



EUROPEAN CENTRAL BANK

EUROSYSTEM

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Economic, financial and monetary developments

Overview

Inflation has been coming down but is projected to remain too high for too long. The Governing Council is determined to ensure that inflation returns to its 2% medium-term target in a timely manner. It therefore decided at its meeting on 15 June 2023 to raise the three key ECB interest rates by 25 basis points.

The rate increase reflects the Governing Council's updated assessment of the inflation outlook, the dynamics of underlying inflation, and the strength of monetary policy transmission. According to the June 2023 Eurosystem staff macroeconomic projections for the euro area headline inflation is expected to average 5.4% in 2023, 3.0% in 2024 and 2.2% in 2025. Indicators of underlying price pressures remain strong, although some show tentative signs of softening. Staff have revised up their projections for inflation excluding energy and food, especially for this year and next year, owing to past upward surprises and the implications of the robust labour market for the speed of disinflation. They now see it reaching 5.1% in 2023, before it declines to 3.0% in 2024 and 2.3% in 2025. Staff have slightly lowered their economic growth projections for this year and next year. They now expect the economy to grow by 0.9% in 2023, 1.5% in 2024 and 1.6% in 2025.

At the same time, the Governing Council's past rate increases are being transmitted forcefully to financing conditions and are gradually having an impact across the economy. Borrowing costs have increased steeply and the growth in loans is slowing. Tighter financing conditions are a key reason why inflation is projected to decline further towards target, as they are expected to increasingly dampen demand.

The Governing Council's future decisions will ensure that the key ECB interest rates will be brought to levels sufficiently restrictive to achieve a timely return of inflation to the 2% medium-term target and will be kept at those levels for as long as necessary. The Governing Council will continue to follow a data-dependent approach to determining the appropriate level and duration of restriction. In particular, its interest rate decisions will continue to be based on its assessment of the inflation outlook in light of the incoming economic and financial data, the dynamics of underlying inflation, and the strength of monetary policy transmission.

The Governing Council confirmed that it would discontinue the reinvestments under the asset purchase programme (APP) as of July 2023.

Economic activity

The global economy started this year on a stronger footing than in the fourth quarter of 2022 thanks to the reopening of the Chinese economy and the resilience of labour

markets in the United States. Global activity was mainly driven by the services sector, whereas manufacturing output remains relatively subdued. The fallout from the US banking sector woes in early March led to a brief period of acute stress in global financial markets. Since then, most asset prices have recovered the losses recorded during that period, while financial market participants also revised down their expectations for the future path of the Federal Reserve System's monetary policy tightening. Nonetheless, lingering uncertainty is adding to global growth headwinds, including high inflation, tightening in global financial conditions and geopolitical tensions. Against this backdrop, the global growth and inflation outlook in the June 2023 projections remains broadly unchanged compared with the March 2023 ECB staff macroeconomic projections for the euro area. The small upward revision to global growth in 2023 is mainly related to the stronger than previously expected recovery in demand in China in the first quarter, which was partially offset by the adverse impact of tighter financial and credit conditions in the United States and other advanced economies. The inflation outlook has been revised slightly upwards for 2024 against the backdrop of tight labour markets and still high wage growth in advanced economies, while lower commodity prices explain a small downward revision to projected inflation for 2023. World trade is projected to grow at a much slower pace than real GDP this year, as the composition of global demand has become less trade-intensive. The outlook for world trade for 2023 was revised down, albeit largely on account of sizeable negative carry-over effects from the fourth quarter of 2022 and weak outturns in major economies in the first quarter.

The euro area economy has stagnated in recent months. As in the fourth quarter of last year, it shrank by 0.1% in the first quarter of 2023, amid a drop in private and public consumption. Economic growth is likely to remain weak in the short run but strengthen in the course of the year, as inflation comes down and supply disruptions continue to ease. Conditions in different sectors of the economy are uneven: manufacturing continues to weaken, partly owing to lower global demand and tighter euro area financing conditions, while services remain resilient.

The labour market remains a source of strength. Almost a million new jobs were added in the first quarter of the year and the unemployment rate stood at a historical low of 6.5% in April. The average number of hours worked has also increased, although it is still somewhat below its pre-pandemic level.

According to the June 2023 projections, the economy is expected to return to growth in the coming quarters as energy prices moderate, foreign demand strengthens and supply bottlenecks are resolved, allowing firms to continue to work through their significant order backlogs, and as uncertainty – including that related to the recent banking sector stress – continues to recede. Furthermore, real incomes are set to improve, underpinned by the robust labour market, with unemployment hitting new historical lows over the projection horizon. The ECB's monetary policy tightening will increasingly feed through to the real economy. Together with the gradual withdrawal of fiscal support, this will weigh on economic growth in the medium term. Overall, annual average real GDP growth is expected to slow down to 0.9% in 2023 (from 3.5% in 2022), before rebounding to 1.5% in 2024 and 1.6% in 2025. Compared with the March 2023 projections, the outlook for GDP growth has been revised down by

0.1 percentage points for 2023 and 2024, reflecting mainly tighter financing conditions. GDP growth in 2025 remains unchanged, as these effects are expected to be partly offset by the impact of higher real disposable income and lower uncertainty.

The euro area fiscal outlook is set to improve over the projection horizon. After the significant decline in 2022, the euro area budget deficit is projected to continue to decline at a slower pace over 2023-24 and only marginally in 2025 (to 2.5% of GDP). The decline in the budget balance at the end of the projection horizon, compared with 2022, is explained by the improvement in the cyclically adjusted primary balance and, to a more limited extent, by a better cyclical fiscal component, while interest payments gradually increase as a share of GDP over the horizon. Euro area debt is projected to continue to decline, albeit more slowly after 2022, to stand at 87.3% of GDP by 2025. This is mainly on account of negative interest rate-growth differentials, which more than offset the persisting primary deficits. Nevertheless, in 2025 both the deficit and debt ratios are expected to remain above pre-pandemic levels. Compared with the March 2023 projections, the budget balance remains broadly unchanged at the end of the horizon, while the debt ratio has been revised up somewhat over 2023-25 mainly on account of less favourable interest rate-growth differentials.

As the energy crisis fades, governments should roll back the related support measures promptly and in a concerted manner to avoid driving up medium-term inflationary pressures, which would call for a stronger monetary policy response. Fiscal policies should be designed to make the euro area economy more productive and gradually bring down high public debt. Policies to enhance the euro area's supply capacity, especially in the energy sector, can also help reduce price pressures in the medium term. The reform of the EU's economic governance framework should be concluded soon.

Inflation

Inflation fell further to 6.1% in May, according to Eurostat's flash estimate, from 7.0% in April. The decline was broad-based. Energy price inflation, which had risen in April, resumed its downward trend and was negative in May. Food price inflation fell again but remained high at 12.5%.

Inflation excluding energy and food declined in May for the second month in a row, to 5.3% from 5.6% in April. Goods inflation decreased further, to 5.8% from 6.2% in April. Services inflation fell for the first time in several months, from 5.2% to 5.0%. Indicators of underlying price pressures remain strong, although some show tentative signs of softening.

Past increases in energy costs are still pushing up prices across the economy. Pent-up demand from the reopening of the economy also continues to drive up inflation, especially in services. Wage pressures, while partly reflecting one-off payments, are becoming an increasingly important source of inflation. Compensation per employee rose by 5.2% in the first quarter of the year and negotiated wages by 4.3%. Moreover, firms in some sectors have been able to keep profits relatively high,

especially where demand has outstripped supply. Although most measures of longer-term inflation expectations currently stand at around 2%, some indicators remain elevated and need to be monitored closely.

According to the June 2023 projections, with energy inflation set to become increasingly negative throughout 2023 and food inflation moderating sharply, headline inflation is expected to continue its decline to stand at around 3% in the last quarter of the year. Nevertheless, HICP inflation excluding energy and food is projected to overtake headline inflation in the near term and to remain above it until early 2024, albeit following a gradual downward path from the second half of 2023. As indirect effects from the past energy price shocks and other pipeline price pressures gradually fade, driving the expected decline, labour costs will become the dominant driver of HICP inflation excluding energy and food. Wage growth is expected to remain over double its historical average for most of the projection horizon, driven by inflation compensation and the tight labour market, as well as increases in minimum wages. Nevertheless, profit margins, which expanded notably in 2022, are expected to act as a buffer against some of the pass-through of these costs in the medium term. In addition, monetary policy should further dampen underlying inflation in the coming years. Overall, headline inflation is expected to decrease from 8.4% in 2022 to an average of 5.4% in 2023, 3.0% in 2024 and 2.2% in 2025. Compared with the March 2023 projections, headline inflation has been revised up slightly over the entire projection horizon. This is mainly due to a significant upward revision to HICP inflation excluding energy and food, reflecting revisions owing to higher than expected recent inflation outcomes and somewhat stronger unit labour costs, which more than offset the effect of the lower energy price assumptions and tighter financing conditions.

Risk assessment

The Governing Council judges that the outlook for economic growth and inflation remains highly uncertain. Downside risks to growth include Russia's unjustified war against Ukraine and an increase in broader geopolitical tensions, which could fragment global trade and thus weigh on the euro area economy. Growth could also be slower if the effects of monetary policy are more forceful than projected. Renewed financial market tensions could lead to even tighter financing conditions than anticipated and weaken confidence. Also, weaker growth in the world economy could further dampen economic activity in the euro area. However, growth could be higher than projected if the strong labour market and receding uncertainty mean that people and businesses become more confident and spend more.

Upside risks to inflation include potential renewed upward pressures on the costs of energy and food, also related to Russia's war against Ukraine. A lasting rise in inflation expectations above the Governing Council's target, or higher than anticipated increases in wages or profit margins, could also drive inflation higher, including over the medium term. Recent wage agreements in a number of countries have added to the upside risks to inflation. By contrast, renewed financial market tensions could bring inflation down faster than projected. Weaker demand, for

example due to a stronger transmission of monetary policy, would also lead to lower price pressures, especially over the medium term. Moreover, inflation would come down faster if declining energy prices and lower food price increases were to pass through to other goods and services more quickly than currently anticipated.

Financial and monetary conditions

The monetary policy tightening continues to be reflected in risk-free interest rates and broader financing conditions. Funding conditions are tighter for banks and credit is becoming more expensive for firms and households. In April lending rates reached their highest level in more than a decade, standing at 4.4% for business loans and 3.4% for mortgages.

These higher borrowing rates, together with tighter credit supply conditions and lower loan demand, have further weakened credit dynamics. The annual growth of loans to firms declined again in April, to 4.6%. The month-on-month changes have been negative on average since November 2022. Loans to households grew at an annual rate of 2.5% in April and increased only marginally month on month. Weak bank lending and the reduction in the Eurosystem balance sheet led to a continued decline in annual broad money growth to 1.9% in April. Month-on-month changes in broad money have been negative since December.

In line with its monetary policy strategy, the Governing Council thoroughly assessed the links between monetary policy and financial stability. The financial stability outlook has remained challenging since the last review in December 2022. Tighter financing conditions are raising banks' funding costs and the credit risk of outstanding loans. Together with the recent tensions in the US banking system, these factors could give rise to systemic stress and depress economic growth in the short term. Another factor weighing on the resilience of the financial sector is a downturn in the real estate markets, which could be amplified by higher borrowing costs and a rise in unemployment. At the same time, euro area banks have strong capital and liquidity positions, which mitigate these financial stability risks. Macroprudential policy remains the first line of defence against the build-up of financial vulnerabilities.

Monetary policy decisions

At its meeting on 15 June 2023, the Governing Council decided to raise the three key ECB interest rates by 25 basis points. Accordingly, the interest rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility were increased to 4.00%, 4.25% and 3.50% respectively, with effect from 21 June 2023.

The APP portfolio is declining at a measured and predictable pace, as the Eurosystem does not reinvest all of the principal payments from maturing securities. The decline will amount to €15 billion per month on average until the end of June

2023. The Governing Council will discontinue the reinvestments under the APP as of July 2023.

As concerns the pandemic emergency purchase programme (PEPP), the Governing Council intends to reinvest the principal payments from maturing securities purchased under the programme until at least the end of 2024. In any case, the future roll-off of the PEPP portfolio will be managed to avoid interference with the appropriate monetary policy stance.

The Governing Council will continue applying flexibility in reinvesting redemptions coming due in the PEPP portfolio, with a view to countering risks to the monetary policy transmission mechanism related to the pandemic.

As banks are repaying the amounts borrowed under the targeted longer-term refinancing operations, the Governing Council will regularly assess how targeted lending operations and their ongoing repayment are contributing to its monetary policy stance.

Conclusion

Inflation has been coming down but is projected to remain too high for too long. The Governing Council therefore decided at its meeting on 15 June 2023 to raise the three key ECB interest rates by 25 basis points, in view of its determination to ensure that inflation returns to its 2% medium-term target in a timely manner.

The Governing Council's future decisions will ensure that the key ECB interest rates will be brought to levels sufficiently restrictive to achieve a timely return of inflation to its 2% medium-term target and will be kept at those levels for as long as necessary. The Governing Council will continue to follow a data-dependent approach to determining the appropriate level and duration of restriction. In particular, the interest rate decisions will continue to be based on the Governing Council's assessment of the inflation outlook in light of the incoming economic and financial data, the dynamics of underlying inflation, and the strength of monetary policy transmission.

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

1 External environment

The global economy started this year on a stronger footing than in the fourth quarter of 2022 thanks to the reopening of the Chinese economy and the resilience of labour markets in the United States. Global activity was mainly driven by the services sector, whereas manufacturing output remains relatively subdued. The fallout from the US banking sector woes in early March led to a brief period of acute stress in global financial markets. Since then, most asset prices have recovered the losses recorded during that period, while financial market participants also revised down their expectations for the future path of the Federal Reserve System's monetary policy tightening. Nonetheless, lingering uncertainty is adding to global growth headwinds, including high inflation, tightening in global financial conditions and geopolitical tensions. Against this backdrop, the global growth and inflation outlook in the June 2023 Eurosystem staff macroeconomic projections remains broadly unchanged compared with the March 2023 ECB staff exercise. The small upward revision to global growth in 2023 is mainly related to the stronger than previously expected recovery in demand in China in the first quarter, which was partially offset by the adverse impact of tighter financial and credit conditions in the United States and other advanced economies. The inflation outlook has been revised slightly upwards for 2024 against the backdrop of tight labour markets and still high wage growth in advanced economies, while lower commodity prices explain a small downward revision to projected inflation for 2023. World trade is projected to grow at a much slower pace than real GDP this year, as the composition of global demand has become less trade-intensive. The outlook for world trade for 2023 was revised down, albeit largely on account of sizeable negative carry-over effects from the fourth quarter of 2022 and weak outturns in major economies the first quarter.

The global economy started this year on a stronger footing than in the fourth quarter of 2022 thanks to the reopening of China's economy and the resilience of labour markets in the United States. Data coming from these countries have surprised on the upside since the beginning of the year. These surprises relate to an earlier and stronger than expected demand recovery in China, as pandemic-related disruptions proved short-lived. In the United States, the resilience of labour markets against the backdrop of significant tightening of monetary policy is underpinning consumer demand. Activity was mainly driven by the services sector, whereas manufacturing output remains relatively subdued (Chart 1). Global growth in the first quarter is estimated to have increased to 0.9%, from 0.5% in the previous quarter, and was 0.2 percentage points above the March projections.¹

¹ Given the focus of this section on developments in the global environment, all references to world and/or global aggregate economic indicators exclude the euro area.

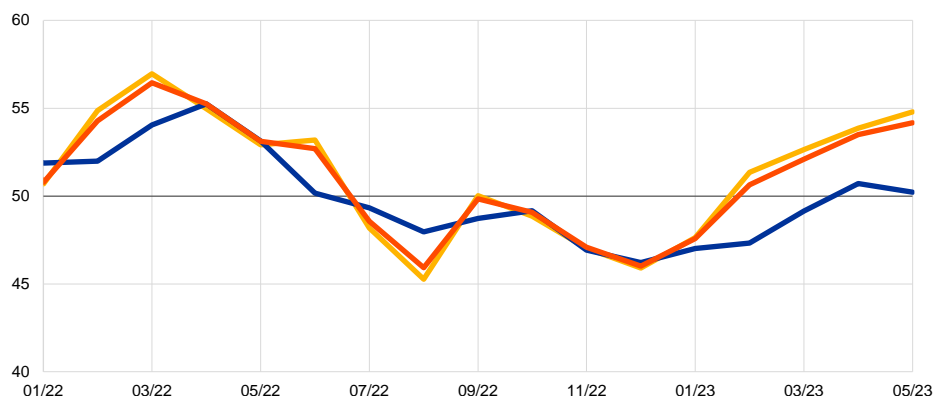
Chart 1

Purchasing Managers' Index (PMI) output by sector across advanced and emerging market economies

a) Advanced economies (excluding the euro area)

(diffusion indices)

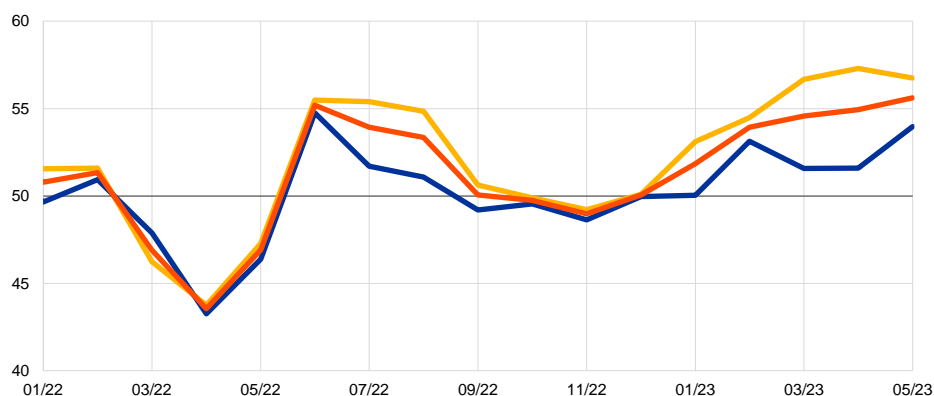
- Services
- Manufacturing
- Composite



b) Emerging market economies

(diffusion indices)

- Services
- Manufacturing
- Composite



Sources: S&P Global Market Intelligence and ECB staff calculations.
Note: The latest observations are for May 2023.

While acute financial stress in global financial markets triggered by the banking sector stress in the United States has receded, uncertainty remains high. The fallout from the US banking sector woes led to a short period of acute stress in global financial markets. Since then, most asset classes, with exception of financial stocks, have recovered the losses recorded during this period, while financial market participants also revised down their expectations for the future path of the Federal Reserve System's monetary policy tightening. High uncertainty related to US banking sector developments is adding to global growth headwinds, including high inflation, tightening in financial conditions and elevated geopolitical uncertainty. Indeed, more recent data suggest that global growth has recently been losing momentum.

The global growth and inflation outlook remains broadly unchanged compared with the March 2023 staff projections.

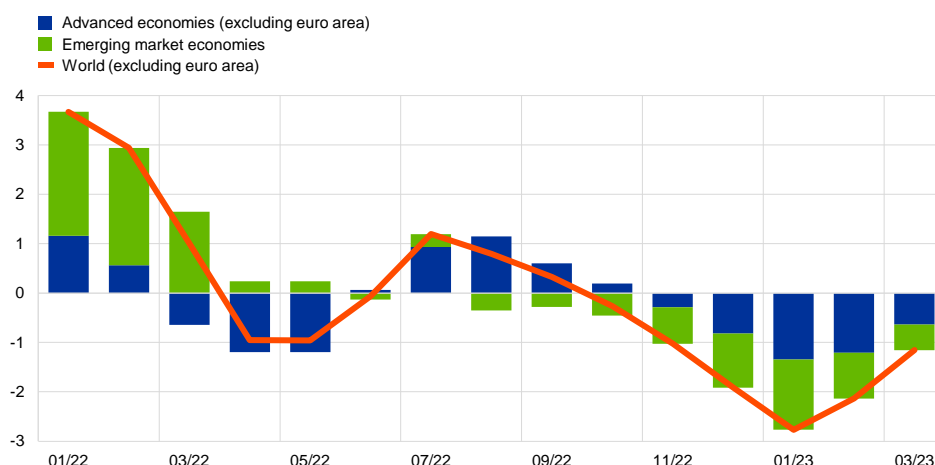
The world economy is projected to grow at 3.1% in both this year and next year, before accelerating slightly to 3.3% in 2025. Growth has been revised slightly upwards for 2023 (by 0.1 percentage points), slightly downwards for 2024 (by 0.1 percentage points) and remains unchanged for 2025. The stronger than previously expected recovery in demand in China in the first quarter of the year is a key factor explaining the upward revision of global growth in 2023, while the global growth outlook has been revised slightly down in the near term. The slightly slower than previously projected global growth in 2024 relates to the impact of tighter financial and credit conditions in the United States and other advanced economies.

As global activity is being predominantly driven by the services sector, which is less trade-intensive than the manufacturing sector, global trade remains weak.

The decoupling between activity and trade can be explained by three compounding compositional effects, as activity is being driven by less trade-intensive geographies (emerging economies), demand components (consumption) and products (services). The negative compositional effects are expected to weigh on global trade over the near term, but their impact is expected to gradually dissipate thereafter. At the same time, the expected increase in demand for tradable services, such as tourism, which is continuing to rebound after the pandemic, the ongoing improvement of supply bottlenecks and the normalisation of the global inventory cycle should be supportive of global trade. Indeed, the latest data and estimates suggest that growth momentum in global goods trade has already become less negative and is expected to gradually improve going forward (Chart 2).

Chart 2
Merchandise trade momentum

(real imports, three-month-on-three-month percentage changes)



trade is projected to increase by 3.4% in both 2024 and 2025. The implied trade elasticity – the ratio of global real import growth to global real GDP growth – over the projection horizon is close to unity. This is in line with the trade elasticity observed in the decade prior to the pandemic, but much lower than during the pandemic period. Euro area foreign demand is following a similar path, growing by 0.5% this year and picking up to 3.1% in both 2024 and 2025. Projections for both world trade and euro area foreign demand were revised down for this year, largely on account of sizeable negative carry-over effects from a weaker than previously estimated trade performance in the fourth quarter of 2022 and also due to weaker outturns in the first quarter of this year in major economies. For the rest of the projection horizon, trade projections are broadly in line with the March 2023 projections.

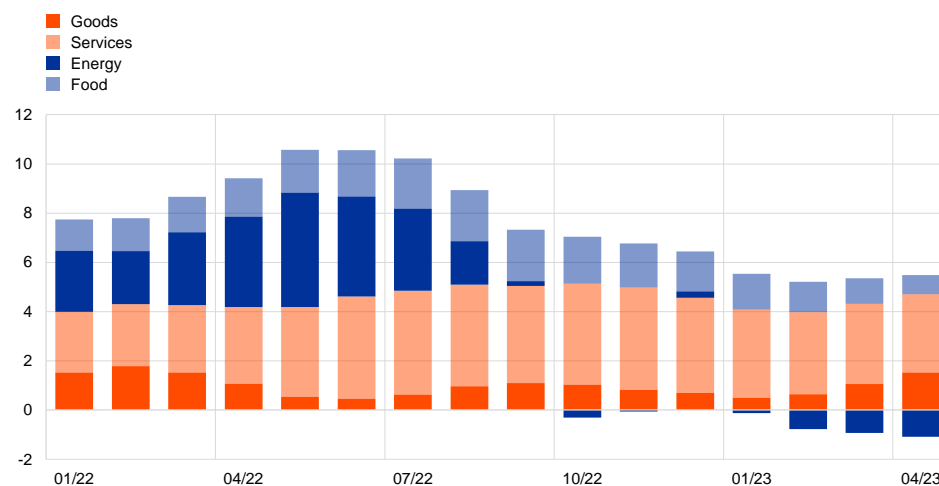
Underlying inflationary pressures in the global economy remain strong, while energy and food components continue to push down headline inflation.

Headline consumer price index (CPI) inflation in the OECD area decreased to 7.4% in April from 7.7% in the previous month. While headline inflation is continuing to decline, thanks to lower energy and food price inflation, core inflation remained broadly stable at 7.1%, and its momentum, measured as three-month on three-month annualised percentage changes, has continued to edge up (Chart 3, red and orange bars). This suggests that underlying price pressures in the global economy remain strong. Even if tradable goods prices continue to normalise, thanks to easing of supply disruptions and falling shipping prices, inflation is likely to remain high owing to a more persistent services component, reflecting tight labour market conditions and high wage growth, especially in advanced economies. Growth in euro area competitor export prices (in national currencies) has been falling rapidly since the peak reached in the second quarter of 2022 on account of negative base effects for commodity prices and is expected to continue to do so in the near term, reflecting developments in the technical assumptions. Competitor prices are expected to grow at rates more in line with historical averages over the rest of the projection horizon, as the strong domestic and foreign pipeline pressures are expected to dissipate.

Chart 3

OECD headline inflation momentum

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



Sources: OECD and ECB calculations.

Notes: Contributions of respective components of OECD headline inflation momentum reported in the chart are constructed bottom-up using available country data, which jointly account for 84% of the OECD area aggregate. Goods inflation is computed as the residual of the contribution of total goods less those of energy and food. The latest observations are for April 2023.

Crude oil prices are lower than in the March projections as concerns about global growth outweighed the impact of the OPEC+ supply cut.

Oil demand in OECD countries in the first quarter turned out to be weaker than the International Energy Agency (IEA) forecast at the beginning of the year. In addition, Russian oil production came in higher than expected. Although most of the Russian crude oil exports went to China, India and Türkiye, this helped to dampen the global price impact of stronger demand from China after its reopening. Furthermore, concerns about the global growth outlook against the backdrop of banking sector developments in the United States added to downward pressure on oil prices.

European gas prices declined further to levels closer to the pre-pandemic average. On the back of continuously low consumption and successful substitution away from Russian gas, the European Union (EU) entered the replenishment season of its gas inventories with historically high storage levels of 55%. It also extended its gas savings plan until the end of March 2024, requiring Member States to reduce gas consumption by 15% relative to the 2017-2021 average. This implies that, even without gas imports from Russia, the EU appears to be safely on track to reach the 90% storage target ahead of the next heating season starting in November and that imports from other gas suppliers would not need to be as high as last year.

Global financial conditions tightened slightly across advanced and emerging market economies.

While global risk sentiment has recently stabilised following a brief period of acute stress triggered by the Silicon Valley Bank failure in early March, uncertainty remains high. In the United States, the tightening of financial conditions since the March projections mainly reflects wider corporate spreads, while higher short-term yields also contributed somewhat. Overall, global financial markets appear cautiously optimistic, despite lingering uncertainty. At the same time, market expectations for US monetary policy tightening increased slightly, as the acute stress

in the US banking sector receded, although they still remain below their levels in early March.

In the United States, real GDP is expected to decelerate in the first half of this year, followed by a tepid recovery. Household consumption growth is expected to remain positive thanks to a resilient labour market. A tightening of financial conditions has led to a decline in non-residential investment, which is now expected to last throughout 2023, while lingering uncertainty is expected to lead to an additional tightening of lending standards, further subtracting from growth. The agreement to suspend the US debt ceiling until January 2025 has alleviated financial market uncertainty. The agreement modestly cuts non-defence spending while leaving defence and mandated social security and health spending untouched. Headline CPI inflation stood at 4.9% in April, while core inflation, at 5.5%, remains high and persistent. Services are the main source of inflation persistence, owing to sticky prices for shelter services and the slow moderation of high wage growth. Moreover, goods inflation picked up again for the second consecutive month amid another sizeable increase in new vehicle prices and a smaller negative contribution from used vehicles and trucks.

The consumption-led recovery in China is continuing but appears to be losing steam. Following the rapid recovery of consumer spending after the reopening of the economy, the recovery momentum has been fading in the second quarter and the services and consumption-led recovery has not spilled over to manufacturing. The PMI for the services sector is pointing to strong growth, while the manufacturing sector PMI has declined slightly into contractionary territory. Retail sales in April increased strongly in annual terms, but this increase mainly reflects a low comparison base owing to widespread lockdowns in Shanghai last year. Growth momentum in retail sales decelerated and high-frequency data suggest that this trend continued in May. Following signs of a nascent recovery, housing market activity has taken a step back. In particular, housing investment declined significantly and housing sales, which had nearly stopped declining in year-on-year terms by March, contracted again. The continued weakness of the housing market remains a drag on the economy. Growth in house prices slowed in April, holding back consumer confidence. Annual headline CPI inflation slowed to 0.1% in April, the lowest reading in nearly two years, driven by sharp declines in the food and energy components. Core inflation (excluding food and energy) remained stable at 0.7%.

In Japan, economic activity is expected to continue to expand at a moderate pace, supported by pent-up demand and ongoing policy support. Real GDP grew in the first quarter of 2023, reflecting reopening dynamics, and is expected to continue to increase at a moderate pace. The services sector PMI rose further to very high levels in May, with companies citing waning coronavirus (COVID-19)-related disruptions and the resumption of domestic and foreign tourism as key factors behind the strong growth momentum in the sector, whereas manufacturing activity remains subdued. Inflation remained relatively high in April, and headline CPI inflation increased to 3.5%. Core CPI inflation (excluding food and energy) also continued to rise and stood at 2.5%. The latest indicators on the annual spring wage

negotiations continue to point to significant wage increases relative to historical averages.

In the United Kingdom, the economy is set to avoid a recession in 2023, in spite of continuing growth headwinds. These relate to still high consumer price inflation weighing on disposable incomes, rising borrowing costs and the correction in the housing market. While the growth outlook in the near term is less adverse than previously expected, economic activity is expected to move sideways. Headline CPI inflation peaked in the fourth quarter of 2022 and was revised significantly downward for this year compared to the March 2023 projections owing to the extension of the energy price guarantee embedded in the Spring Budget. Nonetheless, headline inflation is expected to remain high as tight labour markets and strong wage pressures contribute to persistence in domestic inflation.

2 Economic activity

The euro area economy has stagnated in recent months. As in the fourth quarter of last year, it shrank by 0.1% in the first quarter of 2023 amid a drop in private and public consumption. Economic growth is likely to remain weak in the short run but strengthen in the course of the year as inflation comes down and supply disruptions continue to ease. Conditions in different sectors of the economy are uneven: manufacturing continues to weaken, partly owing to lower global demand and tighter euro area financing conditions, while services remain resilient. The labour market remains a source of strength. Almost a million new jobs were added in the first quarter of the year and the unemployment rate stood at a historical low of 6.5% in April. The average number of hours worked has also increased, although it is still somewhat below its pre-pandemic level.

This outlook is broadly reflected in the June 2023 Eurosystem staff macroeconomic projections for the euro area, which foresee annual real GDP growth slowing down to 0.9% this year before rebounding to 1.5% in 2024 and to 1.6% in 2025. Compared with the March 2023 ECB staff macroeconomic projections, the outlook for growth is revised down by 0.1 percentage points in 2023 and 2024, while it remains unrevised for 2025. The outlook for economic growth remains highly uncertain.

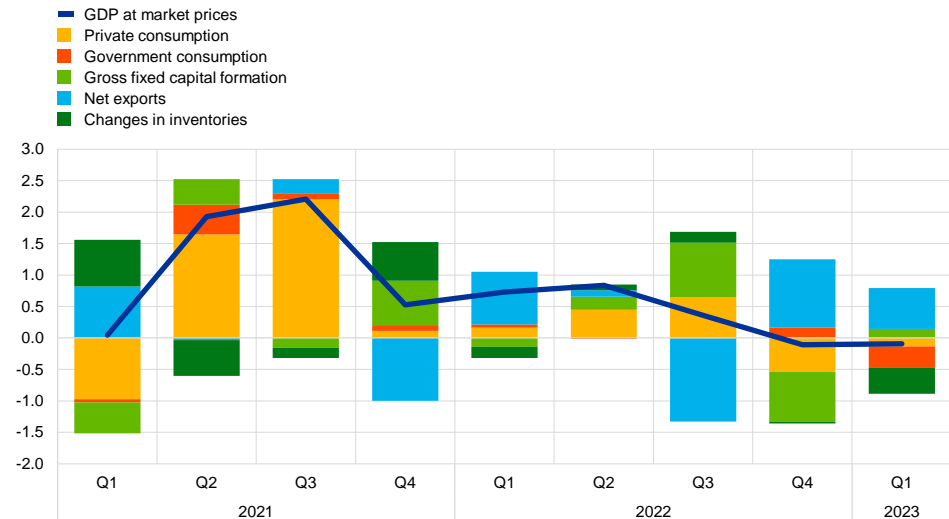
The euro area economy contracted slightly in the first quarter of 2023.

According to revised Eurostat data, euro area real GDP declined by 0.1% in the first quarter of 2023, following an equal decline in the final quarter of 2022. This is despite real GDP being supported by lower energy prices, the easing of supply bottlenecks and fiscal policy. The expenditure breakdown shows positive contributions from net trade and investment (Chart 4). However, this was offset by negative contributions from private and public consumption and from changes in inventories. Quarter on quarter, GDP increased by 0.6% in Italy, 0.5% in Spain and 0.2% in France, while it declined by 0.3% in Germany and 0.7% in the Netherlands. The weak euro area outcome is also partly explained by a particularly strong decline in Irish GDP (-4.6%), which is again related to developments in the multinational-dominated sectors. Gross value added rose by 0.2% in the first quarter, reflecting a robust rise in output in construction as well as services, alongside a decline for value added in industry. The relatively large difference between GDP and value-added growth was due to a pronounced decline in net taxes on products, largely stemming from rising energy subsidies.

Chart 4

Euro area real GDP and its components

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



Sources: Eurostat and ECB calculations.

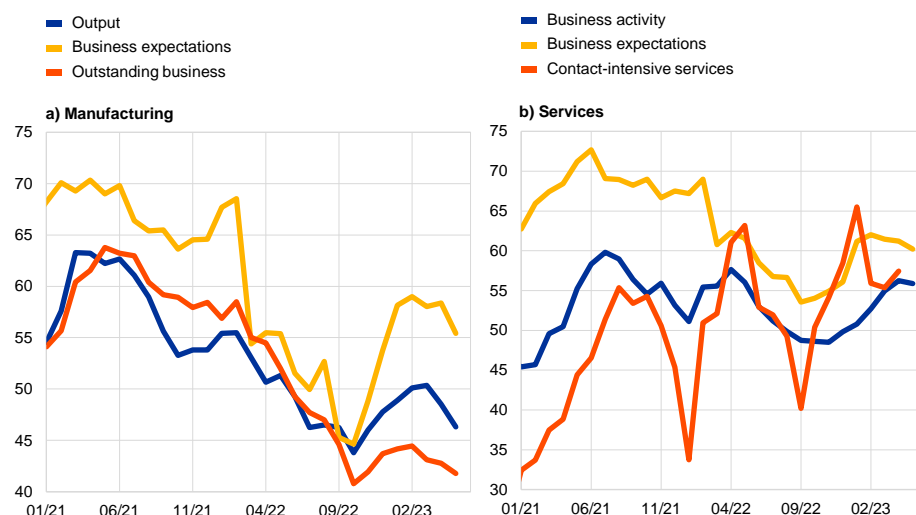
Note: The latest observations are for the first quarter of 2023.

Euro area output is expected to display a moderate rise in the second quarter of 2023, mainly driven by the services sector. Incoming survey data suggest that the euro area economy may have modestly expanded in the second quarter of the year. The composite output Purchasing Managers' Index (PMI) for the euro area stood at 52.8 in May, which is above its first quarter outcome and its long-term average. However, this growth signal masks a two-speed recovery. The manufacturing output index, which has declined for two consecutive months, stood at 46.4 in May, indicating that output may fall further (Chart 5, panel a). The latest PMI results also point to falling expectations with respect to future production and a falling backlog of orders. At the same time, the services business activity index stood at 55.1, up from 52.8 in the first quarter and indicative of a continued expansion (Chart 5, panel b). This improvement is partly explained by the rebound in demand for contact-intensive services after the easing of COVID-19-related restrictions. New orders are also rising in the sector, as are expectations for continued growth, albeit at a declining speed.

Chart 5

PMI indicators across sectors of the economy

(diffusion indices)



Source: S&P Global.

Note: The latest observations are for April 2023 for contact-intensive services and May 2023 for all other items.

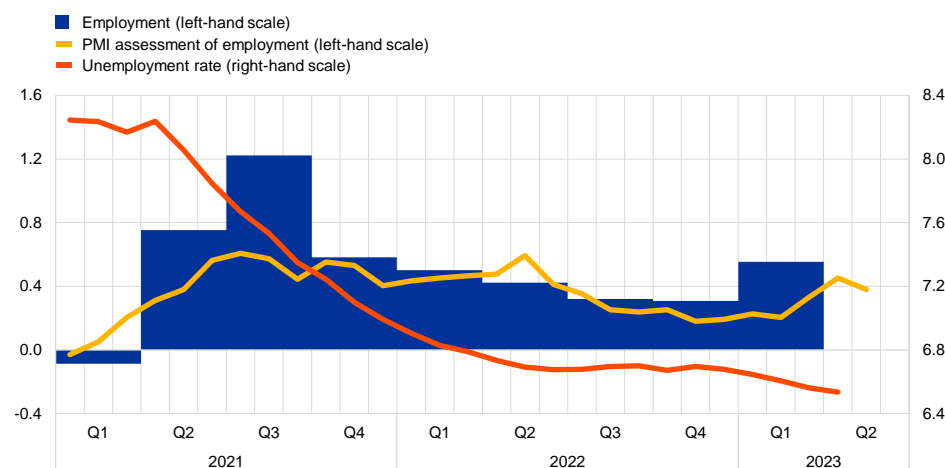
The labour market continued to expand in the first quarter of 2023 and remained resilient despite the decline in GDP.

Employment and total hours worked increased by 0.6% in the first quarter of 2023. Since the fourth quarter of 2019 employment has increased by 2.9% and total hours worked has risen by 1.5% (Chart 6). This implies a 1.6% decline in average hours worked. This decline is partly related to strong employment creation in the public sector, which generally exhibits lower average hours worked compared with the total economy and elevated levels of sick leave. The labour force has continued to grow, remaining the main source of employment creation. Following very small increments of decline in recent quarters, the unemployment rate was at 6.5% in April, down by 0.2 percentage points since April 2022. Labour demand remains strong, with the job vacancy rate broadly stable at 3.0%, close to the highest level since the start of the series.

Chart 6

Euro area employment, the PMI assessment of employment and the 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 divided by 10. The latest observations are for the first quarter of 2023 for employment, May 2023 for the PMI assessment of employment and April 2023 for the unemployment rate.

Short-term labour market indicators point to continued employment growth in the second quarter of 2023.

The monthly composite PMI employment indicator declined from 54.5 in April to 53.8 in May, but remains significantly above the threshold of 50 that indicates an expansion in employment. This indicator has been in expansionary territory since February 2021, with a peak in May 2022. The overall deceleration suggests a moderation in employment growth. Looking at developments across different sectors, the indicator points to continued employment growth in the industry sector and especially the services sector, and to a slight decrease in the construction sector.

Private consumption contracted in the first quarter of 2023 amid a drop in spending on goods.

Inflation remaining elevated and lingering uncertainty continued to dampen disposable income and encourage saving at the start of 2023. Against this background, private consumption contracted by 0.3% in the first quarter, driven by a decline in spending on goods (Chart 7, panel a). Quarter on quarter, retail sales fell by 0.2% in the first quarter of 2023 and stagnated in April 2023, while new passenger car registrations fell by 3.8% in the first three months of 2023, followed by a further monthly decline of 1.1% in April. In contrast, household consumption of services increased, still benefiting from lingering reopening effects.

Incoming data provide signs of a modest recovery in consumer spending.

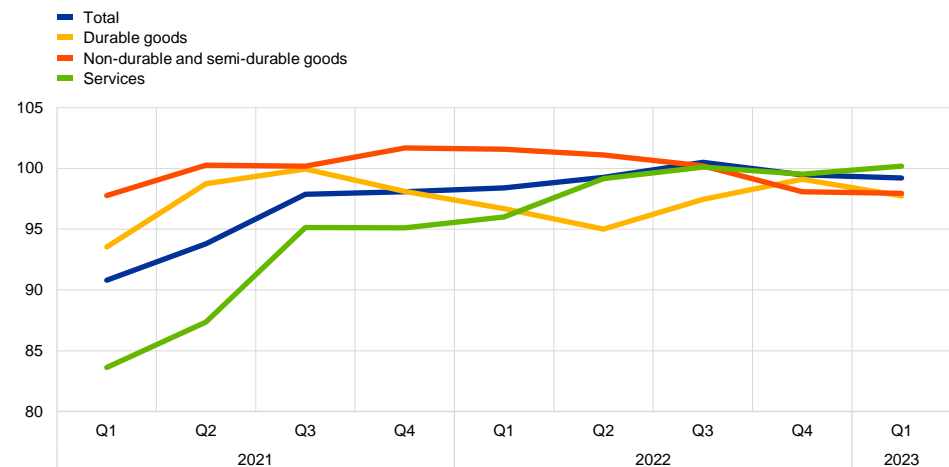
The European Commission's consumer confidence indicator recovered in April, supported mainly by improving expectations about the general economic outlook and households' own financial situations. However, it flattened in May, remaining at a low level. The outlook for consumer services remains stronger than that for goods, with the Commission's indicator of expected demand for contact-intensive services remaining above its historical average level in April and May, despite a slight decline.

In contrast, expected major purchases by consumers and expected retail trade business activity deteriorated in May and remained below historical averages (Chart 7, panel b). In a similar manner, the ECB's Consumer Expectations Survey (CES) from April points to an increase in expected holiday bookings but no change in expected purchases of home appliances, the latter remaining at a low level and confirming an on-going dichotomy between the demand for services and the demand for goods. The transmission of tighter financing conditions to the real economy would likely curb household borrowing, increase savings and dampen consumer spending. The latest CES evidence suggests that an increasing share of households with an adjustable-rate mortgage expect to be late in repaying their debt.

Chart 7
Real private consumption indicators

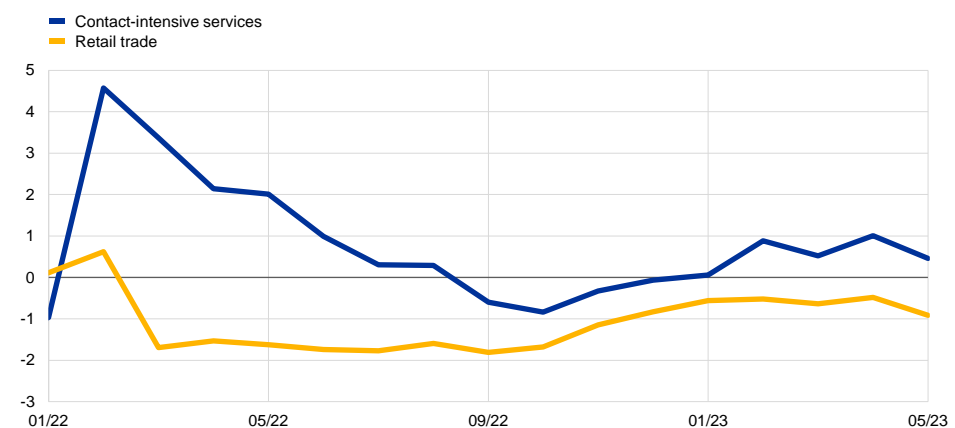
a) Real private consumption components

(indices: fourth quarter of 2019 = 100)



b) Firms' expectations about demand and business activity

(standardised percentage balances)

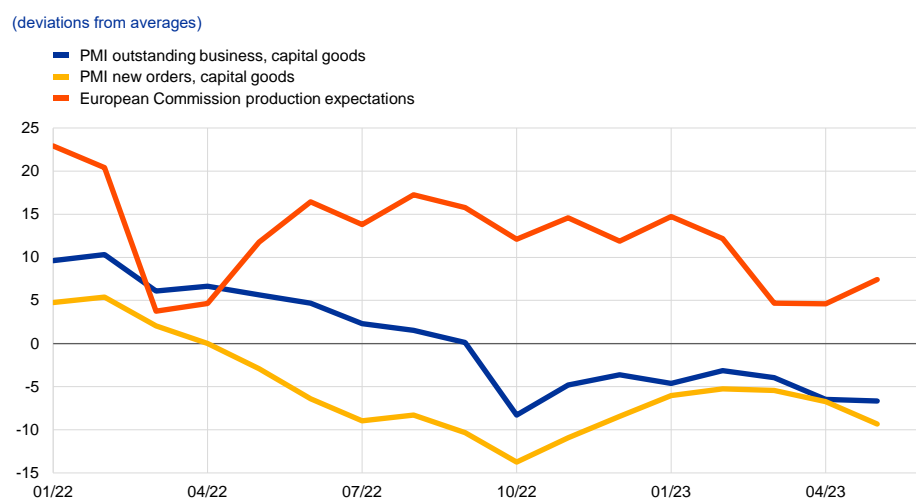


Sources: Eurostat, European Commission (Directorate-General for Economic and Financial Affairs) and ECB calculations.
Notes: For panel b) expected demand for contact-intensive services in the next three months is standardised over the period 2005-19, while expected retail trade business situation in the next three months is standardised over the period 1985-2019. The latest observations are for the first quarter of 2023 for panel a) and for May 2023 for panel b).

Business investment edged upward in early 2023, following a contraction in the fourth quarter of 2022. Quarter-on-quarter headline non-construction

investment increased by 0.1% in the first quarter of 2023. This figure would, however, be higher if the volatile contribution from intangible investment in Ireland were excluded. Business investment is expected to have weakened in the current quarter. The production of capital goods declined strongly in March, implying a negative carry-over effect for the second quarter. Order books, manufacturing confidence, outstanding business and production expectations in the capital goods sector declined overall in the second quarter (Chart 8). A new index of corporate earnings sentiment based on earnings calls of large euro area companies shows that, despite experiencing a decline from the high values of the past years, corporate profits are still relatively robust.² This should mitigate the increasing effect of the rising cost of borrowing and tightening credit standards on corporate investment. The European Commission’s biannual investment survey, which was released on 27 April 2023, suggests an improvement in the balance of views (positive replies minus negative replies) compared with the October 2022 survey. The survey’s results imply positive growth in investment plans for 2023, both in the manufacturing sector and services sector. The highest balances are registered for service sectors such as telecommunications and infrastructure, which are characterised by longer-term investment needs related to digitalisation or the energy transition and are supported by the Next Generation EU programme. The survey also points to a broad-based expansion in both machinery and intangible investment that may still occur this year.

Chart 8
Short-term indicators for the capital goods sector



Sources: Markit, European Commission and ECB calculations.
Notes: The PMI indicators are shown as deviations from the no-growth threshold of 50. The production expectations indicator of the European Commission is calculated as a deviation from its long-term average. The latest observations are for May 2023.

Housing investment increased in the first quarter of 2023 but is expected to contract again in the near term. Quarter on quarter, housing investment increased by 1.3% in the first quarter of 2023 following a 1.6% drop in the fourth quarter of 2022. This increase was likely due to favourable weather conditions, combined with companies’ healthy order backlog. The latter is reflected in the fact that the operating

² See the box entitled “Earnings calls: New evidence on corporate profits, investment and financing conditions” in this issue of the Economic Bulletin.

time required by the current backlog remained close to its historic high between January and April according to the European Commission's quarterly survey. Building construction output increased significantly on average in the first quarter, but fell sharply in March, suggesting a weak starting point for the second quarter of 2023. Moreover, the Commission's indicator of building construction activity over the past three months declined markedly on average in April and May compared with the first quarter average. In addition, the PMI for residential construction fell further into contractionary territory. As demand is dwindling, bottlenecks on the supply side, such as material shortages and longer delivery times, are decreasing significantly, with the number of residential real estate transactions having fallen by double-digit year-over-year rates in many countries in the fourth quarter of 2022. Sentiment, as measured by the Commission's quarterly survey of households' intentions to renovate, buy or build a house, improved slightly from January to April, but it is still depressed. The decline in demand is due to the rise in mortgage rates, which, together with lower real income and high house prices, affects affordability. This is also reflected in the significant decline in demand for housing loans.

Euro area export volumes growth continued to be subdued in the first quarter of the year due to weakening global demand. Extra-euro area goods exports fell moderately in the first quarter as global foreign demand weakened. Manufacturing exports were supported by easing supply bottlenecks, whereas lingering effects from the energy supply shock and the appreciation of the euro have contributed to export weakness. Exports of services bolstered total euro area exports. Euro area imports decreased sharply in the first quarter, reflecting a slowdown in domestic demand and lower energy imports amid a mild winter and filled stores. With import volumes contracting, net trade contributed positively to GDP growth in the first quarter despite subdued export growth. The euro area terms of trade continued to improve as energy import prices decreased further, which contributed to an expeditious return of the current account into surplus in the first quarter of 2023. Forward-looking indicators point to continued near-term weakness in euro area export volumes. Suppliers' delivery times continued to shorten in May, and export performance should be supported in the short term by the drawdown of existing order books that are still elevated in some key industries. However, new manufacturing export orders fell back further into contractionary territory, indicating a continued sluggish demand for euro area goods exports. At the same time, the increase in new orders for services exports points to positive momentum in that sector, with strong activity in travel and transport as well as other tradable services, such as information and communication technology.

Beyond the near term, GDP growth is expected to gradually strengthen. The economy is expected to return to growth in the coming quarters as energy prices moderate, foreign demand strengthens, supply bottlenecks are resolved and uncertainty – including that related to the recent banking sector stress – continues to recede. Furthermore, real incomes are set to improve, underpinned by a robust labour market and unemployment hitting new historical lows. Although the ECB's monetary policy tightening will increasingly feed through to the real economy, the dampening effects from tighter credit supply conditions are expected to be limited.

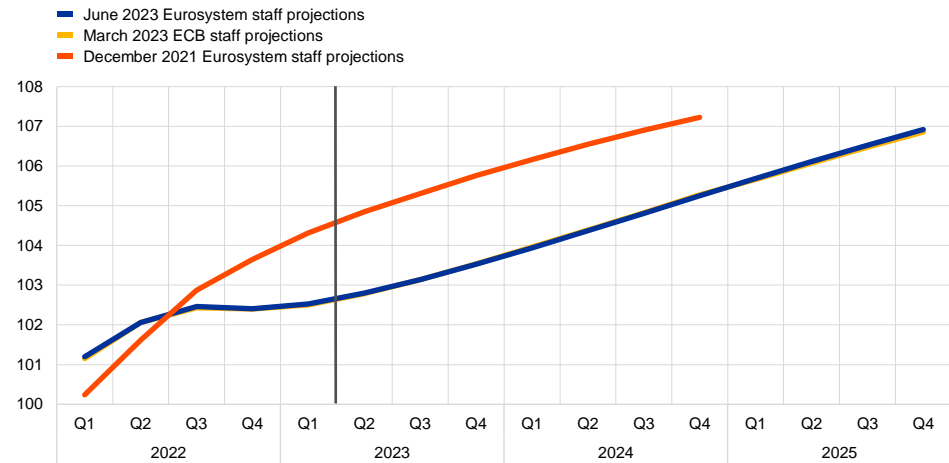
Together with the gradual withdrawal of fiscal support, this will weigh on economic growth in the medium term.

The June 2023 Eurosystem staff macroeconomic projections for the euro area foresee annual real GDP growth slowing down to 0.9% in 2023 (from 3.5% in 2022), before rebounding to 1.5% in 2024 and 1.6% in 2025 (Chart 9). Compared with the March 2023 ECB staff projections, the outlook for GDP growth has been revised down by 0.1 percentage points for 2023 and 2024, primarily reflecting tighter financing conditions. Projected GDP growth in 2025 remains unchanged, as the effects of tighter financing conditions are expected to be partly offset by the effects of higher real disposable income and lower uncertainty.

Chart 9

Euro area real GDP (including projections)

(index: fourth quarter of 2019 = 100; seasonally and working day-adjusted quarterly data)



Sources: Eurostat and the June 2023 Eurosystem staff macroeconomic projections for the euro area.
 Note: The vertical line indicates the start of the June 2023 Eurosystem staff macroeconomic projections.

