looks at the cross-country spillovers of government spending and how these can vary depending on key features of the spending. We first benchmark the effects through the lens of the ECB-MC model. Given the workhorse nature of this model, important parameters, such as the import content of government spending, are set to historical averages. We then consider alternative scenarios using the global and regional extension of NAWM-E to provide a more qualitative illustration from alternative sensitivity exercises.

Both government consumption and government investment generate positive domestic real effects, but the magnitude of spillovers across euro area countries varies depending on the import content of the instrument (Chart 7). Government consumption is assumed to rely mostly on domestic production, with an import share of only around 10%. By contrast, government investment has a much higher import share of around 30%.[7] As a result, in the short to medium run government consumption causes a stronger increase in domestic output than government investment, while spillover effects on other countries remain small – and even turn negative after three years – as the rise in policy rates outweighs the positive trade effects over the longer term. Conversely, government investment generates positive spillovers throughout the horizon, as it stimulates private investment and partially offsets the dampening effect of higher interest rates.

7 These import shares are based on historical averages from Eurostat and reflect the entire set of sectoral components (both private and public). Because of this, they may not accurately represent spending focused specifically on defence in each final or intermediate consumption or investment sector.

Chart 7

Domestic and spillover effects of government spending during the third year after the shock



Source: ECB-MC simulations.
Notes: The x-axis shows the impact on the country where the shock occurs and the y-axis shows the spillover on the remaining big five economies (Germany, Spain, France, Italy and the Netherlands). For example, for government consumption in panel a), the dark blue dot shows that an increase in government consumption in France increases French real GDP by 1.2% and leads to a negative spillover of -0.04% on the rest of the big five economies.

On the nominal side, government consumption and investment raise domestic inflation and generate inflationary spillovers across countries but do so in different ways. Government consumption is substantially more inflationary, as it directly increases demand without boosting productive capacity. By contrast, government investment raises inflation in the short term but, by strengthening trend productivity, also helps to ease price pressures over the medium term.

Spillovers operate mainly through the trade channel and less so through interest rates, with the net effect on the euro area appearing limited in magnitude. Chart 8 disentangles the transmission channels using the global

extension of the NAWM-E model and shows that higher German public spending raises domestic demand, which initially boosts output. However, under the benchmark calibration, higher government demand crowds out private demand over time.[8] This is because stronger public demand puts upward pressure on prices and wages, raising the cost of borrowing and reducing households' and firms' real disposable income and profitability.[9] At the same time, the increased demand for imports improves the trade balance of Germany's euro area partners, supporting their exports and output. However, as prices rise in Germany, the real exchange rate appreciates, which dampens German export competitiveness and increases imports further. This real appreciation partly offsets the boost to net exports for the rest of the euro area. For the euro area, the higher aggregate demand and price pressures push up inflation. In response, the central bank raises the policy rate negligibly, suggesting that the impact of this tightening on private consumption and investment – via the traditional interest rate channel – is likely to be limited.

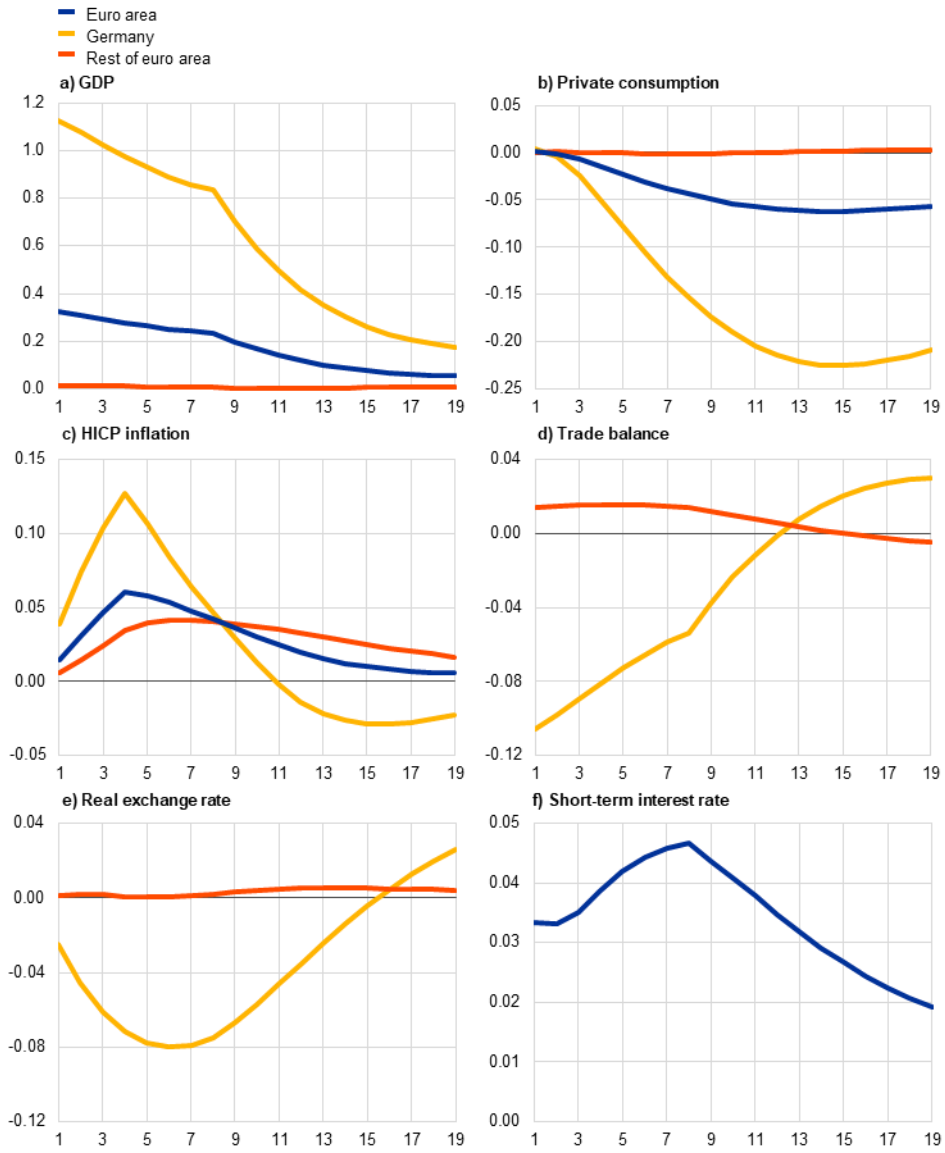
8 When public and private consumption are perceived as complements, higher public spending – such as defence expenditure that enhances security and stability – can crowd in private consumption, boosting the aggregate demand channel and reinforcing positive spillovers to the rest of the euro area.

9 Arguably, the German fiscal surprise can be interpreted as reflecting a reassessment of heightened European security risks, with additional fiscal spending aimed at avoiding future demand losses that would occur without it rather than delivering a pure net gain. In this context, additional fiscal spending serves to preserve current consumption levels.

Chart 8

Macroeconomic effects of increased defence expenditure in Germany according to the extended version of NAWM-E

(x-axis: quarters; y-axis: deviations from steady state)



Source: Simulations using the global and regional extension of the NAWM-E model.
Notes: The simulation assumes a temporary increase in German government consumption spending by 1% for two years starting from period 0. The additional spending is then reduced every quarter by a factor of 0.9. Responses are expressed as percentage deviations from the baseline, except for inflation, trade balance and the short-term interest rate, which are expressed as percentage point deviations.

A higher share of imported goods and services leads to stronger spillovers to the rest of the euro area, but the overall effects on the euro area remain similar. For example, if Germany ramps up defence purchases involving foreign equipment or invests in infrastructure projects requiring imported machinery, a larger share of the increased demand leaks abroad, directly boosting exports and

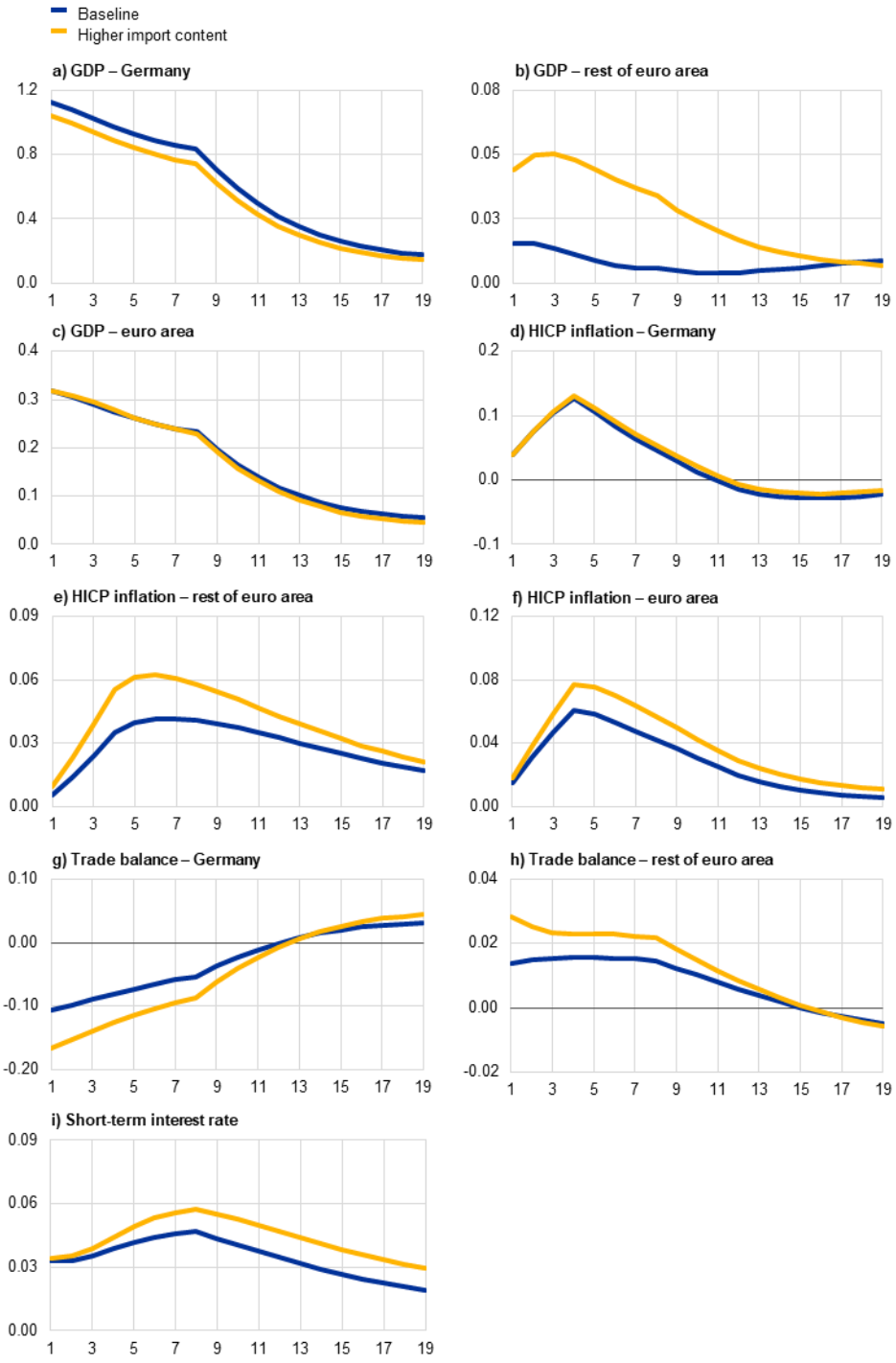
production in Germany's trading partners (Chart 9, yellow lines).[10] As a result, the trade channel becomes stronger, and spillovers to the rest of the euro area grow larger. However, the overall effects on euro area output are similar to the scenario with spending that is predominantly domestically sourced, as higher production in the rest of the euro area is offset by import leakage in Germany and a general appreciation of the euro area real exchange rate.

[10] The simulations assume that German government consumption good is produced with a higher share of imports – both from the rest of the euro area and the rest of the world – in proportion to its bilateral trade matrix. In particular, the import content of government consumption is doubled from 2% to 4%. Altering the composition of imports for Germany (e.g. by importing relatively more from the rest of the euro area than from the rest of the world) produces a stronger spillover to the rest of the euro area as a result of a strengthened trade channel. However, given the overall small import content of public spending and the small size of the fiscal impulse, the net difference to the euro area aggregate is negligible.

Chart 9

The role of the import content of government consumption

(x-axis: quarters; y-axis: deviations from steady state)



Source: Simulations using the global and regional extension of the NAWM-E model.
Notes: The simulation assumes a temporary increase in German government consumption spending by 1% for two years starting from period 0, after which there is a gradual unwinding. Responses are expressed as percentage deviations from the baseline, except for inflation, trade balance, and the short-term interest rate, which are expressed as percentage point deviations. Higher import content assumes that the import content of government consumption is doubled from 2% to 4%.

Box 1

Fiscal multipliers of defence spending: a short review of the empirical literature

Prepared by Cristina Checherita-Westphal and Laust Ladegård Særkjær

Although the evidence is mixed across the empirical literature, it suggests that military spending can have positive short-term demand effects which then tend to decrease over time. This broadly confirms the model-based effects of the general government spending increase considered in this article, although results are more dispersed across samples and various state dependencies (Chart A). The size of the defence spending multiplier differs significantly across studies, with the shorter-run effects in most cases below or close to 1 – broadly in line with the suite of model results presented above – although values close to 1.5 are found in several studies. Very few studies directly analyse the impact of higher defence spending on private consumption.[11] Ilzetzki (2025), one of the most recent literature reviews, concludes that there is a consensus that GDP does increase following higher defence spending, but the degree of this expansion and the potential crowding-out of the private sector are debated. He also points out that two meta-analyses on the topic disagree on the conclusions. Alptekin and Levine (2012), a meta-study of 169 estimates of the military spending multiplier, suggests that military spending has positive, but small, growth effects. Conversely, the updated sample of F. Yesilyurt and M. E. Yesilyurt (2019) shows no relationship. Finally, in their meta-analysis of fiscal multipliers, Gechert and Rannenberg (2018) find that military spending tends to have lower average multipliers than general government spending,[12] a finding corroborated by a recent study analysing the output effects of defence spending in the central and eastern European members of NATO's eastern flank (Olejnik, 2023).

There is also considerable heterogeneity in the output effects of various components of military expenditure. The growth effects of military research and development (R&D) spending are found to be considerably higher than those of other components and to exceed unity, with evidence of crowding-in of private R&D.[13] For the other spending categories, and particularly over the medium to long run, higher defence expenditure is usually found to crowd out resources available for productive purposes. Expenditure on wages or military personnel (not directly covered in the model simulation results above) is found to have lower or (in the longer run) even negative growth effects, as such spending may impede productivity in the remaining civilian sectors of the economy (see Chart A and additional findings in Becker and Dunne, 2023).

11 Only three of the studies summarised in Chart A include estimates of the impact on private consumption. Ramey (2011) includes a specific discussion on the topic. By constructing a military spending news variable, she finds that both non-durable goods consumption and durable goods consumption decrease, while services consumption increases in response to military spending news. Ben Zeev and Pappa (2017) find a slight, but not statistically significant, decline in private consumption. Barro and Redlick (2011) find a negative impact only for durable goods consumption at the one-year horizon, which then fades.

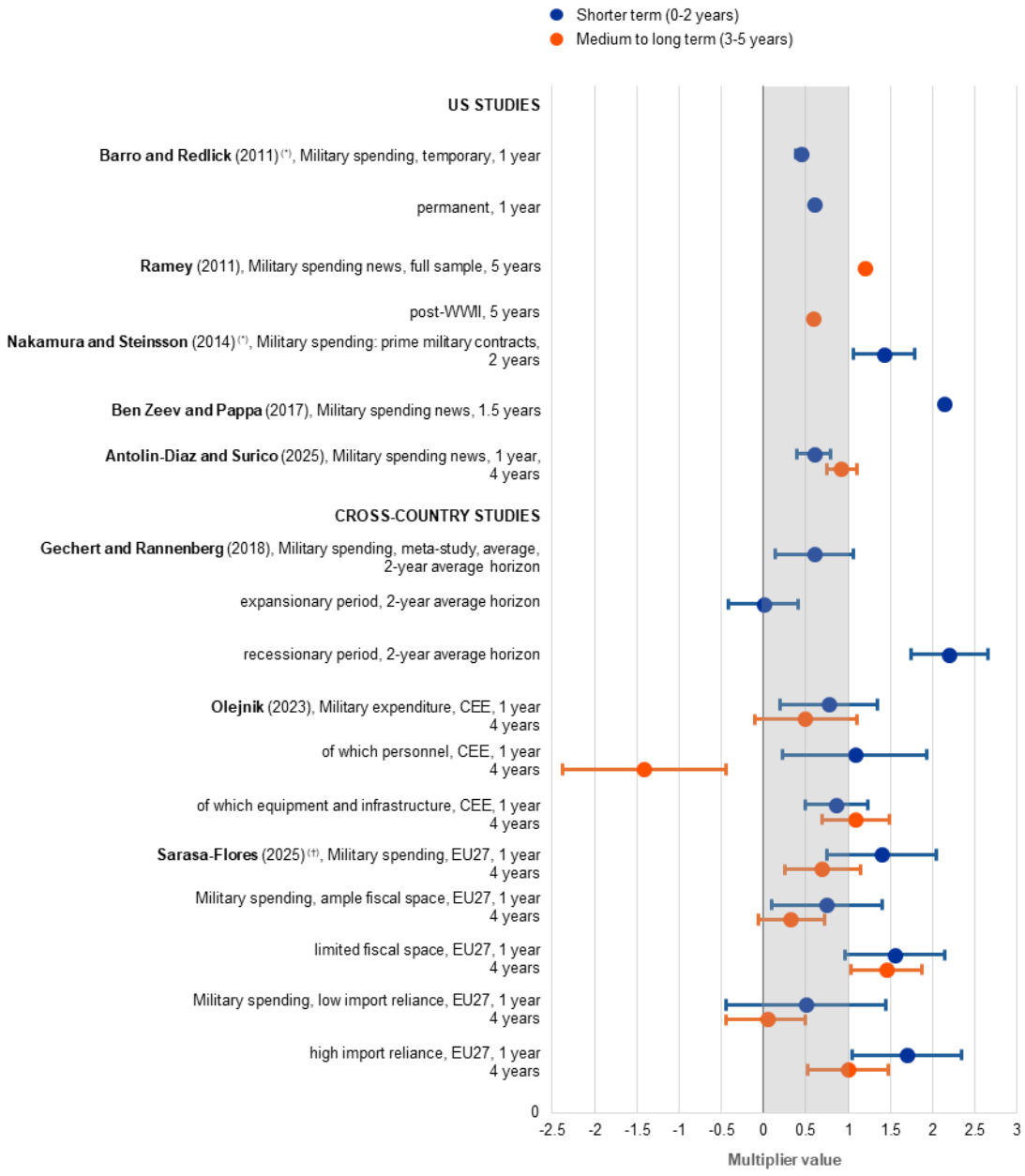
12 This finding holds on average and for expansionary periods. Conversely, military spending multipliers are found to be larger than general spending multipliers during recessionary periods.

13 Using data for the United States over a period of 125 years (with a Bayesian Vector Autoregressive (BVAR) model with long lags), Antolin-Diaz and Surico (2025) find that military spending has large and persistent effects on output because it shifts the composition of public spending towards R&D. This boosts innovation and private investment in the medium term and increases productivity and GDP at longer horizons. By contrast, the paper also finds that public investment effects are shorter-lived and public consumption has a modest impact at most horizons

Chart A

Fiscal multipliers of military spending in more recent studies

(increase in GDP from a one unit increase in defence spending, unless otherwise specified)



Sources: Publications indicated in the chart.
Notes: The dot represents the (main) estimate of the cumulative defence spending multiplier and the bands indicate one standard deviation when available or readily calculated. When multiple results were available, the selection was made based on the original author's preferred specification to ensure a relevant comparison to the other studies, and for a one and four-year horizon (centre of the shorter and medium to long-term horizons respectively).
In general, the multipliers measure an increase in GDP from a one unit (e.g. USD 1 or €1) increase in defence spending. For the studies marked with (*), the multiplier measures the percentage point increase in the GDP growth rate following a one percentage point increase in the defence-spending-to-lagged GDP ratio. For the studies marked with (†), the multiplier measures the percentage point increase in GDP relative to trend from a one per cent increase in defence spending relative to trend GDP.
Other studies have used military spending (news) as an instrument for more general government spending. For the United States, Ramey and Zubairy (2018) find the fiscal multiplier to be below one regardless of the slack in the economy. Using a large panel of countries, Sheremirov and Spirovska (2022) find that the average multiplier is below unity, with the largest impact at short horizons, but this is subject to heterogeneity along multiple dimensions. Ben Zeev and Pappa (2017) identify their military spending news shock in a SVAR model as the shock that has no contemporaneous impact on military spending while maximising the forecast error variance of military spending over a five-year horizon.

Defence fiscal multipliers are found to be state-dependent. The empirical literature usually finds evidence of fiscal multipliers being larger (i) in recessions (bad economic times), when the share of non-Ricardian consumers tends to increase and public spending can crowd in (rather than crowd out) private investment; (ii) when there is ample fiscal space or sound public finances (lower debt, deficit or lower interest rate-growth differential); (iii) for less open economies (less potential for spillovers outside the economy through imports); and (iv) for fixed-exchange rate systems (inactive monetary policy) (see Warmedinger et al. (2015) for a review). Similar results are found for defence spending multipliers in Sarasa-Flores (2025) (Chart A) and in Sheremirov and Spirovska (2022) (for fiscal multipliers of general government spending instrumented by military spending). The importance of state dependency (non-linearities) for good versus bad economic times is also emphasised in the meta-analysis of Gechert and Rannenberg (2018). Together with fiscal fundamentals, state dependency is an important aspect to be considered in the (linear) model-based simulations. This can be done by adequately varying the model parameters depending on the prevailing state.

