



EUROPEAN CENTRAL BANK

EUROSYSTEM

Economic Bulletin

Issue 1 / 2023



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Update on economic, financial and monetary developments

Summary

The Governing Council will stay the course in raising interest rates significantly at a steady pace and in keeping them at levels that are sufficiently restrictive to ensure a timely return of inflation to its 2% medium-term target. Accordingly, at its meeting on 2 February 2023, the Governing Council decided to raise the three key ECB interest rates by 50 basis points and it expects to raise them further. In view of the underlying inflation pressures, the Governing Council intends to raise interest rates by another 50 basis points at its next monetary policy meeting in March and it will then evaluate the subsequent path of its monetary policy. Keeping interest rates at restrictive levels will over time reduce inflation by dampening demand and will also guard against the risk of a persistent upward shift in inflation expectations. In any event, the Governing Council's future policy rate decisions will continue to be data-dependent and follow a meeting-by-meeting approach.

At its meeting on 2 February 2023, the Governing Council also decided on the modalities for reducing the Eurosystem's holdings of securities under the asset purchase programme (APP). As communicated in December, the APP portfolio will decline by €15 billion per month on average from the beginning of March until the end of June 2023, and the subsequent pace of portfolio reduction will be determined over time. Partial reinvestments will be conducted broadly in line with current practice. In particular, the remaining reinvestment amounts will be allocated proportionally to the share of redemptions across each constituent programme of the APP and, under the public sector purchase programme (PSPP), to the share of redemptions of each jurisdiction and across national and supranational issuers. For the Eurosystem's corporate bond purchases, the remaining reinvestments will be tilted more strongly towards issuers with a better climate performance. Without prejudice to the ECB's price stability objective, this approach will support the gradual decarbonisation of the Eurosystem's corporate bond holdings, in line with the goals of the Paris Agreement.

Economic activity

Survey data point to weakening global economic activity at the turn of the year, following robust growth in the third quarter of 2022. The abrupt reversal of the zero-COVID policy in China is likely to weigh on Chinese activity in the near term. At a global level, persistent inflationary pressures are eroding disposable income. Bottlenecks in global supply chains have continued to normalise, but disruptions to economic activity in China could trigger renewed supply chain bottlenecks, with global repercussions. Global trade momentum continued to moderate in November, while early indicators and nowcasts point to a contraction in the fourth quarter of 2022. Price

pressures at the global level remain high but may have peaked, as headline inflation for the OECD as a whole moderated further in November.

According to Eurostat's preliminary flash estimate, the euro area economy grew by 0.1% in the fourth quarter of 2022. While above the December 2022 Eurosystem staff projections, this outcome means that economic activity has slowed markedly since mid-2022 and the Governing Council expects it to stay weak in the near term. Subdued global activity and high geopolitical uncertainty, especially owing to Russia's unjustified war against Ukraine and its people, continue to act as headwinds to euro area growth. Together with high inflation and tighter financing conditions, these headwinds dampen spending and production, especially in the manufacturing sector.

However, supply bottlenecks are gradually easing, the supply of gas has become more secure, firms are still working off large order backlogs and confidence is improving. Moreover, output in the services sector has been holding up, supported by continuing reopening effects and stronger demand for leisure activities. Rising wages and the recent decline in energy price inflation are also set to ease the loss of purchasing power that many people have experienced owing to high inflation. This, in turn, will support consumption. Overall, the economy has proved more resilient than expected and should recover over the coming quarters.

The unemployment rate remained at its historical low of 6.6% in December 2022. However, the rate at which jobs are being created may slow and unemployment could rise over the coming quarters.

Government support measures to shield the economy from the impact of high energy prices should be temporary, targeted and tailored to preserving incentives to consume less energy. In particular, as the energy crisis becomes less acute, it is important to now start rolling these measures back promptly in line with the fall in energy prices and in a concerted manner. Any such measures falling short of these principles are likely to drive up medium-term inflationary pressures, which would call for a stronger monetary policy response. Moreover, in line with the EU's economic governance framework, fiscal policies should be oriented towards making the economy more productive and gradually bringing down high public debt. Policies to enhance the euro area's supply capacity, especially in the energy sector, can help reduce price pressures in the medium term. To that end, governments should swiftly implement their investment and structural reform plans under the Next Generation EU programme. The reform of the EU's economic governance framework should be concluded rapidly.

Inflation

According to Eurostat's flash estimate, which has been calculated using Eurostat estimates for Germany, inflation was 8.5% in January. This would be 0.7 percentage points lower than the December figure, with the decline owing mainly to a renewed sharp drop in energy prices. Market-based indicators suggest that energy prices over the coming years will be significantly lower than expected at the time of the December 2022 meeting. Food price inflation edged higher to 14.1%, as the past surge in the

cost of energy and of other inputs for food production is still feeding through to consumer prices.

Price pressures remain strong, partly because high energy costs are spreading throughout the economy. Inflation excluding energy and food remained at 5.2% in January, with inflation for non-energy industrial goods rising to 6.9% and services inflation declining to 4.2%. Other indicators of underlying inflation are also still high. Government measures to compensate households for high energy prices will dampen inflation in 2023 but are expected to raise inflation once they expire. At the same time, the scale of some of these measures depends on the evolution of energy prices and their expected contribution to inflation is particularly uncertain.

Although supply bottlenecks are gradually easing, their delayed effects are still pushing up goods price inflation. The same holds true for the lifting of pandemic-related restrictions: while weakening, the effect of pent-up demand is still driving up prices, especially in the services sector.

Wages are growing faster, supported by robust labour markets, with some catch-up to high inflation becoming the main theme in wage negotiations. At the same time, recent data on wage dynamics have been in line with the December 2022 Eurosystem staff projections. Most measures of longer-term inflation expectations currently stand at around 2%, but these warrant continued monitoring.

Risk assessment

The risks to the outlook for economic growth have become more balanced. Russia's unjustified war against Ukraine and its people continues to be a significant downside risk to the economy and could again push up the costs of energy and food. There could also be an additional drag on euro area growth if the world economy weakened more sharply than expected. Moreover, the recovery would face obstacles if the pandemic were to re-intensify and cause renewed supply disruptions. However, the energy shock could fade away faster than anticipated and euro area companies could adapt more quickly to the challenging international environment. This would support higher growth than currently expected.

The risks to the inflation outlook have also become more balanced, especially in the near term. On the upside, existing pipeline pressures could still send retail prices higher in the near term. Moreover, a stronger than expected economic rebound in China could give a fresh boost to commodity prices and foreign demand. Domestic factors such as a persistent rise in inflation expectations above target or higher than anticipated wage rises could drive inflation higher, also over the medium term. On the downside, the recent fall in energy prices, if it persists, may slow inflation more rapidly than expected. This downward pressure in the energy component could then also translate into weaker dynamics for underlying inflation. A further weakening of demand would also contribute to lower price pressures than currently anticipated, especially over the medium term.

Financial and monetary conditions

As the Governing Council tightens monetary policy, market interest rates are rising further and credit to the private sector is becoming more expensive. Bank lending to firms has decelerated sharply over recent months. This partly stems from lower financing needs for inventories. But it also reflects weakening demand for loans to finance business investment, in the context of a steep upward move in bank lending rates and a considerable tightening in credit standards, which is also visible in the most recent euro area bank lending survey. Household borrowing has continued to weaken as well, reflecting rising lending rates, tighter credit standards and a sharp fall in the demand for mortgages. As loan creation decelerates, money growth is also slowing rapidly, with a marked decline in its most liquid components, including overnight deposits, only partially compensated by a shift to term deposits.

Conclusion

Summing up, the Governing Council will stay the course in raising interest rates significantly at a steady pace and in keeping them at levels that are sufficiently restrictive to ensure a timely return of inflation to its 2% medium-term target. Accordingly, the Governing Council decided at its meeting on 2 February 2023 to raise the three key ECB interest rates by 50 basis points and expects to raise them further. In view of the underlying inflation pressures, the Governing Council intends to raise interest rates by another 50 basis points at its next monetary policy meeting in March and it will then evaluate the subsequent path of its monetary policy. Keeping interest rates at restrictive levels will over time reduce inflation by dampening demand and will also guard against the risk of a persistent upward shift in inflation expectations. Moreover, from the beginning of March 2023, the APP portfolio will decline at a measured and predictable pace, as the Eurosystem will not reinvest all of the principal payments from maturing securities.

The Governing Council's future policy rate decisions will continue to be data-dependent and determined meeting by meeting. It stands ready to adjust all of its instruments within its mandate to ensure that inflation returns to its medium-term target.

Monetary policy decisions

At its meeting on 2 February 2023, the Governing Council decided to raise the three key ECB interest rates by 50 basis points. Accordingly, the interest rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility will be increased to 3.00%, 3.25% and 2.50% respectively, with effect from 8 February 2023. In view of the underlying inflation pressures, the Governing Council intends to raise interest rates by another 50 basis points at its next monetary policy meeting in March and it will then evaluate the subsequent path of its monetary policy.

As communicated in December, from the beginning of March 2023, the APP portfolio will decline at a measured and predictable pace, as the Eurosystem will 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 and its subsequent pace will be determined over time. The Governing Council will regularly reassess the pace of the APP portfolio reduction to ensure it remains consistent with the overall monetary policy strategy and stance, to preserve market functioning, and to maintain firm control over short-term money market conditions.

On the basis of the December decision, in February the Governing Council decided on the detailed modalities for reducing the Eurosystem's holdings of securities under APP through the partial reinvestment of the principal payments from maturing securities.

During the period of partial reinvestment, the Eurosystem will retain the existing smooth reinvestment approach. The monthly redemptions under the APP between March and June 2023 will exceed the decided average run-off pace of €15 billion per month. Partial reinvestments in excess of €15 billion per month will ensure that the Eurosystem maintains a continuous market presence under the APP over this period.

The remaining reinvestment amounts will be allocated proportionally to the share of redemptions across each constituent programme of the APP, i.e. the public sector purchase programme (PSPP), the asset-backed securities purchase programme (ABSPP), the third covered bond purchase programme (CBPP3) and the corporate sector purchase programme (CSPP).

Under the PSPP, the allocation of the reinvestments across jurisdictions and over time will continue to follow current practice. Specifically, the remaining reinvestment amounts will be allocated proportionally to the share of redemptions of each jurisdiction and across national and supranational issuers. Reinvestments will be distributed over time to allow a regular and balanced market presence.

For the private sector programmes (ABSPP, CBPP3 and CSPP), primary market purchases will be phased out by the start of the partial reinvestments in order to better steer the amount of the purchases conducted under each programme. The Eurosystem's market presence during the period of partial reinvestment will therefore be focused on secondary market purchases. However, non-bank corporate issuers with a better climate performance and green corporate bonds will continue to be purchased in the primary market.

Finally, the Governing Council decided on a stronger tilting of its corporate bond purchases towards issuers with a better climate performance during the period of partial reinvestment. Without prejudice to the ECB's price stability objective, and in keeping with the Governing Council's climate action plan, this approach will support the gradual decarbonisation of the Eurosystem's corporate bond holdings, in line with the goals of the Paris Agreement.

As concerns the 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 are contributing to its monetary policy stance.

The Governing Council stands ready to adjust all of its instruments within its mandate to ensure that inflation returns to its 2% target over the medium term. The Transmission Protection Instrument is available to counter unwarranted, disorderly market dynamics that pose a serious threat to the transmission of monetary policy across all euro area countries, thus allowing the Governing Council to more effectively deliver on its price stability mandate.

External environment

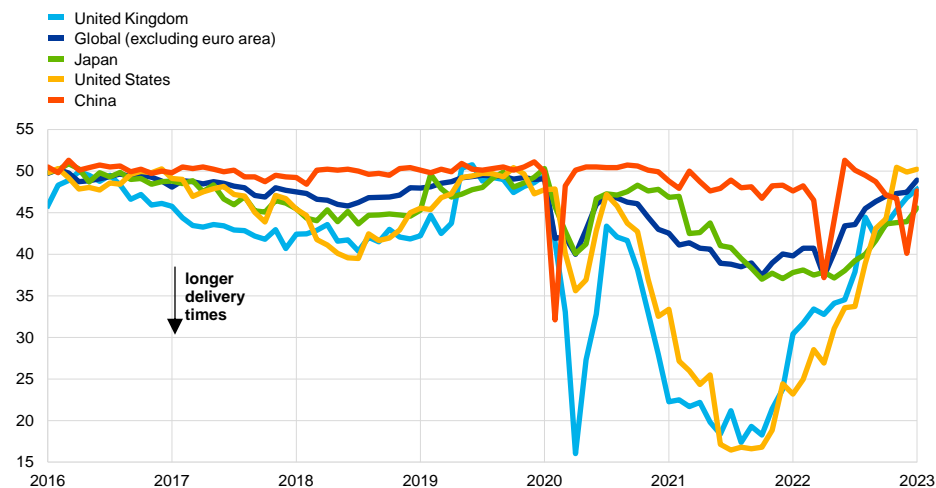
Survey data point to weakening global economic activity at the turn of the year, following robust growth in the third quarter of 2022. The abrupt reversal of the zero-COVID policy in China is likely to weigh on Chinese activity in the near term. At a global level, persistent inflationary pressures are eroding disposable income. Bottlenecks in global supply chains have continued to normalise, but disruptions to economic activity in China could trigger renewed supply chain pressures, with global repercussions. Global trade momentum continued to moderate in November, while early indicators and nowcasts point to a contraction in the fourth quarter of 2022. Price pressures at a global level remain high but may have already peaked, as headline inflation for the OECD as a whole moderated further in November.

The global outlook is being held back by slowing demand. The December global composite output Purchasing Managers' Index (PMI) confirmed the downshift in momentum of the global economy towards the end of year, with the index remaining below the neutral threshold (48.7). The ECB's internal global activity tracker, which is based on high-frequency data, is also signalling a further slowdown in economic activity in the fourth quarter. The weakening global economic growth momentum in the fourth quarter followed strong growth in the third quarter, in which global GDP increased by 1.7% quarter on quarter, driven by the rebound in the United States and China. However, the tracker signalled some improvement in December on the back of stronger labour market and financial market data. This points to a possible gradual recovery at the start of 2023, which could be further supported over the course of the year by the reopening of the Chinese economy.

Global supply chains remain fairly resilient despite COVID-related disruptions in China. Signs of renewed supply bottlenecks emerged in China amid surging COVID-19 infections, reflected in the longer Chinese PMI suppliers' delivery times in November and December. However, there is little evidence that longer delivery times in China are spilling over to the rest of the world. In fact, global supply chain bottlenecks have continued to normalise, on the back of slowing global demand. In January, global PMI suppliers' delivery times continued to improve, moving towards the neutral threshold (Chart 1). Global supply pressures declined across all items including textiles and electronic goods. Nevertheless, worsening bottlenecks in the global supply chain remain a downside risk to the global economy following the lifting of COVID-19 restrictions in China.

Chart 1**PMI suppliers' delivery times**

(diffusion indices)



Sources: S&P Global, CNBS and ECB staff calculations.

Note: The latest observations are for January 2023.

Global trade lost momentum at the end of 2022, in line with global activity.

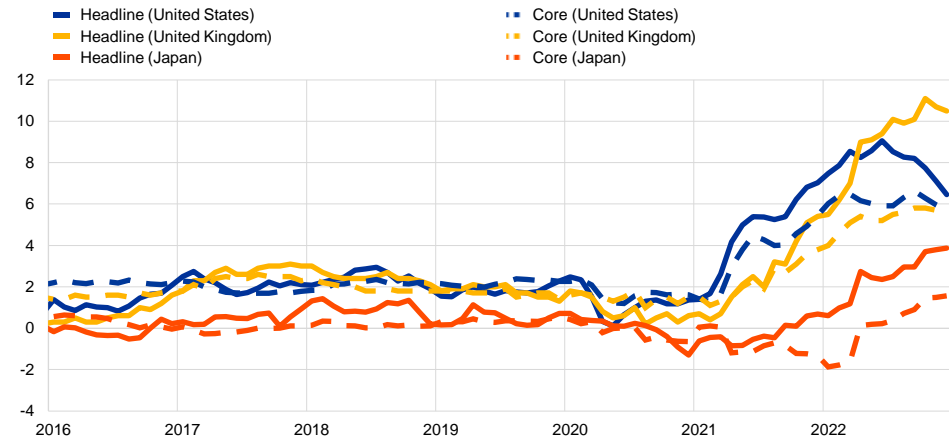
Global imports showed some resilience in the third quarter of the year (growing by 0.9% quarter on quarter) but the outlook for trade in the fourth quarter has become more clouded. The momentum of world merchandise trade turned negative in November, driven by declining imports in advanced economies and emerging market economies (EMEs). Early and leading indicators also point to a contraction in world trade in the fourth quarter of 2022. Notably, December aggregate indices for PMI new export orders in both advanced economies and EMEs remained below their long-term median and the neutral threshold. This is consistent with the ECB's internal trade nowcast, which predicts that global imports will contract in the fourth quarter amid negative contributions from hard data and transport data.

Global inflationary pressures remain high but may have already peaked. In

November annual headline Consumer Price Index (CPI) inflation across the OECD area decreased to 10.3% (7.0% excluding Türkiye), as energy inflation continued to fall while food inflation remained unchanged. Core inflation declined marginally to 7.5%. Headline inflation momentum in annualised three-month-on-three-month terms slowed for the sixth consecutive month, extending the trend of softening price pressures. Momentum in services and core inflation also started to slow in several advanced economies, suggesting that global inflationary pressures remain high but may have already peaked (Chart 2).

Chart 2**Headline and core inflation in the United States, United Kingdom and Japan**

(year-on-year percentage changes)



Sources: OECD, Haver Analytics and ECB staff calculations.

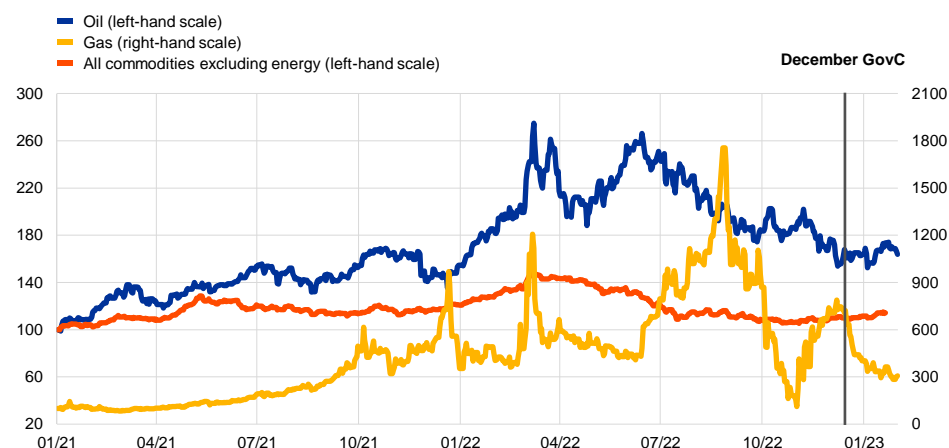
Notes: Core inflation refers to inflation for all items excluding food and energy. The latest observations are for December 2022.

Natural gas prices have declined significantly since the December Governing Council meeting as a result of the slowdown in global demand, together with the comparatively warm winter and effective gas saving measures (Chart 3). Oil prices have seen a small decline of 2% since the December Governing Council meeting, as the expected rise in demand following China's reopening was outweighed by the global economic slowdown, which continues to affect oil prices. The effect of China's reopening on oil prices has been relatively contained so far, indicating that the impact of surging cases of COVID-19 caused economic activity to fall. Global oil prices have been little affected by the EU embargo and price cap on Russian crude oil, while sanctions have pushed down the selling price of Russian oil. However, there are risks ahead. In particular, in February the EU embargo and price cap were extended to refined oil prices. Furthermore, Russia announced it will ban oil sales to countries that implement the oil price cap from February onwards. European gas spot and futures prices fell by around 50% on the back of very low demand for gas in Europe caused by the unusually warm winter and the effectiveness of gas savings measures. As a result, European gas storage levels remain high and this should make it easier to replenish supplies ahead of next winter. Nonetheless, the European gas market remains vulnerable to global supply risks such as a rebound in demand for gas from China as its economy reopens. The increase in metal prices since the December Governing Council meeting (+9%) has been driven by optimism about future demand following China's reopening. After the sluggish demand seen in 2022, a rebound in Chinese demand would represent a substantial upside risk to metal prices. The increase in food prices (+1%) was driven by downward revisions to the global corn supply.

Chart 3

Commodity price developments

(index: 1 January 2021 = 100)



Sources: Refinitiv, HWWI and ECB calculations.

Notes: Gas refers to the Dutch TTF gas price. The vertical line marks the date of the Governing Council meeting in December 2022. The latest observations are for 31 January 2023 for oil and gas, and 20 January 2023 for commodities excluding energy.

In the United States, economic activity has been more resilient than expected.

Real GDP grew at an annualised rate of 2.9% in the fourth quarter of 2022. The slight deceleration in economic activity compared with the previous quarter reflected weaker domestic demand and a marked decline in net trade, driven by a larger fall in real exports compared with the previous quarter. However, the stronger growth in the second half of 2022 compared with the first half of the year masks an underlying downward trend in private consumption and investment over the year as a whole. Despite the tightness of the labour market, headline inflation is declining as energy pressures ease. Annual headline CPI inflation fell to 6.5% in December, while annual inflation excluding food and energy dropped to 5.7%, reflecting a slowdown in core goods prices that was partly offset by persistently high core services prices. Looking ahead the growth outlook for the first half of 2023 remains clouded by the expected further deterioration in residential private investment, despite moderating inflation and strong labour markets.

In China, the abrupt end of the zero-COVID policy is disrupting economic activity in the near term.

The sudden lifting of COVID-related restrictions on 7 December came as a surprise and followed protests in China against containment measures. In December the National Bureau of Statistics PMI for China, which captured the latter part of the month (when infections were surging) fell sharply, particularly for services-related activity. This plunge in demand was mirrored by the high-frequency QuantCube consumption index for China. Daily mobility indicators for Chinese cities also suggested a steep fall in December, although this was followed by a tentative partial rebound in January. Reflecting these trends, GDP slowed to 2.9% year on year in the last quarter of 2022. Inflationary pressures in China were subdued, consistent with weak economic activity. Producer price index inflation remained negative for the third consecutive month in December, while annual CPI inflation has been below 2% since October.

In Japan, economic activity continues to recover amid rising inflation. Real GDP is expected to have returned to positive growth in the fourth quarter, but significant headwinds remain. The rebound in real private consumption has thus far been modest, with real private spending in goods still below pre-COVID levels. At the same time, manufacturing activity weakened in the fourth quarter of 2022, weighed down by moderating global demand and a slowdown in the recovery of supply constraints. Headline inflation increased further to 4% in December, largely supported by higher energy prices and, to a lesser extent, food prices. Core inflation increased marginally from 1.5% in November to 1.6% in December. Looking ahead headline inflation is expected to ease somewhat in 2023 on the back of lower import cost pressures, a stronger yen and energy subsidies.

In the United Kingdom, growth momentum is set to weaken further. While monthly GDP surprised on the upside in November – with a modest increase on account of strong services activity – most short-term indicators point to prolonged weakness in growth momentum as households continue to face falling real wages, tight financial conditions and a housing market correction. The widespread strikes by UK public employees in December and January will also weigh on activity. Annual CPI inflation fell to 10.5% in December. This drop was once again primarily driven by the negative contribution of vehicle fuel prices, which was only partially offset by higher food, restaurant and hotel prices. Core inflation held steady at 6.3% in December, driven largely by rising services prices.

The outlook for EMEs remains subdued. Survey data for December signal a further decline in manufacturing output across large EMEs, except for India and Russia. Moreover, the outlook for EMEs, as proxied by new export orders, has weakened in all countries. In particular, Asia – a global hub for tech sector products – seems to have been significantly hit by weakening global demand, as evidenced by declining exports of semiconductors. At the same time, CPI inflation fell in some EMEs but remains high and is likely to prove persistent. December data suggest that core inflation remained broadly stable and is already exceeding headline inflation in several countries.

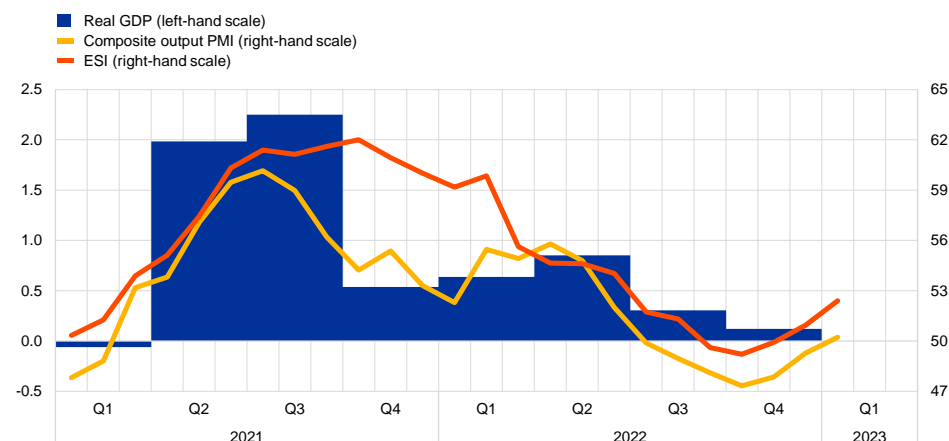
Economic growth in the euro area slowed in the second half of last year. After 0.3% in the third quarter of 2022, growth was 0.1% in the fourth quarter. Subdued global activity and high geopolitical uncertainty, especially owing to Russia's unjustified war against Ukraine, continue to act as headwinds to euro area growth. Together with high inflation and tighter financing conditions, these headwinds are dampening spending and production, especially in the manufacturing sector. However, supply bottlenecks are gradually easing, the supply of gas has become more secure, firms are still working off large order backlogs and confidence is improving. Moreover, output in the services sector has been holding up, supported by continuing reopening effects and stronger demand for leisure activities. Rising wages and the recent decline in energy price inflation are also set to ease the loss of purchasing power that many people have experienced owing to high inflation. This, in turn, will support consumption. Overall, the economy has proved more resilient than expected and should recover over the coming quarters. The risks to the outlook for economic growth have become more balanced.

Euro area economic growth slowed in the second half of 2022. Following dynamic economic developments in the first half of 2022, growth eased substantially to 0.3% in the third quarter and 0.1% in the final quarter of last year (Chart 4). While the earlier strong growth was brought about by a rebound in demand for contact-intensive services following the reopening of the economy after the lifting of pandemic-related restrictions in the first half of the year, soaring energy prices started to dampen spending and production in the second half of the year. The euro area has also been affected by the impact of the weakening of global demand alongside tighter monetary policy in many major economies. No breakdown of growth is available as yet, but short-term indicators and released country data suggest that domestic demand and changes in inventories provided a negative contribution to growth in the fourth quarter, while net trade provided a positive contribution. According to a first estimation of annual growth for 2022, based on seasonally and calendar adjusted quarterly data, GDP rose by 3.5%. The carry-over effect to growth in 2023 is estimated at 0.5%, which is slightly below the historical average contribution.¹

¹ This implies that GDP would grow by 0.5% in 2023 if all quarterly growth rates this year were zero (i.e. if quarterly levels of GDP remain at the same level as in the fourth quarter of 2022).

Chart 4**Euro area real GDP, composite output PMI and ESI**

(left-hand scale: quarter-on-quarter percentage changes; right-hand scale: diffusion index)



Sources: Eurostat, European Commission, S&P Global and ECB calculations.

Notes: The two lines indicate monthly developments; the bars show quarterly data. The European Commission's Economic Sentiment Indicator (ESI) has been standardised and rescaled to have the same mean and standard deviation as the composite output Purchasing Managers' Index (PMI). The latest observations are for the fourth quarter of 2022 for real GDP and January 2023 for the ESI and the PMI.

Despite continuous weakness, recent economic indicators provide mixed signals regarding GDP growth at the beginning of the year.

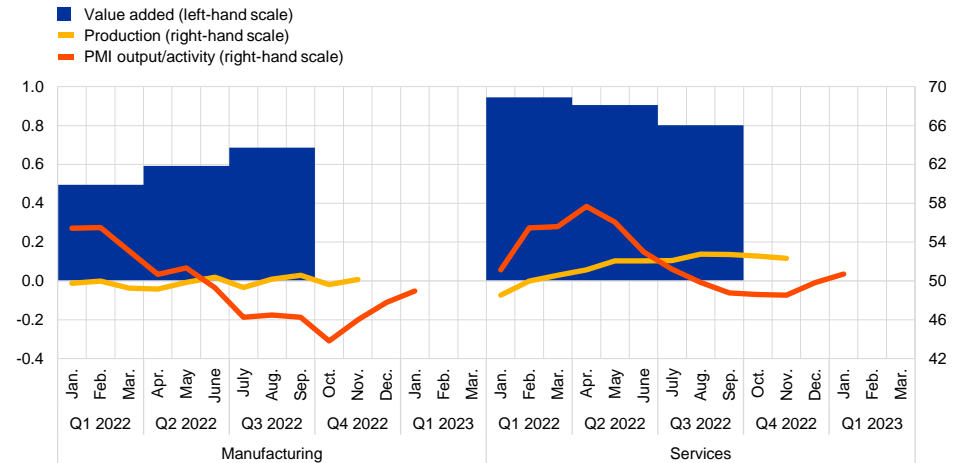
In January the euro area composite output PMI stood at 50.2, above the fourth quarter average and in line with a broadly stagnating level of output. While the PMI for manufacturing still points to a contraction in the first quarter of 2023, the PMI for services now stands slightly above 50, indicating slow but positive growth (Chart 5). Although prospects slightly improved in January for both sectors, developments are being affected by easing but still present supply chain disruptions and high commodity prices and by the subsequent high levels of overall uncertainty. In the latest ECB Survey of Professional Forecasters, which was conducted in early January, respondents forecast negative growth in the first quarter, before turning positive again in the second quarter.² As the effects of Russia's invasion of Ukraine, including continued high inflation, still elevated uncertainty and slow foreign demand, abate, a gradual recovery is expected on the back of a resilient labour market and fiscal support measures.

² See "The ECB Survey of Professional Forecasters – First quarter of 2023", ECB, Frankfurt am Main, February 2023.

Chart 5

Value added, production and PMI for manufacturing and services

(left-hand scale: quarter-on-quarter percentage changes; right-hand scale: index, February 2021 = 50, diffusion index)



Sources: S&P Global, Eurostat and ECB calculations.