3 Prices and costs

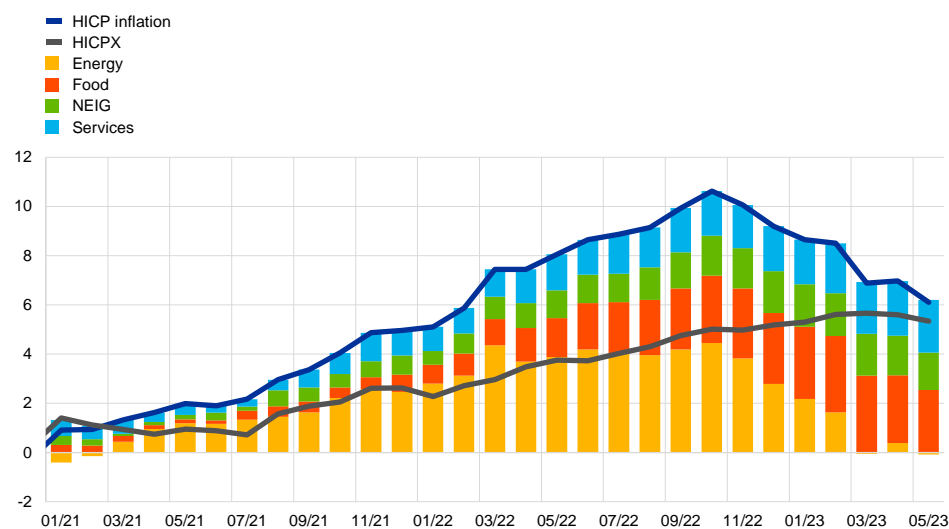
According to Eurostat's flash estimate, inflation was 6.1% in May 2023, resuming its downward path which started in October 2022. All the main subcomponents – energy, food, non-energy industrial goods (NEIG) and services – contributed to the decline in headline inflation. Price pressures remained strong, but some showed tentative signs of easing, with the effects of high energy costs, supply bottlenecks and the reopening of the economy slowly fading out. Wage pressures have become an increasingly important source of inflation, while profits remained relatively high in sectors with supply-demand imbalances. The latest available data for indicators of underlying inflation showed tentative signs of levelling off, but they still stand at elevated levels. Although most measures of longer-term inflation expectations continued to stand at around 2%, some indicators remained elevated and warrant continued monitoring. The June 2023 Eurosystem staff macroeconomic projections foresee headline inflation continuing its downward path, averaging 5.4% in 2023, 3.0% in 2024 and 2.2% in 2025.

According to Eurostat's flash estimate, HICP inflation declined to 6.1% in May, resuming its earlier unwinding after the small uptick to 7.0% in April, which reflected an upward base effect in energy inflation (Chart 10). The decline in May was driven by lower inflation rates across all the main HICP subcomponents (energy, food, NEIG and services). Energy inflation decreased to -1.7% in May, thus resuming its downward trend after rising to 2.4% in April from -0.9% in March. The overall decrease in energy inflation over recent months has been linked to falling wholesale gas and electricity prices. Food inflation declined further, falling from 13.5% in April to 12.5% in May, as a result of lower rates for both unprocessed and processed food components. This is in line with moderating pipeline price pressures, as the indirect effects of energy and other cost shocks unwind. HICP inflation excluding energy and food (HICPX) stood at 5.3%, down from 5.6% in April, thus showing a decrease for the second consecutive month. This decrease stemmed from lower inflation rates for both services and NEIG. The latter declined further to 5.8% in May, compared with 6.2% in April, likely reflecting to a large extent the easing of the past upward pressures from supply bottlenecks and energy cost shocks. This decrease potentially also reflects a post-pandemic rotation in demand from goods to services. Services inflation also decreased slightly from 5.2% in April to 5.0% in May.

Chart 10

Headline inflation and its main components

(annual percentage changes; percentage point contributions)



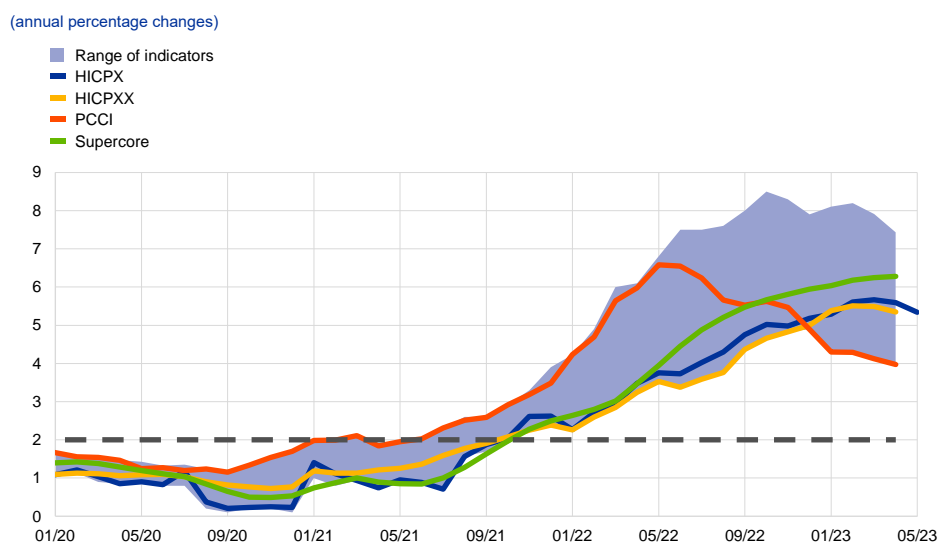
Sources: Eurostat and ECB calculations.

Note: The latest observations are for May 2023 (flash estimates).

Most indicators of underlying inflation in the euro area show tentative signs of levelling off, although they still stand at elevated levels and uncertainty remains high (Chart 11).

According to the latest available data, most indicators of underlying inflation displayed a small decline in their annual growth rates in April. Moreover, HICPX inflation saw a further decline to 5.3% in May (flash release), supporting the expectation of an emerging downward path for core inflation. Compared with the previous month, the only underlying inflation indicators which still rose in April were the Supercore indicator (which comprises HICP items sensitive to the business cycle) and the domestic inflation indicator (which excludes items with a high import content). This points to the prevalence of some more persistent domestic price pressures. Together with some lagged pass-through of previous shocks in energy costs and supply chains, underlying inflation rates have thus remained elevated. The range of monitored indicators narrowed in April but remained wide by historical standards, signalling that heightened uncertainty remains.

Chart 11
Indicators of underlying inflation



Sources: Eurostat and ECB calculations.

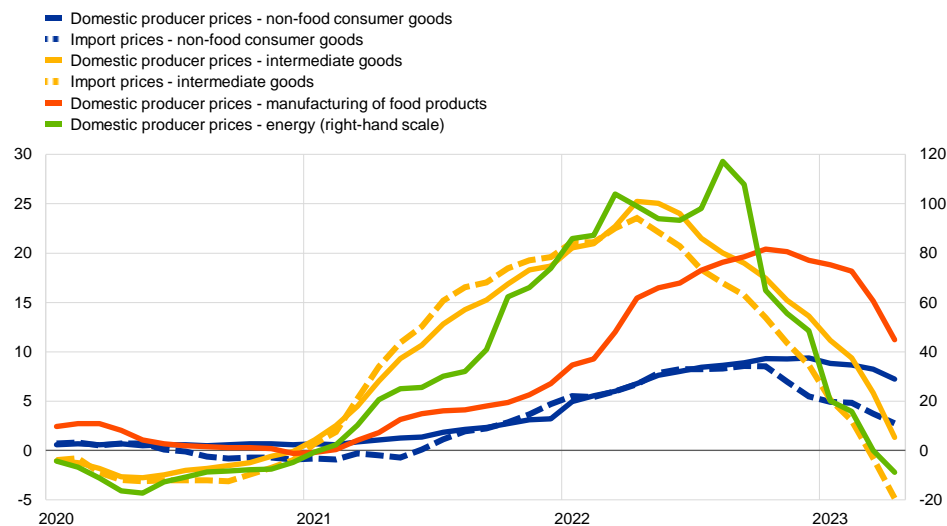
Notes: The range of indicators of underlying inflation includes HICP excluding energy, HICP excluding energy and unprocessed food, HICPX, HICPXX, 10% and 30% trimmed means, PCCI and a weighted median. The grey dashed line represents the ECB's inflation target of 2% over the medium term. The latest observations relate to May 2023 (flash estimate) for HICPX and to April 2023 for the other indicators.

Pipeline pressures continued to ease but some indicators remain at historically high rates, especially at the later stages of the pricing chain (Chart 12).

At the early stages of the pricing chain, price pressures continued to decrease substantially in April, with domestic producer price inflation for intermediate goods declining to 1.3% from 5.8% in March. The annual growth rate of import prices for intermediate goods became more negative, falling from -0.8% in March to -4.8% in April, owing in part to the appreciation of the euro exchange rate in autumn 2022. The waning impact of the energy price shocks was also reflected in producer price inflation for energy, which entered negative territory in April. Looking at the later stages of the pricing chain, domestic producer price inflation for non-food consumer goods edged down further, from 8.2% in March to 7.2% in April. However, it continues to stand at remarkably high levels. Over the same period, the annual growth rate in import prices for non-food consumer goods declined to 2.8% from 3.7%. The continued easing of pipeline pressures suggests that the cumulative effect of past price shocks is fading. The annual growth rate in producer prices for food products also declined, with domestic producer price inflation at 11.2% in April and the equivalent series for import prices at 3.5%.

Chart 12**Indicators of pipeline pressures**

(annual percentage changes)



Sources: Eurostat and ECB calculations.

Note: The latest observations are for April 2023.

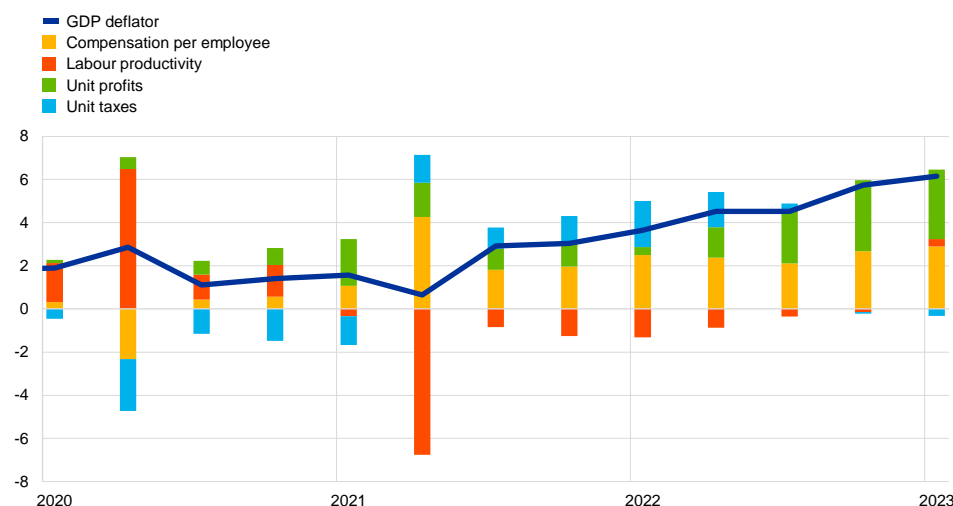
Domestic cost pressures, as measured by the GDP deflator, continued to increase in the first quarter of 2023 as a result of rising unit labour costs and unit profits (Chart 13).

The year-on-year growth rate of the GDP deflator increased to 6.2% in the first quarter of 2023, compared with 5.8% in the fourth quarter of 2022, thus surpassing HICPX inflation. Unit profits and unit labour costs each contributed to around half of the total growth rate of the GDP deflator, whereas unit taxes had a minor downward impact. The contribution of unit profits to the GDP deflator remained high from a historical perspective.³ This implies that the supply-demand imbalances in some sectors have not fully faded yet and that firms have benefited from a favourable pricing environment in which increases in input prices could be passed through to selling prices. The increase in unit labour costs growth stemmed mainly from a decline in labour productivity, which fell from 0.3% in the final quarter of 2022 to -0.6% in the first quarter of 2023. There was also a positive contribution from the increase in compensation per employee growth, which rose from 4.8% to 5.2% over the same period. A strengthening in wage pressures is also observed in the growth rate of negotiated wages, which increased by 4.3% in the first quarter of 2023, compared with 3.1% in the previous quarter. Moreover, forward-looking information from recently concluded wage negotiations suggests that nominal wage pressures remain strong, especially when also considering the one-off payments which were prevalent in recent agreements in some euro area countries.

³ See the box entitled “How have unit profits contributed to the recent strengthening of euro area domestic price pressures?” in this issue of the Economic Bulletin.

Chart 13**Breakdown of the GDP deflator**

(annual percentage changes; percentage point contributions)



Sources: Eurostat and ECB calculations.

Notes: The latest observations are for the first quarter of 2023. Compensation per employee and labour productivity both contribute to changes in unit labour costs.

Most survey-based indicators of longer-term inflation expectations in the euro area remain at around 2%, while market-based measures of inflation compensation have slightly increased.

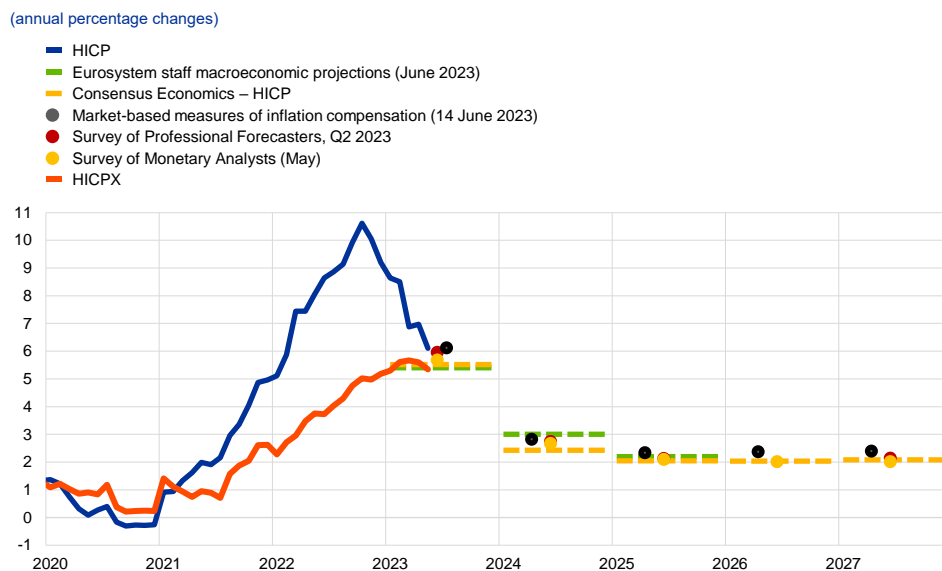
Survey-based indicators of longer-term inflation expectations by professional forecasters continue to stand at around the ECB's 2% target. In the ECB Survey of Professional Forecasters for the second quarter of 2023, average longer-term inflation expectations (which relate to 2027) were unchanged at 2.1%, while the ECB Survey of Monetary Analysts for May 2023 gave longer-term expectations of 2.0%, unchanged from the March release. Market-based measures of inflation compensation (based on HICP excluding tobacco) increased slightly across all maturities over the review period, which ended in mid-June, amid market participants' increased focus on whether there is evidence for the persistence of core inflation in the euro area and elsewhere. Lower than expected data for euro area core and headline inflation released at the end of May did not materially change this pricing in forward markets. At the short end, the one-year forward inflation-linked swap rate one year ahead stood at 2.3% in mid-June, 15 basis points higher than at the beginning of the review period in mid-March. At the long end, the five-year forward inflation-linked swap rate five years ahead also ended the review period almost 15 basis points higher and is hovering at 2.5%. However, it should be noted that market-based measures of inflation compensation are not a direct gauge of market participants' genuine inflation expectations, given that these measures also include inflation risk premia which compensate for inflation risks. On the consumer side, the latest ECB Consumer Expectations Survey (April 2023) reports that median expectations for headline inflation three years ahead decreased significantly to 2.5% from 2.9%, while median one-year ahead expectations declined to 4.1% from 5.0%.⁴ As a result, the increase in three-year inflation expectations observed in March has been broadly reversed, indicating that this temporary uptick

⁴ See "ECB Consumer Expectations Survey results – April 2023", *press release*, ECB, 6 June 2023.

could be attributed to uncertainties and concerns about financial market turmoil in Europe.

Chart 14

Survey-based indicators of inflation expectations and market-based measures of inflation compensation



Sources: Eurostat, Refinitiv, Consensus Economics, Survey of Professional Forecasters, Eurosystem staff macroeconomic projections for the euro area, June 2023, and ECB calculations.

Notes: The market-based measures of inflation compensation series is based on the one-year spot inflation rate, the one-year forward rate one year ahead, the one-year forward rate two years ahead and the one-year forward rate three years ahead. The observations for market-based measures of inflation compensation relate to 14 June 2023. The ECB Survey of Professional Forecasters for the second quarter of 2023 was conducted between 31 March and 5 April 2023. The cut-off date for the Consensus Economics long-term forecasts was April 2023, and May 2023 for the near-term forecasts (2023 and 2024). The cut-off date for data included in the Eurosystem staff macroeconomic projections was 31 May 2023. The latest observation for HICP relates to May 2023 (flash estimate).

The June 2023 Eurosystem staff macroeconomic projections envisage headline inflation continuing its downward path, averaging 5.4% in 2023, 3.0% in 2024 and 2.2% in 2025 (Chart 15).

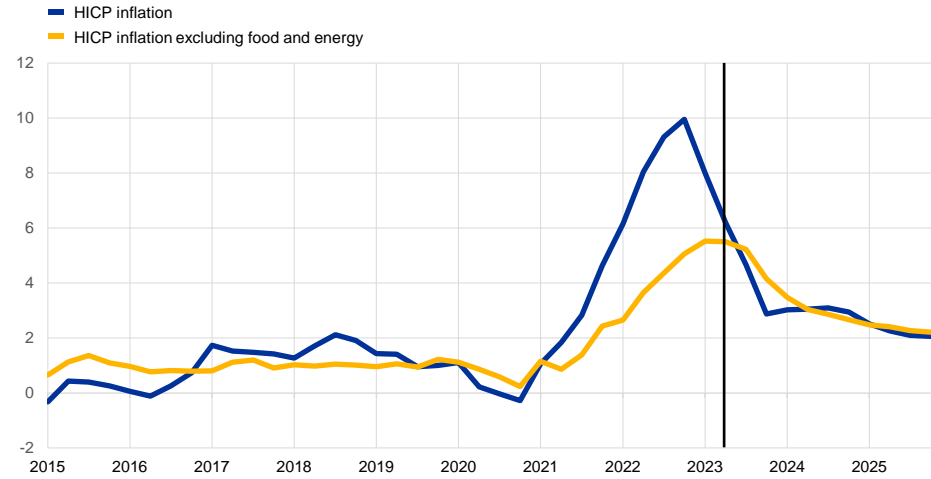
Headline inflation has come down since October last year, although it is proving more persistent than previously anticipated, despite initial signs of easing underlying price pressures. Energy inflation is expected to become increasingly negative in 2023 as energy commodity prices continue to decline, and food inflation is expected to moderate. Together with easing supply bottlenecks, these factors are expected to drive headline inflation further down to 3.0% in the last quarter of 2023. Inflation is expected to hover around this level in 2024 when fiscal measures are expected to unwind, before gradually falling further in 2025. HICPX will gradually moderate in the course of 2023, averaging 5.1% in 2023, 3.0% in 2024 and 2.3% in 2025. The receding impact of pipeline pressures is expected to outweigh a strengthening of labour cost pressure, as wage growth remains above historical averages as a result of compensation for the loss in purchasing power and tight labour markets. A contraction of unit profits is expected to somewhat buffer stronger labour cost dynamics. Over the course of the projections horizon, the fading of the indirect effects of energy prices, easing supply bottlenecks and the dampening impact of monetary policy should all contribute to bringing inflation down. Compared with the March 2023 staff projections, the profile of headline inflation has remained broadly the same, with an upward revision of 0.1

percentage point in each year. HICPX has been revised up, owing to past upward surprises and pressure from unit labour costs growth.

Chart 15

Euro area HICP and HICPX inflation

(annual percentage changes)



Sources: Eurostat and [Eurosysteem staff macroeconomic projections for the euro area](#) (June 2023).

Notes: HICP stands for Harmonised Index of Consumer Prices. HICPX stands for HICP inflation excluding energy and food. The vertical line indicates the start of the projection horizon. The latest observations are for the first quarter of 2023 for the data and the fourth quarter of 2025 for the projections. The June 2023 Eurosysteem staff macroeconomic projections for the euro area were finalised at the end of May and the cut-off date for the technical assumptions was 23 May 2023. Historical data for HICP and HICPX inflation are at quarterly frequency. Forecast data are at quarterly frequency for HICP inflation and annual frequency for HICPX inflation.

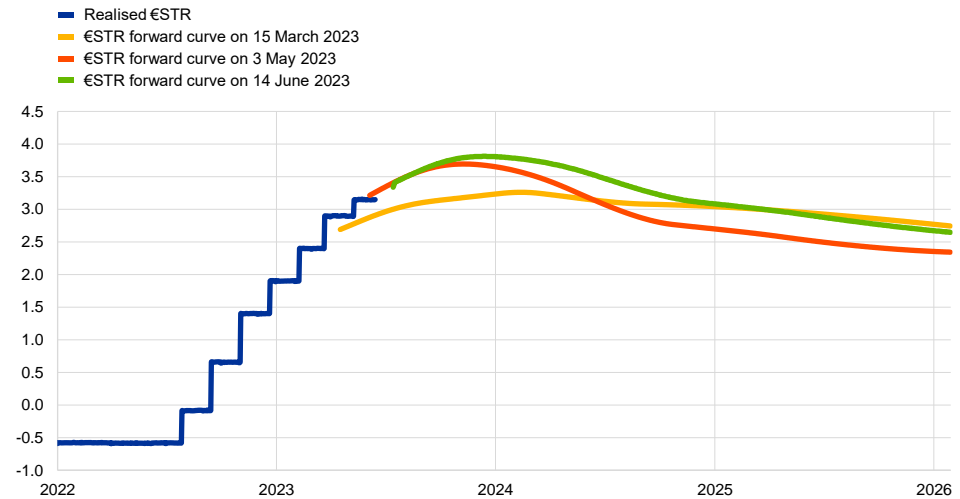
4 Financial market developments

During the review period (16 March to 14 June 2023) financial markets in the euro area stabilised following the banking sector turmoil in the United States and Switzerland in early March. As concerns about the economic impact of the turmoil gradually abated, market participants reappraised their expectations regarding higher policy rates, volatility receded, equities recovered and corporate bond spreads narrowed. At the end of May risk-free rates declined slightly across all maturities, partly owing to lower than expected core and headline inflation in the euro area. Overall, the euro short-term rate (€STR) forward curve rose at the very short end, peaking at around 3.8% by the end of the review period in mid-June – although this level was still lower than in early March before the onset of the banking turmoil. Euro area long-term risk-free rates only partially mirrored the increases in their US and UK counterparts and stabilised slightly higher than in mid-March. Sovereign bond markets were broadly insulated from events in the banking sector, and spreads did not react to the Governing Council’s announcement at its May meeting that it expected to discontinue reinvestments under the asset purchase programme (APP) as of July 2023. Euro area aggregate equity price indices increased to a lesser extent than in the United States over the review period, while the euro area banking sector outperformed its US counterpart. Spillovers to the euro area from financial market volatility in the United States related to the political uncertainty about the US debt ceiling were largely contained. Finally, in foreign exchange markets, the euro appreciated in trade-weighted terms.

The overnight index swap (OIS) forward curve rose at the very short end and the €STR forward curve peaked at around 3.8% (Chart 16). The benchmark €STR closely followed the changes in the deposit facility rate, which the Governing Council raised by 50 basis points (from 2.5% to 3%) at its monetary policy meeting on 16 March 2023 and by 25 basis points (from 3% to 3.25%) at its meeting on 4 May. At the beginning of March the OIS forward curve based on the €STR was pricing in a peak rate of 4% by December 2023, which then declined to 3.3% by October 2023, on the back of growing concerns among market participants about the banking sector turmoil. In the second half of March the Governing Council decision to increase the deposit facility rate and its clear communication about the resilience of the euro area banking sector led market participants to revise their monetary policy expectations upwards. The Governing Council’s rate decision in May did not have a significant impact on the policy rate path that market participants had priced in the OIS forward curve. However, lower than expected data releases for euro area core and headline inflation at the end of May slightly dampened policy rate expectations. Over the review period as a whole the OIS forward curve rose at the very short end and priced in a peak rate of 3.8% for October 2023. Compared with the OIS forward curve prevailing before the Governing Council meeting in May, the mid-June forward curve shows a similar peak, but a more moderate decline in forward rates thereafter.

Chart 16
€STR forward rates

(percentages per annum)



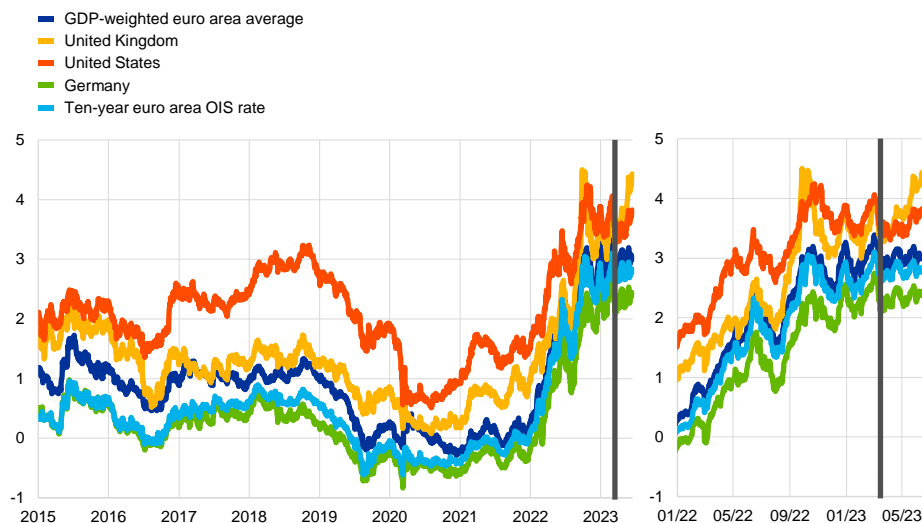
Sources: Thomson Reuters and ECB calculations.
 Note: The forward curve is estimated using spot OIS (€STR) rates.

Euro area long-term risk-free rates only partially mirrored the increases in their US and UK counterparts and stabilised slightly higher than at the beginning of the review period in mid-March (Chart 17). Long-term risk-free rates in the euro area declined notably at the start of the review period as financial market participants reappraised their policy rate expectations in the aftermath of the banking turmoil. The ten-year GDP-weighted euro area sovereign bond yield stood at 3% in mid-March. From there, it fluctuated in a range of around 40 basis points, ending the review period in mid-June 10 basis points higher, at 3.1%, in particular contrast to the marked rise in UK long-term risk-free rates. The debate surrounding the US debt ceiling, on which an agreement was passed by the House of Representatives on 31 May, together with improved risk sentiment and the Bank of England's ongoing tightening stance, were the main drivers of the stronger increase in US and UK ten-year government bond yields, which rose by 20 basis points and 100 basis points respectively, to reach 3.8% and 4.4% in mid-June.

Chart 17

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

(percentages per annum)



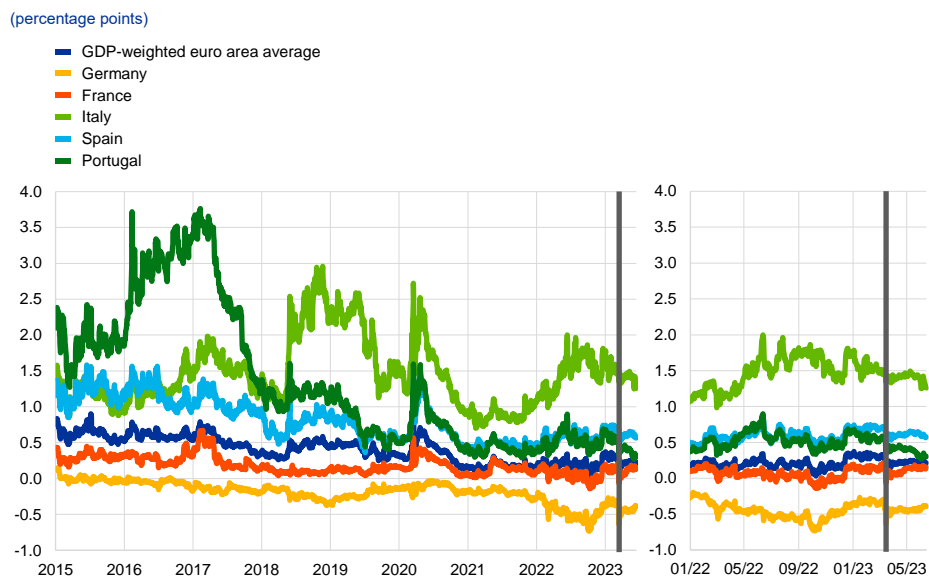
Sources: Refinitiv and ECB calculations.

Notes: The vertical grey line denotes the start of the review period on 16 March 2023. The latest observations are for 14 June 2023.

Euro area sovereign bond yields moved broadly in line with developments in risk-free rates as sovereign spreads remained insulated from concerns over the banking sector (Chart 18). The GDP-weighted euro area average sovereign bond spread over the OIS rate based on the €STR increased only slightly over the review period, echoing sovereign bond spreads, which remained broadly stable in most jurisdictions. The main driver of the upward movement was the German ten-year sovereign bond spread, which increased by 12 basis points to become less negative, in part reflecting a reversal of the flight-to-safety flows sparked by the banking sector turmoil. The Governing Council's announcement in May that it expected to discontinue reinvestments under the APP as of July 2023 did not prompt any visible widening of spreads. A notable movement during the review period was the decline in the Greek sovereign bond spread following the first round of parliamentary elections on 21 May. This strengthened market participants' expectations of a possible upgrade to investment grade in the coming months. The Greek ten-year sovereign bond spread fell by 60 basis points over the review period.

Chart 18

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



Corporate bond spreads narrowed on the back of improved risk sentiment.

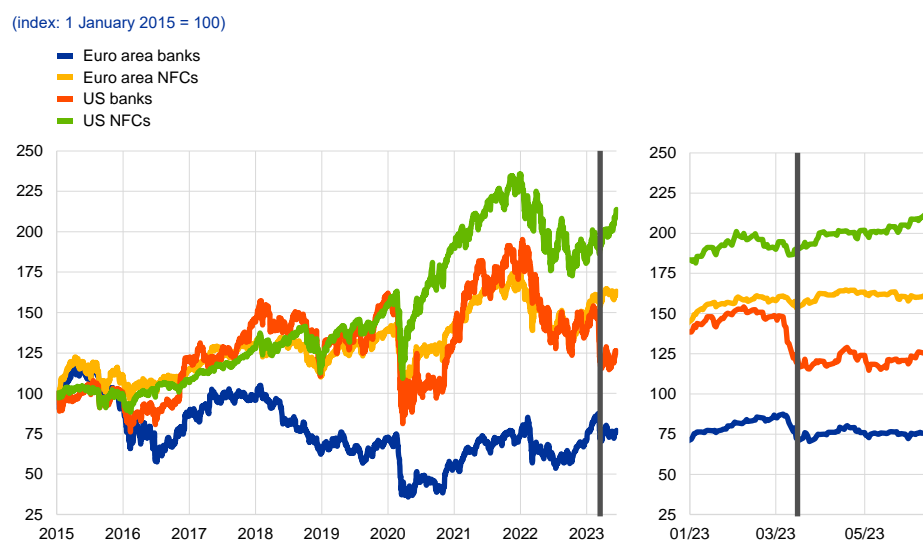
Spreads on high-yield and investment-grade corporate bonds narrowed by 77 basis points and 13 basis points respectively, almost correcting the widening that had occurred during the banking sector turmoil preceding the review period. While spreads were marginally higher than they had been prior to the banking turmoil, gross issuance by non-financial corporations (NFCs) was in line with historical regularities. Gross issuance was stronger at the start of 2023 than the average gross issuance over the last ten years, but it almost came to a halt when the banking sector turmoil began and spreads widened significantly, only to pick up again when spreads started to narrow and volatility diminished. The ability of NFCs to adapt to the prevailing market conditions and issue less debt when corporate bond spreads moved higher may have prevented spreads from widening further during the turmoil.

Euro area equity prices increased over the review period as stock markets settled into an environment of lower volatility (Chart 19).

Over the review period euro area stock market indices saw a broad-based increase of 5%, largely making up the losses suffered during the banking sector turmoil, although bank equity prices have not yet fully recovered the loss. As the US debt ceiling deadline approached, equity markets on both sides of the Atlantic were relatively calm. Notwithstanding the more persistent drag on the equity prices of US banks, aggregate equity indices fared better in the United States than in the euro area, boosted by the general outperformance of NFCs – especially in the technological sector – which carry a relatively higher weight in US indices than in the euro area. In the euro area, NFC equity prices increased by 4.5%, driven by higher than expected dividends and share buybacks, as well as higher short-term earnings expectations, which were partially offset by a deterioration in the longer-term outlook for earnings, and in the United

States they rose by 11% over the review period as a whole. Bank equity prices gained 5.7% in the euro area and 1.9% in the United States.

Chart 19
Euro area and US equity price indices



Sources: Refinitiv and ECB calculations.

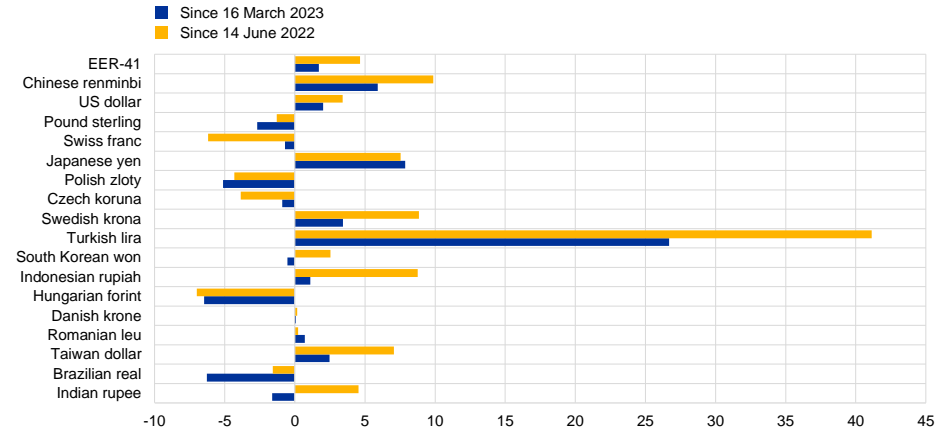
Notes: The vertical grey line denotes the start of the review period on 16 March 2023. The latest observations are for 14 June 2023.

In foreign exchange markets, the euro appreciated in trade-weighted terms (Chart 20). 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 – appreciated by 1.7%. In terms of bilateral exchange rate movements against major currencies, the euro appreciated against the US dollar (by 2.0%), despite a widening of interest rate differentials, as well as against the Chinese renminbi (by 5.9%) and the Japanese yen (by 7.9%), while it depreciated against the pound sterling (by 2.7%) and the Swiss franc (by 0.7%). It also strengthened against the currencies of most major emerging economies in Asia, as well as against the Turkish lira (by 26.7%), but weakened against the Brazilian real (by 6.3%) and against the currencies of most central and eastern European non-euro area EU Member States.

Chart 20

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

(percentage changes)



Source: ECB.

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 14 June 2023.

5 Financing conditions and credit developments

Bank funding costs continued to rise in April 2023, reflecting further increases in the key ECB interest rates. Bank lending rates also increased for firms and households, though at a slower pace than in previous months. Over the period from 16 March to 14 June 2023 the cost of both equity financing and market-based debt financing increased only marginally. Bank lending to firms and households continued to moderate in April, amid higher lending rates, lower loan demand and tighter credit standards. The weakening of monetary dynamics continued, driven by high opportunity costs of holding money, slowing credit dynamics and the reduction of the Eurosystem's balance sheet.

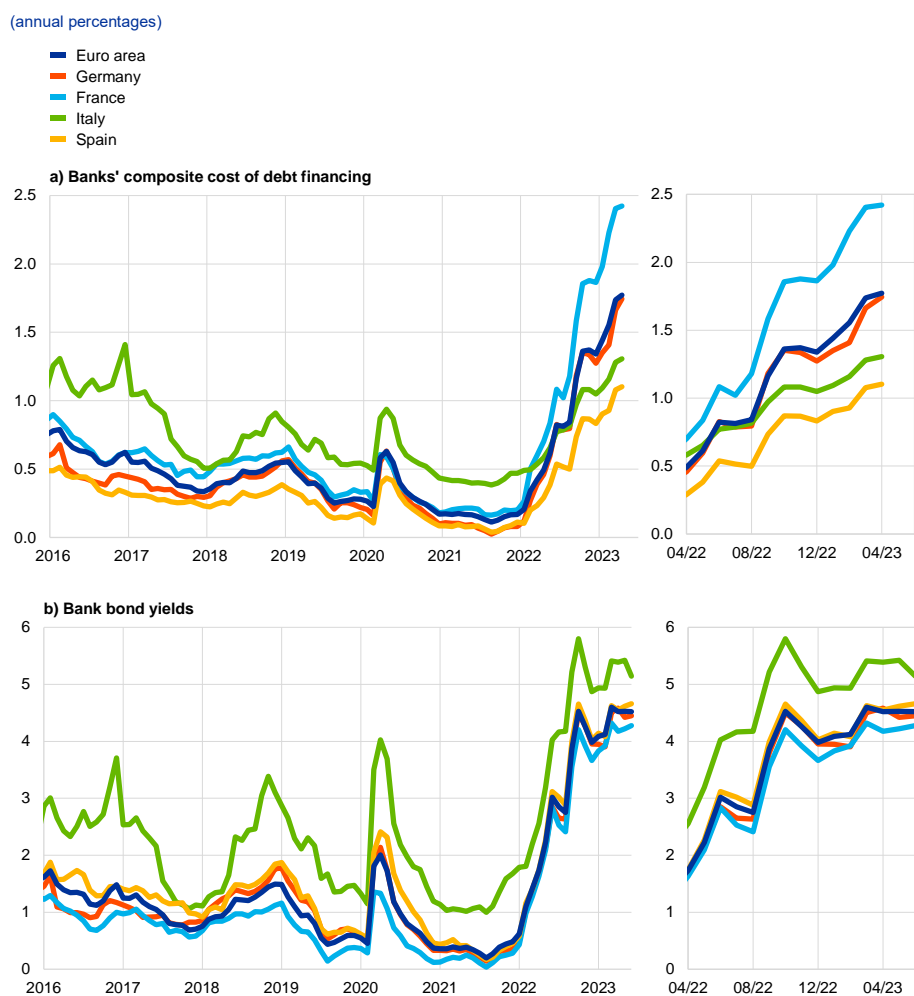
Euro area bank funding costs continued to rise in April, reflecting further increases in the key ECB interest rates and deposit rates. The composite cost of debt financing for euro area banks increased slightly further in April, thus stabilising around its highest level for more than ten years (Chart 21, panel a). The recent increase mostly reflects higher deposit rates, while bank bond yields remained broadly stable (Chart 21, panel b). Deposit rates continued to rise steadily, with some variation across instruments. Depositors are reacting to the widening spread between time deposit rates and rates on overnight deposits by shifting their holdings from overnight to time deposits and to other instruments with higher remuneration. The pass-through of the increases in the key ECB interest rates to deposit rates has varied significantly across banks and has been accompanied by a redistribution of deposit volumes between banks. Savers have reallocated deposits from banks with less attractive remuneration towards banks that have increased deposit rates at a faster pace.

Bank repayments of funds borrowed under the third series of targeted longer-term refinancing operations (TLTRO III) contributed to a further reduction in excess liquidity and to higher bank funding costs. Since the recalibration of the TLTRO III terms and conditions, which came into effect on 23 November 2022, banks have made sizeable repayments of funds borrowed under the programme. In June, a total of €1.5 trillion (mandatory and voluntary funds) will have been repaid, reducing outstanding amounts by around 72% (compared with the level before the recalibration).⁵ Since September 2022 banks have increased issuance of bonds, which are remunerated above deposit rates and the key ECB interest rates, amid the winding-down of the TLTROs and the decline in deposits.

⁵ See “[ECB recalibrates targeted lending operations to help restore price stability over the medium term](#)”, press release, ECB, 27 October 2022.

Chart 21

Composite bank funding rates in selected euro area countries



Sources: ECB, IHS Markit iBoxx indices and ECB calculations.

Notes: Composite bank funding rates are a weighted average of the composite cost of deposits and unsecured market-based debt financing. The composite cost of deposits is calculated as an average of new business rates on overnight deposits, deposits with an agreed maturity and deposits redeemable at notice, weighted by their respective outstanding amounts. Bank bond yields are monthly averages for senior-tranche bonds. The latest observations are for April 2023 for composite bank funding rates and 14 June 2023 for bank bond yields.

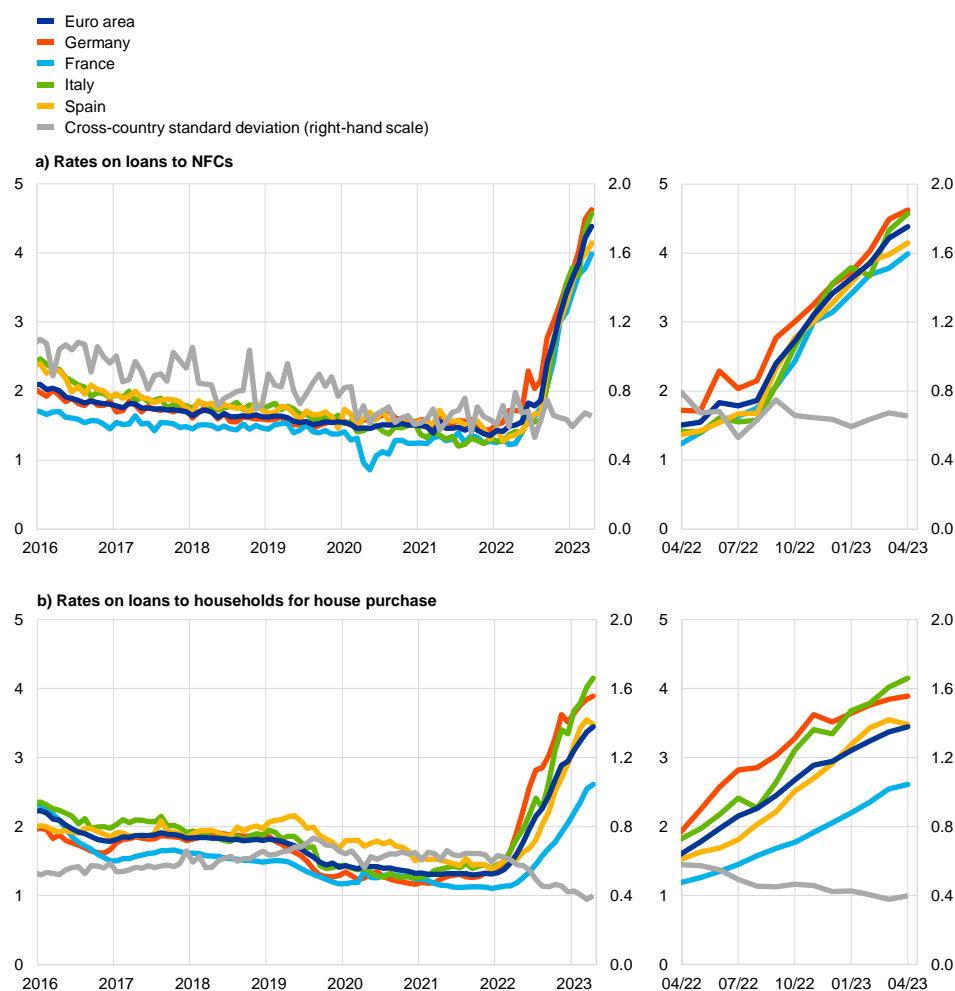
Banks remain well capitalised overall, though developments in funding conditions, interest rate risk and asset quality are likely to weigh increasingly on their lending capacity. Banks continued to increase their profitability in the first quarter of 2023. This was mainly due to their non-interest income sources, while the increase in net interest income experienced throughout 2022 halted amid weak lending growth and broadly stable net interest margins. The turmoil in the banking sector in March led to lower bank share prices and a widening of spreads for more risky bank bonds, such as subordinated bonds and Additional Tier 1 (AT1) instruments. Increased funding pressure as a result of higher deposit rates and large TLTRO repayments are currently weighing on banks' profitability. With respect to the asset quality of bank balance sheets, non-performing loan ratios have continued to decline but signs of higher credit risks are emerging as the proportion of loans in early arrears has increased, especially for exposures to sectors such as commercial real estate that are more affected by the monetary policy tightening cycle. As regards

bank exposures to interest rate risk, unrealised losses on held-to-maturity securities are currently subject to substantial market scrutiny, even though they have been relatively limited so far.

Bank lending rates for firms and households rose further in April 2023, though at a slower pace than in previous months. The tightening of the ECB's monetary policy is being transmitted to bank lending conditions, with lending rates increasing and credit standards tightening. Bank rates for loans to non-financial corporations (NFCs) increased to 4.38% in April, their highest level since end-2008. This compares with 4.22% in March 2023 and 1.83% in June 2022, before the tightening cycle started. The recent increase was driven by higher rates on loans with a fixation period of up to one year, while rates on loans with longer fixation periods declined. Bank lending rates for loans to households for house purchase also rose further in April, to 3.44% from 3.37% in March and 1.97% in June 2022. The increase in April was a result of higher rates on flexible rate mortgages, while rates on fixed rate mortgages declined for the first time since the upward trend began in December 2021. Overall, lending rates have increased faster than in previous hiking cycles, mainly reflecting the speedier pace of policy rate hikes. Results from the April 2023 [Consumer Expectations Survey](#) suggest that consumers expect mortgage rates to start stabilising over the next 12 months. However, a large net percentage of consumers in the survey expected it to become harder to obtain housing loans. The spread between bank lending rates on small and large loans remained stable in April at low levels in a historical context, although it varied to some extent from country to country. The cross-country dispersion of lending rates for firms and households remained at low levels (Chart 22, panels a and b).

Chart 22**Composite bank lending rates for NFCs and households in selected countries**

(annual percentages; standard deviation)



Source: ECB.

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 cross-country standard deviation is calculated using a fixed sample of 12 euro area countries. The latest observations are for April 2023.

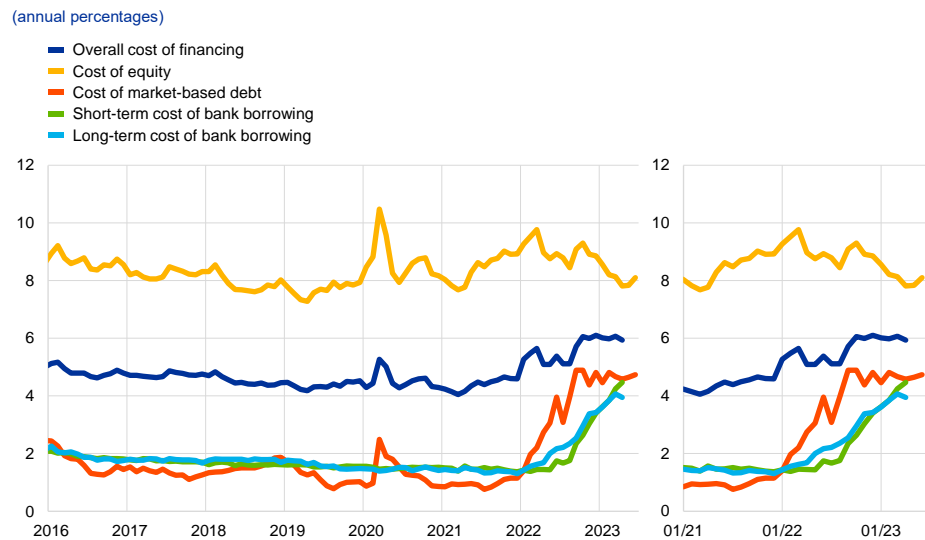
From 16 March to 14 June 2023 both the cost of equity financing for NFCs and the cost of market-based debt increased only marginally. Owing to lags in the

data available on the cost of borrowing from banks, the overall cost of financing for NFCs – i.e. the composite cost of bank borrowing, market-based debt and equity – can as of 14 June be calculated only up to April 2023, when it stood at 5.9%, only slightly lower than its level in the previous month (Chart 23). This was the result of a decline in April in the cost of all components of NFC financing except the cost of short-term borrowing from banks, which increased sizeably. While decreasing slightly from its October 2022 peak, in April 2023 the overall cost of financing remained close to the elevated levels reached in September 2022 and previously seen at the end of 2011. Over the review period from 16 March to 14 June, the cost of both market-based debt and equity increased slightly. The increase in the cost of market-based debt was due to the impact of higher risk-free rates, which was partially compensated by reduced spreads on bonds issued by non-financial firms in

both investment-grade and, more noticeably, high-yield segments. The slight increase in the cost of equity also reflected the increase in risk-free rates, as the equity risk premium remained constant over the review period.

Chart 23

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



Sources: ECB and ECB estimates, Eurostat, Dealogic, Merrill Lynch, Bloomberg and Thomson Reuters.

Notes: The overall cost of financing for NFCs is calculated as a weighted average of the cost of borrowing from banks, market-based debt and equity, based on their respective outstanding amounts. The latest observations are for 14 June 2023 for the cost of market-based debt (monthly average of daily data), 9 June 2023 for the cost of equity (weekly data) and April 2023 for the overall cost of financing and the cost of borrowing from banks (monthly data).

Firms across all size classes signalled a further tightening of financing

conditions in the period from October 2022 to March 2023 in the [Survey on the Access to Finance of Enterprises \(SAFE\)](#). The net percentage of firms reporting higher bank rates increased to 87%, from 71% in the previous round (Chart 24). This is the largest increase since the beginning of the survey in 2009, reflecting the gradual transmission of the monetary policy tightening to firms' borrowing costs. Moreover, a net 53% of firms (up from 49%) reported increases in other costs of financing such as charges, fees and commissions. The broad-based increase in bank interest rates and other costs appears similar for small and medium-sized enterprises (SMEs) and large firms. In net terms firms also reported stricter collateral requirements but increases in the maturity and size of loans. Few firms reported obstacles to obtaining a bank loan (7%, as in the previous survey round).

Chart 24**Changes in the terms and conditions of bank financing for euro area enterprises**

(net percentages of respondents)



Source: ECB Survey on the Access to Finance of Enterprises.

Notes: The figures are based on enterprises that had applied for bank loans (including subsidised bank loans), credit lines, or bank or credit card overdrafts. Net percentages are the difference between the percentage of enterprises reporting an increase for a given factor and the percentage reporting a decrease. The figures refer to rounds 22-28 of the survey (October 2019-March 2020 to October 2022-March 2023).

Firms reported that their financing gaps had continued to increase and that they expected the availability of most sources of external financing to become more restrictive in the future.

The net percentage of euro area firms reporting a widening of the external financing gap – the difference between the change in demand for and the change in the supply of external financing – stood at 6% (down from 9% in the previous survey round). Excluding the previous survey round, this was the largest increase in the financing gap since 2013. The increase reflected a reported rise in firms' financing needs as well as a deterioration in availability of most sources of financing. Looking ahead, a net 17% of firms expect the availability of bank loans to decline further between April and September 2023. Firms also expect, on balance, that the availability of credit lines and trade credit will deteriorate further over the next six months, while they expect the future availability of market-based finance to be roughly unchanged.

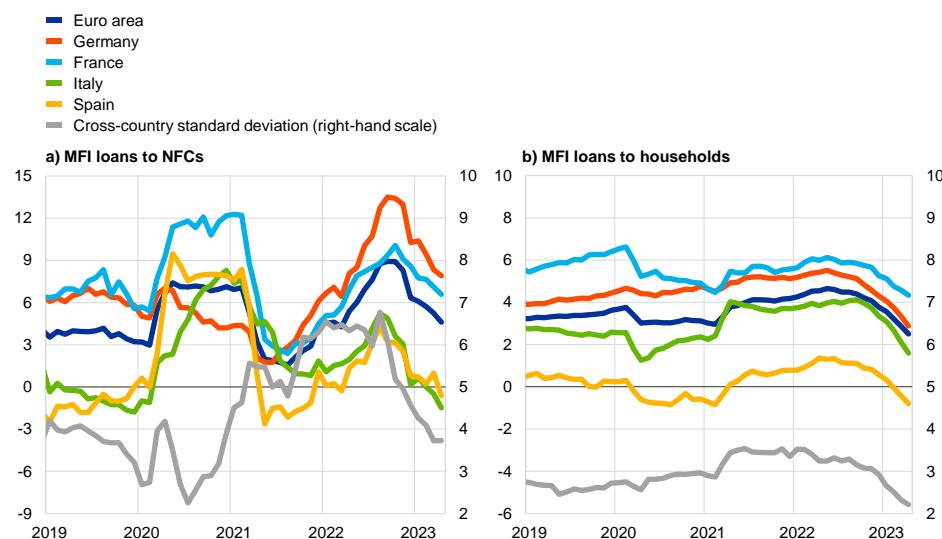
Bank lending to firms and households continued to moderate in April amid higher interest rates, lower loan demand and tighter credit standards.

The annual growth rate of loans to NFCs declined to 4.6% in April, from 5.2% in March (Chart 25, panel a). Monthly flows of loans to NFCs have been marginally negative on average since November 2022. The slowdown was experienced across the largest economies and reflects the marked decrease in loan demand, in part due to higher lending rates, and the further substantial tightening of credit standards. The annual growth rate of loans to households declined from 2.9% in March to 2.5% in April (Chart 25, panel b) amid deteriorating housing market prospects, a substantial further tightening of banks' credit standards and higher lending rates. The decline was driven mainly by the ongoing decrease in the growth of housing loans. However, since the beginning of 2023 other loans to households, in particular those granted to sole proprietors (i.e. unincorporated small businesses), have fallen from month to month and therefore also contributed to the weakening.