Empirical studies of defence spending rarely investigate the effects on inflation directly. The few available studies for the United States tend to find a positive short-term effect. Ben Zeev and Pappa (2017) find military spending news to be inflationary, peaking after one year before returning to zero in year two. Looking at state-level effects on inflation of military spending, Nakamura and Steinsson (2014) find no cumulative effect after two years. More recently, Antonova et al. (2025) find that military spending news leads to higher manufacturing prices in the United States (while the impact on consumer price index inflation is not investigated). This effect was larger and more persistent in the post-Cold War period, when the US manufacturing sector shrank.

7 Conclusion

Against the backdrop of planned increases in defence spending in the euro area, a model-based assessment of government spending shocks suggests a positive effect on real GDP growth and a modest effect on HICP inflation, with significant uncertainty surrounding estimates. A persistent but gradual increase in military spending of 1% of GDP over three years is associated with a two-year GDP multiplier of 0.93 and a two-year impact on HICP inflation of 0.07 percentage points on average across different model types. There is substantial model heterogeneity, with output multipliers ranging from 0.42 to 1.13. Four years after the shock, the GDP multiplier remains at 0.93 on average, while HICP inflation increases by 0.2 percentage points on average across the models. Model-implied fiscal multipliers are generally aligned with the empirical evidence on the effects of military spending. We further identify key transmission channels that shape the economic effect of additional military spending: a higher share of investment produces larger spillovers, whereas the private sector anticipating higher taxes and interest rates plays a prominent role in reducing multipliers. Several aspects remain outside the scope of this analysis, in particular state dependency with respect to government indebtedness and bad versus good economic times, which is found to be relevant in the empirical literature. Finally, important aspects of military spending cannot be fully

captured in this analysis. Examples include the composition of spending by single countries or sectoral supply and industry-network effects.

References

Adjemian, S., Bokan, N., Darracq Pariès, M., Müller, G. and Zimic, S. (2024), "ECB-(RE)BASE: Heterogeneity in expectation formation and macroeconomic dynamics", *Working Paper Series*, No 2965, ECB, Frankfurt am Main.

Alptekin, A. and Levine, P. (2012), "Military expenditure and economic growth: A meta-analysis", *European Journal of Political Economy*, Vol. 28, No 4, pp. 636-650.

Angelini, E., Bokan, N., Christoffel, K., Ciccarelli, M. and Zimic, S. (2019), "Introducing ECB-BASE: The blueprint of the new ECB semi-structural model for the euro area", *Working Paper Series*, No 2315, ECB, Frankfurt am Main, September.

Angelini, E., Bokan, N., Ciccarelli, M., Lalik, M. and Zimic, S. (forthcoming), "The ECB-Multi Country Model: A semi-structural model for forecasting and policy analysis for the largest euro area countries." *Working Paper Series*, ECB, Frankfurt am Main.

Antolin-Diaz, J. and Surico, P. (2025), "The Long-Run Effects of Government Spending", *American Economic Review*, Vol. 115, No 7, pp. 2376-2413.

Antonova, A., Luetticke, R. and Muller, G.J. (2025), "The Military Multiplier", *CESifo Working Paper*, No 11882, CESifo GmbH, Munich, May.

Bańkowski, K. (2023), "Fiscal policy in the semi-structural model ECB-BASE", *Working Paper Series,* No 2802, ECB, Frankfurt am Main, March.

Barro, R.J. and Redlick, C.J. (2011), "Macroeconomic Effects From Government Purchases and Taxes", *The Quarterly Journal of Economics*, Vol. 126, No 1, pp. 51-102.

Becker, J. and Dunne, J.P. (2023), "Military Spending Composition and Economic Growth", *Defence and Peace Economics*, Vol. 34, No 3, pp. 259-271.

Ben Zeev, N. and Pappa, E. (2017), "Chronicle of a War Foretold: The Macroeconomic Effects of Anticipated Defence Spending Shocks", *The Economic Journal*, Vol. 127, No 603, pp. 1568-1597.

Checherita-Westphal, C., Huber, C., Rodriguez-Vives, M. and Müller, G. (2025), "Fiscal aspects of European defence spending: implications for euro area macroeconomic projections and associated risks", *Economic Bulletin*, Issue 5, ECB.

Coenen, G., Lozej, M. and Priftis, R. (2024), "Macroeconomic effects of carbon transition policies: An assessment based on the ECB's New Area-Wide Model with a disaggregated energy sector," *European Economic Review*, Elsevier, Vol. 167.

Gechert, S. and Rannenberg, A. (2018), “Which fiscal multipliers are regime-dependent? A meta-regression analysis”, *Journal of Economic Surveys*, Vol. 32, No 4, pp. 1160-1182.

Gomes, S., Jacquinot, P. and Pisani, M. (2012), “The EAGLE. A model for policy analysis of macroeconomic interdependence in the euro area”, *Economic Modelling*, Vol. 29, No 5, pp. 1686-1714.

Ilzetzki, E. (2025), “Guns and Growth: The Economic Consequences of Defense Buildups”, *Kiel Report*, No 2, Kiel Institute for the World Economy, February.

Kase, H. and Rigato, R. (2025), “Beyond averages: heterogeneous effects of monetary policy in a HANK model for the euro area”, *Working Paper Series*, No 3086, ECB, Frankfurt am Main.

Nakamura, E. and Steinsson, J. (2014), “Fiscal stimulus in a monetary union: Evidence from US regions”, *American Economic Review*, Vol. 104, No 3, pp. 753-792.

Olejnik, L.W. (2023), “Economic growth and military expenditure in the countries on NATO’s Eastern flank in 1999-2021”, *Working Paper Series*, No 2023/2, Eesti Pank.

Ramey, V.A. (2011), “Identifying Government Spending Shocks: It’s all in the Timing”, *The Quarterly Journal of Economics*, Vol. 126, No 1, pp. 1-50.

Ramey, V.A. and Zubairy, S. (2018), “Government Spending Multipliers in Good Times and in Bad: Evidence from US Historical Data”, *Journal of Political Economy*, Vol. 126, No 2, pp. 850-901.

Sarasa-Flores, D. (2025), “Buy Guns or Buy Roses?: EU Defence Spending Fiscal Multipliers”, *Working Paper*, No WP 25-06, BBVA Research, June.

Sheremirov, V. and Spirovska, S. (2022), “Fiscal multipliers in advanced and developing countries: Evidence from military spending”, *Journal of Public Economics*, Vol. 208, 104631.

Warmedinger, T., Checherita-Westphal, C. and Hernández de Cos, P. (2015), “Fiscal multipliers and beyond”, *Occasional Paper Series*, No 162, ECB, Frankfurt am Main, June.

Yesilyurt, F. and Yesilyurt, M.E. (2019), “Meta-analysis, military expenditures and growth”, *Journal of Peace Research*, Vol. 56, No 3, pp. 352-363.

2 Keep calm and carry cash: lessons on the unique role of physical currency across four crises

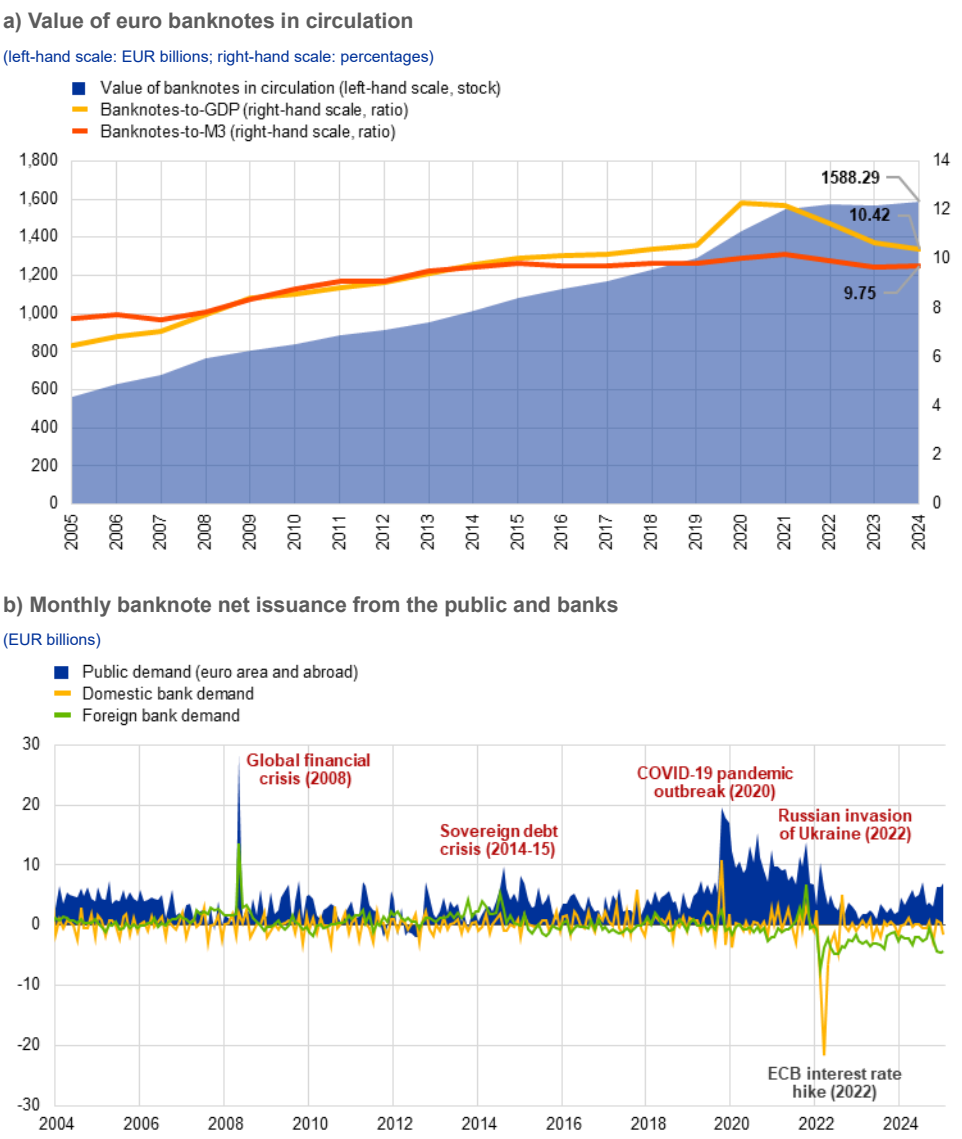
Prepared by Francesca Faella and Alejandro Zamora-Pérez

1 How crises strongly affect cash circulation

Demand for euro banknotes has exhibited robust growth despite ongoing payment digitisation. While the share of cash in daily transactions has declined in the euro area, the value of euro banknote circulation has significantly increased over the past two decades (Chart 1, panel a). This variable serves as a reliable indicator of overall demand – domestic and foreign – as the Eurosystem accommodates requests for banknotes. In fact, the value of outstanding banknotes has consistently maintained a share of over 10% of euro area GDP over the last ten years, with a temporary increase during the COVID-19 pandemic years and a moderation since the second half of 2022 due to higher interest rates. It also represents a consistent portion of around 10% of M3 (broad money) – a measure encompassing other liquid, euro-denominated assets. The sustained demand for cash, despite the proliferation of digital payment alternatives, suggests its distinct utility and imperfect substitutability. This stable overall demand contrasts with the diminishing share of cash in everyday payments, a phenomenon often termed “the paradox of banknotes” (Zamora-Pérez, 2021).

Chart 1

Euro banknotes in circulation



Sources: ECB Statistical Data Warehouse (SDW) and ECB staff calculations.
Note: In panel a), to ensure consistent comparison across periods of euro area enlargement, the ratios to GDP and M3 are presented on a "changing composition" basis, incorporating new member countries from their respective dates of entry.

The sustained demand for banknotes has been amplified by sharp increases in public demand during major crises, which highlights the unique role and attributes of physical currency.[1] As illustrated in Chart 1, panel b, monthly net issuance data can be decomposed into public demand, domestic bank demand ("vault cash"), and foreign bank demand ("net shipments"). The public's additional demand for cash is usually moderately positive. However, the onset of sudden crises – such as the 2008 financial turmoil, the 2014-15 sovereign debt crisis in Greece, the outbreak of the COVID-19 pandemic or Russia's unjustified full-scale invasion of Ukraine in 2022 – triggered immediate and extreme surges in cash acquisition by the

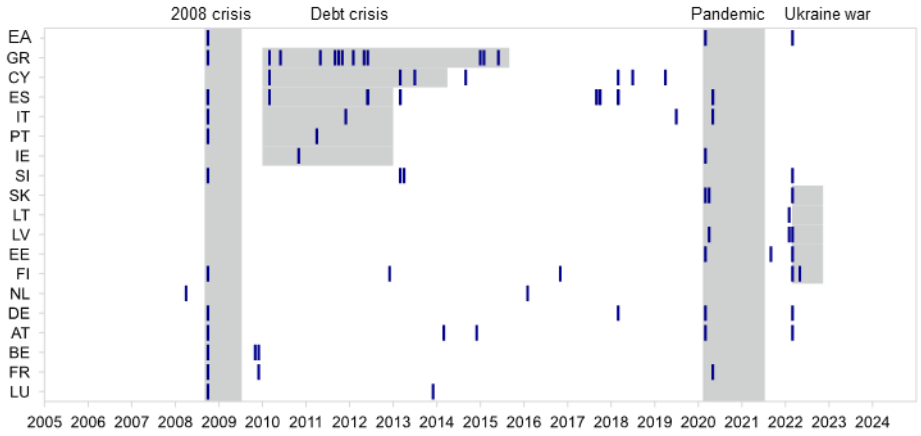
[1] Crises are defined as unstable and critical situations that pose a significant threat to individuals, organisations, or societies, often requiring immediate decision-making under conditions of uncertainty.

public. Foreign bank demand, reflecting net shipments from wholesaler banks to clients outside the euro area, also spiked during globally significant events like the 2008 crisis and showed a response to the war in Ukraine.[2] In contrast, domestic bank demand for "vault cash", which represents a smaller component of total circulation (4%-6%), shows less sensitivity to crisis events, with the notable exception of a spike when the COVID-19 pandemic intensified in Europe in March 2020. Conversely, both domestic and foreign banks show strong responsiveness to monetary policy, as seen by the sharp negative net flows during and after July 2022 when an ECB interest rate hike significantly increased the opportunity cost of holding cash.[3] While public demand also saw a temporary dip during this period, net flows were never negative and it has since resumed its trend, highlighting its less interest-rate-sensitive drivers. A disaggregated view, presented in Chart 2, further illustrates how the scope of these surges varies with the nature of the crisis. Some crises trigger widespread demand increases across most euro area countries, while others have a more concentrated impact that is primarily regional or national.

Chart 2

Statistical outliers in aggregate banknote circulation and national net issuance

(x-axis: year; y-axis: country, grouped by regional cluster)



Source: ECB staff calculations using the Currency Information System 2 database (2005-24).
Notes: Grey shaded areas denote periods of major crisis events in the affected countries. Outliers for the net issuance of banknotes are computed using the monthly data series of euro area national central banks. The chart displays only positive outliers (vertical blue lines), which correspond to increases in net issuance. For each series, an ARIMA model is first identified and estimated; regression dummies for additive outliers (AO), permanent level shifts (LS) and transitory changes (TC) were introduced and their t-statistics computed. Dummies exceeding a critical threshold (sample size-based) are selected using a stepwise forward selection/backward elimination routine (with LS as step functions, TC as exponentially decaying pulses with a preset decay rate and AO as isolated shocks). The model is re-estimated and the procedure repeats until no further significant outliers remain, optionally within a user-defined date range. The analysis excludes Croatia, as its accession to the euro area on 1 January 2023 means a sufficiently long and comparable historical data series was not available. Malta is also excluded because its net issuance data exhibit significant intermittency, which poses challenges for the reliable convergence and interpretation of the outlier detection algorithm.

2 Net shipments represent only the formal wholesale channel and do not capture informal flows like tourism and remittances, which constitute a significant portion of foreign demand. Overall, foreign holdings of euro banknotes are estimated to account for up to half of the total value in circulation (Lalouette et al., 2022).

3 While not visible in this chart of monthly flows, the stock of vault cash held by banks had progressively increased from around 2016, when short-term interest rates were at their lowest, reducing the holding cost. The sharp reduction seen in July 2022 largely represented a return to previous average levels.

Building on the evidence above, this article examines the role of euro cash during major crises – highlighting the unique value of cash as a safe haven asset and essential contingency payment instrument for emergencies. The normal, day-to-day use of cash in transactions is only part of the story behind cash demand: crises, when they occur, are a major factor shaping cash issuance. The heightened demand for cash during stress periods has already been documented globally (e.g. Bartzsch et al., 2024), however this study provides a focused analysis of selected episodes affecting the euro area. Daily data are examined to more precisely attribute demand surges to specific events. By quantifying these effects and exploring potential causal links, this study contributes to a deeper understanding of the enduring function of cash as a contingency tool. These insights contribute to the operational effectiveness of the Eurosystem, the accuracy of banknote forecasting, and crisis preparedness strategies. The results suggest that the unique attributes of cash – the fact that it is tangible, resilient, offline and widely accepted – become paramount during crises, and can also be leveraged for crisis preparedness. Accordingly, several European and national authorities have issued recommendations to the general public to keep some cash reserves in case of sudden and unexpected contingencies.[4]

2 The role of cash during crises

This section analyses cash demand over time across distinct classes of shocks (public health, military, financial and infrastructure) and varying geographical scope (euro area-wide, regional and national). It analyses four major crisis episodes: the COVID-19 pandemic, Russia's invasion of Ukraine, the April 2025 Iberian blackout and the sovereign debt crisis in Greece.[5] This selection of diverse scenarios – with different triggers, geographical scope and developments over time – allows us to test the robustness of the role of cash as a critical contingency instrument, moving beyond observations tied to a single type of disruption. While not all types of crisis consistently elicit a strong cash demand response (evidence for major shifts due to trade tensions alone, for instance, is limited), the selected cases provide a stress test of the function of cash when the economy, critical infrastructure or public confidence are significantly challenged.

Our approach to analysing the impact of these crises combines descriptive insights with causal analysis. To describe the crises, we use monthly net banknote issuance data from central banks and credit institutions. These data provide broader trend analysis – which is contextualised using other indicators like uncertainty, sovereign stress indices or survey microdata (ECB, 2024) – to understand behavioural drivers. For causal attribution of the increases in cash demand to the events, we employ a causal inference methodology developed by

4 Examples, such as announcements by the European Commission and the Austrian, Finnish and Dutch national authorities, are discussed below.

5 The 2008 global financial crisis is excluded from our in-depth analysis. While it was the largest shock to euro banknote circulation, its effects are well documented, and its global nature complicates causal attribution. We therefore focus our analysis on the COVID-19 pandemic as a recent widespread shock, and the Greek debt crisis to specifically illustrate a context of national financial and political turmoil where causal inference is more robust.

Brodersen et al. (2015).[6] By narrowing the "event windows" around the onset of crises we can more confidently attribute changes in cash demand to the specific shocks. For geographically localised crises, we typically use issuance in unaffected areas as "synthetic controls" to make counterfactual scenarios more robust. This capacity to infer causality from daily observations, distinguishing crisis effects from pre-existing trends or confounding factors, represents an advance compared with traditional analyses. These are often hampered by the use of lower frequency data, e.g. monthly or quarterly data, on banknote demand.[7]

2.1 The COVID-19 pandemic

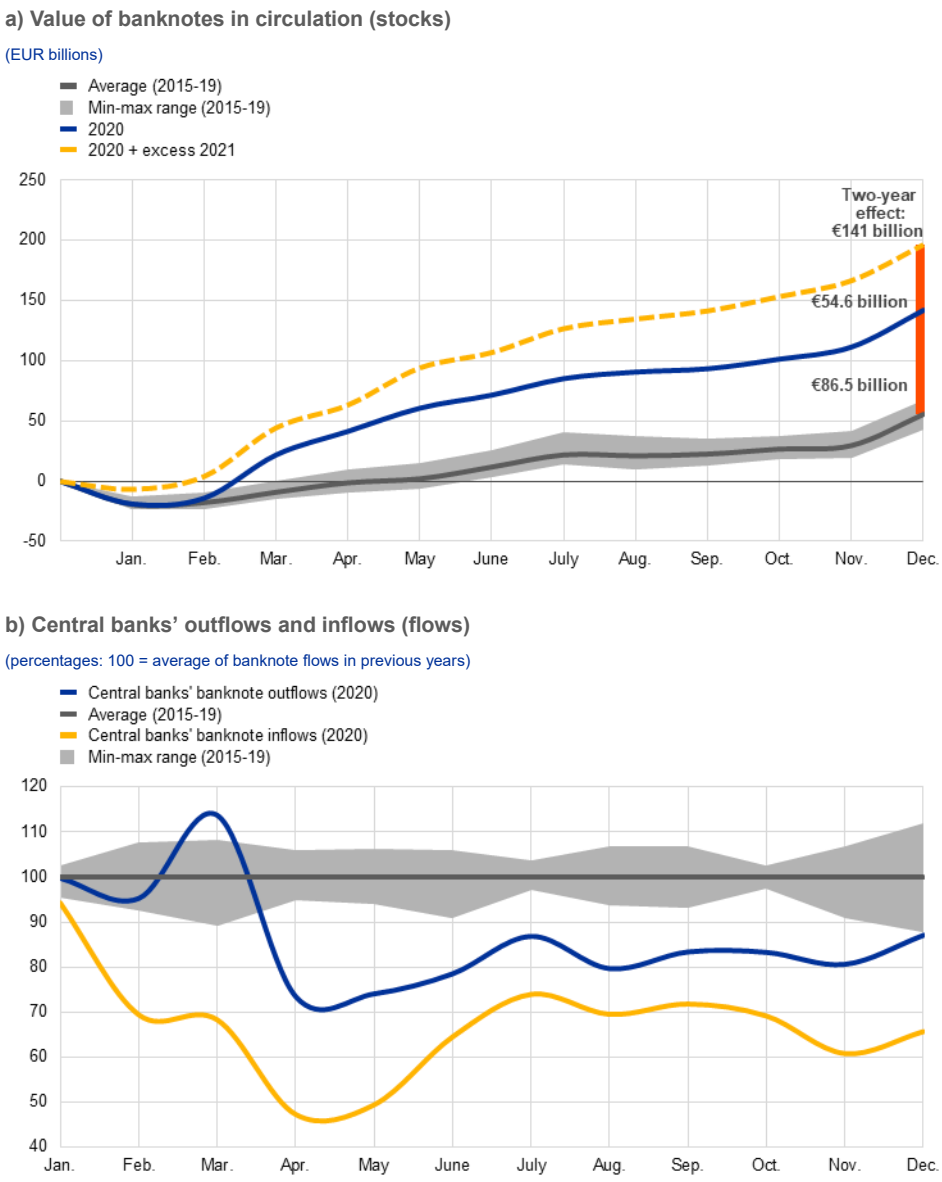
The onset of the pandemic in early 2020 triggered an extraordinary and sustained increase in the demand for euro banknotes, illustrating the critical role of cash during prolonged uncertainty. Chart 3, panel a, shows that, by the end of 2020, cumulative net banknote issuance in the euro area had surged by over €140 billion. This represented an increase of more than €85 billion (over 130%) compared with the average annual increase of approximately €55 billion seen in the pre-pandemic years (2015-19). Even in early 2021, the "excess" circulation (actual annual issuance minus the pre-pandemic average annual issuance) remained substantial, totalling around €55 billion by the end of the year. This prolonged increase in banknotes in circulation occurred despite a concurrent, well-documented decline in its use for everyday transactions – driven by health concerns, lockdowns and the accelerated shift to online and contactless payments (Tamele et al., 2021).