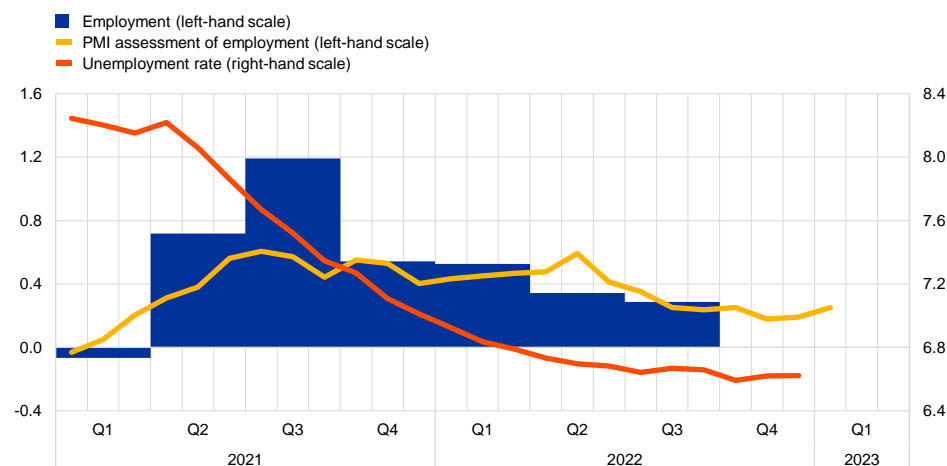
Notes: The latest observation is for the third quarter of 2022 for value added and January 2023 for PMI output/activity. In the manufacturing panel, the latest observation for production is for November 2022, while in the services panel, the latest observation for production is for October 2022 (with an estimate for November 2022 based on published country data).

The labour market in the euro area remains robust but is losing some momentum.

The unemployment rate stood at 6.6% in December 2022, unchanged from November and 0.8 percentage points lower than the pre-pandemic level observed in February 2020 (Chart 6). Quarter on quarter, total employment rose by 0.3% in the third quarter of 2022, after growing by 0.4% in the second quarter, broadly in line with economic activity. As a result of the economic recovery that followed the lifting of pandemic-related restrictions, job retention schemes largely ceased, returning to the pre-crisis level of around 0.3% of the labour force at the end of 2022. Total hours worked in the third quarter of 2022 were 0.2% above pre-pandemic levels. Among the main economic sectors, less hours were worked in the industry sector in the third quarter of 2022 than before the pandemic crisis, while total hours worked in the third quarter of 2022 exceeded pre-pandemic levels in the public services and construction sectors.

Chart 6**Euro area employment, PMI employment indicator 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 and ECB calculations.

Notes: The two lines indicate monthly developments; the bars show quarterly data. The PMI is expressed as the deviation from 50 divided by 10. The latest observations are for the third quarter of 2022 for employment, January 2023 for the PMI assessment of employment and December 2022 for the unemployment rate.

Short-term labour market indicators continue to point to a resilient euro area labour market overall with some signs of stabilisation.

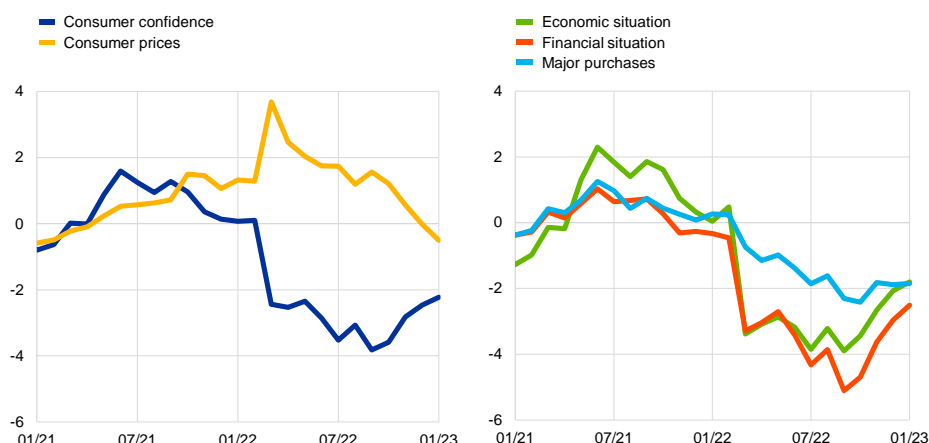
The composite PMI employment indicator stood at 52.5 in January. The reading of above 50 suggests further employment growth, although not as strongly as indicated in the second half of 2022. Looking at developments across different sectors, the PMI employment indicator continues to point to robust employment growth in services and manufacturing, while it continues to show signs of deceleration in the construction sector.

Private consumption is likely to have been weak in the last quarter of 2022. The positive dynamics of household consumption up to the third quarter of 2022 were underpinned mainly by consumption of services, which rose as the economy reopened, while consumption of goods remained weak. Continued elevated inflation and tighter financing conditions dampened spending in the euro area in the fourth quarter despite some positive news in incoming hard data, also supported by the easing of supply disruptions in the car sector. Accordingly, new passenger car registrations increased further in December and stood 12.6% higher in the fourth quarter than in the third quarter. The ECB Corporate Telephone Survey (CTS) suggests strong registrations, reflecting some reduction in inventory of semi-finished vehicles, but also indicates that delivery times remain long despite some easing and that supply constraints are expected to continue to be a factor throughout 2023. Retail sales in October and November taken together remained 0.6% below their level in the third quarter, pointing to a likely contraction of spending on goods in the last quarter. Looking forward, incoming soft economic data point to some resilience in consumer spending at the beginning of the year, despite persistent headwinds. The European Commission's consumer confidence indicator continued its recovery in the last quarter of 2022 (Chart 7, left panel), to stand above its third-quarter level, driven mainly by an improvement in households' economic and financial expectations (Chart 7, right

panel), and it improved further in January. The Commission's latest consumer and business surveys also indicate that expected demand for accommodation, food and travel services remained resilient at the beginning of the year, alongside some recovery in expected major purchases by households in the last quarter. This is also confirmed by the latest Consumer Expectations Survey (CES), which points to more favourable expected demand for holidays and purchases of durable goods over the next 12 months. Despite proving fairly resilient thanks to labour market robustness and fiscal support, households' real disposable income contracted slightly in the third quarter and is likely to decline further, dampening consumer spending. Nevertheless, the use of savings should help to smooth consumption to some extent in the face of weak real disposable income. The saving rate fell from 14.9% in the first quarter of 2022 to 13.2% in the third quarter, the same level as at the end of 2019. Meanwhile, the latest CES indicates that consumers expect lower spending due to the ongoing tightening of borrowing conditions.

Chart 7
Households' expectations

(standardised percentage balances)



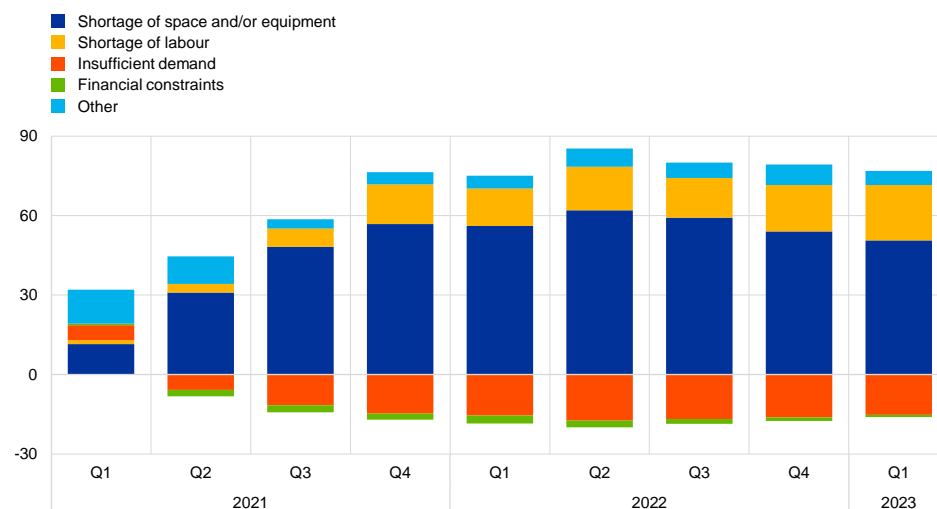
Sources: European Commission (DG ECFIN) and ECB calculations.
Note: The latest observations are for January 2023.

Business investment is expected to have been subdued in the fourth quarter of 2022. Following a quarterly growth rate of 7.7% in the third quarter (1.2% excluding Irish intangibles), PMI new orders and PMI output for the capital goods sector suggest that business investment in the fourth quarter was weak. Meanwhile, capital goods production rose by 3.0% in the first two months of the fourth quarter compared to the third quarter of 2022. According to the January CTS, the outlook for investment in 2023 is relatively favourable among larger firms, despite higher costs related to energy prices, wages and financing conditions.³ Commission survey data show that, from a historical perspective, the availability of space and/or equipment and availability of labour remained the most pressing factors limiting production in the capital goods sector in the first quarter of 2023 (Chart 8).

³ See the box entitled "Main findings from the ECB's recent contacts with non-financial companies" in this issue of the Economic Bulletin.

Chart 8**Limits to production in the capital goods sector**

(changes in de-meaned percentage balances)



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

Notes: The net percentage balances have been adjusted for the average over the period 2000-19. The latest observations, referring to the first quarter of 2023, pertain to the release of data for January 2023.

Housing investment remained weak in the final quarter of 2022. After two consecutive quarterly declines in the second and third quarters of 2022, housing investment is estimated to have broadly stagnated in the fourth quarter, according to several short-term indicators. Building construction output in October and November stood on average 0.5% above its level in the third quarter. However, the number of building permits – a leading indicator of construction activity – declined further in the third quarter, signalling fewer new projects in the pipeline and thus a weak near-term outlook for the construction sector. Moreover, the PMI for residential construction output dipped further into contractionary territory, averaging 40.8 in the fourth quarter, down from 44.4 in the third quarter. According to the European Commission's construction survey, the index for trends in construction activity also remained subdued up to January. This is mainly due to depressed demand and tightening financial conditions, while labour and materials shortages eased. ECB surveys confirm the weakening in demand for housing investment. The CES for December revealed worsening household perceptions about the housing market amid tightening financing conditions since the start of 2022. In the January 2023 round of the CTS, respondents from construction companies also indicated a broad-based weakening of demand in the construction sector, despite pockets of resilience in some countries. Overall, weakening demand should continue to weigh on housing investment in the near term.

The momentum in euro area exports stabilised in November, while import values are declining and the outlook for trade improved somewhat. In November 2022 nominal extra-euro area goods exports moderately expanded after a decrease in October, while extra-euro area goods imports continued to decline substantially. The goods trade balance turned into a surplus in November, mainly driven by falling prices for imported energy. Import volumes also moderated as gas storage levels

approached full capacity.⁴ High-frequency data on trade point to a further easing of supply bottlenecks in the fourth quarter of 2022, supporting volumes of extra-euro area goods exports. Survey indicators for new orders point to subdued export performance for both goods and services trade in the coming months, but this weakness may be less severe than normally suggested by these indicators as easing supply bottlenecks enable firms to further reduce their order backlogs. January 2023 flash PMIs for new export orders for goods and services remained in contractionary territory but point to some stabilisation. After a strong summer season, tourism indicators moderated in November and December in seasonally adjusted terms.

⁴ For details on the effect of high energy prices on euro area industrial production and trade patterns, see the box entitled “[How have higher energy prices affected industrial production and imports?](#)” in this issue of the Economic Bulletin.

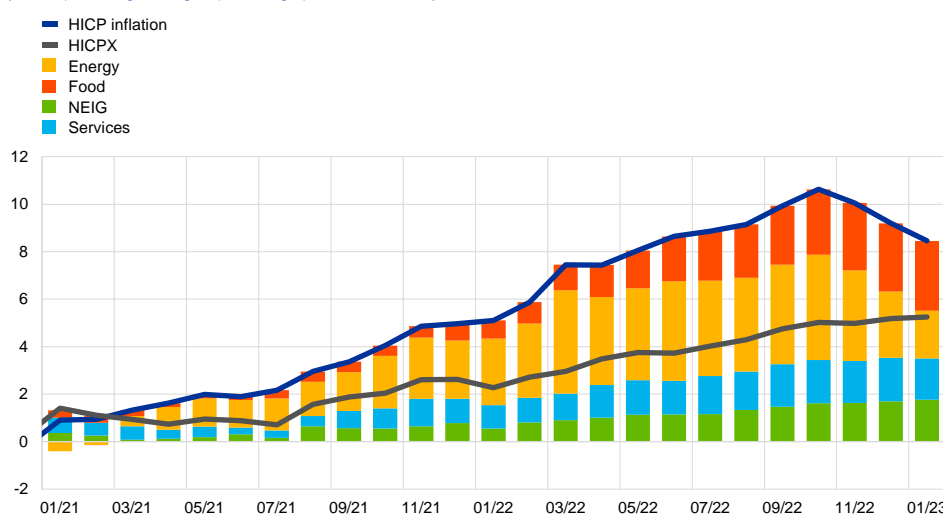
According to Eurostat's flash estimate, inflation in the euro area declined further in January to 8.5%. The flash estimate was calculated using Eurostat estimates for Germany. This fall was mainly attributable to a renewed sharp drop in energy inflation. At the same time, price pressures remained strong across all sectors, in part owing to high energy costs still feeding through to the overall economy. Inflation excluding energy and food remained at 5.2% in January and the latest available data also show other indicators of underlying inflation remaining high. Wages have been growing faster, broadly in line with the December Eurosystem staff macroeconomic projections for the euro area, supported by robust labour markets and a catch-up with high inflation becoming the main theme in wage negotiations. Most indicators of longer-term inflation expectations currently stand at around 2%, but these warrant continued monitoring.

Headline inflation in the euro area, as measured by the Harmonised Index of Consumer Prices (HICP), fell in January 2023, for the third consecutive month, driven by lower energy price inflation. The further decline from 9.2% in December 2022 to 8.5% in January 2023 reflected a sizeable drop in energy inflation from 25.5% to 17.2%. At the same time, food inflation rose further from 13.8% in December to 14.1% in January, and HICP excluding energy and food (HICPX) inflation was unchanged from December, standing at 5.2%. This suggests that the lagged effects of the surge in energy and other input costs, supply bottlenecks and pent-up demand continued to sustain inflationary pressures. While NEIG inflation increased further to a new record level of 6.9%, services inflation declined from 4.4% in December to 4.2% in January (Chart 9).

Chart 9

Headline inflation and its main components

(annual percentage changes; percentage point contributions)



Sources: Eurostat and ECB calculations.

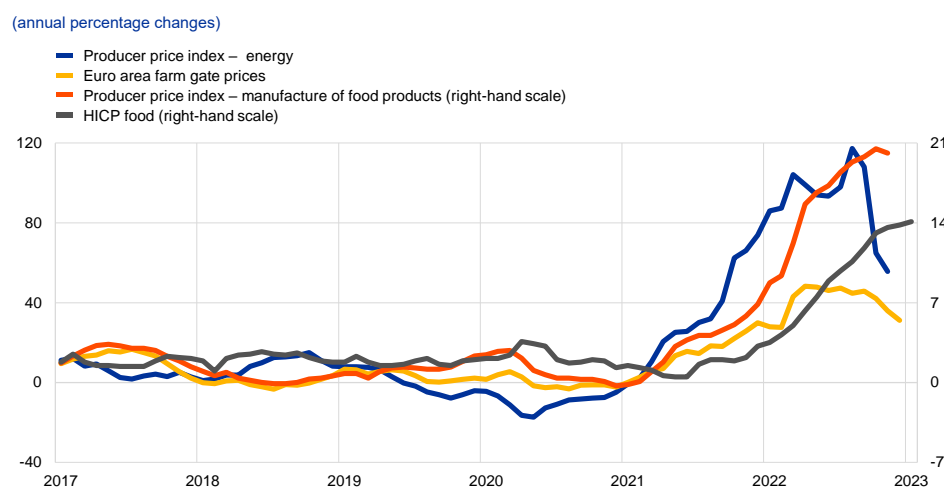
Notes: HICP stands for Harmonised Index of Consumer Prices. HICPX stands for HICP inflation excluding energy and food. NEIG stands for non-energy industrial goods. The latest observations are for January 2023.

The drop in energy inflation in the euro area in January 2023 reflected both a month-on-month decline in the price level and a large downward base effect, as a result of a major price increase one year earlier falling out of the calculation of the annual rate. The cross-country differences in energy inflation rates remained sizeable owing, among other things, to differing energy production mixes, regulatory approaches and the implications of various fiscal measures implemented to compensate for high prices, as well as varying coverage of contract types in the HICP. The growth in energy producer prices started to decline in September 2022, falling from a peak of 117.3% in August to 55.7% in November (Chart 10).

Food inflation in the euro area continued to rise on the back of a further increase in processed food prices. This is consistent with the notion of the pass-through of pipeline cost pressures remaining strong, leading to an annual rate of change for processed food prices of 14.9% in January, up from 14.3% in December. At the same time, the annual rate of change for unprocessed food prices continued to decline, falling to 11.6% in January from 12.0% in December, likely reflecting corrections from earlier price surges relating to last summer's drought, among other things (Chart 10).

Chart 10

Energy and food input cost pressures on HICP food prices



Source: Eurostat.

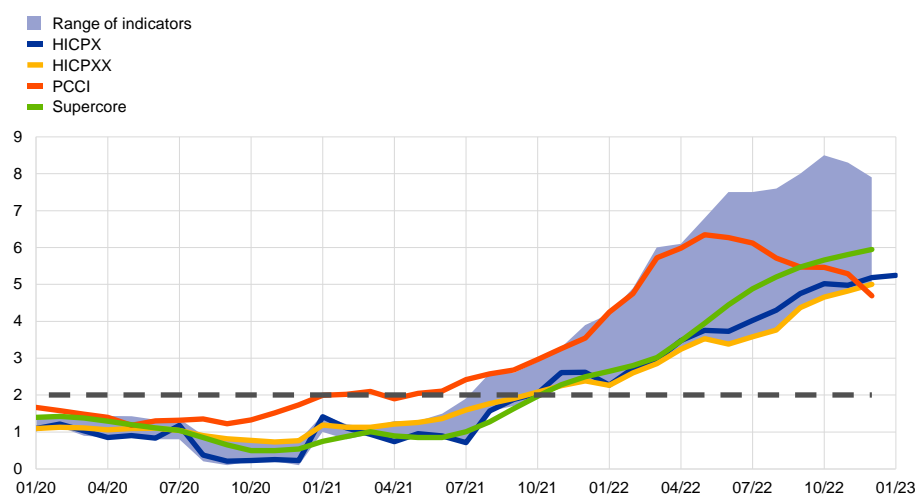
Notes: HICP stands for Harmonised Index of Consumer Prices. The latest observations are for January 2023 for HICP food, December 2022 for euro area farm gate prices and November 2022 for the remaining items.

Most indicators of underlying inflation in the euro area remained at elevated levels over the review period, although the latest data give mixed signals (Chart 11). This reflected factors such as the indirect effects of energy and food prices and the effects of the reopening of the economy, despite the recent unwinding of supply bottlenecks. HICPX inflation excluding the more volatile travel-related items together with clothing and footwear (HICPXX) increased from 4.8% in November to 5.0% in December. The Supercore indicator, which comprises cyclically sensitive HICP items, rose from 5.8% in November to 5.9% in December. Many such exclusion-based measures of underlying inflation serve as lagging indicators, given that they are reported in terms of year-on-year rates of change. The model-based Persistent and

Common Component of Inflation (PCCI), which is constructed by filtering out shorter-term disturbances and idiosyncratic developments in HICP items, has continued to decline over the last few months, falling from 5.3% in November to 4.7% in December.⁵ The PCCI includes energy items, and its decline therefore reflects the lower monthly rate of change for energy inflation. The PCCI excluding energy has also edged downwards slightly since September, to stand at 4.1% in December. More generally, the short-term rates of change of several underlying inflation indicators, measured in terms of month-on-month or quarter-on-quarter developments, have started to point to more moderate price pressures.

Chart 11
Indicators of underlying inflation

(annual percentage changes)



Sources: Eurostat and ECB calculations.

Notes: The range for the indicators of underlying inflation includes HICP excluding energy, HICP excluding energy and unprocessed food, HICPX, HICPXX, the 10% and 30% trimmed means and the weighted median. The grey dashed line represents the ECB's inflation target of 2% over the medium term. HICP stands for Harmonised Index of Consumer Prices. HICPX stands for HICP excluding energy and food. HICPXX stands for HICP excluding energy, food, travel-related items, clothing and footwear. PCCI stands for Persistent and Common Component of Inflation. The latest observations are for January 2023 for HICPX and December 2022 for the remaining items.

Developments in wages and labour costs have been a key factor in the degree of persistence of underlying inflation in the euro area over the review period.

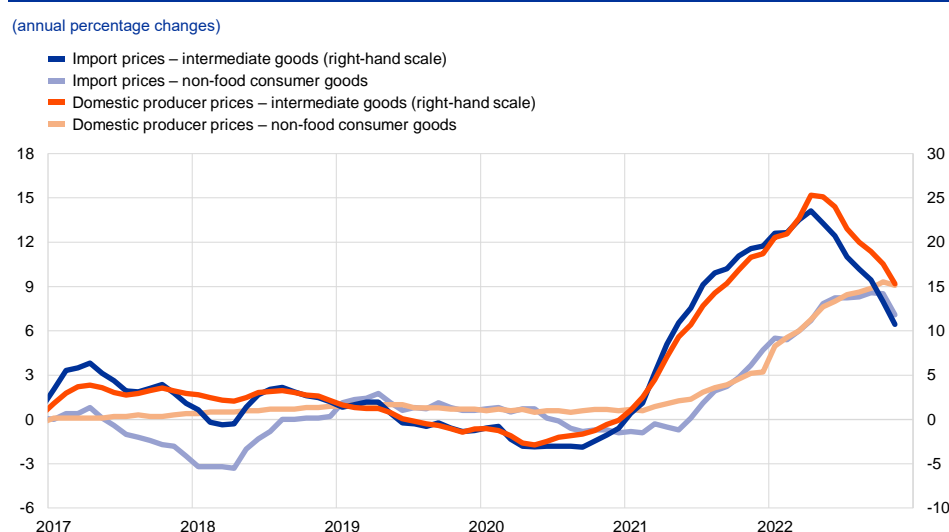
The latest available data suggest that wage pressures are strengthening, albeit remaining at moderate levels. Negotiated wage growth increased from 2.5% in the second quarter of 2022 to 2.9% in the third quarter. Actual wage growth, as measured in terms of compensation per employee or compensation per hour, continued to be affected by distortions during the pandemic period. The annual growth rates of these two wage measures stood at 3.9% and 2.9% respectively in the third quarter of 2022, lower than in the previous quarter but primarily reflecting base effects. Clearer signs of strengthening wage pressures going forward come from wage negotiations concluded in late 2022.

While there were some signs of pipeline pressures easing in the euro area over the review period, NEIG inflation increased further, to 6.9%, in January 2023.

⁵ See “PCCI – a data-rich measure of underlying inflation in the euro area”, *Statistics Paper Series*, No 38, European Central Bank, Frankfurt am Main, October 2020.

Data for November show that pipeline pressures have started to decline at the earlier stages of the pricing chain, as reflected in negative month-on-month growth rates for import prices and domestic producer prices for intermediate goods. These pressures have also begun to soften at later stages of the chain, with the month-on-month growth rate for domestic producer prices for non-food goods having moderated to 0.2% in November, close to its historical average of 0.1%. At the same time, annual growth rates for import prices and producer prices, while easing, have remained elevated, indicating accumulated pipeline pressures that might keep price inflation for consumer goods high for some time to come (Chart 12).

Chart 12
Indicators of pipeline pressures



Sources: Eurostat and ECB calculations.
Note: The latest observations are for November 2022.

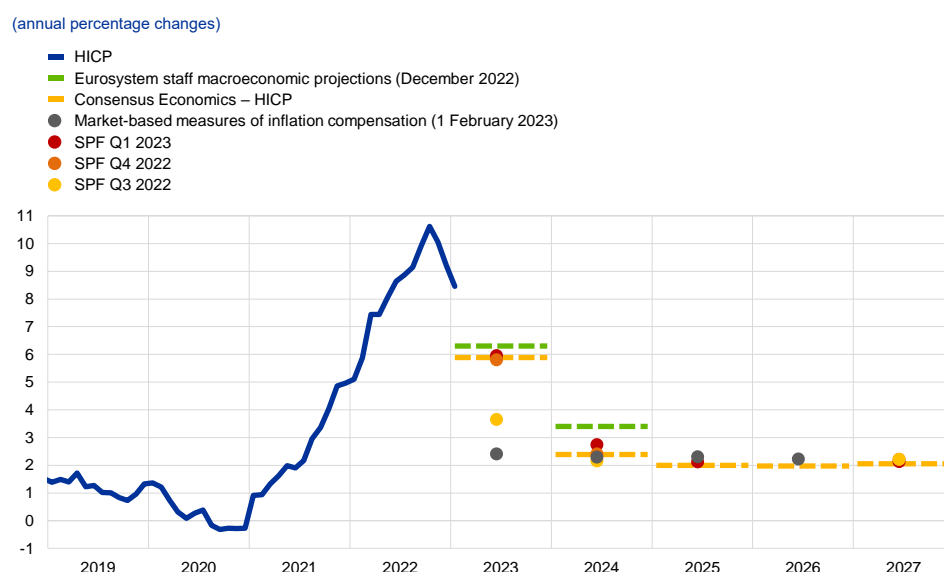
Survey-based indicators of longer-term inflation expectations in the euro area declined marginally to around 2% and were broadly in line with market-based measures of inflation compensation (Chart 13). According to the ECB's Survey of Professional Forecasters for the first quarter of 2023, average longer-term inflation expectations (for 2027) fell to 2.1%. The January 2023 Consensus Economics survey reported broadly unchanged longer-term expectations, standing at 2.1%. In the February 2023 ECB Survey of Monetary Analysts, the median longer-term expectation remained unchanged at 2.0%. These data suggest that survey participants expect a fast decline in inflation in the near term and point to the anchoring of longer-term expectations. The ECB's Consumer Expectations Survey for November 2022 also indicated that expectations for inflation three years ahead had remained relatively stable at around 3.0%.⁶ Overall, market-based measures of inflation compensation (which are based on HICP excluding tobacco) generally declined over the review period; the most pronounced change was for very near-term maturities, with inflation data being lower than expected and energy prices softening. The survey-based indicators suggest that market participants expect inflation to return to levels close to

⁶ See "ECB Consumer Expectations Survey results – November 2022", *press release*, ECB, Frankfurt am Main, 12 January 2023.

2% over the course of 2023, faster than anticipated at the time of the December Governing Council meeting. While near-term measures of inflation compensation fell strongly, longer-term forward measures were more stable. The five-year forward inflation-linked swap rate five years ahead was little changed, standing at around 2.3%. 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 include inflation risk premia that compensate for inflation risks.

Chart 13

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, December 2022, and ECB calculations.

Notes: HICP stands for Harmonised Index of Consumer Prices. SPF stands for Survey of Professional Forecasters. 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 latest observations for market-based measures of inflation compensation are for 1 February 2023. The ECB Survey of Professional Forecasters for the first quarter of 2023 was conducted between 6 and 12 January 2023. The cut-off for the Consensus Economics long-term forecasts was January 2023. The cut-off date for data included in the Eurosystem staff macroeconomic projections was 30 November 2022. The latest observations for the HICP are for January 2023.

The risks to the inflation outlook in the euro area have become more balanced over the review period, especially in the near term. On the upside, existing pipeline pressures could still send retail prices higher in the near term. Moreover, a stronger than expected economic rebound in China could give a fresh boost to commodity prices and foreign demand. Over the medium term, upside risks stem primarily from domestic factors, such as a persistent rise in inflation expectations above the ECB's target or higher than anticipated wage rises. By contrast, a decline in energy costs and a further weakening of demand would soften price pressures.

Over the review period (15 December to 1 February 2023) market participants' expectations of euro area policy rates initially moved substantially higher, in line with the Governing Council's December communication that additional policy tightening is needed to ensure a timely return of inflation to the 2% medium-term target. Subsequently, policy rate expectations beyond the next few meetings were pared back amid the market perception that inflationary pressures may be easing. Accordingly, near-term risk-free rates ended the review period higher, while long-term risk-free rates partially reversed their initial increase, ending the review period somewhat higher. Sovereign bond yields in the euro area moved broadly in line with risk-free rates, with sovereign spreads little changed. The market perception that inflationary pressures may be easing created a tailwind for risk assets, ultimately outweighing the drag from higher near-term risk-free rates. As a result, euro area corporate bond spreads narrowed and equity prices rose strongly. In foreign exchange markets, the euro strengthened broadly in trade-weighted terms.

Following the Governing Council's December meeting, euro area near-term risk-free rates rose as market participants revised up their policy rate expectations.

Over the review period, the euro short-term rate (€STR) averaged 185 basis points, rising from an average of 140 basis points between 15 December and 20 December to an average of 190 basis points after 20 December, i.e. during the reserve maintenance period following the ECB's December interest rate hike. Excess liquidity decreased by approximately €358 billion to €4,128 billion, mainly reflecting the December repayment of targeted longer-term refinancing operations. The overnight index swap (OIS) forward curve – based on the benchmark €STR – initially rose across maturities, reflecting the Governing Council's December communication that interest rates will still have to rise significantly. Over the remainder of the reference period, forward rates for horizons beyond mid-2023 were pared back amid the market perception that inflation pressures may be abating over time. At the end of the review period, the OIS forward curve almost fully priced in 50 basis point rate hikes for both the February and March Governing Council meetings, followed by additional rate increases of a cumulative 30 basis points, implying a peak rate of approximately 3.4% to be reached by mid-2023.

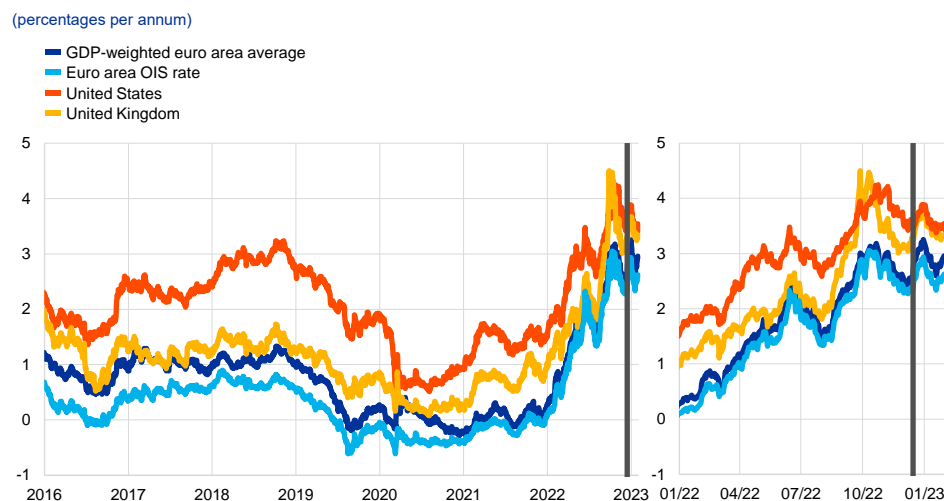
Long-term sovereign bond yields rose somewhat, as the initial increase on the back of higher near-term policy rate expectations was partially offset by market expectations that inflationary pressures may be easing (Chart 14).