Chart 25

MFI loans in selected euro area countries

(annual percentage changes; standard deviation)



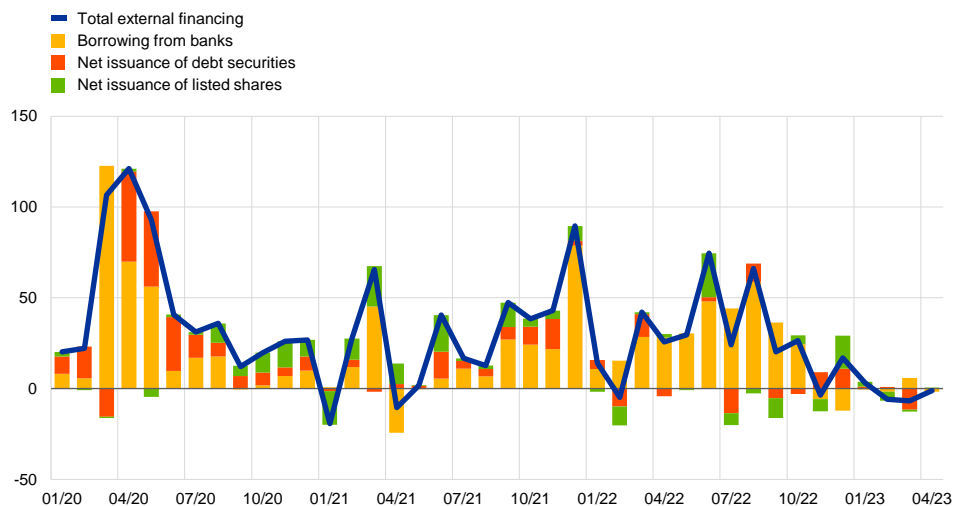
Source: ECB.

Notes: Loans from monetary financial institutions (MFIs) are adjusted for loan sales and securitisation; in the case of NFCs, loans are also adjusted for notional cash pooling. The cross-country standard deviation is calculated using a fixed sample of 12 euro area countries. The latest observations are for April 2023.

The growth of net external financing of euro area firms was subdued in the first quarter of 2023 and in April, reflecting low levels of debt financing. The annual growth rate of net external financing decreased from 2.2% in January 2023 to 1.7% in April (Chart 26). Loan flows were weak in absolute values and relative to previous years. This development reflects firms' lower financing needs as economic activity has remained subdued, increasing lending rates and banks' tightening credit standards. The net issuance of debt securities contracted on the back of higher redemptions and lower gross issuance. The issuance of listed shares was muted overall, despite the lower cost of equity for firms, in view of low activity in terms of initial public offerings and mergers and acquisitions, while a few multinational companies bought shares back and dividend payouts were higher.

Chart 26**Net external financing flows for euro area NFCs**

(monthly flows; EUR billions)



Sources: ECB, Eurostat, Dealogic and ECB calculations.

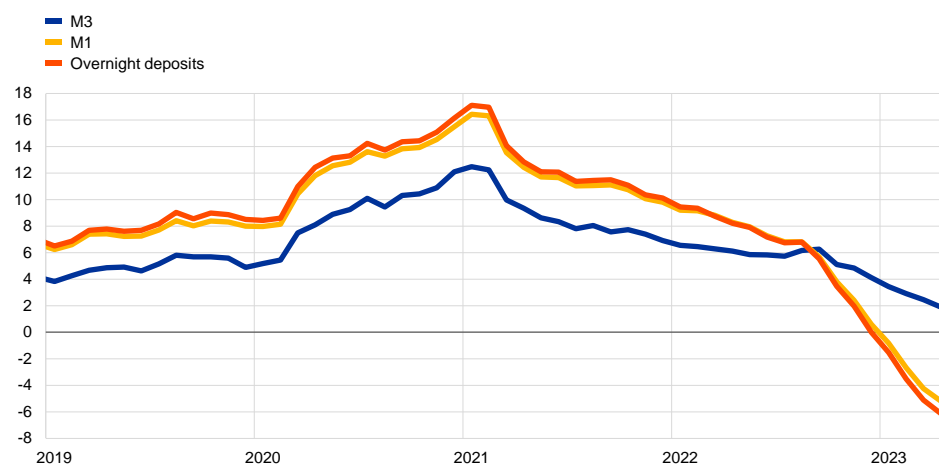
Notes: Net external financing is the sum of borrowing from banks (MFI loans), net issuance of debt securities and net issuance of listed shares. MFI loans are adjusted for loan sales, securitisation and cash-pooling activities. The latest observations are for April 2023.

Overnight deposits contracted further in April, driven by the reallocation of funds to instruments with a higher remuneration. After dropping by 5.1% year on year in March, overnight deposits fell a further 6.1% in April, the strongest contraction since the start of the Economic and Monetary Union in 1999 (Chart 27). This development stemmed especially from the large-scale substitution of overnight deposits with time deposits but also with other higher-remunerated instruments such as money market fund shares and bonds. It reflects the fact that interest rates on overnight deposits adjust more slowly to policy rate changes than rates on time deposits. The fact that the ECB's policy tightening has been faster than in previous tightening cycles explains the extraordinary volumes that are being reallocated.

Chart 27

M3, M1 and overnight deposits

(annual growth rate, adjusted for seasonal and calendar effects)



Source: ECB.

Note: The latest observations are for April 2023.

The weakening of monetary dynamics continued, driven by high opportunity costs of holding money, slowing credit dynamics and the reduction of the Eurosystem balance sheet. Annual broad money (M3) growth declined from 2.5% in March to 1.9% in April, the lowest rate since July 2014 (Chart 27). Month-on-month changes in broad money have been negative since December 2022. Narrow money (M1) contracted further, by 5.2% in April after 4.2% in March. The ongoing decline in money growth can be explained by the rise in opportunity costs of holding money and slowing credit dynamics. The transmission of policy rate hikes to financial conditions provides an incentive for money holders to shift funds from overnight to time deposits and to a lesser extent to bank bonds, money market funds and government securities. Moreover, the end of full reinvestment of principal payments from maturing securities under the asset purchase programme in March 2023 has resulted in a reduction of the Eurosystem's asset portfolio, thus mechanically draining liquidity from the financial system. Lastly, TLTRO repayments are also contributing to the weakening of monetary dynamics, by giving banks an incentive to issue bonds with longer maturities that are not included in M3.

6 Fiscal developments

According to the June 2023 Eurosystem staff macroeconomic projections, the euro area fiscal outlook continues to improve as fiscal support is progressively withdrawn. The improvement in public finances notwithstanding, deficit and debt ratios are expected to remain well above pre-pandemic levels over the entire projection horizon. The euro area deficit ratio is thus projected to fall to 3.2% of GDP in 2023 and to level off at around 2.5% in 2024 and 2025. It is anticipated that the euro area fiscal stance will be broadly neutral in 2023 and tighten significantly in 2024, before turning broadly neutral again in 2025. Cumulatively over the projection horizon, there will be some tightening of fiscal policy but it will remain relatively accommodative given the sizeable fiscal measures introduced during the pandemic and the subsequent energy cost shock. The euro area debt-to-GDP ratio is projected to decline from 91% in 2022 to about 87% in 2025. From a policy perspective, as the energy shock fades, governments should roll back the related support measures promptly and in a concerted manner to avoid driving up medium-term inflationary pressures, which would call for a stronger monetary policy response. Fiscal policies should be designed to make the euro area economy more productive and gradually bring down high public debt. The reform of the EU's economic governance framework should be concluded soon and, in line with its competences, the ECB is currently preparing an opinion on the Commission's [legislative proposals](#) issued on 26 April 2023.

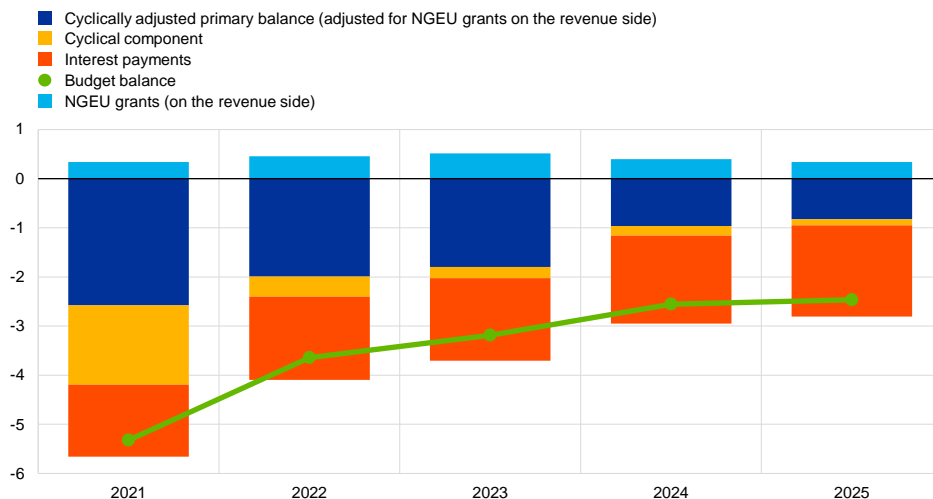
According to the June 2023 Eurosystem staff macroeconomic projections, the euro area general government budget balance will improve moderately over the projection horizon.⁶ The euro area budget deficit is projected to decline to 3.2% of GDP in 2023 and to 2.6% and 2.5% of GDP in 2024 and 2025 respectively (Chart 28). This fall is driven mainly by a lower cyclically adjusted primary deficit and to a lesser extent by an improvement in the cyclical component. At the same time, interest payments are set to increase somewhat as a share of GDP. As regards the euro area primary deficit, this is to a large extent influenced by the continued reductions in the fiscal support measures implemented by governments in response to the energy shock and high inflation. It is now estimated that these measures will amount to 1.6% of GDP at the euro area level in 2023 and to 0.5% of GDP in 2024, before declining to around 0.2% of GDP in 2025.

⁶ See “[Eurosystem staff macroeconomic projections for the euro area, June 2023](#)”, published on the ECB's website on 15 June 2023.

Chart 28

Budget balance and its components

(percentages of GDP)



Sources: ECB calculations and June 2023 Eurosystem staff macroeconomic projections.

Notes: NGEU stands for Next Generation EU. The data refer to the aggregate general government sector of all 20 euro area countries (including Croatia).

The euro area fiscal stance⁷ is projected to be broadly neutral in 2023 and to tighten significantly in 2024, before turning broadly neutral again in 2025. The close to neutral fiscal stance in 2023 is explained by a projected partial reversal of the windfall revenues arising in 2021 to 2022, primarily from the positive impact of high inflation on public finances, and broadly offset by some tightening of the overall discretionary fiscal measures. This tightening reflects the withdrawal of some of the stimulus measures that governments had implemented in response to the pandemic, as well as a statistical reclassification in Italy. The fiscal stance is projected to tighten significantly in 2024, mainly due to the winding down of about 70% of the energy and inflation-related fiscal support put in place by euro area governments in 2023. The support stemming from funds granted under the Next Generation EU (NGEU) programme is also projected to be scaled down after 2023, while some further reversal of windfall revenues is expected to mitigate the tightening of the fiscal stance in 2024-25.

The ratio of euro area government debt to GDP is projected to continue to decline to just above 87% of GDP by 2025. After the debt ratio increased by approximately 13 percentage points to around 97% in 2020 owing to euro area governments' responses to the COVID-19 crisis, it reached 91% of GDP in 2022, and is expected to decline to around 89% of GDP in 2023, before decreasing further to about 87% of GDP in 2025. This reduction is mainly attributable to the negative differentials between interest rates and nominal GDP growth, which, while narrowing

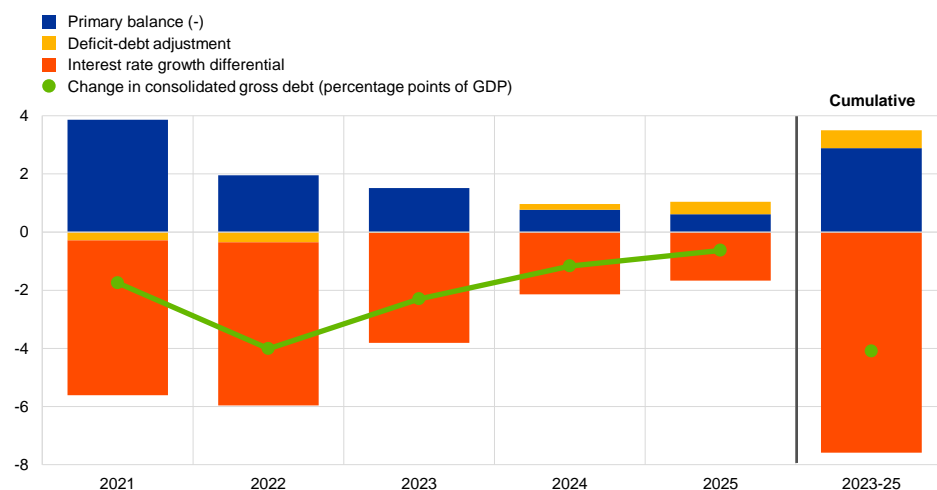
⁷ The fiscal stance reflects the direction and size of the stimulus from fiscal policies to the economy beyond the automatic reaction of public finances to the business cycle. It is measured here as the change in the cyclically adjusted primary balance ratio net of government support to the financial sector. Given that the higher budget revenues related to Next Generation EU grants from the EU budget do not have a contractionary impact on demand, in this context 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.

after 2022, are projected to continue to more than offset primary deficits (Chart 29). The contribution of deficit-debt adjustments should be neutral in 2023, but moderately add to gross debt in the two outer years of the forecast. Notwithstanding the gradual decline of the euro area aggregate debt ratio, it is expected to remain above its pre-pandemic level (by almost 3 percentage points) through to 2025.

Chart 29

Drivers of change in euro area government debt

(percentages of GDP, unless otherwise indicated)



Sources: ECB calculations and June 2023 Eurosystem staff macroeconomic projections.

Note: The data refer to the aggregate general government sector of all 20 euro area countries (including Croatia).

Compared with the March 2023 ECB staff macroeconomic projections, the euro area budget balance has been revised up marginally for 2023 but down again to a similar extent for 2024. These revisions are mainly driven by changes in the primary balance, although the upward revision for 2023 is also based on the projection that interest expenditure as a share of GDP will be slightly lower than previously expected. The prospects for the primary balance will broadly mirror the revisions in the level of discretionary fiscal measures.

As the energy shock fades, governments should roll back the related support measures promptly and in a concerted manner. This avoids driving up medium-term inflationary pressures, which would call for a stronger monetary policy response. Fiscal policies should be designed to make the euro area economy more productive and gradually bring down high public debt. Along similar lines, the European Commission's annual [European Semester Spring Package](#), released on 24 May 2023 and reflecting the general guidelines included in its [Fiscal policy guidance for 2024](#), recommended that governments withdraw their fiscal support measures by the end of this year. The Commission also indicated that the general escape clause of the Stability and Growth Pact will be deactivated at the end of 2023. In addition, it affirmed that it will propose the opening of excessive deficit procedures in spring 2024 on the basis of the outturn data for 2023.

As regards the European Commission's [legislative proposals](#) to reform the EU economic governance framework, released on 26 April 2023, the ECB is currently preparing an opinion in line with its competences.⁸

⁸ Following the release of its related [Communication](#) on 9 November 2022 and of the [Council Conclusions on Orientations for a reform of the EU economic governance framework](#).

Boxes

1 The consumption impulse from pandemic savings – does the composition matter?

Prepared by Niccolò Battistini, Virginia Di Nino and Johannes Gareis

Following the outbreak of the pandemic, households in the euro area and the United States accumulated a large stock of savings, in excess of the pre-pandemic trend.¹ Between the first quarter of 2020 and the fourth quarter of 2022, the accumulated stock of excess savings rose steadily to reach 11.3% of trend (gross) disposable income in the euro area. In the United States, the accumulated stock of excess savings reached 13.2% in the third quarter of 2021, before declining to 7.9% in the fourth quarter of 2022.² Taken at face value, the large stock of excess savings in both economies suggests the possibility of a substantial consumption impulse, defined as the immediate stimulus to consumption from the potential use of these savings. Moreover, it points to a larger remaining consumption impulse in the euro area relative to the United States, where consumption has expanded by considerably more in the post-pandemic period. Besides the size of the stock, the composition of excess savings plays a key role in determining the implied consumption impulse. This box estimates the composition of excess savings and then calibrates a general equilibrium model with heterogeneous agents based on the methodology used by Auclert et al. to gauge the consumption impulse in the two jurisdictions.³

Beyond the stock of pandemic savings, the composition of these excess savings matters for two reasons. First, excess savings are allocated across assets with different degrees of liquidity, which is a first (partial equilibrium) determinant of their consumption impulse. Second, the impact of excess savings on the consumption impulse also depends on broader (general equilibrium) dynamics: on the one hand, the dynamic re-distribution of the savings spent by some households to other households prolongs the duration of the consumption impulse; on the other

¹ For related discussions see the boxes entitled “COVID-19 and the increase in household savings: precautionary or forced?”, *Economic Bulletin*, Issue 6, ECB, 2020; “COVID-19 and the increase in household savings: an update”, *Economic Bulletin*, Issue 5, ECB, 2021; “The implications of savings accumulated during the pandemic for the global economic outlook”, *Economic Bulletin*, Issue 5, ECB, 2021; “The recent drivers of household savings across the wealth distribution”, *Economic Bulletin*, Issue 3, ECB, 2022; and “Household saving during the COVID-19 pandemic and implications for the recovery of consumption”, *Economic Bulletin*, Issue 5, ECB, 2022. For an overview of the demand-side drivers of consumption, see the article entitled “The role of supply and demand in the post-pandemic recovery in the euro area” in this issue of the *Economic Bulletin*.

² The stock of excess savings can be estimated as the cumulated difference between actual savings and their extrapolated pre-pandemic (2015-19) trend. The same methodology was applied to data for the United States by Aladangady, A., Cho, D., Feiveson, L. and Pinto, E., “Excess Savings during the COVID-19 Pandemic”, *FEDS Notes*, 21 October 2022. While the estimation of the stock of excess savings varies depending on the specific methodology used, the qualitative results comparing the euro area with the United States reported in this box do not change when alternative methods are used (for example, estimating the stock of excess savings as the cumulated difference between the current saving rate and its pre-pandemic level).

³ See Auclert, A., Rognlie, M. and Straub, L., “The Trickle Up of Excess Savings”, *NBER Working Paper Series*, No 30900, January 2023.

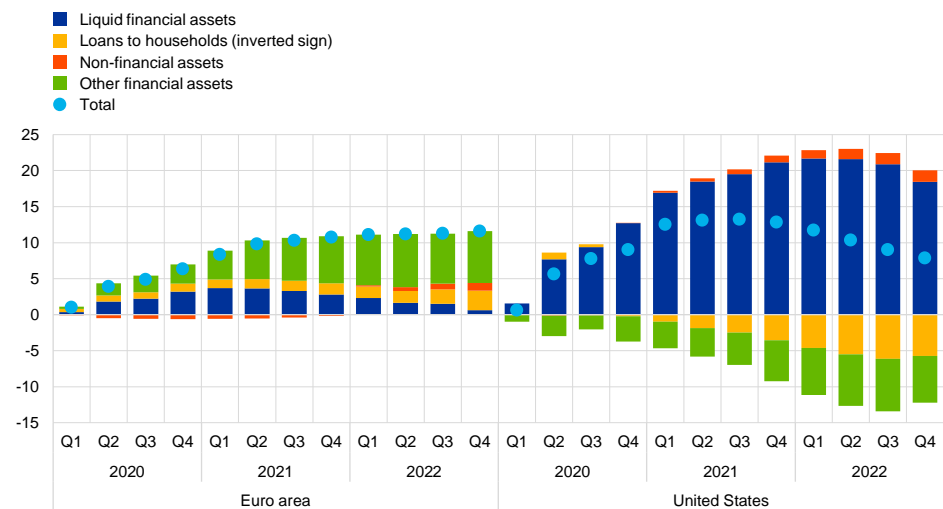
hand, the anticipation by households of this future re-distribution dampens the size of the consumption impulse, as households smooth their consumption patterns over time. Empirical evidence suggests that these partial and general equilibrium effects may play out differently in the euro area and the United States.

Between 2020 and 2022, in the euro area, excess savings were accumulated mostly in illiquid assets, while in the United States these were largely accumulated in liquid assets. In the euro area, between the first quarter of 2020 and the fourth quarter of 2022, excess savings were invested in non-financial assets, such as housing, and in relatively illiquid financial assets, such as stocks and bonds, and were also used to pay back loans. Taken together, these forms of cumulated excess savings rose steadily to reach 10.8% of trend disposable income in the fourth quarter of 2022 (Chart A). By contrast, cumulated excess savings in the (most) liquid financial assets, such as currency and deposits, peaked at 3.7% of trend disposable income in the first quarter of 2021 and then declined significantly to 0.6% in the fourth quarter of 2022. In the United States, the composition of cumulated excess savings at the end of 2022 was remarkably different. Liquid financial assets amounted to 18.5% of trend disposable income, while illiquid assets fell below their pre-pandemic trend by 10.6%, also reflecting a sizeable accumulation of new loans.⁴

Chart A

Allocation of cumulated excess savings across assets

(deviations from the pre-pandemic trend, percentages of trend disposable income)



Sources: Eurostat, ECB, Federal Reserve Board and ECB calculations.

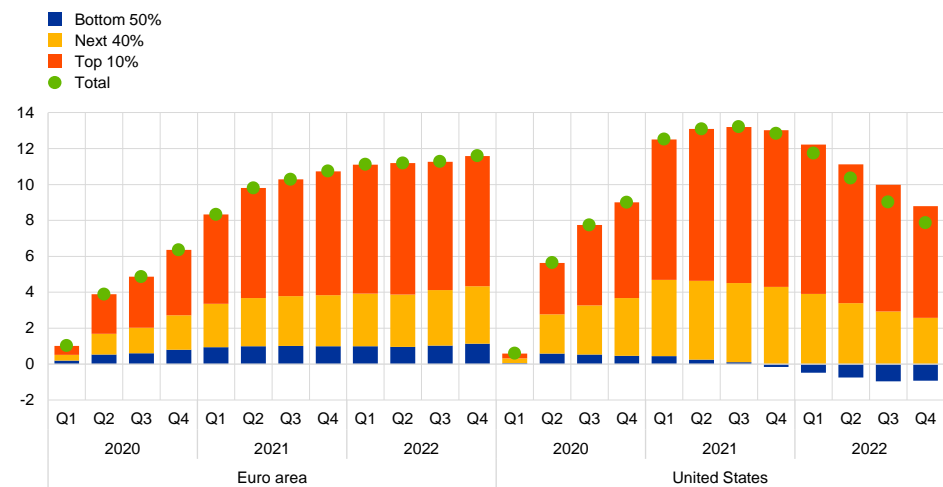
Notes: Each entry represents the cumulated value exceeding its trend estimated between 2015 and 2019. Liquid financial assets refer to currency and deposits. Non-financial assets refer to gross capital formation. Other financial assets are calculated as a residual and mainly refer to stocks and bonds.

⁴ The preference of US households to hold their pandemic excess savings in liquid assets is corroborated by Abdelrahman H. and Oliveira L.E., “The Rise and Fall of Pandemic Excess Savings”, *Economic Letter*, FRBSF, 8 May 2023. Over the reference period, developments in loans to households may mask the effects of the US fiscal package (Coronavirus Aid, Relief, and Economic Security Act). This included forbearance of certain types of loan (student loans and certain mortgages), which lenders also offered for other loan types at their own volition. In addition, part of past-due loans were reclassified into forbearance, fictitiously increasing the flows of household loans. See Dettling, L. and Lambie-Hanson, L., “Why is the Default Rate So Low? How Economic Conditions and Public Policies Have Shaped Mortgage and Auto Delinquencies During the COVID-19 Pandemic”, *FEDS Notes*, 4 March 2021.

Over the past three years the stock of excess savings was increasingly concentrated among wealthy households on both sides of the Atlantic. The analysis of the distribution of excess savings across households combines their estimated allocation across assets, discussed above, with survey information on the composition of household portfolios along the net wealth distribution.⁵ The implied distribution of excess savings shows an ever greater concentration among relatively high-wealth households, in particular in the United States (Chart B). The share of cumulated excess savings held by households in the top 10% of the distribution rose from less than half in the first quarter of 2020 in both economies to almost two-thirds in the euro area and more than three-quarters in the United States in the fourth quarter of 2022. However, the relatively larger share of excess savings among low-wealth households in the euro area does not imply a higher consumption impulse compared with the United States. This is because the excess savings in the euro area mostly consisted of relatively illiquid assets, including housing wealth and loan repayments, which represent an important share of portfolios for households at the lower end of the distribution.

Chart B
Distribution of cumulated excess savings across household groups

(deviations from the pre-pandemic trend, percentages of trend disposable income)



Sources: Eurostat, ECB (including the experimental Distributional Wealth Accounts), US Bureau of Economic Analysis, Federal Reserve Board (including the Distributional Financial Accounts) and ECB calculations.

Notes: The model features three groups of households, corresponding to the bottom 50%, the next 40% and the top 10% of the excess savings distribution. The distribution of excess savings across households is obtained by multiplying the share of assets in the portfolio of each household group (distributional accounts) by the estimated excess savings in each asset class.

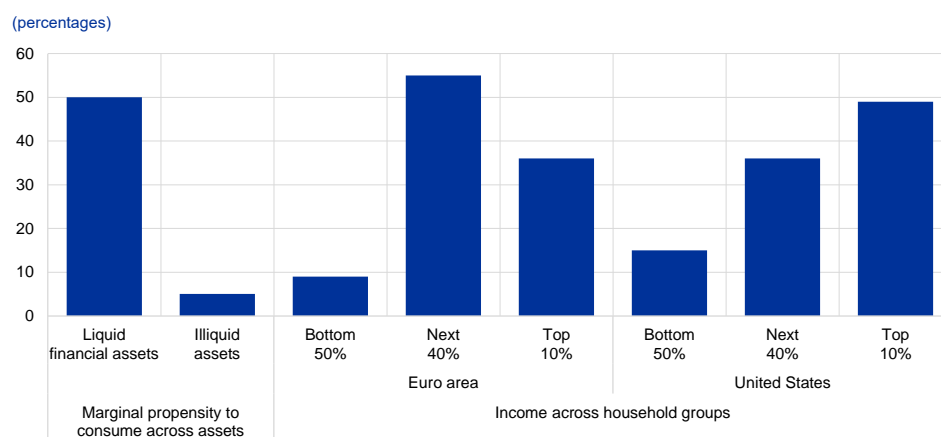
A heterogeneous agent model is used to link the estimated distribution of excess savings across assets and households to their consumption impulse, accounting for partial and general equilibrium effects. The model features three groups of households, corresponding to the bottom 50%, the next 40% and the top 10% of the excess savings distribution. Under partial equilibrium, each group

⁵ For the euro area, the distribution of excess savings across households is estimated using the ECB's experimental Distributional Wealth Accounts, which combine quarterly developments in aggregate asset holdings with snapshots of household asset holdings in the Household Finance and Consumption Survey (HFCS). For the United States, it is estimated using the Federal Reserve Board Distributional Financial Accounts (DFA), which follow a similar methodology for aggregate asset holdings and household asset holdings in the Survey of Consumer Finances (SCF). The latest available data for the HFCS and the SCF refer to 2017 and 2019 respectively.

decides what share of excess savings to consume or save in each period based on its marginal propensity to consume (MPC), which is assumed to depend on the asset composition of its excess savings. Under general equilibrium, consumption decisions reflect two further mechanisms. First, the savings spent by some households become the income that is financing consumption for other households. As a result, the impulse on consumption is prolonged and it dissipates only slowly, as excess savings “trickle up” towards high-wealth, high-income households, which have a lower MPC. Second, households anticipate the future expansion in aggregate demand and smooth their consumption on impact, with the implied moderating effect being proportional to the MPCs for each household group.⁶ This incentivises the accumulation of savings and limits the re-distribution of income, thus expediting the trickling up of excess savings and muting the consumption impulse.⁷ In both scenarios, the central bank does not react to the expansion in demand, thus keeping the interest rate fixed. Overall, the potential, model-implied impulse to consumption from the use of excess savings depends on the calibration of two sets of parameters: (i) the MPC for each asset class; and (ii) the share of total income for each group of households (Chart C). The MPC is set to 50% for liquid financial assets and 5% for illiquid assets.⁸ The share of income is calibrated at 9%, 55% and 36% in the euro area and 15%, 36% and 49% in the United States for the bottom 50%, next 40% and top 10% of the excess savings distribution respectively.

Chart C

Marginal propensity to consume across assets and income across household groups



Sources: 2017 Household Finance and Consumption Survey, 2019 Survey of Consumer Finances, Slacalek et al., op. cit., and ECB calculations.

Note: Liquid financial assets refer to deposits and currency, illiquid assets include non-financial and other financial assets, as well as loans to households (inverted sign).

⁶ In the model, the sum of consumption for each household group is equal to aggregate demand and aggregate income.

⁷ Under general equilibrium, the model in this box considers the case of “rational expectations” described by Auclert et al., op. cit. In this case, households anticipate future changes in aggregate income.

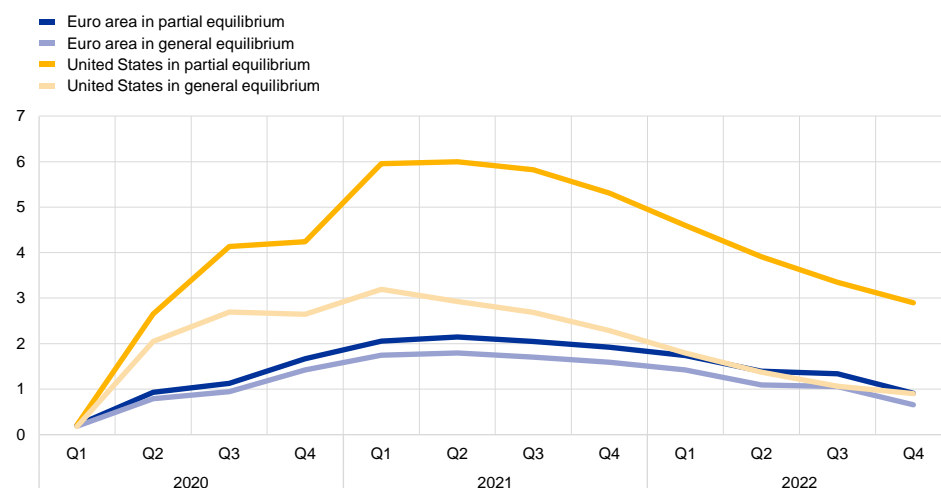
⁸ As regards the MPC, recent empirical evidence finds that: (i) the average MPC has typically large values, and (ii) the share of holdings of liquid assets in household portfolios is a key driver of the considerable cross-sectional heterogeneity of the MPC. The specific values assumed in this box are taken from Slacalek, J., Tristani, O. and Violante, G., “Household balance sheet channels of monetary policy: A back of the envelope calculation for the euro area”, *Journal of Economics Dynamics and Controls*, Vol. 115, No 103879, June 2020. As regards the share of income, the values in this box are calibrated based on the 2017 HFCS for the euro area (entire distribution) and the 2019 SCF for the United States (median values).

The consumption impulse from pandemic savings has declined in both economies and has been lower in the euro area compared with the United States. Under partial equilibrium, the model assumes that household decisions do not account for the re-distribution of income and the response in interest rates, so that the consumption impulse is only determined by the MPC for each group of households. This is calculated as the weighted average of the asset-specific MPCs, with the weights pinned down by the group-specific portfolios in each period. In this scenario, the consumption impulse significantly declined from a peak in the second quarter of 2021 in both economies, and, consistent with the subdued consumption dynamics, remained relatively weak over the past three years in the euro area compared with the United States (Chart D).⁹ Under general equilibrium, the model simulations point to consumption smoothing having a stronger dampening impact in the United States, reflecting its larger average MPC relative to the euro area. In this scenario, the consumption impulse was moderate in both economies at the end of 2022.

Chart D

The consumption impulse from pandemic savings

(deviations from the pre-pandemic trend, percentages of trend disposable income)



Source: ECB calculations.

Note: Simulations are based on Auclert et al., op. cit.

Further considerations reinforce the model-implied results of a moderate remaining additional boost to private consumption from excess savings, especially in the euro area. First, the different origin of the excess savings helps explain the smaller consumption impulse in the euro area compared with the United States. In the euro area, these excess savings were mostly due to mobility restrictions that limited consumption, especially for high-contact services, on which wealthy (low-MPC) households generally spend a larger share of their income. In the United States, the excess savings were mainly due to large stimulus packages that supported incomes, especially for (high-MPC) households at the bottom of the

⁹ See the speech by Philip Lane on “[Inflation and monetary policy](#)” given on 8 May 2023 and the box entitled “[Inflation developments in the euro area and the United States](#)”, *Economic Bulletin*, Issue 8, ECB, January 2023.

wealth distribution.¹⁰ Second, recent price developments reinforce the view of a modest remaining consumption impulse from excess savings in both economies. Indeed, the rise in consumer prices and the decline in asset prices in recent quarters, amplified by the ongoing monetary policy tightening and deteriorating financing conditions, further reduce the remaining consumption impulse.

¹⁰ The US government paid a defined amount to citizens with an income of below USD 75,000. This implies that low-income citizens received a larger benefit in proportion to their income. See, for instance, the description of “[Unemployment Compensation](#)” and “[Economic Impact Payments](#)” provided by the U.S. Department of the Treasury.

2 Earnings calls: new evidence on corporate profits, investment and financing conditions

Prepared by Malin Andersson, Pedro Neves and Carolina Nunes

Earnings calls can provide useful and timely information on corporate sentiment.

An earnings call is a conference call between the board of a publicly listed company, investors, analysts and the press to discuss the company's financial results. Such calls typically take place once a quarter.¹ NL Analytics has automated the retrieval of information from transcripts of English-language earnings calls.² Focusing on euro area firms across the main non-financial sectors, this box is based on textual searches for matches with a number of synonymous words. The aim is to extract quarterly sentiment and risk indices, which are particularly timely as the database is being updated for the current quarter once every two weeks.

Textual analysis helps to derive measures of corporate perceptions. The sentiment index reflects the number of sentences in an earnings call containing a specific word that matches a given topic over the total number of sentences, and it is expressed in net terms, i.e. good news versus bad news. The risk index shows the number of times a topic is mentioned in a sentence in conjunction with keywords, such as "risk" and "uncertainty".³ The large volume of transcripts, together with the textual searches, generates a high-frequency, firm-level dataset of sentiment and risk indices, which we average and convert into structured quarterly data for the period from the first quarter of 2002 to the first quarter of 2023. The respective indices are validated in that they have comoved with the business cycle over the past two decades and correlated with standard indicators for the respective variables. It is also possible to retrieve quotes from earnings calls that capture the prevailing narrative associated with a particular and significant movement in the indices.

Euro area corporate profit sentiment continued to rise above historical averages in the second quarter of 2023.

Over the past two decades there has been a strong correlation between the profit sentiment index derived from earnings calls and sectoral accounts data on the gross operating surplus in the euro area non-financial corporate (NFC) sector (Chart A, left-hand panel). For the profit sentiment index, the correlation coefficient rises up to four quarters ahead of the gross operating surplus and peaks at around 0.6. The index exhibits a clear business cycle pattern, with troughs during the global financial crisis, the sovereign debt crisis and the COVID-19 pandemic, which is to be expected given the cyclicity of profits. After

¹ In some cases, however, an earnings call takes place once every six months or year. The exact timing of the call during the quarter varies, depending on the quarter.

² The database of NL Analytics contains earnings call transcripts of around 14,000 publicly listed firms across 82 countries, with the majority being headquartered in the United States, the United Kingdom and other English-speaking countries. On average, 600 euro area firms report every quarter. The number of observations per quarter in the early years of the sample, which dates back to 2002, was around one-quarter of what it is now.

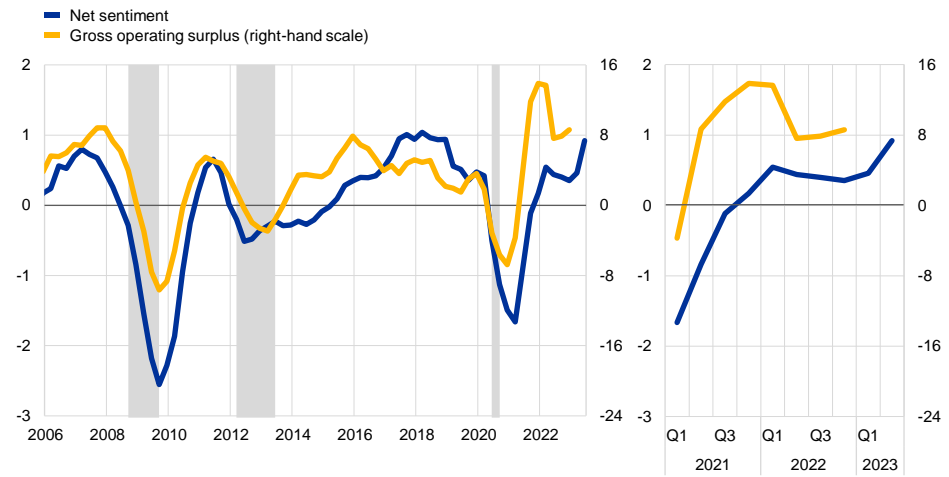
³ For an additional example of a risk index computed using textual analysis of earnings call transcripts, see Hassan, T.A., Schreger, J., Schwedeler, M. and Tahoun, A., "Sources and Transmission of Country Risk", NBER Working Paper, No 29526, November 2021.

a strong recovery in 2021, net sentiment stabilised to some extent in 2022 before rising further in the second quarter of 2023. The growth rate of the gross operating surplus in the NFC sector decreased somewhat, but remained robust, in the second half of 2022, owing to tighter financing conditions and weakening demand (Chart A, right-hand panel). This is in line with evidence from market and survey earnings data, suggesting that profit growth eased in the course of 2022, but remained above its historical averages. The euro area NFC gross operating surplus has exceeded the level observed in the fourth quarter of 2019 and is now growing at a rate above its pre-pandemic trend, indicating that there is no need for any catching up from this perspective (Chart B). The strength in profit growth since early 2021 could have been driven by lingering post-pandemic pent-up demand, easing supply bottlenecks and imperfect substitutability of production inputs.

Chart A

Euro area profit sentiment and NFC gross operating surplus

(Z-score; year-on-year percentage changes)



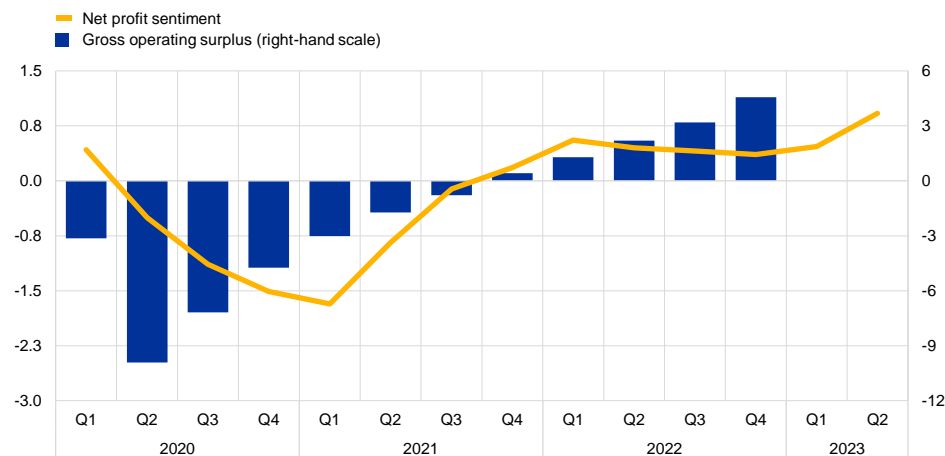
Sources: NL Analytics, ECB and ECB staff calculations.

Notes: Net sentiment reflects the frequency of the recurrence of synonyms for profits (earnings, revenue, etc.) in firms' earnings calls. The Z-score is computed by subtracting the historical average from each data point and dividing this demeaned series by the standard deviation. Recession periods are marked in grey. The latest observations are for the second quarter of 2023 (for calls conducted up to 12 June) for net sentiment and for the fourth quarter of 2022 for the gross operating surplus.

Chart B

Euro area profit sentiment and detrended NFC gross operating surplus

(Z-score; detrended cumulative growth rates)



Sources: NL Analytics, ECB and ECB staff calculations.

Notes: The cumulated detrended growth rates of the gross operating surplus were computed by cumulating the difference between the actual series and its pre-pandemic trend (2002-19) and then dividing them by the cumulated pre-pandemic trend. The latest observations are for the second quarter of 2023 (for calls conducted up to 12 June) for net sentiment and for the fourth quarter of 2022 for the gross operating surplus.

Corporate investment sentiment rose slightly further in the second quarter of 2023. Over the past two decades net investment sentiment and the growth rate of business investment (excluding the volatile component of investment in intellectual property products in Ireland and the Netherlands) have correlated well (Chart C, left-hand panel). The correlation peaks when the sentiment index leads investment growth by two quarters, with a correlation coefficient of 0.5. In 2021 and at the start of 2022, investment sentiment continued to rise to above its historical average, alongside overall robust quarterly growth rates in business investment, as the economy reopened (Chart C, right-hand panel). Thereafter in 2022 it worsened somewhat, reflecting weakening demand, high energy costs and elevated uncertainty. In the second quarter of 2023 it edged up further above its long-term average, in line with improving supply conditions and easing energy costs.

Chart C

Euro area investment sentiment

(Z-score, right-hand scale of left-hand panel: year-on-year percentage changes; right-hand scale of right-hand panel: quarterly percentage changes)



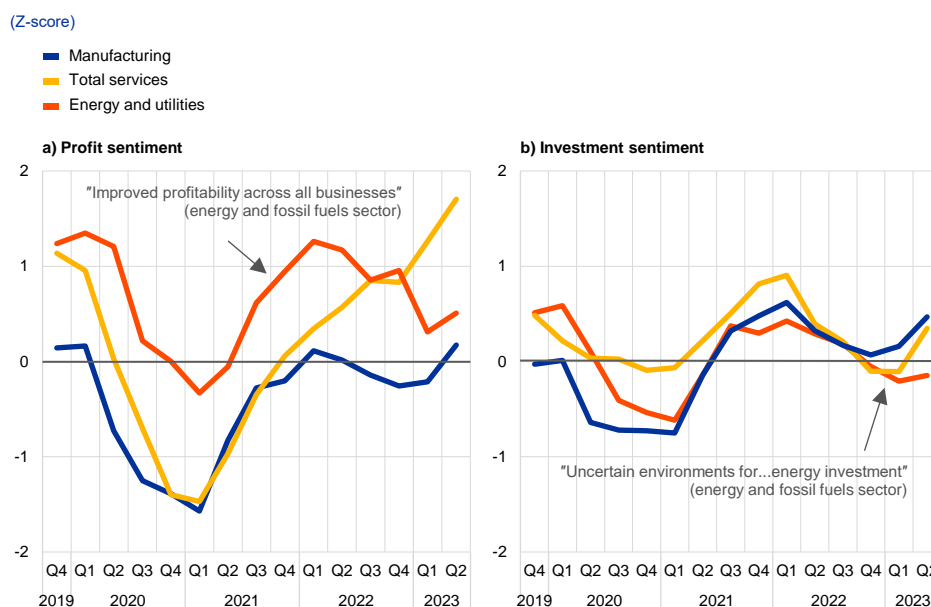
Sources: NL Analytics, Eurostat and ECB staff calculations.

Notes: Net investment sentiment reflects the frequency of the recurrence of synonyms for investment (investment, capital investment, investment plans, etc.) in firms' earnings calls. The Z-score computed by subtracting the historical average from each data point and dividing this demeaned series by the standard deviation. Recession periods are marked in grey. Business investment growth excludes investment in intellectual property products in Ireland and the Netherlands. The latest observations are for the second quarter of 2023 for net sentiment (for calls conducted up to 12 June) and for the first quarter of 2023 for business investment.

Looking at individual sectors, in 2023 profit sentiment has so far been strongest in the services sector, while investment sentiment has been strongest in the manufacturing sector. During the pandemic, profit sentiment deteriorated more in the services sector than in manufacturing sector. However, in the post-pandemic recovery phase and again in the first half of 2023, it improved more strongly in the services sector than it did in the manufacturing sector (Chart D, panel a). This is also in line with other sentiment indicators, such as the Purchasing Managers' Index. Investment sentiment, however, has deteriorated sharply since early 2022 across sectors, although so far in 2023 it seems to have held up slightly better in the manufacturing sector than in the services sector. In the energy and utilities sector, profit sentiment has been more positive than in the other sectors over the past three years, but has ebbed recently, reflecting developments in energy prices. Investment sentiment has been relatively weak in the sector, possibly owing to uncertainty surrounding energy investment, and also in the context of the green transition, as expressed by one firm in the sector (Chart D, panel b).

Chart D

Euro area profit and investment sentiment in selected sectors



Sources: NL Analytics and ECB staff calculations.

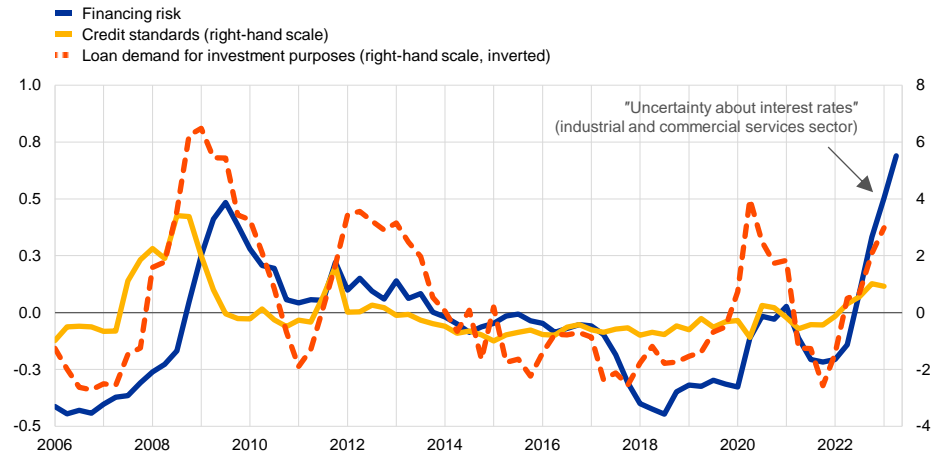
Notes: The series do not average the total series, as some firms are not covered by the sectoral classifications. The latest observations are for the second quarter of 2023 (for calls conducted up to 12 June).

Firms currently view financing conditions as a significant risk. For the purposes of this box, we also created an indicator of financing risk by searching for keywords, such as “interest rate”, “financing conditions” and “borrowing costs”, together with “uncertainty” and “risk”. Financing conditions were perceived to be an elevated risk during the global financial crisis, in line with tighter credit standards and less lending for investment purposes, as highlighted in the euro area bank lending survey (Chart E). The firms in the sample appear to have also viewed financing conditions as a heightened risk during the sovereign debt crisis. In the recovery phase from 2015 to 2019, risk perceptions surrounding financing conditions fell overall to levels seen prior to the global financial crisis. So far in 2023, following a small spike during the pandemic, firms have seen financing conditions as a high and rising risk – in the context of rapidly increasing interest rates and recent financial market tensions – with values in recent quarters reaching levels not seen since the global financial crisis. Although the indicators are not directly comparable, as the financial risk indicator is broader, there is some co-movement with credit standards. According to the bank lending survey, the perceived higher financing risk is also coinciding with shrinking demand for loans for investment purposes.

Chart E

Euro area financing risk, credit standards and loan demand for fixed investment purposes

(Z-score, percentage balances)



Sources: NL Analytics, euro area bank lending survey and ECB staff calculations.

Notes: The textual search for the financial risk indicator covers keywords such as "interest rates", "financing conditions" and "borrowing costs". The latest observations are for the first quarter for credit standards and loan demand, and for the second quarter of 2023 for financing risk (for calls conducted up to 12 June).

3 How have unit profits contributed to the recent strengthening of euro area domestic price pressures?

Prepared by Elke Hahn

Profits are an integral component of output prices, just like production costs such as wages or the cost of intermediate inputs. Firms determine their desired profits by setting prices at a certain level in excess of costs in order to achieve remuneration on their capital. Developments in profits and wages, as captured by the GDP deflator, are important determinants of underlying inflation, as illustrated by the strong co-movement between the GDP deflator and indicators of underlying inflation such as the Harmonised Index of Consumer Prices (HICP) excluding energy and food, or HICP excluding energy (Chart A).¹ This box analyses the impact that profits have had on domestic inflation on the basis of unit profits derived from the national accounts.^{2,3} It also looks at how profit indicators derived from institutional sector accounts, which are closer to business profits, have contributed to domestic inflation, and how the current signals from unit profits based on the national accounts fit together with the signals from mark-ups and profit margin indicators derived from corporate accounts.

¹ This applies despite conceptual differences between the two types of measure. There are conceptual differences regarding the coverage of price pressures, for example, since the GDP deflator covers only components of value added, whereas indicators of underlying inflation comprise all components of the output price. Likewise, the GDP deflator captures price pressures in the domestic economy, whereas indicators such as HICP excluding energy and food relate to price developments in the consumer goods sectors in question, regardless of whether those goods or services are produced domestically or imported.

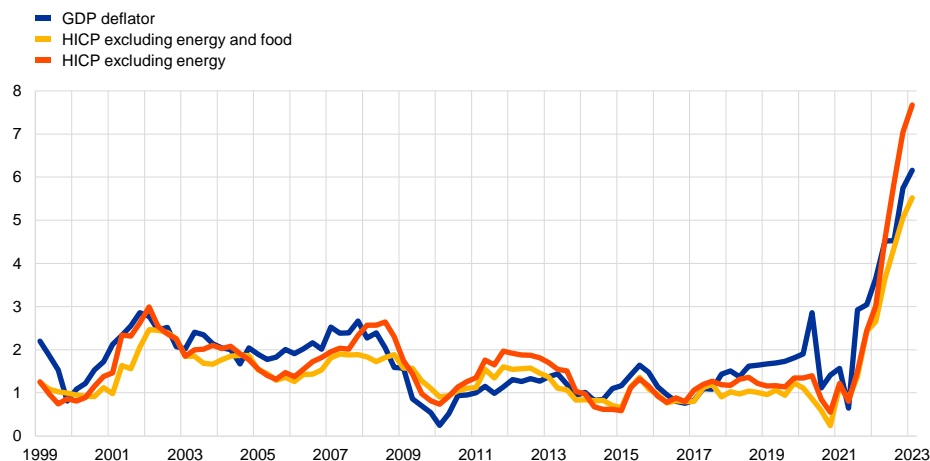
² It should be noted that unit profits and business profits are conceptually different, as explained later in the box.

³ See also Arce, Ó., Hahn, E. and Koester, G., “How tit-for-tat inflation can make everyone poorer”, *The ECB Blog*, ECB, 30 March 2023.

Chart A

Domestic price pressures and selected indicators of underlying inflation

(annual percentage changes; quarterly data)



Sources: Eurostat and ECB calculations.

Note: The last observations relate to the first quarter of 2023.

Profit measures differ in terms of their scope and objectives. In the national accounts, the role of profits in domestic price pressures is analysed using unit profits, which are defined as gross operating surplus (GOS) and mixed income per unit of real GDP. ECB estimates allow this measure to be derived also for the non-financial corporation (NFC) sector. A further profit measure available in the national accounts for inflation analysis is the so-called profit margin indicator, which is calculated as the ratio of the GDP deflator at basic prices to unit labour costs. This assesses the extent to which profit developments have added to or mitigated unit labour cost developments in explaining domestic price pressures. Two profit measures that can be derived from corporate accounts are the mark-up and the profit margin. The mark-up is defined as the ratio of prices to marginal costs, whereby the latter are, in practice, typically proxied using average costs. This indicator can be used to assess firms' pricing strategies. A commonly used indicator of profit margins derived from companies' profit and loss accounting schemes in the context of the cost of sales method is the gross profit margin. This is calculated as gross profits divided by turnover, where gross profits are defined as turnover minus the cost of goods sold (i.e. minus the cost of materials and labour, among other things).

Unit profits can be affected by developments in intermediate consumption.