6 The causal impact analysis employs a Bayesian structural time-series model suggested by Brodersen et al. (2015) to estimate a counterfactual scenario – i.e. the level of central bank issuance or ATM withdrawals had the event not occurred, given pre-event trends and, where available, the behaviour of unaffected control regions.

7 The previous literature has faced the challenge of isolating crisis-driven demand spikes from underlying seasonality in high-frequency cash data, as cash flows and ATM withdrawals exhibit complex patterns, including daily effects, monthly variations and distinct calendar effects around public holidays. To address this, we use infra-monthly seasonal adjustment techniques (Webel and Smyk, 2023).

Chart 3

Long-term effects of the pandemic on banknote circulation



Source: ECB staff calculations using data from the Currency Information System 2 dataset.

In other words, the pandemic starkly accentuated the so-called paradox of banknotes, due to a sharp rise in cash holdings coupled with weakened banknote flows. Evidence from central bank flows (Chart 3, panel b) shows that banknote outflows from central banks (i.e. withdrawals by commercial banks) in 2020 were initially high in March, but then fluctuated below pre-pandemic averages for much of the year. However, banknote inflows to central banks (i.e. deposits by commercial banks) fell even more strongly. This significant reduction in the return flow of cash, reflecting reduced retail turnover and a public inclination to hold onto banknotes, was the primary driver of the net increase in circulation (Tamele et al., 2021).

Some pandemic-related factors had divergent effects on the different functions of cash, simultaneously decreasing its transactional use while increasing the likelihood of people holding cash reserves at home. For instance, an econometric analysis of survey data shows that both reduced access to cash (e.g. due to temporary closures of bank branches or lockdowns) and fear of contagion were linked to lower transactional use, yet they also statistically increased the propensity to hold cash reserves.[8] In contrast, other factors had *convergent effects*, influencing both functions in the same direction. A perceived increase in the convenience of cashless alternatives, for example, not only drove down transactional cash demand but was also associated with a lower likelihood of keeping cash holdings at home.

While the pandemic saw an estimated €140 billion increase in cash holdings over two years, reflecting a sustained shift towards its store-of-value function, the initial outbreak precipitated a distinct, acute surge in cash acquisition for immediate liquidity needs. To isolate and quantify this immediate shock, we focus on the period following the first widespread euro area lockdowns. While the first major European lockdown was implemented around 9 March 2020, we take 24 January 2020 as the start of the intervention so as to capture potential anticipatory effects.[9] Given the rapid spread of the pandemic throughout Europe after that date, the use of any clearly unaffected euro area countries as external controls is not possible. Therefore, to estimate what issuance would have been had the pandemic not occurred, we constructed a synthetic control for euro banknote issuance in 2019-20 by leveraging its historical stability.[10] Chart 4 reveals a substantial and statistically significant increase: during the 90-day period following 24 January, average daily net issuance, for all Eurosystem central banks together, hit approximately €616 million. This is nearly double the counterfactual prediction of €320 million, implying a daily causal effect of around €260 million – a 94% relative increase. Cumulatively, this initial 90-day surge added a conservative estimate of approximately €19.5 billion to the counterfactual level of currency in circulation, €10 billion of which can be causally attributed to the month after the first lockdowns were declared on 9 March 2020. This points to people immediately turning to cash for liquidity during high uncertainty due to an unprecedented event – a response distinct

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8 Where fear of the virus has opposite effects on the two functions of cash demand, this may be explained by the unobserved (confounding) factor of general risk profiles. Some individuals with higher health-risk aversion decreased their physical payments due to fear of contracting the virus and were simultaneously also more inclined to secure cash as a tangible store of value for emergencies, as individuals might proactively build up home cash reserves.

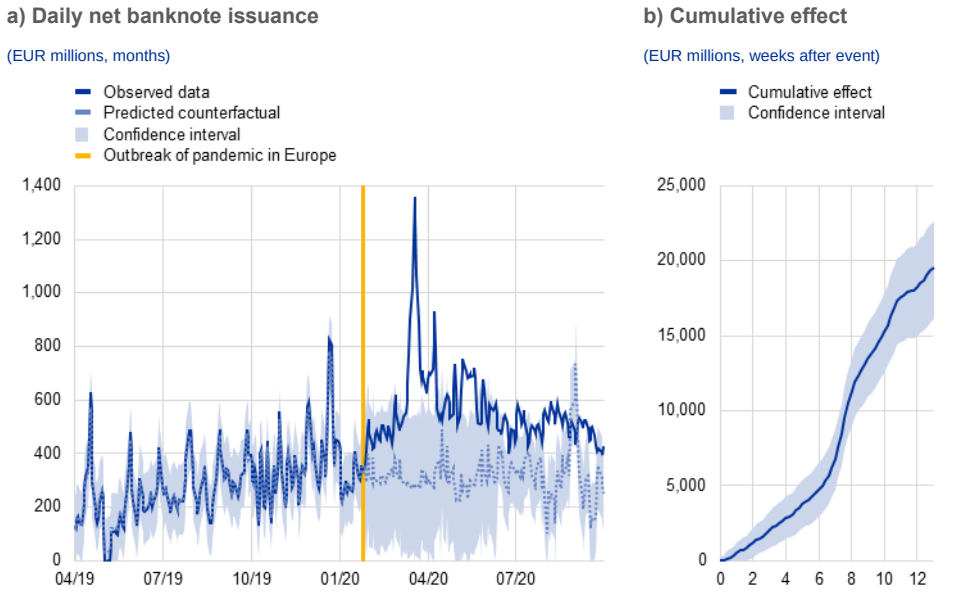
9 The earlier date of 24 January 2020 coincides with the first documented COVID-19 case in Europe (and outside Asia). This event was confirmed by national health authorities and received significant media coverage, likely amplifying public risk perception and precautionary behaviour prior to official government measures. However, given the visible, gradual anticipatory effects before the widespread lockdowns (as of 9 March 2020), selecting a date is to some extent arbitrary.

10 Our approach uses cash flow data from previous years (2015-16, 2016-17, 2017-18 and 2018-19) as explanatory variables. These historical periods were aligned with the period under review, 2019-20, on a matching-day basis, considering factors like the day of the week and its specific occurrence within the year. This method is appropriate because euro banknote issuance has historically been very stable, as evidenced by the relatively narrow maximum-minimum range from 2015 to 2019 (illustrated by the grey area in Chart 3, panel a). While these are not contemporaneous controls, this method improves our estimates in the absence of better alternatives, providing a conservative interpretation (i.e. with wide confidence intervals) of the observed impact.

from the subsequent longer-term precautionary hoarding driven by ongoing anxieties about contagion and income stability.

Chart 4

The short-term impact of the pandemic on the daily net cash issuance of euro area central banks



Source: ECB staff calculations using the Currency Information System 2 database.
Notes: Panel a) shows the observed daily net banknote issuance (solid blue line), aggregated for all euro area countries, which increases sharply several weeks after the intervention date (yellow vertical line, marking the start of the pandemic). This is a significant upward divergence from the model's counterfactual prediction (dotted blue line with shaded 95% confidence interval), which estimates the expected net issuance had the pandemic not occurred, based on pre-pandemic trends and daily or calendar seasonality. To capture anticipatory effects, the start of the treatment is taken as 24 January 2020, the date on which the first three confirmed COVID-19 cases in Europe were announced. Panel b) displays the cumulative effect over time since the intervention, illustrating a sharply growing total excess currency issuance attributable to the pandemic especially as of 9 March 2020 (after the sixth week), when the lockdowns started in Europe. It slows slightly after the eighth week and plateaus after three months. The model was trained on data from the one-year period before the intervention, using cash flow series from previous years as controls on a matching-day basis. The post-intervention period covers three months following the onset of the pandemic in Europe. The strong statistical significance of the causal effect (Bayesian one-sided tail-area probability p = 0.001) indicates a very high posterior probability that the observed increase was indeed greater than zero, and not due to random chance, given the model and the data.

2.2 Russia's invasion of Ukraine

Russia's unjustified full-scale invasion of Ukraine in February 2022 triggered a significant surge in cash demand, concentrated in several neighbouring countries. This is a common response to the pervasive uncertainty that armed conflicts and geopolitical tensions introduce regarding institutional stability, state capacity and the resilience of critical infrastructures.[11] Among the specific concerns fuelling this demand were fears of potential cyberattacks by Russia on critical digital infrastructure (Rösl and Seitz, 2023). The intensity of this uncertainty immediately following the Russian invasion was reflected in broader metrics like the Geopolitical Risk Index, which recorded its third-highest value of the 21st century in March 2022 (Caldara and Iacoviello, 2022), amplifying the perceived need for a tangible and reliable store of value like physical cash.

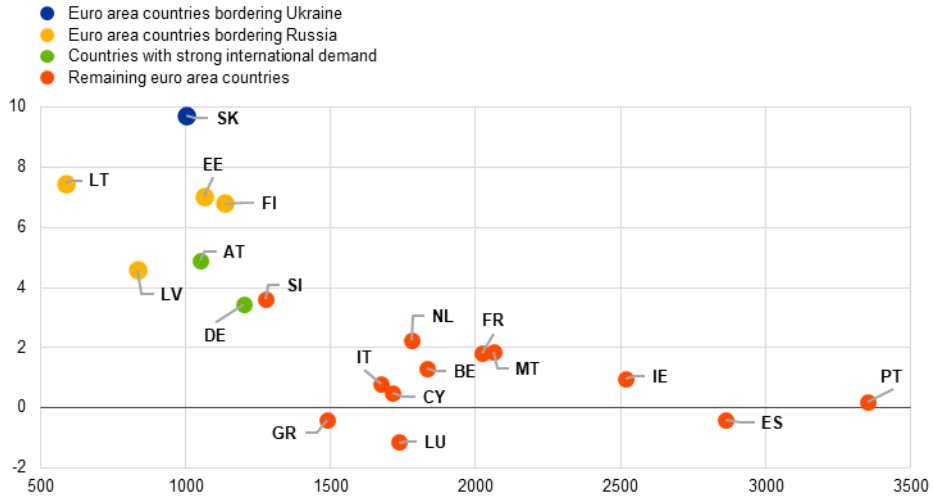
[11] Given the timing of the observed effects, this phenomenon was likely primarily driven by not only euro cash demand from refugees coming from Ukraine but also a precautionary motive.

Geographical proximity was the key determinant in boosting the demand for euro cash. Chart 5 illustrates this by plotting the monthly deviation of cash issuance from the historical average for each euro area country against its capital's distance from Kyiv. In the wake of the invasion, countries bordering either Ukraine or Russia (such as Estonia, Latvia, Lithuania, Slovakia and Finland) exhibited markedly higher demand, with issuance levels reaching six to ten standard deviations above their respective historical norms. A deviation of this magnitude is highly unusual. Even countries where credit institutions are significantly engaged in international currency trade, such as Germany and Austria (depicted in green in Chart 5), also experienced unusual excess demand. They recorded issuance up to five standard deviations above the typical patterns. Conversely, as geographical distance from the conflict increases, issuance levels are closer to their historical patterns. This clear spatial gradient strongly supports a precautionary motive, suggesting that people responded to heightened proximity to potential disruptions by accumulating portable liquidity (Beckmann and Zamora-Pérez, 2023).

Chart 5

Exceptionally high cash demand in proximate euro area countries in early 2022

(x-axis: distance in kilometres from the country's capital to Kyiv; y-axis: standard deviations from historical average issuance)



Source: ECB staff calculations.
Notes: On the y-axis, the time series data on banknote issuance are seasonally adjusted for each country and are standardised. On the x-axis, the physical distance in kilometres from each country's capital to Kyiv is measured using straight lines.

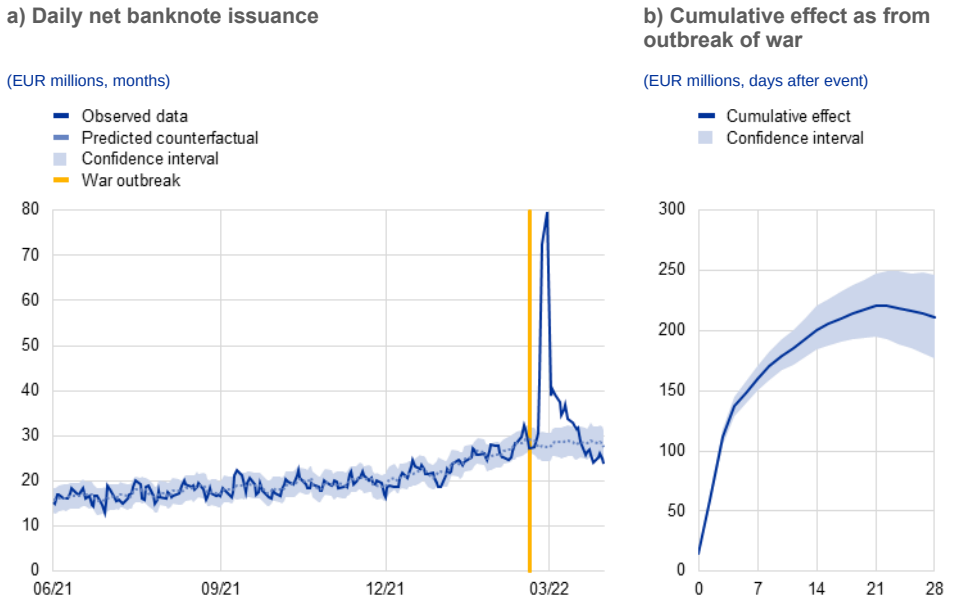
In the countries bordering the conflict, during its first month, the war led to an estimated 36% causal increase in average daily net banknote issuance. Immediately after the war began, daily net issuance in the affected countries significantly exceeded counterfactual predictions, reaching a peak of €80 million recorded in one day at the end of February 2022 (Chart 6, panel a).[12] In this period, average daily net issuance in the treatment group reached approximately €38 million, compared with a counterfactual estimate of €28 million in the absence of the

[12] The intervention date is 24 February 2022, when Russian military forces entered Ukraine from Belarus, Russia and Crimea. The analysis is based on aggregated daily net banknote issuance for Estonia, Latvia, Lithuania, Slovakia and Finland, which comprise the treatment group, while more distant countries – Spain, France, Italy and Portugal – serve as the control series. The post-intervention period is defined as the first month after the onset of the war.

war. The cumulative impact on net banknote issuance exceeded €211 million (Chart 6, panel b). Starting from zero at the onset of the invasion, cumulative cash demand rose sharply during the initial weeks. The pace of accumulation then slowed, with the cumulative curve flattening and plateauing around the third week. This sustained surge in demand for physical banknotes is particularly striking given that the Baltic States and northern European countries are typically highly digitalised and rely heavily on cashless payment systems.

Chart 6

The effect of Russia's war in Ukraine on daily net cash issuance in neighbouring euro area countries



Source: ECB staff calculations using the Currency Information System 2 database.
Notes: Panel a) shows the observed daily net banknote issuance (solid blue line), aggregated for Estonia, Latvia, Lithuania, Slovakia and Finland, which increases sharply immediately after the intervention (yellow vertical line, marking the start of the war). This is a significant upward divergence from the model's counterfactual prediction (dotted blue line with shaded 95% confidence interval), which represents the expected circulation had the war not occurred. Panel b) displays the cumulative effect over time since the intervention, illustrating a steadily growing total excess currency in circulation in the treatment countries, attributable to the war, which plateaus after the third week. The start of the treatment is marked as 24 February 2022, the date of Russia's full-scale invasion of Ukraine. The model was trained on data from the one-year period prior to the intervention and the post-intervention period covers one month following the onset of the war. The strong statistical significance of the causal effect (Bayesian one-sided tail-area probability p = 0.001) indicates a very high posterior probability that the observed increase was indeed greater than zero, and not due to random chance, given the model and the data.

2.3 The April 2025 Iberian blackout

The critical role of physical cash when digital infrastructures fail was demonstrated during the recent Iberian blackout on 28 April 2025. Shortly after noon Central European Time, the Iberian power grid lost synchronism and separated from the main European network, causing a near-total blackout across the peninsula affecting over 50 million people (ENTSO-E, 2025). While power was restored to half the peninsula by late evening, some areas were only re-energised approximately 22 hours after the blackout started, with widespread consequences for transport and digital infrastructure.

With power and telecommunications down, digital payment systems across the peninsula failed. Physical card spending in affected areas plummeted by an estimated 41-42% compared with unaffected regions or normal levels, while national e-commerce spending dropped by around 54%, contributing to an estimated 34% fall in overall Spanish consumption on that day (CaixaBank Research, 2025; BBVA Research, 2025)[13]. Many point-of-sale terminals, automated teller machines (ATMs) and mobile wallets – including card networks and person-to-person (P2P) services like Bizum – were widely inoperable for hours and only fully restored the following morning. Estimates of direct GDP losses range from €400 million to €1,600 million (CaixaBank Research, 2025; Reuters, 2025). This event transformed cash from one payment option among many into the only means of payment for many of those who held it or could access it, as existing banknotes remained perfectly functional even when digital systems and many ATMs were inoperable.

ATM withdrawals – even though locally affected by the blackout – serve as the best indicator of cash demand, while there were no significant spikes in wholesale (central bank) flows. Examining daily ATM withdrawal patterns from a national sample of approximately 4,500 Spanish ATMs provided by BBVA Research, we observe a dramatic divergence in cash demand. Chart 7 shows an index where 100 represents normal daily demand, with the grey shaded area indicating the typical interquartile range. In the days preceding the blackout (D-7 to D-1) cash withdrawals in both the areas subsequently affected (in mainland Spain) and elsewhere (extra-peninsular areas) fluctuated normally. On the day of the blackout (Day D), ATM withdrawals in the affected zones (blue line) plummeted, reflecting constrained access as ATMs went offline. Conversely, in unaffected zones (yellow line), ATM withdrawals surged significantly above normal levels, indicating strong precautionary demand as citizens sought the security of physical cash during uncertainty.[14] In the immediate aftermath (from D+1 onwards), once power and ATM services had been restored in the affected areas, there was a sharp increase in withdrawals, far exceeding typical levels.[15]

13 A more detailed analysis of the Spanish case is provided here, as the data allow for a comparison between affected and unaffected regions. This distinction is not possible with the Portuguese data.

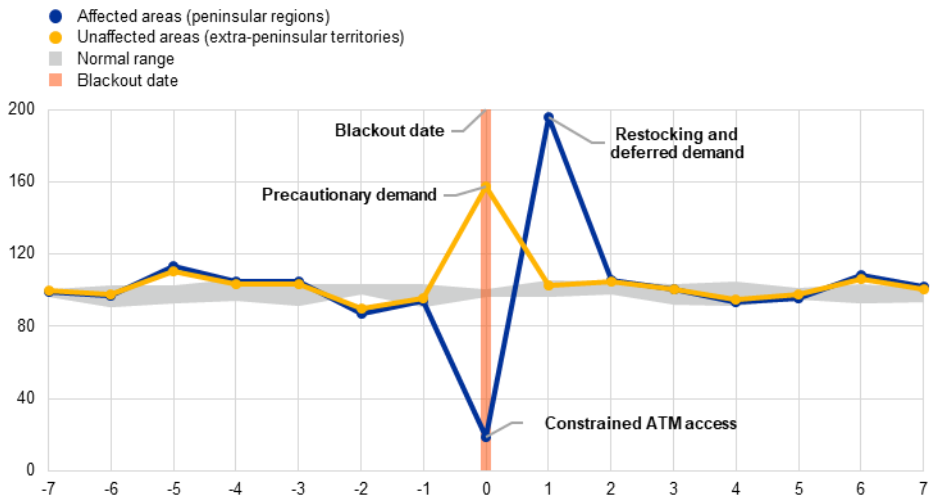
14 While this surge is probably indicative of a widespread precautionary response to the crisis, it was likely amplified by individuals in these unaffected areas withdrawing cash in advance of planned travel to the blacked-out peninsula.