The overall change masks significant intra-period moves, as long-term bond yields initially rose substantially on expectations of further policy rate tightening following the Governing Council's December communication. Since the turn of the year, however, the initial increase in long-term bond yields has been partially reversed following lower-than-expected inflation data and softening energy prices. Overall, the euro area GDP-weighted average ten-year sovereign bond yield stands at around 2.9%, increasing by 19 basis points relative to the timing of the December meeting held by the Governing Council. Similarly, the ten-year US, UK and German sovereign bond yields stand at around 3.4%, 3.3%, and 2.3% respectively. Sovereign bond yields in the euro area generally moved in sync with risk-free rates. As a result, the average

spread of the aggregate GDP-weighted euro area ten-year sovereign bond over the OIS rate remained relatively stable at around 0.3 percentage points.

Chart 14

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



Sources: Refinitiv and ECB calculations.

Notes: The vertical grey line denotes the start of the review period on 15 December 2022. The latest observations are for 1 February 2023.

Corporate bond spreads narrowed over the review period, with the decline most pronounced in the high-yield segment. During the review period, the market perception of improving economic prospects and inflationary pressures that may be cooling created a tailwind for risk appetite, which ultimately meant that corporate bond spreads narrowed. Spreads on high-yield corporate bonds fell by about 46 basis points, while spreads on investment-grade corporate bonds fell by about 14 basis points.

European equity markets rose strongly over the review period. Stock prices in the euro area rose strongly, outstripping their global peers, as the general improvement in risk appetite outweighed the drag from higher near-term risk-free rates and some decline in earnings expectations. The equity price increases were unevenly distributed, with banks outperforming non-financial corporations (NFCs) amid the higher interest rate environment, which may support the banking sector through increases in net interest rate margins. NFCs' equity prices rose by about 7%, while banks' equity prices rose by about 22%. The difference between NFCs and banks was less pronounced in the United States, where the former's equity prices rose by about 6% and the latter's by about 12%.

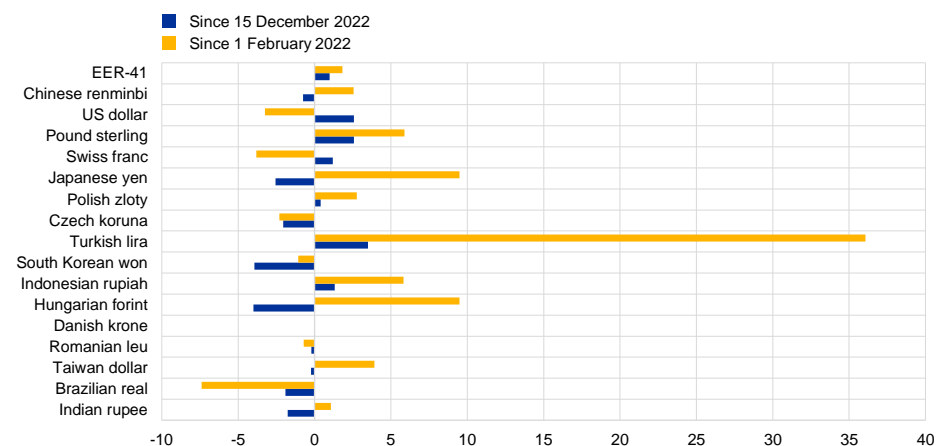
In foreign exchange markets, the euro strengthened in trade-weighted terms (Chart 15). During the review period the nominal effective exchange rate of the euro – as measured against the currencies of 41 of the euro area's most important trading partners – appreciated by 1.0%. In terms of bilateral exchange rate developments against major currencies, the euro appreciated against the US dollar (by 2.6%), the pound sterling (by 2.6%) and the Swiss franc (by 1.2%) while it depreciated against the Japanese yen (by 2.6%). The euro also weakened against the Chinese renminbi

(by 0.7%) and the currencies of some other major emerging economies, as well as against the currencies of most non-euro area EU countries.

Chart 15

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 1 February 2023.

Bank lending rates have continued to rise, reflecting the increases in the key ECB interest rates. Bank lending to firms and households moderated further in December, amid higher interest rates, weaker demand and tighter credit standards. Over the period from 15 December 2022 to 1 February 2023, the cost of equity financing declined while the cost of market-based debt financing remained stable. The most recent bank lending survey indicates that credit standards for firms and households tightened substantially in the fourth quarter of 2023 as interest rates continued to rise. The moderation in monetary dynamics continued in December, driven by higher interest rates and slower credit growth.

The funding costs of euro area banks remained broadly unchanged in November, as deposit rates continued to increase but bank bond yields receded.

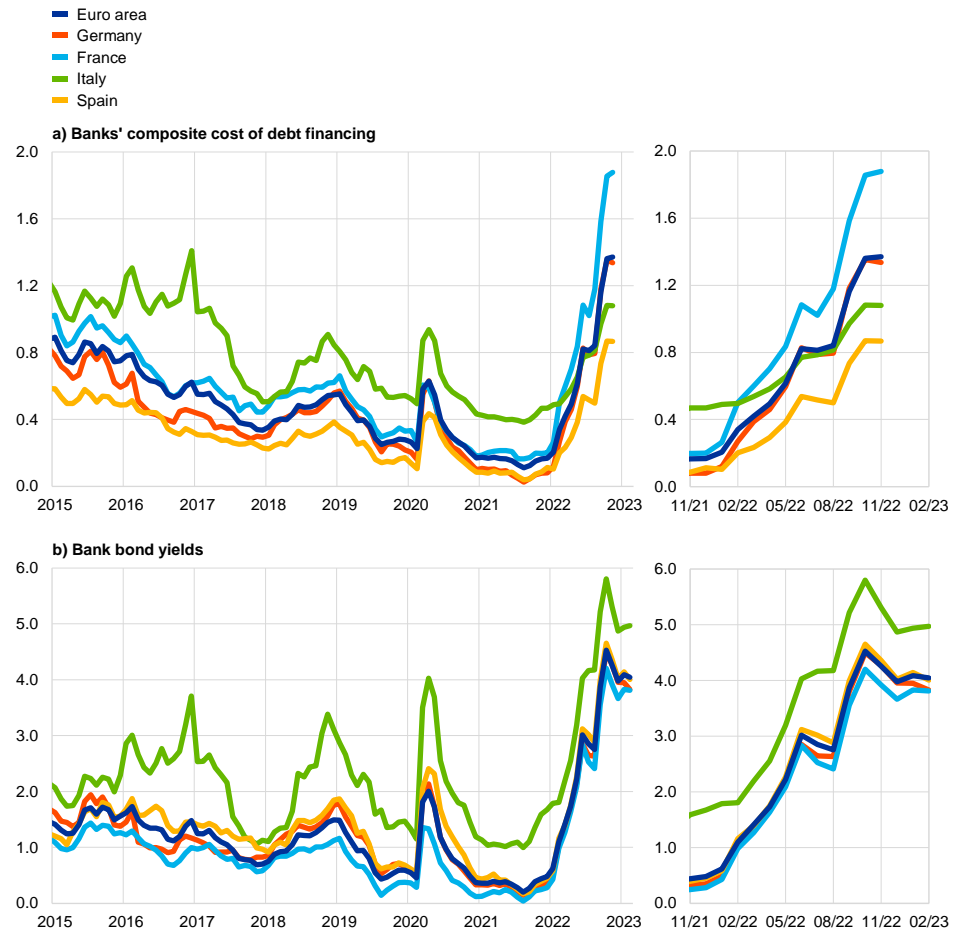
The composite cost of debt financing of euro area banks stood at its highest level since 2014 (Chart 16, panel a). Following marked increases since the start of 2022, bank bond yields eased in November, but picked up again after the Governing Council's December monetary policy meeting (Chart 16, panel b). The composite deposit rate stood at 0.44% in November, which was 37 basis points above its level at the start of 2022. However, this increase was significantly below the 250 basis point rise in the key ECB interest rates in that period. This development largely reflects two factors. First, overnight deposits make up a large share of banks' deposit base and the remuneration of these deposits tends to respond less to policy rate increases than that of time deposits, as overnight deposits offer liquidity and payment services that are often not explicitly priced. The widening of the spread between deposit and policy rates is therefore characteristic of interest rate hiking cycles. Second, deposit rates were at a relatively high level compared with ECB interest rates at the start of the present hiking cycle, as banks avoided charging negative rates on retail deposits. The recalibration of the third series of targeted longer-term refinancing operations (TLTRO III) which took effect on 23 November 2022 also contributed to the normalisation of bank funding costs.⁷ Between November 2022 and January 2023 banks made sizeable voluntary repayments of funds borrowed under TLTRO III (€858 billion), reducing outstanding amounts by around 40% following the recalibration.

In terms of balance sheet strength, euro area banks are well capitalised overall, exceeding regulatory requirements and capital targets. However, the weakening economic environment may worsen their asset quality and increase credit risk.

⁷ See "ECB recalibrates targeted lending operations to help restore price stability over the medium term", press release, ECB, 27 October 2022.

Chart 16**Composite bank funding rates in selected euro area countries**

(annual percentages)



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 November 2022 for composite bank funding rates and 1 February 2023 for bank bond yields.

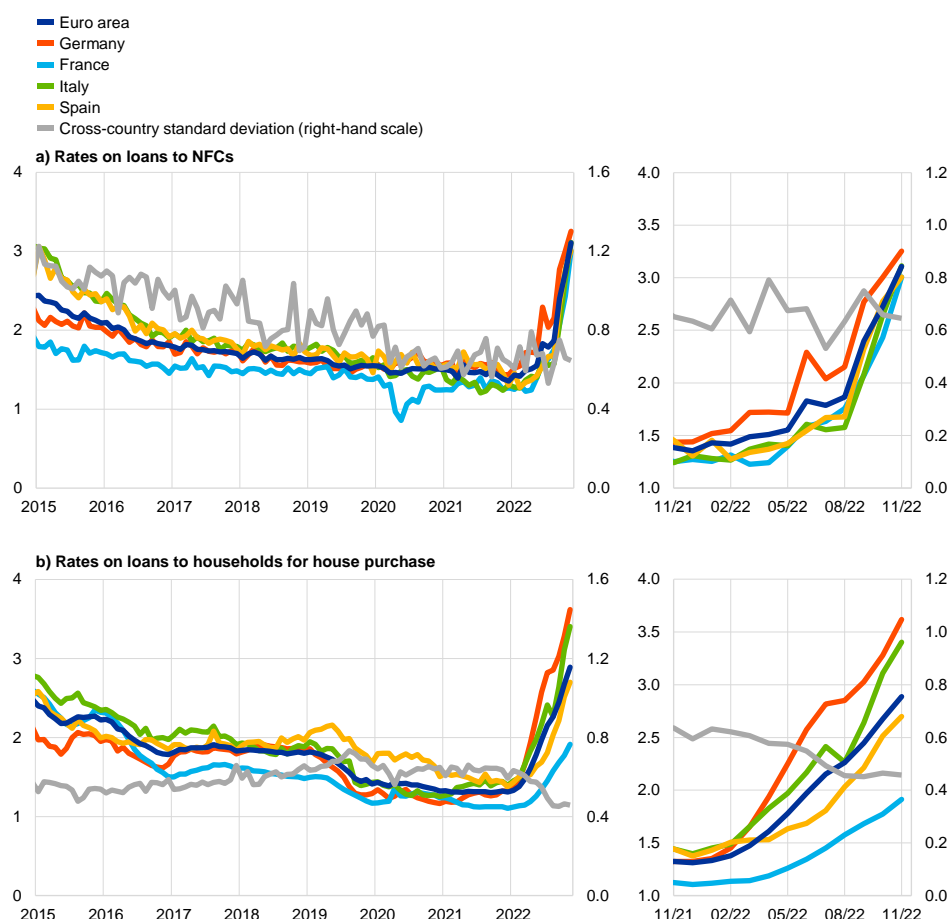
Bank lending rates for firms and households increased further in November 2022, as banks continued to tighten their loan supply. Since the beginning of 2022 increases in bank funding costs have pushed lending rates up sharply in all euro area countries (Chart 17), while credit standards have become tighter. Bank lending rates for loans to non-financial corporations (NFCs) increased to 3.09% in November, a level last seen in summer 2012. Bank lending rates for loans to households for house purchase also rose further, to stand at 2.88% in November, the highest level since summer 2014. The cumulative increases in lending rates for firms and households compared with the start of 2022 were thus 123 and 157 basis points respectively. These increases were faster than in previous hiking cycles, mainly reflecting the faster pace of policy rate hikes. Results from the November 2022 [Consumer Expectations Survey](#) suggest that consumers expect mortgage rates to increase further over the next 12 months and that they expect it to become harder to obtain housing loans. The spread between bank lending rates on small and large loans narrowed in November,

reflecting developments in the rates on large loans. The cross-country dispersion of lending rates to firms and households remained stable, suggesting that the transmission of the ECB's monetary policy tightening is working smoothly (Chart 17, panels a and b).

Chart 17

Composite bank lending rates for NFCs and households in selected countries

(annual percentages; standard deviation)



Source: ECB.

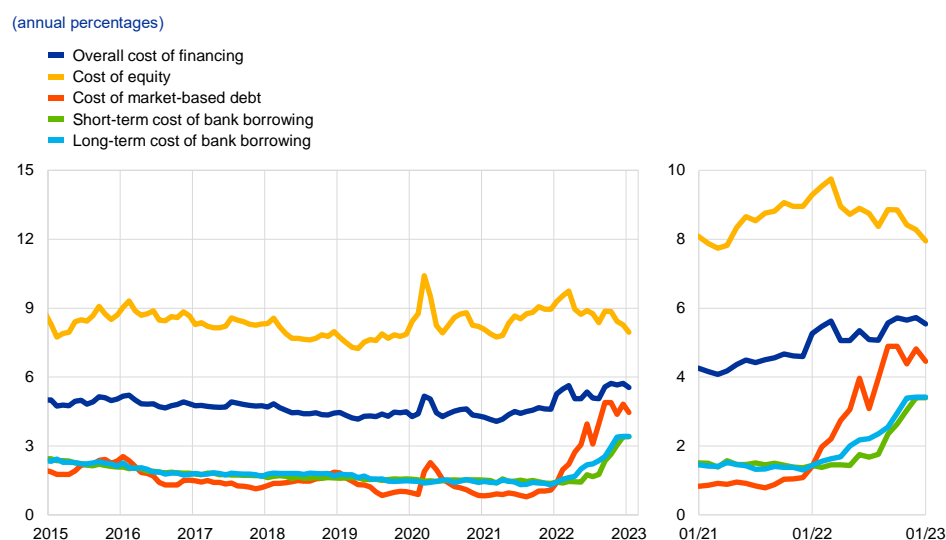
Notes: Composite bank lending rates are calculated by aggregating short and long-term rates using a 24-month moving average of new business volumes. The cross-country standard deviation is calculated using a fixed sample of 12 euro area countries. The latest observations are for November 2022.

Over the period from 15 December 2022 to 1 February 2023 the cost of equity financing for NFCs declined while the cost of market-based debt remained unaltered. Owing to lags in the data available on the cost of borrowing from banks, the overall cost of financing for NFCs, comprising the cost of bank borrowing, the cost of market-based debt and the cost of equity, can be calculated only up to November 2022, when it stood at 5.6%, around 10 basis points below its level in the previous month (Chart 18). This was the result of a decline in the cost of both market-based debt and equity financing that outweighed a sizeable increase in the cost of both short and long-term bank debt. While decreasing slightly from its peak in October, the overall cost of financing remained in November 2022 close to the elevated levels last seen at the end of 2011. Over the review period the cost of market-based debt

remained stable, as the increase in the risk-free rates – concentrated mostly on the short end of the curve – compensated for reduced corporate bond spreads both in the investment grade and, more noticeably, the high-yield segments. The cost of equity declined, however, on account of the sizeable fall in the equity risk premium, which more than offset the impact of the higher risk-free rates.

Chart 18

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



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 1 February 2023 for the cost of market-based debt (monthly average of daily data), 27 January 2023 for the cost of equity (weekly data) and December 2022 for the overall cost of financing and the cost of borrowing from banks (monthly data).

According to the January 2023 euro area bank lending survey, credit standards for loans to firms and to households for house purchase tightened substantially in the fourth quarter of 2022 (Chart 19). From a historical

perspective, the tightening in credit standards was the largest reported since the euro area sovereign debt crisis in 2011. Against the background of high uncertainty, the main factors underlying the tightening of credit standards for firms and households were higher risk perceptions related to the economic outlook, lower risk tolerance by banks and higher financing costs. For the first quarter of 2023, banks expect a further tightening of credit standards on loans to firms and to households.

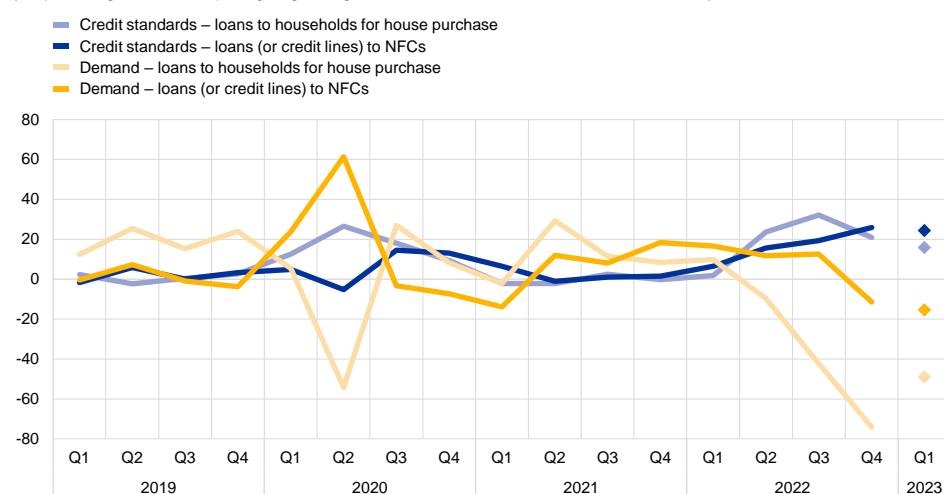
Banks reported a decrease in loan demand from firms and, most notably, from households in the fourth quarter of 2022 (Chart 19). Banks indicated that the rising general level of interest rates had made a significant negative contribution to loan demand. Falling financing needs for fixed investment had further dampened firms' loan demand in line with the expected slowdown in investment and despite some recent improvements in economic sentiment. Financing needs for inventories and working capital had made a smaller positive contribution to loan demand than in the previous two quarters, which likely reflects the gradual easing in supply bottlenecks. The decrease in the demand for housing loans registered in the survey was the strongest on record and was driven mainly by rising interest rates, lower consumer confidence and deteriorating housing market prospects. For the first quarter of 2023,

banks expected a further decrease in firms' demand for loans and a further sharp fall in the demand for housing loans.

Chart 19

Changes in credit standards and net demand for loans to NFCs and loans to households for house purchase

(net percentages of banks reporting a tightening of credit standards or an increase in loan demand)



Source: Euro area bank lending survey.

Notes: For survey questions on credit standards, "net percentages" are defined as the difference between the sum of the percentages of banks responding "tightened considerably" and "tightened somewhat" and the sum of the percentages of banks responding "eased somewhat" and "eased considerably". For survey questions on demand for loans, "net percentages" are defined as the difference between the sum of the percentages of banks responding "increased considerably" and "increased somewhat" and the sum of the percentages of banks responding "decreased somewhat" and "decreased considerably". The diamonds denote expectations reported by banks in the current round. The latest observations are for the fourth quarter of 2022.

The survey also suggests that banks expect asset quality considerations to affect their lending policies in the first half of 2023.

Banks reported that compliance with supervisory and regulatory measures contributed to a tightening of credit standards and credit margins in the second half of 2022. Although their non-performing loan ratios had had a broadly neutral impact on credit standards for loans to firms and households in the second half of 2022, respondents expected these ratios to contribute to a tightening of both credit standards and terms and conditions in the first half of 2023. Banks also reported a moderate deterioration in their access to retail funding, consistent with the increase in interest rates on time deposits.

Bank lending to firms and households slowed further in December, amid higher interest rates, weakening demand and tighter credit standards.

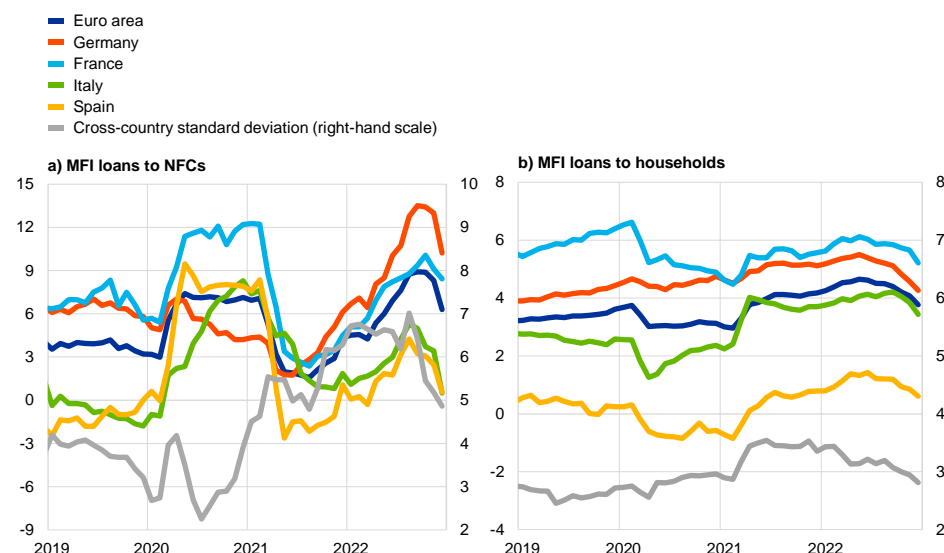
The annual growth rate of loans to NFCs declined to 6.3% in December from 8.3% in November (Chart 20, panel a). The slowdown in loans to firms was widespread across the largest economies and observed across short-term and long-term loans. The annual growth rate of loans to households also moderated, to 3.8% in December from 4.1% in November (Chart 20, panel b). This development is explained by a decline in the growth of housing loans, amid rising interest rates, banks tightening lending standards and demand weakening on the back of deteriorating housing market prospects and low consumer confidence. Recent information from the euro area bank lending survey, which has leading indicator properties for future growth of loans to firms and

households, suggests that loan dynamics are likely to moderate further over the coming quarters.⁸

Chart 20

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 December 2022.

The reallocation of funds from overnight deposits to time deposits continued in December, reflecting the relative remuneration of those instruments.

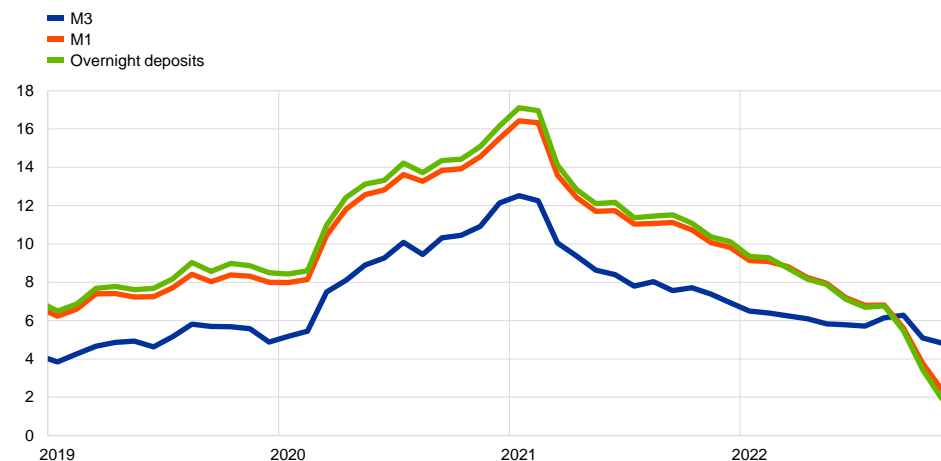
The annual growth rate of overnight deposits fell to 0.6% in December from 1.9% in November (Chart 21). The sharp drop in the growth of overnight deposits since the second quarter of 2022 is explained mainly by the large-scale substitution of overnight deposits with time deposits. This portfolio reallocation has been triggered by the higher remuneration of time deposits relative to overnight deposits, which is consistent with patterns that are typical for monetary policy tightening cycles. In line with this, larger shifts tended to be observed in those jurisdictions with wider spreads between the remuneration of time and overnight deposits.

⁸ For more details, see the box entitled “[What information does the euro area bank lending survey provide on future loan developments](#)”, *Economic Bulletin*, Issue 8, ECB, 2022.

Chart 21

M3, M1 and overnight deposits

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



Source: ECB.

Note: The latest observations are for December 2022.

The moderation in monetary dynamics continued in December, reflecting higher interest rates and slower credit growth. Annual broad money (M3) growth decreased to 4.1% in December from 4.8% in November (Chart 21). The declining trend has been driven by weaker credit dynamics amid higher interest rates. As regards the components of broad money, the ongoing shift away from overnight deposits led in December to a further marked decline in the growth of the narrow aggregate M1, thus further reducing its contribution to annual M3 growth. Time deposits included in the broad monetary aggregate benefited from this development and made the largest contribution to M3 growth. Moreover, higher interest rates also incentivised shifts towards M3 instruments offering a remuneration closely linked to market rates. On the counterparts side, credit to the private sector continued to be the main contributor to annual M3 growth. The (annual) contribution from the Eurosystem's purchases of government securities under the asset purchase programme and the pandemic emergency purchase programme declined further, reflecting the end of net asset purchases as of July 2022. Meanwhile, (monthly) monetary inflows into the euro area from the rest of the world supported broad money growth in December, in the context of a moderation in energy prices.

Boxes

1 Global risks to the EU natural gas market

Prepared by Jakob Feveile Adolfsen, Marie-Sophie Lappe and Ana-Simona Manu

The Russian war against Ukraine has both reduced gas supply to the EU and created risks for future supply. The amount of gas delivered from Russia to the EU fell to historically low levels at the end of 2022, reaching around 20% of pre-war levels. The fall in Russian gas exports to the EU started before the war, resulting in low gas storage levels already at the beginning of 2022. The response of the EU in implementing gas saving measures and sourcing alternative gas supplies – particularly by tapping LNG markets – bolstered the accumulation of gas in storage over the summer of 2022. Such measures provided some reassurance about the security of gas supplies for this winter, contingent on the weather not being too severe. However, the EU could face greater challenges when replenishing gas storage levels ahead of the 2023-24 winter. In particular, as gas supplies from Russia have dwindled, the EU has had to turn to global LNG markets. While this has alleviated immediate supply problems, it has meant that gas supply and prices in the EU have become more sensitive to swings in energy demand from the rest of the world, in particular from China. This box analyses the potential global risks posed to EU gas supplies in 2023 resulting from shifts in Russian supply and Chinese gas demand in a historically tight global gas market.

As supply from Russia has dwindled, the EU has turned to global LNG markets. As a result, EU and Asian gas markets have become increasingly interlinked.

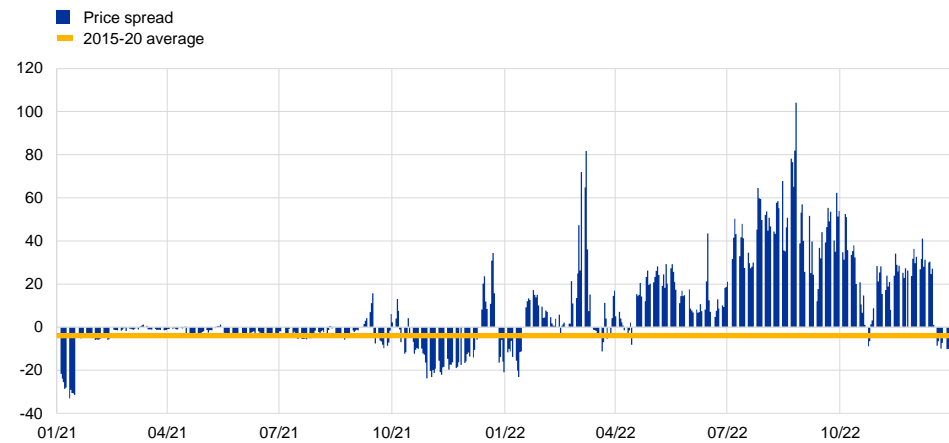
Historically, gas prices in Asia have traded at a premium relative to the EU. This is because Asia depends more on LNG to cover fluctuations in gas demand, while the EU has had access to cheaper pipeline gas, mainly from Russia (Chart A, panel a). This situation changed after Russia curtailed pipeline supplies to the EU and imposed unprecedented tightness on the EU gas market. To substitute Russian gas, LNG demand from the EU has risen over the last two years. As a result, the correlation between EU and Asian gas prices has increased substantially. This is because EU buyers are competing with Asian buyers and therefore need to pay a premium relative to Asian prices to attract the necessary LNG cargoes (Chart A, panel b). The correlation between EU gas prices and gas prices in the United States has increased to a lesser extent, as the country produces most of the natural gas that it consumes.

Chart A

Spread between EU and Asian gas prices and gas price correlations

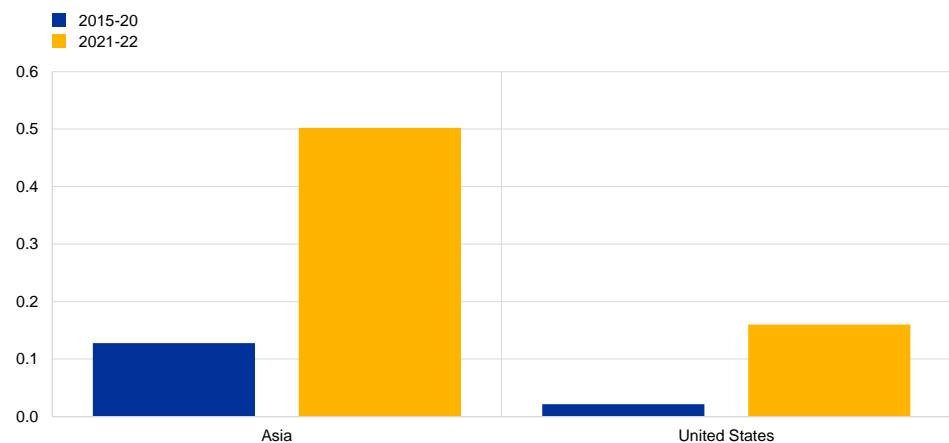
a) Spread between EU and Asian gas prices

(EUR/MWh)



b) Correlations of Asian and US prices with EU gas price changes

(correlation coefficient)



Sources: Bloomberg and ECB staff calculations.