GDP is based on the concept of value added. It includes the contributions made by profits (defined as GOS and mixed income) and the compensation of employees, as well as taxes (net of subsidies) on production, but it does not, by contrast with gross output, include intermediate consumption (such as that of energy or materials).⁴ However, as intermediate consumption is already deducted in full from GDP, developments in profits can provide indications of the extent to which a change in intermediate consumption costs is reflected in the output price. Abstracting from other impacts on unit profits, if a situation involving large increases in intermediate

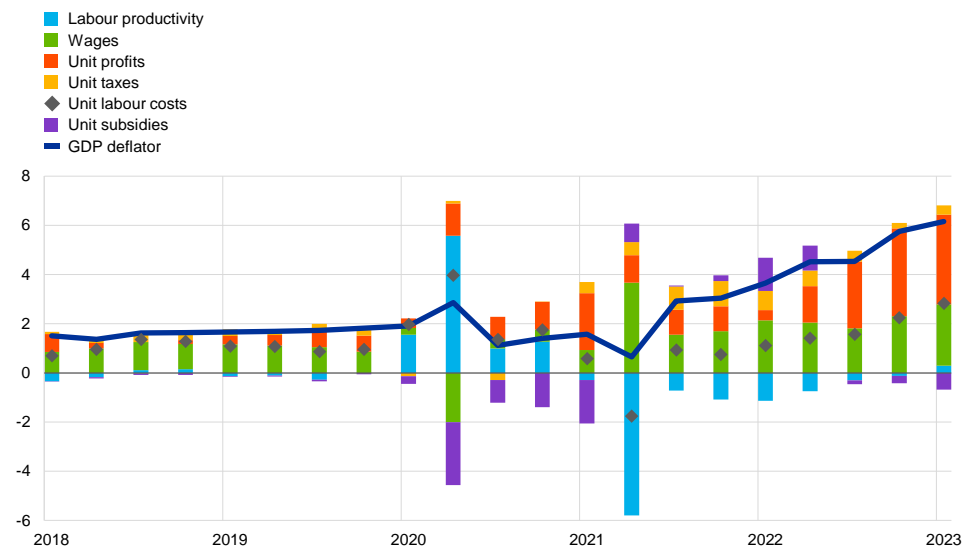
⁴ A measure of gross output is available in input-output statistics. However, the lack of timeliness in the release of these data limits their application in policy analysis.

consumption costs (as observed over the past two years) also sees a weakening of developments in unit profits, this is an indication that profits have (in part or in full) buffered the cost increase so that it is not transmitted (or not transmitted in full) to the output price. If, in contrast, developments in unit profits remain broadly unchanged or even strengthen in such a situation, this suggests that the output price has been increased by the same amount as the cost increase, or even more.

Domestic price pressures, as measured by the GDP deflator, have picked up strongly since mid-2021, with large contributions from both unit labour costs and unit profits. In the first quarter of 2023, the annual growth rate of the euro area GDP deflator reached a record high of 6.2%, up from 5.7% in the previous quarter, having stood at a low of 0.6% in the second quarter of 2021 (Chart B). Its average between 1999 and 2019 (i.e. in the period prior to the coronavirus (COVID-19) crisis) was 1.6%. As Chart B shows, unit labour costs and unit profits have both contributed to the increase in the GDP deflator over the past year and a half. The contribution from unit profits has been particularly large over the last three quarters, accounting for roughly 60% of total growth in the GDP deflator (which is higher than the 42% share of nominal GDP for GOS and mixed income).⁵ The contribution that subsidies make to the GDP deflator was uniquely large during the COVID-19 crisis on account of government support related to job retention schemes, but unusually large contributions have also been observed more recently on account of government support during the energy crisis.

Chart B
GDP deflator and contributions

(annual percentage changes and percentage point contributions)



Sources: Eurostat and ECB calculations.
Note: The last observations relate to the first quarter of 2023.

⁵ By contrast with Chart B, Chart 1 in Arce et al., op. cit., provides a breakdown of the GDP deflator including a correction for the income of the self-employed. Note that differences between the two as regards the contribution of unit profits are small.

The GOS and mixed income that are used in the unit profit indicator reflect a broad concept of profits. GOS covers all institutional sectors, while mixed income relates to the household sector (which also includes unincorporated businesses). Mixed income can be seen as the profits of the self-employed or unincorporated businesses after they have incurred their various costs. However, these profits still include compensation for the labour input of the self-employed. A common way of correcting for the labour income that is included in mixed income involves assuming that the self-employed earn the same average wage as employees and subtracting this imputed labour income from the GOS and mixed income component.⁶ GOS and mixed income also include income from housing services (i.e. rents, which affect all institutional sectors in the economy, and imputed rents for owner-occupied housing, which only affect the household sector). Income from self-employment and housing is not typically regarded as forming part of business profits.⁷ Another element of the GOS and mixed income component that is worth mentioning in this context is the consumption of fixed capital. This represents capital income that has been earned, but it can also be seen as a cost faced by companies, as it is needed to replace depreciated capital. Consequently, a better proxy for business profits is the gross or net operating surplus of NFCs in sectoral accounts, whereby the net figure is calculated as NFCs' gross operating surplus minus consumption of fixed capital. A final point when it comes to determining what constitute profits relates to the impact of subsidies (as included in the taxes less subsidies component of GDP). Depending on the addressee, such subsidies are included in profits or labour income and netted out in the decomposition of the GDP deflator via the subsidies component. The COVID-19 and energy crises have resulted in exceptionally large subsidies over the past few years, as government support via job retention schemes and in relation to the energy crisis has, in part, been provided through subsidies. Subsidies have therefore had a visible impact on the labour and profit components over the past few years.⁸ Such subsidies paid to firms clearly need to be distinguished from business profits. Nevertheless, any additional funding via subsidies could, in principle, have an impact on firms' plans to adjust their prices.

Sectoral data suggest that developments in the gross and net operating surpluses of NFCs have been an important driver of the recent strength in overall unit profits. As outlined above, NFCs' gross and net operating surpluses are closer to business profits than the GOS and mixed income component, which relates to the whole economy. Chart C shows the contributions that NFCs' net operating surplus, NFCs' consumption of fixed capital and other income make to unit

⁶ This correction for the income of the self-employed is typically applied when deriving the standard contribution that profits make to the euro area GDP deflator. See, for example, Chart 1 in Arce et al., op. cit.

⁷ For a recent detailed discussion, see Haskel, J., "What's driving inflation: wages, profits, or energy prices?", speech given at the Peterson Institute for International Economics, Washington, DC, 25 May 2023.

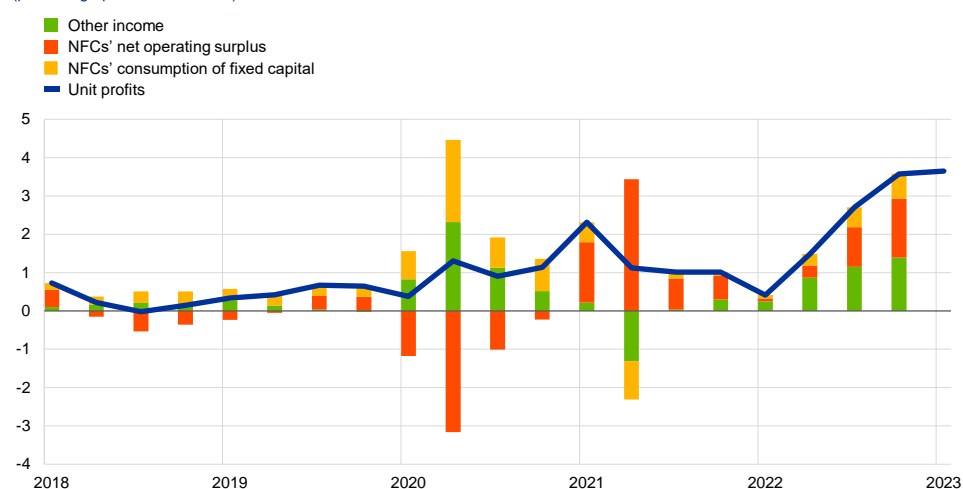
⁸ Although subsidies relating to job retention schemes during the COVID-19 recession were primarily geared towards the stabilisation of labour income and were directly reflected in that income component, they also had a visible impact on the unit profit component, which was much more resilient than in previous recessions. While firms generally strive to retain their employees in the early stages of a downturn at the expense of unit profits, this downward pressure on unit profits appears to have been alleviated by the much more widespread use of job retention schemes in the context of the COVID-19 recession. See the box entitled "The role of profit margins in the adjustment to the COVID-19 shock", *Economic Bulletin*, Issue 2, ECB, March 2021.

profits for the whole economy as displayed in Chart B. That decomposition shows that, while all three components have strengthened over the past few quarters, NFCs' gross and net operating surpluses have recently been more dynamic than overall unit profits and have been important drivers of the pick-up in unit profits.⁹ Their contribution to the increasingly strong growth of the GDP deflator in the second half of 2022 was noticeable. This shows that companies have, on aggregate, not buffered cost increases; indeed, it suggests that their price rises have exceeded the increases seen in costs, thereby contributing to the pick-up in domestic inflation.

Chart C

Breakdown of the contribution made by unit profits

(percentage point contributions)



Sources: Eurostat and ECB calculations.

Note: The last observations relate to the first quarter of 2023 for unit profits and the fourth quarter of 2022 for the components.

Domestic price pressures in the NFC sector have outpaced those seen in the economy as a whole in recent quarters, reflecting strong growth in unit labour costs, as well as a disproportionately large contribution from unit operating surpluses (Chart D). The annual growth rate of the GDP deflator for the NFC sector rose to 7.2% in the fourth quarter of 2022, thereby exceeding domestic price pressures in the economy as a whole by 1.5 percentage points. This represents a deviation from historical regularities, as the growth rate of the GDP deflator for the NFC sector has typically been lower than the equivalent figure for the total economy.¹⁰ The recent strong growth in the GDP deflator for the NFC sector has partly reflected strong growth in unit labour costs for that sector, the annual growth rate of which stood at 5.1% in the fourth quarter of 2022 (0.6 percentage points above the equivalent rate for the total economy). Notwithstanding these developments, gross and net operating surpluses made disproportionately large

⁹ While NFCs' gross and net operating surpluses account for 54% and 28% respectively of total GOS and mixed income for the whole economy, in the second half of 2022 they explained larger shares (almost 60% and more than 40% respectively) of the contribution made by unit profits. With shares in nominal GDP of roughly 23% and 12% respectively, NFCs' gross and net operating surpluses accounted for roughly 36% and 25% respectively of total growth in the GDP deflator.

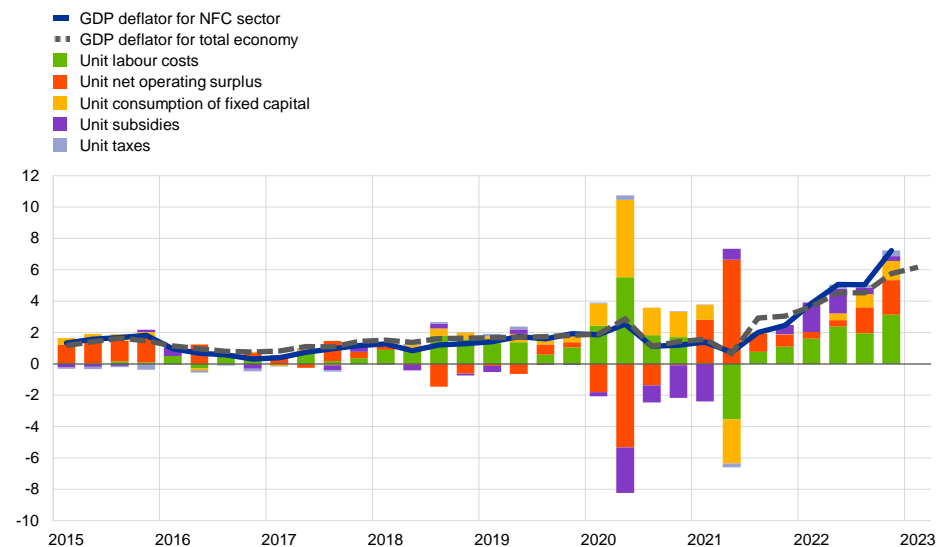
¹⁰ Over the period from 2002 to 2021 (i.e. before the recent strong increases) the average growth rate of the GDP deflator for the NFC sector was 1.1%, compared with a rate of 1.6% for the economy as a whole. Note that the GDP deflator for the NFC sector is based on internal estimates by the ECB and is only available as of 2002.

contributions to domestic price pressures in the NFC sector in the second half of 2022, accounting for nearly 50% of domestic price pressures in gross terms and somewhat more than 30% in net terms, clearly in excess of their respective shares of nominal GDP (about 40% and 20% respectively).

Chart D

GDP deflator for the NFC sector and contributions

(annual percentage changes and percentage point contributions)



Sources: Eurostat, ECB and ECB calculations.

Note: The last observations relate to the first quarter of 2023 for the GDP deflator for the total economy and the fourth quarter of 2022 for all other data.

Traditional macroeconomic determinants would have pointed to much weaker developments in unit profits, which indicates that their recent growth has been driven mostly by less usual factors. Usually, unit profits are particularly influenced by the economic cycle and the terms of trade.¹¹ One might have expected that the cyclical slowdown in economic activity up to the first quarter of 2023 and the adverse developments in the terms of trade in 2022 would have dampened developments in unit profits. A first reason for the unusual strength of unit profits is the fact that demand has been outpacing supply in many sectors, with the pandemic generating widespread supply constraints and pent-up demand developing in its aftermath. A second reason is the fact that strong input price dynamics (for energy, for example) have made it easier for firms to raise prices, as in such a situation it is harder to tell whether a price increase has been caused by higher costs or higher unit profits.¹² Also, expectations of further strong increases in input prices could have motivated firms to bring price increases forward in order to smooth out price changes over

¹¹ See the box entitled “How do profits shape domestic price pressures in the euro area?”, *Economic Bulletin*, Issue 6, ECB, September 2019; and the box entitled “The role of profit margins in the adjustment to the COVID-19 shock”, *Economic Bulletin*, Issue 2, ECB, March 2021.

¹² For evidence on the relationship between inflation and profit growth, see Andler, M. and Kovner, A., “Do corporate profits increase when inflation increases?”, *Liberty Street Economics*, Federal Reserve Bank of New York, 13 July 2022.

time.¹³ A further potential reason is the fact that the high-inflation environment triggered by the terms of trade shock has resulted in a significant decline in real income for the domestic economy, with workers and companies possibly aiming to recoup those losses.

The role that (business) profits play in inflation has recently also been assessed on the basis of estimated mark-ups and profit margins derived from corporate accounts. While other studies based on profit and unit profit data taken from the national accounts corroborate findings in this box,¹⁴ the fact that estimated mark-ups and profit margins derived from corporate accounts are broadly unchanged is often interpreted as suggesting that the role of profits is less clear as regards inflation.¹⁵ However, comparisons of the underlying concepts and stylised examples of the ways in which these different indicators respond to an intermediate input cost shock show that their respective movements do in fact provide a consistent picture.

In a situation characterised by large increases in intermediate consumption costs, the broadly unchanged mark-ups observed are in fact consistent with increased inflationary pressures from unit profits. The role that profits play as regards inflation has recently attracted attention in economic literature, focusing on the question of whether it is possible to derive insights on firms' behaviour from national accounts data. In microeconomic theory, firms are typically characterised as setting prices as a mark-up on their marginal costs. Consequently, price pressures can arise from both marginal costs and the mark-up. The latter is usually used to assess firms' pricing strategies, which are considered to be unchanged if the mark-up is unchanged. In the presence of strong increases in costs, an unchanged mark-up implies similarly strong increases in unit profits. From a firm's perspective, this unchanged mark-up may be seen as an unchanged pricing strategy and may, in this respect, not be regarded as actively contributing to inflationary pressures, since profits are simply displaying the same strong dynamics as overall costs. However, from a macroeconomic and inflation analysis perspective, any increase in a component of a price contributes to inflation, regardless of whether there has been a change in the underlying pricing behaviour.¹⁶

Table A provides stylised examples of developments in mark-ups and unit profits in response to an intermediate input cost shock. The table distinguishes, on the basis of a hypothetical cost structure, between a situation (Case 1) where the mark-up on total costs remains unchanged after the intermediate input cost shock and a situation (Case 2) where only the pure input cost increase is transferred to the

¹³ See Glover, A., Mustré-del-Río, J. and von Ende-Becker, A., "How Much Have Record Corporate Profits Contributed to Recent Inflation?", *Economic Review*, Vol. 108, No 1, Federal Reserve Bank of Kansas City, first quarter of 2023.

¹⁴ See, for instance, Ragnitz, J., "Gewinninflation und Inflationsgewinner", ifo Institute, 7 December 2022; Capolongo, A., Kühn, M. and Skovorodov, V., "Firms' profits: cure or curse?", *ESM Blog*, 12 May 2023; and European Commission, "Spring 2023 Economic Forecast: an improved outlook amid persistent challenges", 15 May 2023.

¹⁵ See, for example, Colonna, F., Torrini, R. and Viviano, E., "The profit share and firm mark-up: how to interpret them?", Occasional Paper No 770, Banca d'Italia, May 2023, on the question of mark-ups; and Schlautmann, C., "Inflation oder 'Gierflation' – Was sich von Grosskonzernen lernen lässt", *Handelsblatt*, 11 May 2023, on profit margins derived from corporate accounts.

¹⁶ Colonna et al., op. cit., also show that changes in the profit share do not always match those in the mark-up – and that, like unit profits, the profit share cannot be regarded as an unambiguous indicator of changes in pricing behaviour.

output price (with the mark-up changing as a result). In Case 1, a 67% increase in input costs in period T1 implies a 33% increase in total costs. If an unchanged mark-up of 20% is applied on top of total costs, the firm's profits and unit profits also rise by 33%, thereby adding to inflation alongside the initial input cost shock. In Case 2, input costs and total costs increase by the same amount as in Case 1, but only the pure increase in costs is transferred to the price, while profits are not adjusted in response to the input cost shock. In this situation, the price increases by less than in Case 1 (28%), implying a decline in the mark-up. Profits and unit profits remain unchanged, so do not add to inflation. These examples show, therefore, that in the presence of an input cost shock, increases in unit profits and their contribution to inflation can be consistent with a constant mark-up and thus unchanged pricing behaviour. They also show that the mark-up must decline if unit profits are to remain unchanged in the face of an input cost shock.

Table A

Stylised example of developments in profit indicators in response to an input cost shock

National accounts indicators	Initial period (T0)	Case 1		Case 2	
		Constant mark-up assumption		No constant mark-up assumption	
		T1	% change T0 to T1	T1	% change T0 to T1
Mark-up on total costs	20%	20%	0%	15%	-25%
Real units	100	100	0%	100	0%
Intermediate costs	6,000	10,000	67%	10,000	67%
Labour costs	6,000	6,000	0%	6,000	0%
Total costs = intermediate costs + labour costs	12,000	16,000	33%	16,000	33%
Profits	2,400	3,200	33%	2,400	0%
Nominal gross output = total costs + profits	14,400	19,200	33%	18,400	28%
Unit profits = profits / real units	24	32	33%	24	0%
Price = nominal gross output / real units	144	192	33%	184	28%
Profit share = profits / (profits + labour costs)	29%	35%	22%	29%	0%
Profit share = profits / nominal gross output	17%	17%	0%	13%	-22%

Source: ECB.

Note: In Case 1, the mark-up on total costs is assumed to remain constant; in Case 2, the calculation of the mark-up is based on an assumption that the price only reflects the additional input costs, not additional profits.

Similarly, in a situation characterised by surging input costs, unchanged gross profit margins in corporate accounts can also be consistent with increased inflationary pressures from profits. As noted above, a commonly used indicator of profit margins that can be derived from corporate accounts is the gross profit margin, which is defined as gross profits divided by turnover. Notwithstanding differences in terms of the underlying concept and data sources, the gross profit margin can broadly be regarded as the counterpart to the profit share (defined as the ratio of profits to nominal gross output) in the national accounts. On that basis, one can infer from Table A that the gross profit margin is unchanged in Case 1 (where the mark-up is constant), and this unchanged gross profit margin is consistent with increasing unit profits and inflationary pressures from profits. In Case 2 (where only the increased input costs are reflected in the price, with unit profits remaining unchanged) the

gross profit margin declines, as gross profits are unchanged while turnover increases.

Overall, unit profits have grown strongly in recent quarters and made a visible contribution to domestic price pressures in the euro area, but they are expected to act as a buffer against some of the pass-through of increased labour costs. Strong growth has been seen not only for the broad indicator of unit profits based on GOS and mixed income, but also for more narrowly defined profit indicators available in the national accounts which are more closely linked to business profits. In the context of surging intermediate input costs, this picture of dynamic developments in unit profits and upward effects on inflation is consistent with the broadly unchanged mark-ups and gross profit margins seen in corporate accounts. Looking ahead, the unwinding of pent-up pandemic-related demand, the easing of supply bottlenecks and the dampening impact of monetary policy tightening should mean that firms are under more pressure to absorb strong wage growth and the ensuing growth in unit labour costs using unit profits.

4 The development of the wage share in the euro area since the start of the pandemic

Prepared by Katalin Bodnár and Matthias Mohr

Recent developments in economic activity and the surge in inflation have raised questions about income distribution between the factors of production, namely labour and capital. The wage share (or labour share) is a measure that can capture some of these distributional aspects. It indicates the share of nominal domestic income allocated to labour. In this box it is calculated as total compensation of employees, corrected for the share of self-employed, divided by gross nominal value added.¹ The wage share is intimately interlinked with profit margins.² Its development reflects both long-term structural drivers, such as technological changes, globalisation, sectoral reallocation and institutional characteristics (including changes in labour and product market regulation and (minimum) wage-setting frameworks), and more medium-term business cycle drivers, such as labour market tightness and workers' bargaining power.³ The wage share can be an important indicator of inflationary pressures through second-round effects on prices.

The wage share in the euro area has decreased since the start of Russia's war of aggression in Ukraine, following some volatility during the coronavirus (COVID-19) pandemic (Chart A). The wage share stood slightly above 62% at the end of 2019, close to its long-term average. Following the start of the pandemic, it rose strongly to above 65% in the second quarter of 2020. This reflected the decoupling of value added growth and compensation growth owing to the widespread use of job retention schemes. During the pandemic restrictions, output fell and employees worked fewer hours than normal. However, under the job retention schemes they maintained their employment relationships and were partially compensated by governments or employers for the loss of labour income. A significant part of these payments was recorded as wage income in national

¹ The correction for the self-employed in the numerator assumes that they earn the same labour income on average per person as employees in their respective sector. The denominator "gross nominal value added" consists of the sum of the domestic factor incomes (compensation of employees, gross operating surplus and mixed income), consumption of fixed capital (or depreciation) and "other taxes minus subsidies on production". It is identical to "gross domestic product at basic prices". References to business sectors refer to all NACE sectors, including the public services sector. The latter comprises public administration, defence, education and health. By definition, the wage share in the institutional government sector is 100%. This is because government services are not, or only to a marginal extent, sold in markets, so it is not possible to calculate the wage share of the institutional government sector.

² For recent developments in profit margins, see the box entitled "[How have profits contributed to the recent strengthening of euro area price pressures?](#)" in this issue of the Economic Bulletin.

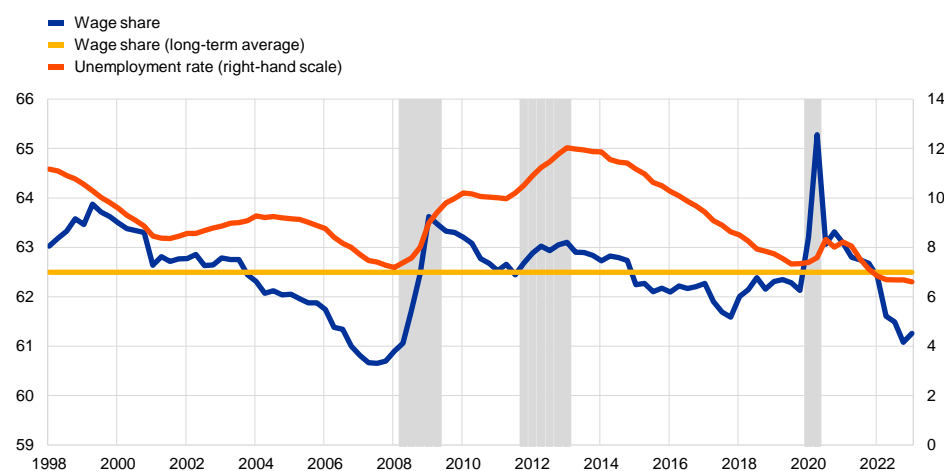
³ See, for example, Guschanski, A. and Onaran, Ö., "The decline in the wage share: falling bargaining power of labour or technological progress? Industry-level evidence from the OECD", *Socio-Economic Review*, Vol. 20, Issue 3, July 2022, pp. 1091-1124; and Velasquez, A., "[Production Technology, Market Power, and the Decline of the Labor Share](#)", *IMF Working Paper*, No 23/32, International Monetary Fund, February 2023.

accounts.⁴ Consequently, total compensation of employees declined by less than gross value added. By the beginning of 2022, job retention schemes had largely faded out as economic activity picked up and the wage share had fallen to close to its pre-pandemic level. It then continued to decline until the end of 2022 and was just above 61% in the last quarter of 2022. It edged up slightly in the first quarter of 2023 but was still below its long-term average and about 0.9 percentage points below the level seen in the fourth quarter of 2019.

Chart A

The wage share and unemployment rate in the euro area

(left-hand scale: percentages of gross nominal value added; right-hand scale: percentages of the labour force)



Sources: Eurostat, Euro Area Business Cycle Network (EABCN) and ECB staff calculations.

Notes: The latest observations are for the first quarter of 2023. The long-term average wage share calculated over the period 1998-2023 is 62.4%, the same as the long-term average calculated up to the end of 2019. The shaded areas denote recession episodes dated by the EABCN. The technical recession at the turn of the year is not indicated on the chart, in line with the assessment of the CEPR-EABCN Euro Area Business Cycle Dating Committee on 27 March 2023.

As a broad stylised fact, the wage share follows a countercyclical pattern: it rises at the start of recessions and falls when the recovery starts. This is illustrated in Chart A, in which the unemployment rate (which is also countercyclical) can be seen as a proxy of the business cycle. The chart also shows euro area recessions. The countercyclicity of the wage share is due to the different lags in the responses of profits and wages to economic shocks. At the start of recessions, profits typically contribute most to the decline in income, and thus the wage share increases. When the recovery sets in, profits rebound strongly, leading to a decline in the wage share.⁵ Indeed, during the financial crisis of 2008 and the euro area crisis 2010-12, the wage share started at a low point in an overheated economy and then increased strongly in the two recessionary phases of the pre-pandemic period, reflecting falling profits and labour hoarding, before moderating again in the recovery. It also increased at the start of the COVID-19 crisis and the subsequent

⁴ See the article entitled “[Wage developments and their determinants since the start of the pandemic](#)”, *Economic Bulletin*, Issue 8, ECB, 2022; the box entitled “Developments in compensation per hour and per employee since the start of the COVID-19 pandemic” in the article entitled “[The impact of the COVID-19 pandemic on the euro area labour market](#)”, *Economic Bulletin*, Issue 8, ECB, 2020; and the box entitled “[Short-time work schemes and their effects on wages and disposable income](#)”, *Economic Bulletin*, Issue 4, ECB, 2020.

⁵ See “The Labor Share in Europe and the United States during and after the Great Recession”, *World Economic Outlook*, International Monetary Fund, April 2012, pp. 36-37.

surge in energy prices, but those episodes were of a different nature: while the primary shocks during the financial crisis were mostly on the demand side, suppressing profits, now the economy was hit by a series of supply side shocks. Even though the labour market is tighter and unemployment lower now than before and during the financial crisis (which might be expected to strengthen workers' bargaining power), the current environment has turned out to be more favourable for increases in profit margins.

The easing of the wage share since early 2022 has been most substantial in industry and construction, while it increased in less contact-intensive private services and public services. Notwithstanding the volatility due to the pandemic, the wage share in the latter sectors increased to a level even higher than would be suggested by their pre-pandemic upward trends (Chart B).⁶ In both sectors, this probably reflects recent strong wage growth. Less contact-intensive market sectors provide services primarily to other businesses, including industry. The rise in the wage share in these sectors (both before and after the pandemic) may be connected in part to the declining wage share in the industry sector and reflect the process of outsourcing particularly highly remunerated professional services jobs (such as accounting and legal services) to more specialised service companies. Since the pandemic, the acceleration of digitalisation, requiring a larger share of more highly skilled and better paid employees could have further accelerated these developments.⁷ More contact-intensive services – primarily trade, transport and accommodation – saw falls in their wage shares in early 2022, but those falls have recently been reversed, while in industry and construction there is a clearer persistent downward movement. Some of the recent declines may reflect the labour shortages that arose after the pandemic. Employers may need to respond by filling some vacancies with less skilled, lower paid workers. The increase in the share of immigrant workers (who typically earn lower wages than local workers) in euro area employment, from 7.9% in the fourth quarter of 2019 to 8.6% in the fourth quarter of 2022, may have also contributed to the overall decline in the wage share.

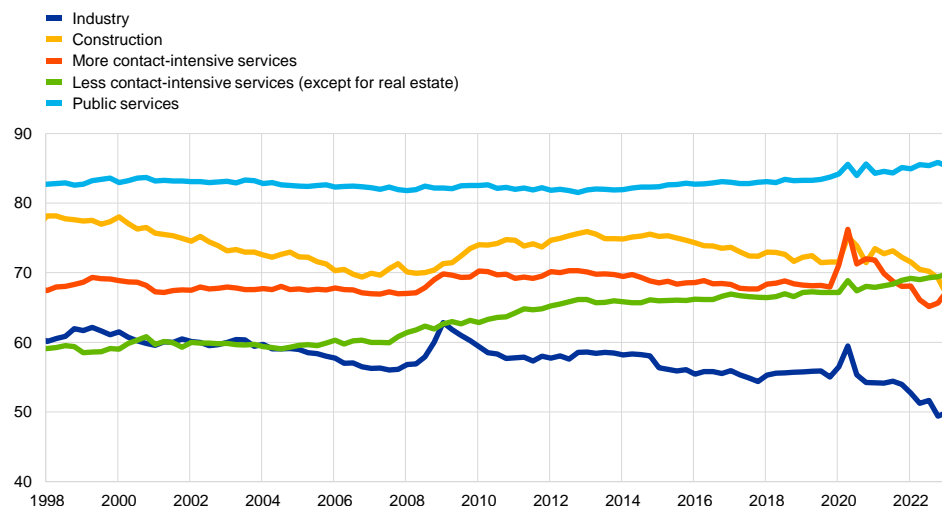
⁶ The wage share in the market economy alone, i.e. excluding public services, has declined by 1.2 percentage points since the fourth quarter of 2019. Between the fourth quarter of 2019 and the first quarter of 2023, compensation per employee in the public sector and the less contact-intensive sectors increased by 9.5% and 12.4%, respectively, while in the total economy it increased by 11.3%. The number of employees also increased strongly in these broad sectors, by 4.8% and 6.1%, respectively, while in the total economy it increased by 3.1%.

⁷ For empirical evidence of outsourcing of services, see Baker, P., Foster-McGregor, N., Koenen, J., Leitner, S.M., Schricker, J., Stehrer, R., Strobel, T., Vermeulen, J., Vieweg, H.-G. and Yagafarova, A., "The Relation between Industry and Services in Terms of Productivity and Value Creation", *wiiw Research Report*, No 404, The Vienna Institute for International Economic Studies, July 2015; Falk, M. and Peng, F., "The increasing service intensity of European manufacturing", *The Service Industries Journal*, Vol. 33(15-16), 2013, pp. 1686-1706; and Schettkat, R. and Yocarini, L., "The shift to services employment: A review of the literature", *Structural Change and Economic Dynamics*, Vol. 17(2), June 2006, pp. 127-147. For the overall mixed empirical evidence of the long-run effects of digitalisation and automation on wages and the wage share, which seem to be largely mediated by the structure of the economy and its labour market institutions, see Work stream on digitalisation, "Digitalisation: channels, impacts and implications for monetary policy in the euro area", *Occasional Paper Series*, No 266, ECB, September 2021.

Chart B

The wage share in the main economic sub-sectors in the euro area

(percentages of gross value added.)



Sources: Eurostat and ECB staff calculations.

Notes: The latest observations are for the first quarter of 2023. More contact-intensive services include trade, transport, accommodation and other services. Less contact-intensive services sectors include information and communication, finance and insurance, and professional and administrative services.

Shifts in economic activity between sectors did not play a role in the most recent decline in the aggregate wage share observed in the euro area. Changes in the aggregate wage share can be caused by sectoral changes where sectors with a traditionally lower (or higher) wage share make a larger contribution to overall value added. However, a shift-share analysis finds that a shift in weights of value added across the main sectors towards those with a lower wage share contributed only marginally – by -0.1 percentage points – to the decline in the wage share. Instead, the decline is mostly explained by declines within sub-sectors, which contributed -0.6 percentage points to the overall decline in the wage share since the last quarter of 2019.⁸

Declining real consumer wages reflect the lower wage share and deteriorating terms of trade, but the impact of real wage losses on household incomes has been partly mitigated by fiscal support measures. Real consumer wages have declined since the start of the war in Ukraine, implying that part of the recent terms of trade shock and its impact on consumer price inflation is being absorbed by workers (Chart C). In the first quarter of 2023, real wages showed some partial recovery. While the decomposition of real wages into the wage share, terms of trade and productivity growth is mechanical and cannot take into account the endogeneity of these developments (for example, between the wage share and productivity growth), it still illustrates the confluence of developments in the wage share and real wage growth in recent quarters. On one hand, this reflects staggered wage negotiations,

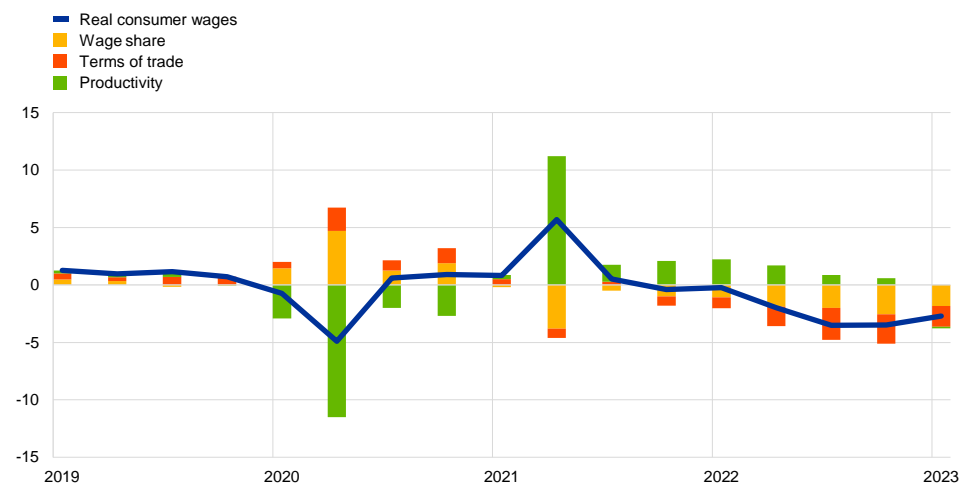
⁸ A further negative contribution of about -0.2 percentage points came from a residual component, reflecting a negative correlation between sectoral levels of the wage share and their respective changes. The calculation follows the shift-share analysis of productivity in Denis, C., McMorrow, K. and Röger, W., “An analysis of EU and US productivity developments (a total economy and industry level perspective)”, *European Economy – Economic Papers*, No 208, European Commission, July 2004, p. 78.

which mean wages adjust more slowly than prices and profits. On the other hand, some government support measures – amounting to 1.9% of GDP in the euro area in 2022 – limited the impact of high (primarily energy) inflation on low-income households and mitigated the income impact of real wage losses.⁹ This support may have helped to counteract both the volatility in the real economy and the impact of high inflation. Thus, the decline in the wage share is likely to overstate the actual change in the income distribution. As headline inflation is declining, nominal wage growth is strengthening, and profits can be expected to absorb the ensuing unit labour cost growth, the wage share can be expected to further recover to a value closer to its pre-pandemic longer-term average.¹⁰

Chart C

The wage share and real consumer wages in the euro area

(annual percentage growth rates and percentage point contributions)



Sources: Eurostat and ECB staff calculations.

Notes: The latest observations are for the first quarter of 2023. "Terms of trade" is defined here as the ratio of the value added deflator to the private consumption deflator. The latter incorporates the prices of imported goods and services, while the value added deflator does not.

⁹ See the box entitled "Who foots the bill? The uneven impact of the recent energy price shock", *Economic Bulletin*, Issue 2, ECB, 2023; and the box entitled "Update on euro area fiscal policy responses to the energy crisis and high inflation", *Economic Bulletin*, Issue 2, ECB, 2023.

¹⁰ See the box entitled "How have profits contributed to the recent strengthening of euro area price pressures?" in this issue of the *Economic Bulletin*.

5 Selling price expectations of firms – evidence from the SAFE

Prepared by Annalisa Ferrando, Asger Munch Gronlund and Erzsebet Judit Rariga

This box explores the selling price expectations of firms for the period April 2023-April 2024, focusing on the heterogeneity across the retail and non-retail sectors. The latest [Survey on the Access to Finance of Enterprises \(SAFE\)](#), which was conducted between 6 March and 14 April 2023, included two ad hoc questions on firms' subjective expectations about changes in (i) their selling prices, and (ii) their current employees' wages over the next 12 months.¹ This box focuses on firms' expectations about their selling prices only. As the SAFE includes firms that sell to both other firms and consumers, their average expectations about future selling prices represent a mix of producer and consumer prices. Firms have therefore been grouped into two broad sectors, retail and non-retail sector firms, in accordance with their NACE industry classification.² This is to distinguish between firms selling intermediate and final goods and services to other firms and those selling directly to final consumers.³

On average, euro area firms expect their selling prices to rise by 6.1% over the next 12 months, with higher increases in the retail sector (Chart A).⁴ Based on the NACE classification, firms in the retail sector and other sectors that predominantly sell to final consumers on average reported significantly higher expected selling prices (6.8%) over the next 12 months, compared with firms in the non-retail industries (4.9%), as well as a less dispersed distribution.

¹ For more details on firms' expectations for wages, see Box 1 "Ad hoc questions – Firms' expectations about selling prices and wages" in the [report](#) on the 28th round of the SAFE (October 2022-March 2023).

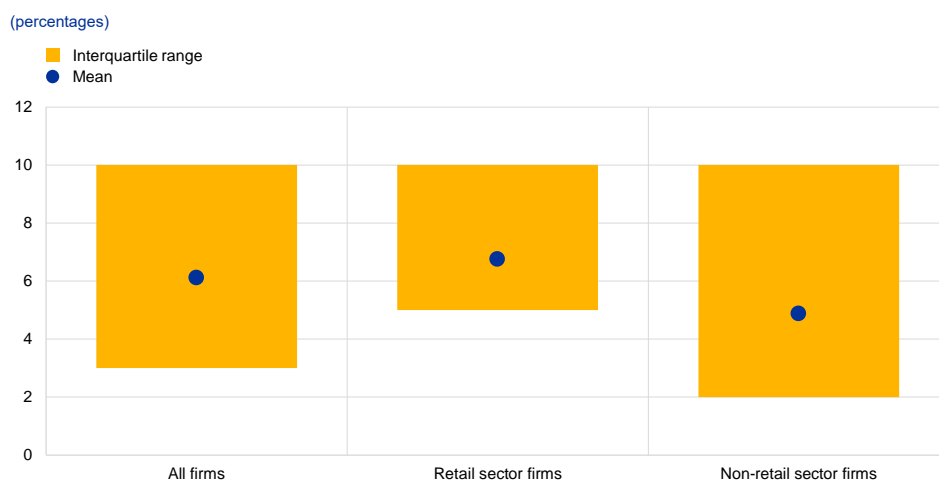
² The "Statistical classification of economic activities in the European Community", abbreviated as NACE, is the classification of economic activities in the European Union.

³ The group "retail sector firms" comprises firms operating mostly in the retail trade, car sales, passenger transport, accommodation and food services sectors, which are directly covered in the Harmonised Index of Consumer Prices (HICP). The firms in the "non-retail sector" group mainly operate in the manufacturing and construction sectors. This group more closely reflects intermediate goods or final goods that are less directly linked to consumer/retail. Although this exercise focuses on firms in sectors relevant for the HICP, the sample does not necessarily reflect the overall composition of the HICP basket. Consequently, firms' expectations about their future selling prices reported here cannot be directly compared with commonly used measures of consumer price inflation expectations for three reasons. First, while retail sector firms are defined here as those in industries that are considered for the calculation of HICP, such firms may also be involved in wholesale, in which case their prices would instead reflect producer prices. Second, several firms sell intermediate goods rather than final goods, whereas only final goods are reflected in the HICP. Third, the answers refer to the firms' own prices and not to an aggregate price index. The detailed sectoral information is derived by matching the individual survey responses to the financial statements of firms from Bureau Van Dijk's Orbis database, the exercise is performed on a subset of 5,829 of 10,983 surveyed firms.

⁴ Weighted averages are calculated after trimming observations below the 1st percentile and above the 99th percentile of the country distributions. The median expectation for price and wage changes is exactly 5% across size classes.

Chart A

Changes in the average expected selling price over the next 12 months



Sources: ECB and European Commission SAFE.

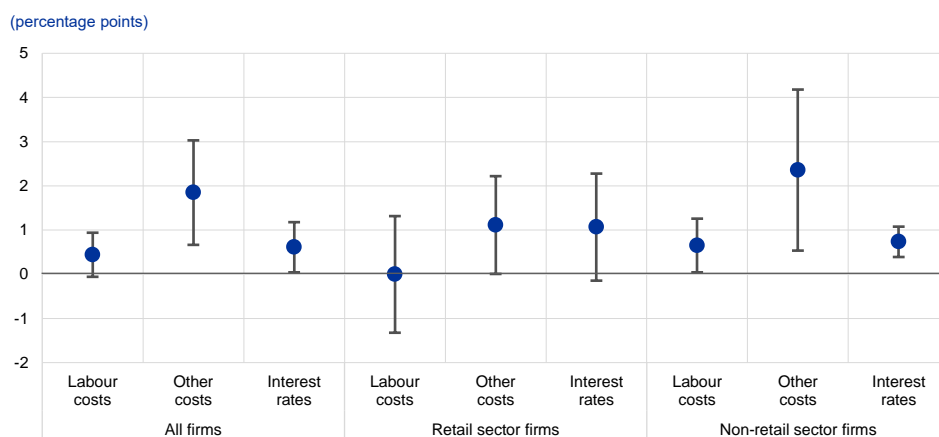
Notes: Average expectations about selling prices for the next 12 months as reported by euro area firms, along with interquartile ranges, using survey weights. The statistics are computed after trimming the data at the country-specific 1st and 99th percentiles. The distribution for "All firms" comprises the replies of all enterprises included in the SAFE (10,983). See the relevant footnote for details on the categorisation of firms as "retail sector" and "non-retail sector" firms. The change in the average expected selling price for the subsample of retail and non-retail sector firms merged with Bureau Van Dijk's Orbis dataset is 5.6%. The figures refer to the 28th round of the SAFE (October 2022-March 2023).

Firms that have reported recent increases in input and financing costs expect higher selling prices (Chart B). Firms included in the SAFE report on whether their labour costs, other input costs (mainly related to materials and energy) and bank borrowing costs have increased, stayed the same or decreased over the past six months. Reduced-form regressions considering the joint impact of such production and financing costs suggest that firms which reported an increase in costs related to materials and energy in the period from October 2022 to March 2023 expect their selling prices to increase over the next 12 months by around 2 percentage points more than those of firms reporting unchanged or decreasing non-labour input costs. Past reported increases in the cost of energy and materials are relevant for future selling prices for both retail and non-retail firms, but the effect is larger for non-retail firms. One explanation could be that non-retail firms are mostly in the manufacturing sector, where energy and other input costs represent a higher share of total costs than in retail. Additionally, firms in the non-retail sector that have reported past increases in labour costs and interest rate expenses expect their selling prices to increase over the next year. The reduced-form estimates for the impact of interest rates are consistent with the emergence of a cost channel of monetary transmission through which changes in interest rates affect price-setting behaviour and inflation developments by raising real marginal costs.⁵ At the same time, this reduced-form, firm-level regression falls short of capturing the overall dampening impact of higher interest rates on inflation via a traditional aggregate demand channel of monetary transmission.

⁵ See for example Ravenna, F. and Walsch, C.E., "Optimal Monetary Policy with the Cost Channel", *Journal of Monetary Economics*, Vol. 53, No 2, March 2006, pp. 199-216).

Chart B

Expected selling prices and past production and financing costs



Sources: ECB and European Commission SAFE and ECB calculations.

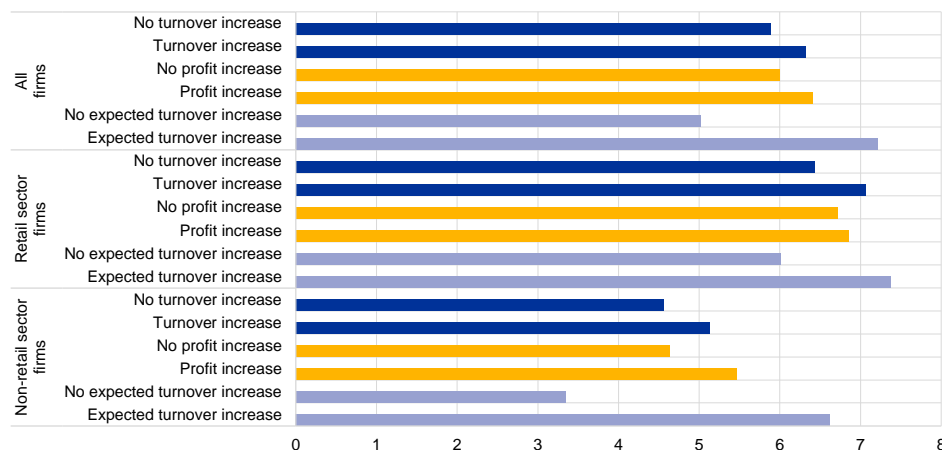
Notes: The chart shows coefficients from regressing the change in expected prices on changes in labour costs, other costs (materials and energy) and the level of interest rates. The right-hand side variables in the regression take value 1 if firms indicated an increase in labour costs, other costs or the level of interest rates for the period October 2022-March 2023. The regressions include country and firm-size fixed effects. The whiskers represent 90% confidence intervals based on clustered standard errors by country. See the relevant footnote for details on the categories "All firms", "Retail sector firms" and "Non-retail sector firms". The figures refer to the 28th round of the SAFE (October 2022-March 2023).

Expected increases in selling prices are higher for firms that expect an increase in their turnover in both the retail and non-retail sectors (Chart C). In their responses to the SAFE, firms also report on whether their turnover and profits over the past six months and their expected turnover over the next six months have increased, stayed the same or decreased. For all firms in the sample and in the breakdowns of firms by sector, past increases in turnover and profits are not associated with firms reporting a significant difference in expected selling prices. Firms in both the retail and non-retail sectors signalled significantly higher expected selling prices if they also reported higher expected turnover over the next six months. This could reflect that firms expecting increased demand for their products and services after the reopening of the economy are more likely to raise prices going forward. The expected future increase in selling prices and turnover could also be driven by higher than expected input costs.

Chart C

Expectations of selling prices by turnover and profits

(percentages)



Sources: ECB and European Commission SAFE.

Notes: Average expectations about selling prices for the next 12 months as reported by euro area firms for firms reporting an increase in their turnover/profits or decrease/no change in their turnover/profits over the past six months and firms reporting an increase or decrease/no change in expected turnover over the next six months, using survey weights. Average expectations about selling prices are computed after trimming the data at the country-specific 1st and 99th percentiles. The distribution for "All firms" comprises the replies of all enterprises in the survey (10,983). See the relevant footnote for details on the categorisation of firms as "Retail sector" and "Non-retail sector" firms. The figures refer to the 28th round of the SAFE (October 2022-March 2023).

Manufacturing firms in industries and countries that reported higher past increases in producer prices expect a smaller increase in selling prices over the next 12 months (Chart D).

Firms in the manufacturing sector (for which producer price data are available at country-industry level) show significant heterogeneity in their expected selling prices. Those firms for which above-median producer price increases were reported in the third quarter of 2022 expect an increase of around 3.4% (for the third quartile of the distribution of producer price inflation) and 2% (for the fourth quartile), which is well below the average expected selling price.⁶ Firms in industries which reported below-median producer price increases in the past expect higher selling prices over the next year (by around 5.5%). As manufacturing sectors sell mainly intermediate inputs to other sectors, this heterogeneity could help us understand the pass-through of producer prices to consumer prices.⁷ The observed price-setting behaviour may be consistent with state-dependent pricing models where the probability of price adjustments increases with price misalignments.⁸

⁶ Based on quarterly two-digit NACE Rev. 2 code – country level data, the median producer price index for the third quarter of 2022 is around 13%.

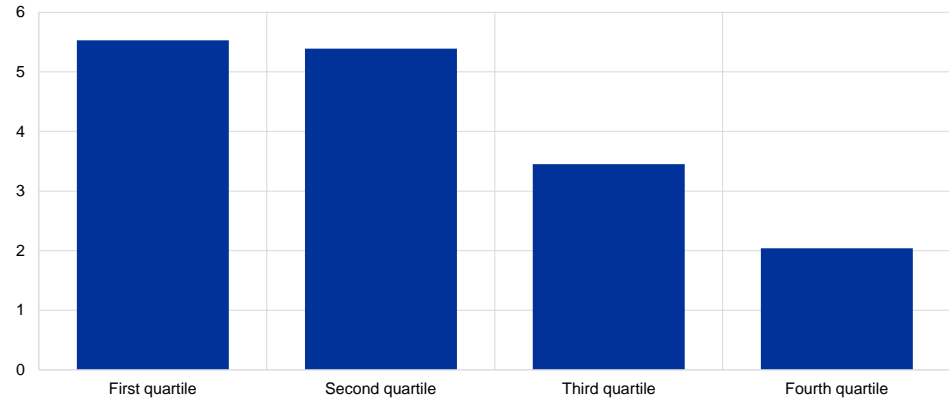
⁷ See also Box 3 "How have profits contributed to the recent strengthening of euro area domestic price pressures?" in this issue of the Economic Bulletin for further analysis on the contribution of unit profits to domestic price pressures in the euro area.

⁸ Karadi, P., Schoenle, R. and Wursten, J., "Measuring price selection in microdata: it's not there", Working Paper Series, No 2566, ECB, June 2021.

Chart D

Expectations of selling prices by quartiles of past producer price increases

(percentages)



Sources: ECB and European Commission SAFE, Eurostat and ECB calculations.

Notes: Expected changes in selling prices for firms in manufacturing. The chart shows the average expected selling prices over the next 12 months by quartiles of producer price increases in the third quarter of 2022. The producer price index is defined as the percentage change compared with the same period in the previous year. For firms in the first quartile, the country NACE Rev. 2 code level PPI is between -4.4% and 8%, between 8% and 13% for firms in the second quartile, between 13% and 18% for firms in the third quartile and between 18% and 80% for firms in the fourth quartile. The figures refer to the 28th round of the SAFE (October 2022-March 2023).

6 The great retrenchment in euro area external financial flows in 2022 – insights from more granular balance of payments statistics

Prepared by Lorenz Emter, Mariadolores Schiavone, Martin Schmitz

This box provides an analysis of the retrenchment in euro area external financial flows in 2022 – the largest since the global financial crisis – making use of new breakdowns of the euro area balance of payments and international investment position statistics.¹ A major development in 2022 was the shift in the euro area current account balance to a deficit of €137 billion (-1.0% of GDP) after a surplus of €285 billion (2.3% of GDP) in 2021. This constituted the biggest annual change in the euro area current account balance on record.² In the same period the financial account surplus fell from €312 billion to €14 billion, amid a sharp reversal in euro area financial flows on both the asset and the liability side. The analysis of the financial account has become increasingly complicated in recent years owing to the expansion of international financial intermediation chains, which often involve non-bank entities located in international financial centres.³ As recommended in the international statistical manuals, the ECB has developed new breakdowns of the euro area balance of payments and international investment position statistics to facilitate enhanced analysis of risk exposures and interconnectedness.⁴

The sharp retrenchment in euro area external financial flows in 2022 was mainly driven by developments in portfolio investment and foreign direct investment (Chart A). In 2022 euro area investors' net transactions in non-euro area assets reversed from a multi-year peak recorded in 2021 (net investment of €1.4 trillion) to net disinvestment of €0.3 trillion in 2022. This sharp reversal in financial flows on the euro area asset side was mainly due to developments in portfolio equity (listed shares and investment fund shares) and portfolio debt. Moreover, foreign direct investment (FDI) flows contributed notably to the

¹ The new data reported in accordance with the amended ECB External Statistics [Guideline ECB/2018/19](#) include additional breakdowns by resident sector, counterpart country and foreign direct investment debt instruments. The new series are currently available as of the first quarter of 2019 and further back data will be made available in the course of 2024. Further information on the euro area balance of payments and international investment position statistics is available on the [ECB's website](#).

² See the latest ECB statistical release on the [Euro area quarterly balance of payments and international investment position](#).

³ Lane, P.R., "The analytical contribution of external statistics: addressing the challenges", keynote speech at the Joint European Central Bank, Irving Fisher Committee and Banco de Portugal conference on "Bridging measurement challenges and analytical needs of external statistics: evolution or revolution?", 17 February 2020; and Coppola, A., Maggiori, M., Neiman, B. and Schreger, J., "Redrawing the Map of Global Capital Flows: The Role of Cross-Border Financing and Tax Havens", *The Quarterly Journal of Economics*, Vol. 136(3), 2021, pp.1499-1556.