15 Complementary analysis from Banco de España and Banco de Portugal confirms a slight post-blackout increase in central bank outflows, driven mostly by ATM denominations (€20, €50) but also in some cases higher demand for large denominations (€100). National weekly ATM data for both countries also support demand in excess of simple restocking, pointing to additional precautionary holdings.

Chart 7

Daily cash withdrawals from ATMs during and after the blackout in Spain

(y-axis: expected cash demand index; 100 = expected demand)



Sources: BBVA Research and ECB staff calculations.
Notes: The chart displays an index of daily ATM withdrawal values (100 = expected normal volume for that day of the week) from over 4,500 Spanish ATMs. The blue line represents areas affected by the blackout (mainland Iberia) and the yellow line unaffected areas (the Balearic and Canary Islands, Ceuta and Melilla). The grey area is the baseline interquartile range (IQR) of typical daily fluctuation. To isolate the impact of the blackout, the "normal" demand baseline is conservatively constructed: it includes comparable historical weekdays, incorporating typical pre-public holiday demand patterns such as those observed around 1 May 2024. This ensures that any surge in 2025 is benchmarked against historically high demand in the run-up to a public holiday, providing a conservative estimate of the distinct effect of the blackout.

This episode illustrates the dual function of cash – as a resilient, offline payment method and also a tangible store of value – during an acute infrastructural failure, as confirmed by causal analysis. ATM withdrawals plummeted in the blackout areas in mainland Spain owing to operational constraints. However, people were likely relying on cash from their personal holdings. According to ECB survey data, 39% of Spaniards kept cash reserves at home as a precaution (ECB, 2024). The spike on the day after the blackout reflected a combination of a "restocking" effect, as individuals sought to replenish their cash holdings after using them, and a possible increase in precautionary reserves. This interpretation is supported by a causal impact analysis, which finds a statistically significant net positive effect on cumulated cash demand, even after accounting for the prior day's suppressed withdrawals.[16] By contrast, the significant surge in ATM withdrawals in unaffected areas points to uncertainty in mainland Spain spurring precautionary cash withdrawals in extra-peninsular Spain. This happened despite digital systems in these areas remaining functional and card spending declining less than in affected areas (CaixaBank Research, 2025; BBVA Research, 2025).

[16] Following Brodersen et al. (2015) and controlling for daily seasonality and calendar effects, we find a statistically significant net positive effect on cumulated cash demand in mainland Spain, even after accounting for the prior day's suppressed withdrawals. The observed ATM withdrawals in the days after the blackout (average index 379.16) far outstrip what would have been expected had behaviour simply returned to normal after the constraint. (The counterfactual average index was 268.57 and a strong statistical significance of the causal effect was found – a Bayesian one-sided tail-area probability p = 0.009 – indicating a very high posterior probability that the observed increase was indeed greater than zero, and not due to random chance.) Similar models applied to the extra-peninsular demand also confirm a causal increase attributable to the blackout, most likely due to fears the blackout would spread to Spain's islands as well as Ceuta and Melilla.

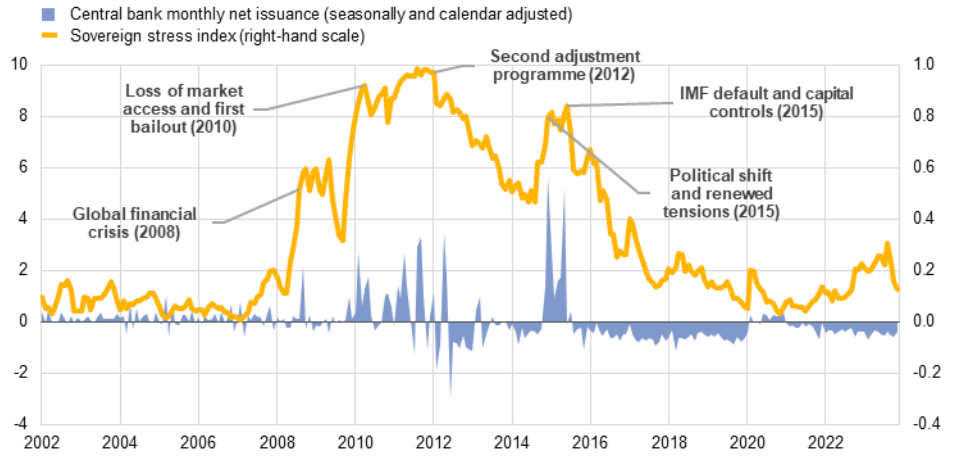
2.4 Greece in the sovereign debt crisis

During the sovereign debt crisis, heightened market uncertainty driven by political developments and evolving prospects for the macroeconomic adjustment programme led to a sharp increase in banknote demand in Greece. Chart 8 juxtaposes monthly net banknote issuance in Greece with the Composite Indicator of Systemic Sovereign Stress (SovCISS) for Greece. Reflecting the heightened uncertainty, monthly net issuance of banknotes by the Bank of Greece soared to a historic peak of nearly €5 billion in June 2015. Following several events at the end of June 2015, including the decision by the Greek authorities to hold a referendum and the non-prolongation of the macroeconomic adjustment programme, the Greek Government declared a bank holiday and introduced strict capital controls, including daily ATM withdrawal limits. The intensity of this period is mirrored in the SovCISS, which aggregates metrics such as yield spreads, volatility and bid-ask spreads (Garcia-de-Andoain and Kremer, 2018). By July 2015 this indicator had reached the exceptional level of 0.82 on a scale from 0 to 1, closely tracking the spikes in cash issuance in Chart 8. The strong co-movement between the SovCISS and net banknote issuance indicates that the public's heightened demand for physical currency was closely correlated with periods of elevated sovereign and financial market stress.

Chart 8

Central bank monthly net cash issuance and sovereign stress in Greece

(left-hand scale: EUR billions; right-hand scale: index scale)



Sources: ECB SDW and ECB staff calculations.
Notes: The blue area represents the monthly net banknote issuance in Greece, with reference values shown on the left-hand scale. The yellow line shows the monthly values of the SovCISS for Greece, with reference values shown on the right-hand scale.

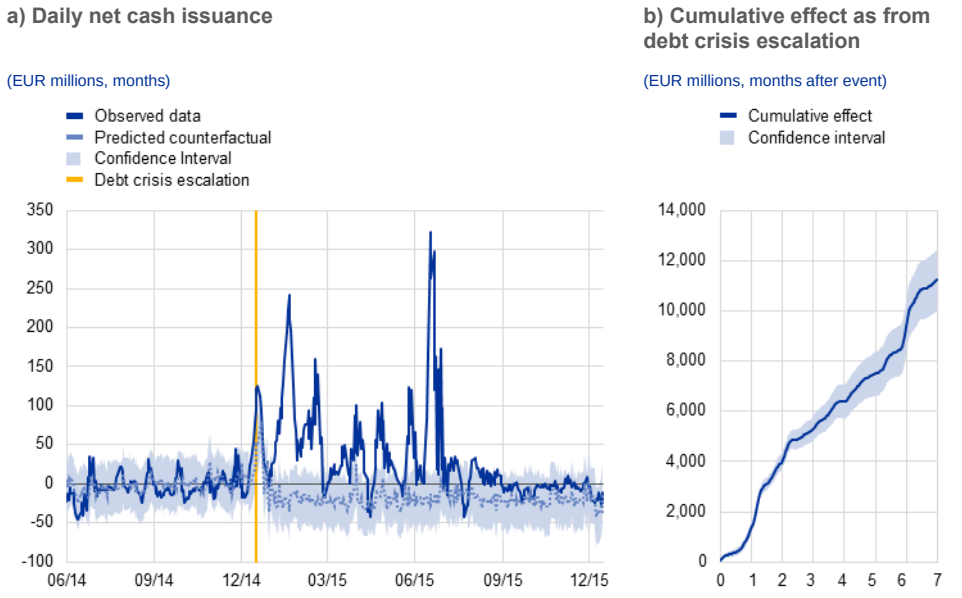
From late 2014 to mid-2015, daily net banknote issuance in Greece was well above the level expected in the absence of the crisis, reflecting elevated public perceptions of risk. Using a causal inference approach with synthetic controls (the Netherlands, Austria and Finland),[17] our analysis shows that the escalation of the crisis had a pronounced and measurable effect on cash demand in Greece. Daily net

[17] Germany, despite its distance from Greece and fiscal situation at the time, is not a suitable control country as the restrictions on withdrawals from ATMs in Greece impacted German-issued banknotes in circulation (Deutsche Bundesbank, 2022).

issuance repeatedly spiked well above the model's counterfactual estimates (Chart 9, panel a). A particularly sharp peak occurred on 18 June 2015, coinciding with a Eurogroup meeting that did not result in an agreement to release additional funds. On that day alone, net issuance exceeded €300 million. Analysis confirms that all individual spikes are causally attributable to the specific events labelled in Chart 8. For illustrative purposes, we show that over the entire post-intervention period of seven months the average daily net issuance in Greece was approximately €72 million above the expected level.[18] The cumulative effect rose steadily from the moment the crisis started to escalate, reaching an estimated total of €11.2 billion six months later (Chart 9, panel b).

Chart 9

The effect of the sovereign debt crisis on daily net cash issuance in Greece



Source: ECB staff calculations using the Currency Information System 2 database.
Notes: Panel a) shows the observed daily net banknote issuance in Greece (solid blue line) experiencing several peaks after the intervention (yellow vertical line, marking the moment when the sovereign debt crisis started to escalate). This is a significant divergence from the model's counterfactual prediction (dotted blue line with shaded 95% interval), which represents the expected issuance had the crisis not escalated. Panel b) displays the cumulative effect over time since the intervention, showing a steadily growing total excess net currency issuance in Greece that is attributable to the crisis. The start of the treatment is marked as 17 December 2014, when the Athens Stock Exchange plunged by roughly 20% and ten-year Greek government bond yields spiked above 9% following an inconclusive first-round presidential vote in Greece. The model was trained on data from the one-year period prior to the intervention and the post-intervention period covers the seven months following the escalation of the crisis. The strong statistical significance of the causal effect (Bayesian one-sided tail-area probability p = 0.001) indicates a very high posterior probability that the observed increase was indeed greater than zero, and not due to random chance, given the model and the data.

3 Conclusion and implications for public policy

These diverse crisis episodes illustrate that the utility of cash intensifies markedly when stability is threatened – irrespective of the specific nature or geographical scope of the underlying shock, or the degree of digitalisation. Each case study, however, illuminates a distinct dimension of this

[18] Daily net issuance stood at €57 million, in stark contrast to the -€15 million predicted by the model had the crisis not intensified. This negative predicted issuance is consistent with typical cash flow seasonality, where certain times of the year historically exhibit net inflows of banknotes back to the central bank. In Greece, this is further enhanced by tourism-driven banknote inflows.

resilience across different failure points. The pandemic revealed sustained precautionary cash hoarding driven by prolonged uncertainty during a public health emergency. Russia's unjustified full-scale invasion of Ukraine highlighted rapid, localised demand surges near conflict zones and irrespective of countries' degree of digitalisation. The Iberian blackout highlighted cash as an indispensable payment method when digital infrastructures fail and also as an important instrument for public reassurance, extending its influence even to areas not directly affected by the initial shock. Finally, Greece's sovereign debt crisis saw recurrent demand spikes during protracted financial turmoil and political tensions. These cases collectively reveal a consistent pattern: in moments of acute stress, the public often turns to physical currency as a reliable store of value and a resilient means of payment, underscoring the crucial role it plays above and beyond everyday transactional convenience.

This crisis-driven demand for cash stems from its fundamental attributes: it offers distinct psychological and practical utility, explaining its well-documented global staying power. Safe asset theory partly explains flights to government-backed liabilities during uncertainty (Gorton and Ordoñez, 2022). However, the appeal of cash is amplified by its tactile nature, providing comfort and control, and its offline functionality becoming paramount during digital system failures (Bartzsch et al., 2024). Cash offers certainty concerning its nominal value, immediate access and privacy. Heightened loss aversion during crisis, coupled with varied individual perceptions of stability, make cash a tool for satisfying risk-averse individuals' demand for direct liquidity insurance (Muñoz and Soons, 2022).[19] This crisis-specific utility contributes to the persistent demand for cash that cannot be fully explained by traditional economic factors like interest rates or income (Jobst and Stix, 2017; Goodhart and Ashworth, 2020).

Beyond these individual drivers, the resilience of cash suggests it has broader system-wide advantages that are difficult to quantify. From a systems theory perspective, while digital payment rails are optimised for efficiency (maximising "mean time between failure"), cash provides essential redundancy – a "spare tire" – for the payment system.[20] This redundancy is vital for any system, as no system is infallible. Relatedly, widespread individual cash holdings generate a societal benefit or "positive externality": a distributed liquidity network for the euro area community when centralised systems fail – a feature digital-only regimes cannot replicate. This makes cash a kind of societal insurance, a low-cost safeguard against major systemic instability. Finally, cash can act as a crucial counterweight to concentrated power within payment systems, fostering market competition (Lagos and Zhang, 2022), and empowering users by providing the option to make unrecorded

19 Under conditions of stress and uncertainty, individuals often exhibit heightened loss aversion, meaning the psychological impact of a potential loss becomes disproportionately larger than that of an equivalent gain.

20 The analogy draws on systems safety engineering, where critical systems incorporate simpler, often manual, backup mechanisms to ensure functionality if primary automated systems fail. A well-known example is the emergency staircase in a skyscraper; while elevators are more efficient for everyday use, the staircase provides an essential, redundant path for egress during a power failure. While the analogy is not perfect – as cash, unlike an emergency staircase, is widely used for daily transactions – the underlying principle holds.

transactions. This suggests that its latent social benefits may be larger than traditionally estimated (Rösl and Seitz, 2022 and 2024).

These findings and reflections support the growing recognition among authorities that cash is a critical component of national crisis preparedness. Central banks, finance ministries and civil protection agencies in several countries now recommend that households maintain a multi-day cash float for essential purchases. For instance, authorities in the Netherlands, Austria and Finland suggest holding amounts ranging from approximately €70 to €100 per household member or enough to cover essential needs for about 72 hours.[21,22] Some jurisdictions, like Finland, are even exploring "disruption-proof" ATMs to ensure access during digital failures.[23] This aligns with the understanding that physical currency not only serves to meet individual needs but also contributes to broader systemic resilience.[24]

Ultimately, the evidence underscores the continued importance for central banks and the private sector to ensure an efficient and robust cash supply, encompassing adequate stocks and resilient business continuity plans. Understanding the often heavy-tailed nature of cash demand spikes – where extreme, infrequent events drive disproportionate demand – has profound implications. It means that while day-to-day operational forecasting can rely on more normally distributed demand, the infrastructure and strategic reserves must be prepared for these less predictable, high-impact surges.[25] This ensures that cash, as the only central bank liability directly available to all, can fulfil its role – not just in daily transactions but as a fundamental pillar of economic stability and public confidence, particularly when it is needed most. These imperatives are recognised in the Eurosystem cash strategy, which aims to ensure continued availability, access to and acceptance of cash in the euro area.

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21 See, for example, Ministry of Finance Finland (2022), Oesterreichische Nationalbank (2024) and De Nederlandsche Bank (2025).

22 Relatedly, the European Commission's 72-hour emergency preparedness guidance included cash alongside essentials like water and medicine (Reuters, 2025b). This announcement made by video on the European Commission's official YouTube Channel was widely covered in the media. However, there is no outline of population preparedness guidance as yet. This will be part of the "EU Preparedness Union Strategy to prevent and react to emerging threats and crises".

23 This is available at Suomen Pankki's website under "'Home emergency kit' for payments".

24 Yet, this enduring utility of cash, particularly its store-of-value function and crisis demand, often seems at odds with policies that, intentionally or not, increase friction in its use or aim to reduce its circulation. Measures such as stringent payment limits or the removal of large-denomination banknotes – as seen, for example, in the motivations behind India's demonetisation – may not adequately account for the positive externalities of a readily available cash stock or the public's legitimate need for convenient, high-value physical storage, particularly during periods of uncertainty. For this reason, Regulation (EU) 2024/1624 of the European Parliament and of the Council of 31 May 2024 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing (the new Anti-Money Laundering Regulation) provides that in the event of contingencies where electronic payments are not available, cash payment limits can temporarily be suspended.

25 This is analogous to the design of Dutch dykes, which are engineered not for average tides but for rare, catastrophic floods, using principles from extreme value theory to model such high-impact surges. A resilient cash supply must similarly be sized for its critical role during infrequent crises, not just for daily transactional flows.

References

Armelius, H., Claussen, C.A. and Reslow, A. (2022), "Withering cash: Is Sweden ahead of the curve or just special?", *International Journal of Central Banking,* Vol. 18, No 5, pp. 199-238.

Bartzsch, N., Rösl, G. and Seitz, F. (2024), "Cash demand in times of crises: A global perspective", *Bank i Kredyt,* Vol. 54, No 1, pp. 1-43.

BBVA Research (2025), *The blackout in real time: collapse and resilience of consumption after 28A*, 9 May.

Beckmann, E. and Zamora-Pérez, A. (2023), "The impact of war: Extreme demand for euro cash in the wake of Russia's invasion of Ukraine", *The international role of the euro,* ECB, pp. 37-40.

Brodersen, K.H., Gallusser, F., Koehler, J., Remy, N. and Scott, S.L. (2015), "Inferring causal impact using Bayesian structural time-series models", *Annals of Applied Statistics,* Vol. 9, No 1, pp. 247-274.

Bundesbank (2022), "Demand for euro banknotes issued by the Bundesbank: current developments", *Monthly Report*, April, pp. 67-83.

CaixaBank Research (2025), "Valoración del impacto económico del apagón del día 28 de abril," *Nota breve*, 5 May.

Caldara, D. and Iacoviello, M. (2022), "Measuring geopolitical risk", *American Economic Review,* Vol. 112, No 4, pp. 1194-1225.

Clipal, R. and Zamora-Pérez A. (2025), "Cash is alive… and somewhat young? Decoupling age, period and cohort from cash use", *Economic Bulletin*, Issue 5, ECB, Frankfurt am Main.

De Nederlandsche Bank (2025), *NFPS advice: Prepare for a three-day disruption of electronic payments*, 20 May.

ECB (2024), *Study on the payment attitudes of consumers in the euro area (SPACE 2024)*, Frankfurt am Main.

European Network of Transmission System Operators for Electricity (ENTSO-E) (2025), *Iberian Peninsula Blackout*, 28 April.

Garcia-de-Andoain, C. and Kremer, M. (2018), "Beyond spreads: Measuring sovereign market stress in the euro area", *Working Paper Series*, No 2185, ECB, Frankfurt am Main, October.

Lagos, R. and Zhang, S. (2022), "The limits of monetary economics: On money as a constraint on market power", *Econometrica,* Vol. 90, No 3, pp. 1177-1204.

Lalouette, L., Zamora-Pérez, A., Rusu, C., Bartzsch, N., Politronacci, E., Delmas, M., Rua, A., Brandi, M. and Naski, M. (2021), "Foreign demand for euro banknotes", *Occasional Paper Series*, No 253, ECB, Frankfurt am Main, January.

Lerner, J.S., Li, Y., Valdesolo, P. and Kassam, K.S. (2015), "Emotion and decision making", *Annual Review of Psychology*, Vol. 66, pp. 799-823.

Ministry of Finance Finland (2022), *Securing daily payments*.

Oesterreichische Nationalbank (2024), *Cash management*.

Reuters (2025a), *EU tells the public to hold 72 hours of emergency supplies*, 26 March.

Reuters. (2025b), *Power begins to return after huge outage hits Spain and Portugal*, 29 April.

Reuters (2025c), *Post-blackout in Spain and Portugal, companies count the cost*, 29 April.

Rösl, G. and Seitz, F. (2022), "Cash demand in times of crisis", *Journal of Payments Strategy & Systems,* Vol. 16*,* No 2), pp, 107-119.

Rösl, G. and Seitz, F. (2024), "Uncertainty, politics, and crises: The case for cash", *Latin American Journal of Central Banking,* Vol. 5, No 3, 100128.

Tamele, B., Zamora-Pérez, A., Litardi, C., Howes, J., Steinmann, E. and Todt, D. (2021), "Catch me (if you can): assessing the risk of SARS-CoV-2 transmission via euro cash", *Occasional Paper Series*, No 259, ECB, Frankfurt am Main, July.

Zamora-Pérez, A. (2021), "The paradox of banknotes: Understanding the demand for cash beyond transactional use", *Economic Bulletin*, Issue 2, ECB.