Notes: Panel a) shows the spread between TTF and JKM month-ahead prices. Panel b) shows correlations between the TTF and JKM/Henry Hub daily changes in month-ahead prices.

A rebound in Chinese LNG imports could constrain the EU's ability to secure gas supplies throughout 2023. Increased EU gas imports in 2022 were partly enabled by paying higher gas prices but also by a significant drop in Chinese LNG demand. China's LNG demand in 2022 was 22 billion cubic metres (bcm) lower than in 2021 (Chart B, panel a). Alongside lower consumption in other countries and an expansion in global LNG export capacity, mainly in the United States, the EU was able to import significantly more LNG than in the previous year (Chart B, panel b). The drop in Chinese LNG imports in 2022 interrupted a decade of increases in Chinese gas demand. In part, the slump in gas consumption may reflect China's decision to switch to more coal power generation amid energy security concerns. However, the main driver was reduced gas consumption in the industrial sector¹, which was hit hard by the lockdowns during 2022. As a result of China's exit from its zero-COVID policy at

¹ The industrial sector accounted for more than half of China's gas consumption in 2019.

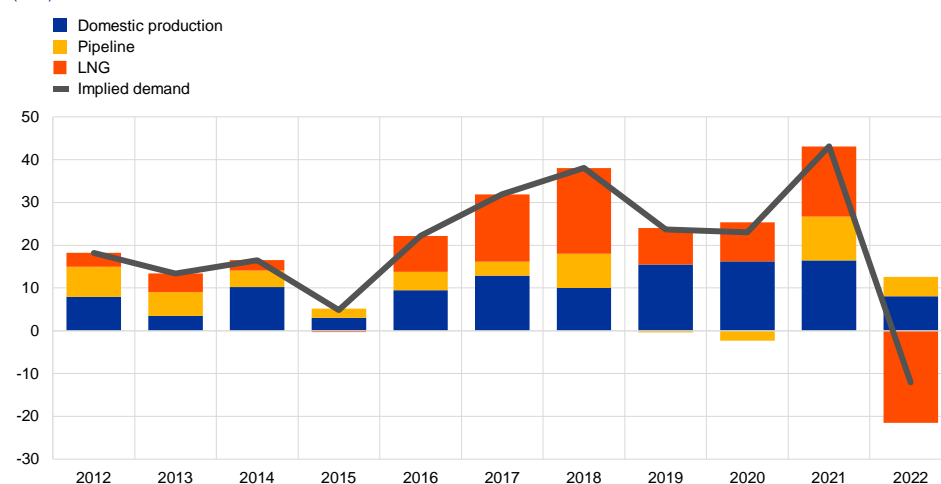
the end of 2022, increased economic activity will likely spur a rebound in LNG demand, adding significant pressure to the global LNG market, which is unlikely to see large expansions in export capacity until 2025.² This could constrain the EU's ability to attract LNG imports, especially because China has the right to decide whether to buy a pre-agreed volume of LNG gas which amounts to a substantial share of global LNG cargoes.³

Chart B

Changes in China's gas demand and global LNG imports

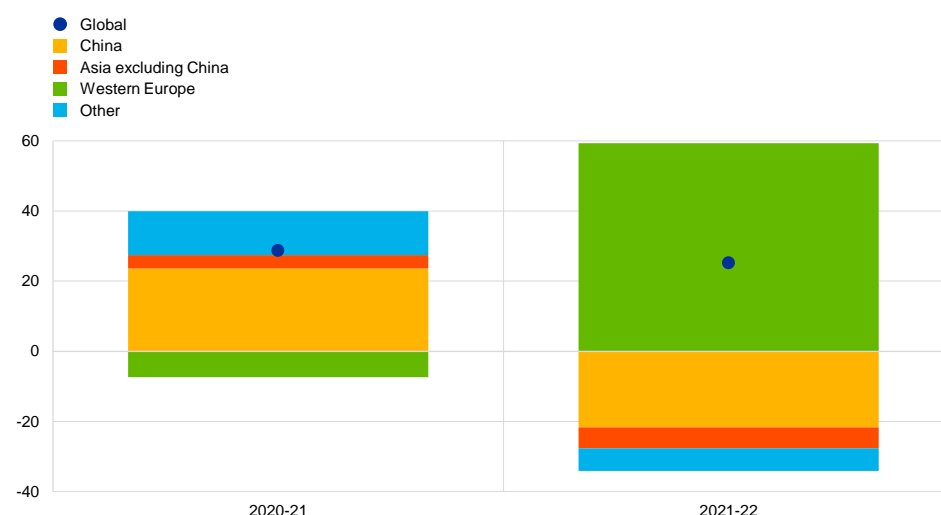
a) Annual changes in Chinese gas demand

(bcm)



b) Annual changes in global LNG imports

(bcm)



Sources: Bloomberg and ECB staff calculations.

Note: In panel b, "Western Europe" includes Belgium, Finland, France, Gibraltar, Greece, Italy, Malta, Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom.

² It takes 5 years on average to establish a new LNG export terminal. Therefore, new investment projects prompted by the currently high gas prices are only expected to affect global export capacity at a later date.

³ According to the International Energy Agency, China increased its pre-agreed volume of LNG imports to 100 bcm in 2023, which amounts to 19% of global LNG imports.

The risks posed by a rebound in China’s energy demand and a complete cut-off of Russian gas exports to the EU are highlighted by two illustrative scenarios for 2023. On the supply side, a benign scenario assumes that flows of Russian gas to the EU continue at current levels. Because Russian gas deliveries were reduced significantly throughout 2022, Russia would be delivering on average about 40 bcm less gas in 2023 than in 2022. It is also assumed that most of the expansion in global LNG capacity in 2023 will be secured by the EU. An adverse scenario assumes no Russian pipeline gas deliveries to the EU and a rebound in Chinese energy demand, which limits the EU’s capacity to secure extra LNG imports. On the demand side, in both scenarios it is assumed that the current EU-wide gas saving measures, currently only in place until March 2023, are extended to the end of 2023. It is also assumed that the EU will continue to require gas inventories to be filled to 90% capacity ahead of the winter.⁴

EU gas supply security remains vulnerable to global supply risks and changes in demand (Chart C). In the benign scenario, the EU natural gas market would be broadly balanced, whereas in the adverse scenario the gas deficit could account for about 9% of EU annual gas consumption. The deficit could fall to 4% if Chinese LNG demand stays unchanged at 2022 levels, or 2% if only the risks to Russian gas exports materialise. Such a deficit could probably be plugged by substituting gas with other energy sources, increasing energy efficiency and implementing a moderate drawdown of inventories.⁵ Nonetheless, EU gas security in 2023 would remain vulnerable to further disruptions in gas supplies or shifts in demand. Although the EU has substantially reduced its dependence on Russian gas, it has become much more sensitive to swings in energy demand from the rest of the world, in particular from China.

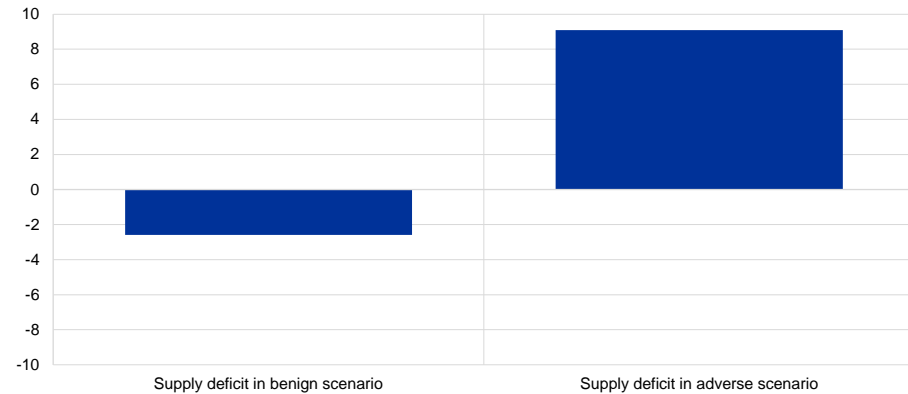
⁴ In contrast to the December 2022 Eurosystem staff Broad Macroeconomic Projection Exercise (BMPE), the scenarios in this box are partial because they are not embedded in the broader analysis of the euro area, but focus on the interaction between economic developments and the demand for gas in China. The December 2022 BMPE downside scenario covers this broader analysis and focuses on risks to the euro area gas balance. See the box entitled “[A downside scenario related to energy supply cuts](#)” in the [Eurosystem staff macroeconomic projections for the euro area \(December 2022\)](#). The BMPE scenario entails euro area countries not being able to reach the 90% EU target for gas inventories in November 2023. In contrast to the BMPE scenario, this box does not assume a quick depletion of gas inventories owing to cold temperatures. This is because the current warmer-than-normal temperatures imply less risks to EU gas supply security in 2023 since the data cut-off date of the December 2022 BMPE in late November 2022.

⁵ See the International Energy Agency’s recent policy report entitled “[How to Avoid Gas Shortages in the European Union in 2023](#)”.

Chart C

Two possible paths for the EU natural gas supply deficit

(percentages of projected 2023 consumption)



Sources: Eurostat, Refinitiv and ECB staff calculations.

Note: Assumptions regarding gas consumption, production, exports and imports are based on recent developments, the EU gas saving plan and the EU gas storage target for the end of October 2023.

The challenge for the EU to secure sufficient gas supplies in 2023 will also depend on the weather and depletion of gas inventories in the remaining part of the 2022-23 winter. EU Member States have saved more gas in the 2022-23 winter than envisaged by the EU gas saving plan, partly due to comparatively warm temperatures. As a result, gas storage levels have remained high and improved the outlook for gas supplies compared with expectations before the heating season started. However, if temperatures drop severely or there is a prolonged cold spell in the coming months, gas inventories could deplete faster than assumed in our analysis, leaving EU gas markets in a more vulnerable position. At the same time, warm temperatures during the winter months could place the EU in a stronger position to withstand the challenges in 2023, while high temperatures in the summer months would raise gas demand for electricity generation owing to an increased need for air conditioning.

How have higher energy prices affected industrial production and imports?

Prepared by Francesco Chiacchio, Roberto A. De Santis, Vanessa Gunnella, Laura Lebastard

This box analyses how the increase in energy prices since autumn 2021 has affected euro area aggregate industrial production and import volumes. In autumn 2021 gas supplies from Russia to the European Union (EU) were cut significantly, contributing to the slow replenishment of gas inventories in Europe ahead of the winter season. Between September 2021 and October 2022 average euro area consumer and producer energy prices increased by 49.5% and 93.4% respectively. In the same period euro area industrial production excluding construction and import volumes excluding energy grew by 2.3% and 10.3% respectively. This box shows that the adverse energy supply shocks have been offset by a simultaneous easing of supply bottlenecks, a related workout of backlog orders and recovering demand which benefited from the effects of reopening following the coronavirus (COVID-19) pandemic. There are signs that imports, particularly of intermediate goods, partly replaced domestic manufacturing production in more energy-intensive sectors, as imports were relatively cheap compared to domestic production.

A decomposition into high and low energy-intensive goods shows that, while domestic production of high energy-intensive goods weakened from the second quarter of 2022, imports of the same goods picked up before stabilising at the end of the year. These developments are in line with the expectation that adverse energy supply shocks raise production costs, which can cause a drop in output and an increase in imports from countries that are less dependent on global energy production. The decline in output of euro area energy-intensive manufacturing started in mid-2022 (Chart A, panel a), while manufacturing imports of energy-intensive goods from outside the euro area started to increase around one year earlier (Chart A, panel b).¹ Euro area countries imported more in sectors relatively more exposed to increases in energy prices from trade partners that were less affected by the energy price shock. For instance, the chemical industry in Germany reportedly started importing ammonia in mid-2022 rather than producing it itself, owing to the high volume of gas required in its production.

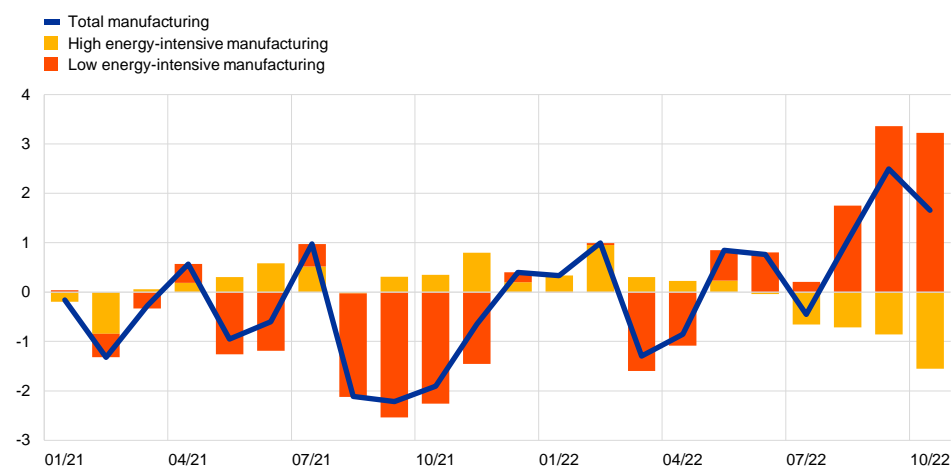
¹ Energy intensity is calculated for each sector in each country as the energy used as a (direct and indirect) input as a percentage of total inputs, using the OECD input-output database. See the box entitled “[Natural gas dependence and risks to euro area activity](#)”, *Economic Bulletin*, Issue 1, ECB, 2022.

Chart A

Euro area industrial production and imports

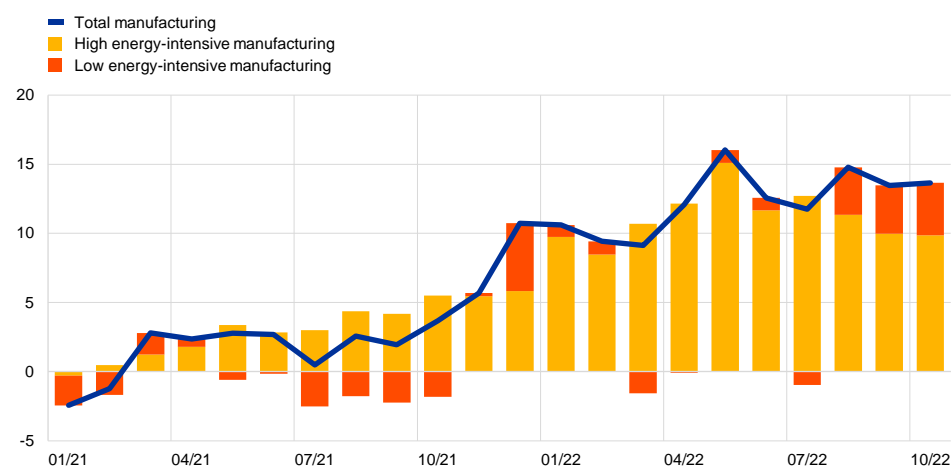
a) Manufacturing industrial production by sub-sector

(percentage changes in industrial production and percentage point contributions relative to January 2020)



b) Manufacturing import volumes by sub-sector

(percentage changes in import volumes and percentage point contributions relative to January 2020)



Sources: Eurostat, Trade Data Monitor and ECB staff calculations.

Notes: Data are seasonally-adjusted. Industrial production indices for individual sectors are aggregated with value-added weights. Imports are computed from volume indices of manufactured goods imports and import shares at the sectoral level. Low (high) energy-intensive sectors are defined as those with an energy intensity lower (higher) than that of the median sector. Energy intensity is calculated as energy inputs (direct and indirect) as a percentage of total inputs. The identified energy-intensive manufacturing sub-sectors are manufacture of food, beverages and tobacco products; manufacture of wood and products of wood and cork (except furniture); manufacture of paper and paper products as well as reproduction of recorded media; manufacture of chemicals and chemical products; manufacture of rubber and rubber products; manufacture of other non-metallic mineral products; and manufacture of basic and fabricated metals. Manufacture of coke and refined petroleum products is excluded as it is part of the energy industrial grouping. Latest observations are for October 2022.

Besides energy costs, factors such as the recovery in demand, the easing of supply chain disruptions and the resulting increase in import competition have played a key role in the dynamics of domestic production and imports since mid-2022. The rise in energy prices was not the only cause of the sharp rise in import volumes. In particular, supply chain disruptions eased, thanks to the logistical improvement in global container vessel activity and the easing of pandemic lockdown

measures in some Asian countries exporting intermediate inputs.² For instance, in the ECB's Corporate Telephone Survey, non-financial companies operating in the chemical and metal sectors reported increased import competition following the recent easing of global freight prices and logistical disruptions. The reduction of supply chain disruptions has been a key factor behind the resilience of industrial production as well as the rise in import volumes. The output increases in sectors with lower energy intensity (Chart A, panel a) suggest that the recovery in demand and the easing of supply bottlenecks supported production and imports in 2022. At the same time, energy-intensive production sectors faced much higher energy costs in 2022, and this was behind the drop in output.

Empirical analysis confirms that energy supply issues and bottlenecks in production processes played a key role in the developments in aggregate industrial production and aggregate import volumes (excluding energy) in 2022. We use a structural vector autoregression (SVAR) model to quantify the relative role of energy and foreign competition shocks in comparison to other key shocks, such as demand, supply chain disruption and other cost-push shocks. The analysis uses the Harmonised Index of Consumer Prices (HICP), industrial production (excluding construction), Purchasing Managers' Index (PMI) suppliers' delivery times, consumer energy prices and import volumes of goods excluding energy. A foreign competition shock is defined here as a shock that increases import volumes and lowers domestic production and prices. According to the model, on aggregate industrial production reacts rapidly and negatively to energy shocks, while there is a marginal positive impact on non-energy import volumes in the short term. The results suggest that adverse energy supply shocks reduced industrial output by about 2% between September 2021 and September 2022 (Chart B, panel a). This decline was partly offset by imports of cheaper non-energy foreign goods, which increased by 1.4% as a result of the energy shock over the same period (Chart B, panel b). Conversely, the downward impact of supply chain disruptions on industrial production declined substantially in the first half of 2022, and the subsequent easing of bottlenecks contributed positively and strongly to the output expansion and the rise in import volumes in the second half of 2022. Demand forces, driven by households' desire to spend after pandemic-related restrictions were eased, also contributed positively to industrial production and imports in 2022.

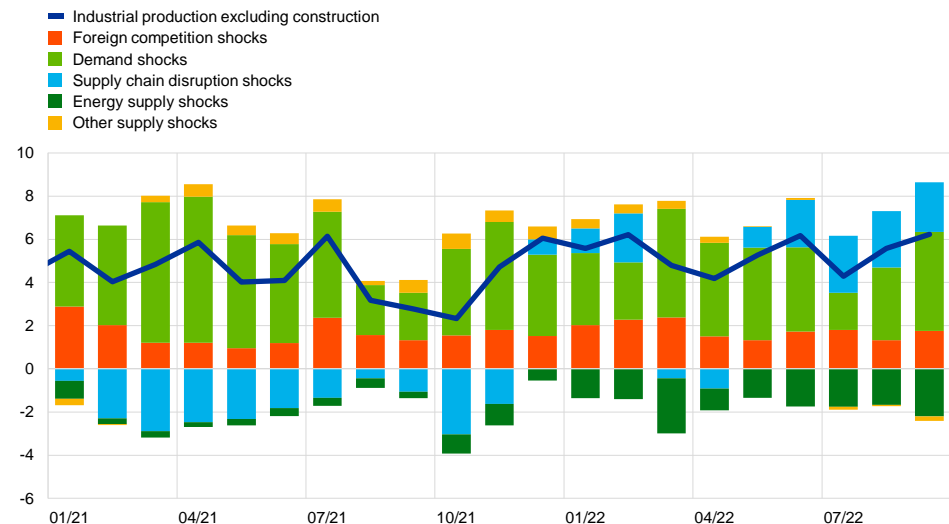
² For a detailed analysis of these factors and their economic impact, see Lane, P.R., "[Bottlenecks and monetary policy](#)", *The ECB Blog*, ECB, 10 February 2022; and the boxes entitled "[Supply chain bottlenecks in the euro area and the United States: where do we stand?](#)", *Economic Bulletin*, Issue 2, ECB, 2022; "[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.

Chart B

Contributions of factors to euro area aggregate industrial production and import volumes excluding energy

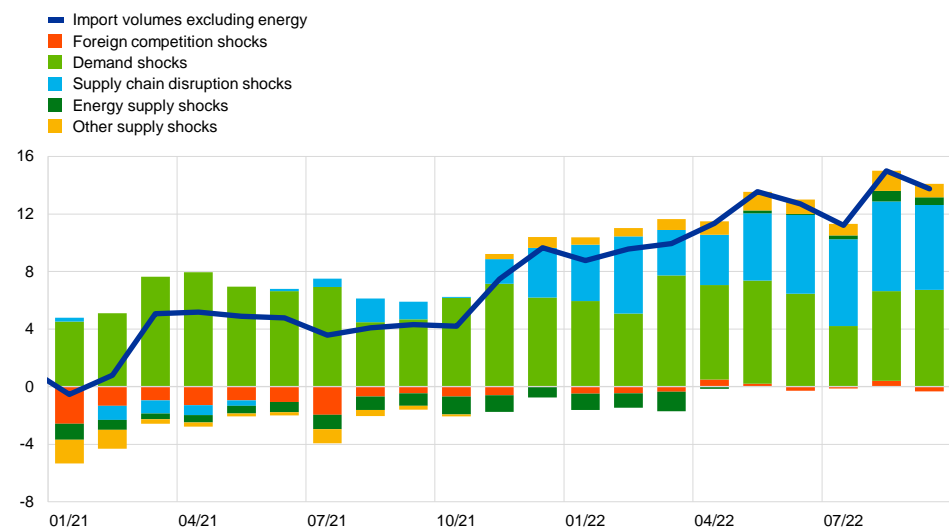
a) Euro area industrial production excluding construction

(percentage deviation from baseline, cumulative from October 2020 to September 2022)



b) Euro area manufacturing import volumes (excluding energy)

(percentage deviation from baseline, cumulative from October 2020 to September 2022)



Sources: Eurostat and ECB staff calculations.

Notes: The model is based on euro area aggregate data from January 1999 to September 2022 and the shocks are identified using the method employed in Antolín-Díaz, J. and Rubio-Ramírez, J.F., "Narrative Sign Restrictions for SVARs", *American Economic Review*, Vol. 108, No 10, October 2018, pp. 2802-2829; 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 HICP (+), HICP energy (+), industrial production (+), import volumes (+) and PMI suppliers' delivery times (-); energy supply shocks imply HICP (+), HICP energy (+), industrial production (-) and PMI suppliers' delivery times (-); supply chain disruption shocks imply HICP (+), industrial production (-) and PMI suppliers' delivery times (-); other supply shocks imply HICP (+) and industrial production (-); foreign shocks imply HICP (-), industrial production (-) and import volumes (+). The assumed narrative restrictions are as follows: the largest contribution to forecast errors in the PMI suppliers' delivery times in April 2020 is attributed to supply chain disruption shocks; the largest contribution to forecast errors in HICP energy in October and November 2021 is attributed to energy supply shocks. It is also assumed that demand shocks have a negative sign in March and April 2020. Production and import volumes represent overall euro area numbers, including both high and low energy-intensive sectors.

Sectoral analysis shows that producers in energy-intensive sectors started substituting own production with cheaper imports in early 2022.

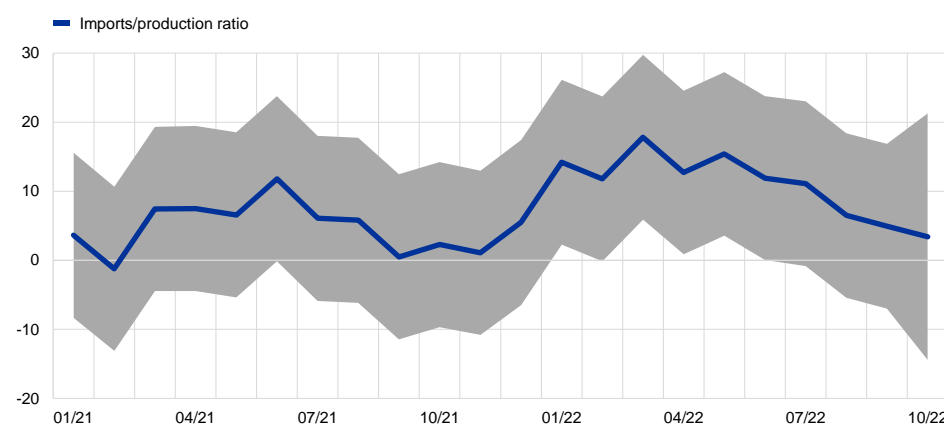
Energy-intensive producers have reduced their output and substituted it with imports

since the beginning of 2022, broadly coinciding with the start of the Russian invasion of Ukraine. However, on average this effect came to an end in autumn 2022 (Chart C), albeit with heterogeneity across sectors.³ These developments are not due to favourable energy supply shocks at the end of the period under consideration, as energy prices continued to rise until October 2022, but to the response of the variables to the energy shocks in the medium term. These findings are in line with the results obtained with the SVAR, according to which, while energy shocks have stronger effects on industrial production than non-energy imports on aggregate in the short term, they have similar effects in the medium term. The imports/production ratio in energy-intensive sectors increased on average by 11% compared to non-energy-intensive sectors in 2022 as energy producer prices rose. The rise in domestic production costs associated with more expensive energy seems to be behind the substitution with cheaper imports.

Chart C

Imports/industrial production ratio of energy-intensive sectors over time

(percentage difference from non-energy-intensive sectors)



Sources: Eurostat, Trade Data Monitor and ECB staff calculations.

Notes: 19 euro area countries and 21 sectors, excluding energy. Event study comparing the imports/production ratio in high energy-intensive sectors (treatment group) to low energy-intensive sectors (control group). The reference month is January 2019. The grey area represents the 95% significance bands. Latest observations are for October 2022.

Econometric evidence confirms that imports tend to substitute domestic production when energy costs are high.

A sectoral analysis suggests that manufacturing output growth in the euro area tends to decline relative to import growth if energy costs are high.⁴ This indicates that imports partly replaced domestic output in sectors where energy costs increased. Using this estimate and the empirical

³ Chart C shows the estimated β_j computed using the following econometric specification: $\ln\left(\frac{\text{imports}}{\text{IP}}\right)_{sct} = \sum_{j=1}^{42} \beta_j I[j = t] * \text{HighIntensiveSector}_{sc} + FE_{sc} + FE_{ct} + \varepsilon_{sct}$, where the dependent variable is the natural logarithm of the imports/production ratio. The treatment (control) group features all the sectors above (below) the median in term of energy intensity (direct and indirect) in the production process. The econometric model controls for the average imports/production ratio of the sector in each country using country-sector fixed effects and for country-specific shocks using country-month fixed effects. The database includes 21 manufacturing sectors (excluding energy) and 19 euro area countries.

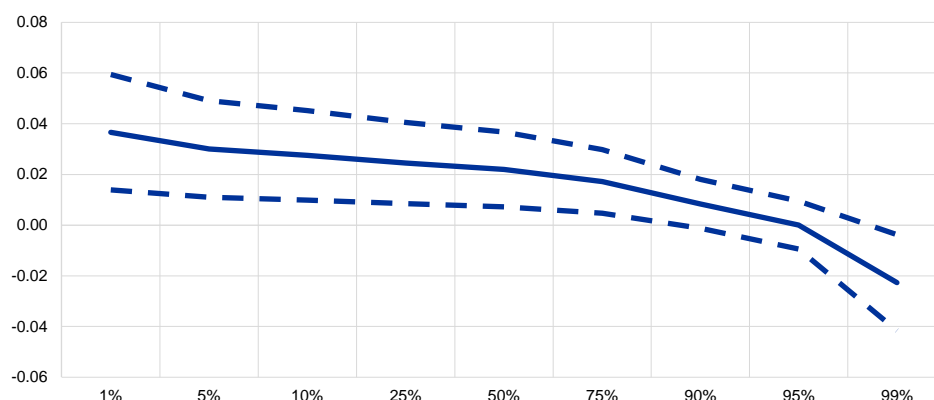
⁴ Output volume growth is regressed on its lags, contemporaneous sector-country level and lags of import growth, an index for energy costs (change in country-level energy prices times sector-country level energy intensity), their interaction and a set of fixed effects (country-sector and country-time). Results are robust to the use of alternative sets of fixed effects, such as time and country-sector, country-time and sector-time, and to the inclusion of proxies for country-level demand (e.g. European Commission production expectations and PMI orders series) and relative prices of imports and production. The panel includes 22 sectors in each of the 19 euro area countries from January 2015 to September 2022.

percentile distribution according to their respective energy cost index, the sectors experiencing the largest negative correlation between production and imports are the most energy-intensive sectors, such as non-energy producing mining and quarrying activities, chemicals, non-metallic mineral products, basic metals and paper industries (Chart D), particularly since mid-2021 when energy costs rose in an unprecedented way.

Chart D

Marginal effects of imports on production in industries with different energy intensities (the higher the percentile, the higher the energy intensity)

(x-axis: percentile of energy cost increase; y-axis: correlation coefficient)



Sources: Eurostat, Trade Data Monitor and ECB calculations.

Notes: Results from a panel regression with 2-digit sectors in euro area countries, where output volume growth is regressed on its lags, contemporaneous sector-country level and lags of import growth, an index for energy costs (change in country-level energy prices times sector-country level energy intensity), its interaction with import growth and a set of fixed effects (country-sector and country-time). Dotted lines represent 95% significance bands.

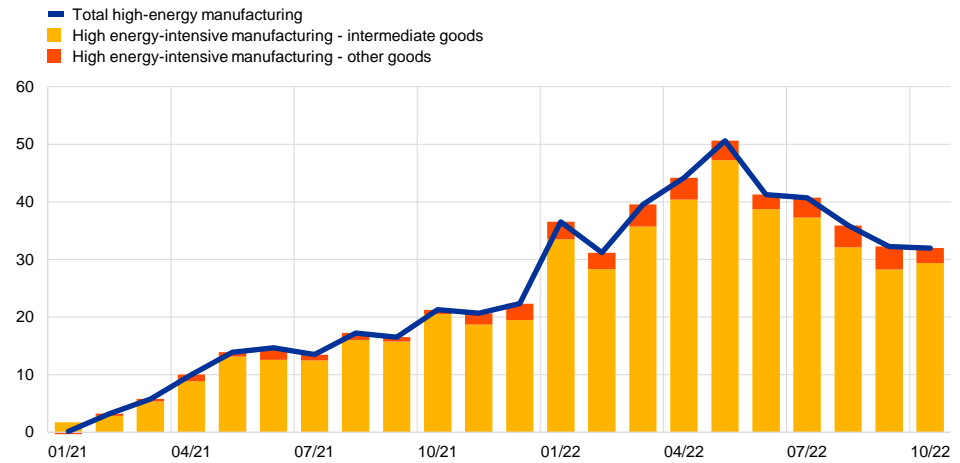
Import substitution implies a net loss of intermediate domestic output, but it helps to maintain production of final products thanks to cheaper inputs.