⁴ International Monetary Fund Balance of Payments and International Investment Position [Manual](#), sixth edition (BPM6). For recent data on financial transactions between euro area sectors, see the latest ECB statistical release on [Euro area economic and financial developments by institutional sector](#) (in particular Table 1).

retrenchment following a period of uncharacteristically high volatility in recent years.⁵ Similarly, on the liability side, non-euro area investors turned from being net buyers of euro area assets in 2021 to being net sellers in 2022. The largest net disinvestments occurred in FDI, while net purchases of euro area portfolio equity securities dried up almost completely, following a record high in 2021. At the same time, net sales of euro area debt securities by foreign investors declined in 2022, following several years of strong net disinvestments.⁶ Overall, the net sales observed for both assets and liabilities and the reversal in financial transactions in 2022 were the strongest recorded since 2009. The remainder of this box focuses on the main drivers of the retrenchment – portfolio investment and FDI – in more detail.

⁵ Foreign direct investment-related flows were traditionally considered to be the least volatile category of international capital flows. See, for example, Eichengreen, B., Gupta, P. and Masetti, O., “[Are Capital Flows Fickle? Increasingly? And Does the Answer Still Depend on Type?](#)”, *Asian Economic Papers*, Vol. 17(1), 2018, pp. 22–41. However, in recent years the strong role of multinational enterprises has been accompanied by increased volatility, especially for small open economies. See, for example, Di Nino, V., Habib, M. and Schmitz, M., “[Multinational enterprises, financial centres and their implications for external imbalances: a euro area perspective](#)”, *Economic Bulletin*, Issue 2, ECB, 2020.

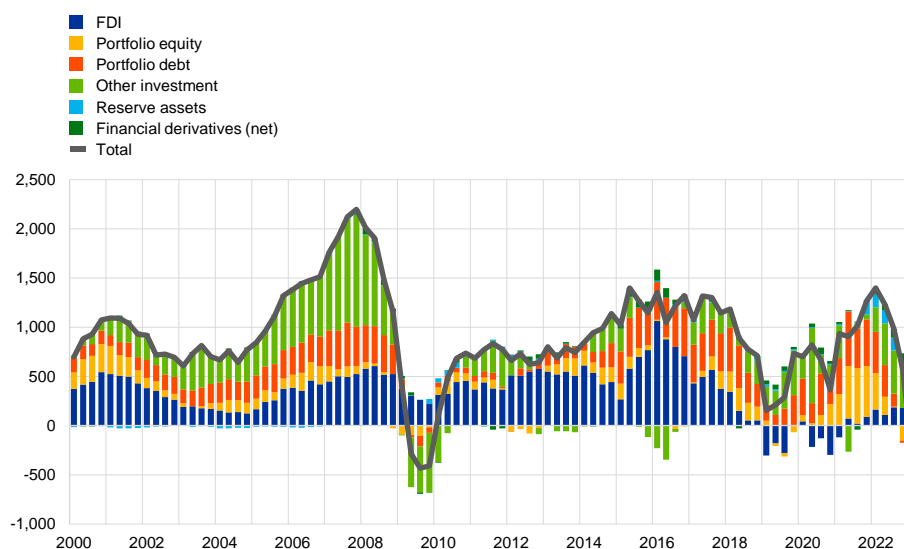
⁶ Transactions in the category “other investment” also reversed from high positive values in 2022 – in particular on the liability side – mainly owing to a decline in the deposits of non-euro area residents held with the Eurosystem.

Chart A

Euro area financial account

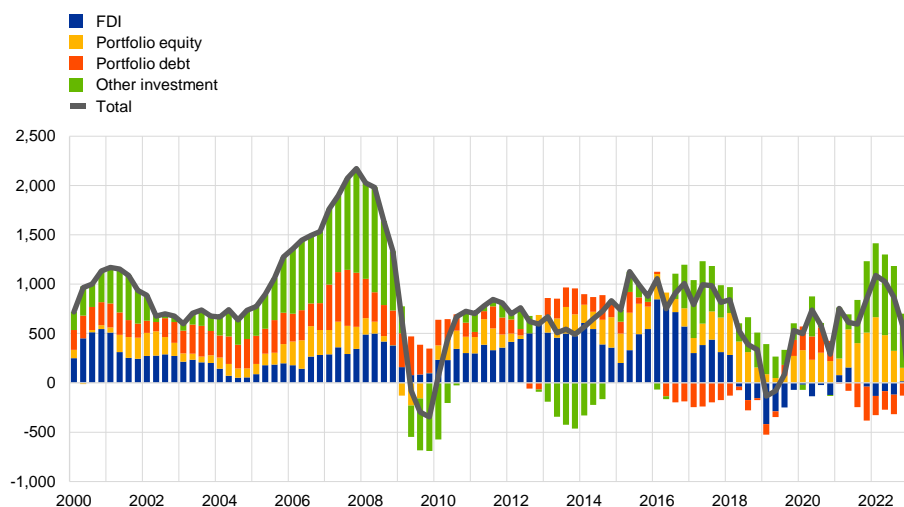
a) Assets

(four-quarter moving sums, EUR billions)



b) Liabilities

(four-quarter moving sums, EUR billions)



Source: ECB.

Notes: For assets, a positive (negative) number indicates net purchases (sales) of non-euro area instruments by euro area investors. For liabilities, a positive (negative) number indicates net purchases (sales) of euro area instruments by non-euro area investors. The latest observation is for the fourth quarter of 2022.

Euro area investors' retrenchment from portfolio investment assets in 2022 was mainly driven by investment funds – which tend to be procyclical investors – while insurance corporations and pension funds offset the reversal in outflows to some extent (Chart B). The newly available series in the euro area balance of payments and international investment position statistics provide a breakdown of the non-bank financial intermediaries sector.⁷ The breakdown reveals,

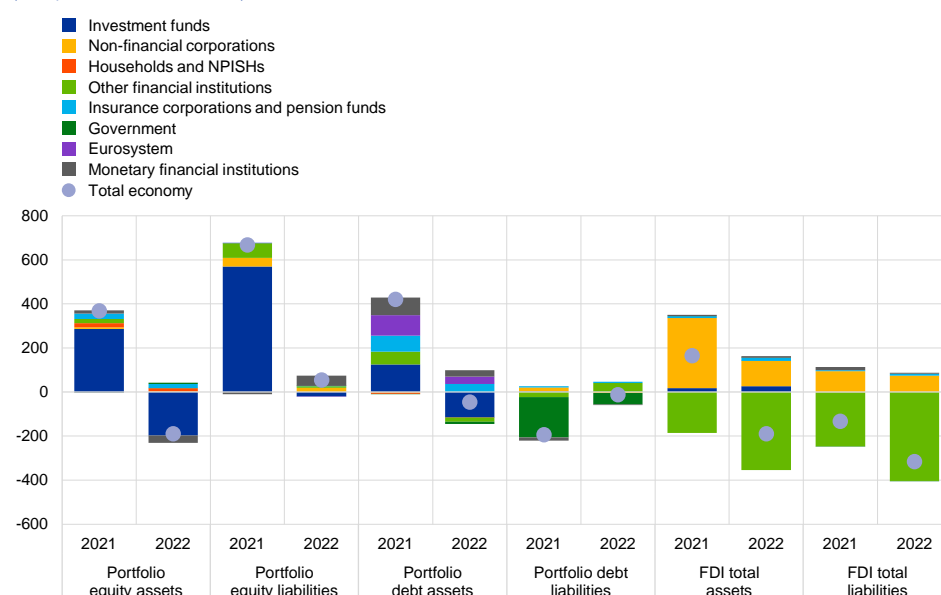
⁷ The new breakdown of the non-bank financial intermediaries sector includes separate data for investment funds, insurance corporations and pension funds, and other financial institutions.

in particular, the importance of euro area investment funds as holders of portfolio investment securities issued by non-euro area residents (accounting for 59% of total equity and debt holdings at the end of 2022).⁸ In line with this, the change in the euro area portfolio investment pattern from net purchases (€790 billion in 2021) to net sales (€235 billion in 2022) of debt and equity securities was driven to a large extent by the investment fund sector. Generally, investment funds tend to be procyclical investors, i.e. they sell securities in periods of high risk aversion, thereby inducing volatility in financial flows, while insurance corporations and pension funds tend to act countercyclically, in line with the patterns observed for the euro area in 2022.⁹ Moreover, the shifts in investment patterns in 2022 marked an end to a protracted phase of large-scale portfolio rebalancing towards extra-euro area securities that began in 2014 when the ECB introduced negative interest rates and launched its asset purchase programmes.¹⁰

Chart B

Euro area financial account: selected items by resident sector

(four-quarter sums, EUR billions)



Source: ECB.

Notes: For assets, a positive (negative) number indicates net purchases (sales) of non-euro area instruments by euro area investors. For liabilities, a positive (negative) number indicates net purchases (sales) of euro area instruments by non-euro area investors. The latest observation is for the fourth quarter of 2022. The abbreviation "NPISHs" stands for non-profit institutions serving households.

⁸ The investment patterns of euro area investment funds are relevant to assess the exposures of the underlying investors in these funds, in particular pension funds, insurance corporations and households. See Carvalho, D. and Schmitz, M., "Shifts in the portfolio holdings of euro area investors in the midst of COVID-19: looking through investment funds", *Review of International Economics*.

⁹ See Timmer, Y., "Cyclical investment behavior across financial institutions", *Journal of Financial Economics*, Vol. 129, No 2, 2018, pp. 268-286.

¹⁰ The ECB's asset purchase programme was initiated in mid-2014, while its pandemic emergency purchase programme was launched in March 2020. Net asset purchases under both programmes were discontinued in 2022. See Cœuré, B., "The international dimension of the ECB's asset purchase programme", speech given at the Foreign Exchange Contact Group meeting, 11 July 2017; Lane, P.R., "The international transmission of monetary policy", keynote speech at the CEPR International Macroeconomics and Finance Programme Meeting, 14 November 2019; and Bergant, K., Fidora, M. and Schmitz, M., "International capital flows at the security level: evidence from the ECB's Asset Purchase Programme", *Working Paper Series*, No 2388, ECB, Frankfurt am Main, April 2020.

Geographically, the portfolio investment retrenchment in 2022 was mainly concentrated on securities issued by advanced economies in the case of equity, while for debt securities it was most pronounced for those issued by emerging market economies, in line with deteriorating global investor sentiment (Chart C). The new breakdown of the euro area's counterpart countries allows for a better coverage of both advanced economies (with the addition of Australia, Norway and South Korea) and emerging market economies (now also including Argentina, Indonesia, Mexico, Saudi Arabia, South Africa and Türkiye). These new statistics reveal that euro area investors reduced their exposure to equity securities issued by residents of the United States, the United Kingdom and other advanced economies in 2022. For debt securities the picture is more nuanced: euro area investors on balance sold a significant amount of securities issued by residents of emerging market economies, offshore financial centres and the United Kingdom. Among emerging market economies, these net sales were driven by disinvestments of securities issued in China, Mexico and Russia.¹¹ In addition, the net sales of securities issued by offshore financial centres are likely to consist mostly of securities issued by subsidiaries of corporations based in emerging markets, in particular China.¹² At the same time, euro area investors made sizeable net purchases of securities issued by other advanced economies, in particular by residents of Canada and Japan, possibly driven by a stronger preference for safe assets.

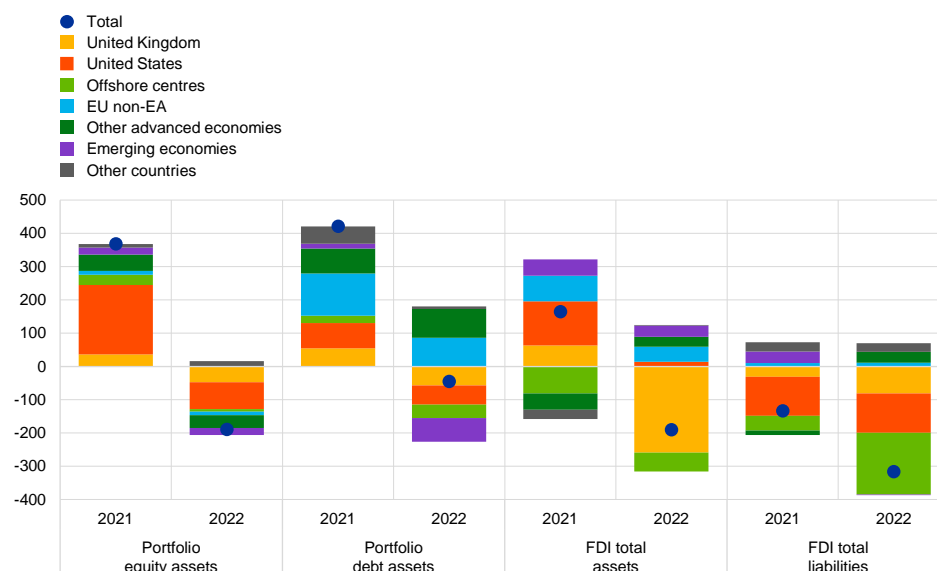
¹¹ For details on how euro area investment in Russia evolved, see Emter, L., Fidora, M., Pastoris, F. and Schmitz, M., "[Euro area linkages with Russia: latest insights from the balance of payments](#)", *Economic Bulletin*, Issue 7, ECB, 2022.

¹² Recent research finds that euro area investment in emerging market corporate bonds is substantially larger once investment in issuance by offshore subsidiaries of emerging market corporations is taken into account. See Beck, R., Coppola, A., Lewis, A., Maggiori, M., Schmitz, M. and Schreger, J., "[The Geography of Capital Allocation in the Euro Area](#)", working paper available at SSRN; and Bergant, K., Milesi-Ferretti, G.M. and Schmitz, M., "[Cross-Border Investment in Emerging Market Bonds: Stylized Facts and Security-Level Evidence from Europe](#)", *CEPR Discussion Paper*, No 17946, 2023.

Chart C

Euro area financial account: selected items by counterpart location

(four-quarter sums, EUR billions)



Source: ECB.

Notes: For assets, a positive (negative) number indicates net purchases (sales) of non-euro area instruments by euro area investors. For liabilities, a positive (negative) number indicates net purchases (sales) of euro area instruments by non-euro area investors. "EU non-EA" comprises the non-euro area EU Member States and those EU institutions and bodies that are considered for statistical purposes as being outside the euro area, such as the European Commission and the European Investment Bank. "Other advanced economies" include Australia, Canada, Japan, Norway, South Korea and Switzerland. Emerging economies include Argentina, Brazil, China, India, Indonesia, Mexico, Russia, Saudi Arabia, South Africa and Türkiye. "Other countries" include all countries and country groups not shown in the chart, as well as unallocated transactions. The latest observation is for the fourth quarter of 2022.

As regards foreign portfolio investment in the euro area in 2022, net purchases of euro area investment fund shares dried up, while foreign investors' appetite for euro area debt securities picked up as the ECB's monetary policy stance tightened (Chart B). Mirroring the reversal on the asset side of euro area investment funds, investors from outside the euro area turned into net sellers of shares issued by euro area investment funds amid the lower risk appetite prevailing in global financial markets following the outbreak of the war in Ukraine. The combination of the sizeable euro area investment fund industry and the strong extra-euro area investor base – especially for those funds based in Ireland and Luxembourg – had a large impact on euro area financial flows in 2022.¹³ At the same time, foreign investors' sentiment regarding euro area debt securities improved in 2022. While the period since 2015 was marked by high net sales of euro area debt securities (in particular of government bonds, partly reflecting the important role of non-residents as counterparts to the Eurosystem asset purchase programmes), net sales abated in 2022 as the key ECB interest rates started to rise and the Eurosystem discontinued net asset purchases. In an environment of rising interest rates, extra-euro area investors became net buyers of debt securities issued by entities in the euro area other financial institutions (OFI) sector, which include financial vehicle corporations, following net sales in previous years.

¹³ See Beck, R., Coppola, A., Lewis, A., Maggiori, M., Schmitz, M. and Schreger, J., "The Geography of Capital Allocation in the Euro Area", working paper available at SSRN.

The retrenchment in FDI mainly reflected transactions by multinational enterprises in euro area financial centres, often linked to special-purpose entities, while FDI transactions of the non-financial corporate sector – which are more closely related to the real economy – remained more stable (Chart B).¹⁴ On the euro area liability side, foreign direct investors' disinvestments amounted to €317 billion in 2022 (2.4% of euro area GDP). These disinvestments were driven by investors resident in the United States and the United Kingdom, as well as those in offshore financial centres (Chart C), and took place exclusively vis-à-vis the OFI sector (€403 billion), which includes special-purpose entities such as holding companies.¹⁵ In contrast to these more volatile “financialised” FDI flows, FDI in euro area non-financial corporations continued at a steady pace, recording €74 billion in net investments (Chart B). Turning to net acquisitions of FDI assets by euro area residents, the observed retrenchment was also predominantly driven by the OFI sector. The strong positive correlation between gross FDI asset and liability transactions related to OFIs suggests that these flows often “pass through” without being absorbed in the domestic economy. The retrenchment in FDI assets was largely driven by transactions vis-à-vis the United Kingdom related to the corporate restructuring of a single multinational enterprise.¹⁶ The additional breakdowns included in the euro area balance of payments and international investment position statistics highlight that economic analysis of FDI benefits from a more detailed separation of “financialised” flows.¹⁷

¹⁴ For FDI, additional details going beyond the scope of this box were released for debt instruments broken down into debt securities; loans; and trade credits and advances.

¹⁵ In the period after the global financial crisis, investment (predominantly by investors resident in the United States) in holding companies (often special-purpose entities) resident in euro area financial centres became an increasingly large component of euro area FDI liability flows. See Lane, P.R., “[The analytical contribution of external statistics: addressing the challenges](#)”, keynote speech at the Joint European Central Bank, Irving Fisher Committee and Banco de Portugal conference on “Bridging measurement challenges and analytical needs of external statistics: evolution or revolution?”, 17 February 2020.

¹⁶ Such large transactions are often related to corporate restructurings of a small number of multinational enterprises with a presence in financial centres in the euro area, but they can have a notable impact on global FDI flows. For example, global FDI flows dropped by 24% in 2022 compared with the previous year, but only by 5% when transactions involving Luxembourg are excluded. According to data from “[FDI in Figures](#)”, OECD, April 2023, the large disinvestment in Luxembourg mainly reflected an operation by an individual multinational telecommunications enterprise.

¹⁷ Such analysis will be further enhanced with the publication of euro area balance of payments and international investment position statistics with a separate breakdown for special-purpose entities, which is currently planned for the first half of 2024.

7 Liquidity conditions and monetary policy operations from 8 February to 9 May 2023

Prepared by Jens Budde and Vladimir Tsonchev

This box describes liquidity conditions and the Eurosystem’s monetary policy operations during the first and second reserve maintenance periods of 2023.

Together, these two maintenance periods ran from 8 February to 9 May 2023 (the “review period”).

Policy tightening continued during the review period. The ECB’s Governing Council raised its three policy rates by 50 basis points at each of the Governing Council meetings on 2 February 2023 and 16 March 2023. These increases took effect in the first and second reserve maintenance periods of 2023 respectively.

Excess liquidity in the euro area banking system declined during the review period. This decrease was mainly owing to early repayments and maturities under the third series of targeted longer-term refinancing operations (TLTRO III), coupled with a gradual decline in the size of the asset purchase programme (APP) portfolio. At the same time, the continued decline in net autonomous factors added liquidity to the system. Net autonomous factors have been continuing to fall since the end of the negative interest rate environment in July 2022.

Liquidity needs

The average daily liquidity needs of the banking system, defined as the sum of net autonomous factors and reserve requirements, decreased by €220.4 billion to €2,026.6 billion in the review period. When compared to the seventh and eighth maintenance periods of 2022, this decrease was almost entirely due to a fall of €218.4 billion in net autonomous factors, to €1,861.3 billion, driven by a decline in liquidity-absorbing autonomous factors (see the section of Table A entitled “Other liquidity-based information”) and an increase in liquidity-providing autonomous factors. Minimum reserve requirements declined marginally by €2 billion to €165.3 billion.

Liquidity-absorbing autonomous factors decreased by €136.5 billion to €2,932 billion in the review period, mainly owing to a decline in government deposits and other autonomous factors. Government deposits (see the section of Table A entitled “Liabilities”) fell on average by €62.9 billion over the review period to €369.7 billion, with most of the decline taking place in the second maintenance period. This decline reflects a normalisation in the buffers held by national treasuries and a likely adjustment in their cash management strategies in anticipation of the lower ceiling for the remuneration of government deposits by the national central banks that took effect on 1 May 2023. After 1 May, government deposits declined further to below €300 billion towards the levels of early 2020, before the onset of the pandemic. The average value of banknotes in circulation decreased by €6.1 billion over the review

period to €1,557.1 billion. The reduction in banknote holdings and the amount of vault cash observed since the end of the negative interest rate environment continued during the review period, albeit at a considerably slower pace.

Liquidity-providing autonomous factors increased by €81.8 billion to stand at €1,071 billion. While net foreign assets decreased by €18.5 billion, net assets denominated in euro increased by €100.3 billion in the review period. This increase was largely the result of a fall in the liabilities to non-euro area residents denominated in euro. This in turn reflects an adjustment in the cash management strategies of account holders under the Eurosystem reserve management services (ERMS), since the remuneration of deposits held under the ERMS framework was adjusted alongside that of government deposits.

Table A provides an overview of the autonomous factors discussed above and their changes.¹

Table A
Eurosystem liquidity conditions

Liabilities (averages; EUR billions)	Current review period: 8 February 2023-9 May 2023						Previous review period: 2 November 2022- 7 February 2023	
	First and second maintenance periods		First maintenance period: 8 February- 21 March		Second maintenance period: 22 March-9 May		Seventh and eighth maintenance periods	
Liquidity-absorbing autonomous factors	2,932.0	(-136.5)	2,936.8	(-44.8)	2,927.8	(-8.9)	3,068.5	(-211.5)
Banknotes in circulation	1,557.1	(-6.1)	1,553.9	(-11.6)	1,559.8	(+5.9)	1,563.2	(-11.3)
Government deposits	369.7	(-62.9)	380.2	(+7.4)	360.6	(-19.6)	432.6	(-112.7)
Other autonomous factors (net) ¹⁾	1,005.2	(-67.5)	1,002.6	(-40.6)	1,007.4	(+4.7)	1,072.7	(-87.5)
Current accounts above minimum reserve requirements	21.3	(-16.1)	26.4	(-1.2)	17.0	(-9.5)	37.4	(-1,933.8)
Minimum reserve requirements²⁾	165.3	(-2.0)	164.6	(-3.3)	165.8	(+1.2)	167.3	(+4.4)
Deposit facility	4,045.4	(-241.1)	4,103.0	(+51.4)	3,996.0	(-107.0)	4,286.5	(+1,688.0)
Liquidity-absorbing fine-tuning operations	0.0	(+0.0)	0.0	(+0.0)	0.0	(+0.0)	0.0	(+0.0)

Source: ECB.

Notes: All figures in the table are rounded to the nearest €0.1 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, 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.

¹ For further details on autonomous factors, see the article entitled “The liquidity management of the ECB,” *Monthly Bulletin*, ECB, May 2002.

Assets

(averages; EUR billions)

	Current review period: 8 February 2023-9 May 2023						Previous review period: 2 November 2022- 7 February 2023	
	First and second maintenance periods		First maintenance period: 8 February- 21 March		Second maintenance period: 22 March-9 May		Seventh and eighth maintenance periods	
Liquidity-providing autonomous factors	1,071.0	(+81.8)	1,057.8	(+75.4)	1,082.3	(+24.5)	989.2	(+52.6)
Net foreign assets	932.0	(-18.5)	916.8	(-23.6)	945.0	(+28.2)	950.4	(-2.5)
Net assets denominated in euro	139.0	(+100.3)	141.0	(+99.0)	137.4	(-3.6)	38.8	(+55.1)
Monetary policy instruments	6,093.4	(-477.6)	6,173.2	(-73.4)	6,024.9	(-148.3)	6,570.9	(-505.4)
Open market operations	6,093.3	(-477.6)	6,173.2	(-73.4)	6,024.8	(-148.4)	6,570.9	(-505.4)
Credit operations	1,172.3	(-454.5)	1,234.2	(-70.3)	1,119.2	(-115.1)	1,626.8	(-497.9)
MROs	1.2	(-0.4)	0.9	(-0.3)	1.4	(+0.5)	1.6	(-1.2)
Three-month LTROs	2.5	(+0.1)	2.8	(+0.0)	2.2	(-0.6)	2.4	(+1.2)
TLTRO III operations	1,168.6	(-453.3)	1,230.5	(-69.2)	1,115.5	(-115.0)	1,621.9	(-496.8)
PELTROs	0.0	(-0.9)	0.0	(-0.8)	0.0	(+0.0)	0.9	(-1.0)
Outright portfolios ¹⁾	4,921.0	(-23.1)	4,939.0	(-3.1)	4,905.6	(-33.4)	4,944.1	(-7.5)
Marginal lending facility	0.1	(+0.0)	0.0	(-0.0)	0.1	(+0.1)	0.0	(+0.0)

Source: ECB.

Notes: All figures in the table are rounded to the nearest €0.1 billion. Figures in brackets denote the change from the previous review or maintenance period. "MROs" denotes main refinancing operations, "LTROs" denotes longer-term refinancing operations, and "PELTROs" denotes pandemic emergency 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: 8 February 2023-9 May 2023						Previous review period: 2 November 2022- 7 February 2023	
	First and second maintenance periods		First maintenance period: 8 February- 21 March		Second maintenance period: 22 March-9 May		Seventh and eighth maintenance periods	
Aggregate liquidity needs ¹⁾	2,026.6	(-220.4)	2,043.8	(-123.7)	2,011.8	(-32.0)	2,247.0	(-259.6)
Net autonomous factors ²⁾	1,861.3	(-218.4)	1,879.2	(-120.4)	1,846.0	(-33.2)	2,079.7	(-264.0)
Excess liquidity ³⁾	4,066.7	(-257.2)	4,129.4	(+50.3)	4,012.9	(-116.5)	4,323.9	(-245.8)

Source: ECB.

Notes: All figures in the table are rounded to the nearest €0.1 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: 8 February 2023-9 May 2023						Previous review period: 2 November 2022- 7 February 2023	
	First and second maintenance periods		First maintenance period: 8 February- 21 March		Second maintenance period: 22 March-9 May		Seventh and eighth maintenance periods	
MROs	3.27	(+1.02)	3.00	(+0.50)	3.50	(+0.50)	2.25	(+1.38)
Marginal lending facility	3.52	(+1.02)	3.25	(+0.50)	3.75	(+0.50)	2.50	(+1.38)
Deposit facility	2.77	(+1.02)	2.50	(+0.50)	3.00	(+0.50)	1.75	(+1.38)
€STR	2.668	(+1.016)	2.400	(+0.498)	2.898	(+0.498)	1.652	(+1.366)
RepoFunds Rate Euro Index	2.660	(+1.175)	2.402	(+0.744)	2.881	(+0.480)	1.485	(+1.337)

Source: ECB.

Notes: Figures in brackets denote the change in percentage points from the previous review or maintenance period. The €STR is the euro short-term rate.

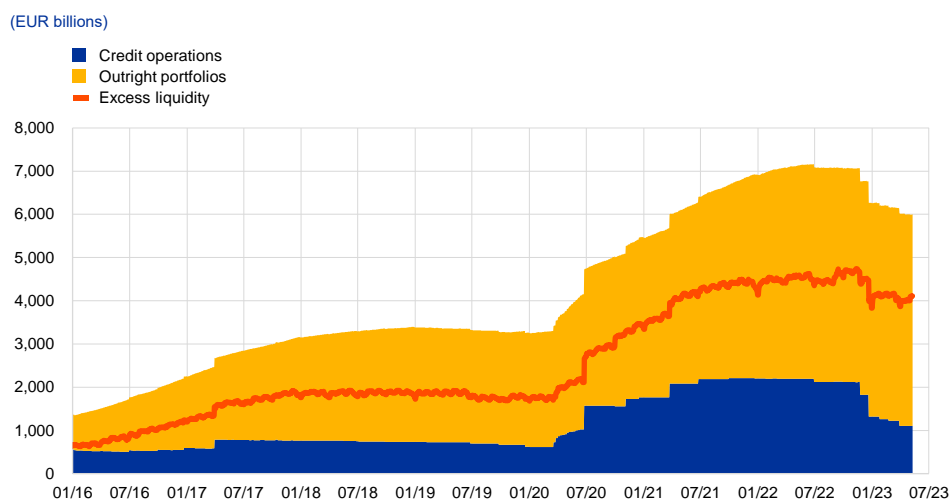
Liquidity provided through monetary policy instruments

The average amount of liquidity provided through monetary policy instruments decreased by €477.6 billion to €6,093.4 billion during the review period (Chart A). The reduction in liquidity was primarily driven by a decline in credit operations. Net asset purchases under the ECB's pandemic emergency purchase programme were discontinued at the end of March 2022; since then the Eurosystem fully reinvests maturing amounts. As regards the APP, in line with the decision of the ECB's Governing Council not to reinvest all of the principal payments from maturing securities as of 1 March 2023, the APP holdings have begun to gradually decline at an average pace of €15 billion per month.²

² Securities held in the outright portfolios are carried at amortised cost and revalued at the end of each quarter, which also has an impact on the total averages and the changes in the outright portfolios.

Chart A

Changes in liquidity provided through open market operations and excess liquidity



The average amount of liquidity provided through credit operations decreased by €454.5 billion during the review period. This decrease largely reflects the decline in outstanding TLTRO III amounts owing to early repayments and maturities. The voluntary early repayments in February and March 2023 amounted to €36.6 billion and €87.7 billion, respectively, and the maturing of TLTRO III amounts in March led to a further decline in outstanding TLTRO III amounts of €32.2 billion. The TLTRO III repayments of €499.4 billion and €62.7 billion in December 2022 and January 2023, respectively, also contributed to this decline during the review period, as their full effect on the change in review period averages only materialise in the current review period. Changes in other credit operations were minor.

Excess liquidity

Average excess liquidity decreased by €257.2 billion to stand at €4,066.7 billion (Chart A). Excess liquidity is the sum of banks' reserves above the reserve requirements and the recourse to the deposit facility net of the recourse to the marginal lending facility. It reflects the difference between the total liquidity provided to the banking system and banks' liquidity needs. After peaking at €4,748 billion in November 2022, excess liquidity has progressively decreased, mainly following the aforementioned TLTRO III early repayments and maturities, net of the effects of autonomous factors.

Interest rate developments

The euro short-term rate (€STR) increased by 99.2 basis points, from 1.90% on 7 February, the last day of the previous review period, to 2.89% on 9 May, the last day of this review period, reflecting the ECB's monetary policy tightening.

The pass-through of the ECB policy rate hikes in February and March 2023 to the unsecured money market was complete and immediate. On average, the €STR traded at 10 basis points below the deposit facility rate during the current review period, similarly to the seventh and eighth maintenance periods of 2022.

The euro area repo rate, as measured by the RepoFunds Rate Euro Index, increased by 98 basis points, from 1.90% on 7 February to 2.88% on 16 March.

The pass-through of the increases in the ECB's policy rates to the secured money market was immediate and complete. The functioning of the repo market remained orderly owing to several factors, including measures taken by some national debt management offices at the end of 2022, an increase in securities lending limits, higher net issuances since the beginning of 2023 and the release of mobilised collateral on the back of the maturing TLTROs, as well as a decline in the outstanding APP holdings. Moreover, on 7 February 2023, the ECB announced that the ceiling for the remuneration of euro area government deposits with the Eurosystem would be set at a level of 20 basis points below the €STR as of 1 May 2023 and that the remuneration of deposits held under the ERMS framework would also be adjusted accordingly. The announcement alleviated concerns that this remuneration ceiling could return to 0% once the temporary ceiling had expired on 30 April 2023, thus minimising the risk of adverse effects on market functioning as a result of abrupt shifts in cash investments from national treasuries and foreign central banks.

Inflation and competitiveness divergences in the euro area countries

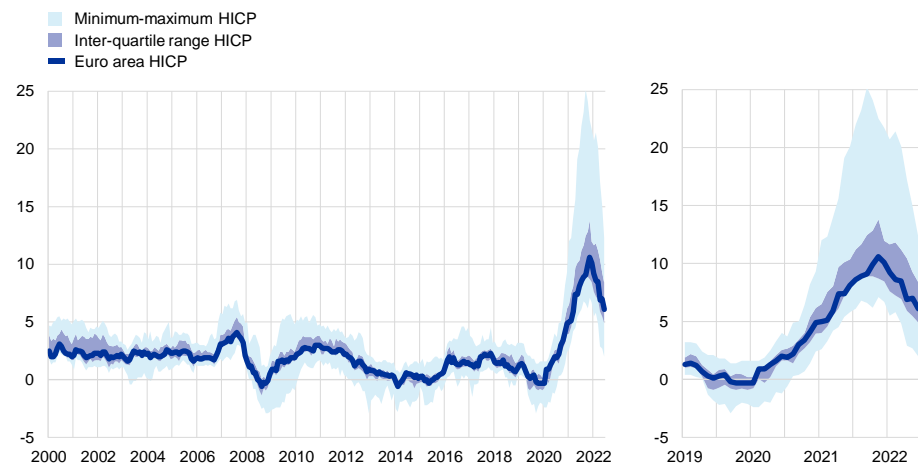
Prepared by Daniela Filip, Daphne Momferatou and Ralph Setzer

High energy and commodity prices and supply bottlenecks have driven strong inflation in the euro area and higher inflation differentials between euro area countries.¹ Cross-country inflation differentials, as measured by the inter-quartile range, rose from historically low levels in the pre-pandemic period to historical highs at the end of 2022 and, albeit decreasing since then, have remained at elevated levels. In May 2023 inflation rates in euro area countries ranged from 2.0% in Luxembourg to 12.3% in Latvia and Slovakia (Chart A). The current high inflation environment has mainly been caused by adverse supply shocks related to increasing energy and commodity prices, supply bottlenecks and post-pandemic reopening effects.

Chart A

HICP inflation differentials in the euro area countries

(annual percentage changes)



Sources: Eurostat and ECB calculations.

Notes: The inter-quartile range is the difference between the 75th and 25th percentile of the cross-country distribution, with euro area states in changing composition. The minimum-maximum interval corresponds to the lowest/highest inflation growth rate across the euro area countries in each month. The latest observations are for May 2023 (flash estimate).

Persistent inflation differentials may lead to external imbalances. Inflation differentials are normal in a currency union to the extent that they reflect temporary adjustments to shocks or are associated with catching-up processes. In addition, fiscal policy influences inflation differentials in the euro area, including through changes in taxes and public wages.² However, if such differentials are not short-lived or do not reflect price level convergence, they may point to diverging cost developments or structural inefficiencies such as nominal and real rigidities in

¹ For more details, see the box entitled “[The energy shock, price competitiveness and euro area export performance](#)”, *Economic Bulletin*, Issue 3, ECB, 2023.

² See Checherita-Westphal, C., Leiner-Killingner, N. and Schildmann, T., “[Euro area inflation differentials: the role of fiscal policies revisited](#)”, *Working Paper Series*, No. 2774, ECB, 2023.

product and labour markets. Persistent inflation differentials could lead to more protracted losses in price competitiveness and a deteriorating current account balance.³ Such losses in competitiveness can have highly problematic negative externalities and may ultimately need to be addressed by structural policies.

High inflation has spilled over into increasing unit labour costs (ULCs) and unit profits in many euro area countries. An increase in nominal ULCs, defined as compensation of employees per unit of real GDP, is generally considered an important driving factor for a sustained increase in underlying domestic inflation. While the evolution of ULCs has been difficult to interpret in recent years owing to the accounting of job retention schemes and sector reallocation affecting the dynamics of ULCs, it still provides useful signals for assessing the above-mentioned risks of divergences in price competitiveness among the euro area countries and the cost pressures from the labour market.⁴ The energy supply shock that has driven inflation since mid-2021 has been accompanied by strong increases in ULCs and unit profit growth. On the one hand, ULCs increased by 8% in the euro area from end-2019 to end-2022, driven by strong increases in compensation per employee, while productivity stagnated. Cross-country heterogeneity has been significant. The strongest increases in ULCs were recorded in the Baltics (up to 28% in Lithuania), Luxembourg and Slovakia. On the other hand, unit profit growth, defined as gross operating surplus and mixed income divided by real GDP, exceeded ULC growth. From an accounting perspective, and according to the GDP deflator, unit profit growth thereby contributed more to domestic inflation than ULC growth.⁵ This differential was particularly large in Greece, Latvia, Cyprus, Slovenia, Malta, Germany and Estonia (Chart B). This suggests that the higher input costs, including from imported energy and other intermediate goods, were not buffered by profits and did not have a negative impact on unit profits.⁶

³ See Obstfeld, M. and Rogoff, K., “[The unsustainable US current account position revisited](#)”, *NBER Working Paper*, No 10869, 2004, and Working Group on Econometric Modelling of the European System of Central Banks, “[Competitiveness and external imbalances within the euro area](#)”, *Occasional Paper Series*, No 139, ECB, 2012.

⁴ See Giordano, C. and Zollino, F., “[Exploring price and non-price determinants of trade flows in the largest euro-area countries](#)”, *Working Paper Series*, No 1789, ECB, 2015.

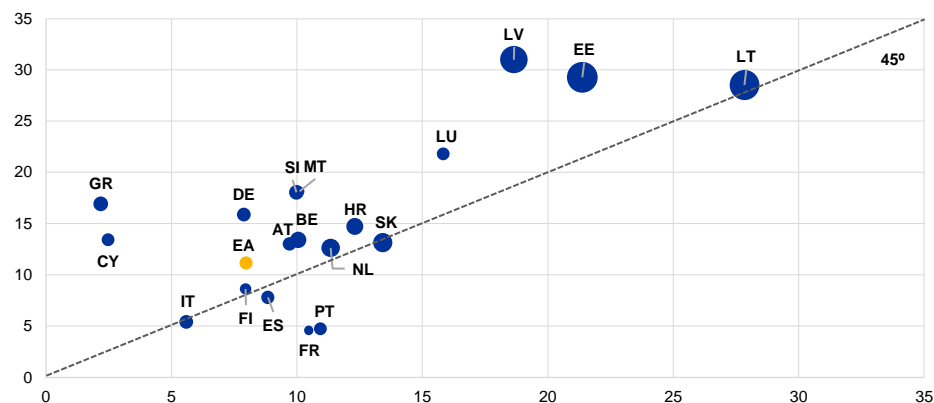
⁵ See Arce, O., Hahn, E. and Koester, G., “[How tit-for-tat inflation can make everyone poorer](#)”, *The ECB Blog*, ECB, 30 March 2023.

⁶ For an analysis on how profits have contributed to inflation in the euro area, see Box 3 entitled “[How have profits contributed to the recent pick-up in euro area price pressures?](#)” in the same issue of the Economic Bulletin.

Chart B

Unit profit growth and ULC growth

(x-axis: ULC cumulative percentage change over 2019-2022; y-axis: unit profit cumulative percentage change over 2019-2022; size of bubbles: HICP annual average rate of change in 2022)



Sources: Eurostat and ECB calculations.

Notes: ULCs are defined as compensation per employee divided by labour productivity. Unit profits are defined as gross operating surplus and mixed income divided by real GDP. Data for Ireland are not included.

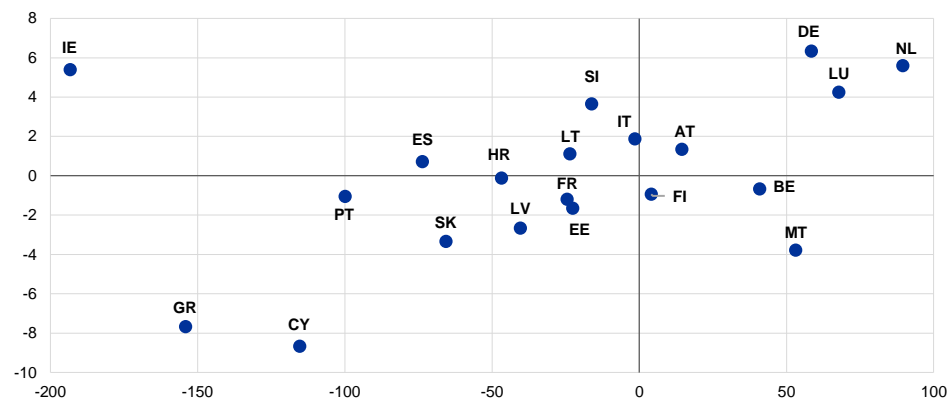
Current account developments suggest little progress in the unwinding of imbalances.

In the years before the pandemic a process of intra-euro area rebalancing took place in the form of a significant correction of ULCs and an improvement in the current account balances in countries with initial low competitiveness and large net external liabilities. This rebalancing was partial due to large rigidities in labour and product markets before it was interrupted by the pandemic in 2020/2021 and, subsequently, the spike in global energy prices. These developments have led to a deterioration in the current account balance of the euro area, from 2.2% of GDP in 2019 to -1.0% of GDP in 2022. Both deficit and surplus countries were affected. At the end of 2022 the external positions of several countries were below the thresholds defined by the scoreboard indicators of the European Commission's Macroeconomic Imbalance Procedure (MIP). Cyprus and Greece remain below both the threshold of -35% of GDP for the net international investment position (NIIP) and the current account threshold of -4% of GDP. As for the remaining countries with high external liabilities, the current account is significantly negative in Slovakia, somewhat negative in Portugal and slightly positive in Spain. At the same time, the current account of the main net creditor countries has remained significantly positive, though it has fallen considerably in Germany (Chart C).

Chart C

Current account balance and NIIP

(x-axis: NIIP as a percentage of GDP in the fourth quarter of 2019; y-axis: current account balance as a percentage of GDP, three-year average (2020-2022))



Sources: Eurostat and ECB calculations.

Harmonised competitiveness indicators (HCIs) based on GDP deflators identify broadly the same set of countries with the strongest losses in competitiveness since the start of the pandemic.

HCIs provide a broader measure of price competitiveness as they take into account: (i) the exchange rate developments of the euro against euro area countries' main trading partners, (ii) the relative developments in cost indicators among trading partners, and (iii) developments in trade shares.⁷ Changes in the GDP deflator-based HCI from 2019 to 2022 indicate that the Baltics and Luxembourg recorded strong losses in price competitiveness compared with their competitors. For the Baltics, the catching-up process in income levels, commonly known as the Balassa-Samuelson effect, would not constitute a loss of competitiveness and may partly explain the real appreciation.⁸

Overall, changes in price competitiveness since the pandemic appear to have neither aggravated nor further unwound external imbalances. The latest data on HCIs (Chart D) do not give a clear indication of whether the pre-pandemic process of rebalancing will resume. The large net external liability positions of some euro area countries have narrowed since 2019 thanks to higher nominal GDP growth. However, six countries exceeded the MIP threshold of 35% of GDP for the net external liabilities in the last quarter of 2022.⁹ To ensure a sustainable rebalancing, further relative price adjustments are necessary. For euro area countries with high

⁷ HCIs of the euro area member states are conceptually equivalent to real effective exchange rates of a currency. For more details, see this [ECB web page](#). For this box, the GDP deflator-based measure of the HCI is used since this accounts for the price of all domestically produced goods and services, including the impact of the costs of input additional to labour.

⁸ For more details on the impact of the Balassa-Samuelson effect on the euro area economies, see Diaz del Hoyo, J.L., Dorrucchi, E., Ferdinand Heinz, F. and Muzikarova, S., "Real convergence in the euro area: a long-term perspective", *Occasional Paper Series*, No 203, ECB, 2017.

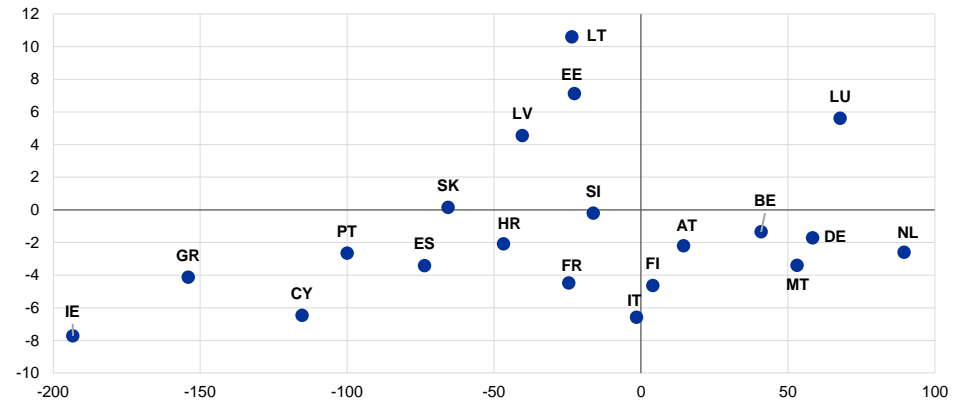
⁹ In Ireland and Cyprus, the NIIP is significantly affected by specific activities of multinational enterprises and special purpose entities without direct links to the domestic economy. Excluding these activities would result in a lower net external liability position.

net external liabilities, this requires gains in price competitiveness via lower ULC growth and/or lower unit profit growth.

Chart D

NIIP and HCI

(x-axis: NIIP as a percentage of GDP in the fourth quarter of 2019; y-axis: HCI (based on GDP deflators) cumulative percentage change (2019-2022))



Sources: Eurostat, ECB and ECB calculations.

Notes: The HCIs based on GDP deflators provide an overview of the price competitiveness of each euro area country relative to its own principal competitors in international markets (euro area-20 and effective exchange rate-41 group of trading partners). They are calculated on the basis of weighted averages of bilateral exchange rates against the currencies of the trading partners of each euro area country and are deflated using GDP deflators, which are in some countries affected by the activities of multinational enterprises (Ireland) or special purpose vehicles (Cyprus). Positive values of HCIs denote a loss in price competitiveness; negative values of HCIs denote a gain in price competitiveness. More information on HCIs can be found on the ECB's [Harmonised competitiveness indicators](#) web page.

Article

1 The role of supply and demand in the post-pandemic recovery in the euro area

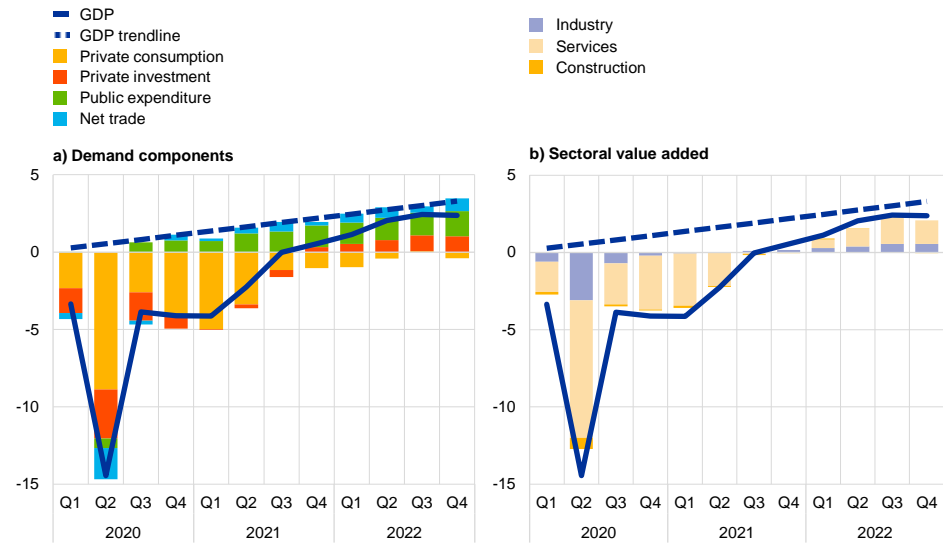
Prepared by Roberto A. De Santis and Grigor Stoevsky

1 Introduction

This article assesses the factors that caused the sharp decline in economic activity in the euro area in 2020 and shaped the subsequent economic recovery. The widespread lockdowns which began in March 2020, implemented to contain the spread of the coronavirus (COVID-19) pandemic, caused global supply disruptions and suppressed demand. As a result, euro area output dropped and international trade plummeted. The euro area economy recovered solidly after the first strict lockdowns were lifted in 2020, despite the adverse shocks in 2021 and 2022 associated with global supply bottlenecks, the energy crisis and the uncertainty generated by Russia's invasion of Ukraine. Euro area GDP fell by 6.1% in 2020, before rebounding by 5.3% in 2021 and further increasing by 3.5% in 2022. By the end of 2022 output in the euro area was 2.4% above its pre-pandemic level, but 0.9 percentage points below its extrapolated pre-pandemic linear trend, largely thanks to strong policy support (Chart 1, panel a). The developments at sectoral level have been heterogenous. Services were mainly affected by the various containment measures, which led to a delayed recovery in services activity in 2021 (Chart 1, panel b). Industrial and construction production have been also constrained by supply chain disruptions, energy shocks and labour shortages, although the former two factors have recently eased significantly.

Chart 1**Real GDP – breakdown by demand components and sectoral value added**

(index: Q4 2019 = 0, percentages and percentage point contributions)



Sources: Eurostat and ECB calculations.

Notes: The pre-COVID-19 deterministic trend is estimated by regressing the log of real GDP on a constant and a linear trend over the period from the first quarter of 1999 to the fourth quarter of 2019. Given the disproportionate impact of highly volatile transactions in intangible assets in Ireland on euro area investment and imports (see footnote 2), euro area private investment has been depicted excluding investment in intellectual property products in Ireland, while imports are shown after netting out services imports in Ireland. Public expenditure includes government consumption and government investment. Industry excludes construction value added in panel b). Owing to statistical differences between GDP and total gross value added, contributions from industry, services and construction do not add up to total GDP in panel b).

Since 2020 activity in the euro area has been shaped by three key exogenous factors: the reopening of the economy following the lockdowns (supported by fiscal policies), global supply disruptions and Russia’s war in Ukraine. After the first strict lockdowns were eased in May 2020, output rose immediately and the economy largely reopened. Demand also partially recovered, supported by considerable monetary and fiscal stimuli, although remaining containment measures and health concerns continued to restrict consumption possibilities. Subsequently, with the changing epidemiological situation, containment policies varied across the world and measures in different countries were strengthened or relaxed in an unsynchronised way. This, together with the shortages resulting from the misplacement of cargo containers globally, contributed to additional unexpected and abrupt bottlenecks in global supply chains. Rising geopolitical tensions in the autumn of 2021 and Russia’s invasion of Ukraine in February 2022 caused a surge in energy prices and amplified the ongoing supply disruptions, while also contributing to a jump in economic uncertainty with negative implications for domestic activity.

This article analyses the magnitude and channels through which the above three factors have affected demand and production. Section 2 looks at the demand composition of GDP, focusing on the main factors that shaped the dynamics of household income, savings, consumption and investment. Section 3 analyses the production side, focusing on those sectors most affected by the supply bottlenecks and energy shocks. The article also compares the post-pandemic economic recoveries in the euro area and the United States (Box 1), discusses the role of fiscal policy in shaping the business cycle in 2021 and 2022 (Box 2) and offers an

assessment of the relative significance of the different shocks that have characterised the post-pandemic recovery using a structural empirical model (Box 3). While monetary policy supported the economic recovery in 2021-22, a detailed analysis of its impact is beyond the scope of this article.¹ Section 4 concludes.

2 The role of demand

The recovery of aggregate demand has not been uniform across components.

Private consumption was negatively affected by the waves of restrictions imposed to contain the spread of the pandemic, which resulted in strongly negative demand shocks in 2020 (Box 3). The recovery in private consumption was relatively slow and it did not return to its pre-pandemic level until the third quarter of 2022, i.e. four quarters after real GDP. This was, in part, because the pandemic re-occurred over several waves, with the related containment measures and health concerns restricting consumption possibilities. By contrast, public consumption and public investment supported the recovery in GDP immediately, exceeding their pre-pandemic level from the third quarter of 2020 and continuing to grow thereafter. This reflected the pandemic and energy-related support provided between 2020 and 2022 (Box 2). Housing investment also recovered relatively quickly, already exceeding its pre-pandemic level by the end of 2020. By contrast, private non-construction investment plummeted during the first wave of the pandemic and, despite the subsequent rebound, did not recover until the fourth quarter of 2021. Net exports (abstracting from the volatility related to intangible asset transactions in Ireland) also plunged during the initial lockdowns in 2020. However, the net trade component of euro area GDP recovered swiftly thereafter, already exceeding its pre-pandemic level in the fourth quarter of 2020, as exports rebounded more strongly than imports (Chart 1, panel a).²

Developments in private consumption lagged behind the resilience shown by aggregate disposable income.