Statistics

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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	4.8	1.0	3.1	3.6	8.0	9.1	2.5	2.0	8.4
2023	3.5	2.9	0.4	1.2	5.4	0.4	4.1	7.4	3.3	0.2	5.4
2024	3.2	2.9	1.1	0.1	5.0	0.9	2.9	2.5	2.7	0.2	2.4
2024 Q3	0.9	0.8	0.0	0.6	1.3	0.4	2.6	2.0	2.8	0.5	2.2
Q4	0.9	0.6	0.1	0.5	1.6	0.4	2.7	2.5	2.9	0.2	2.2
2025 Q1	0.8	-0.1	0.7	0.1	1.2	0.6	2.7	2.8	3.8	-0.1	2.3
Q2	.	0.8	0.3	0.5	1.1	0.1	2.4	3.5	3.5	0.0	2.0
2025 Mar.	-	-	-	-	-	-	2.4	2.6	3.6	-0.1	2.2
Apr.	-	-	-	-	-	-	2.3	3.5	3.6	-0.1	2.2
May	-	-	-	-	-	-	2.4	3.4	3.5	-0.1	1.9
June	-	-	-	-	-	-	2.7	3.6	3.3	0.1	2.0
July	-	-	-	-	-	-	2.7	3.8	3.1	0.0	2.0
Aug.	-	-	-	-	-	-	.	.	.	.	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.

1.2 Main trading partners, Purchasing Managers' Index and world trade

	Purchasing Managers' Surveys (diffusion indices; s.a.)									Merchandise imports [1]		
	Composite Purchasing Managers' Index						Global Purchasing Managers' Index [2]					
	Global [2]	United States	United Kingdom	Japan	China	Memo item: euro area	Manufacturing	Services	New export orders	Global	Advanced economies	Emerging market economies
	1	2	3	4	5	6	7	8	9	10	11	12
2022	-	-	-	-	-	-	-	-	-	3.1	4.6	1.7
2023	-	-	-	-	-	-	-	-	-	0.5	-3.7	4.5
2024	52.9	53.7	52.5	51.3	52.1	50.1	50.7	53.1	49.0	4.2	3.6	4.8
2024 Q3	52.9	54.3	53.1	52.5	50.9	50.3	49.8	53.4	48.4	1.3	1.6	1.1
Q4	53.0	54.8	50.9	50.1	51.8	49.3	49.9	53.3	48.4	0.9	1.1	0.8
2025 Q1	52.0	52.6	50.8	50.6	51.5	50.4	50.9	52.1	49.7	3.2	8.5	-1.6
Q2	51.4	52.2	50.3	51.0	50.6	50.4	50.3	51.6	48.2	-1.4	-5.6	2.8
2025 Mar.	52.3	53.5	51.5	48.9	51.8	50.9	50.4	52.6	50.1	3.2	8.5	-1.6
Apr.	50.9	50.6	48.5	51.2	51.1	50.4	50.5	50.9	47.3	2.2	4.2	0.3
May	51.5	53.0	50.3	50.2	49.6	50.2	49.0	52.1	48.0	1.3	0.5	2.0
June	51.9	52.9	52.0	51.5	51.3	50.6	51.3	51.8	49.2	-1.4	-5.6	2.8
July	53.0	55.1	51.5	51.6	50.8	50.9	49.7	53.5	48.2	.	.	.
Aug.	53.4	54.6	53.5	52.0	51.9	51.0	51.7	53.4	48.7	.	.	.

Sources: S&P Global Market Intelligence (col. 1-9); CPB Netherlands Bureau for Economic Policy Analysis and ECB calculations (col. 10-12)
1) Global and advanced economies exclude the euro area. Annual and quarterly data are period-on-period percentages; monthly data are 3-month-on-3-month percentages. All data are seasonally adjusted.
2) Excluding 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	13,757.8	13,480.3	7,253.3	2,942.0	3,015.4	1,555.9	870.4	582.9	269.6	-277.5	7,430.4	7,152.9
2023	14,637.7	14,113.6	7,742.5	3,096.3	3,192.6	1,631.7	925.2	629.1	82.1	-524.1	7,386.9	6,862.8
2024	15,200.2	14,523.9	8,022.4	3,261.9	3,187.8	1,638.8	919.4	623.1	51.7	-676.3	7,488.7	6,812.4
2024 Q3	3,813.5	3,655.9	2,013.8	822.2	799.0	407.8	228.9	160.7	20.8	-157.6	1,869.7	1,712.1
Q4	3,859.0	3,695.5	2,030.1	831.7	810.1	414.0	231.5	163.0	23.6	-163.5	1,884.3	1,720.8
2025 Q1	3,896.5	3,735.6	2,053.4	836.4	831.5	419.3	231.0	179.4	14.3	-160.9	1,929.0	1,768.1
Q2	3,929.3	3,765.1	2,065.7	846.6	821.7	419.2	233.3	167.4	31.1	-164.2	1,911.6	1,747.4
as percentage of GDP												
2024	100.0	95.6	52.8	21.5	21.0	10.8	6.0	4.1	0.3	-4.4	-	-
Chain-linked volumes (prices for the previous year)												
quarter-on-quarter percentage changes												
2024 Q3	0.4	1.3	0.5	0.7	1.6	-0.5	-1.9	13.6	-	-	-1.4	0.3
Q4	0.4	0.3	0.5	0.5	0.6	0.8	0.7	-0.1	-	-	0.1	-0.1
2025 Q1	0.6	0.5	0.3	-0.1	2.7	0.5	0.2	11.8	-	-	2.2	2.2
Q2	0.1	0.4	0.1	0.5	-1.8	-0.2	0.8	-8.6	-	-	-0.5	0.0
annual percentage changes												
2022	3.6	3.9	5.3	1.3	1.9	-0.3	3.9	4.7	-	-	7.6	8.6
2023	0.4	0.0	0.4	1.5	1.7	0.2	2.1	5.2	-	-	-1.1	-1.9
2024	0.9	0.5	1.2	2.3	-2.0	-1.4	-1.9	-3.7	-	-	0.4	-0.4
2024 Q3	0.9	1.1	1.3	2.6	-1.8	-2.0	-3.6	1.4	-	-	0.9	1.2
Q4	1.3	1.4	1.8	2.4	-2.2	-0.6	-0.9	-7.7	-	-	0.4	0.6
2025 Q1	1.6	2.2	1.4	2.1	2.3	0.4	-0.5	11.2	-	-	2.4	3.8
Q2	1.5	2.6	1.4	1.7	3.0	0.6	-0.4	15.9	-	-	0.3	2.4
contributions to quarter-on-quarter percentage changes in GDP; percentage points												
2024 Q3	0.4	1.3	0.3	0.2	0.3	-0.1	-0.1	0.5	0.5	-0.9	-	-
Q4	0.4	0.3	0.2	0.1	0.1	0.1	0.0	0.0	-0.1	0.1	-	-
2025 Q1	0.6	0.5	0.1	0.0	0.6	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	-	-
contributions to annual percentage changes in GDP; percentage points												
2022	3.6	3.8	2.7	0.3	0.4	0.0	0.2	0.2	0.4	-0.1	-	-
2023	0.4	0.0	0.2	0.3	0.4	0.0	0.1	0.2	-0.9	0.4	-	-
2024	0.9	0.5	0.6	0.5	-0.4	-0.2	-0.1	-0.2	-0.2	0.4	-	-
2024 Q3	0.9	1.0	0.7	0.6	-0.4	-0.2	-0.2	0.1	0.2	-0.1	-	-
Q4	1.3	1.4	0.9	0.5	-0.5	-0.1	-0.1	-0.4	0.4	-0.1	-	-
2025 Q1	1.6	2.1	0.7	0.5	0.5	0.0	0.0	0.5	0.4	-0.5	-	-
Q2	1.5	2.4	0.7	0.4	0.6	0.1	0.0	0.6	0.7	-0.9	-	-

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	12,365.3	217.1	2,413.5	647.7	2,368.2	638.1	546.6	1,340.6	1,490.9	2,320.9	381.7	1,392.4
2023	13,240.0	222.5	2,594.9	705.9	2,472.6	694.7	608.0	1,467.1	1,604.7	2,456.7	412.9	1,397.6
2024	13,684.1	230.2	2,550.5	726.5	2,559.2	731.3	641.3	1,542.0	1,677.8	2,593.4	431.9	1,516.1
2024 Q3	3,430.6	57.8	635.0	181.3	640.2	184.1	161.1	387.3	421.9	652.7	109.1	382.9
Q4	3,472.6	58.9	653.7	182.7	645.8	186.4	162.1	387.9	424.9	660.9	109.3	386.4
2025 Q1	3,500.2	59.8	659.3	185.5	649.4	187.9	163.5	389.8	427.4	667.5	110.2	396.2
Q2	3,533.5	61.6	661.8	187.6	656.2	190.3	164.9	392.6	432.7	674.0	111.9	395.8
as percentage of value added												
2024	100.0	1.7	18.6	5.3	18.7	5.3	4.7	11.3	12.3	19.0	3.2	-
Chain-linked volumes (prices for the previous year)												
quarter-on-quarter percentage changes												
2024 Q3	0.3	-0.2	0.5	-0.7	0.0	1.3	0.1	0.2	0.2	0.3	1.5	1.5
Q4	0.3	0.8	0.3	0.2	0.4	1.1	-0.3	0.3	-0.1	0.5	-1.1	1.6
2025 Q1	0.6	2.0	2.0	0.7	0.3	0.6	0.3	0.3	0.3	0.3	-0.1	-0.3
Q2	0.1	-1.7	0.2	-0.6	0.3	0.7	-0.3	0.2	0.4	0.0	0.4	-0.1
annual percentage changes												
2022	4.0	-0.9	0.4	-0.3	9.0	6.3	-1.8	2.6	5.9	2.8	16.9	0.8
2023	0.6	-2.7	-1.6	0.9	0.1	6.6	-1.9	1.8	1.7	0.9	3.8	-1.8
2024	0.9	-0.9	-0.8	-1.0	0.8	2.9	1.7	1.8	1.8	1.4	1.4	0.7
2024 Q3	1.0	-1.0	0.2	-1.4	0.6	2.6	1.5	2.0	1.7	1.5	1.5	0.1
Q4	0.9	-0.3	-0.6	-1.1	1.0	2.7	1.8	1.8	0.9	1.6	1.6	5.2
2025 Q1	1.5	0.9	3.0	-0.3	0.8	3.2	-0.2	1.0	1.0	1.6	0.9	2.8
Q2	1.4	0.9	3.0	-0.4	1.0	3.7	-0.2	1.0	0.8	1.1	0.7	2.7
contributions to quarter-on-quarter percentage changes in value added; percentage points												
2024 Q3	0.3	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	-
Q4	0.3	0.0	0.1	0.0	0.1	0.1	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	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	-
contributions to annual percentage changes in value added; percentage points												
2022	4.0	0.0	0.1	0.0	1.6	0.3	-0.1	0.3	0.7	0.6	0.5	-
2023	0.6	0.0	-0.3	0.0	0.0	0.3	-0.1	0.2	0.2	0.2	0.1	-
2024	0.9	0.0	-0.2	-0.1	0.2	0.2	0.1	0.2	0.2	0.3	0.0	-
2024 Q3	1.0	0.0	0.0	-0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.0	-
Q4	0.9	0.0	-0.1	-0.1	0.2	0.1	0.1	0.2	0.1	0.3	0.0	-
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	0.6	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	24.9	6.6
2024	100.0	86.2	13.8	2.8	14.0	6.4	24.3	3.4	2.3	1.0	14.2	25.0	6.5
annual percentage changes													
2022	2.3	2.5	1.4	-0.7	1.2	3.5	3.1	5.8	0.1	3.5	3.8	1.5	1.1
2023	1.4	1.5	0.7	-2.4	0.8	1.3	2.0	3.6	0.4	2.0	1.7	1.3	1.6
2024	1.0	1.0	0.8	0.0	0.2	1.1	1.0	2.0	0.8	-0.6	0.7	1.6	0.6
2024 Q3	1.0	1.0	1.1	0.3	0.3	0.7	1.0	1.7	1.0	-1.4	1.1	1.7	0.9
Q4	0.8	0.9	0.3	-1.1	0.0	0.8	1.1	1.3	1.0	0.1	0.1	1.5	0.2
2025 Q1	0.7	0.9	-0.2	-1.6	-0.2	0.8	0.7	1.0	1.4	3.1	0.6	1.4	1.0
Q2	0.6	0.7	0.2	-2.7	-0.3	0.9	0.8	0.6	1.2	3.3	0.8	1.2	0.2
Hours worked													
as a percentage of total hours worked													
2022	100.0	81.8	18.2	3.8	14.7	7.4	25.0	3.5	2.4	1.1	14.2	22.0	5.9
2023	100.0	82.0	18.0	3.7	14.6	7.3	25.1	3.6	2.4	1.1	14.2	22.1	5.9
2024	100.0	82.0	18.0	3.6	14.5	7.3	25.1	3.7	2.4	1.1	14.3	22.2	5.9
annual percentage changes													
2022	3.7	3.8	3.1	-1.3	1.3	4.3	7.3	6.2	-0.6	5.8	4.6	1.1	4.8
2023	1.4	1.7	0.3	-2.1	0.7	0.9	1.8	3.5	0.5	2.0	1.8	1.7	2.3
2024	1.1	1.1	0.7	-0.5	0.3	1.1	1.0	2.2	0.6	-0.9	1.2	1.6	1.1
2024 Q3	0.5	0.6	0.1	-0.8	-0.2	0.1	0.6	1.3	0.6	-2.1	0.9	1.0	0.7
Q4	0.9	1.1	0.1	-1.0	0.0	0.9	1.1	1.5	0.2	0.7	0.8	1.7	1.1
2025 Q1	0.4	0.7	-1.0	-2.1	-0.6	0.5	0.2	0.8	1.1	2.3	0.4	1.3	1.6
Q2	0.4	0.6	-0.7	-2.5	-0.7	1.1	0.3	0.4	1.3	2.5	0.6	0.9	1.1
Hours worked per person employed													
annual percentage changes													
2022	1.3	1.3	1.7	-0.7	0.1	0.8	4.1	0.3	-0.7	2.2	0.8	-0.4	3.7
2023	0.0	0.2	-0.4	0.3	-0.1	-0.4	-0.2	-0.1	0.1	0.0	0.1	0.3	0.7
2024	0.1	0.1	-0.1	-0.5	0.0	0.0	0.0	0.3	-0.2	-0.4	0.5	0.0	0.5
2024 Q3	-0.5	-0.4	-1.0	-1.0	-0.5	-0.6	-0.4	-0.3	-0.4	-0.6	-0.2	-0.7	-0.2
Q4	0.2	0.3	-0.2	0.1	0.0	0.1	0.0	0.2	-0.8	0.6	0.7	0.2	0.9
2025 Q1	-0.3	-0.1	-0.8	-0.5	-0.4	-0.3	-0.5	-0.1	-0.3	-0.8	-0.2	-0.1	0.6
Q2	-0.3	-0.1	-0.9	0.2	-0.3	0.2	-0.5	-0.2	0.1	-0.7	-0.2	-0.3	0.8

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	5.652	7.2		3.2
2023	169.703	2.9	11.166	6.6	2.4	8.875	5.8	2.292	14.5	5.644	6.3	5.522	6.9		3.1
2024	171.292	2.8	10.918	6.4	2.1	8.596	5.5	2.322	14.6	5.591	6.1	5.328	6.6		2.6
2024 Q3	171.427	2.8	10.858	6.3	1.9	8.489	5.5	2.368	14.9	5.640	6.2	5.218	6.5		2.5
Q4	171.649	2.8	10.633	6.2	2.0	8.359	5.4	2.274	14.4	5.466	6.0	5.167	6.4		2.5
2025 Q1	172.691	2.8	10.973	6.4	2.1	8.620	5.5	2.354	14.8	5.602	6.1	5.371	6.6		2.4
Q2	.	.	.	.	.	.	.	.	.	.	.	.	.		2.3
2025 Feb.	-	-	10.886	6.3	-	8.553	5.5	2.334	14.7	5.542	6.1	5.344	6.6		-
Mar.	-	-	11.039	6.4	-	8.681	5.5	2.358	14.8	5.682	6.2	5.357	6.6		-
Apr.	-	-	10.918	6.3	-	8.626	5.5	2.292	14.4	5.616	6.1	5.302	6.5		-
May	-	-	11.011	6.4	-	8.691	5.5	2.320	14.5	5.714	6.2	5.297	6.5		-
June	-	-	10.975	6.3	-	8.684	5.5	2.291	14.3	5.693	6.2	5.282	6.5		-
July	-	-	10.805	6.2	-	8.578	5.5	2.227	13.9	5.614	6.1	5.191	6.4		-

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	Food, beverages, tobacco	Non-food	Fuel		
	Total	Manu-facturing	Inter-mediate goods	Capital goods	Consumer goods	Energy							
	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	2.0	-1.9	-2.6	-1.0	-1.7	2.3	14.6
2024	-3.0	-3.3	-3.9	-5.0	0.0	-0.1	-1.0	1.2	0.5	1.7	0.7	1.6	-0.1
2024 Q3	-1.7	-2.0	-3.7	-3.9	2.6	1.1	-2.2	2.1	0.8	2.9	2.4	0.8	-8.8
Q4	-1.5	-1.8	-2.4	-4.0	2.6	0.3	-0.1	2.2	1.0	3.0	0.9	2.0	-1.4
2025 Q1	1.5	1.4	-1.0	-1.6	9.2	0.6	-0.4	2.0	1.3	2.7	1.5	2.0	-2.9
Q2	1.2	1.2	-1.5	-0.1	6.3	1.7	3.3	2.7	1.9	3.3	3.7	1.9	-1.7
2025 Feb.	0.9	0.3	-2.4	-2.2	7.5	2.2	-0.4	2.0	1.7	2.2	2.0	0.9	1.5
Mar.	3.7	3.9	0.7	0.4	14.0	1.8	-1.2	2.1	0.8	3.0	2.2	2.7	-6.8
Apr.	0.2	0.6	-0.9	-0.7	4.1	-1.7	4.7	2.7	2.6	2.7	4.5	0.9	3.4
May	3.1	3.2	-1.7	2.8	10.1	2.3	3.6	2.0	0.7	2.8	2.7	2.0	4.9
June	0.2	-0.2	-1.8	-2.1	4.5	4.6	1.7	3.5	2.4	4.4	4.0	2.9	-12.2
July	.	.	.	.	.	.	.	2.2	0.9	3.1	2.3	.	6.1
month-on-month percentage changes (s.a.)													
2025 Feb.	1.2	1.2	0.3	1.0	1.7	1.1	-1.2	0.2	0.2	0.2	0.5	-0.1	3.4
Mar.	2.2	2.0	1.4	2.3	2.1	-0.4	0.0	0.4	0.0	0.5	0.8	0.9	-3.9
Apr.	-2.5	-2.1	-0.9	-1.2	-4.3	-2.9	4.5	0.4	0.8	0.2	1.3	-0.3	3.6
May	1.1	0.7	-1.7	0.9	6.8	3.6	-2.1	-0.3	-0.4	-0.1	-1.0	0.3	-1.1
June	-1.3	-1.6	-0.2	-2.2	-4.3	2.9	-0.8	0.6	0.6	0.6	0.8	-0.1	-5.3
July	.	.	.	.	.	.	.	-0.5	-1.1	0.2	-1.7	.	5.0

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)								Purchasing Managers' Surveys (diffusion indices)			
	Economic sentiment indicator (long-term average = 100)	Manufacturing industry		Consumer confidence indicator	Construction confidence indicator	Retail trade confidence indicator	Service industries		Purchasing Managers' Index (PMI) for manufacturing	Manufacturing output	Business activity for services	Composite output
		Industrial confidence indicator	Capacity utilisation (%)				Services confidence indicator	Capacity utilisation (%)				
	1	2	3	4	5	6	7	8	9	10	11	12
1999-21	94.7	-5.1	33.8	-14.4	-6.1	-7.9	-9.1	.	-	-	-	-
2022	102.3	5.0	82.4	-21.9	5.2	-3.6	9.3	89.9	-	-	-	-
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	45.9	46.2	51.5	50.1
2024 Q4	95.2	-12.7	77.4	-13.4	-3.8	-5.7	5.7	90.4	45.4	45.1	50.9	49.3
2025 Q1	95.5	-11.4	77.3	-14.1	-3.3	-5.8	4.5	90.3	47.6	48.8	51.0	50.4
Q2	94.3	-11.1	77.5	-15.7	-3.4	-7.8	2.3	89.8	49.3	51.3	50.1	50.4
Q3	.	.	77.8	.	.	.	.	89.9	.	.	.	.
2025 Mar.	95.2	-10.7	.	-14.5	-3.6	-6.9	2.5	.	48.6	50.5	51.0	50.9
Apr.	93.9	-11.0	77.5	-16.6	-3.9	-8.8	1.9	89.8	49.0	51.5	50.1	50.4
May	94.9	-10.3	.	-15.1	-3.4	-7.1	1.9	.	49.4	51.5	49.7	50.2
June	94.1	-11.8	.	-15.3	-2.9	-7.6	3.0	.	49.5	50.8	50.5	50.6
July	95.7	-10.5	77.8	-14.7	-3.1	-6.6	4.1	89.9	49.8	50.6	51.0	50.9
Aug.	95.2	-10.3	.	-15.5	-3.5	-6.5	3.6	.	50.7	52.5	50.5	51.0

Sources: European Commission (Directorate-General for Economic and Financial Affairs) (col. 1-8) and S&P Global Market Intelligence (col. 9-12).