Importing final products rather than producing them domestically should have a negative effect on net exports and value added. However, importing intermediate products helps companies to continue to produce final products domestically and therefore limits the negative impact of the energy price rise. The net effect on euro area economic activity depends on the type of substituted goods: final or intermediate. The more downstream the imported products are, the larger the loss of economic activity is likely to be because a larger fraction of the goods production is moved abroad. Chart E shows that developments in energy-intensive imports in energy-intensive sectors were mostly driven by intermediate products, suggesting that import substitution contributed to the resilience of domestic output.

Chart E

High energy-intensive manufacturing imports by type of product

(percentage changes in import volumes and percentage point contributions relative to January 2020)



Sources: Eurostat, Trade Data Monitor and ECB staff calculations.

Notes: Data are seasonally-adjusted. Imports are computed from volume indices of manufactured goods imports and import shares at the sectoral level. Low (high) energy-intensity sectors are defined as those with an energy intensity lower (higher) than that of the median sector. Energy intensity is calculated as energy inputs (direct and indirect) as a percentage of total inputs. The identified energy-intensive manufacturing sub-sectors are manufacture of food, beverages and tobacco products; manufacture of wood and products of wood and cork (except furniture); manufacture of paper and paper products as well as reproduction of recorded media; manufacture of chemicals and chemical products; manufacture of rubber and rubber products; manufacture of other non-metallic mineral products; and manufacture of basic and fabricated metals. Manufacture of coke and refined petroleum products is excluded as it is part of the energy industrial grouping. Latest observations are for October 2022.

3 Main findings from the ECB's recent contacts with non-financial companies

Prepared by Catherine Elding, Richard Morris, Moreno Roma, Desislava Rusinova and Sara Romaniega Sancho

This box summarises the findings of recent contacts between ECB staff and representatives of 73 leading non-financial companies operating in the euro area. The exchanges took place between 4 and 12 January 2023.¹

In aggregate terms, these contacts pointed to broadly stagnating or mildly contracting activity in the fourth quarter, but with notable differences across sectors. There were widespread accounts of contracting orders and sales related to both a softening in household spending and unusually large end-of-year inventory adjustment. But other factors were reported that supported ongoing growth in many sectors, including the easing of supply constraints and lingering catch-up effects.

Most industrial sector contacts reported declining activity, reflecting reduced demand for many consumer durables, weakening construction output and inventory adjustment. Demand for consumer electronics and many household items was falling owing to both higher prices (squeezing household budgets) and the fact that purchases of such items had often been brought forward during the pandemic. Construction activity (especially in relation to residential buildings) was increasingly affected by reduced demand owing to rising input costs and interest rates. Meanwhile, end-of-year inventory reduction was larger than usual, in part because high prices had made working capital more expensive, but also because previous supply disruption had caused firms to hold more inventory than usual. The combination of softening consumer demand in some sectors and inventory adjustment caused a particularly sharp contraction in demand for many intermediate goods as well as for services related to the transport and storage of goods, where shortages had been rapidly replaced by excess capacity.

By contrast, consumer demand for many non-durable goods and services was more resilient, while easing supply constraints supported the production of automotive and investment goods. Contacts in the consumer goods and retail sectors pointed to widespread evidence of consumers shifting their consumption towards less expensive items. Yet they also observed that those who had money were prepared to spend it, as reflected in good – or better than expected end-of-year sales. There was particularly strong demand for luxury goods, while passenger air travel had recovered further over the Christmas period. Meanwhile, activity in the automotive and capital goods sectors continued to be characterised by long order books and production levels that were still determined by only gradually easing supply constraints (related to the ongoing short supply of semi-conductors and related components). Consistent with this, most contacts said that for 2023 their firm's planned levels of investment were similar to or higher than those in 2022. This partly reflected a need for investment to “catch-up” following cuts in 2020-21 as well as some strong

¹ For further information on the nature and purpose of these contacts, see the article entitled “[The ECB's dialogue with non-financial companies](#)”, *Economic Bulletin*, Issue 1, ECB, 2021.

medium-term drivers such as digitalisation, the energy transition, and efforts to make supply chains more resilient.

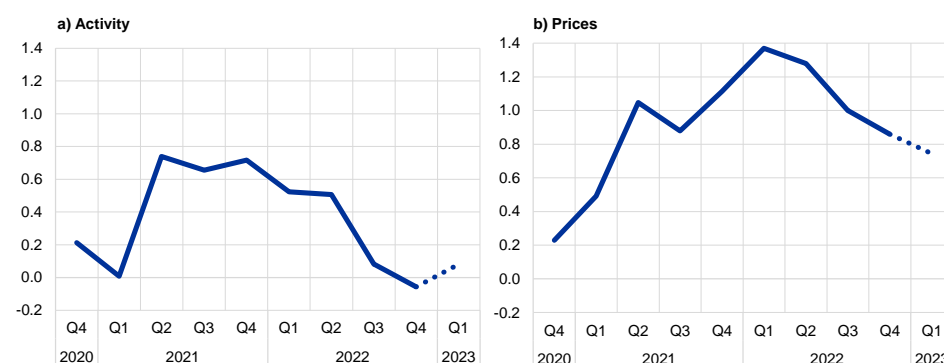
The short-term outlook for activity remained subdued, and the outlook for 2023 was very uncertain, but there was increased hope of a pick-up during the year.

Grounds for modestly increased optimism were based on the recent fall in energy prices and high gas storage levels (alleviating concerns about energy shortages). It also reflected the fact that continued strong employment, higher wages and government support, coupled with early signs of easing inflation, would arrest the decline in real disposable income. The end of China's zero-COVID policy was also likely to give a further boost to global demand from spring onwards.

Chart A

Summary of views on developments in and the outlook for activity and prices

(averages of ECB staff scores)



Source: ECB.

Notes: The scores reflect the average of ECB staff scores in their assessment of what contacts said about quarter-on-quarter developments in activity (sales, production and orders) and prices. Scores range from -2 (significant decrease) to +2 (significant increase). A score of 0 would mean no change. The dotted line refers to expectations for the next quarter.

There was increased caution with respect to hiring intentions and an easing of some labour shortages, but no abrupt change in labour market conditions.

Many contacts said that their companies were scrutinising hiring decisions more closely and/or had postponed or scaled down new hiring, but there was little or no suggestion of significant layoffs. Instead, firms were focusing on improving the productivity of existing staff and were reluctant to let go of skilled employees who would be needed in future. Employment agencies observed lower demand for temporary staff but resilience in the market for permanent placements. Meanwhile, there were slightly fewer reports of labour shortages, which seemed to be easing in some sectors.

Selling prices continued to increase in aggregate but at a moderating pace and with more variability across sectors and a less certain outlook. In most sectors, prices had continued to rise in the fourth quarter of 2022 (or the underlying trend was still upwards), and further price increases had been implemented, were planned or would be attempted in the first quarter of 2023. The rate of price increases remained particularly elevated in the food retail and agri-industry sectors. Prices for many consumer and capital goods and for most services also remained dynamic because the pass-through of earlier and/or ongoing cost pressures (now driven by wages in particular) required higher prices to maintain margins, while in some cases prices

were raised automatically through indexation clauses. Contacts also pointed to upward pressure on rental prices for housing, as the market in many countries was increasingly tight and/or indexation clauses took effect. Selling prices had started falling (from very high levels) in recent months in some sectors, including energy and many parts of the intermediate goods sector (steel, chemicals, paper, etc.). Spot freight rates in the transport sector (for haulage and container shipping) had fallen sharply, although such rates did not reflect the long-term contract prices on which most business was based.

Many companies had adopted more dynamic pricing strategies in 2022 and said that prices would continue to be reviewed more often than usual in 2023. The effective likelihood that they would increase prices would, however, depend on the – increasingly uncertain – evolution of input costs and (price sensitivity of) demand. Despite greater wage cost pressure and very high uncertainty regarding the future path of energy prices, most contacts expected lower price growth in 2023 than in 2022.

Wage growth was now the predominant cost concern, although wage expectations remained unchanged from the previous survey round. Most contacts expected wage growth to be higher in 2023 than it had been in 2022. Taking a simple average of the mid-points of the quantitative indications provided, contacts estimated that average wages had grown by around 3.5% in 2022, while they anticipated growth of around 5% in 2023. Some expressed concern that, unlike rising energy or raw material prices, wage increases were permanent and would thus have longer-lasting effects. Others, however, observed that wage increases were below present inflation rates and therefore fell short of what would be necessary to fuel a wage-price spiral.

How people want to work – preferences for remote work after the pandemic

Prepared by António Dias da Silva, Dimitris Georgarakos and Marco Weißler

Work from home (WFH) patterns have changed substantially following the onset of the coronavirus (COVID-19) pandemic and point to a persistently higher preference for remote work. WFH was not particularly prevalent in the euro area before the onset of the pandemic in March 2020. According to Eurostat data, 85% of employees had never worked from home in 2019, a small decrease from 92% in 2000.¹ The COVID-19 shock led to a sudden increase in demand for WFH policies that would allow the majority of employees to work from home at least once per week.² This rise in WFH was enabled by investments made by both employers and workers. This box documents the changes in WFH during the pandemic and the main drivers behind them as well as future expectations for work preferences. Changes in WFH patterns and preferences potentially have important consequences for economic and social developments, including in the labour market and housing choices.³

The ECB Consumer Expectations Survey (CES) asked consumers about WFH at different points between 2020 and 2022.⁴ According to CES data more than 60% of workers had never worked from home before the pandemic.⁵ That share dropped to below 40% in the months following the start of the pandemic. In May 2022 the majority of workers in the euro area reported that they had worked remotely at least one day per week during the previous three months (Chart A). Most workers who worked remotely did so between two to four days per week. Workers were also asked about their preferences regarding WFH once the COVID-19 pandemic was over; around two-thirds indicated that they would like to work remotely at least one day per week and around 25% showed a preference for a WFH regime of between two to four days per week. These figures suggest a desire for hybrid working modes to prevail beyond the restrictions and health concerns related to the pandemic.⁶

¹ This is in line with numbers from the United States that show 92.5% of all workers never worked from home in 2000, which decreased to 90.5% in 2010 (See Mateyka P.J., Rapino M.A. and Landivar, L.C., “Home-Based Workers in the United States: 2010”, *Home Economic Studies*, U.S. Department of Commerce, Economics and Statistics Administration, U.S. Census Bureau, 2012).

² See “Living, working and COVID-19: First findings – April 2020”, *Covid-19 Series*, Eurofound, 2020.

³ See, for example, Williamson, H., “An Evaluation of the Impacts of Remote Working”, *Irish Government Economic and Evaluation Service Paper*, Department of Enterprise, Trade and Employment, May 2022.

⁴ Some special-purpose questions were posed, asking consumers about how many days they worked from home before the pandemic and during the pandemic as well as their future preferences for the number of days they would like to work remotely. The analysis is based on responses from households in Belgium, Germany, Spain, France, Italy and the Netherlands.

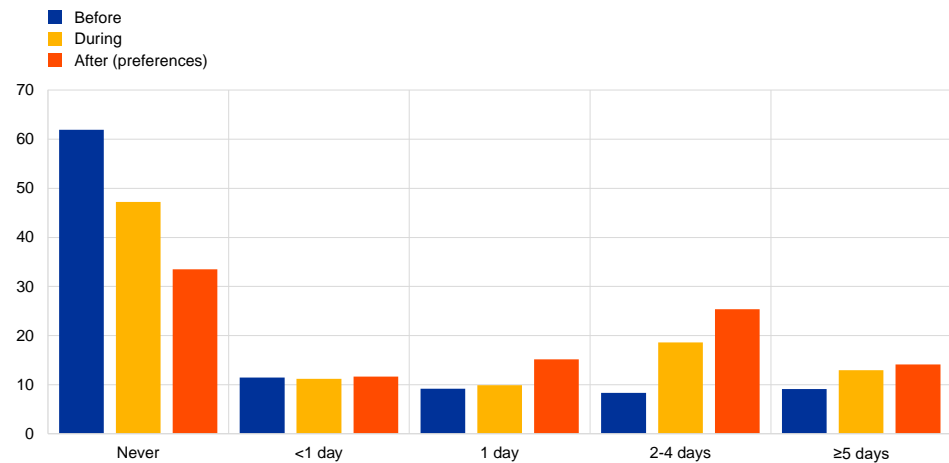
⁵ Unlike Eurostat, the CES asked if respondents had worked from home before the onset of the COVID-19 pandemic, and not just during the last four weeks. This, in addition to the different sample of the CES, may explain why the share of workers without WFH experience is lower in the CES.

⁶ Preferences have been remarkably stable on aggregate. At all survey times throughout the COVID-19 period around 40% of respondents wanted to work at least two days remotely after the pandemic. However, this aggregate preference stability masks some change on an individual level; only around half of the workers who favoured at least two WFH days per week in August 2021 stated the same preference in May 2022.

Chart A

Number of WFH days before and during the COVID-19 pandemic and preferences for after

(percentage of respondents)



Source: ECB (CES, May 2022).

Note: Respondents (aged 20-64) were asked in May 2022 about (i) the number of WFH days available to them per week before the COVID-19 pandemic, (ii) the number of WFH days available to them in a typical month from February to April 2022 and (iii) their preferred number of WFH days per week after the COVID-19 pandemic ends.

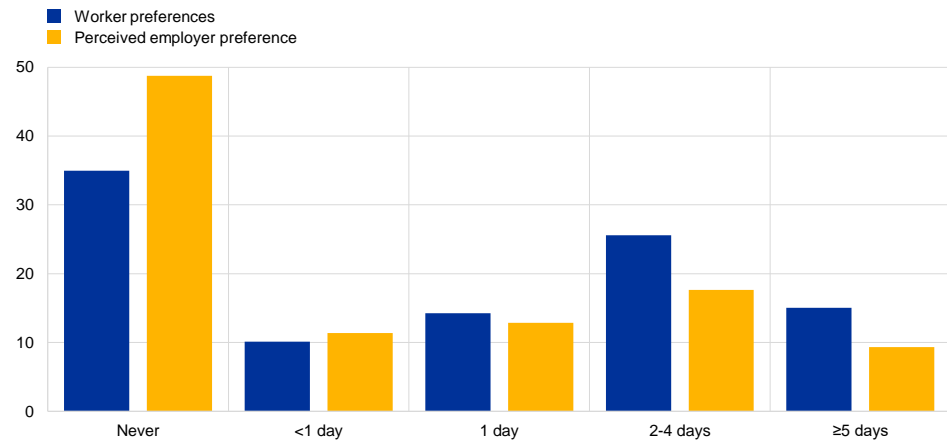
On average, workers see their preferences for WFH as broadly aligned with the preferences they perceive their employers to have. In August 2021 around 40% of workers indicated that they would like to work from home at least two days per week after the pandemic and 27% expected their employer to offer this option (Chart B). 60% of workers believed that their preferences for WFH were aligned with those they perceived their employers to have. However, 30% of workers had WFH preferences that exceeded what they expected their employers to offer. There has therefore been some discussion as to whether this perceived gap might increase the willingness of some workers to switch employers, as having flexible work arrangements (including the possibility of working remotely) has been cited as an important motive for searching for a new job.⁷

⁷ See, for example, [Americans are embracing flexible work – and they want more of it](#), McKinsey & Company, July 2022; or Barrero, J.M., Bloom, N. and Davis, S.J., “[Let me work from home, or I will find another job](#)”, VOX-EU, 27 July 2021.

Chart B

Workers' WFH preferences and perception of their employers' WFH preferences

(percentage of respondents)



Source: ECB (CES, August 2021).

Notes: The chart shows workers' preferred number of WFH days per week and their perception of their employers' preferences. The data refer to workers aged 20-64.

The willingness of some workers to search for and switch jobs may be affected by the WFH policy they perceive their employers to be offering.

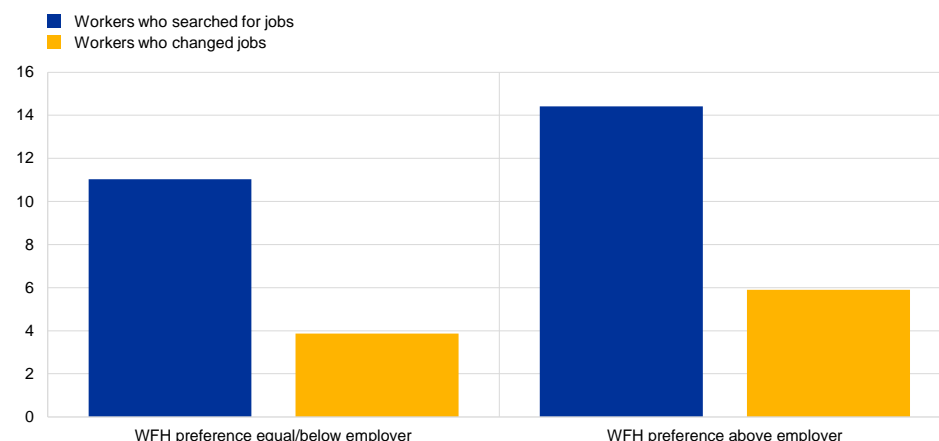
The wider prevalence of WFH potentially increased the importance of WFH when choosing an employer. If a worker's WFH preferences exceed what their current employer offers, this can lead to an increased willingness to change jobs. Accordingly, we found that workers with WFH preferences exceeding what they perceive their employers to be offering were more likely to search for new jobs and were more likely to have switched jobs at least once after the survey was conducted (Chart C).⁸

⁸ The group of workers with WFH preferences equal to or below those they perceived their employers to have and the group with WFH preferences above those they perceived their employers to have are very similar in terms of their wage level, education, household income, age or duration in the panel dataset.

Chart C

WFH preferences and worker retainment

(percentage of respondents)



Source: ECB (CES, July 2021, August 2021 and following waves until May 2022).

Note: The chart shows the share of workers who had searched for a job prior to the survey date (August 2021) and the share of workers who changed jobs within the subsequent nine months by their WFH preference as reported in August 2021. The data refer to workers aged 20-64.

Workers' preferred number of WFH days per month varied starkly in relation to job and personal characteristics.⁹

Occupation is the most important factor in explaining WFH preferences. For example, clerical support workers prefer 4.5 WFH days per month more than plant or machine operators (Chart D). This suggests that job characteristics have a strong bearing on WFH preferences. It should be noted that the feasibility of completing work remotely – the “teleworkability” of a job – varies substantially across different occupations.¹⁰ This is a constraint that is at least partially reflected in the WFH preferences indicated by workers in the survey. In the following, we therefore examine the personal characteristics that determine WFH preferences after accounting for limiting constraints such as occupation, sector and firm size.

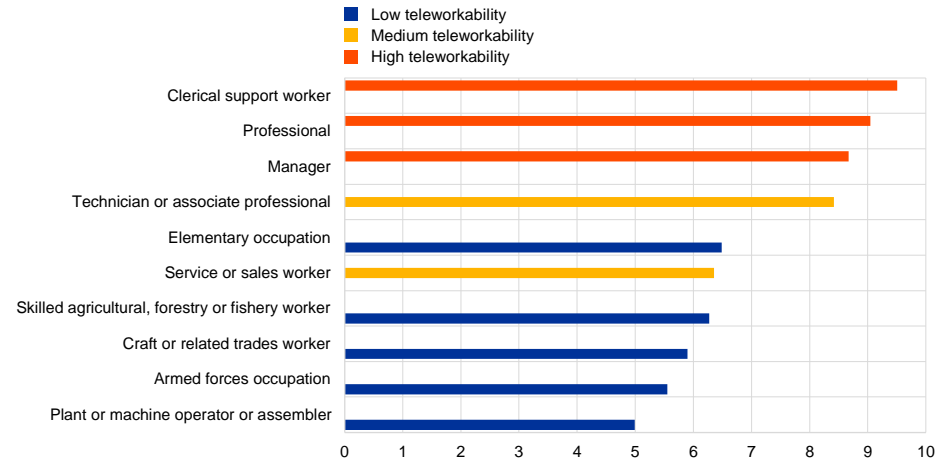
⁹ For this analysis we re-coded the bracketed preferences for weekly WFH days into monthly WFH days, taking the mid-point of the bracket.

¹⁰ See, for example, Dingel, J.I. and Neiman, B., “How many jobs can be done at home?”, *Journal of Public Economics*, Vol. 189, September 2020, pp. 1-8, and Bates, C. and Vivian L., “Teleworkable jobs”, Box 4 in “The impact of the COVID-19 pandemic on the euro area labour market”, *Economic Bulletin*, Issue 8, ECB, 2020.

Chart D

Number of preferred WFH days per month by occupation and teleworkability

(number of working days per month)



Source: ECB (CES, May 2022).

Notes: Estimation results of an OLS regression with the dependent variable being the number of working days per month that a worker wants to work from home (max. 20). We controlled for age, children in the household, gender, education, commute time, self-employment status, firm size, occupation, sector, and country. The data refer to workers aged 20-64. For the definition of teleworkability, see Sostero et al., "Teleworkability and the COVID-19 crisis: a new digital divide?", JRC Working Paper Series on Labour, Education and Technology, European Commission, 2020.

Workers' commute time is the most important personal characteristic

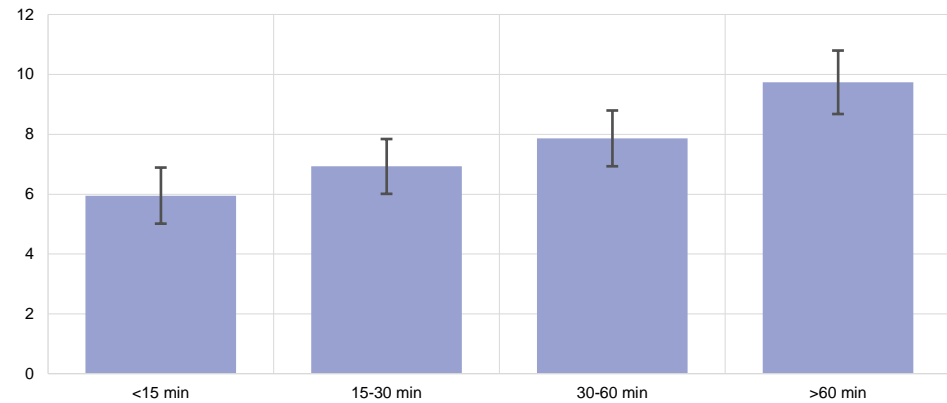
determining WFH preferences. After controlling for job-specific characteristics, commute time is shown to be the most important person-specific driver of WFH preferences. While characteristics like occupation or sector are, to a large extent, linked to whether a specific job is able to be worked remotely, commute time often reflects a personal preference. Workers who commute more than one hour each way prefer ten WFH days per month, which is four days more than workers whose commute time is less than 15 minutes (Chart E). This is in line with previous findings for the United States which show that saved commute time is the most important benefit of WFH, particularly for women and higher-educated workers.¹¹ We also find that demographic characteristics play a role; younger people, women and households with children aged six or below indicate a preference for a higher number of WFH days per month. These associations are statistically significant but are quantitatively small.

¹¹ Barrero, J.M., Bloom, N. and Davis, S.J., "SWAA March 2022 Updates", *WFH Research*, March 2022; Barrero, J.M., Bloom, N. and Davis, S.J., "Why working from home will stick", *NBER Working Paper*, No. 28731, National Bureau of Economic Research, April 2021.

Chart E

Preferred number of WFH days per month by commute time

(number of working days per month)



Source: ECB (CES, May 2022).

Note: Estimation results of an OLS regression with the dependent variable being the number of working days per month that a worker wants to work from home (max. 20). The coefficients are relative to workers who never commute. We controlled for age, children in the household, gender, education, self-employment status, firm size, occupation, sector and country. The data refer to workers aged 20-64.

Employers and workers are still adapting to changing WFH patterns brought about by the COVID-19 pandemic. However, it appears likely that remote work will remain in substantially higher demand than before the onset of the pandemic. Workers indicate a high preference for WFH, and a hybrid WFH pattern that offers between two and four days of remote work per week appears to be the preferred option for many. Our findings also suggest that WFH preferences may affect workers' job search behaviour. Personal and job-specific characteristics are both important factors determining WFH preferences. In particular, workers with long commute times seem to strongly prefer remote work and may therefore be more willing to change jobs to find WFH conditions that fit their preferences.

5 Climate-related policies in the Eurosystem/ECB staff macroeconomic projections for the euro area and the macroeconomic impact of green fiscal measures

Prepared by Marien Ferdinandusse, Friderike Kuik, Eliza Lis and Yiqiao Sun

Following the conclusion of the ECB's strategy review in 2021, the Governing Council adopted a comprehensive action plan to incorporate climate change considerations into its policy framework. Two of the action points presented in the accompanying detailed roadmap were: (i) introducing technical assumptions on carbon pricing; and (ii) regularly evaluating the impact of climate-related fiscal policies on the Eurosystem/ECB staff macroeconomic projections.¹ This box summarises the climate-related fiscal measures included in the December 2022 projections baseline. In order to evaluate the macroeconomic impact of climate-related transition policies, it assesses the impact of green fiscal measures on output and inflation in this baseline.² It then discusses the potential impact of the EU Emissions Trading System (ETS) and non-fiscal climate-related measures, as well as the risks they pose to the outlook for inflation and GDP growth.

A fiscal measure, whether on the revenue or the expenditure side, is classified as part of climate change policies in the Eurosystem/ECB staff macroeconomic projections if it has an impact on climate change mitigation or adaptation or compensates for the effects of extreme weather events. The discretionary fiscal measures included in the Eurosystem/ECB staff projections are classified based on their relation to climate change, with three (additive) categories for climate-related fiscal measures.

The first category is for measures that are labelled “green”, if these are expected to have a favourable impact on carbon emissions reduction, energy efficiency or carbon-free mobility, or if they finance adaptation to the consequences of climate change. Examples include increases in energy taxes and subsidies for electric cars or retrofitting buildings.

The second category is for measures that are labelled “detrimental to the green transition” because they have an adverse impact. Examples include compensation measures for high energy prices, such as subsidies for price caps or cuts in (energy) taxes, which decrease energy prices.

The third category is for measures related to extreme weather events that compensate for the effects of floods, forest fires, heatwaves and droughts. Examples include emergency aid, rebuilding destroyed infrastructure and compensation for uninsured private losses.

¹ ECB, “[Annex: Detailed roadmap of climate change-related actions](#)”, 8 July 2021.

² The impact of energy compensation measures, a large share of which are detrimental to the green transition, is evaluated in a separate article entitled “[Fiscal policy and high inflation](#)”, *Economic Bulletin*, Issue 2, ECB, 2023.

A fourth category consists of fiscal measures that do not fall under the three categories above and that are considered climate-neutral or indeterminate. This includes measures that do not specifically target the goals mentioned above (such as general changes in VAT or cash transfers to households) or that benefit specific sectors without clear climate-related goals (e.g. general subsidies for railway companies).

The objective of the strategy review roadmap is to evaluate the impact of climate-related fiscal policies on the Eurosystem/ECB staff macroeconomic projections, not to cover all climate policies in all euro area countries. Fiscal measures that have fallen within the scope of the Eurosystem/ECB staff projections relate to discretionary decisions of governments. As an example, this means that they include higher tax revenues due to tax rate changes but exclude higher tax revenues due to higher prices. Price developments of EU ETS auctions are also not included in this classification³, and neither are non-fiscal climate measures (e.g. regulation).

Green fiscal measures provide a modest fiscal stimulus. This can be seen in the December 2022 projections baseline, where the modest fiscal stimulus is strongest in 2022 (Chart A). Current fiscal measures related to extreme weather events are expected to have a marginal effect in the euro area as a whole over the projection horizon. However, their effect is larger in countries that have recently been hit by extreme weather events, such as the 2021 floods in Belgium, Germany, Luxembourg and the Netherlands.⁴ The climate impact of green fiscal measures is not necessarily proportional to the macroeconomic impact, as some measures might mitigate climate change more effectively than others. In addition, some measures offset the macroeconomic impact of others, for example when an increase in carbon taxation is used to finance climate-related expenditures.

Currently, fiscal measures that are detrimental to the green transition significantly outweigh green measures. Large energy support measures that have a direct impact on incentives to use fossil fuels form the bulk of these detrimental measures, which include cuts in energy taxes and fiscal subsidies for energy price ceilings and have been adopted by all euro area governments in response to the energy crisis. However, they are expected to expire after 2023 in most countries.⁵ Energy price compensation measures that do not directly affect incentives to use fossil fuels, for example transfers to households, are not classified as detrimental to the green transition.

³ In government finance statistics, EU ETS revenues are part of energy taxes, which are included in the Eurosystem/ECB staff fiscal projections.

⁴ Extreme weather events are increasingly likely to have an impact on the growth and inflation outlook over the medium term. While these events are difficult to forecast and therefore tend to be included in the projections in a backward-looking manner, their fiscal impact can extend over several years because the recovery expenditures can last for more than one year and tend to be reversed within the projection horizon.

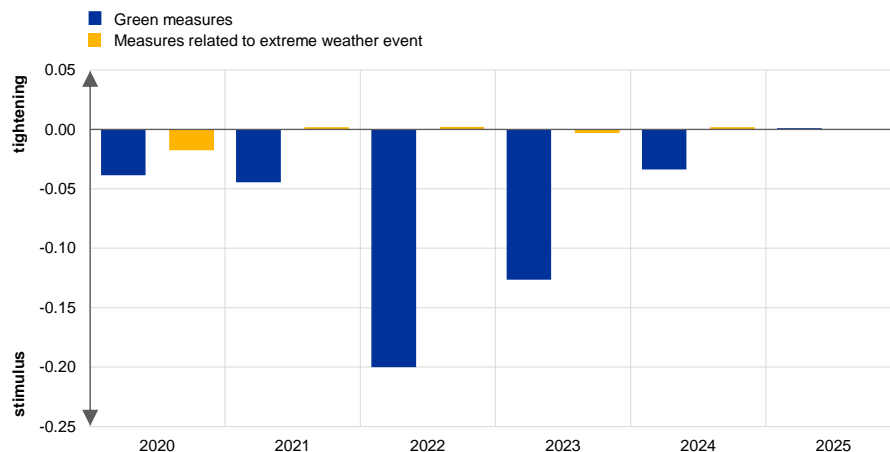
⁵ ECB, "[December 2022 Eurosystem staff macroeconomic projections for the euro area](#)".