Real disposable income has been strongly supported by job retention schemes since 2020. The strong fiscal policy support deployed by euro area governments during the pandemic mitigated risks for entrepreneurs and employees, and prevented widespread bankruptcies. Although compensation of employees slumped in 2020 (Chart 2), overall this was more than buffered by fiscal support, with the implemented measures, such as job retention schemes, resulting in a strongly positive contribution to disposable income of direct taxes, social contributions and transfers (Box 2). In addition, ECB monetary policy

¹ A comprehensive assessment of the role of monetary policy can be found in Lagarde, C., “[Monetary policy in the euro area](#)”, Karl Otto Pöhl Lecture, organised by Frankfurter Gesellschaft für Handel, Industrie und Wissenschaft, Frankfurt, 20 September 2022; and Lane, P.R., “[The euro area hiking cycle: an interim assessment](#)”, Dow Lecture at the National Institute of Economic and Social Research, London, 16 February 2023. See also the box entitled “[The macroeconomic impact of the ECB’s monetary policy tightening since December 2021: a model-based assessment](#)”, *Economic Bulletin*, Issue 3, ECB, 2023.

² Euro area private investment and net trade were disproportionately affected by the highly volatile evolution of Irish intellectual property products. The calculations here abstract from the resulting strong volatility. See the box entitled “[Intangible assets of multinational enterprises in Ireland and their impact on euro area GDP](#)”, *Economic Bulletin*, Issue 3, ECB, 2023. For a deeper discussion on business investment after the pandemic, see the article entitled “[The recovery in business investment – drivers, opportunities, challenges and risks](#)”, *Economic Bulletin*, Issue 5, ECB, 2022.

action at the time supported favourable financing conditions. Labour compensation recovered strongly in 2021-22 and was the main contributor to growth in real disposable income in these two years.³ From mid-2021 the resulting impetus to consume was partly offset by the surge in energy prices, which made a strong negative contribution to real disposable income growth in 2022 via a deterioration in the terms of trade.⁴ However, its negative impact on spending was buffered by a gradual (albeit incomplete) unwinding of the previously exceptionally high saving flows, together with the positive developments in labour and non-labour income. The pandemic restrictions, coupled with policy support for incomes, resulted in an unprecedented increase in household savings to 25% of disposable income in the second quarter of 2020.⁵ Although it fell back from its peak thereafter, the saving ratio has remained above its pre-pandemic level, resulting in an accumulation of “excess” savings amounting to around €930 billion by the fourth quarter of 2022, or about 11.4% of annual disposable income. However, these pandemic savings have been accumulated mostly in illiquid assets, are concentrated among wealthier households and have been partly eroded in real terms by the recent high inflation. These factors are all likely to limit the support stemming from these accumulated savings to consumption growth.⁶

³ Typically, an increase in labour income provides stronger support to consumption than other sources of income as it is associated with a higher marginal propensity to consume. See the article entitled “[Monetary policy and inequality](#)”, *Economic Bulletin*, Issue 2, ECB, 2021; and Slačálek, J., Tristani, O. and Violante, G.L., “Household balance sheet channels of monetary policy: A back of the envelope calculation for the euro area”, *Journal of Economic Dynamics & Control*, Vol. 115, Article 103879, June 2020.

⁴ See the article entitled “[Energy prices and private consumption: what are the channels?](#)”, *Economic Bulletin*, Issue 3, ECB, 2022.

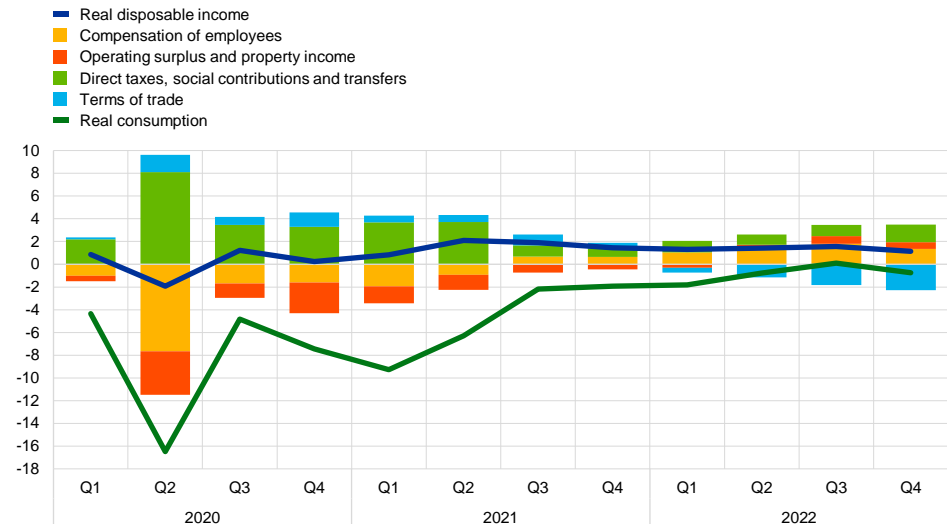
⁵ See the box entitled “[COVID-19 and the increase in household savings: an update](#)”, *Economic Bulletin*, Issue 5, ECB, 2021. See also the box entitled “[Household saving during the COVID-19 pandemic and implications for the recovery of consumption](#)”, *Economic Bulletin*, Issue 5, ECB, 2022.

⁶ For a deeper analysis, see the box entitled “[The consumption impulse from pandemic savings – does the composition matter?](#)” in this issue of the *Economic Bulletin*, ECB, 2023.

Chart 2

Real disposable income components and real consumption

(index: Q4 2019 = 0, percentages and percentage point contributions)



Sources: Eurostat and ECB calculations.

Notes: Disposable income is deflated with the private consumption deflator, whereas its components are deflated with the GDP deflator. "Terms of trade" are calculated as the ratio of GDP to the private consumption deflators. The latest observations are for the fourth quarter of 2022.

Across components, consumption of services, in particular contact-intensive activities such as travel, accommodation and food services, played a key role during the pandemic and its aftermath. Demand for contact-intensive services contributed strongly to the drop in consumption in the acute phases of the pandemic and to its subsequent recovery.⁷ Services consumption returned to its pre-pandemic level only in the third quarter of 2022 (Chart 3). The consumption of durable goods, which is typically pro-cyclical and highly volatile, rebounded quickly after the lockdowns, but was affected by tight global supply constraints in 2021-22. Meanwhile, expenditure on non-durable and semi-durable goods suffered less than that on services during the pandemic and had already recovered to pre-pandemic levels by mid-2021. However, consumption of non-durable and semi-durable goods was hit by the repercussions of Russia's invasion of Ukraine, with the ensuing high energy and food inflation contributing to a decline in this expenditure component over 2022.

⁷ See the box entitled "Economic developments and outlook for contact-intensive services in the euro area", *Economic Bulletin*, Issue 7, ECB, 2021.

Chart 3

Private consumption components

(index: Q4 2019 = 0, percentages and percentage point contributions)



Sources: Eurostat, European Commission (DG ECFIN) and ECB calculations.

Note: The latest observations are for the fourth quarter of 2022.

During the post-pandemic reopening phase, private consumption growth was held back by the rising energy prices, increasing uncertainty and stricter financing conditions, including higher interest rates.⁸ The surge in energy costs following Russia's invasion of Ukraine translated into a jump in consumer uncertainty and price expectations, and a steep drop in consumer confidence, which reached extremely low levels in September 2022 (Chart 4). While consumer uncertainty has moderated since October 2022, it has remained elevated from a historical perspective, and its detrimental economic impact was significant in 2022.⁹ With fading concerns related to the supply of gas and declining energy prices, consumer confidence started to improve, albeit still remaining at a low level, and the consumer price trend expectations declined to below its historical average level in early 2023. Nevertheless, private consumption growth has been increasingly affected by the ongoing tightening of monetary policy and the related stricter financing conditions.

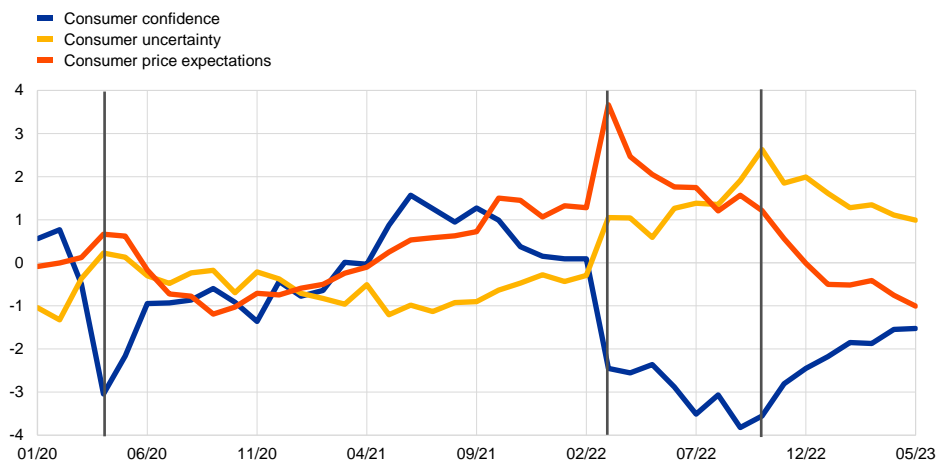
⁸ See the article entitled "[Energy prices and private consumption: what are the channels?](#)", *Economic Bulletin*, Issue 3, ECB, 2022.

⁹ See the box entitled "[The impact of the Russian invasion of Ukraine on euro area activity via the uncertainty channel](#)", *Economic Bulletin*, Issue 4, ECB, 2022.

Chart 4

Consumer confidence, uncertainty and price expectations

(standardised percentage balances)



Sources: European Commission (DG ECFIN) and ECB calculations.

Notes: Consumer confidence and price expectations standardised over 1985-2019, consumer uncertainty standardised over April 2019-May 2023. The vertical lines mark turning points in April 2020, March 2022 and October 2022. The latest observations are for May 2023.

Turning to investment, the initial strong rebound of the residential component reflected pandemic-specific needs and the favourable financing environment.

Households have also allocated a small part of their above-trend savings to capital formation since the beginning of 2021.¹⁰ However, the spike in uncertainty and the gradual tightening of financing conditions in the course of 2022 resulted in increasingly steep moderation in housing investment activity (Chart 5, panel a).¹¹ By contrast, euro area non-construction investment, which dropped during the pandemic, took longer to recover in its aftermath. While its rebound has been significant, this has varied considerably across countries, firms and types of investment, and has been weaker in the euro area than in the United States (Box 1).¹² While the recovery of non-construction investment was also helped by substantial policy support, headwinds such as increased uncertainty, energy cost rises and supply bottlenecks induced a relatively high level of savings by companies and delayed investment decisions (Chart 5, panel b). Nevertheless, strengthened structural trends since the pandemic, including the further digitalisation and greening of the euro area economy, with the Next Generation EU (NGEU) funds acting as a catalyst, have recently supported growth in non-construction investment demand.

¹⁰ See the box entitled “[The consumption impulse from pandemic savings – does the composition matter?](#)” in this issue of the *Economic Bulletin*, ECB, 2023.

¹¹ See Battistini, N., Falagiarda, M., Hackmann, A. and Roma, M., “[Navigating the housing channel of monetary policy across euro area regions](#)”, *Working Paper Series*, No 2752, ECB, November 2022. See also the box entitled “[Monetary policy and housing investment in the euro area and the United States](#)”, *Economic Bulletin*, Issue 3, ECB, 2023

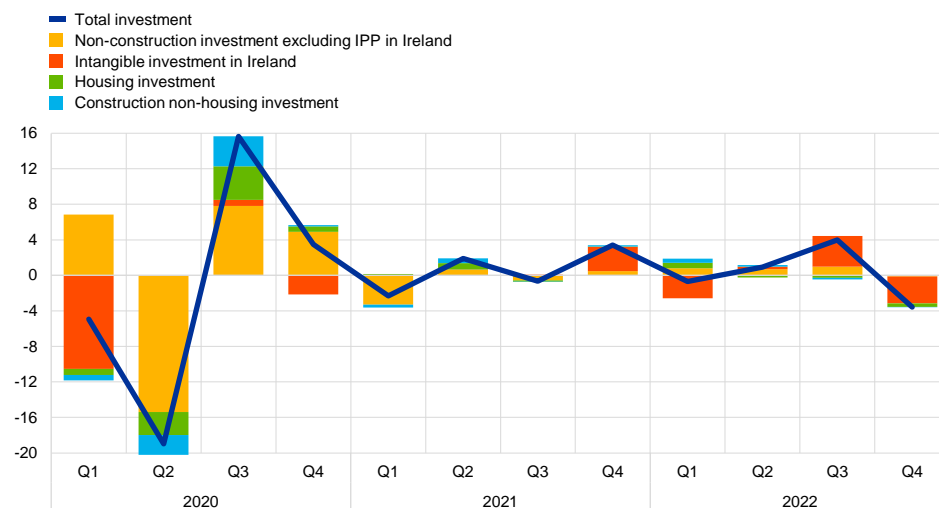
¹² See the article entitled “[The recovery in business investment – drivers, opportunities, challenges and risks](#)”, *Economic Bulletin*, Issue 5, ECB, 2022.

Chart 5

Investment growth decomposition and key factors

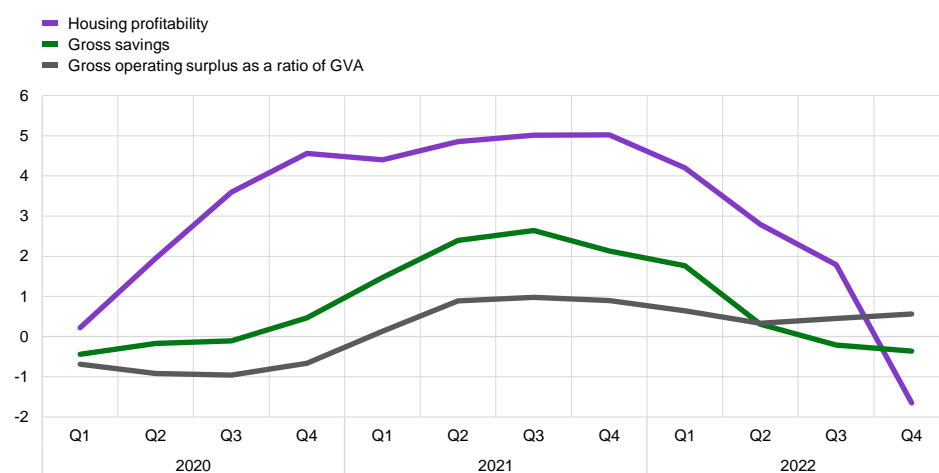
a) Decomposition

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



b) Key factors

(percentage points)



Sources: Eurostat and ECB calculations.

Notes: In panel b), Housing profitability is the ratio of the residential property price index and the housing investment deflator, scaled to zero in the fourth quarter of 2019. Gross savings represent the retained earnings by non-financial corporations (NFCs) divided by the sector-specific gross value added. Gross savings and the Gross operating surplus (and mixed income) of NFCs as a ratio of sector-specific gross value added (GVA) are shown as differences (in percentage points) from the historical averages over 2015-19, at 24.2% and 40.2% respectively. The latest observations are for the fourth quarter of 2022.

The net export component of GDP recovered swiftly as manufacturing exports rebounded strongly, while import growth was more contained. While the export of services, in particular tourism, benefited from the subsequent easing and eventual elimination of pandemic-related restrictions, momentum on the goods side moderated in 2021 as supply bottlenecks hit key export industries and was further held back in the first half of 2022 with the intensification of supply constraints. Supply chain disruptions eased in the second half of 2022, but euro area export growth remained subdued as global demand weakened. Import growth was supported by restocking in 2021-22 and energy stockpiling in 2022 amid heightened uncertainty about future energy prices and availability. Overall, abstracting from some volatility at

the quarterly level, net trade contributed increasingly positively to the level of GDP in 2021-22.

Box 1

A comparison of economic developments in the euro area and the United States since the pandemic

Prepared by Malin Andersson, Ryan Minasian and Michel Soudan

This box compares the post-pandemic economic recoveries in the euro area and the United States. Output contracted more strongly in the euro area than in the United States during the pandemic (Chart A). The earlier onset of the pandemic by a couple of weeks, the more severe lockdowns and the later availability of vaccines were important factors behind the stronger decline in GDP in the euro area in 2020. However, differences in economic structures, growth potential¹³ and policy responses also played a role.¹⁴ Both regions provided ample monetary policy stimulus from the start of the pandemic. Very strong fiscal support directed primarily at households in the United States led to high demand for consumer goods and a substantial positive output gap.¹⁵ While there were also significant discretionary fiscal support measures in the euro area in 2020 (Box 2), these were smaller than in the United States. They were also more targeted and directed more at supporting employment through job retention schemes.¹⁶ This led to a much larger contraction in private consumption in the euro area than in the United States in 2020 and a weaker boost in 2021. The euro area also saw a more pronounced decline in investment in 2020 following the more extensive lockdowns and reduced mobility along with the stronger fall in output. Meanwhile, a negative net trade contribution in the United States in 2021 resulted from imports driven by domestic demand (enabled by the rundown of excess savings) and weak services exports, notably tourism. By contrast, more modest imports and a rebound in goods exports led to a positive trade contribution in the euro area in 2021.

¹³ Euro area potential growth has been lower than in the United States over the past two decades owing to lower total factor productivity growth related to a slower adoption of information and communication technologies, less investment in intangibles and lower labour supply. See Licchetta, M., Mattozzi, G., Raciborski, R. and Willis, R., “Economic adjustment in the euro area and the United States during the COVID-19 crisis”, *SUERF Policy Brief*, No 341, SUERF, June 2022.

¹⁴ A recent analysis found that structural differences (i.e. the share of tourism and consumption in GDP) and the technological lead (i.e. the share of the services sector where teleworking was a possibility and teleworking technology was used) explain almost 60% of the growth differential between the euro area and the United States in 2020. The rest is associated with involuntary and voluntary mobility restrictions and government support. See Chatelais, N., “Covid-19 and divergence in GDP declines between Europe and the United States”, *Eco Notepad*, No 229, Banque de France, 28 September 2021.

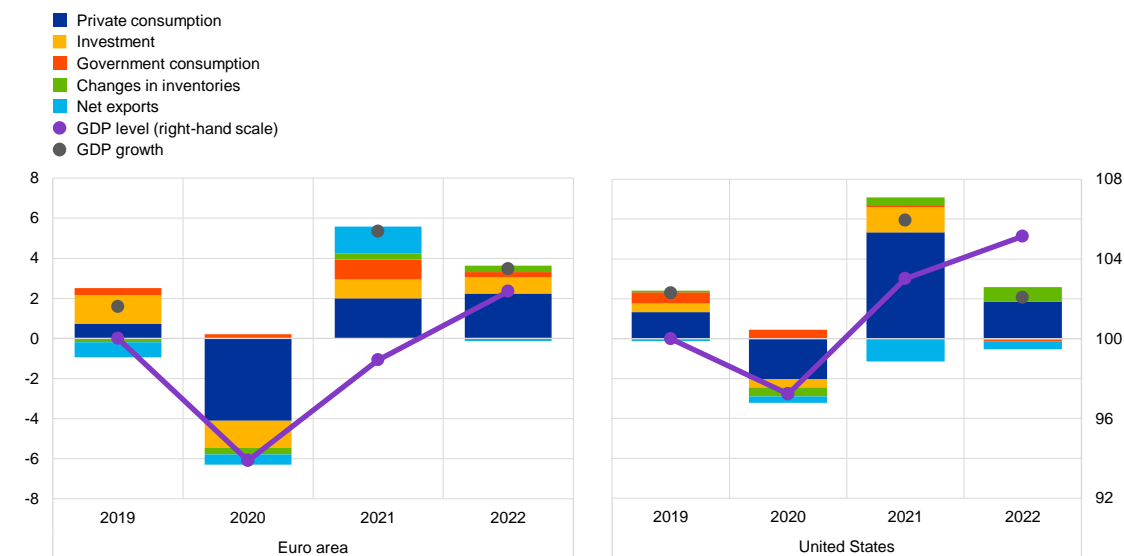
¹⁵ See Milesi-Ferretti, G.M., “A most unusual recovery: How the US rebound from COVID differs from rest of G7”, *Up Front*, Brookings, 8 December 2021.

¹⁶ While consistent data comparisons are difficult, the discretionary component of the fiscal response to the pandemic in 2020 was estimated to have amounted to about 4.25% of GDP in the euro area (after some ex post downward revision; see Box 2) and about 7.75% of GDP in the United States. If the impact of automatic stabilisers – which are assessed to be relatively larger in the euro area – is included, the total fiscal impulse in the euro area in 2020 came somewhat closer to the impulse in the United States (at about 7% of GDP compared with just below 10% in the United States). Fiscal policies also differed in design, with direct transfers to households through tax credits and an extension of unemployment benefits in the United States, while the euro area focused on job retention schemes and experienced a much milder impact from pandemic-related unemployment. For more details, see the box entitled “Economic developments in the euro area and the United States in 2020”, *Economic Bulletin*, Issue 2, ECB, 2021. Similar conclusions are also captured in Boone, L., “The EA and the US in the COVID-19 crisis: Implications for the 2022-2023 policy stance”, *Ecoscope*, Organisation for Economic Co-operation and Development, 18 January 2022.

Chart A

Real GDP growth in the euro area and the United States from 2019 to 2022

(left-hand scale: annual percentage changes and percentage point contributions; right-hand scale: index: 2019 = 100)



Sources: Eurostat and ECB calculations.

The return to pre-pandemic levels of output took longer in the euro area than in the United States, with real GDP reaching its pre-pandemic level in the third quarter of 2021 in the euro area, while US output had already recovered in the first quarter of 2021 (Chart A). Following similar real GDP growth rates in 2021, euro area GDP growth in 2022 exceeded that of the United States. In 2022 euro area growth was boosted by the reopening of the services sector, fading supply side constraints in the manufacturing sector and fiscal support. Euro area activity was, however, gradually dampened by adverse repercussions related to the proximity of Europe to Russia's war in Ukraine, its high dependence on energy imports from Russia, the resulting energy crisis (which pushed up inflation), terms of trade losses and weakening demand. Meanwhile, tightening financial conditions and waning fiscal support took their toll on US growth. Since the start of the monetary policy tightening cycle, ten-year government bond yields have risen notably in both jurisdictions. However, this has triggered a stronger fall in residential investment in the United States, which has been found to be more sensitive to interest rates than the euro area owing to continued high house prices.¹⁷

Box 2

The impact of discretionary fiscal policy measures on real GDP growth from 2020 to 2022

Prepared by Cristina Checherita-Westphal

This box summarises the discretionary response of fiscal policy in the euro area from the start of the pandemic crisis in early 2020 to 2022 and its impact on real GDP growth by means of model

¹⁷ See the box entitled "Monetary policy and housing investment in the euro area and the United States", *Economic Bulletin*, Issue 3, ECB, 2023.

simulations.¹⁸ It focuses on the typical fiscal policy instruments that have a direct impact on the budget balance. In addition, euro area governments granted various forms of liquidity support to companies, including large-scale guarantee programmes. Finally, automatic stabilisers also played an important role in income and output dynamics in 2020.¹⁹

The discretionary reaction of fiscal policy in the euro area over the period 2020-22 was significant and persistent (Chart A). Compared with the pre-pandemic period (2019), cumulative discretionary fiscal stimulus measures with an impact on the budget balance are estimated to have amounted to about 5.3% of GDP at the end of 2022. In 2020 euro area governments responded to the COVID-19 crisis with various stimulus measures estimated to amount to close to 4% of GDP. These measures were directed in particular at protecting employment through job retention schemes, but also at funding increased health spending, while direct cash support to households and other similar transfers or public investment were relatively limited. In 2021 additional measures amounting to about 1.3% of GDP were approved to support the economic recovery from the pandemic, including those funded at EU level through the Next Generation EU (NGEU) programme.²⁰ In 2022 the level of support remained broadly unchanged compared to 2021 – some pandemic-related measures started to be withdrawn, but new fiscal support measures were introduced in response to the energy crisis and war-related spending.

In terms of fiscal instruments, in 2020 the stimulus was mainly focused on transfers to firms and households, including subsidies, as well as other support for job retention schemes, such as relief on social security contributions (SSCs) and direct taxes. Government consumption, mainly in the form of health-related spending, also played an important role in 2020. Over the period 2021-22 stimulus measures financed through the NGEU – predominantly government investment and other capital support for firms – complemented the previously granted fiscal support. Finally, in 2022 reductions in indirect taxes, particularly energy taxes, became more prevalent as a response to the energy crisis. Subsidies decreased in net terms compared with 2021, mainly reflecting the end of the COVID-19 crisis and the partial withdrawal of the pandemic recovery measures. However, the share of overall subsidies directly linked to energy price relief increased in response to the surge in wholesale gas and electricity prices.

¹⁸ For more details on various fiscal support measures at country level, see the article entitled “[The initial fiscal policy responses of euro area countries to the COVID-19 crisis](#)”, *Economic Bulletin*, Issue 1, ECB, 2021; and the box entitled “[Government expenditure in the euro area during the pandemic crisis – insights from the Classification of the Functions of Government data](#)”, *Economic Bulletin*, Issue 3, ECB 2023. Going beyond the COVID-19 crisis, for more details on fiscal policy measures in 2022, including their impact on real GDP growth and inflation, see the box entitled “[Euro area fiscal policy response to the war in Ukraine and its macroeconomic impact](#)”, *Economic Bulletin*, Issue 5, ECB, 2022; and the article entitled “[Fiscal policy and high inflation](#)”, *Economic Bulletin*, Issue 2, ECB, 2023.

¹⁹ Euro area governments granted liquidity support to companies in the form of tax deferral schemes and capital injections, thereby affecting government debt, as well as through substantial guarantees for loans, with an initial envelope of over 16% of euro area GDP. See the article entitled “[The initial fiscal policy responses of euro area countries to the COVID-19 crisis](#)”, op. cit. Finally, automatic stabilisers also played an important role in cushioning the impact on income and output in 2020. For the role of automatic stabilisers in the euro area and a comparison with other jurisdictions, see the article entitled “[Automatic fiscal stabilisers in the euro area and the COVID-19 crisis](#)”, *Economic Bulletin*, Issue 6, ECB, 2020.

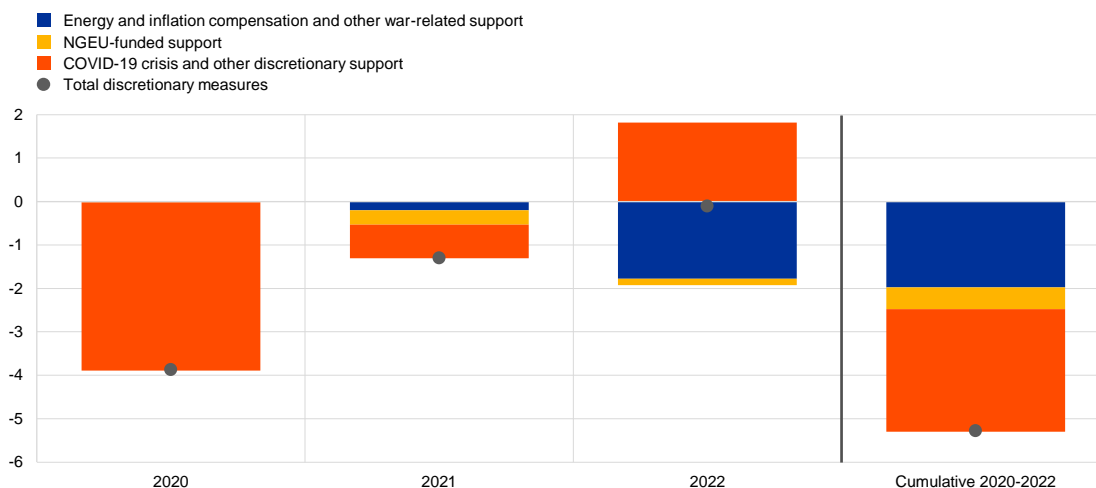
²⁰ For an in-depth analysis of NGEU plans, see Bańkowski, K. et al., “[The economic impact of Next Generation EU: a euro area perspective](#)”, *Occasional Paper Series*, No 291, ECB, April 2022.

Chart A

Proxy for discretionary fiscal policy measures over the period 2020-22 and their composition by programme and fiscal instrument

a) Discretionary measures by programme

(percentages of potential GDP, fiscal support in annual changes unless otherwise indicated)



b) Discretionary measures by instrument

(percentages of potential GDP, fiscal support in annual changes unless otherwise indicated)



Sources: Eurosystem and ECB calculations.

Notes: ECB staff calculations based on the assessment of measures as per the December 2022 Eurosystem staff macroeconomic projections database. Negative numbers denote fiscal stimulus (loosening); positive numbers denote fiscal tightening or withdrawal of previous stimulus. The bars depict the marginal fiscal support (i.e. fiscal support in annual changes divided by the nominal potential GDP of the previous year), apart from those labelled "cumulative", which capture the total discretionary fiscal support (sum of ratios) over 2020-22. A calculation of the marginal fiscal support as a percentage of nominal GDP would indicate a slightly higher stimulus in 2020. The proxy shown in this chart includes only fiscal policy measures with an impact on the budget balance.

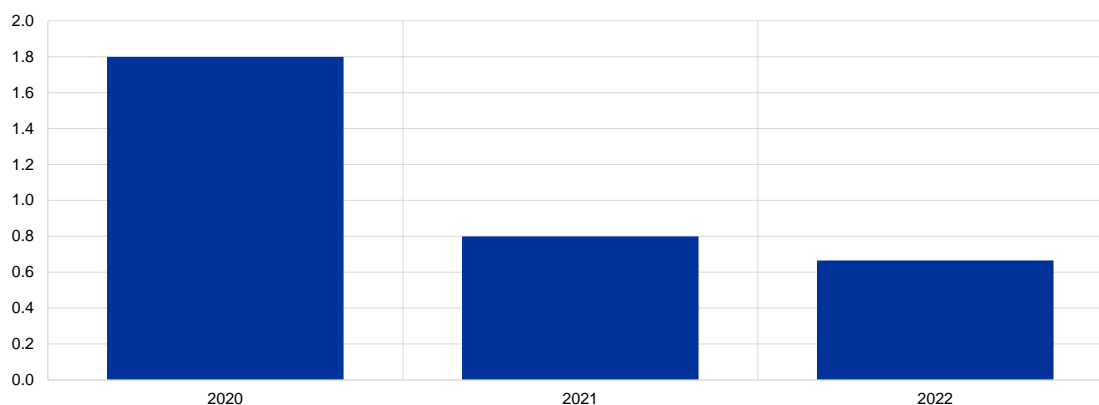
The discretionary fiscal policy measures estimated above significantly cushioned the fall in GDP in 2020 and supported the recovery over 2021-22 (Chart B). Cumulatively, the measures are estimated to have increased real GDP in the euro area over the period 2020-22 by about 3.3% compared with a counterfactual scenario with no fiscal policy support. At about 0.6, the implied fiscal multiplier of the entire fiscal package over 2020-22 mainly reflects the composition of measures, with a large part of the support taking the form of broad-based transfers and subsidies, which have a relatively low multiplier in the models. Nevertheless, as mentioned above, these

effects reflect only the discretionary stimulus measures with a direct budgetary impact, and thus do not cover the indirect effects of liquidity support and automatic stabilisers.

Chart B

Impact of discretionary fiscal policy measures on real GDP growth over the period 2020-22

(percentage points, deviation from a counterfactual scenario with no fiscal policy support)



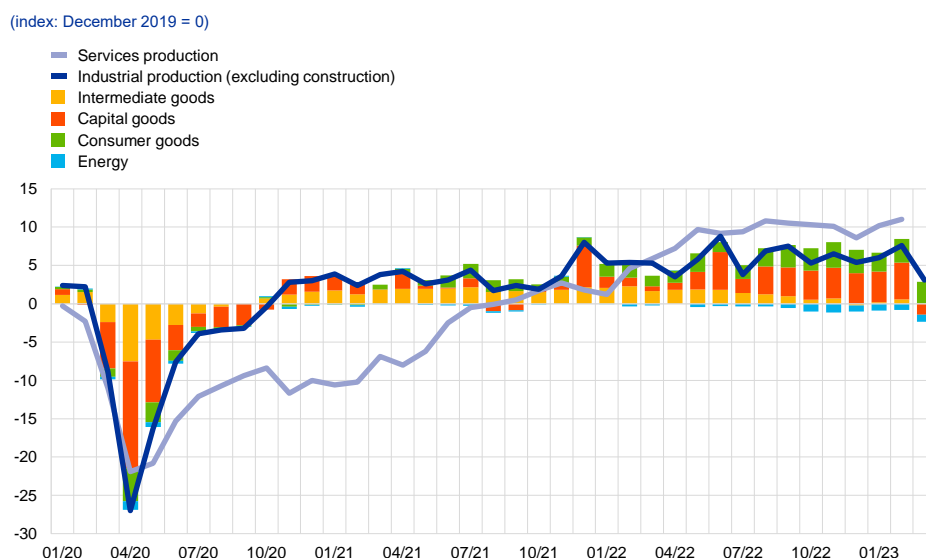
Sources: Eurosystem, ECB and ECB calculations.

Note: ECB staff calculations are based on average simulation results from a number of ECB and Eurosystem staff macroeconomic models used in the context of the December 2022 Eurosystem staff macroeconomic projections and earlier vintages.

3 The role of supply

The evolution of pandemic restrictions and related policy responses shaped the dynamics of services and industrial production in 2020 and 2021. Services and manufacturing activity were severely restrained during the lockdowns, while policy measures prevented widespread bankruptcies and job losses, and reduced entrepreneurial financial risks. Particularly contact-intensive activities, such as trade, transport, accommodation, and food services, contributed significantly to the waves of decline and recovery in services production in 2020-21. Overall, the rebound in services production was initially much more muted relative to that in manufacturing production owing to repeated restrictions aimed at containing new waves of the pandemic (Chart 6).

Chart 6
Industrial and services production



Sources: Eurostat and ECB staff calculations.
Note: The latest observations are for February 2023 for services production and March 2023 for industrial production and its components.

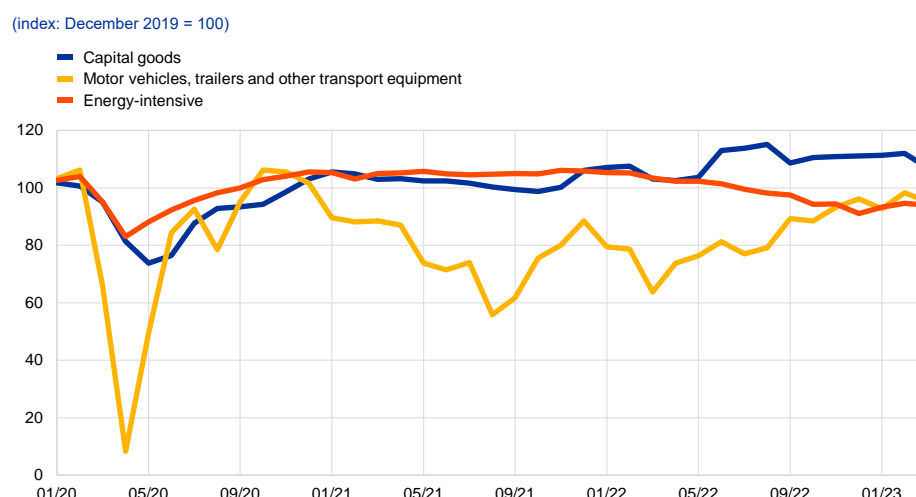
Euro area industrial production has been negatively affected during the post-pandemic recovery by global supply chain disruptions and the rise in energy prices. After the rapid recovery in the summer of 2020, industrial production stagnated in 2021 owing to the output drop in the capital goods sector and, after some positive developments around the beginning of 2022, stagnated again over the remaining period owing to the fall in activity in the intermediate goods and energy sectors. The drag from supply bottlenecks caused by shortages of materials and then from energy prices were the main factors behind these developments. Conversely, consumer goods and services production recovered steadily as the epidemiological situation improved and containment policies were relaxed.

Labour shortages have particularly affected the production of the service sectors during the recovery phase. Since the summer of 2021, labour has been perceived as a limiting factor, in particular for activity in more contact-intensive services, such as the accommodation and food and beverage subsectors. Unlike the manufacturing sector, the services sector did not experience shortages of materials in 2021 and 2022, but it was more sensitive to pandemic-related constraints. More recently, however, shortages of materials are also perceived as an increasingly limiting factor for services.

Disruptions to goods supply chains started weighing on the euro area economy following the outbreak of the pandemic and since late 2020, after the lifting of the first lockdowns (Box 3). On the supply side, the lockdowns in March and April 2020 can be interpreted as disruptions to the supply chains of businesses. Subsequently, supply bottlenecks stemmed from the interplay of three main factors. First, a shortage of microchips and other components to assemble goods affected key manufacturing sectors, such as automotive producers. Second, restrictions

adopted in several countries in the Asia-Pacific region to contain the pandemic caused a drop in exports of key goods. Third, disruptions to container vessel activities lengthened the arrival times of key intermediate inputs, further exacerbating supply bottlenecks.²¹ The capital goods sector was adversely affected by supply bottlenecks, which caused a decline in sector output during the course of 2021 (Chart 7), while other manufacturing activities registered positive growth over the same period. Within the capital goods sector, vehicle production, which has one of the longest supply chains across manufacturing sectors, was severely affected by the supply bottlenecks.²² The vehicle sector almost halted in March and April 2020, dropped by about 50% in the first half of 2021 and then fluctuated heavily before returning to growth in March 2022 as supply disruptions started to dissipate. The impact of supply chain disruption shocks on the automotive sector was very strong. The shortage of microchips and other components needed to assemble new motor vehicles led to an unprecedented reduction in supply in the period 2020-22. The energy-intensive sector was also adversely affected by supply chain bottlenecks, but to a much lesser extent.

Chart 7
Euro area production in the capital goods, vehicle and energy-intensive sectors



Sources: Eurostat, ECB and ECB staff calculations.

Notes: The energy-intensive sector is defined by aggregating the production of chemicals, chemical products and basic metals, which account on average for about 10% of euro area industrial production. Time-varying weights are used to construct the index. Capital goods are shown as three-month moving averages. The latest observations are for March 2023.

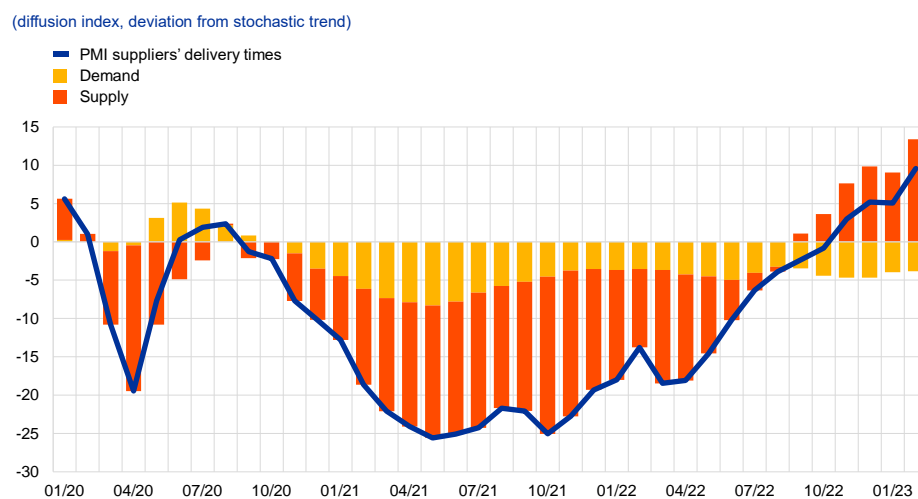
Supply factors explain a large portion of the increase in the time taken to deliver finished and intermediate goods in the euro area. The Purchasing Managers' Index (PMI) suppliers' delivery times index shows the percentage of

²¹ For a detailed analysis of these factors and their economic impact, see Lane, P.R., "Bottlenecks and monetary policy", *The ECB Blog*, ECB, 10 February 2022; and the boxes entitled "What is driving the recent surge in shipping costs?", *Economic Bulletin*, Issue 3, ECB, 2021; "The semiconductor shortage and its implication for euro area trade, production and prices", *Economic Bulletin*, Issue 4, ECB, 2021; "The impact of supply bottlenecks on trade", *Economic Bulletin*, Issue 6, ECB, 2021; and "Sources of supply chain disruptions and their impact on euro area manufacturing", *Economic Bulletin*, Issue 8, ECB, 2021.

²² For a detailed discussion of the drivers behind reduced activity in the automotive sector, see the box entitled "Motor vehicle sector: explaining the drop in output and the rise in prices", *Economic Bulletin*, Issue 7, ECB, 2022.

companies reporting an improvement, deterioration or no change in delivery times for intermediate and finished goods. It captures the extent of supply chain delays in an economy. Readings of 50 indicate no change in delivery times relative to the preceding month, readings above 50 indicate that delivery times have improved (become shorter or faster) and readings below 50 indicate that delivery times have deteriorated (become longer or slower). The PMI suppliers' delivery times index fell sharply in March and April 2020, swiftly reverted to its trend by the summer 2020, fell again up to mid-2021, recovered slowly until mid-2022, before finally improving quickly. A model-based analysis shows that supply shocks, particularly the supply chain disruption shocks, were largely responsible for the fall in the indicator (Chart 8).²³ In addition, the pandemic-driven rotation of demand away from services towards goods also contributed to the lengthening of delivery times by mid-2021. At the beginning of 2023 the PMI suppliers' delivery times index (in a deviation from its trend) turned positive, mainly driven by improvements on the supply side. This is corroborated by the ECB's regular survey of contacts in the corporate sector, which indicated that supply issues had eased significantly by early 2023.²⁴

Chart 8
Supply chain pressures in the euro area – factor contributions to the PMI manufacturing suppliers' delivery times index



Sources: Eurostat, S&P Global and ECB staff calculations.
 Notes: For details of the underlying models, see the box entitled “Sources of supply chain disruptions and their impact on euro area manufacturing”, *Economic Bulletin*, Issue 8, ECB, 2021. The latest observations are for February 2023.

The surge in energy prices since the autumn of 2021 is another adverse supply force which has constrained output, in particular industrial production, owing to the higher energy use in manufacturing relative to services.²⁵ Gas supplies from Russia to the European Union were cut significantly at the beginning of autumn 2021, contributing to the sluggish replenishment of gas inventories in Europe ahead

²³ For a discussion of the model, see the box entitled “Sources of supply chain disruptions and their impact on euro area manufacturing”, *Economic Bulletin*, Issue 8, ECB, 2021.

²⁴ See the box entitled “Main findings from the ECB's recent contacts with non-financial companies”, *Economic Bulletin*, Issue 3, ECB, 2023.

²⁵ For a detailed analysis, see the box entitled “Natural gas dependence and risks to euro area activity”, *Economic Bulletin*, Issue 1, ECB, 2022.

of the 2021/22 winter season. At the end of February 2022 Russia invaded Ukraine, which caused an additional and sudden surge in energy prices. The energy crunch led to a significant decline in the production of chemicals and basic metals, which are relatively energy-intensive sectors (Chart 7). In the acute phase of the energy crisis, from October 2021 to October 2022, euro area consumer energy prices increased by 49.5% and euro area industrial production excluding construction grew by 3%, while the output of the energy-intensive sectors, such as chemicals and basic metals, dropped by 10.2% (Chart 8). After the energy price trend reversed, euro area consumer energy prices decreased by 8.8% between October 2022 and February 2023. Over the same period, euro area industrial production excluding construction grew by 2.4%, and the output of the energy-intensive sectors first stabilised and then began to grow, increasing by 0.6% overall. The surge in energy prices recorded between the autumn of 2021 and October 2022 is mainly attributable to adverse supply forces, which undermined economic activity (Box 3).

Box 3

A model-based assessment of the drivers of economic activity

Prepared by Roberto A. De Santis

A model-based analysis is used to shed light on the importance of the different factors for GDP growth since the beginning of 2020. A Bayesian structural vector autoregression (SVAR) model is used which disentangles demand, supply chain disruptions and energy supply shocks. The analysis is based on real GDP, motor vehicle output, energy-intensive sector output, the PMI vehicle suppliers' delivery times index, the Harmonised Index of Consumer Prices (HICP) excluding food and energy, motor vehicle prices, retail energy prices and two-year inflation expectations from the Survey of Professional Forecasters (SPF). Motor vehicle output, the PMI vehicle suppliers' delivery times index and motor vehicle prices are used to identify supply chain disruption shocks; the energy-intensive sector output and retail energy prices are used to identify retail energy supply shocks; real GDP and HICP excluding food and energy are used to identify aggregate demand shocks. The eight variables of the SVAR are endogenous to the system of equations and the identified shocks therefore affect all variables jointly.

After the drop in demand during the first lockdown, the unwinding of previous negative demand forces in 2021 and positive demand shocks in 2022 strongly supported economic activity. Focusing on the period following the last quarter of 2020, when economic activity rebounded, empirical results suggest that demand forces, driven by the desire of households to normalise consumption after the easing of pandemic-related restrictions and supported by favourable fiscal policies, have contributed positively to economic growth since the start of 2021. As documented in Section 2, the recovery of labour income, supported by fiscal policies, and the normalisation of savings in 2021-22 played a key role in explaining the strength of demand. Our estimates suggest that favourable demand shocks raised real GDP by 3.6% between the fourth quarter of 2020 and the fourth quarter of 2022 (Chart A).

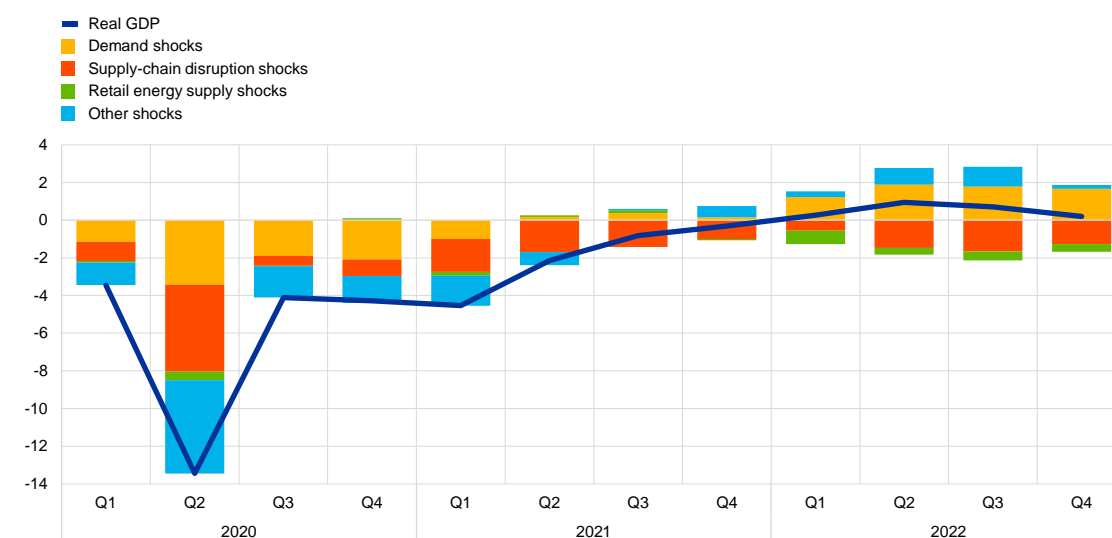
The shock decomposition also highlights the strong negative impact of supply chain disruption shocks since the first lockdown in 2020. Initially, when the first lockdown measures were introduced, the model interprets the temporary closures of businesses as a combination of adverse demand and supply chain disruption shocks. The latter captures the disrupted supply conditions stemming from the strict lockdowns, which contributed to the unprecedented drop in real GDP in the second

quarter of 2020. The easing of containment measures in the summer of 2020, allowed production to resume briskly, explaining most of the resilience of economic activity. However, subsequently, the shortage of chips, COVID-19 restrictions in Asia and disruptions in container vessel activities, as well as labour shortages, again negatively affected real GDP. Starting from the end of the third quarter of 2020, the cumulated loss of GDP amounted to 1.1% in the third quarter of 2022 owing to supply chain disruption shocks. This cumulated loss declined to 0.7% by the end of 2022 as these shocks started to ease.

Chart A

Contributions of drivers to real GDP

(percentage deviations from stochastic trend, index: December 2019 = 0)



Sources: ECB, Eurostat and ECB staff calculations.

Notes: The model is based on euro area aggregate data from January 1999 to December 2022. Shocks are identified using the method used in Antolin-Díaz, J. and Rubio-Ramírez, J.F., "Narrative Sign Restrictions for SVARs", *American Economic Review*, Vol. 108, No 10, October 2018, pp. 2802-29, but with sign contribution restrictions as in De Santis, R.A. and Van der Veken, W., "Deflationary financial shocks and inflationary uncertainty shocks: an SVAR investigation", *Working Paper Series*, No 2727, ECB, September 2022. The assumed sign restrictions at impact are as follows: demand shocks imply core HICP (+), HICP energy (+), real GDP (+) and PMI motor vehicle suppliers' delivery times index (-); energy supply shocks imply HICP energy (+) and energy-intensive sector production (-); supply chain disruption shocks imply vehicle prices (+), vehicle production (-) and PMI vehicle suppliers' delivery times index (-). The assumed narrative restrictions are as follows: the largest contribution to forecast errors in the PMI suppliers' delivery times index in March-May 2020 is attributed to supply chain disruption shocks; the largest contribution to forecast errors in HICP energy in October 2021, November 2021 and March 2022 is attributed to energy supply shocks. It is also assumed that demand shocks have a negative sign in March and April 2020 and a positive sign in May 2020, March 2021, June 2021 and May 2022. The stochastic trend provides the dynamics of real GDP in absence of shocks.

Adverse energy supply shocks also negatively affected real GDP, albeit to a lesser extent than other supply disruptions. The reduced availability of gas imports from Russia in the autumn of 2021 and Russia's invasion of Ukraine in February 2022 caused a sharp rise in energy prices owing to the fall in Russian gas supplies to the euro area. The largest negative impact on aggregate economic activity is recorded in March 2022. However, we estimate that the initial adverse impact on real GDP had been partly absorbed by the end of 2022, as energy prices declined rather sharply in the fourth quarter. It is likely that the impact of the energy crunch on aggregate economic activity was mitigated because governments introduced energy subsidies and/or price caps after the surge in wholesale gas and electricity prices to contain the rise in retail energy prices. Finally, other shocks, probably capturing the extraordinary nature of the pandemic-related restrictions, also contributed to the collapse of economic activity in 2020. With the ensuing targeting of restrictions, and learning and behavioural adjustments by firms and households, the adverse effects of these shocks subsided, which supported the economic recovery.

4 Conclusions

The post-pandemic economic recovery in the euro area has been solid, supported by resolute policy responses. Strong fiscal and monetary policy support reduced entrepreneurial risk and prevented widespread bankruptcies and job losses following the outbreak of the pandemic. The resilient labour market supported households' purchasing power and aggregate demand, and helped the euro area economy weather well the extraordinary adverse supply shocks that have hit it over the past three years.

The economic recovery has been challenged by supply bottlenecks, the energy crunch and heightened uncertainty triggered by Russia's war in Ukraine. This article shows that supply chain disruptions have been weighing on the euro area economy, although these have been fading since mid-2022. Vehicle production, which has one of the longest supply chains across manufacturing sectors, has been heavily affected by these bottlenecks. In addition, the surge in energy prices since the autumn of 2021 has constrained output, particularly industrial production in 2022, owing to the higher energy intensity of manufacturing relative to services. Finally, heightened uncertainty in the euro area triggered by Russia's invasion of Ukraine also adversely affected economic activity in 2022. However, the resilient disposable income of households, thanks to policy stimuli and a robust labour market, the boost from the reopening of the economy and the ongoing normalisation of savings have all supported the recovery of aggregate demand. In addition, the adverse supply shocks have largely dissipated lately. Receding energy supply concerns and energy prices have reduced economic uncertainty and improved households' confidence, albeit from low levels, providing support to economic growth. However, the monetary policy tightening by the ECB and the related stricter financing conditions are likely to dampen consumption spending on durable goods and private investment.

Statistics

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Explanations of terms and abbreviations can be found in the ECB's statistics glossary:	http://www.ecb.europa.eu/home/glossary/html/glossa.en.html

Conventions used in the tables

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

1 External environment

1.1 Main trading partners, GDP and CPI

	GDP ¹⁾ (period-on-period percentage changes)						CPI (annual percentage changes)							
	G20	United States	United Kingdom	Japan	China	Memo item: euro area	OECD countries		United States	United Kingdom (HICP)	Japan	China	Memo item: euro area ²⁾ (HICP)	
							Total	excluding food and energy						
	1	2	3	4	5	6	7	8	9	10	11	12	13	
2020	-3.0	-2.8	-11.0	-4.3	2.2	-6.1	1.3	1.7	1.2	0.9	0.0	2.6	0.3	
2021	6.3	5.9	7.6	2.2	8.1	5.3	4.0	3.0	4.7	2.6	-0.3	0.9	2.6	
2022	3.2	2.1	4.1	1.0	3.0	3.5	9.6	6.8	8.0	9.1	2.5	1.9	8.4	
2022 Q2	-0.1	-0.1	0.1	1.4	-2.3	0.8	9.7	6.5	8.6	9.2	2.5	2.1	8.0	
Q3	1.4	0.8	-0.1	-0.4	3.9	0.4	10.4	7.3	8.3	10.0	2.9	2.6	9.3	
Q4	0.4	0.6	0.1	0.1	0.6	-0.1	10.1	7.6	7.1	10.8	3.8	1.8	10.0	
2023 Q1	0.9	0.3	0.1	0.7	2.2	-0.1	8.6	7.2	5.8	10.2	3.6	1.3	8.0	
2022 Dec.	-	-	-	-	-	-	9.4	7.2	6.5	10.5	4.0	1.8	9.2	
2023 Jan.	-	-	-	-	-	-	9.2	7.2	6.4	10.1	4.3	2.1	8.6	
Feb.	-	-	-	-	-	-	8.8	7.3	6.0	10.4	3.3	1.0	8.5	
Mar.	-	-	-	-	-	-	7.7	7.2	5.0	10.1	3.2	0.7	6.9	
Apr.	-	-	-	-	-	-	.	.	4.9	8.7	3.5	0.1	7.0	
May ³⁾	-	-	-	-	-	-	.	.	4.0	.	.	0.2	6.1	

Sources: Eurostat (col. 6, 13); BIS (col. 9, 10, 11, 12); OECD (col. 1, 2, 3, 4, 5, 7, 8).