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	91.0	0.5	2.2	12.5	2.1	7.7	37.8	4.9	72.9	4.9	9.4	3.4
2023	14.2	85.0	1.3	2.0	2.6	3.8	1.2	36.4	5.1	68.9	1.6	2.7	0.8
2024	15.3	82.0	2.4	2.4	-2.2	4.4	3.1	34.0	2.9	67.3	1.8	-2.8	0.9
2024 Q2	14.9	83.2	2.1	2.3	-2.2	3.7	2.0	34.9	3.8	68.2	1.8	-8.1	0.9
Q3	15.2	82.5	2.5	2.4	-1.4	5.5	2.5	34.3	3.5	67.7	2.0	2.1	1.0
Q4	15.3	82.0	2.3	2.4	-1.6	4.4	3.1	34.0	2.9	67.3	1.8	2.3	0.9
2025 Q1	15.2	81.7	0.7	2.5	1.1	4.2	4.3	34.1	2.7	67.0	2.0	4.6	1.3

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 Q3	1,468.7	1,385.4	83.3	701.1	619.3	376.1	342.2	341.8	331.2	49.8	92.9	20.7	16.1
Q4	1,480.8	1,406.5	74.3	704.4	621.9	383.7	339.1	344.6	342.1	48.1	103.4	34.6	22.5
2025 Q1	1,549.7	1,474.9	74.7	759.8	643.4	394.0	364.7	346.1	377.8	49.8	89.1	31.9	26.5
Q2	1,476.5	1,390.3	86.2	712.2	625.4	387.6	351.5	329.5	318.0	47.1	95.3	18.0	12.5
2025 Jan.	509.0	486.6	22.4	246.4	206.4	129.4	120.7	117.4	129.4	15.7	30.2	12.8	12.0
Feb.	516.0	496.1	19.8	250.0	217.2	133.8	122.5	116.0	128.9	16.2	27.6	7.7	6.5
Mar.	524.7	492.2	32.5	263.4	219.8	130.8	121.5	112.6	119.5	17.9	31.4	11.4	8.1
Apr.	490.1	471.5	18.6	239.0	207.9	126.8	120.1	108.3	111.4	16.0	32.1	5.6	3.7
May	496.4	464.7	31.8	237.9	204.8	129.8	116.1	113.0	112.4	15.8	31.3	5.7	3.8
June	489.9	454.1	35.8	235.2	212.7	131.1	115.3	108.2	94.2	15.4	32.0	6.7	5.0
12-month cumulated transactions													
2025 June	5,975.7	5,657.2	318.5	2,877.5	2,510.0	1,541.4	1,397.4	1,362.0	1,369.0	194.8	380.7	105.2	77.7
12-month cumulated transactions as a percentage of GDP													
2025 June	38.6	36.5	2.1	18.6	16.2	9.9	9.0	8.8	8.8	1.3	2.5	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 Q3	2.2	0.3	711.5	339.1	137.6	219.3	590.7	675.8	380.7	112.6	165.6	491.3	75.0
Q4	1.1	2.1	714.6	335.8	139.5	224.6	593.0	682.9	380.8	111.9	171.2	493.2	70.1
2025 Q1	7.9	8.0	769.7	377.1	145.1	230.9	641.3	708.2	399.8	114.6	177.6	507.7	67.7
Q2	0.0	1.9	724.1	.	.	.	600.6	691.1	.	.	.	501.1	.
2025 Jan.	3.0	8.2	245.6	117.8	47.0	76.4	202.6	232.7	131.3	37.3	58.0	166.5	23.8
Feb.	6.3	6.1	257.3	127.0	47.2	76.6	213.6	236.4	133.9	38.6	59.0	168.6	22.8
Mar.	14.0	9.7	266.9	132.3	50.9	77.9	225.2	239.2	134.6	38.7	60.6	172.6	21.1
Apr.	-1.1	0.0	244.6	114.0	46.3	77.8	204.0	230.0	128.7	38.4	57.9	167.3	20.9
May	0.9	-0.7	242.7	115.4	45.7	76.0	202.5	227.0	125.4	37.8	58.1	165.0	19.5
June	0.4	6.8	236.8	.	.	.	194.1	234.0	.	.	.	168.8	.
Volume indices (2000 = 100; annual percentage changes for columns 1 and 2)													
2024 Q2	-1.2	-4.3	95.6	89.7	92.3	108.4	95.5	98.6	95.0	96.9	105.0	98.4	133.1
Q3	-0.6	-1.1	94.5	88.9	91.0	106.0	94.7	98.8	94.8	99.4	105.5	99.8	129.8
Q4	-2.6	1.3	93.7	87.3	90.5	107.2	93.9	99.8	95.1	96.9	109.3	99.9	133.0
2025 Q1	0.6	2.1	98.0	93.3	94.2	108.2	98.6	100.4	95.9	97.6	110.4	100.7	129.1
2024 Dec.	-1.9	0.4	93.6	86.3	89.9	108.7	93.6	98.9	93.1	97.1	110.4	99.1	132.3
2025 Jan.	-3.1	2.4	95.5	88.9	92.7	108.7	95.6	99.3	95.2	94.6	108.9	99.1	127.6
Feb.	-1.5	-0.5	97.6	93.3	92.3	107.1	97.9	100.9	96.3	99.6	109.4	100.7	133.2
Mar.	6.0	4.5	100.8	97.7	97.6	108.8	102.4	101.0	96.3	98.6	112.8	102.4	126.6
Apr.	-5.4	-2.4	93.6	87.2	89.0	107.9	93.9	99.0	94.3	98.4	108.1	99.5	134.4
May	-1.0	0.2	95.3	89.4	90.2	109.1	95.7	99.4	94.2	96.7	110.0	99.1	135.2

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 Q3	126.6	2.2	2.8	0.6	4.0	0.5	0.8	0.8	0.2	-1.4	0.9	1.9	4.0
Q4	126.9	2.2	2.7	0.8	3.9	0.5	0.8	1.8	0.1	-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	1.4	0.1	-4.1	1.0	1.9	3.0
2025 Mar.	128.0	2.2	2.4	1.1	3.5	0.1	0.2	0.7	0.0	-1.4	0.3	2.0	3.5
Apr.	128.8	2.2	2.7	0.7	4.0	0.1	0.0	0.6	0.0	-2.3	0.7	2.0	3.3
May	128.7	1.9	2.3	0.8	3.2	-0.1	0.4	-0.1	0.1	-1.2	-0.1	1.8	3.0
June	129.1	2.0	2.3	0.9	3.3	0.3	0.2	0.5	0.1	0.2	0.4	1.9	2.8
July	129.1	2.0	2.3	1.1	3.2	0.3	0.3	0.9	0.3	1.0	0.1	1.9	3.0
Aug. [3)]	129.3	2.1	2.3	.	3.1	0.2	0.2	0.3	0.0	-0.6	0.4	.	.

	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 Q3	2.3	2.7	1.2	-0.3	0.5	-2.7	3.3	3.0	4.5	-0.9	4.8	4.0
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
2025 Mar.	2.9	2.6	4.2	0.2	0.6	-1.0	3.3	2.9	3.4	-1.7	3.8	4.2
Apr.	3.0	2.4	4.9	-0.6	0.6	-3.6	3.3	3.0	5.7	-1.9	4.4	4.0
May	3.2	2.9	4.3	-0.5	0.6	-3.6	3.3	3.0	3.6	-2.6	3.4	3.9
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)]	3.2	2.6	5.5	.	0.8	-1.9	.	.	.	.	.	.

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) Flash estimate.

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 Q3	124.4	-2.7	-0.6	0.4	-0.9	1.3	1.5	0.5	1.1	-8.9	1.8	2.8	-3.8
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	-1.2
2025 Q1	127.7	2.3	0.7	1.3	0.7	1.7	2.1	1.5	1.6	5.0	1.0	5.4	.
Q2	123.5	0.5	-0.1	1.0	0.2	1.7	2.2	1.9	1.4	-0.7	1.4	.	.
2025 Feb.	128.6	3.1	0.8	1.4	0.9	1.7	2.1	1.5	1.5	7.8	-	-	-
Mar.	126.4	1.9	0.3	1.3	0.8	1.8	2.0	1.6	1.5	3.9	-	-	-
Apr.	123.6	0.7	-0.4	1.1	0.4	1.7	2.1	2.0	1.4	-0.5	-	-	-
May	122.9	0.3	-0.1	1.1	0.2	1.7	2.2	2.0	1.4	-1.5	-	-	-
June	123.9	0.6	0.1	0.9	-0.1	1.7	2.4	1.9	1.5	0.0	-	-	-
July	124.4	0.2	0.1	1.0	-0.3	1.8	2.3	1.9	1.6	-1.2	-	-	-

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 (EUR per barrel)	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	6.7	4.4	8.2	12.8	17.4	95.0	18.3	28.8	9.6	19.3	27.7	10.9
2023	113.8	6.0	4.7	6.3	3.7	4.1	0.6	-2.2	76.4	-12.8	-11.6	-14.0	-13.7	-12.5	-15.0
2024	117.2	3.0	2.4	2.4	3.0	1.9	0.9	-0.4	77.8	9.4	13.6	5.1	9.2	12.2	5.5
2024 Q3	117.4	2.8	2.2	2.1	2.9	1.8	1.5	0.3	.	10.0	11.6	8.2	10.9	12.4	9.1
Q4	118.3	2.5	1.9	1.8	2.4	1.9	1.8	0.5	.	17.7	23.5	11.8	17.8	21.9	12.8
2025 Q1	118.8	2.3	2.2	2.1	2.8	1.8	2.2	1.9	.	20.0	28.2	11.4	19.2	24.8	12.2
Q2	119.7	2.5	2.1	2.1	2.7	2.0	0.7	-0.2	.	-1.9	2.0	-6.2	-2.3	0.6	-6.0
2025 Mar.	-	-	-	-	-	-	-	-	.	13.5	16.3	10.4	12.5	13.3	11.4
Apr.	-	-	-	-	-	-	-	-	.	-3.0	-0.7	-5.7	-2.8	-1.0	-5.2
May	-	-	-	-	-	-	-	-	.	0.3	7.7	-7.3	-0.8	4.1	-6.7
June	-	-	-	-	-	-	-	-	.	-3.2	-0.9	-5.7	-3.3	-1.1	-6.0
July	-	-	-	-	-	-	-	-	.	-3.7	-4.8	-2.5	-3.6	-3.9	-3.1
Aug.	-	-	-	-	-	-	-	-	.	1.1	2.5	-0.3	-0.5	-0.1	-1.0

Sources: Eurostat, ECB calculations and Bloomberg (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)					Purchasing Managers' Surveys (diffusion indices)			
	Selling price expectations (for next three months)				Consumer price trends over past 12 months	Input prices		Prices charged	
	Manu-facturing	Retail trade	Services	Construction		Manu-facturing	Services	Manu-facturing	Services
	1	2	3	4	5	6	7	8	9
1999-21	24.6	19.0	7.5	13.3	25.0	-	-	-	-
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	49.0	59.7	48.8	54.2
2024 Q3	6.6	13.5	13.7	2.9	50.4	52.0	57.9	50.1	53.0
Q4	7.4	13.8	14.7	4.9	48.8	49.2	58.0	48.2	53.3
2025 Q1	10.3	16.8	14.8	4.6	50.3	52.2	60.1	50.0	54.1
Q2	8.2	16.2	14.1	3.2	49.3	48.3	58.2	50.0	52.8
2025 Mar.	11.0	16.6	13.6	3.0	49.5	52.4	58.7	50.4	53.6
Apr.	10.6	17.1	14.6	4.5	48.7	48.9	58.2	51.3	52.9
May	8.0	15.2	14.2	2.9	50.2	47.8	58.3	49.2	52.6
June	5.9	16.3	13.6	2.0	49.1	48.1	58.1	49.5	53.1
July	8.9	16.7	14.0	3.0	49.0	50.0	56.5	49.9	53.0
Aug.	6.7	16.6	15.1	0.8	47.1	50.4	58.3	49.8	53.3

Sources: European Commission (Directorate-General for Economic and Financial Affairs) and S&P Global Market Intelligence.

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	105.5	4.5	3.7	6.9	5.0	3.4	2.9
2023	110.5	4.7	4.5	5.3	5.1	4.0	4.4
2024	115.6	4.6	4.7	4.5	4.7	4.5	4.5
2024 Q3	111.9	4.7	4.5	5.2	4.8	4.3	5.4
Q4	122.6	3.8	4.2	2.7	4.0	3.4	4.1
2025 Q1	112.1	3.4	3.5	3.2	3.8	2.5	2.5
Q2	123.9	3.7	3.8	3.5	4.2	2.8	4.0

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	4.4	4.7	8.2	0.5	2.3	5.0	6.2	3.7	2.1	-6.4
2023	109.5	6.5	6.3	8.4	5.3	7.7	2.3	7.9	4.0	6.3	5.3	3.0
2024	114.6	4.7	5.1	5.6	6.2	4.7	3.3	3.8	1.1	3.8	4.8	4.2
2024 Q3	114.9	4.6	5.6	4.3	6.7	5.1	3.1	4.1	-0.1	4.1	4.8	3.8
Q4	115.7	3.6	4.0	4.7	6.0	4.4	3.2	2.5	1.6	3.9	3.8	3.2
2025 Q1	116.4	3.1	2.1	0.0	5.0	4.1	1.9	5.0	4.3	4.1	4.1	3.8
Q2	117.5	3.1	1.2	0.3	6.1	3.6	0.6	6.0	5.8	4.5	3.7	4.8
Compensation per employee												
2022	109.1	4.5	4.2	3.9	4.2	6.2	2.8	3.0	5.3	5.8	3.5	8.3
2023	115.0	5.4	5.9	5.7	4.9	5.8	5.3	5.4	3.8	6.3	4.8	5.3
2024	120.2	4.5	4.2	4.5	4.0	4.5	4.2	4.7	3.6	4.9	4.6	5.1
2024 Q3	120.8	4.5	4.3	4.2	4.4	4.8	4.1	4.7	3.4	4.8	4.6	4.4
Q4	122.0	4.2	4.8	4.0	4.0	4.3	4.6	3.3	3.3	4.7	4.0	4.7
2025 Q1	123.2	4.0	4.6	3.2	3.9	4.3	4.1	3.4	2.2	4.5	4.2	3.8
Q2	124.4	3.9	4.9	3.6	4.7	3.7	3.7	4.5	3.5	4.5	3.6	5.3
Labour productivity per person employed												
2022	106.1	1.3	-0.2	-0.8	-3.7	5.7	0.4	-1.9	-0.9	2.0	1.3	15.7
2023	105.1	-1.0	-0.4	-2.4	-0.4	-1.8	2.9	-2.3	-0.2	0.0	-0.4	2.2
2024	104.9	-0.1	-0.9	-1.1	-2.0	-0.2	0.9	0.8	2.4	1.1	-0.2	0.8
2024 Q3	105.1	-0.1	-1.2	-0.1	-2.1	-0.3	0.9	0.6	3.5	0.7	-0.2	0.6
Q4	105.3	0.5	0.8	-0.7	-1.9	-0.1	1.4	0.8	1.6	0.8	0.1	1.4
2025 Q1	105.7	0.8	2.5	3.2	-1.1	0.2	2.2	-1.6	-2.0	0.4	0.2	0.0
Q2	105.8	0.8	3.7	3.3	-1.3	0.1	3.1	-1.4	-2.2	0.0	0.0	0.5
Compensation per hour worked												
2022	103.5	3.2	5.5	3.9	3.9	1.9	2.6	3.6	3.7	4.5	3.9	4.9
2023	108.9	5.3	5.1	5.9	5.1	5.8	5.3	5.3	4.6	6.0	4.4	4.3
2024	113.7	4.4	3.8	4.4	4.1	4.4	3.9	4.7	3.8	4.3	4.5	4.7
2024 Q3	114.2	4.9	3.7	4.9	4.8	5.0	4.3	5.2	3.3	4.9	5.3	4.5
Q4	114.9	3.9	3.4	3.9	4.1	3.8	4.4	3.8	3.8	4.0	3.7	4.3
2025 Q1	116.3	4.1	4.7	3.6	4.2	4.4	4.0	3.6	2.7	4.7	4.3	3.2
Q2	117.4	4.0	4.1	3.9	4.1	3.8	3.7	4.4	4.1	4.8	4.0	4.5
Hourly labour productivity												
2022	100.2	0.0	0.4	-0.8	-4.5	1.5	0.1	-1.2	-3.0	1.2	1.7	11.6
2023	99.2	-1.0	-0.6	-2.3	0.0	-1.6	3.0	-2.5	-0.1	-0.1	-0.7	1.5
2024	99.0	-0.2	-0.4	-1.1	-2.1	-0.2	0.6	1.1	2.8	0.5	-0.3	0.3
2024 Q3	99.2	0.4	-0.2	0.4	-1.5	0.1	1.2	1.0	4.2	0.8	0.5	0.8
Q4	99.1	0.3	0.8	-0.7	-2.0	-0.1	1.2	1.6	1.0	0.2	-0.1	0.5
2025 Q1	99.8	1.1	3.0	3.6	-0.8	0.7	2.3	-1.3	-1.3	0.7	0.3	-0.6
Q2	99.8	1.1	3.5	3.7	-1.5	0.7	3.3	-1.5	-1.5	0.2	0.3	-0.4

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 Mar.	2.50	2.40	2.44	2.39	2.40	4.33	0.48
Apr.	2.34	2.24	2.25	2.20	2.14	4.35	0.48
May	2.17	2.10	2.09	2.12	2.08	4.31	0.48
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

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 Mar.	2.18	2.03	1.99	2.27	2.78	0.75	0.18	0.81	1.92	2.03	2.88	3.52
Apr.	1.88	1.74	1.70	1.99	2.56	0.82	0.35	0.74	1.63	1.74	2.65	3.40
May	1.86	1.78	1.78	2.08	2.61	0.83	0.34	0.90	1.73	1.87	2.70	3.42
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

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 Mar.	559.1	5,417.7	1,028.5	283.6	160.4	127.6	306.0	1,133.6	1,078.3	407.9	372.4	885.3	5,684.0	37,311.8
Apr.	520.6	4,994.0	938.6	256.5	158.1	118.1	290.6	1,028.5	972.3	428.7	363.4	799.9	5,369.5	34,343.0
May	562.6	5,358.5	991.5	270.2	165.8	126.5	317.9	1,146.4	1,088.5	446.5	374.1	824.3	5,810.9	37,490.5
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

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 Aug.	0.38	1.77	2.97	2.69	8.16	16.99	7.85	7.82	8.60	5.03	4.69	3.87	3.62	3.36	3.99	3.73
Sep.	0.37	1.77	2.99	2.73	8.23	17.04	7.55	7.76	8.53	4.89	4.58	3.79	3.55	3.28	3.89	3.64
Oct.	0.36	1.77	2.73	2.63	8.06	16.89	7.24	7.71	8.46	4.65	4.37	3.69	3.47	3.22	3.79	3.55
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	2.42	7.80	16.77	7.16	7.69	8.50	4.40	4.06	3.49	2.88	2.97	3.34	3.25
Feb.	0.32	1.55	2.20	2.37	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	2.10	2.25	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	1.97	2.30	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	1.86	2.24	7.49	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	1.79	2.21	7.41	16.47	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	1.75	2.21	7.29	16.44	6.68	7.53	8.17	4.11	3.56	3.39	3.45	3.12	3.56	3.28

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 Aug.	0.89	3.42	3.12	5.18	5.14	5.40	5.47	5.17	4.85	4.11	5.03	4.78	4.06	5.01
Sep.	0.88	3.28	2.97	5.12	5.03	5.29	5.49	5.02	4.64	4.04	4.73	4.47	3.85	4.79
Oct.	0.82	3.06	2.96	4.89	4.82	5.10	5.29	4.80	4.39	3.92	4.64	4.29	3.85	4.67
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	4.79	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	4.19	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	4.54	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	4.23	4.78	3.86	3.59	3.70	3.55	3.51	3.66	3.80
May	0.58	2.06	2.56	3.90	3.78	4.25	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	4.21	4.89	3.54	3.40	3.63	3.28	3.41	3.54	3.60
July	0.51	1.88	2.49	3.68	3.52	4.08	4.76	3.55	3.41	3.61	3.24	3.41	3.46	3.52

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	1,404.9	500.0	143.6	80.6	94.8	666.5	621.7	494.0	193.1	116.4	76.7	50.5	134.0	96.8
2023	1,587.0	633.4	166.1	105.7	85.8	701.8	659.1	534.2	240.9	117.4	91.2	48.8	127.0	103.2
2024	1,606.7	571.6	224.1	138.7	69.3	741.6	674.6	512.2	203.9	134.5	105.0	38.7	135.1	108.3
2025 Feb.	1,573.4	586.3	208.8	122.7	83.4	694.9	629.8	517.1	221.1	140.3	113.1	36.8	118.9	97.9
Mar.	1,589.5	597.4	212.1	129.5	78.7	701.3	633.1	526.0	211.0	143.1	118.7	36.6	135.3	110.0
Apr.	1,554.3	556.0	203.8	111.5	90.1	704.4	631.9	558.1	222.0	148.5	113.8	53.2	134.5	110.8
May	1,556.6	579.4	190.0	102.0	97.5	689.7	619.8	560.9	250.4	137.3	111.7	48.3	124.8	96.0
June	1,573.6	593.2	183.7	102.0	91.7	705.0	635.7	533.3	224.3	141.1	113.0	44.4	123.6	95.6
July	1,567.2	589.7	185.0	95.9	95.4	697.1	631.0	531.5	225.1	146.9	115.5	44.1	115.3	96.6
Long-term														
2022	17,791.3	3,898.8	3,106.9	1,403.2	1,423.4	9,362.2	8,650.2	295.7	76.5	68.1	31.0	17.2	133.8	124.3
2023	19,417.8	4,440.4	3,241.3	1,433.2	1,539.8	10,196.3	9,456.4	322.2	92.9	67.5	30.7	21.4	140.4	131.9
2024	20,542.7	4,770.3	3,508.8	1,529.9	1,650.7	10,612.9	9,841.2	350.0	89.1	86.0	34.9	27.0	147.9	137.3
2025 Feb.	20,968.2	4,868.2	3,554.3	1,537.4	1,672.1	10,873.7	10,080.4	395.2	97.0	81.1	30.0	23.3	193.9	178.1
Mar.	20,696.2	4,813.9	3,525.3	1,537.8	1,651.7	10,705.3	9,920.3	389.2	95.0	93.1	43.8	30.9	170.2	153.9
Apr.	20,866.2	4,782.4	3,515.4	1,551.5	1,647.8	10,920.6	10,131.2	351.7	58.5	88.5	37.7	25.3	179.3	172.0
May	21,026.3	4,842.7	3,576.7	1,558.6	1,677.2	10,929.6	10,140.6	446.7	114.9	113.6	29.0	49.2	169.0	158.1
June	21,147.4	4,846.7	3,609.4	1,604.5	1,707.6	10,983.8	10,198.4	468.3	113.6	140.4	81.6	40.3	174.1	163.9
July	21,241.1	4,888.3	3,663.2	1,616.3	1,719.3	10,970.2	10,181.1	375.6	97.4	107.8	39.8	26.5	143.9	134.5