Chart A

Fiscal measures related to climate change in Eurosystem/ECB staff macroeconomic projections for the euro area

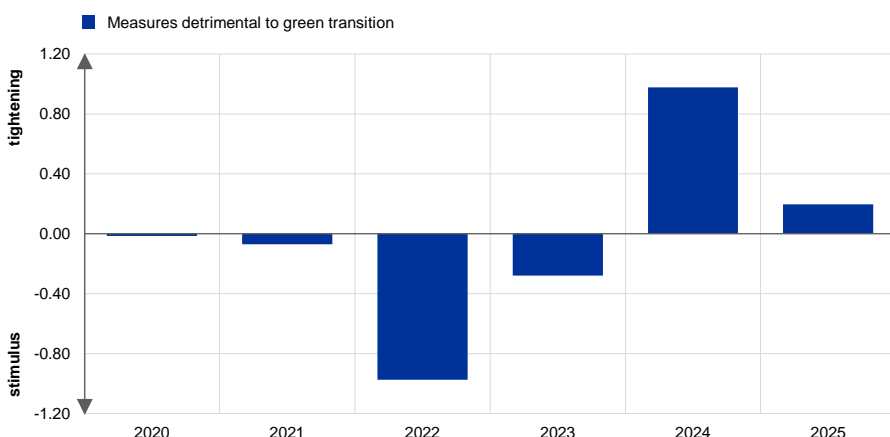
a) Fiscal measures related to climate change mitigation and adaptation, and to extreme weather events

(percentages of GDP)



b) Fiscal measures detrimental to the green transition

(percentages of GDP)



Source: Eurosystem staff macroeconomic projections for the euro area, December 2022.

Notes: Measures are labelled "green" if they are expected to have a favourable impact on carbon emissions reduction, energy efficiency or carbon-free mobility, or if they finance adaptation to the consequences of climate change. Measures are labelled "detrimental to the green transition" if they have an adverse impact.

The overall impact of green measures on euro area real GDP growth is expected to be very small over the projection horizon (Chart B, panel a). While the aggregate stimulus is strongest in 2022, the impact reverses to become contractionary from 2024, albeit of negligible magnitude. Overall, the mix of green measures is expansionary throughout the projection horizon. Measures on the revenue side, whose impact tends to be more persistent, are contractionary in all years. Overall, the GDP effects included in the December 2022 projections suggest that the multiplier effect of green fiscal measures is far below one.

Green fiscal measures have a limited but slightly increasing upward impact on the baseline inflation outlook (Chart B, panel b). At euro area aggregate level, they are estimated to contribute 0.05 percentage points to HICP inflation in 2022, 0.06

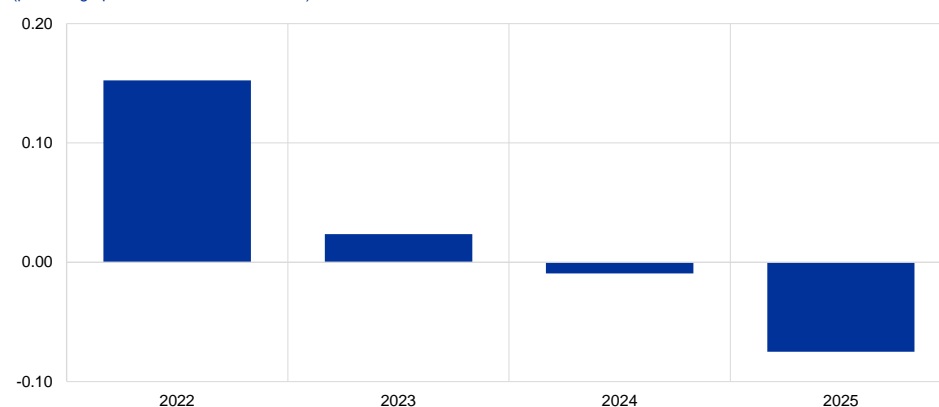
percentage points in 2023, 0.08 percentage points in 2024 and 0.11 percentage points in 2025. This upward impact is strongly outweighed by the impact on inflation of many measures that are labelled “detrimental to the green transition”, such as price caps. Overall, fiscal measures to compensate for high energy prices and inflation are estimated to dampen headline HICP inflation by 1.1 percentage points in 2022 and 0.5 percentage points in 2023, and their withdrawal is expected to put upward pressure on inflation to the tune of 0.7 percentage points in 2024 and 0.4 percentage points in 2025.⁶

Chart B

Impact of green fiscal measures on GDP and inflation over the projection horizon

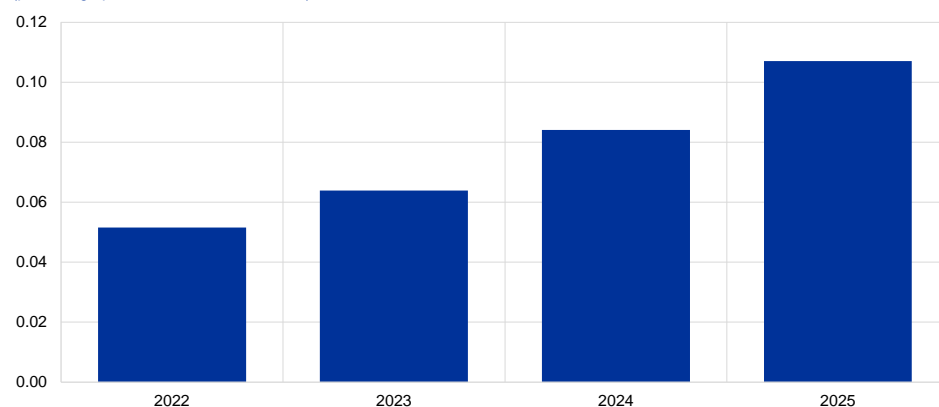
a) Real GDP growth

(percentage point deviation from baseline)



b) HICP

(percentage point deviation from baseline)



Sources: Eurosystem staff macroeconomic projections for the euro area, December 2022; Eurostat; and ECB calculations.

Beyond the impact of national green fiscal measures, increasing allowance prices under the EU ETS and policies planned under the “Fit for 55” package can pose both upward and downward risks to the inflation outlook.

Increasing allowance prices under the EU ETS can increase wholesale electricity prices, putting upward pressure on retail electricity prices. However, based on EU ETS futures prices as underlying assumptions, the contribution of changes in EU ETS prices to changes in wholesale electricity prices over the projection horizon would be marginal, thereby

⁶ *ibid.*

limiting their impact on HICP electricity prices and, therefore, headline HICP. Beyond the baseline outlook, EU ETS price increases above those implied by futures curves and planned changes to the existing EU ETS (including the extension of emissions in scope) could imply increasing direct cost pressures for HICP energy, non-energy industrial goods and services inflation.⁷ For example, the phasing-in of a separate EU ETS for building and transport emissions can have a direct upward impact on HICP energy and headline HICP. However, the emissions from building and transport emissions will only be phased in beyond the current projection horizon, i.e. after 2025.⁸ By contrast, regulation targeting an increasing share of renewables could gradually put downward pressure on HICP energy. While there is substantial uncertainty around both how quickly renewables capacity will increase and the announced EU electricity market reform, when taken together these factors are likely to present a downside risk to energy prices towards the second half of the decade.

Climate change policies under the “Fit for 55” package would not only have substantial non-economic benefits, but should also help avoid economic losses from increasing physical risks in the longer term. The short-term effects on real activity from implementing transition policies are assessed to be negative but contained, while there are benefits of avoiding the negative macroeconomic effects from the climate incidents that these policies help mitigate. The long-term impact on aggregate real GDP could even be positive given the considerable green investment needs. And the impact on potential growth could also be positive, despite being surrounded by significant uncertainties and dependent on the policy strategy chosen. This is because the package reduces the economic damage of climate change and spurs faster structural transformation towards a greener European economy. At the same time, taking full advantage of the transformation requires complementary policy action to create incentives to spur green investment and innovation, as well as to support a swift reallocation of resources.

⁷ In addition to these effects on the price level of individual components, the impact of these policies could also operate through other macroeconomic channels, which could affect the net impact on inflation.

⁸ Council of the European Union, “[Fit for 55: Council and Parliament reach provisional deal on EU emissions trading system and the Social Climate Fund](#)”, press release, 18 December 2022.

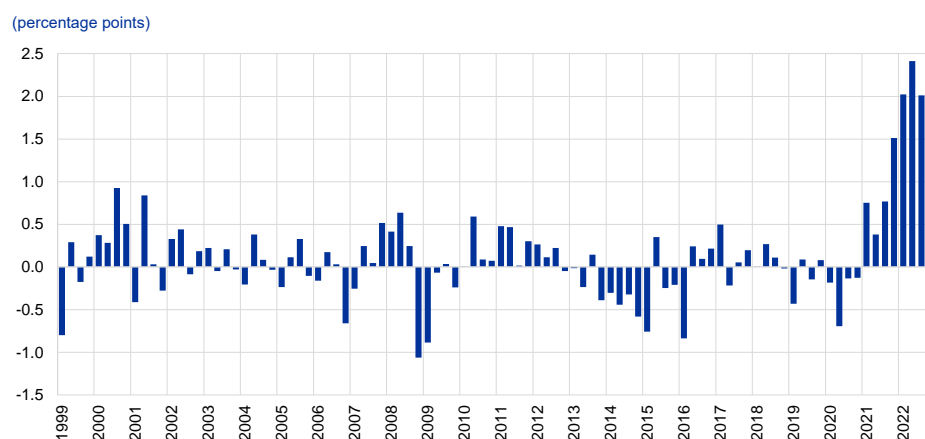
An updated assessment of short-term inflation projections by Eurosystem and ECB staff

Prepared by Mohammed Chahad, Anna-Camilla Hofmann-Drahonsky, Adrian Page and Marcel Tirpák

The accuracy of the Eurosystem and ECB staff short-term inflation projections for the euro area deteriorated following Russia's invasion of Ukraine before improving in the last quarter of 2022. There were euro area inflation surprises on the upside in 2021 and 2022. In April 2022 the ECB published an analysis of the reasons for these surprises and compared the performance of the staff projections with forecasts by other institutions and the private sector.¹ After this publication, the performance of the staff short-term projections for the next quarter initially deteriorated further following dramatic spikes in energy and food commodity prices in the wake of Russia invading Ukraine in February 2022. In the subsequent quarters, while still surprising persistently on the upside, the magnitude of errors was reduced and in the last quarter of 2022 this was back within the range of absolute projection errors observed before the pandemic (Chart A).

Chart A

One-quarter-ahead HICP inflation projection errors in Eurosystem and ECB staff projections since 1999



Sources: Eurostat and Eurosystem/ECB staff macroeconomic projections for the euro area.

Notes: Errors are defined as outturn minus projection in the quarter following the publication of the projections. For example, the last observation shows the outturn for the fourth quarter of 2022 minus the value projected for that quarter in the September 2022 ECB staff macroeconomic projections.

Other international institutions and private forecasters have under-predicted short-term inflation to a similar extent. Chart B shows the one-quarter-ahead projection errors for the euro area by Eurosystem/ECB staff in comparison with those

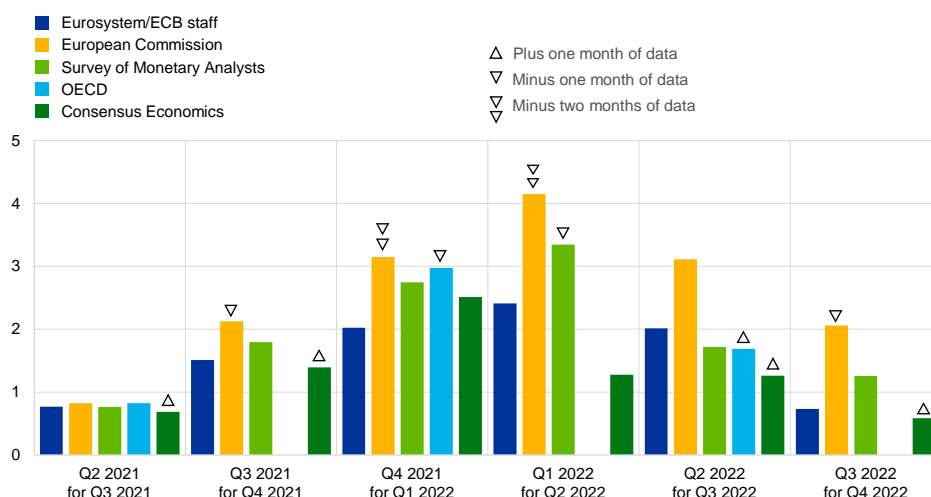
¹ See the box entitled "[What explains recent errors in the inflation projections of Eurosystem and ECB staff?](#)", *Economic Bulletin*, Issue 3, ECB, 2022. See also the box entitled "[The performance of the Eurosystem/ECB staff macroeconomic projections since the financial crisis](#)", *Economic Bulletin*, Issue 8, ECB, 2019. In addition, a [full database of past Eurosystem/ECB staff macroeconomic projections](#) is available to the public via the ECB's Statistical Data Warehouse, which allows researchers to easily assess the performance of the projections. The processes and tools used in producing the staff projections are described in a [guide](#) which is also available on the ECB's website.

from other forecasters.² The broad picture of strong under-predictions in one-quarter-ahead inflation projections has been common to all forecasters since early-2022, with Eurosystem/ECB staff projections broadly in the middle of the range of projections. When making such comparisons, it is important to note the information set available when each forecast was produced. Chart B selects the publications from each forecaster that were produced closest to the cut-off date for the Eurosystem/ECB staff projections. Despite this, remaining differences in the publication dates imply that some forecasters, such as those surveyed by Consensus Economics, often had an additional month of HICP data (and other important indicators such as energy commodity prices) in the current quarter relative to other forecasters, while some forecasters, such as the European Commission, tended to have one month less data. These differences (indicated by the arrows in Chart B) can explain some of the variations in forecast performance, especially in the course of 2022 when the sequential increases in inflation were especially strong.

Chart B

One-quarter-ahead errors for euro area HICP inflation projections by forecaster

(percentage points)



Sources: Eurosystem/ECB staff projections, Consensus Economics, Survey of Monetary Analysts (SMA), European Commission, OECD and Eurostat.

Notes: For other forecasters, the errors are shown for publications where the corresponding cut-off date is closest to that of the Eurosystem/ECB staff projections. For the SMA, the median of survey respondents is shown. The arrows indicate differences in the months of available HICP data at the cut-off point for each publication relative to the Eurosystem/ECB staff projections. An upward arrow indicates one additional month of data, a downward arrow indicates one month less data, and two downward arrows indicate two months less data. Quarterly projections from the OECD are only available twice per year and therefore no error is shown in the first and third quarters.

Errors in terms of conditioning assumptions for energy commodity prices continue to account for a significant albeit declining share of the overall Eurosystem/ECB staff inflation projection errors (Chart C). As with projections

² Although the International Monetary Fund (IMF) also regularly publishes projections for the euro area in the context of its World Economic Outlook, these projections are not published at a quarterly frequency and are not included in Chart B. The IMF published an analysis of its own inflation forecast errors in the [October 2022 World Economic Outlook](#). It showed that IMF staff also substantially under-predicted inflation in 2021 and 2022. Such under-predictions were common across advanced and emerging economies, with upside surprises in 2021 related to faster-than-expected demand recovery, while errors in 2022 were relatively concentrated in the non-core components related to energy and food supply shocks following the war in Ukraine.

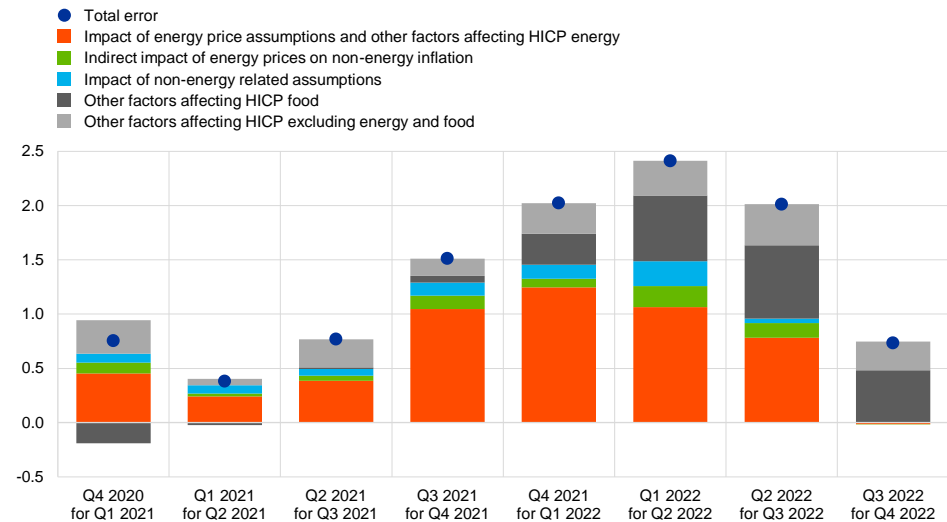
made by all other major institutions, the Eurosystem/ECB staff projections depend on a set of technical assumptions about the evolution of key financial and non-financial variables. These assumptions, such as the future evolution of energy commodity prices, are “technical” in the sense that they are treated as exogenous to the projections and, in most cases, are set according to market-based measures such as futures prices. As such, these are not adjusted according to expert assessment by staff. A key finding of the analysis of inflation projection errors published by the ECB in April 2022 was that errors in these assumptions, particularly for energy commodity prices, accounted for, on average, around three-quarters of the overall errors up to the first quarter of 2022. Since then, the conditioning assumptions continued to play a large, albeit declining, role in the inflation errors in the second and third quarters of 2022, and for the fourth quarter of 2022 they played only a negligible role (see the red, green and blue bars in Chart C). The assumptions for energy commodity prices have overall surprised sharply on the upside in all quarters over the last two years except for the fourth quarter of 2022 (Chart D). Given the decoupling of wholesale gas and electricity prices from oil prices, it became clear through the course of 2021 that a reliance on oil prices as an indicator for energy inflation forecasting was no longer sufficient.³ As a consequence, more granular tools needed to be developed amid the surge in gas and electricity prices. New technical assumptions – also based on futures prices – for gas and electricity prices have, however, been much larger and more erratic than for oil prices, with some huge under-predictions in the second half of 2021 and in the third quarter of 2022 and large over-predictions in the final quarter of 2022. The contribution of errors related to consumer energy prices (summarised by the red bars in Chart C) has been persistently large, in part reflecting the complexity of the pass-through of wholesale gas and electricity prices to consumer prices, whereby regulation, fiscal measures adopted by euro area countries to compensate for high energy prices, contract types and other price setting and price measurement factors imply a more heterogeneous and uncertain pass-through than is the case for oil prices to transport fuel prices. Although the pass-through of gas and electricity prices is typically more delayed, the speed of the pass-through may have increased over the past year. This may have contributed to the large under-predictions of consumer price inflation. Moreover, forecasters may have overestimated the impact of fiscal measures in reducing inflation.

³ See Box 3 of “[Eurosystem staff macroeconomic projections for the euro area, December 2021](#)”, published on the ECB’s website on 16 December 2021.

Chart C

Decomposition of recent one-quarter-ahead HICP inflation errors in the Eurosystem/ECB staff projections

(percentage points)



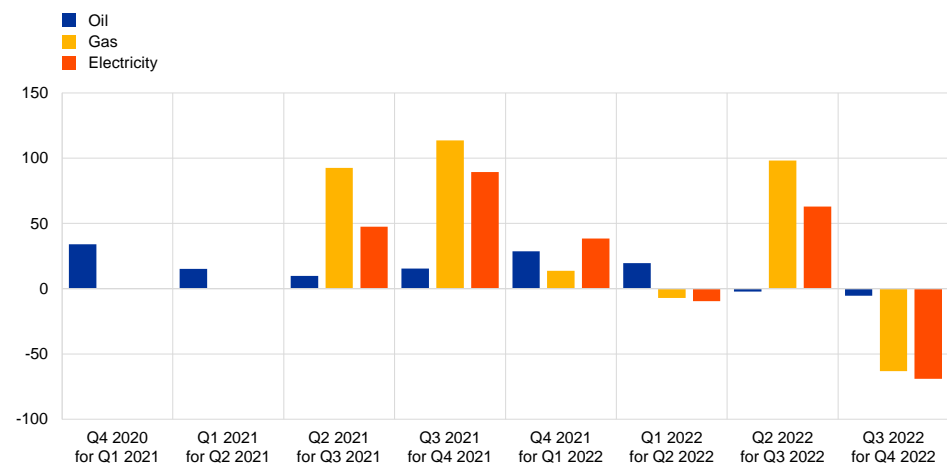
Source: ECB calculations.

Notes: "Total error" is the outturn minus the projection. "Indirect impact of energy prices on non-energy inflation" is the sum of the indirect effects of oil, gas and electricity prices. (For oil, these are based on the elasticities derived from the Eurosystem staff macroeconomic models, and for gas and electricity these are computed assuming an elasticity proportional to the oil price shock.) "Impact of non-energy related assumptions" represents the assumptions for short and long-term interest rates, stock market prices, foreign demand, competitors' export prices, food prices and the exchange rate.

Chart D

One-quarter-ahead errors for energy commodity price assumptions

(percentages)



Sources: Refinitiv and ECB staff calculations.

Note: Electricity and gas price assumptions are available for the second quarter of 2021 onwards.

Over the course of 2022, the share of errors not related to energy commodity prices or other assumptions based on the standard elasticities has grown. The light and dark grey bars of Chart C indicate the contribution of errors in the HICP excluding food and energy and HICP food components respectively, which cannot be explained by errors in the assumptions based on the standard elasticities. These have accounted for an increasing share of the overall projection errors since the first quarter

of 2022, reaching 50% for the third quarter of 2022 and almost 100% for the fourth quarter. These errors could relate to the faster-than-expected pass-through of global supply chain bottlenecks and the stronger-than-expected economic recovery and associated post-pandemic reopening effects, mainly affecting HICP inflation excluding food and energy. While these factors were identified in the staff analysis as driving inflation, their precise impact and persistence was hard to model and to predict given their exceptional nature. Related to this, the euro area labour market was also stronger than expected, with unemployment consistently surprising on the downside and wages on the upside for most projection rounds over the last two years. Moreover, errors may also reflect indirect effects of spikes in energy prices on non-energy inflation and, in particular, on food inflation, beyond what is captured by models based on historical developments, also given the decoupling of gas from oil prices, with the former playing an important role in food production costs. Non-linear effects owing to the exceptional size and composition of commodity price shocks (with a more significant role played by gas and electricity) may have led to a much faster pass-through than suggested by models based on historical relationships. Furthermore, the high inflationary environment may have enabled easier repricing and required faster resetting of prices than standard models assume.

Eurosystem and ECB staff are continuing to re-evaluate their projection techniques and to provide additional analyses that can inform projections in times of high uncertainty. Improving staff forecasting models is an ongoing process that takes place via regular exchanges within various Eurosystem technical forums. Nevertheless, in periods where the economy faces exceptional shocks – such as those that have occurred in recent years – it is important to emphasise the uncertainty surrounding baseline projections. Projection errors relate not only to the limits of models in capturing the transmission of such shocks but also to the assumptions made about their future evolution. For example, after the Russian invasion of Ukraine in February 2022, although the staff baseline projections continued to be conditioned on the average expectations priced by markets for the future evolution of wholesale energy prices, staff identified significant upside risks in case supplies from Russia were significantly reduced. Such risks and uncertainties were captured via risk-specific analyses, alternative scenarios and other sensitivity analyses. Such additional analysis serves as an important input to the ECB’s monetary policy decisions, in addition to the baseline projections and other analyses by staff.

Substitution between debt security issuance and bank loans: evidence from the SAFE

Prepared by Giada Durante, Annalisa Ferrando, Asger Munch Grønlund and Timo Reinelt

This box investigates whether the recent deterioration in bond market financing conditions incentivises firms to substitute bond issuance with bank loans, and whether this substitution affects lending to other firms. As monetary policy has gradually been normalised, the financing costs of firms have been rising. In the latest round of the [Survey on the Access to Finance of Enterprises \(SAFE\)](#), euro area firms reported that their need to issue bonds increased by more than the demand for such bonds by investors, resulting in a broad-based increase in corporate bond financing gaps. Although relatively few firms in the SAFE issue bonds (around 9% between 2009 and 2022) compared with the number of those using banking products (slightly over 50%), a deterioration in bond market financing conditions could have broader implications for bank lending conditions for firms.¹ Since bond issuers are usually larger firms that are able to substitute towards other sources of financing, particularly to bank loans, such substitution may negatively affect lending to other firms that have no access to the corporate bond market.² This box thus reviews the main characteristics of euro area bond issuers, investigates whether they substitute bond issuance with bank loans as bond market conditions worsen, and explores whether a deterioration in bond market conditions within euro area countries is associated with a deterioration in bank lending conditions for SMEs.

Amid the ongoing monetary policy normalisation, euro area firms reported a widening of their debt securities financing gap, which has historically been associated with higher demand for bank loans (Chart A). Amid the ongoing normalisation of monetary policy, corporate bond yields increased significantly during the latest SAFE round (covering April to September 2022) – both in absolute terms and relative to other sources of debt financing for firms.³ Historically, an increase in corporate bond yields tends to correlate with a widespread increase in financing gaps for corporate bonds reported in the SAFE (Chart A). Additionally, the net share of firms reporting an increase in their corporate bond financing gap and the net percentage indicating an increased need for bank loans tend to move in tandem, possibly indicating that firms consider the two sources of financing to be substitutes for each other. Consistent with this, while a net 29% of firms issuing bonds reported an increase in their financing gap for debt securities during the last survey wave, a net 32% of bond issuers reported an increased need for bank loans. Looking at aggregate

¹ In this box, a deterioration in corporate bond market conditions is defined as a widening of the debt securities financing gap (difference between the change in demand for and the change in the supply of debt securities financing) as reported by firms in the SAFE.

² See “Taxonomy of financing patterns of euro area SMEs and real effects” in [“Non-bank financial intermediation in the euro area: implications for monetary policy transmission and key vulnerabilities” Occasional Paper Series](#), No 270, ECB, revised December 2021.

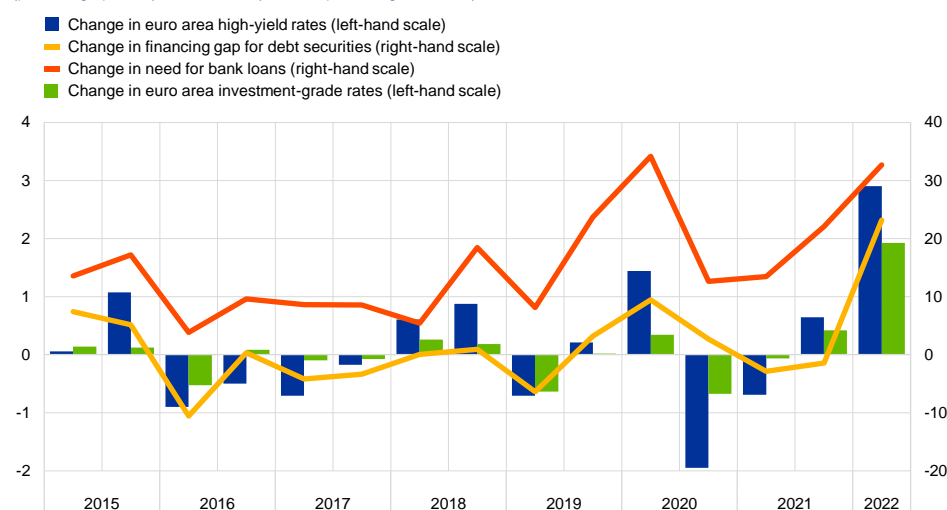
³ See Section 5, [“Financing conditions and credit developments”](#), *Economic Bulletin*, Issue 8, ECB, 2022.

volumes, corporate bond issuance declined during 2022, while credit growth to firms started to slow down as well.⁴

Chart A

Changes in financing gap for debt securities, demand for bank loans and corporate bond yields

(percentage points (left-hand scale) and net percentages of firms)



Source: ECB and European Commission Survey on the Access to Finance of Enterprises (SAFE) and IBOXX.

Notes: Net percentage of firms indicating an increased financing gap for debt securities and an increased need for bank loans in the SAFE. Only firms reporting bank loans and debt securities as a relevant source of financing are included. The changes in euro area corporate bond yields are based on the average yield over the survey rounds, each covering six months.

Corporate bonds are more often issued by larger and profitable firms, which tend to have a more diversified funding structure. Based on a probit model, Chart B shows how different firm characteristics relate to the probability of issuing corporate bonds.^{5,6} As shown in the chart, being a medium or large company is an important characteristic of bond issuers. In fact, the average medium or large firm (with more than 50 employees) issues corporate bonds 4 percentage points more often than smaller-sized firms. Firms that report a recent increase in profits, growth in investment or employment likewise tend to issue bonds more often than others. Additionally, firms counting on an additional source of financing are, on average, 4 percentage points more likely to rely on corporate bond issuance, implying that bonds are usually not the only source of finance.⁷ Firms with a diversified funding structure avoid over-reliance on bank lending, as they can substitute it with other sources of financing – particularly

⁴ See “[Monetary developments in the euro area: November 2022](#)”, press release, ECB, 29 December 2022.

⁵ Besides individual firm characteristics, the development of a country’s financial system and economic growth are often positively related to the use of market-based finance, see De Jong, A., Kabir, R. and Nguyen, T., “Capital structure around the world: The roles of firm- and country-specific determinants”, *Journal of Banking & Finance*, Vol. 32, Issue 9, pp. 1954–1969, September 2008.

⁶ The econometric specification is described in detail in the notes to Chart B.

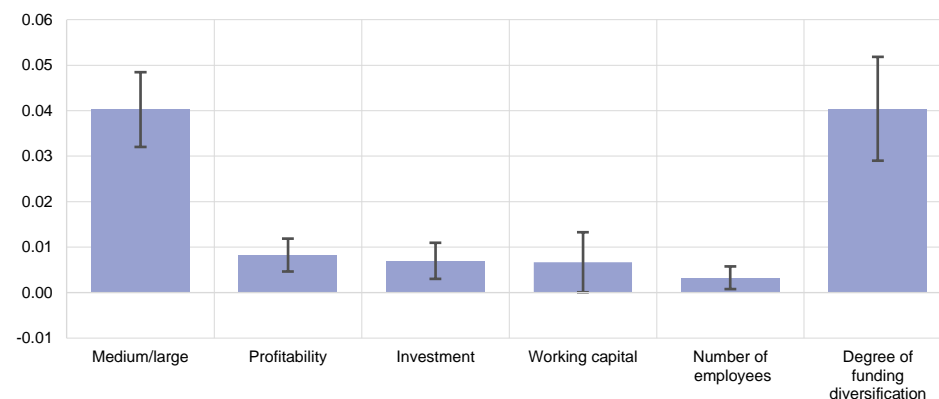
⁷ In the SAFE, firms indicate that they rely on retained earnings, bank loans, bank overdrafts, leasing/factoring, subsidised loans, trade credit, debt securities and equity, in order of importance. The likelihood of issuing corporate bonds increases with the degree of diversification. In fact, the probability of using corporate bonds becomes much higher when firms report more than four different financial instruments, jumping to 8 percentage points and to 14 percentage points with five and six different sources of finance respectively.

with corporate bonds. This is beneficial, especially during a credit crunch or an intensified period of bank risk aversion as in the global financial crisis.⁸

Chart B

Marginal impacts of firm characteristics on whether firms issue debt securities

(average marginal effects with 95% confidence bands)



Source: ECB and European Commission Survey on the Access to Finance of Enterprises (SAFE), ECB calculations.