1) Quarterly data seasonally adjusted; annual data unadjusted.

2) Data refer to the changing composition of the euro area.

3) The figure for the euro area is an estimate based on provisional national data, as well as on early information on energy prices.

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	Advanced economies	Emerging market economies
	Global ²⁾	United States	United Kingdom	Japan	China	Memo item: euro area	Manufacturing	Services	New export orders			
	1	2	3	4	5	6	7	8	9	10	11	12
2020	47.5	48.8	46.5	42.4	51.4	44.0	48.5	46.3	45.3	-4.0	-4.1	-4.0
2021	54.9	59.6	55.9	49.4	52.0	54.9	53.7	55.2	52.1	11.3	9.9	12.8
2022	50.6	50.7	53.0	50.3	48.2	51.4	49.9	51.0	47.8	2.7	4.4	0.9
2022 Q1	52.2	54.9	58.3	48.7	48.0	54.2	51.0	52.6	49.1	1.0	3.2	-1.3
Q2	51.6	54.0	55.0	52.1	44.9	54.2	50.2	52.1	48.8	-0.1	-0.2	0.1
Q3	50.0	47.2	50.3	50.2	51.8	49.0	49.9	50.1	47.5	0.3	-0.5	1.3
Q4	48.4	46.5	48.5	50.1	47.9	48.2	48.7	48.3	47.0	-1.9	-2.1	-1.7
2022 July	50.9	47.7	52.1	50.2	54.0	49.9	50.7	51.0	48.6	1.2	0.5	2.0
Aug.	49.3	44.6	49.6	49.4	53.0	49.0	49.8	49.1	47.5	0.8	-0.7	2.4
Sep.	49.9	49.5	49.1	51.0	48.5	48.1	49.1	50.1	46.5	0.3	-0.5	1.3
Oct.	49.3	48.3	48.2	51.8	48.3	47.3	49.5	49.2	47.3	-0.3	-0.9	0.4
Nov.	48.0	46.4	48.2	48.9	47.0	47.8	48.1	47.9	47.0	-1.0	-1.4	-0.6
Dec.	47.9	45.0	49.0	49.7	48.3	49.3	48.6	47.7	46.7	-1.9	-2.1	-1.7

Sources: Markit (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 construction	Total machinery	Intellectual property products					
1	2	3	4	5	6	7	8	9	10	11	12	
<i>Current prices (EUR billions)</i>												
2020	11,514.8	11,108.5	5,954.6	2,577.8	2,527.5	1,228.4	687.8	604.5	48.7	406.3	5,208.4	4,802.1
2021	12,379.2	11,902.1	6,317.7	2,730.9	2,723.3	1,383.3	766.0	566.8	130.2	477.1	6,102.7	5,625.6
2022	13,399.0	13,190.9	7,046.9	2,883.4	3,041.5	1,560.4	845.9	627.4	219.2	208.1	7,350.8	7,142.7
2022 Q2	3,323.4	3,257.2	1,740.3	713.6	747.9	389.3	207.4	149.2	55.4	66.2	1,844.8	1,778.6
Q3	3,370.0	3,366.8	1,795.7	722.5	788.1	393.7	217.4	175.0	60.5	3.2	1,899.2	1,896.0
Q4	3,438.3	3,368.1	1,819.0	741.1	772.0	396.5	217.5	156.1	35.9	70.2	1,889.5	1,819.3
2023 Q1	3,492.2	3,371.8	1,841.9	729.0	785.1	406.8	222.9	153.3	15.9	120.3	1,872.4	1,752.1
<i>as a percentage of GDP</i>												
2022	100.0	98.4	52.6	21.5	22.7	11.6	6.3	4.7	1.6	1.6	-	-
<i>Chain-linked volumes (prices for the previous year)</i>												
<i>quarter-on-quarter percentage changes</i>												
2022 Q2	0.8	0.8	0.9	-0.1	1.0	0.0	1.5	2.5	-	-	1.8	1.8
Q3	0.4	1.8	1.3	0.0	4.0	-0.9	3.2	17.1	-	-	1.2	4.1
Q4	-0.1	-1.2	-1.0	0.8	-3.5	-0.9	-1.4	-11.5	-	-	-0.2	-2.5
2023 Q1	-0.1	-0.8	-0.3	-1.6	0.6	1.3	1.8	-2.5	-	-	-0.1	-1.3
<i>annual percentage changes</i>												
2020	-6.1	-5.7	-7.7	1.0	-6.2	-4.0	-11.8	-3.6	-	-	-9.0	-8.5
2021	5.3	4.1	3.7	4.3	3.9	6.4	9.2	-7.4	-	-	10.7	8.4
2022	3.5	3.8	4.5	1.4	3.7	2.0	4.2	7.2	-	-	7.2	8.3
2022 Q2	4.4	4.4	5.8	1.0	3.0	2.1	2.2	6.0	-	-	8.3	8.9
Q3	2.5	4.1	2.7	0.6	7.8	1.6	8.1	23.2	-	-	7.7	11.7
Q4	1.8	1.2	1.4	0.9	0.6	0.2	5.2	-3.8	-	-	4.6	3.4
2023 Q1	1.0	0.5	0.8	-0.9	1.9	-0.5	5.2	3.6	-	-	2.7	2.0
<i>contributions to quarter-on-quarter percentage changes in GDP; percentage points</i>												
2022 Q2	0.8	0.7	0.4	0.0	0.2	0.0	0.1	0.1	0.1	0.1	-	-
Q3	0.4	1.7	0.6	0.0	0.9	-0.1	0.2	0.8	0.2	-1.3	-	-
Q4	-0.1	-1.2	-0.5	0.2	-0.8	-0.1	-0.1	-0.6	0.0	1.1	-	-
2023 Q1	-0.1	-0.7	-0.1	-0.3	0.1	0.1	0.1	-0.1	-0.4	0.6	-	-
<i>contributions to annual percentage changes in GDP; percentage points</i>												
2020	-6.1	-5.5	-4.1	0.2	-1.4	-0.4	-0.8	-0.2	-0.3	-0.5	-	-
2021	5.3	4.2	2.0	1.0	0.9	0.7	0.6	-0.4	0.2	1.4	-	-
2022	3.5	3.7	2.3	0.3	0.8	0.2	0.3	0.3	0.3	-0.2	-	-
2022 Q2	4.4	4.3	3.0	0.2	0.7	0.2	0.1	0.3	0.5	0.1	-	-
Q3	2.5	4.0	1.4	0.1	1.7	0.2	0.5	1.0	0.8	-1.5	-	-
Q4	1.8	1.1	0.7	0.2	0.1	0.0	0.3	-0.2	0.1	0.7	-	-
2023 Q1	1.0	0.6	0.4	-0.2	0.4	-0.1	0.3	0.2	-0.1	0.4	-	-

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)											Taxes less subsidies on products
	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	
	1	2	3	4	5	6	7	8	9	10	11	12
Current prices (EUR billions)												
2020	10,376.4	177.2	2,007.3	549.6	1,802.1	547.1	485.5	1,214.7	1,201.3	2,067.8	324.0	1,138.4
2021	11,094.9	189.5	2,174.9	595.3	2,004.2	589.0	501.7	1,251.0	1,289.7	2,162.3	337.3	1,284.3
2022	12,059.0	222.9	2,407.5	659.1	2,315.1	622.5	515.7	1,302.5	1,390.5	2,251.0	372.2	1,340.0
2022 Q2	2,982.0	54.8	597.9	163.3	574.5	155.2	126.3	320.3	345.6	552.3	91.9	341.4
Q3	3,035.5	57.7	599.3	165.6	592.6	155.7	129.2	325.7	350.1	564.6	95.1	334.5
Q4	3,114.5	58.7	634.5	170.4	596.5	158.4	134.8	333.9	356.7	576.1	94.6	323.8
2023 Q1	3,170.8	59.7	654.4	179.6	602.1	161.0	137.5	342.0	361.3	577.4	95.8	321.3
<i>as a percentage of value added</i>												
2022	100.0	1.8	20.0	5.5	19.2	5.2	4.3	10.8	11.5	18.7	3.1	-
Chain-linked volumes (prices for the previous year)												
<i>quarter-on-quarter percentage changes</i>												
2022 Q2	0.8	0.0	0.6	-0.2	1.9	1.9	0.1	0.3	1.1	-0.2	4.2	1.1
Q3	0.6	0.8	0.7	-0.9	1.0	0.1	-0.1	-0.1	0.4	1.1	3.2	-2.1
Q4	-0.2	-0.3	0.0	-0.5	-1.2	1.5	-0.3	0.2	0.1	0.3	-2.8	0.9
2023 Q1	0.2	0.9	-0.8	2.6	0.4	0.7	-1.3	0.7	0.5	0.1	1.7	-3.1
<i>annual percentage changes</i>												
2020	-5.9	0.1	-6.1	-5.1	-14.1	2.0	0.4	-0.7	-5.8	-2.8	-17.7	-7.2
2021	5.2	-0.6	7.2	3.6	7.7	7.1	3.6	1.7	6.1	3.5	3.8	6.6
2022	3.6	0.0	2.0	1.6	7.8	5.9	-0.5	1.8	4.8	1.6	12.2	2.0
2022 Q2	4.5	-0.3	2.3	2.0	11.1	7.0	-0.1	2.1	5.7	1.2	17.1	3.0
Q3	2.7	0.5	2.4	1.1	4.6	5.4	-0.8	1.3	3.9	1.3	7.6	0.3
Q4	2.2	-0.3	2.0	-0.1	2.6	4.6	-0.9	1.1	3.1	1.9	7.2	-1.1
2023 Q1	1.5	1.4	0.5	0.9	2.0	4.3	-1.6	1.0	2.1	1.3	6.2	-3.2
<i>contributions to quarter-on-quarter percentage changes in value added; percentage points</i>												
2022 Q2	0.8	0.0	0.1	0.0	0.3	0.1	0.0	0.0	0.1	0.0	0.1	-
Q3	0.6	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.1	-
Q4	-0.2	0.0	0.0	0.0	-0.2	0.1	0.0	0.0	0.0	0.1	-0.1	-
2023 Q1	0.2	0.0	-0.2	0.1	0.1	0.0	-0.1	0.1	0.1	0.0	0.1	-
<i>contributions to annual percentage changes in value added; percentage points</i>												
2020	-5.9	0.0	-1.2	-0.3	-2.7	0.1	0.0	-0.1	-0.7	-0.5	-0.6	-
2021	5.2	0.0	1.5	0.2	1.4	0.4	0.2	0.2	0.7	0.7	0.1	-
2022	3.6	0.0	0.4	0.1	1.4	0.3	0.0	0.2	0.6	0.3	0.4	-
2022 Q2	4.5	0.0	0.4	0.1	2.0	0.4	0.0	0.2	0.7	0.2	0.5	-
Q3	2.7	0.0	0.5	0.1	0.9	0.3	0.0	0.1	0.4	0.2	0.2	-
Q4	2.2	0.0	0.4	0.0	0.5	0.2	0.0	0.1	0.4	0.4	0.2	-
2023 Q1	1.5	0.0	0.1	0.1	0.4	0.2	-0.1	0.1	0.2	0.2	0.2	-

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													
<i>as a percentage of total persons employed</i>													
2020	100.0	86.0	14.0	3.0	14.5	6.2	24.4	3.0	2.4	1.0	13.9	24.8	6.6
2021	100.0	86.1	13.9	3.0	14.3	6.3	24.2	3.1	2.4	1.0	14.1	25.0	6.6
2022	100.0	86.3	13.7	2.9	14.1	6.4	24.4	3.2	2.4	1.0	14.2	24.8	6.6
<i>annual percentage changes</i>													
2020	-1.4	-1.5	-1.1	-2.6	-1.9	0.7	-3.7	2.0	0.4	0.6	-2.1	1.0	-3.0
2021	1.5	1.6	0.4	0.0	-0.3	3.3	0.5	4.8	1.1	1.1	3.0	2.1	1.0
2022	2.3	2.5	1.1	-0.8	1.3	3.1	3.3	5.7	0.1	3.1	3.1	1.5	1.6
2022 Q2	2.8	3.0	1.1	-0.2	1.3	3.4	4.8	6.0	0.4	2.8	3.4	1.6	1.8
Q3	1.8	1.9	1.1	-1.1	1.4	3.1	1.9	6.2	-0.3	4.1	2.5	1.4	0.8
Q4	1.6	1.7	0.7	-1.1	1.1	2.0	1.7	4.6	0.4	3.4	2.2	1.3	1.0
2023 Q1	1.6	1.7	1.3	-1.2	1.2	1.4	2.2	4.5	1.2	2.5	2.1	1.2	0.8
Hours worked													
<i>as a percentage of total hours worked</i>													
2020	100.0	81.9	18.1	4.3	15.0	7.0	24.1	3.3	2.6	1.1	13.8	23.0	5.8
2021	100.0	81.7	18.3	4.1	14.9	7.2	24.4	3.4	2.5	1.1	14.0	22.5	5.8
2022	100.0	81.8	18.2	3.9	14.6	7.2	25.3	3.5	2.5	1.1	14.1	21.9	6.0
<i>annual percentage changes</i>													
2020	-8.0	-7.3	-11.0	-3.4	-7.5	-6.3	-14.6	-1.6	-2.0	-5.1	-8.2	-2.2	-12.0
2021	5.5	5.3	6.5	-0.1	4.6	9.1	6.8	7.4	2.8	6.9	7.5	3.2	5.9
2022	3.5	3.6	3.0	-1.6	1.1	3.2	7.4	5.7	-0.1	4.9	4.1	0.7	6.0
2022 Q2	3.7	3.9	2.9	-1.9	0.3	2.7	9.9	5.4	-0.9	5.1	3.9	-0.2	6.8
Q3	2.5	2.8	1.3	-1.1	2.0	3.3	3.2	7.3	0.3	4.9	3.8	1.2	2.4
Q4	2.2	2.3	2.1	-1.1	1.4	3.1	3.0	4.9	1.2	3.7	3.2	1.1	2.8
2023 Q1	1.9	2.1	1.1	-0.4	1.7	1.5	2.6	4.0	1.4	1.5	2.4	1.2	1.7
Hours worked per person employed													
<i>annual percentage changes</i>													
2020	-6.7	-5.9	-10.0	-0.9	-5.7	-6.9	-11.4	-3.6	-2.4	-5.7	-6.3	-3.2	-9.3
2021	4.0	3.6	6.1	0.0	4.9	5.6	6.3	2.5	1.7	5.8	4.4	1.1	4.9
2022	1.1	1.1	1.9	-0.9	-0.2	0.1	4.0	0.0	-0.2	1.7	1.0	-0.8	4.3
2022 Q2	0.9	0.8	1.8	-1.8	-0.9	-0.7	4.9	-0.6	-1.3	2.2	0.5	-1.7	4.9
Q3	0.7	0.9	0.2	0.0	0.6	0.2	1.3	1.1	0.6	0.8	1.2	-0.2	1.6
Q4	0.7	0.6	1.4	0.0	0.4	1.0	1.3	0.3	0.8	0.3	1.0	-0.2	1.8
2023 Q1	0.3	0.4	-0.3	0.9	0.4	0.1	0.4	-0.4	0.2	-1.0	0.3	0.0	0.9

Sources: Eurostat and ECB calculations.

1) Data for employment are based on the ESA 2010.

2 Economic activity

2.4 Labour force, unemployment and job vacancies

(seasonally adjusted, unless otherwise indicated)

	Labour force, millions	Under-employment, % of labour force	Unemployment ¹⁾											Job vacancy rate ³⁾
			Total		Long-term unemployment, % of labour force ²⁾	By age				By gender				
			Millions	% of labour force		Adult		Youth		Male		Female		
						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 2020			100.0		80.1		19.9		51.3		48.7			
2020	162.755	3.5	12.964	8.0	3.0	10.380	7.0	2.584	18.2	6.644	7.6	6.320	8.3	1.8
2021	165.047	3.4	12.787	7.8	3.2	10.303	6.9	2.484	16.9	6.517	7.4	6.270	8.1	2.4
2022	167.811	3.1	11.340	6.8	2.7	9.082	6.0	2.258	14.6	5.687	6.4	5.653	7.2	3.1
2022 Q2	167.811	3.1	11.299	6.7	2.7	9.040	5.9	2.259	14.6	5.706	6.4	5.593	7.1	3.2
Q3	167.941	3.0	11.427	6.8	2.5	9.054	5.9	2.373	15.2	5.743	6.4	5.684	7.2	3.1
Q4	168.560	3.0	11.222	6.7	2.5	8.967	5.9	2.255	14.3	5.592	6.2	5.630	7.1	3.1
2023 Q1	.	.	11.106	6.6	.	8.833	5.8	2.273	14.1	5.522	6.3	5.584	7.0	3.1
2022 Nov.	-	-	11.282	6.7	-	9.002	5.9	2.280	14.5	5.656	6.3	5.627	7.1	-
Dec.	-	-	11.278	6.7	-	9.036	5.9	2.242	14.2	5.662	6.3	5.616	7.1	-
2023 Jan.	-	-	11.249	6.6	-	9.007	5.9	2.242	14.2	5.663	6.3	5.586	7.0	-
Feb.	-	-	11.189	6.6	-	8.961	5.8	2.228	14.1	5.630	6.3	5.559	7.0	-
Mar.	-	-	11.121	6.6	-	8.907	5.8	2.214	14.0	5.613	6.2	5.508	6.9	-
Apr.	-	-	11.088	6.5	-	8.882	5.8	2.206	13.9	5.605	6.2	5.483	6.9	-

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. There is a break in series from the first quarter of 2021 due to the implementation of the Integrated European Social Statistics Regulation. Owing to technical issues with the introduction of the new German system of integrated household surveys, including the Labour Force Survey, the figures for the euro area include data from Germany, starting in the first quarter of 2020, which are not direct estimates from Labour Force Survey microdata, but based on a larger sample including data from other integrated household surveys.

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					Construction production	Retail sales				Services production ¹⁾	New passenger car registrations	
	Total (excluding construction)	Main Industrial Groupings					Total	Food, beverages, tobacco	Non-food	Fuel			
		Manufacturing	Intermediate goods	Capital goods	Consumer goods								Energy
1	2	3	4	5	6	7	8	9	10	11	12	13	
% of total in 2015	100.0	88.7	32.1	34.5	21.8	11.6	100.0	100.0	40.4	52.5	7.1	100.0	100.0
annual percentage changes													
2020	-7.7	-8.2	-7.2	-11.2	-4.3	-4.4	-5.3	-0.8	3.7	-2.3	-14.4	-9.8	-24.3
2021	8.9	9.8	9.6	11.6	8.1	1.4	5.9	5.1	0.9	7.8	9.6	8.1	-2.9
2022	2.3	3.0	-1.3	5.5	5.3	-3.4	2.4	0.7	-2.8	2.5	6.3	10.0	-4.3
2022 Q1	1.6	2.1	1.1	0.3	6.3	-1.4	6.0	5.7	-1.7	11.1	12.5	12.4	-12.3
Q2	2.0	2.6	-0.3	4.6	3.2	-1.4	2.7	1.0	-2.8	2.9	7.7	13.3	-16.2
Q3	3.4	4.0	-1.7	9.9	3.0	-1.3	0.9	-0.5	-1.6	-0.6	3.3	9.1	1.5
Q4	2.2	3.5	-4.4	7.2	8.9	-9.0	0.4	-2.6	-5.0	-1.6	3.1	6.2	15.3
2022 Nov.	3.9	5.6	-3.4	11.1	9.9	-11.3	1.3	-2.4	-4.5	-1.9	3.6	6.1	18.2
Dec.	-2.0	-1.2	-7.0	-1.5	7.0	-7.3	-0.6	-2.8	-6.5	-0.8	3.8	5.3	14.4
2023 Jan.	1.0	2.3	-5.6	8.6	3.4	-7.7	0.7	-1.8	-4.7	0.0	4.9	6.8	12.1
Feb.	2.0	2.9	-5.0	9.9	3.6	-4.1	2.1	-2.4	-4.6	-0.8	0.4	4.8	11.6
Mar.	-1.4	-0.8	-4.5	-1.6	5.3	-6.7	-1.5	-3.3	-6.4	-1.7	2.6	5.6	30.8
Apr.	0.2	0.9	-6.2	8.3	0.0	-7.4	.	-2.6	-4.4	-1.1	-1.8	.	19.4
month-on-month percentage changes (s.a.)													
2022 Nov.	1.3	1.7	0.4	0.9	1.3	-1.1	0.1	0.7	-0.6	1.1	0.8	-	3.6
Dec.	-1.3	-1.9	-2.9	-0.4	-1.4	3.4	-2.2	-1.6	-1.7	-1.6	0.8	-	3.6
2023 Jan.	0.6	0.0	1.2	0.3	-1.7	-1.1	3.7	0.9	1.8	1.0	-1.6	-	-8.6
Feb.	1.4	1.2	0.8	1.8	1.2	0.8	1.7	-0.2	-0.3	0.1	-1.3	-	3.3
Mar.	-3.8	-5.8	-1.0	-15.2	-0.7	-1.4	-2.4	-0.4	-0.8	-0.9	1.1	-	-1.6
Apr.	1.0	3.7	-1.0	14.7	-2.0	1.0	.	0.0	-0.5	0.5	-2.3	-	-1.1

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
1999-15	98.7	-5.2	80.6	-11.7	-15.4	-8.6	7.3	-	51.2	52.5	53.0	52.8
2020	88.0	-13.2	74.3	-14.2	-7.0	-12.6	-15.9	86.3	48.6	48.0	42.5	44.0
2021	110.7	9.4	81.8	-7.5	4.2	-1.8	8.3	87.7	60.2	58.3	53.6	54.9
2022	101.8	4.8	82.0	-21.9	5.2	-3.8	9.3	90.1	52.1	49.3	52.1	51.4
2022 Q2	103.9	6.7	82.4	-22.7	5.4	-5.0	12.6	90.3	54.1	50.4	55.6	54.2
Q3	97.1	1.8	81.9	-27.0	2.8	-6.8	7.4	90.8	49.3	46.3	49.9	49.0
Q4	95.3	-0.9	81.2	-24.4	3.1	-4.8	4.9	90.4	47.1	45.9	49.0	48.2
2023 Q1	99.3	0.1	81.1	-19.6	1.3	-1.0	9.5	90.1	48.2	49.8	52.8	52.0
2022 Dec.	96.9	-0.8	-	-22.0	3.6	-2.8	7.4	-	47.8	47.8	49.8	49.3
2023 Jan.	99.6	0.9	81.0	-20.6	1.3	-0.9	10.2	90.2	48.8	48.9	50.8	50.3
Feb.	99.4	0.1	-	-19.0	1.6	-0.4	9.2	-	48.5	50.1	52.7	52.0
Mar.	98.9	-0.7	-	-19.1	0.9	-1.8	9.0	-	47.3	50.4	55.0	53.7
Apr.	99.0	-2.8	81.2	-17.5	0.9	-0.9	9.9	90.0	45.8	48.5	56.2	54.1
May	96.5	-5.2	-	-17.4	0.2	-5.3	7.0	-	44.8	46.4	55.1	52.8

Sources: European Commission (Directorate-General for Economic and Financial Affairs) (col. 1-8) and Markit (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
2019	13.2	93.1	2.0	2.6	3.9	6.6	4.6	47.7	24.2	74.4	2.1	7.7	1.9
2020	19.7	95.5	-0.1	4.1	-2.6	5.5	4.8	46.2	24.7	81.3	3.5	-12.2	2.4
2021	17.7	95.8	1.5	3.7	18.2	8.0	8.4	49.1	26.3	79.0	4.9	8.0	3.1
2022 Q1	16.1	95.6	0.4	3.0	18.3	6.4	9.8	49.0	26.0	77.9	4.6	15.1	3.0
Q2	14.9	95.3	0.3	2.7	16.8	4.0	10.2	49.1	24.5	76.6	4.5	-5.5	3.1
Q3	14.4	94.6	-0.3	2.7	11.1	2.6	9.2	49.3	24.0	76.6	4.4	29.8	3.2
Q4	14.0	93.1	-0.6	2.5	5.9	1.2	6.8	49.1	23.8	74.7	3.1	5.5	2.1

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
	Credit	Debit	Balance	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit		
1	2	3	4	5	6	7	8	9	10	11	12	13	
2022 Q2	1,276.5	1,317.5	-41.0	717.0	747.3	306.5	270.6	212.5	215.4	40.5	84.2	116.2	11.7
Q3	1,327.7	1,420.6	-92.9	752.5	804.2	312.0	310.4	223.4	220.8	39.8	85.1	20.2	16.6
Q4	1,354.1	1,370.0	-15.8	745.8	750.6	310.4	268.0	255.7	268.9	42.3	82.5	55.8	35.5
2023 Q1	1,371.5	1,297.7	73.8	772.9	690.5	325.3	293.9	234.1	239.2	39.1	74.0	31.6	30.3
2022 Oct.	454.1	468.3	-14.2	249.8	259.4	105.0	91.0	85.2	91.1	14.2	26.8	10.0	4.8
Nov.	456.7	459.3	-2.6	254.2	251.5	104.6	89.4	83.6	90.1	14.2	28.3	7.6	4.9
Dec.	443.3	442.4	0.9	241.8	239.7	100.8	87.6	86.9	87.7	13.9	27.4	38.2	25.8
2023 Jan.	459.9	441.7	18.2	256.5	243.1	108.6	95.2	80.5	80.0	14.2	23.5	11.8	13.3
Feb.	453.1	428.6	24.5	255.8	228.0	108.3	95.4	75.7	80.5	13.2	24.7	6.6	4.2
Mar.	458.5	427.3	31.2	260.6	219.5	108.3	103.3	77.9	78.8	11.7	25.8	13.3	12.7
<i>12-month cumulated transactions</i>													
2023 Mar.	5,329.7	5,405.7	-76.0	2,988.2	2,992.5	1,254.2	1,142.9	925.7	944.3	161.6	325.9	223.8	94.1
<i>12-month cumulated transactions as a percentage of GDP</i>													
2023 Mar.	39.1	39.7	-0.6	21.9	22.0	9.2	8.4	6.8	6.9	1.2	2.4	1.6	0.7

1) The capital account is not seasonally adjusted.

2.9 Euro area external trade in goods¹⁾, values and volumes by product group²⁾

(seasonally adjusted, unless otherwise indicated)

	Total (n.s.a.)		Exports (f.o.b.)					Imports (c.i.f.)					
	Exports	Imports	Total			Memo item: Manu- facturing	Total			Memo items:			
			Intermediate goods	Capital goods	Consumption goods		Intermediate goods	Capital goods	Consumption goods	Manu- facturing	Oil		
1	2	3	4	5	6	7	8	9	10	11	12	13	
<i>Values (EUR billions; annual percentage changes for columns 1 and 2)</i>													
2022 Q2	20.3	45.4	715.1	359.5	126.8	217.6	575.9	812.1	511.9	112.0	164.2	520.2	108.2
Q3	20.2	47.6	730.2	366.6	134.1	218.2	588.9	854.8	529.5	116.9	168.9	532.9	108.0
Q4	14.9	20.1	738.5	363.5	140.7	222.9	604.7	795.5	479.9	113.7	169.3	515.7	97.1
2023 Q1	8.5	0.0	728.9	.	.	.	595.9	722.3	.	.	.	495.4	.
2022 Oct.	18.2	31.5	247.8	123.0	45.5	73.2	204.2	275.0	165.8	39.6	57.6	177.0	34.2
Nov.	17.3	21.0	250.3	123.1	48.4	74.6	203.8	265.1	160.2	38.7	56.4	173.5	32.4
Dec.	9.2	8.6	240.5	117.4	46.8	75.1	196.7	255.5	153.8	35.4	55.3	165.2	30.5
2023 Jan.	11.0	10.2	242.2	115.6	45.1	75.1	196.8	252.4	148.7	39.0	53.5	168.4	29.9
Feb.	7.5	1.4	243.5	116.0	45.7	75.6	199.4	243.6	142.3	37.0	54.2	167.6	24.2
Mar.	7.5	-9.9	243.3	.	.	.	199.7	226.2	.	.	.	159.4	.
<i>Volume indices (2000 = 100; annual percentage changes for columns 1 and 2)</i>													
2022 Q2	2.2	11.5	106.7	105.9	101.9	117.3	106.1	121.7	121.8	124.6	120.7	123.2	143.6
Q3	2.7	14.8	106.4	104.7	105.7	114.5	106.2	124.0	121.6	123.5	121.2	123.0	140.3
Q4	1.5	3.5	107.2	104.0	109.3	114.7	106.9	119.7	115.8	119.7	121.4	120.5	144.7
2023 Q1	.	.	.	.	.	.	.	.	.	.	.	.	.
2022 Sep.	6.4	14.8	108.7	106.3	107.7	117.0	109.0	123.7	120.7	125.4	121.7	123.0	140.0
Oct.	2.9	9.9	107.7	106.1	107.8	114.1	107.2	122.3	118.0	124.8	123.1	123.5	147.4
Nov.	2.6	4.2	108.3	105.0	112.6	114.0	108.1	119.6	115.7	121.5	121.0	121.3	139.9
Dec.	-1.1	-3.4	105.7	100.9	107.6	115.9	105.3	117.1	113.8	112.8	119.9	116.7	146.9
2023 Jan.	2.8	4.1	106.1	101.8	103.4	117.1	104.9	117.7	114.5	121.6	116.7	118.3	150.4
Feb.	-0.6	-0.8	106.8	101.4	104.9	119.0	106.7	116.8	113.7	116.9	117.2	118.1	141.8

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
		1	2											Total excluding food and energy	3	4	5	6	7	8	9	10	11	12	13
% of total in 2021	100.0	100.0	68.7	58.2	41.8	100.0	16.7	5.1	26.9	9.5	41.8	86.7	13.3
2020	105.1	0.3	0.7	-0.4	1.0	-	-	-	-	-	-	0.2	0.6
2021	107.8	2.6	1.5	3.4	1.5	-	-	-	-	-	-	2.5	3.1
2022	116.8	8.4	3.9	11.9	3.5	-	-	-	-	-	-	8.5	7.8
2022 Q2	116.1	8.0	3.7	11.4	3.4	2.4	3.5	4.5	1.4	7.1	0.9	8.2	7.1
Q3	118.1	9.3	4.4	13.2	3.9	2.3	4.0	2.7	1.9	4.4	1.1	9.5	7.8
Q4	120.8	10.0	5.1	14.0	4.3	2.3	3.7	2.9	1.4	4.6	1.5	10.0	9.5
2023 Q1	121.3	8.0	5.5	10.3	4.7	0.9	3.4	2.7	1.8	-6.0	1.2	8.1	7.3
2022 Dec.	120.5	9.2	5.2	12.6	4.4	-0.4	1.2	-0.6	0.6	-6.6	0.3	9.3	8.4
2023 Jan.	120.3	8.6	5.3	11.7	4.4	0.6	1.1	0.3	0.7	0.6	0.3	8.7	8.2
Feb.	121.2	8.5	5.6	11.1	4.8	0.6	1.0	3.1	0.6	-1.1	0.6	8.6	7.8
Mar.	122.3	6.9	5.7	8.1	5.1	0.3	0.9	2.3	0.2	-2.2	0.4	7.0	5.9
Apr.	123.1	7.0	5.6	8.1	5.2	0.2	0.4	-1.6	0.2	-0.8	0.6	7.0	6.4
May ³⁾	123.2	6.1	5.3	.	5.0	-0.1	0.4	-0.3	0.2	-2.2	0.1	.	.

	Goods						Services						
	Food (including alcoholic beverages and tobacco)			Industrial goods			Housing	Transport	Communi-cation	Recreation and personal care	Miscel-laneous		
	Total	Processed food	Unpro-cessed food	Total	Non-energy industrial goods	Energy						Rents	
14	15	16	17	18	19	20	21	22	23	24	25		
% of total in 2021	21.8	16.7	5.1	36.4	26.9	9.5	12.2	7.5	6.5	2.7	11.4	9.0	
2020	2.3	1.8	4.0	-1.8	0.2	-6.8	1.4	1.3	0.5	-0.6	1.0	1.4	
2021	1.5	1.5	1.6	4.5	1.5	13.0	1.4	1.2	2.1	0.3	1.5	1.6	
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	
2022 Q2	7.6	6.9	9.8	13.7	4.1	39.6	2.2	1.4	4.5	0.1	5.9	1.7	
Q3	10.7	10.5	11.6	14.7	5.0	39.7	2.6	1.9	4.3	-0.2	7.2	2.1	
Q4	13.5	13.4	13.7	14.2	6.2	33.9	3.0	2.1	5.6	-0.7	7.1	2.8	
2023 Q1	14.9	15.4	13.3	7.8	6.7	10.0	3.6	2.5	5.8	0.2	7.2	3.8	
2022 Dec.	13.8	14.3	12.0	12.0	6.4	25.5	3.1	2.3	5.4	-0.6	7.2	3.0	
2023 Jan.	14.1	15.0	11.3	10.4	6.7	18.9	3.4	2.3	5.4	0.2	6.5	3.7	
Feb.	15.0	15.4	13.9	8.9	6.8	13.7	3.6	2.6	6.0	0.2	7.3	3.8	
Mar.	15.5	15.7	14.7	4.3	6.6	-0.9	3.7	2.7	5.9	0.3	7.8	3.9	
Apr.	13.5	14.6	10.0	5.2	6.2	2.4	3.6	2.6	6.1	0.4	7.7	4.0	
May ³⁾	12.5	13.4	9.6	.	5.8	-1.7	.	.	.	.	.	.

Sources: Eurostat and ECB calculations.

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

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

3) 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⁾										Con- struction ²⁾	Residential property prices ³⁾	Experimental indicator of commercial property prices ³⁾
	Total (index: 2015 = 100)	Total		Industry excluding construction and energy						Energy			
		Manu- facturing	Total	Intermediate goods	Capital goods	Consumer goods							
						Total	Food, beverages and tobacco	Non- food					
1	2	3	4	5	6	7	8	9	10	11	12	13	
% of total in 2015	100.0	100.0	77.3	72.1	28.9	20.7	22.5	16.6	5.9	27.9			
2020	102.0	-2.6	-1.7	-0.1	-1.6	0.9	0.9	1.1	0.6	-9.7	1.7	5.3	1.6
2021	114.5	12.3	7.4	5.8	10.9	2.5	2.1	3.3	1.8	32.2	5.6	8.1	0.8
2022	153.8	34.3	16.9	14.1	20.3	7.2	12.1	16.4	7.7	85.2	11.5	7.0	-0.1
2022 Q2	149.2	36.5	20.0	15.8	24.8	7.4	11.6	16.3	7.5	95.4	12.5	9.2	0.6
Q3	163.1	41.1	17.7	14.7	20.2	7.7	14.0	19.0	8.6	107.8	11.9	6.6	-1.2
Q4	161.9	27.2	14.5	13.1	15.4	7.6	15.3	19.9	9.3	56.1	11.6	2.9	-2.9
2023 Q1	156.2	10.9	9.0	9.8	8.7	7.2	14.1	17.3	8.6	11.6	9.6	.	.
2022 Nov.	160.8	26.9	14.4	13.1	15.2	7.6	15.4	20.1	9.3	55.5	-	-	-
Dec.	162.6	24.5	13.0	12.3	13.6	7.5	15.0	19.3	9.4	48.6	-	-	-
2023 Jan.	157.7	14.8	11.7	11.1	11.2	7.3	14.8	18.8	8.8	20.1	-	-	-
Feb.	156.5	12.7	9.8	10.3	9.4	7.4	14.6	18.2	8.7	15.9	-	-	-
Mar.	154.4	5.5	5.7	8.0	5.8	6.7	12.9	15.1	8.2	0.0	-	-	-
Apr.	149.5	1.0	3.1	5.1	1.3	6.1	10.5	11.2	7.2	-8.9	-	-	-

Sources: Eurostat, ECB calculations, and ECB calculations based on MSCI data and national sources (col. 13).

1) Domestic sales only.

2) Input 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)						
	Total (s.a.; index: 2015 = 100)	Total	Domestic demand				Exports ¹⁾		Imports ¹⁾	Import-weighted ²⁾			Use-weighted ²⁾		
			Total	Private consump- tion	Govern- ment consump- tion	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	45.4	54.6	100.0	50.4	49.6		
2020	107.3	1.8	1.3	0.6	3.4	1.0	-1.4	-2.7	37.0	1.4	3.3	-0.3	-1.0	-0.3	-1.8
2021	109.5	2.0	2.8	2.2	1.5	3.7	5.8	7.9	59.8	.	.	37.2	.	.	37.1
2022	114.5	4.6	6.8	6.8	4.2	7.7	12.4	17.4	95.0	.	.	9.0	.	.	9.9
2022 Q2	113.7	4.5	6.9	6.3	3.6	8.3	14.7	20.6	106.1	22.5	39.7	9.2	24.2	38.2	10.8
Q3	114.9	4.5	7.4	7.5	4.6	7.5	13.4	19.4	98.3	.	.	1.5	.	.	2.3
Q4	117.4	5.8	6.9	8.5	5.6	7.6	9.7	12.4	86.6	.	.	-2.3	.	.	-3.1
2023 Q1	119.3	6.2	5.4	8.1	4.1	6.4	5.4	3.7	75.8	-9.8	-3.8	-15.1	-10.2	-4.5	-16.4
2022 Dec.	-	-	-	-	-	-	-	-	76.4	0.0	6.4	-5.6	-1.3	4.0	-7.0
2023 Jan.	-	-	-	-	-	-	-	-	77.1	-4.1	1.4	-8.9	-5.2	-0.2	-10.4
Feb.	-	-	-	-	-	-	-	-	77.3	-7.4	-0.5	-13.4	-7.8	-1.4	-14.7
Mar.	-	-	-	-	-	-	-	-	73.3	-16.9	-11.1	-22.1	-16.8	-10.9	-23.2
Apr.	-	-	-	-	-	-	-	-	76.7	-18.2	-12.8	-23.1	-17.8	-12.1	-24.2
May	-	-	-	-	-	-	-	-	69.7	-18.0	-15.3	-20.7	-17.6	-14.4	-21.7

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 balances)					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
1999-15	4.3	5.7	-	-4.4	32.4	56.7	56.3	-	49.7
2020	-0.3	2.0	-0.6	-5.1	11.5	49.0	52.1	48.7	47.2
2021	31.6	24.0	10.3	19.7	30.4	84.0	61.9	66.8	53.4
2022	48.4	52.9	27.2	42.5	71.6	77.1	75.4	69.6	62.0
2022 Q2	56.4	57.2	29.1	48.9	71.7	84.0	78.0	74.8	64.4
Q3	46.1	54.2	27.5	40.8	76.5	74.3	74.9	67.1	61.8
Q4	40.2	51.6	28.9	41.7	78.1	65.8	74.3	63.7	62.0
2023 Q1	23.8	43.8	26.2	27.2	78.4	51.3	69.9	57.8	61.2
2022 Dec.	36.8	48.5	27.8	37.3	78.6	61.0	71.8	61.2	61.0
2023 Jan.	30.6	46.0	28.6	34.2	78.0	56.3	70.1	61.6	62.0
Feb.	22.9	43.7	26.1	25.9	78.6	50.9	71.0	58.4	61.8
Mar.	17.8	41.8	23.8	21.6	78.6	46.8	68.5	53.4	59.8
Apr.	11.6	35.4	19.9	15.5	78.3	44.0	67.2	51.6	58.7
May	6.6	30.9	18.9	12.7	77.4	41.3	64.4	49.0	59.1

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

3.5 Labour cost indices

(annual percentage changes, unless otherwise indicated)

	Total (index: 2016 = 100)	Total	By component		For selected economic activities		Memo item: Indicator of negotiated wages ¹⁾
			Wages and salaries	Employers' social contributions	Business economy	Mainly non-business economy	
	1	2	3	4	5	6	7
% of total in 2018	100.0	100.0	75.3	24.7	69.0	31.0	
2020	110.7	3.4	4.0	1.4	2.8	4.6	1.8
2021	112.1	1.2	1.4	0.9	1.1	1.5	1.3
2022	117.1	4.5	3.7	6.8	4.8	3.7	2.9
2022 Q2	120.2	4.7	4.1	6.4	5.3	3.2	2.6
Q3	113.4	3.8	3.0	5.9	3.8	3.4	3.0
Q4	126.3	5.7	5.1	7.6	5.7	5.6	3.1
2023 Q1	.	.	.	.	.	.	4.3

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)

	Total (index: 2015 =100)	Total	By economic activity									
			Agriculture, forestry and fishing	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 labour costs												
2020	110.2	4.5	-0.9	2.0	5.0	7.7	-0.1	-0.1	1.2	3.9	6.2	16.6
2021	110.4	0.1	3.1	-2.8	4.4	-1.6	2.9	0.6	4.2	1.0	0.7	0.2
2022	113.8	3.1	3.9	2.8	5.2	1.7	3.0	4.2	4.7	3.3	3.5	-3.8
2022 Q2	112.6	2.6	4.7	3.1	4.8	1.0	1.7	4.4	4.5	2.6	3.0	-6.7
Q3	114.0	3.1	3.2	1.4	5.3	2.0	3.8	3.9	6.3	3.4	3.7	-1.8
Q4	116.3	4.5	4.7	2.3	6.8	4.3	3.6	4.9	4.1	5.1	4.7	-1.5
2023 Q1	118.9	5.8	3.9	6.3	4.7	6.6	4.7	7.4	4.9	6.4	3.9	-0.1
Compensation per employee												
2020	107.0	-0.4	1.7	-2.4	-1.2	-3.9	0.0	-0.1	-0.2	-0.1	2.3	-1.1
2021	111.2	3.9	2.4	4.5	4.7	5.5	5.3	3.1	4.9	4.2	2.1	3.1
2022	116.0	4.3	4.6	3.5	3.7	6.0	3.2	3.6	3.5	5.0	3.6	6.3
2022 Q2	115.0	4.3	4.6	4.1	3.4	7.1	2.7	3.9	3.8	4.8	2.7	7.3
Q3	116.4	3.8	4.8	2.6	3.3	4.5	3.0	3.3	3.5	4.8	3.6	4.8
Q4	118.3	4.8	5.5	3.4	4.6	5.2	3.6	3.5	1.8	6.0	5.4	4.5
2023 Q1	120.1	5.2	6.7	5.5	4.1	6.3	4.4	4.4	3.3	6.4	4.0	5.2
Labour productivity per person employed												
2020	97.1	-4.7	2.7	-4.3	-5.9	-10.8	0.1	0.0	-1.4	-3.8	-3.7	-15.2
2021	100.8	3.8	-0.7	7.4	0.3	7.2	2.3	2.4	0.7	3.1	1.4	2.8
2022	101.9	1.1	0.7	0.7	-1.5	4.2	0.2	-0.6	-1.2	1.7	0.1	10.5
2022 Q2	102.1	1.6	-0.2	0.9	-1.3	6.1	1.0	-0.5	-0.7	2.1	-0.3	15.0
Q3	102.1	0.6	1.5	1.1	-1.9	2.5	-0.8	-0.6	-2.7	1.3	-0.1	6.7
Q4	101.7	0.3	0.8	1.0	-2.1	0.9	0.0	-1.3	-2.2	0.8	0.6	6.2
2023 Q1	101.1	-0.6	2.6	-0.8	-0.5	-0.2	-0.2	-2.8	-1.5	0.0	0.1	5.3
Compensation per hour worked												
2020	113.8	5.8	4.3	2.9	5.0	7.0	3.1	1.8	4.4	5.9	5.3	6.8
2021	114.3	0.4	0.0	-0.1	-0.4	-0.2	2.8	1.6	0.5	0.4	1.3	-0.8
2022	118.0	3.2	5.4	3.8	3.9	1.7	3.4	3.7	2.7	3.9	4.5	2.9
2022 Q2	116.6	3.4	6.4	4.9	5.3	1.6	3.8	5.0	3.1	4.1	4.5	3.4
Q3	118.2	2.9	4.8	2.0	3.0	2.6	2.3	2.3	3.0	3.1	3.8	3.9
Q4	120.5	4.2	6.5	3.0	3.3	3.7	3.6	3.0	1.3	5.1	5.7	3.3
2023 Q1	122.1	4.8	5.3	5.2	4.0	5.4	4.7	4.3	4.0	5.8	4.0	4.5
Hourly labour productivity												
2020	104.6	2.0	3.5	1.3	1.1	0.4	3.9	2.5	4.6	2.6	-0.6	-6.6
2021	104.5	-0.1	-0.7	2.5	-5.1	0.9	-0.2	0.7	-4.8	-1.2	0.3	-1.9
2022	104.5	0.0	1.5	1.0	-1.6	0.3	0.2	-0.4	-2.9	0.7	0.9	5.9
2022 Q2	104.4	0.7	1.6	1.9	-0.7	1.2	1.7	0.8	-2.8	1.7	1.4	9.7
Q3	104.7	-0.1	1.6	0.5	-2.1	1.2	-1.8	-1.1	-3.4	0.0	0.1	5.0
Q4	104.3	-0.4	0.8	0.7	-3.0	-0.4	-0.3	-2.1	-2.5	-0.2	0.8	4.2
2023 Q1	103.6	-0.9	1.7	-1.2	-0.6	-0.7	0.2	-3.0	-0.5	-0.3	0.1	4.4

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) ²⁾	1-month deposits (EURIBOR)	3-month deposits (EURIBOR)	6-month deposits (EURIBOR)	12-month deposits (EURIBOR)	Secured overnight financing rate (SOFR)	Tokyo overnight average rate (TONAR)
	1	2	3	4	5	6	7
2020	-0.55	-0.50	-0.43	-0.37	-0.31	0.36	-0.04
2021	-0.57	-0.56	-0.55	-0.52	-0.49	0.04	-0.02
2022	-0.01	0.09	0.35	0.68	1.10	1.63	-0.03
2022 Nov.	1.37	1.42	1.83	2.32	2.83	3.72	-0.07
Dec.	1.57	1.72	2.06	2.56	3.02	4.05	-0.07
2023 Jan.	1.90	1.98	2.34	2.86	3.34	4.30	-0.02
Feb.	2.27	2.37	2.64	3.14	3.53	4.54	-0.02
Mar.	2.57	2.71	2.91	3.27	3.65	4.64	-0.02
Apr.	2.90	2.95	3.17	3.50	3.74	4.81	-0.02
May	3.08	3.15	3.37	3.68	3.86	5.02	-0.05

Source: Refinitiv and ECB calculations.

1) Data refer to the changing composition of the euro area, see the General Notes.

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	United Kingdom	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
2020	-0.75	-0.76	-0.77	-0.72	-0.57	0.19	0.80	0.32	-0.77	-0.77	-0.60	-0.24
2021	-0.73	-0.72	-0.68	-0.48	-0.19	0.53	1.12	0.45	-0.69	-0.58	-0.12	0.24
2022	1.71	2.46	2.57	2.45	2.56	0.09	-0.84	-0.24	2.85	2.48	2.47	2.76
2022 Nov.	1.46	2.02	2.04	1.96	1.99	-0.03	-1.13	-0.04	2.23	1.91	1.99	2.01
Dec.	1.71	2.46	2.57	2.45	2.56	0.09	-0.84	-0.24	2.85	2.48	2.47	2.76
2023 Jan.	2.22	2.67	2.51	2.29	2.32	-0.35	-1.18	-0.12	2.65	2.15	2.24	2.41
Feb.	2.66	3.16	3.08	2.80	2.76	-0.40	-1.10	-0.26	3.28	2.77	2.63	2.77
Mar.	2.75	2.80	2.62	2.35	2.41	-0.39	-1.16	-0.52	2.67	2.25	2.27	2.58
Apr.	2.88	2.94	2.68	2.37	2.44	-0.50	-1.36	-0.60	2.74	2.20	2.30	2.65
May	3.07	3.02	2.64	2.29	2.38	-0.63	-1.55	-0.53	2.65	2.02	2.23	2.65

Source: ECB calculations.

1) Data refer to the changing composition of the euro area, see the General Notes.

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
2019	373.6	3,435.2	731.7	270.8	183.7	111.9	155.8	650.9	528.2	322.0	294.2	772.7	2,915.5	21,697.2
2020	360.0	3,274.3	758.9	226.8	163.2	83.1	128.6	631.4	630.2	347.1	257.6	831.9	3,217.3	22,703.5
2021	448.3	4,023.6	962.9	289.8	183.0	95.4	164.4	819.0	874.3	377.7	279.6	886.3	4,277.6	28,836.5
2022 Nov.	414.2	3,840.0	958.6	253.4	165.1	119.8	165.4	733.5	745.1	346.5	274.1	781.3	3,917.5	27,903.3
Dec.	418.3	3,884.7	944.2	257.4	166.8	121.0	168.9	738.0	757.3	355.1	268.3	786.9	3,912.4	27,214.7
2023 Jan.	439.8	4,092.7	963.0	276.9	167.7	123.3	182.3	780.4	807.6	358.7	277.9	808.6	3,960.7	26,606.3
Feb.	455.8	4,238.1	983.5	291.6	170.5	122.4	192.5	814.0	849.1	357.3	288.7	817.0	4,079.7	27,509.1
Mar.	448.5	4,201.7	968.8	292.2	175.7	116.6	182.1	809.6	834.4	358.9	296.7	797.0	3,968.6	27,693.2
Apr.	460.9	4,358.3	990.6	305.7	184.2	120.7	183.3	817.9	843.4	383.5	305.9	843.0	4,121.5	28,275.8
May	456.4	4,319.3	975.3	301.8	180.5	116.0	178.9	824.6	858.8	379.9	296.5	835.4	4,146.2	30,147.5

Source: Refinitiv.