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	19,196.2	4,398.7	3,250.5	1,483.8	1,518.2	10,028.8	9,271.9	8,688.6	526.4	1,279.2	6,882.4
2023	21,004.9	5,073.8	3,407.4	1,538.9	1,625.6	10,898.0	10,115.5	9,672.5	620.3	1,421.4	7,630.2
2024	22,149.4	5,341.9	3,732.9	1,668.5	1,720.0	11,354.5	10,515.8	10,155.3	751.0	1,587.4	7,816.4
2025 Feb.	22,541.6	5,454.5	3,763.1	1,660.0	1,755.4	11,568.6	10,710.1	11,107.3	934.2	1,741.5	8,431.2
Mar.	22,285.7	5,411.3	3,737.4	1,667.2	1,730.4	11,406.6	10,553.4	10,617.6	937.4	1,716.7	7,963.2
Apr.	22,420.5	5,338.5	3,719.1	1,662.9	1,737.9	11,625.0	10,763.1	10,533.5	931.3	1,711.9	7,889.9
May	22,582.8	5,422.1	3,766.7	1,660.6	1,774.7	11,619.3	10,760.3	10,989.7	1,011.7	1,782.1	8,195.6
June	22,721.0	5,439.9	3,793.1	1,706.6	1,799.3	11,688.8	10,834.1	10,914.1	1,006.9	1,794.0	8,112.7
July	22,808.3	5,478.1	3,848.2	1,712.1	1,814.7	11,667.3	10,812.2	11,062.3	1,091.2	1,804.0	8,166.6
Growth rate [1]											
2024 Dec.	4.3	3.6	6.1	5.6	2.9	4.3	4.1	0.1	-2.6	-0.6	0.4
2025 Jan.	4.2	3.1	4.3	2.7	3.4	4.9	4.7	0.1	-2.4	-0.6	0.4
Feb.	4.1	2.6	4.7	3.4	3.2	4.7	4.7	0.0	-2.1	-0.6	0.3
Mar.	3.7	1.7	5.1	3.7	3.1	4.2	4.2	-0.1	-1.8	-0.8	0.2
Apr.	3.5	0.7	5.2	3.9	2.2	4.6	4.5	-0.1	-1.8	-0.4	0.1
May	3.9	2.3	5.0	3.1	3.7	4.4	4.4	-0.1	-1.5	-0.3	0.1
June	4.5	3.5	7.1	6.4	3.5	4.4	4.4	-0.1	-0.7	-0.7	0.0
July	4.9	3.9	7.7	7.1	4.3	4.6	4.6	0.0	-0.5	-0.6	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	93.3	84.3	65.0	82.7	116.1	90.9
2023	98.1	94.0	97.8	88.7	67.6	86.1	121.8	94.7
2024	98.4	94.4	97.9	89.4	67.5	87.2	124.1	95.0
2024 Q3	99.0	94.9	98.5	89.9	67.3	87.7	125.1	95.5
Q4	97.6	93.6	97.0	88.9	65.9	86.5	123.6	94.2
2025 Q1	97.1	93.3	96.3	88.2	63.6	85.9	122.9	93.5
Q2	100.6	96.5	101.1	.	.	.	127.7	96.8
2025 Mar.	98.3	94.4	97.8	-	-	-	124.5	94.7
Apr.	100.5	96.5	100.6	-	-	-	127.7	96.9
May	100.1	96.0	100.7	-	-	-	127.0	96.2
June	101.3	97.1	102.0	-	-	-	128.5	97.3
July	102.3	98.1	103.1	-	-	-	129.9	98.4
Aug.	102.2	98.1	103.1	-	-	-	129.9	98.4
Percentage change versus previous month								
2025 Aug.	-0.1	-0.1	0.0	-	-	-	0.0	0.0
Percentage change versus previous year								
2025 Aug.	3.2	3.2	4.7	-	-	-	3.7	2.8

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 Q3	7.870	25.195	7.461	394.101	163.952	4.283	0.845	4.9746	11.451	0.952	1.098
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
2025 Mar.	7.835	25.001	7.460	399.805	161.167	4.182	0.837	4.9768	10.968	0.955	1.081
Apr.	8.185	25.039	7.465	406.437	161.671	4.265	0.854	4.9775	10.974	0.937	1.121
May	8.135	24.923	7.460	403.939	163.144	4.254	0.843	5.0714	10.881	0.936	1.128
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
Percentage change versus previous month											
2025 Aug.	-0.4	-0.4	0.0	-0.7	0.2	0.2	0.1	-0.1	-0.3	0.7	-0.4
Percentage change versus previous year											
2025 Aug.	6.0	-2.6	0.0	0.4	6.7	-0.7	1.6	1.8	-2.6	-0.7	5.6

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 Q2	34,402.8	33,276.3	1,126.5	12,521.5	9,862.0	13,600.5	15,608.3	-7.7	7,021.0	7,806.1	1,267.5	16,681.2
Q3	34,708.4	33,395.8	1,312.5	12,289.6	9,645.3	13,930.2	15,947.0	-17.7	7,187.4	7,803.5	1,318.9	16,702.6
Q4	35,949.0	34,170.8	1,778.2	12,735.3	9,953.7	14,678.9	16,511.3	-16.7	7,157.5	7,705.8	1,394.0	16,727.8
2025 Q1	36,085.3	34,476.8	1,608.6	12,651.3	9,921.9	14,381.6	16,521.1	17.9	7,523.4	8,033.8	1,511.0	16,968.0
Outstanding amounts as percentage of GDP												
2025 Q1	235.3	224.8	10.5	82.5	64.7	93.8	107.7	0.1	49.1	52.4	9.9	110.6
Transactions												
2024 Q3	443.9	292.0	151.8	-2.4	-15.2	195.5	221.9	-4.6	259.3	85.3	-4.0	-
Q4	54.3	-32.9	87.2	57.7	78.3	219.7	161.2	18.9	-245.9	-272.4	3.7	-
2025 Q1	759.9	704.5	55.4	90.5	66.3	206.1	175.6	-6.3	470.4	462.7	-0.8	-
Q2	486.0	330.1	155.9	115.4	55.1	192.5	190.7	16.9	152.4	84.3	8.8	-
2025 Jan.	399.0	389.7	9.2	57.6	26.4	100.6	62.7	9.3	233.0	300.6	-1.5	-
Feb.	284.0	266.5	17.5	47.1	36.9	40.6	79.0	2.5	192.6	150.6	1.3	-
Mar.	77.0	48.3	28.7	-14.1	2.9	65.0	33.9	-18.1	44.8	11.5	-0.6	-
Apr.	132.7	96.8	35.9	45.5	58.3	19.7	-45.2	-8.5	70.9	83.8	5.2	-
May	133.0	92.0	41.0	27.5	-2.5	48.0	96.3	16.8	38.5	-1.8	2.3	-
June	220.2	141.3	79.0	42.4	-0.7	124.9	139.6	8.6	42.9	2.4	1.4	-
12-month cumulated transactions												
2025 June	1,744.1	1,293.7	450.4	261.2	184.5	813.9	749.4	25.0	636.2	359.8	7.7	-
12-month cumulated transactions as percentage of GDP												
2025 June	11.3	8.4	2.9	1.7	1.2	5.3	4.8	0.2	4.1	2.3	0.0	-

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	1,538.9	9,758.1	11,297.0	1,366.9	2,565.3	3,932.2	15,229.2	122.4	646.6	50.0	819.0	16,048.2
2023	1,536.2	8,809.4	10,345.6	2,294.1	2,460.4	4,754.6	15,100.2	183.7	740.0	71.6	995.3	16,095.5
2024	1,556.9	9,021.4	10,578.2	2,531.0	2,469.1	5,000.1	15,578.3	254.1	886.5	35.3	1,175.9	16,754.2
2024 Q3	1,541.7	8,840.8	10,382.5	2,594.5	2,424.8	5,019.3	15,401.9	239.7	858.4	46.0	1,144.1	16,546.0
Q4	1,556.9	9,021.4	10,578.2	2,531.0	2,469.1	5,000.1	15,578.3	254.1	886.5	35.3	1,175.9	16,754.2
2025 Q1	1,564.3	9,120.0	10,684.3	2,486.5	2,491.0	4,977.6	15,661.9	240.0	909.5	42.7	1,192.2	16,854.0
Q2 (p)	1,562.3	9,246.7	10,809.1	2,395.1	2,513.7	4,908.8	15,717.9	257.5	923.1	26.1	1,206.7	16,924.6
2025 Feb.	1,559.5	9,098.7	10,658.2	2,494.4	2,475.0	4,969.4	15,627.7	263.9	920.2	37.8	1,221.8	16,849.5
Mar.	1,564.3	9,120.0	10,684.3	2,486.5	2,491.0	4,977.6	15,661.9	240.0	909.5	42.7	1,192.2	16,854.0
Apr.	1,559.6	9,196.0	10,755.6	2,450.7	2,494.4	4,945.0	15,700.6	255.2	907.7	39.3	1,202.2	16,902.8
May	1,559.8	9,232.4	10,792.2	2,445.9	2,503.1	4,948.9	15,741.2	247.6	921.0	33.4	1,201.9	16,943.1
June	1,562.3	9,246.7	10,809.1	2,395.1	2,513.7	4,908.8	15,717.9	257.5	923.1	26.1	1,206.7	16,924.6
July (p)	1,565.3	9,242.9	10,808.1	2,406.2	2,519.8	4,926.0	15,734.1	243.1	919.0	27.8	1,189.9	16,924.0
Transactions												
2022	69.9	-57.3	12.6	425.5	55.6	481.1	493.7	3.4	2.5	76.9	82.8	576.5
2023	-4.1	-969.2	-973.3	920.6	-99.5	821.2	-152.1	39.9	93.8	23.9	157.6	5.5
2024	21.3	167.6	188.9	203.5	9.0	212.5	401.4	75.7	136.0	-36.0	175.7	577.1
2024 Q3	7.8	24.6	32.4	60.2	2.1	62.3	94.7	30.4	39.6	-14.0	56.1	150.7
Q4	15.2	162.6	177.7	-73.3	44.0	-29.2	148.5	16.9	24.8	-16.8	24.9	173.4
2025 Q1	7.5	117.3	124.8	-39.1	15.0	-24.2	100.6	-12.7	19.8	9.8	17.0	117.6
Q2 (p)	-2.0	149.6	147.6	-81.2	22.3	-59.0	88.7	20.3	11.3	-16.5	15.1	103.8
2025 Feb.	3.7	58.1	61.8	-20.8	3.5	-17.3	44.5	1.1	30.1	-13.7	17.6	62.1
Mar.	4.8	38.8	43.6	-2.6	9.5	6.9	50.5	-22.2	-11.7	7.0	-26.8	23.7
Apr.	-4.8	90.1	85.3	-29.3	2.9	-26.5	58.8	16.9	-2.4	-4.0	10.5	69.3
May	0.2	36.0	36.2	-5.4	8.6	3.2	39.5	-7.9	12.4	-4.5	0.0	39.5
June	2.6	23.6	26.1	-46.5	10.8	-35.7	-9.6	11.3	1.3	-8.0	4.7	-4.9
July (p)	2.9	-7.8	-4.8	8.6	6.0	14.6	9.8	-15.2	-4.9	2.1	-18.0	-8.3
Growth rates												
2022	4.8	-0.6	0.1	45.9	2.2	14.0	3.4	2.8	0.4	457.2	11.1	3.7
2023	-0.3	-9.9	-8.6	67.0	-3.9	20.9	-1.0	32.6	14.5	45.3	19.3	0.0
2024	1.4	1.9	1.8	8.9	0.4	4.5	2.7	41.6	18.3	-52.9	17.7	3.6
2024 Q3	0.5	-1.6	-1.3	23.0	-1.7	9.6	2.0	61.7	19.3	-35.6	21.8	3.2
Q4	1.4	1.9	1.8	8.9	0.4	4.5	2.7	41.6	18.3	-52.9	17.7	3.6
2025 Q1	2.5	4.1	3.9	0.8	2.3	1.6	3.1	25.2	13.9	-43.1	12.0	3.7
Q2 (p)	1.9	5.1	4.7	-5.3	3.4	-1.0	2.8	26.2	11.7	-58.6	10.4	3.3
2025 Feb.	1.7	3.7	3.4	2.4	1.7	2.0	3.0	49.5	18.4	-54.8	18.4	4.0
Mar.	2.5	4.1	3.9	0.8	2.3	1.6	3.1	25.2	13.9	-43.1	12.0	3.7
Apr.	1.8	5.3	4.8	-1.2	2.5	0.6	3.4	27.5	12.4	-49.6	10.9	3.9
May	1.9	5.6	5.1	-2.9	2.9	0.0	3.4	21.4	14.5	-51.3	11.6	3.9
June	1.9	5.1	4.7	-5.3	3.4	-1.0	2.8	26.2	11.7	-58.6	10.4	3.3
July (p)	1.9	5.6	5.0	-5.1	3.7	-0.8	3.1	8.7	9.7	-50.8	6.4	3.4

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	3,361.5	2,721.2	499.5	134.7	6.2	8,374.2	5,542.6	437.9	2,392.9	0.9	1,282.3	231.5	563.3
2023	3,334.1	2,419.5	771.8	131.3	11.6	8,421.5	5,110.8	1,015.9	2,293.3	1.4	1,222.8	227.0	542.3
2024	3,438.2	2,500.7	792.7	133.7	11.1	8,759.0	5,199.1	1,256.9	2,301.5	1.5	1,298.0	232.1	548.2
2024 Q3	3,364.9	2,404.7	823.6	125.6	11.0	8,620.7	5,089.5	1,264.0	2,266.2	1.0	1,333.5	230.1	550.8
Q4	3,438.2	2,500.7	792.7	133.7	11.1	8,759.0	5,199.1	1,256.9	2,301.5	1.5	1,298.0	232.1	548.2
2025 Q1	3,413.5	2,475.5	787.4	140.2	10.6	8,792.4	5,256.0	1,219.6	2,315.7	1.1	1,363.3	229.0	539.3
Q2 [p]	3,421.2	2,494.7	772.6	144.5	9.3	8,842.1	5,334.0	1,173.0	2,333.9	1.2	1,367.5	236.6	545.7
2025 Feb.	3,440.0	2,479.8	811.0	136.4	12.8	8,775.1	5,235.5	1,233.5	2,304.9	1.2	1,344.1	232.7	540.1
Mar.	3,413.5	2,475.5	787.4	140.2	10.6	8,792.4	5,256.0	1,219.6	2,315.7	1.1	1,363.3	229.0	539.3
Apr.	3,430.8	2,483.0	794.9	141.4	11.5	8,807.8	5,288.2	1,199.8	2,318.9	0.9	1,378.7	243.5	535.4
May	3,444.5	2,500.7	791.6	142.7	9.5	8,832.7	5,316.8	1,188.4	2,326.5	1.0	1,380.2	230.3	541.2
June	3,421.2	2,494.7	772.6	144.5	9.3	8,842.1	5,334.0	1,173.0	2,333.9	1.2	1,367.5	236.6	545.7
July [p]	3,444.9	2,510.2	780.5	144.3	9.8	8,871.5	5,357.2	1,172.9	2,340.5	0.9	1,327.8	219.3	548.4
Transactions													
2022	122.9	-89.2	207.7	5.9	-1.5	295.8	166.8	74.9	54.0	0.1	-10.4	6.2	12.5
2023	-31.6	-306.8	271.1	-1.4	5.6	18.9	-459.8	572.6	-94.5	0.6	-64.6	-3.0	-27.8
2024	94.9	75.8	16.1	2.9	0.2	300.1	55.7	236.1	8.2	0.1	53.6	4.0	3.2
2024 Q3	-11.0	-1.7	-8.1	-1.7	0.4	61.4	-1.8	58.7	4.7	-0.3	41.1	9.3	16.5
Q4	61.8	88.8	-34.6	8.1	-0.5	133.8	106.8	-8.7	35.2	0.5	-42.6	0.7	-3.4
2025 Q1	-17.9	-20.6	-3.3	6.2	-0.2	34.8	64.3	-36.6	7.5	-0.4	75.1	-2.2	-9.3
Q2 [p]	21.1	27.2	-9.6	4.4	-0.8	54.3	81.3	-44.7	17.6	0.1	20.3	9.0	6.4
2025 Feb.	9.2	6.9	2.0	0.3	0.0	20.5	32.5	-15.4	3.6	-0.2	18.6	2.8	-9.2
Mar.	-19.6	0.3	-21.6	3.6	-1.9	19.0	27.7	-13.1	4.5	-0.1	27.8	-2.9	-0.8
Apr.	24.3	11.9	9.8	1.3	1.3	18.5	34.7	-18.5	2.6	-0.2	26.3	15.4	-4.0
May	12.9	17.3	-3.5	1.3	-2.0	24.6	28.4	-11.5	7.6	0.2	1.3	-13.4	5.9
June	-16.1	-2.0	-15.9	1.8	0.0	11.1	18.2	-14.6	7.5	0.1	-7.3	7.0	4.5
July [p]	20.6	13.2	6.7	0.2	0.4	28.6	22.8	-0.5	6.6	-0.2	-42.6	-17.6	2.7
Growth rates													
2022	3.8	-3.2	70.3	4.6	-17.5	3.7	3.1	20.6	2.3	19.9	-0.5	2.8	2.3
2023	-0.9	-11.2	54.2	-1.1	90.8	0.2	-8.3	129.3	-4.0	67.7	-4.9	-1.3	-4.9
2024	2.8	3.1	2.1	2.2	2.0	3.6	1.1	23.2	0.4	6.1	4.4	1.8	0.6
2024 Q3	1.6	-1.0	11.5	-4.2	-15.0	2.9	-2.7	48.1	-1.4	21.7	7.0	10.0	-1.6
Q4	2.8	3.1	2.1	2.2	2.0	3.6	1.1	23.2	0.4	6.1	4.4	1.8	0.6
2025 Q1	2.2	4.0	-3.9	9.7	-2.8	3.6	3.4	7.4	1.9	5.4	8.3	2.9	-0.8
Q2 [p]	1.6	3.9	-6.7	13.4	-9.4	3.3	4.9	-2.6	2.9	-7.9	7.2	7.6	1.9
2025 Feb.	3.0	4.1	-0.6	6.6	3.9	3.5	2.7	11.1	1.5	15.7	9.3	4.3	-0.7
Mar.	2.2	4.0	-3.9	9.7	-2.8	3.6	3.4	7.4	1.9	5.4	8.3	2.9	-0.8
Apr.	2.6	4.3	-3.8	11.2	7.0	3.5	4.0	3.5	2.2	-9.2	10.2	16.0	0.6
May	2.7	4.8	-4.9	12.2	7.3	3.6	4.8	0.4	2.5	4.3	8.8	7.1	2.3
June	1.6	3.9	-6.7	13.4	-9.4	3.3	4.9	-2.6	2.9	-7.9	7.2	7.6	1.9
July [p]	2.7	4.9	-5.5	14.1	5.1	3.4	5.4	-4.6	3.1	-0.1	6.0	2.5	1.3