Notes: Average marginal effect on issuance of debt securities, based on probit regressions, of a change from 0 to 1 in dummy variables that only take those two values and a unit change in the variable measuring the number of financial instruments. The dependent variable is a dummy equal to 1 if firms report debt securities as a relevant source of finance and have used them as such. The regression includes five explanatory dummy variables, each of which is equal to 1 if firms reported that they had, respectively: (1) more than 50 employees (medium-large), (2) past increases in profits, (3) past increases in investment in fixed assets, (4) past increases in working capital and (5) past increases in employees. The degree of funding diversification is measured by the number of financial instruments used by the firm (from one to eight). Sector, country and time fixed effects are included in all specifications. Results are weighted to ensure representativeness. The bands shown are 95% confidence intervals based on standard errors clustered by country. The sample includes all rounds of the SAFE, covering the period March 2009 to September 2022.

Bond-issuing firms tend to substitute bond issuance with bank loans as corporate bond market conditions deteriorate, as measured by increasing financing gaps for bonds in the SAFE.

The recent widening of the debt securities financing gap and the increased demand for bank loans by bond issuers could indicate substitution between financing instruments. In a similar vein, euro area banks reported that, especially for large firms, the substitution away from debt securities increased the demand for bank loans in the second and third quarter of 2022.⁹ To study the substitution between bond issuances and bank loans, only firms reporting both sources of financing as relevant in the SAFE are considered. A probit model is used to estimate the effect of a rise in bond financing gaps on the probability that firms report an increased need for bank loans.¹⁰ To ensure that the results are not driven by particular periods, the sample is split into five distinct phases of the ECB's asset purchase programme (APP) and pandemic emergency purchase programme (PEPP), which also coincide with shifts in the overall monetary policy stance. These are: (1) before the APP (March 2009 to September 2015), (2) before the slowdown in net purchases under the APP (October 2015 to September 2018), (3) during the slowdown in net purchases under the APP (October 2018 to September 2019), (4) during the PEPP (October 2019 to March 2022) and (5) end of net purchases (April to

⁸ See for further evidence "[Firm debt financing structures and the transmission of shocks in the euro area](#)", *Economic Bulletin*, Issue 4, ECB, 2022.

⁹ See "[The euro area bank lending survey – Third quarter of 2022](#)", ECB, October 2022, and "[The euro area bank lending survey – Second quarter of 2022](#)", ECB, July 2022.

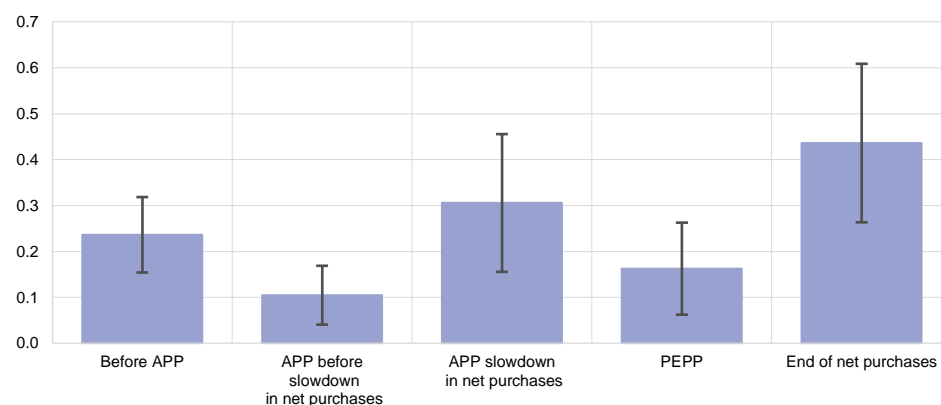
¹⁰ The econometric specification is described in detail in the notes to Chart C.

September 2022).¹¹ For all sub-periods, the estimated substitution effects are statistically significant and positive: firms report an increased need for bank loans when their financing gaps for debt securities widen. While the substitution effect is estimated to be weaker during periods of higher net purchases under the ECB's asset purchase programmes, i.e. (2) and (4), it is significantly higher only in the most recent period, end of net purchases (5). The differences in the estimated degrees of substitution could indicate that the substitution by firms away from bonds may depend on sufficiently adverse changes in bond markets. Large net asset purchases by the ECB support an improvement, or at least limit a deterioration, in bond market conditions, potentially causing fewer firms to substitute bond issuance with bank loans.

Chart C

Effect of an increase in bond financing gap on need for bank loans at the firm level, by sub-periods

(average marginal effects with 95% confidence bands)



Source: ECB and European Commission Survey on the Access to Finance of Enterprises (SAFE), ECB calculations.

Notes: Sub-period specific average marginal effects of an increase in a firm's debt securities financing gap on the probability that the firm's need for bank loans increases. The effects are based on a probit model in which the dependent variable is equal to one if a firm reports an increased need for bank loans, with the regressors being the direction of change in the firm's financing gap for bonds, in the firm's availability of bank loans and in the firm's profitability (where a value of 1 indicates an increase, 0 indicates no change and -1 indicates a decrease in the respective measure). The model also includes firm size, sector, country and time fixed effects. The data are reweighted to ensure representativeness. The coefficients on the change in the financing gap are sub-period specific (by means of interaction with sub-period specific dummy variables), where the sub-periods considered are before the APP (March 2009 to September 2015), before the slowdown in net purchases under the APP (October 2015 to September 2018), during the slowdown in net purchases under the APP (October 2018 to September 2019), during the PEPP (October 2019 to March 2022) and end of net purchases (April to September 2022). The bands shown are 95% confidence intervals based on standard errors clustered by country.

A widening of the corporate bond financing gap in euro area countries is associated with worsening bank lending conditions for SMEs, which could be due to crowding-out effects (Chart D). The substitution towards bank loans by corporate bond issuers could have broader implications if their increased demand crowds out lending to other firms, such as SMEs. While it is difficult to empirically isolate crowding-out effects, the reduced-form relationship between changes in the country-level corporate bond financing gap and bank lending conditions of individual SMEs in the same country, as estimated here using a probit model, provides an

¹¹ Note that each round of SAFE covers six months, which must be assigned to the same subsample period. The period "end of net purchases" hence covers April to September 2022, although net asset purchases were concluded in July 2022.

indication.¹² The model is estimated using three different dummy dependent variables: (1) bank loan availability, (2) banks' willingness to lend, and (3) bank loan interest rates. The dummy variables equal one if the individual firm reported an increase and zero otherwise. In each case, the model suggests a statistically significant relation between the country-level corporate bond financing gap and bank lending conditions for SMEs. A broad-based increase in the country-level financing gap for corporate bonds of 10 percentage points, as measured in the SAFE, implies that SMEs in that country are 0.4 percentage points less likely to report an increase in bank loan availability and 0.7 percentage points less likely to report an increase in banks' willingness to lend.¹³ At the same time, a similar increase in the country-level financing gap for bonds is associated with a higher probability of 0.8 percentage points that SMEs report higher bank loans rates. These effects are economically sizeable: in the last SAFE round, the corporate bond financing gap increased by a net 25 percentage points for firms also relying on bank loans. Based on the estimates above, this would be associated with changes in the share of SMEs reporting increased availability of bank loans, banks' willingness to lend, and bank loan rates of roughly -1 percentage point, -1.75 percentage points and 2 percentage points, respectively. This corresponds to around 5%, 8% and 7% of the respective sample means. While these findings could be driven by the general development in financing conditions (simultaneously affecting bond market and bank lending conditions), they suggest that deteriorations in corporate bond market conditions have implications for firms not issuing bonds. In a similar vein, several papers have found that the ECB's corporate sector purchase programme also benefited firms that do not issue bonds, as banks' lending constraints are relaxed when bond issuers substitute away from bank lending.¹⁴ Indeed, the deterioration in corporate bond markets might also be contributing to the tightening in bank lending conditions for firms.

¹² The country-level financing gap for corporate bonds is calculated as a weighted average for those firms that consider bonds and bank loans to be a relevant source of financing. The probit model is estimated for SMEs reporting bank loans to be a relevant source of financing, but not corporate bonds.

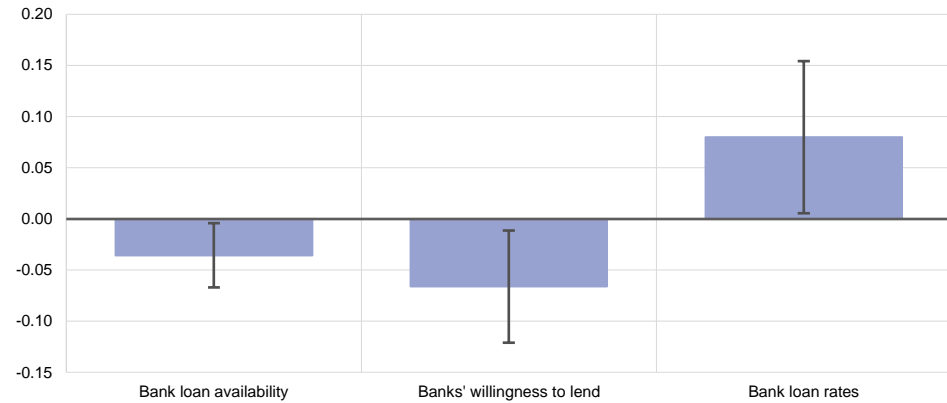
¹³ The financing gap of an individual company takes the value 1 (-1) if the need of debt securities increased (decreased) while availability decreased (increased). Firms can also report no change (0). Hence, a 10-percentage point change in the country-level financing gap corresponds to a net 10% more of bond issuers reporting a larger need for, and lower availability of, debt securities.

¹⁴ See, for example, Betz, F. and de Santis, R. A., "[ECB corporate QE and the loan supply to bank dependent firms](#)", *Working Paper Series*, No 2314, September 2019 and Arce, Ó., Gimeno, R. and Mayordomo, S. (2021b), "Making room for the needy: the credit reallocation effects of the ECB's corporate QE", *Review of Finance*, Vol. 25, Issue 1, February 2021, pp. 43-84.

Chart D

Effect of a wider country-level bond financing gap on bank lending conditions for SMEs

(average marginal effects with 95% confidence bands)



Source: ECB and European Commission Survey on the Access to Finance of Enterprises (SAFE), ECB calculations.

Notes: Average marginal effect of a unit increase in the country-level financing gap for debt securities (the difference between the change in demand and change in supply) on bank lending conditions reported by SMEs based on probit regressions. The country-level financing gap for debt securities is calculated as a weighted average of firms that consider both debt securities and bank loans relevant. The model is estimated using three different dependent variables: (1) availability of bank loans, (2) banks' willingness to lend and (3) bank loan interest rates. In all cases, the dependent variable is a dummy equal to 1 if firms reported an increase. The model is estimated for SMEs that consider bank loans to be a relevant source of financing, but not bonds. The model controls for the change in the need for bank loans and the change in profit reported at firm-level, as well as dummies capturing country, sector and survey wave. The bands shown are 95% confidence intervals based on standard errors clustered by country. The sample includes all SAFE waves, covering the period from March 2009 to September 2022.

Statistics

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Further information

ECB statistics can be accessed from the Statistical Data Warehouse (SDW):	http://sdw.ecb.europa.eu/
Data from the statistics section of the Economic Bulletin are available from the SDW:	http://sdw.ecb.europa.eu/reports.do?node=1000004813
A comprehensive Statistics Bulletin can be found in the SDW:	http://sdw.ecb.europa.eu/reports.do?node=1000004045
Methodological definitions can be found in the General Notes to the Statistics Bulletin:	http://sdw.ecb.europa.eu/reports.do?node=10000023
Details on calculations can be found in the Technical Notes to the Statistics Bulletin:	http://sdw.ecb.europa.eu/reports.do?node=10000022
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	1.4	1.7	1.2	0.9	0.0	2.5	0.3
2021	6.1	5.9	7.6	2.1	8.1	5.3	4.0	2.9	4.7	2.6	-0.3	0.9	2.6
2022	.	.	.	.	3.0	.	.	.	8.0	9.1	2.5	.	8.4
2022 Q1	0.6	-0.4	0.6	-0.5	1.3	0.6	7.9	5.6	8.0	6.2	0.9	1.1	6.1
Q2	-0.3	-0.1	0.1	1.1	-2.4	0.9	9.7	6.4	8.6	9.2	2.5	2.2	8.0
Q3	1.3	0.8	-0.3	-0.2	3.9	0.3	10.4	7.2	8.3	10.0	2.9	.	9.3
Q4	.	0.7	.	.	0.0	0.1	.	.	7.1	10.8	3.8	.	10.0
2022 Aug.	-	-	-	-	-	-	10.3	7.2	8.3	9.9	3.0	2.5	9.1
Sep.	-	-	-	-	-	-	10.5	7.6	8.2	10.1	3.0	.	9.9
Oct.	-	-	-	-	-	-	10.7	7.6	7.7	11.1	3.7	.	10.6
Nov.	-	-	-	-	-	-	10.3	7.5	7.1	10.7	3.8	.	10.1
Dec.	-	-	-	-	-	-	.	.	6.5	10.5	4.0	.	9.2
2023 Jan. ³⁾	-	-	-	-	-	-	8.5

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	-4.1	-4.2	-3.9
2021	54.9	59.6	55.9	49.4	52.0	54.9	53.7	55.2	52.1	11.1	9.7	12.6
2022	50.6	50.7	53.0	50.3	48.2	51.4	49.9	51.0	47.8	.	.	.
2022 Q1	52.2	54.9	58.3	48.7	48.0	54.2	51.0	52.6	49.1	1.6	3.2	-0.2
Q2	51.6	54.0	55.0	52.1	44.9	54.2	50.2	52.1	48.8	0.1	-0.2	0.5
Q3	50.0	47.2	50.3	50.2	51.8	49.0	49.9	50.1	47.5	0.8	0.0	1.7
Q4	48.4	46.5	48.5	50.1	47.9	48.2	48.7	48.3	47.0	.	.	.
2022 July	50.9	47.7	52.1	50.2	54.0	49.9	50.7	51.0	48.6	1.7	1.0	2.5
Aug.	49.3	44.6	49.6	49.4	53.0	49.0	49.8	49.1	47.5	1.2	-0.3	2.8
Sep.	49.9	49.5	49.1	51.0	48.5	48.1	49.1	50.2	46.5	0.8	0.0	1.7
Oct.	49.3	48.3	48.2	51.8	48.3	47.3	49.5	49.2	47.3	0.0	-0.6	0.5
Nov.	48.0	46.4	48.2	48.9	47.0	47.8	48.1	47.9	47.0	-1.2	-1.4	-0.9
Dec.	48.0	45.0	49.0	49.7	48.3	49.3	48.6	47.8	46.6	.	.	.

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	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
Current prices (EUR billions)												
2019	11,986.3	11,579.0	6,381.8	2,456.1	2,657.1	1,252.0	770.7	627.6	83.9	407.3	5,772.1	5,364.9
2020	11,456.5	11,046.7	5,924.6	2,565.7	2,515.9	1,222.5	683.7	603.0	40.5	409.8	5,187.5	4,777.7
2021	12,313.6	11,835.1	6,289.0	2,718.0	2,701.7	1,367.6	762.6	564.3	126.4	478.5	6,069.6	5,591.1
2021 Q4	3,176.2	3,093.6	1,642.1	692.7	707.0	355.0	194.2	156.0	51.8	82.6	1,634.6	1,552.0
2022 Q1	3,232.9	3,148.2	1,678.9	701.1	718.2	371.6	200.3	144.4	50.1	84.8	1,713.7	1,628.9
Q2	3,296.4	3,229.1	1,727.5	708.5	741.5	383.1	208.0	148.5	51.5	67.3	1,828.0	1,760.8
Q3	3,343.9	3,330.4	1,771.0	715.7	778.2	387.7	214.6	174.0	65.5	13.6	1,893.8	1,880.3
as a percentage of GDP												
2021	100.0	96.1	51.1	22.1	21.9	11.1	6.2	4.6	1.0	3.9	-	-
Chain-linked volumes (prices for the previous year)												
quarter-on-quarter percentage changes												
2022 Q1	0.6	-0.4	0.0	0.1	-0.7	2.1	1.5	-9.5	-	-	1.5	-0.7
Q2	0.9	1.0	1.1	-0.1	1.0	-0.3	2.1	2.4	-	-	1.8	2.2
Q3	0.3	1.4	0.8	0.2	3.6	-0.8	1.8	16.8	-	-	1.7	4.2
Q4	0.1	.	.	.	.	.	.	.	-	-	.	.
annual percentage changes												
2019	1.6	2.4	1.4	1.7	6.9	3.2	1.8	23.0	-	-	2.8	4.8
2020	-6.1	-5.8	-7.7	1.0	-6.2	-4.0	-11.8	-3.7	-	-	-8.9	-8.5
2021	5.3	4.2	3.8	4.3	3.6	5.8	9.5	-7.5	-	-	10.5	8.3
2022 Q1	5.5	5.6	7.9	3.1	3.6	4.2	2.1	4.3	-	-	8.7	9.3
Q2	4.3	4.4	5.5	0.8	2.8	1.4	3.0	5.8	-	-	7.9	8.5
Q3	2.3	3.5	1.8	0.6	7.3	1.1	7.3	22.8	-	-	7.8	10.7
Q4	1.9	.	.	.	.	.	.	.	-	-	.	.
contributions to quarter-on-quarter percentage changes in GDP; percentage points												
2022 Q1	0.6	-0.4	0.0	0.0	-0.2	0.2	0.1	-0.5	-0.3	1.1	-	-
Q2	0.9	1.0	0.6	0.0	0.2	0.0	0.1	0.1	0.2	-0.1	-	-
Q3	0.3	1.4	0.4	0.0	0.8	-0.1	0.1	0.8	0.1	-1.1	-	-
Q4	0.1	.	.	.	.	.	.	.	.	.	-	-
contributions to annual percentage changes in GDP; percentage points												
2019	1.6	2.3	0.7	0.4	1.4	0.3	0.1	1.0	-0.2	-0.7	-	-
2020	-6.1	-5.6	-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	0.3	1.3	-	-
2022 Q1	5.5	5.4	4.0	0.7	0.8	0.5	0.1	0.2	-0.1	0.1	-	-
Q2	4.3	4.3	2.8	0.2	0.6	0.2	0.2	0.3	0.7	0.1	-	-
Q3	2.3	3.4	0.9	0.1	1.6	0.1	0.4	1.0	0.7	-1.0	-	-
Q4	1.9	.	.	.	.	.	.	.	.	.	-	-

Sources: Eurostat and ECB calculations.

1) Exports and imports cover goods and services and include cross-border intra-euro area trade.

2) Including acquisitions less disposals of valuables.

2 Economic activity

2.2 Value added by economic activity

(quarterly data seasonally adjusted; annual data unadjusted)

	Gross value added (basic prices)											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)												
2019	10,743.8	176.7	2,103.8	555.5	2,041.8	531.6	481.7	1,203.9	1,251.7	2,027.1	369.9	1,242.4
2020	10,326.3	175.3	1,994.3	543.8	1,794.2	544.5	483.1	1,207.7	1,200.5	2,060.3	322.7	1,130.2
2021	11,042.1	188.1	2,166.2	594.8	1,996.5	586.1	497.1	1,242.7	1,285.9	2,151.7	333.1	1,271.5
2021 Q4	2,836.8	50.1	555.3	152.0	536.6	149.5	124.8	313.0	330.7	540.3	84.4	339.4
2022 Q1	2,892.4	51.6	576.3	158.1	545.6	150.5	124.9	315.7	335.7	547.5	86.6	340.5
Q2	2,955.7	54.3	591.8	161.5	571.1	154.0	126.8	318.7	341.4	546.3	90.0	340.6
Q3	3,012.5	56.4	597.9	162.7	589.5	154.6	128.9	324.8	346.6	558.6	92.6	331.4
as a percentage of value added												
2021	100.0	1.7	19.6	5.4	18.1	5.3	4.5	11.3	11.6	19.5	3.0	-
Chain-linked volumes (prices for the previous year)												
quarter-on-quarter percentage changes												
2021 Q4	0.2	0.0	0.5	0.3	0.6	2.3	-0.2	0.5	0.9	-0.8	-2.5	3.2
2022 Q1	0.9	-0.8	0.5	2.3	0.9	0.8	0.1	1.0	1.1	0.9	2.1	-1.7
Q2	0.7	-1.1	0.6	-0.7	1.8	2.0	0.2	0.2	1.0	-0.3	4.3	1.9
Q3	0.6	0.4	0.7	-1.7	1.2	0.0	-0.2	-0.1	0.3	1.4	2.8	-2.6
annual percentage changes												
2019	1.5	0.9	0.5	0.8	2.5	5.6	0.6	1.3	1.9	1.1	1.7	1.9
2020	-6.0	0.0	-6.4	-5.7	-14.1	1.9	0.5	-0.9	-5.6	-2.8	-17.7	-6.9
2021	5.2	0.0	7.0	5.3	7.9	7.0	3.0	1.7	6.0	3.5	3.1	6.3
2021 Q4	4.7	-0.9	1.9	0.8	11.8	8.7	2.2	1.8	5.7	2.0	14.2	5.8
2022 Q1	5.4	-0.4	1.8	4.6	14.1	6.6	0.5	3.2	6.4	1.9	17.3	6.7
Q2	4.4	-2.0	2.1	1.6	11.1	7.0	0.6	2.4	5.2	1.1	16.3	3.7
Q3	2.5	-1.5	2.3	0.2	4.5	5.1	0.0	1.5	3.3	1.1	6.7	0.7
contributions to quarter-on-quarter percentage changes in value added; percentage points												
2021 Q4	0.2	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.1	-0.2	-0.1	-
2022 Q1	0.9	0.0	0.1	0.1	0.2	0.0	0.0	0.1	0.1	0.2	0.1	-
Q2	0.7	0.0	0.1	0.0	0.3	0.1	0.0	0.0	0.1	-0.1	0.1	-
Q3	0.6	0.0	0.1	-0.1	0.2	0.0	0.0	0.0	0.0	0.3	0.1	-
contributions to annual percentage changes in value added; percentage points												
2019	1.5	0.0	0.1	0.0	0.5	0.3	0.0	0.1	0.2	0.2	0.1	-
2020	-6.0	0.0	-1.3	-0.3	-2.7	0.1	0.0	-0.1	-0.7	-0.5	-0.6	-
2021	5.2	0.0	1.4	0.3	1.4	0.4	0.1	0.2	0.7	0.7	0.1	-
2021 Q4	4.7	0.0	0.4	0.0	2.0	0.5	0.1	0.2	0.7	0.4	0.4	-
2022 Q1	5.4	0.0	0.4	0.3	2.4	0.4	0.0	0.4	0.7	0.4	0.5	-
Q2	4.4	0.0	0.4	0.1	2.0	0.4	0.0	0.3	0.6	0.2	0.5	-
Q3	2.5	0.0	0.4	0.0	0.8	0.3	0.0	0.2	0.4	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									
		Employ- ees	Self- employed	Agricul- ture, forestry and fishing	Manufac- turing, energy and utilities	Con- struc- tion	Trade, transport, accom- modation and food services	Infor- mation and com- munica- tion	Finance and insur- ance	Real estate	Professional, business and support services	Public adminis- tration, edu- cation, health and social work	Arts, entertainment and other services
	1	2	3	4	5	6	7	8	9	10	11	12	13
Persons employed													
as a percentage of total persons employed													
2019	100.0	86.0	14.0	3.0	14.6	6.1	25.0	2.9	2.4	1.0	14.0	24.3	6.7
2020	100.0	85.9	14.1	3.0	14.5	6.2	24.4	3.0	2.4	1.0	13.9	24.9	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
annual percentage changes													
2019	1.3	1.5	0.3	-2.3	1.2	2.8	1.7	3.3	-0.3	1.9	1.2	1.3	0.5
2020	-1.5	-1.6	-1.2	-2.4	-2.0	0.5	-3.9	1.8	0.0	-0.2	-2.2	1.0	-3.0
2021	1.4	1.6	0.1	-0.2	-0.3	3.2	0.5	4.8	0.8	1.0	2.8	2.1	0.5
2021 Q4	2.4	2.8	0.3	-1.0	1.2	3.1	3.3	6.5	0.8	0.5	3.6	1.7	1.7
2022 Q1	3.0	3.3	1.1	-1.3	1.5	3.5	5.0	6.1	-0.2	2.4	4.3	1.7	3.0
Q2	2.6	2.9	0.6	-0.7	1.3	3.2	4.5	6.0	0.1	2.5	3.3	1.4	2.2
Q3	1.7	1.9	0.8	-1.7	1.4	3.0	1.6	6.0	-0.4	4.2	2.3	1.4	1.2
Hours worked													
as a percentage of total hours worked													
2019	100.0	81.2	18.8	4.1	14.9	6.9	25.9	3.1	2.5	1.0	13.8	21.7	6.1
2020	100.0	81.9	18.1	4.3	15.0	7.0	24.0	3.3	2.6	1.1	13.8	23.1	5.8
2021	100.0	81.7	18.3	4.1	14.9	7.2	24.3	3.4	2.5	1.1	14.0	22.7	5.8
annual percentage changes													
2019	0.9	1.1	0.1	-3.2	0.6	2.8	1.2	2.9	0.6	2.0	1.0	1.0	-0.2
2020	-8.1	-7.4	-11.1	-3.2	-7.5	-6.5	-14.8	-1.7	-2.4	-6.0	-8.3	-2.2	-12.0
2021	5.5	5.3	6.6	0.6	4.5	8.9	6.7	7.5	2.9	6.4	7.3	3.7	5.2
2021 Q4	4.8	4.7	5.3	-1.6	2.1	3.6	11.0	6.8	0.6	2.8	5.6	0.8	8.1
2022 Q1	6.6	6.6	6.4	-2.0	2.5	4.7	16.1	6.2	-0.6	6.9	6.6	1.1	13.6
Q2	3.7	4.0	2.6	-2.0	1.0	2.5	9.9	5.1	-1.5	4.6	4.0	-0.3	7.3
Q3	2.5	2.8	1.1	-1.4	2.4	2.7	3.2	6.8	-0.3	6.2	3.5	1.1	3.1
Hours worked per person employed													
annual percentage changes													
2019	-0.4	-0.4	-0.3	-0.9	-0.6	-0.1	-0.5	-0.3	0.9	0.1	-0.3	-0.3	-0.7
2020	-6.6	-5.8	-10.1	-0.8	-5.6	-7.0	-11.3	-3.5	-2.3	-5.9	-6.2	-3.1	-9.2
2021	4.0	3.6	6.4	0.8	4.8	5.5	6.2	2.5	2.1	5.4	4.4	1.5	4.7
2021 Q4	2.3	1.9	5.0	-0.5	0.9	0.5	7.4	0.2	-0.2	2.3	1.9	-0.9	6.3
2022 Q1	3.4	3.2	5.2	-0.7	1.0	1.2	10.6	0.2	-0.4	4.4	2.2	-0.5	10.3
Q2	1.1	1.0	2.0	-1.3	-0.4	-0.7	5.2	-0.9	-1.7	2.0	0.7	-1.6	5.1
Q3	0.8	1.0	0.2	0.3	0.9	-0.3	1.6	0.8	0.1	1.9	1.2	-0.3	1.9

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- employ- ment, % of labour force	Unemployment ¹⁾											Job vacancy rate ³⁾
			Total		Long-term unemploy- ment, % of labour force ²⁾	By age				By gender				
						Adult		Youth		Male		Female		
			Millions	% of labour force		Millions	% of labour force	Millions	% of labour force	Millions	% of labour force	Millions	% of labour force	% of total posts
	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	160.960	3.5	12.832	8.0	3.0	10.281	7.0	2.552	18.1	6.580	7.7	6.252	8.3	1.8
2021	163.322	3.4	12.629	7.7	3.2	10.179	6.8	2.450	16.8	6.430	7.4	6.199	8.1	2.4
2022	.	.	11.150	6.7	.	8.892	5.9	2.258	14.7	5.615	6.4	5.536	7.1	.
2022 Q1	165.398	3.3	11.339	6.9	2.9	9.213	6.1	2.126	14.2	5.736	6.5	5.603	7.3	3.1
Q2	166.050	3.1	11.084	6.7	2.7	8.843	5.9	2.241	14.6	5.570	6.3	5.514	7.1	3.2
Q3	166.161	3.0	11.165	6.7	2.5	8.797	5.8	2.369	15.3	5.613	6.3	5.552	7.1	3.1
Q4	.	.	11.013	6.6	.	8.715	5.8	2.298	14.8	5.538	6.2	5.474	7.0	.
2022 July	-	-	11.036	6.6	-	8.784	5.8	2.252	14.7	5.544	6.3	5.492	7.1	-
Aug.	-	-	11.075	6.7	-	8.769	5.8	2.306	14.9	5.536	6.3	5.539	7.1	-
Sep.	-	-	11.067	6.7	-	8.737	5.8	2.330	15.1	5.555	6.3	5.512	7.1	-
Oct.	-	-	10.966	6.6	-	8.690	5.8	2.276	14.7	5.490	6.2	5.475	7.0	-
Nov.	-	-	11.025	6.6	-	8.717	5.8	2.308	14.8	5.563	6.3	5.462	7.0	-
Dec.	-	-	11.048	6.6	-	8.737	5.8	2.311	14.8	5.562	6.3	5.486	7.0	-

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						Con- struction produc- tion	Retail sales				Services turnover ¹⁾	New passenger car regis- trations
	Total (excluding construction)		Main Industrial Groupings					Total	Food, beverages, tobacco	Non-food	Fuel		
			Manu- facturing	Inter- mediate goods	Capital goods	Consumer goods								Energy
	1	2	3	4	5	6	7	8	9	10	11	12	13
% of total in 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	-11.3	-4.2	-4.4	-5.7	-0.8	3.8	-2.3	-14.4	-8.8	-25.1
2021	8.0	8.8	9.6	9.1	7.8	1.6	5.2	5.1	0.8	7.9	9.5	13.3	-3.1
2022	.	.	.	.	.	.	.	.	.	.	.	.	-4.1
2022 Q1	-0.2	-0.2	1.2	-5.0	5.7	-0.7	5.3	5.9	-1.6	11.3	12.6	.	-13.0
Q2	0.4	0.6	-0.1	-0.2	2.3	-0.5	2.0	1.0	-2.8	2.9	7.9	.	-16.3
Q3	1.7	2.1	-1.5	5.5	2.1	-1.4	1.3	-0.7	-1.7	-0.8	3.6	.	2.2
Q4	.	.	.	.	.	.	.	.	.	.	.	.	16.3
2022 July	-2.5	-2.7	-1.9	-5.0	-0.9	0.3	2.0	-0.8	-1.7	-0.9	2.1	-	-6.4
Aug.	2.8	3.2	-0.6	7.9	2.0	-0.6	1.5	-1.4	-1.3	-2.3	4.8	-	4.4
Sep.	5.1	6.1	-1.9	14.1	5.2	-4.0	0.9	0.1	-2.0	0.8	3.7	-	10.3
Oct.	3.4	4.6	-3.1	9.4	9.0	-8.1	1.9	-2.6	-3.9	-2.4	2.2	-	14.9
Nov.	2.0	3.5	-3.3	8.8	5.5	-10.7	1.3	-2.8	-4.6	-2.3	4.4	-	17.9
Dec.	.	.	.	.	.	.	.	.	.	.	.	-	16.1
month-on-month percentage changes (s.a.)													
2022 July	-2.1	-2.1	-1.0	-4.5	2.1	-0.5	0.4	-0.2	0.0	-0.2	1.0	-	1.3
Aug.	1.7	2.7	-0.6	3.4	1.9	-0.1	-1.0	0.0	-0.7	0.3	2.0	-	11.9
Sep.	0.8	1.3	-0.7	2.1	2.5	-2.0	0.4	0.8	0.5	1.3	-0.8	-	7.4
Oct.	-1.9	-1.8	-1.5	0.0	-0.3	-3.5	1.0	-1.5	-1.2	-1.9	-0.1	-	1.7
Nov.	1.0	1.3	0.8	1.0	-1.0	-0.9	-0.8	0.8	-0.9	1.6	1.0	-	2.9
Dec.	.	.	.	.	.	.	.	.	.	.	.	-	0.1

Sources: Eurostat, ECB calculations and European Automobile Manufacturers Association (col. 13).