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				Composite cost-of-borrowing indicator	
	Over-night	Redeemable at notice of up to 3 months	With an agreed maturity of:				By initial period of rate fixation	APRC ³⁾	By initial period of rate fixation				APRC ³⁾			
			Up to 2 years	Over 2 years					Floating rate and up to 1 year		Over 1 year	Floating rate and up to 1 year		Over 1 and up to 5 years		Over 5 and up to 10 years	Over 10 years
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
2022 May	0.00	0.45	0.20	0.64	4.80	15.85	5.88	5.58	6.20	2.48	1.52	1.87	2.02	1.74	2.06	1.78
June	0.00	0.45	0.22	0.71	4.80	15.87	5.70	5.56	6.16	2.51	1.69	2.06	2.28	1.87	2.21	1.97
July	0.01	0.46	0.30	0.88	4.84	15.86	6.18	5.75	6.36	2.81	1.84	2.27	2.54	1.99	2.36	2.15
Aug.	0.01	0.70	0.40	1.02	4.97	15.89	6.68	5.92	6.51	2.96	2.07	2.44	2.63	2.08	2.49	2.26
Sep.	0.02	0.71	0.60	1.27	5.27	15.83	6.57	5.96	6.58	3.09	2.27	2.59	2.84	2.25	2.67	2.45
Oct.	0.03	0.73	0.90	1.60	5.58	15.97	6.83	6.21	6.87	3.55	2.66	2.82	3.05	2.41	2.90	2.67
Nov.	0.05	0.75	1.19	1.81	5.81	15.98	6.43	6.55	7.13	3.96	2.93	3.04	3.30	2.55	3.11	2.89
Dec.	0.07	0.80	1.40	1.91	5.95	15.90	6.66	6.42	7.00	3.99	3.07	3.16	3.29	2.61	3.18	2.94
2023 Jan.	0.10	0.86	1.58	2.08	6.34	15.98	7.44	6.97	7.60	4.27	3.46	3.32	3.39	2.77	3.39	3.10
Feb.	0.12	1.17	1.89	2.20	6.59	16.07	7.39	7.08	7.80	4.57	3.66	3.48	3.52	2.94	3.55	3.24
Mar.	0.15	1.21	2.09	2.26	6.76	16.06	7.84	7.23	7.92	4.69	3.88	3.78	3.56	3.14	3.72	3.37
Apr. ^(p)	0.18	1.24	2.26	2.41	7.02	16.25	8.29	7.43	8.13	4.89	4.03	3.81	3.51	3.13	3.76	3.44

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
	Over-night	With an agreed maturity of:			up to EUR 0.25 million			over EUR 0.25 and up to 1 million			over EUR 1 million			
		Up to 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	
2022 May	-0.06	-0.27	0.52	1.67	1.81	2.02	2.40	1.52	1.49	1.79	1.15	1.22	1.95	1.55
June	-0.05	-0.14	1.05	1.72	1.84	2.18	2.56	1.60	1.56	1.94	1.81	1.55	2.14	1.83
July	0.00	0.04	1.20	1.78	1.90	2.44	2.78	1.69	1.86	2.14	1.40	1.77	2.11	1.79
Aug.	0.01	0.15	1.61	1.86	2.08	2.49	2.94	1.86	2.13	2.30	1.55	1.88	2.22	1.87
Sep.	0.05	0.70	1.79	2.23	2.48	2.91	3.24	2.31	2.55	2.45	2.31	2.34	2.38	2.40
Oct.	0.08	0.92	1.83	2.54	2.96	3.52	3.62	2.74	3.02	2.75	2.45	2.76	2.82	2.72
Nov.	0.15	1.49	2.34	2.90	3.33	3.76	4.01	3.12	3.37	3.06	2.88	3.30	3.29	3.10
Dec.	0.19	1.80	2.61	3.21	3.73	3.99	4.19	3.46	3.55	3.27	3.29	3.59	3.29	3.41
2023 Jan.	0.23	1.99	2.71	3.58	4.13	4.20	4.39	3.77	3.92	3.45	3.41	3.75	3.39	3.63
Feb.	0.31	2.30	2.81	3.82	4.39	4.54	4.71	4.05	4.09	3.69	3.69	3.54	3.58	3.85
Mar.	0.41	2.57	2.95	4.12	4.70	4.83	4.88	4.33	4.48	3.84	4.07	4.31	3.88	4.22
Apr. ^(p)	0.44	2.79	3.06	4.39	4.86	4.73	4.89	4.60	4.58	3.93	4.32	4.37	3.67	4.38

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	FVCs	Non-financial corporations	of which central government	Financial corporations other than MFIs			FVCs	Non-financial corporations	of which central government		
													1	2	3	4	5	6	7	8	9	10	11	12	13	14
Short-term														
2020	1,489.2	429.7	127.0	52.6	96.4	836.1	722.5	.	.	.	.	.	.	.
2021	1,412.4	427.9	132.1	50.0	87.7	764.7	674.9	387.3	138.4	79.5	26.4	31.8	137.6	104.8
2022	1,361.7	463.0	143.5	49.9	88.3	667.0	621.7	481.7	182.3	117.8	48.0	47.8	133.9	97.2
2022 Dec.	1,361.7	463.0	143.5	49.9	88.3	667.0	621.7	428.3	162.7	137.8	61.3	43.5	84.2	71.1
2023 Jan.	1,378.9	513.0	135.2	48.5	89.5	641.2	594.2	512.1	221.6	108.2	40.3	50.2	132.1	112.5
Feb.	1,367.1	526.3	137.9	51.2	89.6	613.4	569.4	495.0	224.5	98.8	35.3	48.9	122.8	96.2
Mar.	1,414.4	533.6	135.9	50.6	90.2	654.6	603.5	583.3	239.6	122.3	38.7	53.1	168.3	131.1
Apr.	1,443.1	560.6	133.5	47.5	96.6	652.5	603.5	510.8	218.8	100.6	31.9	60.2	131.2	103.2
May	1,438.5	577.8	130.1	47.1	92.5	638.2	604.1	504.4	241.6	112.7	35.0	46.8	103.3	90.2
Long-term														
2020	19,289.9	4,075.4	3,104.9	1,261.8	1,549.3	10,560.4	9,773.2	.	.	.	.	.	.	.
2021	19,927.5	4,182.7	3,388.2	1,343.2	1,599.1	10,757.4	9,936.5	316.6	67.6	84.3	34.2	22.9	141.8	128.3
2022	17,902.8	3,974.3	3,277.6	1,331.9	1,385.5	9,265.4	8,553.9	298.9	78.4	73.8	28.9	16.1	130.6	121.1
2022 Dec.	17,902.8	3,974.3	3,277.6	1,331.9	1,385.5	9,265.4	8,553.9	196.8	48.4	77.5	41.4	11.3	59.7	57.3
2023 Jan.	18,273.4	4,085.8	3,298.7	1,319.6	1,417.0	9,471.9	8,746.8	377.5	153.5	46.0	10.1	26.5	151.4	135.6
Feb.	18,188.3	4,082.2	3,300.9	1,323.6	1,407.0	9,398.2	8,675.3	354.3	99.1	54.0	12.8	18.2	182.9	165.8
Mar.	18,407.6	4,106.0	3,289.1	1,319.4	1,405.1	9,607.4	8,872.3	332.4	82.5	69.8	28.9	15.5	164.7	152.2
Apr.	18,405.2	4,116.8	3,287.6	1,315.8	1,408.6	9,592.2	8,872.3	311.4	73.9	74.9	22.1	16.5	146.0	140.1
May	18,571.5	4,187.1	3,345.9	1,350.4	1,418.0	9,620.5	8,903.5	363.1	98.8	95.1	52.2	27.7	141.5	133.2

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	FVCs	Non-financial corporations	of which central government					
							1					2	3	4	5	6	7	8	9	10	11
Outstanding amount											
2020	20,779.1	4,505.1	3,231.9	1,314.3	1,645.6	11,396.5	10,495.7	8,518.5	473.6	1,318.5	6,725.5
2021	21,339.9	4,610.6	3,520.3	1,393.3	1,686.9	11,522.1	10,611.3	10,415.2	599.8	1,553.9	8,260.5
2022	19,264.5	4,437.3	3,421.1	1,381.8	1,473.8	9,932.3	9,175.6	8,780.1	524.7	1,353.6	6,901.2
2022 Dec.	19,264.5	4,437.3	3,421.1	1,381.8	1,473.8	9,932.3	9,175.6	8,780.1	524.7	1,353.6	6,901.2
2023 Jan.	19,652.4	4,598.8	3,434.0	1,368.1	1,506.4	10,113.1	9,341.0	9,528.6	595.9	1,460.2	7,471.9
Feb.	19,555.5	4,608.5	3,438.8	1,374.8	1,496.5	10,011.6	9,244.6	9,660.3	630.0	1,486.2	7,543.6
Mar.	19,822.0	4,639.6	3,425.0	1,370.1	1,495.4	10,262.0	9,475.8	9,681.3	558.5	1,439.5	7,682.8
Apr.	19,848.3	4,677.3	3,421.1	1,363.3	1,505.2	10,244.7	9,475.7	9,692.5	566.2	1,432.3	7,693.5
May	20,010.0	4,764.9	3,476.0	1,397.5	1,510.4	10,258.7	9,507.6	9,454.9	545.2	1,391.9	7,517.3
Growth rate ¹⁾											
2022 Oct.	3.3	4.6	4.5	1.1	0.5	2.8	3.3	0.3	-1.4	2.3	0.1
Nov.	3.8	5.4	5.2	1.3	0.2	3.2	3.7	0.1	-1.5	1.8	-0.1
Dec.	3.6	4.8	4.5	-0.3	0.6	3.2	3.8	0.2	-1.8	1.6	0.0
2023 Jan.	3.9	7.1	3.7	-0.5	0.4	3.1	3.7	0.1	-2.2	1.0	0.1
Feb.	4.0	7.8	2.7	-1.1	1.1	3.3	3.9	0.2	-2.4	1.1	0.2
Mar.	3.6	7.0	2.0	-2.1	-0.4	3.4	4.0	0.1	-2.4	0.9	0.2
Apr.	4.2	8.0	1.2	-2.9	0.4	4.0	4.8	-0.1	-2.2	0.9	-0.1
May	4.3	9.1	2.1	0.0	0.2	3.6	4.5	0.0	-2.6	0.9	0.0

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
2020	99.7	93.6	93.4	89.5	75.9	87.7	119.5	93.9
2021	99.6	93.5	93.3	88.7	71.3	86.0	120.9	94.3
2022	95.5	90.7	93.1	83.7	66.3	81.4	116.8	90.8
2022 Q2	95.6	90.3	93.2	83.4	66.6	81.1	116.5	90.2
Q3	94.0	89.3	92.2	81.9	64.4	79.8	114.5	88.9
Q4	95.9	91.8	94.6	84.5	65.3	81.8	117.3	91.7
2023 Q1	97.4	92.6	96.4	.	.	.	120.2	93.1
2022 Dec.	97.0	92.3	95.4	-	-	-	119.2	92.6
2023 Jan.	97.3	92.5	96.3	-	-	-	119.9	92.9
Feb.	97.3	92.6	96.4	-	-	-	120.1	93.1
Mar.	97.5	92.8	96.7	-	-	-	120.5	93.3
Apr.	98.6	93.6	97.9	-	-	-	122.3	94.5
May	98.1	92.9	97.7	-	-	-	121.7	93.6
	<i>Percentage change versus previous month</i>							
2023 May	-0.4	-0.8	-0.2	-	-	-	-0.5	-0.9
	<i>Percentage change versus previous year</i>							
2023 May	2.7	2.8	4.7	-	-	-	4.6	3.9

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
2020	7.875	26.455	7.454	351.249	121.846	4.443	0.890	4.8383	10.485	1.071	1.142
2021	7.628	25.640	7.437	358.516	129.877	4.565	0.860	4.9215	10.146	1.081	1.183
2022	7.079	24.566	7.440	391.286	138.027	4.686	0.853	4.9313	10.630	1.005	1.053
2022 Q2	7.043	24.644	7.440	385.826	138.212	4.648	0.848	4.9449	10.479	1.027	1.065
Q3	6.898	24.579	7.439	403.430	139.164	4.744	0.856	4.9138	10.619	0.973	1.007
Q4	7.258	24.389	7.438	410.825	144.238	4.727	0.870	4.9208	10.938	0.983	1.021
2023 Q1	7.342	23.785	7.443	388.712	141.981	4.708	0.883	4.9202	11.203	0.992	1.073
2022 Dec.	7.386	24.269	7.438	407.681	142.822	4.683	0.870	4.9224	10.986	0.986	1.059
2023 Jan.	7.317	23.958	7.438	396.032	140.544	4.697	0.882	4.9242	11.205	0.996	1.077
Feb.	7.324	23.712	7.445	384.914	142.377	4.742	0.886	4.9087	11.172	0.990	1.072
Mar.	7.381	23.683	7.446	385.013	143.010	4.689	0.882	4.9263	11.228	0.991	1.071
Apr.	7.556	23.437	7.452	375.336	146.511	4.632	0.881	4.9365	11.337	0.985	1.097
May	7.595	23.595	7.449	372.371	148.925	4.534	0.870	4.9477	11.370	0.975	1.087
	<i>Percentage change versus previous month</i>										
2023 May	0.5	0.7	0.0	-0.8	1.6	-2.1	-1.2	0.2	0.3	-1.0	-0.9
	<i>Percentage change versus previous year</i>										
2023 May	7.2	-4.7	0.1	-3.1	9.3	-2.5	2.4	0.0	8.3	-5.8	2.7

Source: ECB.

4 Financial market developments

4.10 Euro area balance of payments, financial account

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

	Total ¹⁾			Direct investment		Portfolio investment		Net financial derivatives	Other investment		Reserve assets	Memo: Gross external debt
	Assets	Liabilities	Net	Assets	Liabilities	Assets	Liabilities		Assets	Liabilities		
	1	2	3	4	5	6	7	8	9	10	11	12
<i>Outstanding amounts (international investment position)</i>												
2022 Q1	34,374.4	34,199.6	174.9	11,998.6	9,931.6	12,335.5	13,992.7	-56.4	6,850.8	8,131.4	1,102.0	16,351.9
Q2	34,621.2	34,203.6	417.6	12,364.3	10,175.0	11,510.6	13,097.5	-18.1	7,032.8	8,320.5	1,120.9	16,445.2
Q3	35,380.7	34,905.8	474.9	12,679.9	10,483.3	11,188.1	12,779.6	-6.0	7,144.4	8,402.9	1,134.3	16,561.5
Q4	33,589.3	33,324.0	265.3	12,067.9	9,891.1	11,100.5	12,722.1	20.6	6,580.7	8,003.8	1,112.6	15,755.2
<i>Outstanding amounts as a percentage of GDP</i>												
2022 Q4	250.7	248.7	2.0	90.1	73.8	82.8	94.9	0.2	49.1	59.7	8.3	117.6
<i>Transactions</i>												
2022 Q2	-32.9	-62.0	29.0	64.0	-47.2	-126.8	-86.5	28.8	-1.2	71.7	2.3	-
Q3	2.4	55.2	-52.8	68.0	86.7	-184.0	-8.3	43.9	67.1	-23.3	7.4	-
Q4	-639.0	-686.4	47.3	-377.9	-398.7	93.6	108.4	-8.3	-355.4	-396.1	9.1	-
2023 Q1	436.4	350.6	85.8	66.8	31.1	36.5	148.0	26.8	324.8	171.6	-18.5	-
2022 Oct.	-30.2	-47.0	16.8	-122.5	-120.9	1.4	21.2	0.8	86.2	52.7	3.9	-
Nov.	-32.8	-3.0	-29.8	7.4	4.5	39.3	93.5	0.0	-80.0	-101.0	0.5	-
Dec.	-576.1	-636.4	60.3	-262.8	-282.3	52.9	-6.3	-9.1	-361.6	-347.8	4.6	-
2023 Jan.	231.5	218.6	12.9	-2.1	16.0	50.6	40.4	9.8	181.8	162.1	-8.6	-
Feb.	75.9	79.0	-3.2	43.5	6.8	7.7	48.0	11.0	25.0	24.3	-11.4	-
Mar.	129.1	53.0	76.1	25.4	8.3	-21.8	59.5	6.0	117.9	-14.8	1.6	-
<i>12-month cumulated transactions</i>												
2023 Mar.	-233.1	-342.6	109.5	-179.1	-328.1	-180.7	161.7	91.2	35.2	-176.1	0.3	-
<i>12-month cumulated transactions as a percentage of GDP</i>												
2023 Mar.	-1.7	-2.5	0.8	-1.3	-2.4	-1.3	1.2	0.7	0.3	-1.3	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					
	M1		M2-M1				Repos	Money market fund shares	Debt securities with a maturity of up to 2 years			
	Currency in circulation	Overnight deposits	Deposits with an agreed maturity of up to 2 years	Deposits redeemable at notice of up to 3 months								
1	2	3	4	5	6	7	8	9	10	11	12	
Outstanding amounts												
2020	1,363.7	8,876.3	10,240.0	1,026.7	2,449.4	3,476.1	13,716.1	101.8	627.0	4.4	733.1	14,449.2
2021	1,469.7	9,784.0	11,253.8	916.1	2,506.4	3,422.5	14,676.2	118.0	647.2	21.5	786.7	15,462.9
2022	1,538.5	9,780.9	11,319.4	1,377.8	2,566.6	3,944.4	15,263.7	123.3	649.9	46.9	820.2	16,083.9
2022 Q2	1,528.0	10,051.8	11,579.7	972.9	2,530.6	3,503.5	15,083.2	115.9	609.1	64.6	789.7	15,872.9
Q3	1,538.2	10,177.5	11,715.7	1,175.8	2,552.7	3,728.4	15,444.1	120.4	598.0	48.8	767.3	16,211.4
Q4	1,538.5	9,780.9	11,319.4	1,377.8	2,566.6	3,944.4	15,263.7	123.3	649.9	46.9	820.2	16,083.9
2023 Q1	1,544.1	9,447.6	10,991.6	1,644.4	2,549.7	4,194.1	15,185.8	103.2	681.3	94.6	879.1	16,064.8
2022 Nov.	1,541.3	9,908.0	11,449.2	1,328.0	2,551.5	3,879.4	15,328.7	138.8	638.8	38.3	815.9	16,144.6
Dec.	1,538.5	9,780.9	11,319.4	1,377.8	2,566.6	3,944.4	15,263.7	123.3	649.9	46.9	820.2	16,083.9
2023 Jan.	1,540.7	9,729.3	11,270.0	1,458.2	2,560.6	4,018.8	15,288.8	133.8	634.5	49.8	818.2	16,107.0
Feb.	1,539.6	9,593.3	11,132.9	1,544.7	2,557.5	4,102.2	15,235.2	124.2	651.9	80.8	856.9	16,092.1
Mar.	1,544.1	9,447.6	10,991.6	1,644.4	2,549.7	4,194.1	15,185.8	103.2	681.3	94.6	879.1	16,064.8
Apr. ^(p)	1,536.8	9,375.5	10,912.3	1,704.6	2,537.5	4,242.0	15,154.3	105.8	687.4	84.9	878.2	16,032.4
Transactions												
2020	139.2	1,243.9	1,383.2	-33.8	86.3	52.5	1,435.7	19.6	111.0	1.2	131.7	1,567.4
2021	107.4	898.7	1,006.0	-121.6	66.7	-55.0	951.1	12.1	20.9	14.4	47.3	998.4
2022	68.8	-1.5	67.3	427.3	56.7	484.1	551.3	3.7	3.0	77.9	84.7	636.0
2022 Q2	7.6	111.4	118.9	30.6	10.5	41.1	160.0	-8.6	18.0	16.9	26.3	186.4
Q3	10.2	117.9	128.1	160.5	21.8	182.3	310.4	2.7	-11.0	38.7	30.3	340.7
Q4	0.3	-360.9	-360.6	212.5	13.9	226.4	-134.2	4.8	52.0	-0.8	55.9	-78.3
2023 Q1	4.3	-377.3	-373.1	261.1	-11.8	249.3	-123.8	-20.6	31.2	49.5	60.1	-63.7
2022 Nov.	-0.1	-99.5	-99.6	79.0	-4.6	74.4	-25.1	14.6	16.2	16.8	47.6	22.5
Dec.	-2.8	-110.7	-113.5	53.1	15.3	68.4	-45.1	-14.8	11.1	10.6	6.9	-38.2
2023 Jan.	0.9	-99.5	-98.6	74.9	-0.9	74.0	-24.6	9.9	-15.5	4.5	-1.1	-25.8
Feb.	-1.1	-138.6	-139.7	84.2	-3.2	81.0	-58.7	-10.1	17.4	28.7	36.1	-22.6
Mar.	4.4	-139.1	-134.7	102.0	-7.7	94.3	-40.4	-20.4	29.2	16.3	25.1	-15.3
Apr. ^(p)	-7.3	-67.5	-74.8	59.0	-12.2	46.8	-28.0	2.8	6.2	-8.1	0.9	-27.2
Growth rates												
2020	11.4	16.2	15.5	-3.2	3.7	1.5	11.6	24.4	21.3	-	21.8	12.1
2021	7.9	10.1	9.8	-11.8	2.7	-1.6	6.9	12.0	3.3	371.3	6.5	6.9
2022	4.7	0.0	0.6	45.7	2.3	14.0	3.8	3.0	0.5	526.6	11.4	4.1
2022 Q2	7.8	7.2	7.3	2.5	1.8	2.0	6.0	-2.6	-1.2	115.6	2.9	5.8
Q3	6.5	5.5	5.7	23.6	2.3	8.0	6.2	-4.5	-1.3	331.2	7.4	6.3
Q4	4.7	0.0	0.6	45.7	2.3	14.0	3.8	3.0	0.5	526.6	11.4	4.1
2023 Q1	1.5	-5.1	-4.2	68.8	1.4	20.0	1.4	-17.5	15.3	527.9	23.9	2.5
2022 Nov.	5.4	2.0	2.4	38.6	1.9	12.0	4.7	8.2	-1.0	239.8	8.3	4.8
Dec.	4.7	0.0	0.6	45.7	2.3	14.0	3.8	3.0	0.5	526.6	11.4	4.1
2023 Jan.	3.8	-1.5	-0.8	49.6	2.1	15.2	2.9	2.6	5.7	245.3	13.4	3.4
Feb.	2.9	-3.5	-2.7	59.1	1.7	17.5	2.0	-6.1	11.6	459.9	21.0	2.9
Mar.	1.5	-5.1	-4.2	68.8	1.4	20.0	1.4	-17.5	15.3	527.9	23.9	2.5
Apr. ^(p)	1.0	-6.1	-5.2	73.5	0.8	21.1	0.9	-10.0	14.9	344.6	21.9	1.9

Source: 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)					Financial corporations other than MFIs and ICPFs 2)	Insurance corporations and pension funds	Other general government 4)
	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			
	1	2	3	4	5	6	7	8	9	10	11	12	13
Outstanding amounts													
2020	2,966.0	2,514.2	308.2	140.2	3.3	7,665.2	4,967.3	437.0	2,260.1	0.9	1,090.4	235.3	497.3
2021	3,231.5	2,807.0	288.9	128.7	6.9	8,090.5	5,383.9	372.5	2,333.4	0.7	1,228.4	227.8	546.3
2022	3,362.6	2,725.6	495.9	135.3	5.9	8,392.2	5,555.2	442.8	2,393.3	0.9	1,298.7	235.0	560.0
2022 Q2	3,312.2	2,866.1	304.4	131.0	10.8	8,255.4	5,540.2	354.0	2,360.5	0.7	1,301.9	231.3	570.3
Q3	3,368.1	2,837.4	388.3	133.7	8.8	8,372.0	5,620.1	370.0	2,380.9	1.0	1,490.5	243.9	551.9
Q4	3,362.6	2,725.6	495.9	135.3	5.9	8,392.2	5,555.2	442.8	2,393.3	0.9	1,298.7	235.0	560.0
2023 Q1	3,342.8	2,600.9	600.8	132.6	8.4	8,391.0	5,443.3	568.3	2,378.6	0.9	1,202.8	231.7	576.6
2022 Nov.	3,393.4	2,764.9	488.3	132.1	8.1	8,379.1	5,582.2	413.4	2,382.5	1.0	1,345.6	250.5	557.7
Dec.	3,362.6	2,725.6	495.9	135.3	5.9	8,392.2	5,555.2	442.8	2,393.3	0.9	1,298.7	235.0	560.0
2023 Jan.	3,375.9	2,697.2	536.6	134.6	7.4	8,439.1	5,563.9	485.3	2,389.1	0.8	1,271.1	237.0	558.9
Feb.	3,380.1	2,663.2	573.2	134.5	9.2	8,419.4	5,511.0	521.9	2,385.8	0.7	1,223.4	225.0	571.9
Mar.	3,342.8	2,600.9	600.8	132.6	8.4	8,391.0	5,443.3	568.3	2,378.6	0.9	1,202.8	231.7	576.6
Apr. (p)	3,337.1	2,572.1	623.2	131.6	10.1	8,376.6	5,398.8	608.0	2,368.9	0.9	1,222.2	227.0	560.5
Transactions													
2020	510.9	465.4	55.3	-6.8	-3.0	612.8	561.7	-53.8	105.0	0.0	138.6	20.6	33.1
2021	251.7	276.8	-21.4	-6.9	3.3	424.5	412.7	-65.1	77.0	-0.2	142.4	-9.5	46.6
2022	120.2	-90.0	205.6	5.9	-1.4	298.3	169.2	74.1	54.9	0.1	45.5	7.6	14.7
2022 Q2	15.3	1.8	12.5	0.8	0.2	62.8	57.8	-4.8	10.1	-0.3	49.8	-0.6	16.5
Q3	46.4	-34.3	80.4	2.7	-2.3	113.2	77.4	15.2	20.3	0.3	150.3	11.4	-18.5
Q4	11.6	-100.4	113.0	1.6	-2.6	24.9	-61.4	74.3	12.1	-0.1	-167.3	-7.4	8.4
2023 Q1	-29.1	-135.3	104.6	-1.0	2.6	-34.7	-145.2	120.0	-9.7	0.1	-95.5	-2.1	12.7
2022 Nov.	8.3	-35.1	44.4	0.1	-1.1	-4.0	-30.2	29.2	-3.0	0.0	-11.7	-3.9	0.7
Dec.	-24.8	-35.2	9.4	3.1	-2.1	14.5	-26.0	29.9	10.8	-0.2	-34.3	-14.9	2.4
2023 Jan.	0.6	-40.9	40.5	-0.6	1.6	13.1	-25.0	37.3	0.9	-0.1	-28.0	1.0	-2.4
Feb.	1.4	-35.6	35.4	-0.1	1.7	-20.5	-53.2	36.2	-3.3	-0.1	-51.1	-10.2	12.6
Mar.	-31.0	-58.8	28.7	-0.2	-0.7	-27.4	-66.9	46.6	-7.2	0.2	-16.4	7.1	2.5
Apr. (p)	-3.8	-27.7	23.0	-0.9	1.8	-13.9	-44.1	40.0	-9.7	-0.1	22.8	-4.4	-18.6
Growth rates													
2020	20.6	22.5	21.5	-4.5	-46.6	8.7	12.8	-10.9	4.9	-5.4	13.9	9.5	7.1
2021	8.5	11.0	-7.0	-4.9	99.4	5.5	8.3	-14.9	3.4	-18.3	13.0	-4.0	9.4
2022	3.7	-3.2	70.0	4.6	-17.2	3.7	3.1	20.0	2.4	20.0	3.9	3.4	2.7
2022 Q2	6.1	6.8	2.5	-1.2	22.5	4.1	6.2	-12.5	2.3	-15.0	12.0	2.7	16.0
Q3	5.9	3.2	34.0	1.8	-15.2	4.3	5.6	-4.2	2.6	55.7	18.1	7.2	6.5
Q4	3.7	-3.2	70.0	4.6	-17.2	3.7	3.1	20.0	2.4	20.0	3.9	3.4	2.7
2023 Q1	1.3	-9.4	106.0	3.1	-19.3	2.0	-1.3	56.8	1.4	-10.7	-4.7	0.6	3.5
2022 Nov.	5.4	-0.8	66.9	1.7	-2.8	3.8	4.0	10.4	2.2	7.9	6.4	8.7	6.9
Dec.	3.7	-3.2	70.0	4.6	-17.2	3.7	3.1	20.0	2.4	20.0	3.9	3.4	2.7
2023 Jan.	3.2	-4.9	82.0	3.9	-28.1	3.3	1.9	31.7	2.2	-3.1	-0.5	-0.1	3.4
Feb.	2.6	-7.0	98.1	4.1	-20.6	2.6	0.4	42.9	1.8	-25.6	-5.1	-2.9	4.7
Mar.	1.3	-9.4	106.0	3.1	-19.3	2.0	-1.3	56.8	1.4	-10.7	-4.7	0.6	3.5
Apr. (p)	1.2	-10.1	108.2	2.6	7.8	1.6	-2.4	68.6	0.9	-7.0	-4.1	1.0	-1.4

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) 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 corporations other than MFIs and ICPFs ³⁾	To insurance corporations and pension funds			
	1	2	3	4	5	Adjusted loans ²⁾	6	7	8	9	10	11	12
Outstanding amounts												
2020	5,906.9	998.1	4,896.9	14,323.0	11,911.0	12,289.7	4,706.6	6,132.9	904.7	166.8	1,547.5	864.5
2021	6,542.7	996.6	5,544.3	14,802.7	12,332.1	12,716.3	4,861.3	6,373.6	937.6	159.7	1,582.4	888.1
2022	6,374.0	1,007.3	5,341.6	15,387.9	12,981.7	13,155.0	5,127.0	6,633.3	1,074.9	146.5	1,569.9	836.3
2022 Q2	6,503.0	1,000.6	5,478.2	15,182.4	12,790.2	12,928.3	5,020.2	6,553.3	1,053.1	163.6	1,561.3	830.9
Q3	6,359.6	1,002.3	5,333.0	15,421.7	13,051.1	13,186.1	5,165.6	6,613.7	1,110.6	161.2	1,546.0	824.6
Q4	6,374.0	1,007.3	5,341.6	15,387.9	12,981.7	13,155.0	5,127.0	6,633.3	1,074.9	146.5	1,569.9	836.3
2023 Q1	6,358.3	995.7	5,337.6	15,415.4	13,014.0	13,180.2	5,131.2	6,665.9	1,078.3	138.5	1,552.0	849.5
2022 Nov.	6,423.3	994.6	5,403.7	15,441.4	13,043.0	13,193.2	5,162.9	6,632.2	1,098.1	149.7	1,561.1	837.4
Dec.	6,374.0	1,007.3	5,341.6	15,387.9	12,981.7	13,155.0	5,127.0	6,633.3	1,074.9	146.5	1,569.9	836.3
2023 Jan.	6,379.3	996.3	5,358.1	15,422.7	13,028.2	13,200.3	5,141.3	6,655.4	1,084.4	147.0	1,557.9	836.6
Feb.	6,347.5	997.3	5,325.3	15,417.3	13,023.1	13,190.5	5,140.1	6,660.0	1,074.4	148.6	1,548.5	845.7
Mar.	6,358.3	995.7	5,337.6	15,415.4	13,014.0	13,180.2	5,131.2	6,665.9	1,078.3	138.5	1,552.0	849.5
Apr. ^(p)	6,316.0	981.7	5,309.2	15,433.0	13,007.6	13,182.1	5,124.2	6,666.7	1,072.1	144.6	1,565.0	860.4
Transactions												
2020	1,040.0	13.5	1,026.4	733.6	534.7	555.5	287.6	209.3	20.7	17.1	170.7	28.2
2021	665.6	-0.4	675.6	561.9	473.9	507.3	175.9	261.8	46.4	-10.2	78.9	9.2
2022	177.1	9.9	166.4	634.5	623.2	678.1	268.5	242.3	125.4	-13.0	17.8	-6.5
2022 Q2	68.6	-0.9	69.5	211.5	230.2	238.7	100.7	84.5	34.8	10.3	-13.9	-4.8
Q3	-36.6	2.1	-38.9	222.7	232.6	236.8	139.1	58.7	38.0	-3.2	-9.4	-0.5
Q4	44.4	4.1	39.7	3.4	-31.7	10.0	-17.4	27.4	-27.5	-14.2	22.6	12.5
2023 Q1	-80.3	-19.8	-60.3	-5.8	7.0	3.7	-2.6	14.1	3.4	-7.8	-20.8	7.9
2022 Nov.	7.7	-2.0	9.0	38.4	17.0	32.8	-18.0	13.0	31.5	-9.5	19.5	1.9
Dec.	25.3	12.1	13.3	-30.1	-45.4	-20.9	-25.1	4.2	-21.4	-3.1	12.8	2.5
2023 Jan.	-57.5	-17.7	-39.7	-3.5	12.9	7.8	1.6	1.5	9.3	0.6	-15.2	-1.2
Feb.	2.2	1.1	1.1	-9.0	-7.8	-8.1	-2.3	4.4	-11.6	1.6	-8.3	7.1
Mar.	-24.9	-3.2	-21.7	6.7	2.0	4.1	-1.9	8.2	5.7	-10.0	2.7	2.0
Apr. ^(p)	-37.6	-13.9	-23.8	19.7	-3.0	6.9	-4.6	2.0	-6.5	6.2	12.7	10.0
Growth rates												
2020	22.1	1.4	27.8	5.3	4.7	4.7	6.4	3.5	2.3	10.2	11.4	3.4
2021	11.3	0.0	13.8	3.9	4.0	4.1	3.7	4.3	5.1	-4.6	5.2	1.1
2022	2.8	1.0	3.1	4.3	5.0	5.4	5.5	3.8	13.4	-7.9	1.1	-0.6
2022 Q2	8.4	-0.2	10.1	5.2	5.9	6.3	5.9	4.6	13.8	7.8	5.0	-2.7
Q3	5.0	0.5	5.8	5.8	6.7	7.1	8.0	4.4	14.9	10.0	3.4	-3.0
Q4	2.8	1.0	3.1	4.3	5.0	5.4	5.5	3.8	13.4	-7.9	1.1	-0.6
2023 Q1	-0.1	-1.4	0.2	2.9	3.5	3.9	4.5	2.9	4.8	-9.8	-1.4	1.9
2022 Nov.	3.7	0.4	4.3	5.1	5.8	6.3	7.2	4.0	12.4	-6.4	2.8	-0.9
Dec.	2.8	1.0	3.1	4.3	5.0	5.4	5.5	3.8	13.4	-7.9	1.1	-0.6
2023 Jan.	1.4	-0.6	1.8	3.8	4.4	4.9	5.3	3.4	9.7	-12.6	1.0	-0.7
Feb.	0.7	-0.8	1.0	3.3	3.9	4.3	5.0	3.2	6.2	-11.0	0.3	0.6
Mar.	-0.1	-1.4	0.2	2.9	3.5	3.9	4.5	2.9	4.8	-9.8	-1.4	1.9
Apr. ^(p)	-0.9	-2.9	-0.5	2.5	3.0	3.3	3.8	2.6	3.5	-9.5	-1.2	3.6

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	Adjusted loans ⁴⁾	Up to 1 year	Over 1 and up to 5 years	Over 5 years	Total	Adjusted loans ⁴⁾	Loans for consumption	Loans for house purchase	Other loans
	1					2					3	4	5	6	7	8	9	10
Outstanding amounts										
2020	4,706.6	4,828.7	893.8	1,009.1	2,803.6	6,132.9	6,402.6	700.7	4,725.1	707.1
2021	4,861.3	4,993.1	885.3	1,005.5	2,970.5	6,373.6	6,638.4	698.5	4,971.1	703.9
2022	5,127.0	5,119.1	963.3	1,079.4	3,084.3	6,633.3	6,828.5	717.6	5,214.9	700.7
2022 Q2	5,020.2	4,995.6	949.8	1,028.1	3,042.2	6,553.3	6,742.9	709.0	5,139.2	705.1
Q3	5,165.6	5,136.5	1,008.0	1,068.1	3,089.5	6,613.7	6,802.4	714.0	5,195.4	704.2
Q4	5,127.0	5,119.1	963.3	1,079.4	3,084.3	6,633.3	6,828.5	717.6	5,214.9	700.7
2023 Q1	5,131.2	5,127.3	940.2	1,093.0	3,098.1	6,665.9	6,867.2	723.6	5,236.0	706.3
2022 Nov.	5,162.9	5,142.9	993.0	1,071.2	3,098.7	6,632.2	6,826.4	716.9	5,211.3	704.0
Dec.	5,127.0	5,119.1	963.3	1,079.4	3,084.3	6,633.3	6,828.5	717.6	5,214.9	700.7
2023 Jan.	5,141.3	5,135.0	955.0	1,086.3	3,100.0	6,655.4	6,860.0	720.1	5,223.1	712.3
Feb.	5,140.1	5,132.1	945.3	1,092.0	3,102.9	6,660.0	6,864.1	721.7	5,228.3	710.0
Mar.	5,131.2	5,127.3	940.2	1,093.0	3,098.1	6,665.9	6,867.2	723.6	5,236.0	706.3
Apr. ^(p)	5,124.2	5,122.5	929.9	1,094.2	3,100.1	6,666.7	6,866.6	725.2	5,237.4	704.2
Transactions										
2020	287.6	324.9	-53.5	138.5	202.6	209.3	193.7	-11.6	210.8	10.2
2021	175.9	208.0	-1.4	2.4	174.9	261.8	267.2	10.7	255.0	-3.9
2022	268.5	306.7	78.5	77.6	112.5	242.3	249.4	22.7	218.5	1.1
2022 Q2	100.7	106.5	40.5	22.4	37.7	84.5	74.0	7.4	75.9	1.2
Q3	139.1	139.4	55.4	39.9	43.8	58.7	59.4	4.9	55.6	-1.8
Q4	-17.4	6.2	-38.2	18.2	2.6	27.4	36.0	5.2	22.0	0.2
2023 Q1	-2.6	3.5	-20.8	10.8	7.3	14.1	22.0	4.2	14.7	-4.9
2022 Nov.	-18.0	-5.8	-12.8	-2.6	-2.6	13.0	18.0	2.2	9.0	1.8
Dec.	-25.1	-12.3	-24.9	10.2	-10.3	4.2	6.2	1.5	4.7	-1.9
2023 Jan.	1.6	-0.5	-7.9	3.0	6.4	1.5	10.3	0.0	2.1	-0.7
Feb.	-2.3	-1.8	-10.4	5.6	2.5	4.4	6.3	1.6	5.1	-2.2
Mar.	-1.9	5.8	-2.5	2.2	-1.6	8.2	5.3	2.6	7.5	-2.0
Apr. ^(p)	-4.6	-1.8	-9.2	2.1	2.5	2.0	1.8	2.1	1.7	-1.9
Growth rates										
2020	6.4	7.1	-5.6	15.9	7.7	3.5	3.1	-1.6	4.7	1.5
2021	3.7	4.3	-0.1	0.2	6.2	4.3	4.2	1.5	5.4	-0.5
2022	5.5	6.3	8.8	7.7	3.8	3.8	3.8	3.3	4.4	0.2
2022 Q2	5.9	6.9	14.1	5.9	3.6	4.6	4.6	3.4	5.4	0.0
Q3	8.0	8.9	19.7	9.8	4.0	4.4	4.4	3.5	5.1	-0.1
Q4	5.5	6.3	8.8	7.7	3.8	3.8	3.8	3.3	4.4	0.2
2023 Q1	4.5	5.2	4.1	9.1	3.0	2.9	2.9	3.1	3.3	-0.7
2022 Nov.	7.2	8.3	14.1	9.8	4.4	4.0	4.1	3.0	4.6	0.3
Dec.	5.5	6.3	8.8	7.7	3.8	3.8	3.8	3.3	4.4	0.2
2023 Jan.	5.3	6.1	7.5	8.6	3.6	3.4	3.6	3.1	3.9	0.1
Feb.	5.0	5.7	5.1	9.2	3.5	3.2	3.2	2.8	3.7	-0.3
Mar.	4.5	5.2	4.1	9.1	3.0	2.9	2.9	3.1	3.3	-0.7
Apr. ^(p)	3.8	4.6	1.6	8.5	2.8	2.6	2.5	3.1	3.0	-1.0

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			
	Central government holdings ²⁾	Longer-term financial liabilities vis-à-vis other euro area residents					Net external assets	Other		
		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		Total		
								Repos with central counterparties ³⁾	Reverse repos to central counterparties ³⁾	
1	2	3	4	5	6	7	8	9	10	
Outstanding amounts										
2020	723.2	6,955.9	1,913.6	42.2	1,990.8	3,009.2	1,441.4	457.1	136.7	141.1
2021	762.6	6,886.1	1,837.3	37.1	1,997.2	3,014.4	1,372.0	394.3	128.5	136.8
2022	683.4	6,737.0	1,780.8	31.0	2,119.3	2,805.9	1,334.1	408.3	137.8	147.6
2022 Q2	757.5	6,789.1	1,843.9	30.6	2,008.5	2,906.0	1,313.6	420.6	166.5	157.3
Q3	642.5	6,764.5	1,801.9	30.6	2,096.5	2,835.6	1,318.8	518.2	148.0	146.7
Q4	683.4	6,737.0	1,780.8	31.0	2,119.3	2,805.9	1,334.1	408.3	137.8	147.6
2023 Q1	580.0	6,895.2	1,792.7	35.0	2,171.1	2,896.5	1,436.0	330.4	152.1	165.8
2022 Nov.	692.2	6,777.9	1,788.3	30.9	2,109.6	2,849.2	1,316.0	434.1	161.2	170.6
Dec.	683.4	6,737.0	1,780.8	31.0	2,119.3	2,805.9	1,334.1	408.3	137.8	147.6
2023 Jan.	564.5	6,842.3	1,784.4	32.5	2,158.3	2,867.1	1,350.7	361.0	155.5	157.0
Feb.	553.6	6,818.9	1,785.7	33.8	2,177.0	2,822.3	1,336.3	363.4	154.6	159.6
Mar.	580.0	6,895.2	1,792.7	35.0	2,171.1	2,896.5	1,436.0	330.4	152.1	165.8
Apr. ^(p)	586.5	6,902.4	1,807.4	35.9	2,163.7	2,895.5	1,436.0	336.3	153.3	161.9
Transactions										
2020	299.6	-35.8	-15.1	-8.0	-101.1	88.3	-59.7	117.3	-43.6	-47.5
2021	40.0	-37.2	-75.1	-5.0	-39.7	82.5	-116.4	-110.0	-8.3	-4.3
2022	-76.0	31.9	-89.8	-5.2	14.7	112.2	-65.9	-153.8	10.5	17.9
2022 Q2	17.2	12.5	-8.0	-4.2	-16.0	40.7	-61.1	-3.0	7.2	-7.1
Q3	-115.0	-10.0	-47.1	0.0	-2.2	39.4	-26.3	55.9	-18.6	-10.6
Q4	40.8	64.5	-15.2	0.3	57.9	21.5	52.2	-72.9	-10.2	1.0
2023 Q1	-110.1	85.1	8.3	4.0	63.8	8.9	72.7	-75.3	15.0	18.9
2022 Nov.	15.4	39.0	2.0	0.1	33.2	3.7	18.9	11.9	16.9	14.5
Dec.	-8.5	35.4	-5.4	0.1	12.1	28.6	24.7	-31.1	-23.4	-22.9
2023 Jan.	-125.1	45.6	0.2	1.6	48.4	-4.5	1.8	-46.0	17.7	9.4
Feb.	-11.2	16.8	0.2	1.3	6.2	9.1	8.3	-18.5	-0.2	3.0
Mar.	26.2	22.7	8.0	1.1	9.2	4.3	62.6	-10.8	-2.5	6.5
Apr. ^(p)	6.4	18.4	15.4	0.9	-0.9	3.1	16.1	-0.6	1.2	-4.0
Growth rates										
2020	84.6	-0.5	-0.8	-15.8	-4.7	3.0	-	-	-24.2	-25.2
2021	5.5	-0.5	-3.9	-11.9	-2.0	2.8	-	-	-6.0	-3.0
2022	-10.0	0.5	-4.8	-14.3	0.6	3.9	-	-	7.9	12.7
2022 Q2	12.2	-0.3	-3.0	-21.5	-1.5	2.7	-	-	26.0	21.7
Q3	-7.4	-0.4	-4.8	-18.6	-2.0	3.7	-	-	4.4	4.2
Q4	-10.0	0.5	-4.8	-14.3	0.6	3.9	-	-	7.9	12.7
2023 Q1	-22.6	2.3	-3.3	0.6	4.9	3.8	-	-	-4.2	1.3
2022 Nov.	-2.8	-0.1	-4.4	-15.8	-0.7	3.2	-	-	11.3	18.5
Dec.	-10.0	0.5	-4.8	-14.3	0.6	3.9	-	-	7.9	12.7
2023 Jan.	-23.0	1.2	-4.4	-9.0	2.9	3.6	-	-	-7.2	-1.8
Feb.	-25.2	1.8	-3.8	-4.4	3.5	4.0	-	-	-7.6	0.2
Mar.	-22.6	2.3	-3.3	0.6	4.9	3.8	-	-	-4.2	1.3
Apr. ^(p)	-23.9	2.3	-2.3	4.0	4.8	3.2	-	-	-16.0	-5.3

Source: 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: Primary deficit (-)/surplus (+)
	Total	Central government	State government	Local government	Social security funds	
	1	2	3	4	5	6
2019	-0.6	-1.0	0.1	0.1	0.3	1.0
2020	-7.1	-5.8	-0.4	0.0	-0.9	-5.6
2021	-5.3	-5.3	-0.1	0.0	0.0	-3.9
2022	-3.6	-3.9	0.0	0.0	0.3	-2.0
2022 Q1	-4.2	.	.	.	.	-2.8
Q2	-3.2	.	.	.	.	-1.6
Q3	-3.2	.	.	.	.	-1.7
Q4	-3.6	.	.	.	.	-1.9

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

Note: Euro area data include Croatia.

6.2 Revenue and expenditure

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

	Revenue						Expenditure						
	Total	Current revenue			Capital revenue	Total	Current expenditure				Capital expenditure		
		Direct taxes	Indirect taxes	Net social contributions			Compensation of employees	Intermediate consumption	Interest	Social benefits			
	1	2	3	4	5	6	7	8	9	10	11	12	13
2019	46.3	45.8	12.9	13.1	15.0	0.5	46.9	43.2	9.9	5.4	1.6	22.4	3.8
2020	46.4	45.9	12.9	12.7	15.5	0.5	53.5	48.9	10.6	5.9	1.5	25.3	4.6
2021	47.3	46.5	13.2	13.2	15.2	0.8	52.6	47.5	10.3	6.0	1.5	24.1	5.1
2022	47.1	46.4	13.6	13.0	14.9	0.8	50.8	45.7	9.9	5.9	1.7	22.9	5.1
2022 Q1	47.2	46.5	13.3	13.2	15.1	0.8	51.5	46.5	10.1	5.9	1.5	23.7	5.0
Q2	47.4	46.6	13.5	13.2	15.0	0.8	50.6	45.7	10.0	5.9	1.5	23.3	4.9
Q3	47.4	46.7	13.7	13.2	15.0	0.7	50.6	45.6	9.9	5.9	1.6	23.1	5.0
Q4	47.1	46.4	13.6	13.0	14.9	0.8	50.8	45.7	9.9	5.9	1.7	23.0	5.1

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

Note: Euro area data include Croatia.

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 deposits	Loans	Debt securities	Resident creditors	Non-resident creditors	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 currencies	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
2019	84.0	3.0	13.2	67.8	45.7	30.9	38.3	7.8	76.3	15.6	27.8	40.7	82.7	1.3
2020	97.2	3.2	14.5	79.5	54.6	39.2	42.5	11.1	86.0	18.9	30.9	47.4	95.5	1.7
2021	95.4	3.0	13.9	78.5	55.6	41.7	39.8	9.9	85.5	17.6	30.3	47.5	94.0	1.4
2022	91.5	2.7	13.3	75.5	53.8	40.8	37.7	8.7	82.8	16.4	29.0	46.0	90.5	0.9
2022 Q1	95.2	2.9	13.6	78.7	.	.	.	.	.	.	.	.	.	.
Q2	94.2	2.9	13.6	77.7	.	.	.	.	.	.	.	.	.	.
Q3	92.9	2.9	13.6	76.4	.	.	.	.	.	.	.	.	.	.
Q4	91.5	2.7	13.3	75.5	.	.	.	.	.	.	.	.	.	.

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

Note: Euro area data include Croatia.

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
2019	-2.0	-1.0	0.1	0.2	0.1	0.0	0.0	0.2	-0.1	0.0	-1.2	0.9
2020	13.1	5.6	2.2	2.5	2.0	0.4	-0.1	0.1	-0.3	0.0	5.3	9.5
2021	-1.7	3.9	-0.3	0.7	0.4	0.1	0.0	0.1	-0.1	-0.8	-5.3	5.1
2022	-4.0	2.0	-0.3	-0.3	-0.6	0.1	0.1	0.2	0.6	-0.6	-5.6	2.8
2022 Q1	-4.5	2.8	0.1	0.8	0.5	0.1	0.0	0.2	0.0	-0.6	-7.4	4.4
Q2	-3.8	1.6	0.5	1.0	0.8	0.0	0.0	0.2	0.1	-0.6	-6.0	3.6
Q3	-4.5	1.7	-0.2	0.0	-0.3	0.1	0.0	0.2	0.2	-0.5	-5.9	2.8
Q4	-4.0	1.9	-0.3	-0.3	-0.6	0.1	0.1	0.2	0.6	-0.6	-5.6	2.8

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

Note: Euro area data include Croatia.

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		
		Maturities of up to 3 months	Maturities of up to 3 months	Total	Floating rate		Zero coupon	Fixed rate	Maturities of up to 1 year	Issuance	Redemption		
	1	2	3	4	5		6	7	8	9	10	11	12	13
2020	14.9	13.5	4.2	1.4	0.4	7.6	2.0	1.2	-0.1	2.2	2.1	0.0	0.8
2021	14.1	12.8	4.2	1.3	0.3	7.9	1.6	1.1	-0.4	1.9	1.9	-0.1	0.5
2022	13.2	12.0	4.2	1.3	0.3	8.0	1.6	1.2	0.4	1.8	1.9	1.1	0.5
2022 Q1	13.5	12.4	4.6	1.2	0.3	8.0	1.6	1.1	-0.3	1.9	1.8	-0.1	0.4
Q2	13.6	12.3	4.4	1.3	0.3	8.0	1.6	1.1	-0.2	1.9	1.8	0.1	0.4
Q3	13.0	11.8	3.7	1.3	0.3	8.1	1.6	1.1	0.0	1.9	1.9	0.6	0.4
Q4	13.2	12.0	4.2	1.3	0.3	8.0	1.6	1.2	0.4	1.8	1.9	1.1	0.5
2022 Nov.	13.4	12.1	3.6	1.3	0.3	8.1	1.6	1.2	0.3	1.9	1.9	1.0	0.5
Dec.	13.2	12.0	4.2	1.3	0.3	8.0	1.6	1.2	0.4	1.8	1.9	1.1	0.5
2023 Jan.	13.2	11.9	4.3	1.3	0.3	8.0	1.7	1.2	0.6	1.9	1.9	1.4	0.6
Feb.	13.3	12.0	4.6	1.2	0.3	8.1	1.7	1.2	0.8	1.9	2.1	1.7	0.7
Mar.	13.6	12.4	4.3	1.2	0.3	8.1	1.8	1.3	1.0	1.9	2.0	2.1	0.7
Apr.	13.4	12.1	3.9	1.3	0.3	8.1	1.8	1.3	1.1	1.9	2.0	2.3	0.9

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 (+)										
2019	-2.0	1.5	0.1	0.5	0.9	-3.1	-3.1	0.2	-1.5	1.3
2020	-9.0	-4.3	-5.5	-5.0	-9.7	-10.1	-9.0	-7.3	-9.7	-5.8
2021	-5.5	-3.7	-2.4	-1.6	-7.1	-6.9	-6.5	-2.5	-9.0	-2.0
2022	-3.9	-2.6	-0.9	1.6	-2.3	-4.8	-4.7	0.4	-8.0	2.1
2022 Q1	-4.7	-2.8	-1.8	-0.2	-5.1	-5.5	-5.2	-1.7	-8.3	-0.3
Q2	-4.0	-1.7	-0.5	0.6	-2.8	-4.9	-4.1	-0.3	-7.4	0.9
Q3	-3.7	-2.2	-0.3	1.6	-3.1	-4.1	-4.2	0.5	-7.8	2.6
Q4	-3.9	-2.6	-0.9	1.6	-2.3	-4.8	-4.7	0.4	-8.0	2.1
Government debt										
2019	97.6	59.6	8.5	57.0	180.6	98.2	97.4	71.0	134.1	90.8
2020	112.0	68.7	18.5	58.4	206.3	120.4	114.6	87.0	154.9	113.8
2021	109.1	69.3	17.6	55.4	194.6	118.3	112.9	78.4	149.9	101.2
2022	105.1	66.3	18.4	44.7	171.3	113.2	111.6	68.4	144.4	86.5
2022 Q1	109.0	67.9	17.2	53.1	189.4	117.4	114.6	76.0	151.4	102.0
Q2	108.5	67.7	16.8	51.2	183.0	116.1	113.1	73.2	149.3	95.4
Q3	106.5	67.0	15.9	49.1	175.8	115.6	113.4	70.4	145.9	91.4
Q4	105.1	66.3	18.4	44.7	171.3	113.2	111.6	68.4	144.4	86.5
Government deficit (-)/surplus (+)										
2019	-0.6	0.5	2.2	0.5	1.8	0.6	0.1	0.7	-1.2	-0.9
2020	-4.4	-6.5	-3.4	-9.7	-3.7	-8.0	-5.8	-7.7	-5.4	-5.6
2021	-7.1	-1.2	0.7	-7.8	-2.4	-5.8	-2.9	-4.6	-5.4	-2.8
2022	-4.4	-0.6	0.2	-5.8	0.0	-3.2	-0.4	-3.0	-2.0	-0.9
2022 Q1	-5.3	-0.1	0.8	-7.7	-1.4	-3.8	-1.7	-3.7	-4.6	-1.9
Q2	-4.4	0.8	1.0	-6.5	0.1	-1.9	0.1	-3.2	-3.3	-1.2
Q3	-4.1	0.8	0.8	-5.7	0.3	-2.5	1.0	-3.0	-2.8	-0.9
Q4	-4.4	-0.6	0.2	-5.8	0.0	-3.2	-0.4	-3.0	-2.1	-0.9
Government debt										
2019	36.5	35.8	22.4	40.3	48.5	70.6	116.6	65.4	48.0	64.9
2020	42.0	46.3	24.5	52.9	54.7	82.9	134.9	79.6	58.9	74.7
2021	43.7	43.7	24.5	55.1	52.5	82.3	125.4	74.5	61.0	72.6
2022	40.8	38.4	24.6	53.4	51.0	78.4	113.9	69.9	57.8	73.0
2022 Q1	41.8	39.8	22.6	56.1	50.9	83.4	124.6	74.6	61.6	72.5
Q2	41.7	39.6	25.3	53.8	51.0	82.6	123.1	73.5	60.3	72.8
Q3	40.0	37.3	24.6	52.9	49.1	81.3	119.9	72.4	58.6	72.0
Q4	40.8	38.4	24.6	53.4	51.0	78.4	113.9	69.9	58.8	73.0

Source: Eurostat.

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