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	6,352.0	1,001.3	5,325.7	15,389.8	12,987.6	13,174.9	5,126.5	6,631.8	1,082.5	146.7	1,565.9	836.4
2023	6,305.3	990.6	5,289.3	15,492.9	13,033.8	13,253.1	5,123.2	6,648.1	1,124.5	138.0	1,560.7	898.4
2024	6,257.4	988.5	5,243.0	15,782.4	13,247.6	13,503.0	5,182.3	6,677.2	1,248.7	139.4	1,581.4	953.4
2024 Q3	6,255.2	975.4	5,254.1	15,633.3	13,143.6	13,377.9	5,139.8	6,661.4	1,209.6	132.8	1,561.0	928.7
Q4	6,257.4	988.5	5,243.0	15,782.4	13,247.6	13,503.0	5,182.3	6,677.2	1,248.7	139.4	1,581.4	953.4
2025 Q1	6,267.0	995.5	5,245.5	15,876.9	13,338.1	13,594.9	5,204.0	6,720.8	1,276.5	136.8	1,562.5	976.3
Q2	6,264.2	1,007.4	5,230.8	15,955.7	13,411.3	13,686.5	5,211.1	6,767.6	1,287.2	145.4	1,572.2	972.3
2025 Feb.	6,298.2	1,001.5	5,270.8	15,892.6	13,335.0	13,572.7	5,202.4	6,711.1	1,285.7	135.7	1,576.1	981.6
Mar.	6,267.0	995.5	5,245.5	15,876.9	13,338.1	13,594.9	5,204.0	6,720.8	1,276.5	136.8	1,562.5	976.3
Apr.	6,306.3	994.8	5,285.5	15,890.4	13,369.1	13,629.5	5,208.2	6,740.1	1,284.7	136.0	1,564.3	957.1
May	6,290.6	1,008.1	5,256.3	15,902.2	13,378.5	13,634.9	5,208.1	6,754.7	1,277.4	138.2	1,558.3	965.4
June	6,264.2	1,007.4	5,230.8	15,955.7	13,411.3	13,686.5	5,211.1	6,767.6	1,287.2	145.4	1,572.2	972.3
July	6,283.3	1,011.9	5,245.4	15,980.4	13,417.2	13,684.9	5,220.3	6,780.1	1,280.0	136.8	1,575.0	988.3
Transactions												
2022	173.8	8.5	163.8	636.4	623.8	680.5	269.0	241.8	126.3	-13.3	18.6	-5.9
2023	-161.1	-17.4	-144.0	53.8	24.5	72.3	-5.7	7.7	30.7	-8.2	-16.0	45.4
2024	-64.4	-1.4	-63.5	288.9	229.8	272.1	76.9	44.8	107.0	1.1	11.4	47.6
2024 Q3	-4.4	-3.2	-1.2	68.3	59.8	53.5	18.7	20.0	19.0	2.1	3.7	4.8
Q4	4.6	11.0	-6.5	140.8	101.4	126.3	44.2	22.3	28.7	6.3	14.3	25.1
2025 Q1	31.9	6.6	25.2	116.0	112.9	113.4	35.1	48.4	32.1	-2.7	-17.0	20.1
Q2	-27.7	11.7	-39.4	97.2	92.4	107.8	22.0	47.8	13.6	9.1	12.0	-7.2
2025 Feb.	-14.0	5.1	-19.1	59.0	56.0	48.8	13.1	15.4	29.2	-1.6	-5.6	8.6
Mar.	-3.6	-6.4	2.8	6.9	18.1	35.8	8.2	11.8	-3.4	1.5	-9.5	-1.7
Apr.	12.0	-1.1	13.1	25.5	41.7	44.2	11.2	16.5	14.4	-0.5	2.6	-18.8
May	-17.0	13.3	-30.5	7.5	9.8	5.8	1.3	15.5	-9.2	2.2	-5.9	3.7
June	-22.7	-0.5	-22.0	64.2	41.0	57.8	9.5	15.8	8.3	7.3	15.4	7.8
July	23.5	4.5	19.0	19.8	3.3	-2.8	7.6	13.4	-9.0	-8.7	1.5	15.0
Growth rates												
2022	2.7	0.9	3.0	4.3	5.0	5.4	5.5	3.8	13.4	-7.9	1.2	-0.6
2023	-2.5	-1.7	-2.7	0.3	0.2	0.5	-0.1	0.1	2.8	-5.5	-1.0	5.3
2024	-1.0	-0.1	-1.2	1.9	1.8	2.1	1.5	0.7	9.5	0.8	0.7	5.3
2024 Q3	-1.2	-0.9	-1.2	1.2	1.3	1.6	0.8	0.6	8.5	-3.7	-1.5	4.2
Q4	-1.0	-0.1	-1.2	1.9	1.8	2.1	1.5	0.7	9.5	0.8	0.7	5.3
2025 Q1	0.5	1.7	0.2	2.2	2.4	2.6	2.2	1.4	8.7	-0.7	-0.9	4.9
Q2	0.1	2.7	-0.4	2.7	2.8	3.0	2.3	2.1	7.8	11.3	0.8	4.6
2025 Feb.	0.4	1.9	0.1	2.3	2.4	2.4	2.2	1.4	9.8	-0.6	-1.0	6.3
Mar.	0.5	1.7	0.2	2.2	2.4	2.6	2.2	1.4	8.7	-0.7	-0.9	4.9
Apr.	0.5	1.9	0.2	2.4	2.6	2.8	2.5	1.7	8.6	-0.2	0.0	3.4
May	0.6	3.3	0.1	2.5	2.6	2.8	2.4	1.9	7.5	5.7	0.4	3.7
June	0.1	2.7	-0.4	2.7	2.8	3.0	2.3	2.1	7.8	11.3	0.8	4.6
July	0.6	3.6	0.0	2.7	2.6	2.8	2.5	2.3	4.8	3.5	1.6	5.8

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	5,126.5	5,126.4	960.0	1,076.9	3,089.6	6,631.8	6,832.5	715.1	5,213.4	703.3
2023	5,123.2	5,138.3	907.2	1,090.3	3,125.8	6,648.1	6,866.2	731.3	5,227.9	688.9
2024	5,182.3	5,203.1	922.4	1,098.0	3,161.9	6,677.2	6,928.7	745.0	5,254.1	678.1
2024 Q3	5,139.8	5,161.9	912.5	1,089.7	3,137.7	6,661.4	6,899.1	742.3	5,244.0	675.1
Q4	5,182.3	5,203.1	922.4	1,098.0	3,161.9	6,677.2	6,928.7	745.0	5,254.1	678.1
2025 Q1	5,204.0	5,227.6	922.9	1,114.7	3,166.4	6,720.8	6,973.1	750.8	5,291.9	678.1
Q2	5,211.1	5,252.9	928.1	1,116.0	3,167.0	6,767.6	7,016.4	757.3	5,333.6	676.7
2025 Feb.	5,202.4	5,213.7	926.1	1,104.4	3,171.9	6,711.1	6,956.1	747.3	5,284.9	679.0
Mar.	5,204.0	5,227.6	922.9	1,114.7	3,166.4	6,720.8	6,973.1	750.8	5,291.9	678.1
Apr.	5,208.2	5,231.0	927.0	1,109.3	3,171.9	6,740.1	6,990.9	753.6	5,309.0	677.5
May	5,208.1	5,229.1	926.0	1,108.8	3,173.3	6,754.7	7,002.0	754.2	5,322.9	677.7
June	5,211.1	5,252.9	928.1	1,116.0	3,167.0	6,767.6	7,016.4	757.3	5,333.6	676.7
July	5,220.3	5,258.2	922.6	1,122.6	3,175.1	6,780.1	7,030.0	760.1	5,345.5	674.5
Transactions										
2022	269.0	308.3	78.0	77.3	113.7	241.8	250.0	23.2	217.7	0.9
2023	-5.7	24.2	-44.0	10.3	27.9	7.7	26.5	18.9	10.0	-21.2
2024	76.9	88.1	21.9	14.1	40.9	44.8	77.0	26.6	28.0	-9.9
2024 Q3	18.7	22.7	13.6	4.5	0.6	20.0	20.7	7.1	17.9	-5.1
Q4	44.2	45.5	7.8	10.8	25.6	22.3	36.3	10.7	10.5	1.1
2025 Q1	35.1	35.8	2.3	21.6	11.1	48.4	50.4	8.9	39.2	0.3
Q2	22.0	35.9	11.1	6.9	4.0	47.8	45.8	6.0	40.1	1.7
2025 Feb.	13.1	10.9	1.3	5.0	6.8	15.4	15.9	2.0	13.6	-0.3
Mar.	8.2	19.2	-1.5	11.9	-2.2	11.8	19.2	4.1	7.9	-0.1
Apr.	11.2	9.2	7.2	-2.1	6.1	16.5	15.6	2.8	14.2	-0.5
May	1.3	-1.2	-0.9	0.1	2.1	15.5	12.6	1.1	14.0	0.4
June	9.5	27.9	4.8	8.9	-4.2	15.8	17.7	2.1	11.9	1.8
July	7.6	4.6	-6.5	6.4	7.7	13.4	15.2	3.3	11.9	-1.8
Growth rates										
2022	5.5	6.4	8.8	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	2.6	0.2	-3.0
2024	1.5	1.7	2.4	1.3	1.3	0.7	1.1	3.7	0.5	-1.4
2024 Q3	0.8	1.3	2.0	0.7	0.5	0.6	0.6	2.7	0.6	-2.1
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	4.6	3.4	1.2	1.4	1.7	3.7	1.4	-0.7
Q2	2.3	2.7	3.9	4.1	1.3	2.1	2.2	4.5	2.1	-0.3
2025 Feb.	2.2	2.1	4.6	2.2	1.5	1.4	1.5	3.8	1.3	-0.8
Mar.	2.2	2.4	4.6	3.4	1.2	1.4	1.7	3.7	1.4	-0.7
Apr.	2.5	2.6	5.8	3.3	1.3	1.7	1.9	4.0	1.6	-0.5
May	2.4	2.5	4.6	3.4	1.4	1.9	2.0	4.0	1.9	-0.3
June	2.3	2.7	3.9	4.1	1.3	2.1	2.2	4.5	2.1	-0.3
July	2.5	2.8	3.1	4.7	1.5	2.3	2.4	4.6	2.2	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	639.4	6,731.2	1,783.0	45.7	2,109.0	2,793.4	1,332.5	344.5	137.2	147.2
2023	447.4	7,327.2	1,827.5	90.2	2,413.8	2,995.6	1,858.1	213.8	152.1	152.6
2024	377.9	7,837.7	1,843.2	116.5	2,588.8	3,289.2	2,678.3	251.6	140.4	136.0
2024 Q3	402.8	7,679.4	1,833.1	114.3	2,541.1	3,190.9	2,490.5	249.2	184.9	188.5
Q4	377.9	7,837.7	1,843.2	116.5	2,588.8	3,289.2	2,678.3	251.6	140.4	136.0
2025 Q1	366.8	7,939.7	1,834.3	121.1	2,573.6	3,410.7	2,791.4	225.2	183.5	161.3
Q2 (p)	410.9	7,905.9	1,833.6	129.7	2,563.0	3,379.6	2,828.2	193.1	177.9	165.9
2025 Feb.	425.3	7,953.7	1,842.6	118.5	2,599.8	3,392.8	2,802.3	235.3	196.1	159.7
Mar.	366.8	7,939.7	1,834.3	121.1	2,573.6	3,410.7	2,791.4	225.2	183.5	161.3
Apr.	447.0	7,912.6	1,830.1	123.4	2,537.1	3,422.0	2,838.5	227.2	195.4	173.4
May	471.6	7,957.9	1,829.8	125.9	2,572.9	3,429.3	2,924.9	255.0	181.4	177.6
June	410.9	7,905.9	1,833.6	129.7	2,563.0	3,379.6	2,828.2	193.1	177.9	165.9
July (p)	398.9	7,952.1	1,834.4	133.0	2,583.8	3,400.8	2,856.6	154.7	173.5	167.0
Transactions										
2022	-93.4	52.7	-88.8	-4.6	13.2	132.9	-68.9	-205.4	10.4	18.0
2023	-198.2	323.8	25.2	40.0	227.1	31.5	456.1	-217.7	17.1	9.0
2024	-69.1	278.1	15.6	26.2	164.2	72.2	541.1	20.6	-11.7	-16.7
2024 Q3	-7.7	58.6	7.5	4.4	38.3	8.5	168.5	-30.7	2.4	12.0
Q4	-25.4	68.0	4.8	2.2	5.6	55.4	86.7	-16.2	-44.5	-52.6
2025 Q1	-10.7	25.4	-5.7	5.7	10.7	14.7	7.3	-22.8	43.1	25.3
Q2 (p)	44.2	26.9	4.8	8.6	40.2	-26.7	129.0	-23.6	-5.6	4.7
2025 Feb.	21.1	3.2	3.4	1.1	5.4	-6.6	40.6	0.8	32.9	13.2
Mar.	-58.3	-2.1	-5.5	2.8	-1.3	2.0	-16.7	-23.4	-12.6	1.6
Apr.	80.3	-16.1	-0.8	2.4	-5.0	-12.6	78.3	17.7	11.9	12.2
May	24.6	32.3	-0.6	2.5	33.3	-2.9	70.0	35.8	-13.9	4.2
June	-60.8	10.7	6.1	3.8	11.9	-11.2	-19.4	-77.1	-3.6	-11.7
July (p)	-13.4	6.3	-0.6	3.3	10.4	-6.8	-12.0	-46.7	-4.4	1.0
Growth rates										
2022	-12.7	0.8	-4.8	-13.0	0.5	4.6	-	-	7.8	12.7
2023	-30.8	4.7	1.4	80.3	10.7	1.1	-	-	12.4	6.0
2024	-15.5	3.8	0.9	29.1	6.8	2.3	-	-	-7.7	-10.9
2024 Q3	-11.2	3.7	0.0	54.7	9.2	0.3	-	-	20.5	15.4
Q4	-15.5	3.8	0.9	29.1	6.8	2.3	-	-	-7.7	-10.9
2025 Q1	-7.1	2.5	0.3	17.6	3.5	2.6	-	-	3.1	-7.4
Q2 (p)	0.1	2.3	0.6	19.1	3.8	1.6	-	-	-2.6	-6.0
2025 Feb.	-1.0	3.0	0.7	19.0	5.0	2.1	-	-	18.5	-7.9
Mar.	-7.1	2.5	0.3	17.6	3.5	2.6	-	-	3.1	-7.4
Apr.	1.8	2.1	0.4	16.8	2.4	2.5	-	-	19.4	-2.3
May	6.8	2.4	0.5	17.1	3.5	2.2	-	-	14.0	7.6
June	0.1	2.3	0.6	19.1	3.8	1.6	-	-	-2.6	-6.0
July (p)	-1.8	2.4	0.9	20.4	4.0	1.3	-	-	4.0	7.8

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	-3.5	-3.7	0.0	0.0	0.3	-1.8
2023	-3.5	-3.5	-0.2	-0.2	0.4	-1.8
2024	-3.1	-2.7	-0.3	-0.2	0.1	-1.2
2024 Q2	-3.4	.	.	.	.	-1.6
Q3	-3.2	.	.	.	.	-1.3
Q4	-3.1	.	.	.	.	-1.2
2025 Q1	-3.0	.	.	.	.	-1.1

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	46.2	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	45.8	13.3	12.9	14.6	0.8	50.0	44.8	9.8	5.9	1.7	22.4	5.2
2023	46.0	45.1	13.2	12.4	14.5	0.8	49.5	44.2	9.8	5.9	1.7	22.3	5.3
2024	46.5	45.7	13.4	12.4	14.8	0.8	49.6	44.6	10.0	6.0	1.9	22.9	5.0
2024 Q2	46.2	45.4	13.3	12.4	14.7	0.8	49.7	44.4	9.9	5.9	1.8	22.6	5.3
Q3	46.4	45.6	13.3	12.4	14.7	0.8	49.7	44.5	10.0	6.0	1.9	22.7	5.1
Q4	46.5	45.8	13.4	12.4	14.8	0.8	49.6	44.6	10.0	6.0	1.9	22.9	5.0
2025 Q1	46.7	45.9	13.4	12.4	14.9	0.8	49.7	44.7	10.0	6.0	1.9	22.9	4.9

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	93.9	2.9	13.9	77.1	54.4	40.9	39.4	9.8	84.1	17.3	29.8	46.8	92.5	1.4
2022	89.5	2.6	13.2	73.7	52.5	39.6	37.0	8.7	80.9	16.0	28.4	45.2	88.6	0.9
2023	87.3	2.4	12.2	72.7	49.3	35.9	38.1	7.8	79.5	15.0	28.1	44.3	86.5	0.8
2024	87.4	2.2	11.8	73.5	46.9	33.9	40.6	7.7	79.7	14.5	28.4	44.5	86.7	0.8
2024 Q2	88.0	2.2	11.8	74.0	.	.	.	.	.	.	.	.	.	.
Q3	88.0	2.2	11.8	74.0	.	.	.	.	.	.	.	.	.	.
Q4	87.4	2.2	11.8	73.4	.	.	.	.	.	.	.	.	.	.
2025 Q1	88.0	2.3	11.7	74.1	.	.	.	.	.	.	.	.	.	.

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	-4.3	1.8	-0.2	-0.2	-0.7	0.3	0.1	0.1	0.6	-0.6	-5.9	2.7
2023	-2.2	1.8	-0.3	-0.4	-0.5	-0.2	0.1	0.1	0.6	-0.5	-3.7	2.6
2024	0.1	1.2	0.2	0.0	-0.3	0.0	0.2	0.1	0.3	0.0	-1.3	3.1
2024 Q2	-0.7	1.6	-0.3	-0.5	-0.5	-0.1	0.1	0.1	0.4	-0.1	-2.1	2.8
Q3	-0.3	1.3	0.0	-0.2	-0.3	-0.1	0.1	0.0	0.3	-0.1	-1.7	2.9
Q4	0.0	1.2	0.3	0.0	-0.3	0.0	0.2	0.1	0.3	0.0	-1.4	3.1
2025 Q1	0.2	1.1	0.5	0.3	0.1	0.0	0.1	0.1	0.3	-0.1	-1.3	3.2

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	11.7	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	2.1	2.2	1.8	3.5	2.9
2024 Q3	12.4	11.1	3.8	1.4	0.4	8.2	2.1	1.3	2.0	2.1	1.7	3.7	2.9
Q4	12.4	11.0	4.1	1.4	0.4	8.2	2.1	1.3	2.1	2.2	1.8	3.5	2.9
2025 Q1	12.4	10.9	3.8	1.5	0.4	8.3	2.1	1.3	1.8	2.2	1.9	3.3	2.9
Q2	12.9	11.4	3.3	1.5	0.4	8.3	2.2	1.3	1.6	2.2	2.1	3.1	2.8
2025 Feb.	12.6	11.2	4.1	1.4	0.4	8.3	2.1	1.3	2.0	2.2	1.9	3.4	2.9
Mar.	12.4	10.9	3.8	1.5	0.4	8.3	2.1	1.3	1.8	2.2	1.9	3.3	2.9
Apr.	13.1	11.6	3.8	1.5	0.4	8.3	2.2	1.3	1.9	2.2	1.9	3.3	2.9
May	12.9	11.4	3.2	1.5	0.4	8.3	2.2	1.3	1.6	2.2	2.0	3.2	2.8
June	12.9	11.4	3.3	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	2.2	1.3	1.6	2.2	2.1	3.0	2.7

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	-2.6	-1.4	-7.1	-6.7	-6.6	-2.6	-8.9	-1.6
2022	-3.6	-2.1	-1.1	1.7	-2.5	-4.6	-4.7	0.1	-8.1	2.7
2023	-4.1	-2.5	-3.1	1.5	-1.4	-3.5	-5.4	-0.8	-7.2	1.7
2024	-4.5	-2.8	-1.5	4.3	1.3	-3.2	-5.8	-2.4	-3.4	4.3
2024 Q2	-4.1	-2.7	-3.6	1.5	0.2	-3.2	-5.5	-1.8	-6.2	4.0
Q3	-4.4	-2.8	-3.0	4.4	0.8	-3.0	-5.6	-2.1	-5.3	4.0
Q4	-4.5	-2.7	-1.5	4.1	1.3	-3.2	-5.8	-2.0	-3.4	4.3
2025 Q1	-5.0	-2.4	-1.0	4.1	2.6	-3.1	-5.8	-2.6	-3.5	4.4
	Government debt									
2021	108.5	68.1	18.4	52.6	197.3	115.7	112.8	78.2	145.8	96.5
2022	102.7	65.0	19.1	43.1	177.0	109.5	111.4	68.5	138.3	81.1
2023	103.2	62.9	20.2	43.3	163.9	105.1	109.8	61.8	134.6	73.6
2024	104.7	62.5	23.6	40.9	153.6	101.8	113.0	57.6	135.3	65.0
2024 Q2	106.6	62.0	23.8	40.8	160.1	105.3	112.3	60.0	136.6	70.2
Q3	105.7	62.4	24.0	40.3	158.3	104.4	113.6	59.6	136.2	69.2
Q4	104.7	62.5	23.6	38.7	153.6	101.8	113.2	57.6	135.3	65.1
2025 Q1	106.8	62.3	24.1	34.9	152.5	103.5	114.1	58.4	137.9	64.3

	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	-1.2	1.0	-7.0	-2.2	-5.7	-2.8	-4.6	-5.1	-2.7
2022	-4.9	-0.7	0.2	-5.2	0.0	-3.4	-0.3	-3.0	-1.7	-0.2
2023	-2.4	-0.7	-0.8	-4.7	-0.4	-2.6	1.2	-2.6	-5.2	-3.0
2024	-1.8	-1.3	1.0	-3.7	-0.9	-4.7	0.7	-0.9	-5.3	-4.4
2024 Q2	-4.7	-0.9	0.5	-3.5	-0.4	-3.3	1.0	-1.9	-4.9	-3.7
Q3	-2.7	-1.4	0.5	-3.0	-0.3	-3.8	0.7	-1.7	-4.9	-4.3
Q4	-1.8	-1.3	1.0	-3.7	-0.9	-4.6	0.7	-0.9	-5.3	-4.5
2025 Q1	-1.0	-1.5	0.5	-3.1	-1.3	-5.2	0.8	-1.6	-5.1	-4.3
	Government debt									
2021	45.9	43.3	24.2	49.8	50.5	82.4	123.9	74.8	60.2	73.2
2022	44.4	38.1	24.9	49.5	48.4	78.4	111.2	72.7	57.7	74.0
2023	44.6	37.3	25.0	47.9	45.2	78.5	97.7	68.4	55.6	77.5
2024	46.8	38.2	26.3	47.4	43.3	81.8	94.9	67.0	59.3	82.1
2024 Q2	45.9	37.4	26.1	46.6	43.8	82.8	100.3	69.4	60.0	80.7
Q3	47.2	38.4	25.8	45.9	42.6	83.0	97.1	66.7	59.8	82.2
Q4	46.8	38.2	26.3	47.4	43.7	81.4	94.9	67.0	59.3	82.1
2025 Q1	45.6	40.6	26.1	48.1	43.2	84.9	96.4	69.9	62.8	83.7

Source: Eurostat.

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

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