1) Including wholesale trade.

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 manu- facturing	Manu- facturing 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	98.5	-5.2	80.6	-11.6	-15.3	-8.6	5.3	-	51.2	52.5	53.0	52.8
2020	88.6	-13.2	74.4	-14.2	-6.8	-12.6	-15.9	86.4	48.6	48.0	42.5	44.0
2021	111.1	9.3	81.8	-7.4	4.3	-1.8	8.0	87.7	60.2	58.3	53.6	54.9
2022	101.9	4.6	.	-21.9	5.2	-3.9	9.5	.	52.1	49.3	52.1	51.4
2022 Q1	111.5	11.8	82.5	-13.7	9.4	0.9	12.7	88.9	57.8	54.7	54.1	54.2
Q2	104.3	6.9	82.4	-22.4	5.4	-5.1	12.5	90.3	54.1	50.4	55.6	54.2
Q3	97.2	1.5	81.9	-26.8	2.7	-6.0	7.9	90.8	49.3	46.3	49.9	49.0
Q4	94.9	-1.5	.	-24.5	3.2	-5.3	4.9	.	47.1	45.9	49.0	48.2
2022 Aug.	98.1	1.2	-	-24.9	4.2	-4.6	8.6	-	49.6	46.5	49.8	49.0
Sep.	94.4	-0.2	-	-28.7	1.5	-7.5	5.5	-	48.4	46.3	48.8	48.1
Oct.	93.6	-1.0	81.4	-27.5	2.8	-6.3	3.8	90.7	46.4	43.8	48.6	47.3
Nov.	94.7	-1.9	-	-23.9	2.7	-6.4	4.1	-	47.1	46.0	48.5	47.8
Dec.	96.3	-1.5	-	-22.2	4.1	-3.4	6.8	-	47.8	47.8	49.8	49.3
2023 Jan.	.	.	-	-20.9	.	.	.	-	48.8	48.9	.	.

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⁾	Hous- ing wealth	Profit rate ³⁾	Saving rate (gross)	Debt ratio ⁴⁾	Financial investment	Non-financial investment (gross)	Finan- cing
	Percentage of gross disposable income (adjusted) ¹⁾		Annual percentage changes					Percentage of gross value added		Percent- age 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	2.5	3.9	7.0	5.2	47.7	24.2	75.2	2.1	7.7	1.9
2020	19.7	95.6	-0.1	4.1	-2.6	5.0	4.2	46.1	24.6	81.7	3.4	-12.2	2.3
2021	17.7	95.8	1.5	3.5	16.9	8.0	8.7	48.9	26.3	79.6	4.9	7.9	3.0
2021 Q4	17.7	95.8	0.8	3.5	15.8	8.0	8.7	48.9	26.3	79.6	4.9	14.2	3.0
2022 Q1	16.0	95.6	0.0	3.0	16.7	6.3	9.1	48.7	25.8	78.8	4.7	15.0	3.0
Q2	14.7	95.4	-0.4	2.7	16.2	3.5	8.7	48.6	24.4	77.5	4.7	-4.2	3.2
Q3	14.1	94.7	-0.4	2.6	10.6	2.1	7.6	48.6	23.7	77.6	4.7	30.8	3.5

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
2021 Q4	1,185.9	1,152.7	33.2	650.3	619.1	279.4	246.4	216.4	205.5	39.7	81.7	60.3	46.9
2022 Q1	1,224.1	1,212.8	11.2	684.3	676.6	294.4	256.0	209.2	208.6	36.1	71.7	28.0	20.2
Q2	1,274.1	1,313.3	-39.2	719.1	745.3	304.7	267.9	210.3	215.4	39.9	84.7	115.8	11.8
Q3	1,330.3	1,436.2	-105.9	753.3	808.8	312.1	318.3	224.5	223.4	40.4	85.8	19.9	16.7
2022 June	433.8	443.3	-9.4	245.2	255.8	103.0	90.7	72.5	67.9	13.2	29.0	8.4	3.7
July	433.8	466.0	-32.2	243.4	263.6	103.3	100.0	73.9	73.5	13.3	29.0	7.2	5.4
Aug.	445.6	484.2	-38.6	253.3	277.1	103.9	104.1	74.7	73.4	13.7	29.5	5.2	5.2
Sep.	450.9	486.0	-35.1	256.6	268.1	105.0	114.2	75.9	76.5	13.5	27.3	7.4	6.1
Oct.	445.7	446.2	-0.5	255.8	258.3	103.2	90.1	74.7	73.1	12.0	24.7	5.0	3.3
Nov.	447.3	433.7	13.6	258.0	250.5	102.4	84.7	74.8	71.7	12.2	26.8	7.0	3.6
12-month cumulated transactions													
2022 Nov.	5,122.0	5,232.5	-110.5	2,890.5	2,953.3	1,209.4	1,099.8	868.1	858.9	154.0	320.6	220.6	93.1
12-month cumulated transactions as a percentage of GDP													
2022 Nov.	39.3	40.1	-0.8	22.2	22.6	9.3	8.4	6.7	6.6	1.2	2.5	1.7	0.7

1) The capital account is not seasonally adjusted.

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

(seasonally adjusted, unless otherwise indicated)

	Total (n.s.a.)		Exports (f.o.b.)					Imports (c.i.f.)					
	Exports	Imports	Total			Memo item:	Total				Memo items:		
			Intermediate goods	Capital goods	Consumption goods	Manu- facturing	Intermediate goods	Capital goods	Consumption goods	Manu- facturing	Oil		
	1	2	3	4	5	6	7	8	9	10	11	12	13
Values (EUR billions; annual percentage changes for columns 1 and 2)													
2021 Q4	12.1	33.0	636.5	323.4	115.9	186.2	524.0	659.2	404.8	98.1	148.4	452.0	72.2
2022 Q1	17.2	40.8	676.6	343.5	124.4	196.5	554.6	720.0	454.6	104.8	151.6	481.0	85.6
Q2	20.2	45.5	715.6	361.5	126.5	216.6	575.2	809.8	525.8	111.6	163.7	516.5	107.9
Q3	20.1	47.1	734.0	369.4	133.3	218.8	591.9	855.9	560.6	116.9	168.8	532.5	102.5
2022 June	19.8	44.0	241.9	122.2	43.3	72.7	194.1	274.5	178.7	38.2	55.0	174.4	40.1
July	13.0	43.4	237.3	119.7	42.8	71.0	189.7	276.8	182.9	36.9	54.3	172.1	37.0
Aug.	24.0	53.5	246.5	124.1	44.8	73.2	198.7	292.3	191.1	40.1	57.3	182.1	33.6
Sep.	23.5	44.8	250.2	125.5	45.6	74.6	203.5	286.7	186.6	39.9	57.2	178.3	31.9
Oct.	17.9	30.7	249.0	124.8	45.8	73.8	202.4	277.1	175.3	39.5	58.3	178.6	33.7
Nov.	17.2	20.3	251.5	.	.	.	204.2	266.7	.	.	.	173.1	.
Volume indices (2000 = 100; annual percentage changes for columns 1 and 2)													
2021 Q4	0.5	7.4	105.2	111.3	98.4	103.1	104.1	114.7	117.0	114.1	113.9	116.4	133.7
2022 Q1	2.5	10.1	107.0	108.0	104.6	110.9	106.9	116.7	117.5	119.7	115.3	119.5	131.0
Q2	2.7	10.8	107.7	107.3	102.3	117.9	106.8	121.3	123.3	124.9	119.8	123.0	143.4
Q3	2.7	13.8	106.2	105.3	105.5	113.0	105.7	123.0	125.2	124.4	119.9	122.5	138.5
2022 May	9.5	16.9	111.3	110.7	103.2	122.8	110.8	123.7	125.5	128.2	123.3	125.3	142.0
June	1.3	9.1	106.0	105.5	102.6	115.2	105.1	120.4	122.3	124.2	117.2	122.0	149.8
July	-3.7	8.4	103.3	103.6	102.8	109.8	101.8	120.0	122.0	118.5	116.9	120.6	141.0
Aug.	6.1	18.9	106.7	105.2	105.9	113.7	106.4	125.4	128.0	129.4	121.5	124.1	136.6
Sep.	6.2	14.3	108.5	107.1	107.8	115.6	108.8	123.6	125.5	125.3	121.2	122.8	137.8
Oct.	2.7	7.5	107.0	106.5	106.3	112.1	106.3	120.3	119.0	124.2	122.7	122.9	144.4

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	Total excluding food and energy	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		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 Q1	112.3	6.1	2.7	8.8	2.5	2.8	1.7	3.4	1.5	14.4	0.8	6.0	6.9
Q2	116.1	8.0	3.7	11.4	3.4	2.4	3.4	4.1	1.3	7.1	1.0	8.2	7.1
Q3	118.1	9.3	4.4	13.2	3.9	2.2	4.0	2.7	1.9	4.4	1.0	9.5	7.8
Q4	120.8	10.0	5.1	14.0	4.3	2.3	3.7	2.8	1.4	4.6	1.4	10.0	9.5
2022 Aug.	117.9	9.1	4.3	13.1	3.8	0.6	1.2	1.0	0.7	0.3	0.3	9.4	7.2
Sep.	119.3	9.9	4.8	14.0	4.3	1.0	1.2	1.3	0.3	2.9	0.8	9.9	10.4
Oct.	121.0	10.6	5.0	15.1	4.3	1.4	1.2	1.9	0.5	6.2	0.4	10.6	11.1
Nov.	121.0	10.1	5.0	14.2	4.2	0.2	1.3	-0.4	0.4	-1.9	0.4	10.2	9.1
Dec.	120.5	9.2	5.2	12.6	4.4	-0.4	1.2	-0.2	0.6	-6.6	0.3	9.3	8.4
2023 Jan. ³⁾	120.1	8.5	5.2	.	4.2	.	.	.	.	-0.9	.	.	.

	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 Q1	4.2	3.6	6.4	11.5	2.9	35.1	1.8	1.2	3.3	0.1	4.1	1.6	
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	
2022 Aug.	10.6	10.5	11.0	14.5	5.1	38.6	2.6	1.8	3.5	-0.2	7.2	1.9	
Sep.	11.8	11.5	12.7	15.3	5.5	40.7	2.7	1.9	5.7	-0.3	7.3	2.5	
Oct.	13.1	12.4	15.5	16.3	6.1	41.5	2.9	2.0	5.9	-0.7	7.3	2.7	
Nov.	13.6	13.6	13.8	14.5	6.1	34.9	3.0	2.2	5.6	-0.7	6.9	2.8	
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. ³⁾	14.1	14.9	11.6	.	6.9	17.2	.	.	.	.	.	.

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	16.5	5.9	27.9			
2019	104.7	0.6	0.6	0.8	0.1	1.5	1.0	1.1	0.9	-0.1	2.9	4.2	4.5
2020	102.0	-2.6	-1.7	-0.1	-1.6	0.9	1.0	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	2.0	1.8	32.3	5.6	8.1	0.8
2021 Q4	127.3	24.0	12.3	9.7	18.0	4.3	4.0	3.9	3.0	67.5	7.7	9.5	3.3
2022 Q1	140.9	33.1	15.5	12.7	21.4	6.1	7.4	.	5.5	92.6	10.1	9.8	3.3
Q2	149.3	36.5	20.0	15.8	24.8	7.4	11.6	.	7.5	95.4	12.3	9.2	0.0
Q3	163.2	41.2	17.7	14.7	20.2	7.7	14.0	.	8.6	107.9	11.9	6.8	.
2022 June	150.9	36.1	20.6	15.7	24.0	7.6	12.2	.	8.0	93.4	-	-	-
July	157.0	38.1	18.7	15.1	21.5	7.8	13.3	.	8.4	98.0	-	-	-
Aug.	165.0	43.5	17.5	14.6	20.0	7.8	14.1	.	8.6	117.3	-	-	-
Sep.	167.6	41.9	16.9	14.5	19.0	7.6	14.6	.	8.9	108.0	-	-	-
Oct.	162.5	30.5	16.2	14.0	17.5	7.6	15.3	.	9.3	64.9	-	-	-
Nov.	161.0	27.1	14.4	13.1	15.3	7.6	15.3	.	9.1	55.7	-	-	-

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	-1.3	-2.8	37.0	1.4	3.3	-0.3	-1.0	-0.3	-1.8
2021	109.5	2.0	2.8	2.3	1.5	3.6	5.8	7.9	59.8	29.5	21.3	37.2	28.8	21.7	37.1
2022	.	.	.	.	.	.	.	.	95.0	18.3	29.5	9.0	19.6	29.1	9.9
2022 Q1	112.2	3.5	5.5	4.8	2.6	7.3	11.8	17.0	88.7	32.2	35.0	29.7	35.5	38.5	32.5
Q2	113.4	4.3	6.7	6.3	3.5	8.4	14.6	20.6	106.1	22.5	39.7	9.2	24.2	38.2	10.8
Q3	114.7	4.4	7.2	7.4	4.1	7.5	13.5	19.6	98.3	14.8	30.8	1.5	15.5	28.6	2.3
Q4	.	.	.	.	.	.	.	.	86.6	5.6	14.4	-2.3	5.6	13.6	-3.1
2022 Aug.	-	-	-	-	-	-	-	-	97.4	16.1	30.2	4.2	15.9	26.3	5.1
Sep.	-	-	-	-	-	-	-	-	91.0	16.5	31.4	3.7	15.9	28.1	3.2
Oct.	-	-	-	-	-	-	-	-	94.5	10.8	25.6	-1.7	12.8	27.4	-1.9
Nov.	-	-	-	-	-	-	-	-	89.3	6.2	12.3	0.5	5.9	11.0	0.0
Dec.	-	-	-	-	-	-	-	-	76.4	-0.1	6.1	-5.6	-1.4	3.8	-7.0
2023 Jan.	-	-	-	-	-	-	-	-	77.1	.	.	.	.	.	.

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	7.8	-	-5.2	32.3	56.7	56.3	-	49.7
2020	-0.4	2.0	-0.6	-5.0	11.4	49.0	52.1	48.7	47.2
2021	31.5	24.0	10.3	20.1	30.3	84.0	61.9	66.8	53.4
2022	48.2	53.0	27.2	42.6	71.5	77.1	75.4	69.6	62.0
2022 Q1	50.8	49.3	23.8	39.3	59.9	84.2	74.2	72.9	59.8
Q2	55.1	56.2	28.5	48.9	71.6	84.0	78.0	74.8	64.4
Q3	45.8	54.1	27.3	40.6	76.4	74.3	74.9	67.1	61.8
Q4	41.2	52.5	29.4	41.5	78.0	65.8	74.3	63.7	62.0
2022 Aug.	43.7	53.0	26.4	38.4	77.0	71.7	72.5	65.9	59.9
Sep.	48.6	54.4	28.4	41.8	76.3	76.5	77.4	67.4	63.2
Oct.	44.8	56.1	30.1	44.7	77.2	72.0	76.9	66.1	62.7
Nov.	40.4	51.5	29.8	42.9	78.3	64.5	74.3	63.6	62.3
Dec.	38.4	49.8	28.3	37.1	78.5	61.0	71.8	61.2	61.0
2023 Jan.	.	.	.	.	.	56.3	.	61.6	.

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	
2019	107.1	2.5	2.6	2.3	2.6	2.3	2.2
2020	110.7	3.4	4.0	1.4	2.8	4.6	1.8
2021	112.1	1.2	1.3	0.9	1.2	1.4	1.5
2021 Q4	119.6	2.5	2.1	3.4	2.7	2.0	1.6
2022 Q1	108.5	3.7	2.7	7.3	4.3	2.6	2.9
Q2	119.2	3.8	3.2	6.0	3.9	3.5	2.5
Q3	112.4	2.8	2.1	5.3	2.5	3.6	2.9

Sources: Eurostat and ECB calculations.

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

3 Prices and costs

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

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

	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												
2019	105.5	1.9	-0.5	2.1	4.0	0.6	0.9	1.5	3.5	2.4	2.7	2.4
2020	110.3	4.6	-1.1	2.7	5.6	7.4	0.3	-0.2	1.4	3.9	6.2	16.1
2021	110.4	0.1	3.4	-2.9	2.4	-1.4	2.2	0.7	4.4	1.2	0.6	1.4
2021 Q4	111.4	1.2	2.8	2.1	4.5	-1.0	1.6	2.8	3.7	1.8	1.3	-6.9
2022 Q1	112.6	2.0	2.3	4.0	3.1	-0.7	2.6	3.1	4.8	2.5	2.5	-4.8
Q2	112.9	2.9	4.9	3.4	5.6	1.5	1.8	4.2	5.7	3.7	3.2	-6.2
Q3	114.1	3.3	3.1	1.8	6.1	1.9	4.0	4.0	8.1	3.9	3.8	-0.2
Compensation per employee												
2019	107.5	2.2	2.8	1.3	1.9	1.5	3.3	2.5	2.8	3.0	2.4	3.6
2020	107.2	-0.3	1.4	-2.0	-0.9	-3.9	0.4	0.3	0.6	0.3	2.3	-1.4
2021	111.4	3.9	3.6	4.2	4.5	5.8	4.3	2.9	5.1	4.3	1.9	4.0
2021 Q4	113.2	3.5	3.0	2.9	2.2	7.1	3.6	4.2	5.1	3.8	1.6	4.5
2022 Q1	114.5	4.5	3.3	4.3	4.2	7.9	3.1	3.8	5.6	4.6	2.8	8.4
Q2	115.4	4.7	3.6	4.2	3.9	8.0	2.8	4.7	5.7	5.6	2.9	6.8
Q3	116.7	3.9	3.4	2.7	3.3	4.8	3.1	4.4	5.3	4.9	3.4	5.3
Labour productivity per person employed												
2019	101.9	0.2	3.3	-0.8	-2.0	0.8	2.3	0.9	-0.6	0.6	-0.2	1.1
2020	97.2	-4.6	2.5	-4.5	-6.2	-10.6	0.1	0.5	-0.8	-3.5	-3.7	-15.1
2021	100.9	3.8	0.2	7.3	2.0	7.3	2.0	2.2	0.7	3.1	1.3	2.6
2021 Q4	101.6	2.3	0.1	0.7	-2.2	8.2	2.0	1.4	1.3	2.0	0.3	12.3
2022 Q1	101.8	2.4	1.0	0.3	1.1	8.7	0.5	0.6	0.8	2.0	0.3	13.9
Q2	102.3	1.7	-1.3	0.7	-1.6	6.3	0.9	0.5	-0.1	1.8	-0.3	13.8
Q3	102.3	0.6	0.2	0.9	-2.6	2.9	-0.8	0.4	-2.6	1.0	-0.3	5.5
Compensation per hour worked												
2019	107.7	2.6	3.0	1.9	2.0	2.1	3.5	1.4	2.6	3.3	2.7	4.8
2020	114.1	5.9	3.7	3.4	5.4	7.2	3.2	2.1	5.5	6.3	5.2	6.4
2021	114.4	0.3	1.1	-0.3	-0.3	0.2	1.9	1.0	0.9	0.6	0.6	0.2
2021 Q4	116.0	1.6	1.0	2.3	2.2	0.3	3.7	4.9	2.7	2.2	2.6	0.0
2022 Q1	116.5	1.3	3.2	3.5	3.2	-2.4	3.0	4.2	3.1	2.0	3.4	0.0
Q2	116.9	3.6	4.9	4.5	5.3	2.1	3.9	6.3	4.7	4.8	4.7	2.7
Q3	118.6	2.9	3.3	1.6	3.0	2.7	2.7	4.0	4.1	3.4	3.7	3.8
Hourly labour productivity												
2019	102.6	0.7	4.3	-0.1	-1.9	1.3	2.6	0.1	-0.7	0.9	0.0	1.9
2020	104.7	2.1	3.3	1.2	0.8	0.8	3.7	2.9	5.5	2.9	-0.6	-6.5
2021	104.5	-0.2	-0.6	2.4	-3.3	1.1	-0.5	0.1	-4.5	-1.2	-0.2	-2.0
2021 Q4	104.9	0.0	0.7	-0.2	-2.7	0.7	1.8	1.6	-1.0	0.1	1.3	5.7
2022 Q1	104.2	-1.0	1.7	-0.7	-0.1	-1.7	0.4	1.1	-3.5	-0.2	0.8	3.3
Q2	104.5	0.6	0.0	1.1	-0.9	1.1	1.8	2.1	-2.1	1.1	1.3	8.4
Q3	104.9	-0.2	-0.1	-0.1	-2.4	1.3	-1.6	0.3	-4.4	-0.2	0.0	3.5

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)	3-month deposits (LIBOR)	3-month deposits (LIBOR)
	1	2	3	4	5	6	7
2020	-0.55	-0.50	-0.43	-0.37	-0.31	0.64	-0.07
2021	-0.57	-0.56	-0.55	-0.52	-0.49	0.16	-0.08
2022	-0.01	0.10	0.36	0.69	1.11	2.40	-0.02
2022 July	-0.51	-0.31	0.04	0.47	0.99	2.61	-0.02
Aug.	-0.08	0.02	0.39	0.84	1.25	2.95	-0.01
Sep.	0.36	0.57	1.01	1.60	2.23	3.45	-0.02
Oct.	0.66	0.92	1.43	2.00	2.63	4.14	-0.03
Nov.	1.37	1.42	1.83	2.32	2.83	4.65	-0.04
Dec.	1.57	1.73	2.07	2.57	3.03	4.74	-0.04
2023 Jan.	1.90	1.98	2.34	2.86	3.34	4.81	-

Source: Refinitiv and ECB calculations.

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

2) The ECB published the euro short-term rate (€STR) for the first time on 2 October 2019, reflecting trading activity on 1 October 2019. Data on previous periods refer to the pre-€STR, which was published for information purposes only and not intended for use as a benchmark or reference rate in any market transactions.

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 July	0.04	0.16	0.25	0.55	0.93	0.77	-0.30	0.09	0.27	0.44	1.05	1.44
Aug.	-0.19	0.66	1.08	1.36	1.57	0.91	-0.33	0.00	1.36	1.53	1.65	1.84
Sep.	0.67	1.54	1.67	1.95	2.13	0.59	-0.20	0.53	1.84	1.84	2.30	2.32
Oct.	1.08	1.93	1.92	1.98	2.24	0.31	-0.63	0.51	2.16	1.77	2.32	2.54
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

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										Standard & Poor's 500	Nikkei 225
	Broad index	50	Basic materials	Consumer services	Consumer goods	Oil and gas	Financials	Industrials	Technology	Utilities	Telecoms	Health care		
	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 July	390.4	3,523.3	866.4	238.1	170.9	104.4	142.4	683.1	692.9	335.4	294.7	841.0	3,911.7	26,986.7
Aug.	408.5	3,701.1	913.9	256.5	172.9	110.0	149.0	721.6	750.2	353.8	291.5	806.7	4,158.6	28,351.7
Sep.	382.4	3,466.2	857.4	237.7	163.2	104.7	149.3	660.3	670.9	335.8	274.9	746.8	3,850.5	27,419.0
Oct.	378.5	3,464.6	875.2	233.5	158.0	108.5	149.5	666.2	656.6	315.8	258.3	738.9	3,726.1	26,983.2
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

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					
	Over-night	Redeem-able 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⁾	Composite cost-of-borrowing indicator
			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 Jan.	0.01	0.33	0.20	0.56	4.76	15.82	5.57	5.28	5.87	1.95	1.35	1.46	1.31	1.32	1.61	1.33
Feb.	0.01	0.45	0.18	0.56	4.81	15.78	5.28	5.27	5.87	2.09	1.35	1.49	1.39	1.38	1.66	1.38
Mar.	0.01	0.46	0.19	0.52	4.81	15.76	5.45	5.24	5.81	2.08	1.40	1.53	1.54	1.47	1.75	1.47
Apr.	0.01	0.46	0.20	0.56	4.75	15.78	5.82	5.39	5.97	2.24	1.43	1.72	1.77	1.58	1.89	1.61
May	0.00	0.45	0.20	0.64	4.80	15.85	5.87	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	6.15	2.51	1.68	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	5.74	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	6.67	5.91	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	3.57	2.66	2.83	3.06	2.41	2.90	2.67
Nov.	0.05	0.75	1.19	1.81	5.81	15.98	6.42	6.55	7.12	3.96	2.93	3.05	3.30	2.55	3.10	2.89
Dec. ^(b)	0.07	0.80	1.39	1.91	5.99	15.99	6.65	6.45	7.03	3.99	3.07	3.16	3.29	2.60	3.18	2.94

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 Jan.	-0.05	-0.32	0.20	1.67	1.91	1.94	2.00	1.52	1.41	1.37	1.13	1.24	1.29	1.43
Feb.	-0.05	-0.32	0.41	1.67	1.77	1.93	2.08	1.50	1.43	1.42	1.07	1.07	1.46	1.42
Mar.	-0.06	-0.30	0.64	1.69	1.77	1.96	2.11	1.50	1.45	1.52	1.25	1.17	1.54	1.49
Apr.	-0.05	-0.30	0.44	1.67	1.88	1.98	2.24	1.52	1.45	1.67	1.19	1.12	1.57	1.51
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	1.83	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	2.31	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	2.98	3.52	3.62	2.74	3.02	2.76	2.45	2.76	2.82	2.73
Nov.	0.15	1.49	2.34	2.90	3.33	3.75	4.01	3.12	3.38	3.07	2.88	3.31	3.30	3.11
Dec. ^(b)	0.19	1.80	2.61	3.21	3.74	3.99	4.19	3.46	3.55	3.27	3.29	3.60	3.27	3.41

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		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														
2019	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2020	1,485.4	429.9	126.2	52.1	96.3	833.1	719.4	.	.	.	.	.	.	.
2021	1,409.9	428.8	132.0	49.6	87.6	761.5	671.7	387.5	138.7	79.8	26.4	31.8	137.3	104.6
2022 July	1,328.0	422.7	140.2	50.4	104.3	660.8	600.3	510.7	199.6	122.1	57.4	55.4	133.7	87.5
Aug.	1,323.6	420.1	139.0	49.1	105.6	658.9	597.7	471.3	188.2	114.2	49.5	45.3	123.6	92.0
Sep.	1,363.1	448.6	143.4	48.9	102.2	668.9	602.4	559.0	219.1	134.4	56.9	65.5	140.0	104.1
Oct.	1,354.5	460.8	143.2	51.2	100.4	650.1	589.9	557.8	248.1	134.3	57.9	57.7	117.7	91.1
Nov.	1,393.5	485.0	139.4	48.9	97.0	672.1	623.0	609.3	267.6	142.8	63.2	49.5	149.5	129.2
Dec.	1,350.9	481.3	135.6	46.5	87.5	646.6	606.0	402.9	166.5	132.0	59.1	37.8	66.6	57.2
Long-term														
2019	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2020	19,373.1	4,062.0	3,232.0	1,271.1	1,542.4	10,536.6	9,749.6	.	.	.	.	.	.	.
2021	20,060.8	4,173.1	3,570.1	1,359.8	1,593.7	10,723.8	9,902.9	316.9	66.6	82.9	32.2	24.0	143.4	129.9
2022 July	19,234.3	4,134.7	3,558.4	1,375.2	1,451.5	10,089.8	9,309.7	236.7	52.0	61.0	31.8	8.6	115.1	110.4
Aug.	18,652.0	4,033.4	3,506.9	1,367.8	1,409.7	9,702.1	8,949.5	186.8	53.5	43.4	10.5	8.4	81.5	75.5
Sep.	18,159.9	3,980.2	3,476.8	1,348.0	1,361.0	9,341.8	8,611.1	320.5	94.9	75.2	27.8	19.3	131.1	121.0
Oct.	18,276.8	4,017.8	3,502.5	1,343.3	1,361.5	9,395.0	8,669.0	333.4	79.6	73.6	24.1	12.5	167.7	159.6
Nov.	18,651.5	4,078.4	3,565.7	1,352.7	1,406.5	9,600.9	8,862.8	330.6	77.6	88.1	32.8	30.6	134.3	120.7
Dec.	18,133.5	3,985.8	3,532.0	1,361.4	1,382.7	9,232.9	8,521.2	199.3	59.7	58.4	29.0	11.4	69.8	67.4

Source: ECB.

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

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

(EUR billions and percentage changes; market values)

	Debt securities							Listed shares			
	Total	MFIs	Non-MFI corporations			General government		Total	MFIs	Financial corporations other than MFIs	Non-financial corporations
			Financial corporations other than MFIs	FVCs	Non-financial corporations	of which central government					
1	2	3	4	5	6	7	8	9	10	11	
Outstanding amount											
2019	.	.	.	.	.	.	.	8,560.4	537.8	1,410.5	6,612.1
2020	20,858.5	4,491.9	3,358.3	1,323.2	1,638.7	11,369.6	10,469.0	8,501.2	468.9	1,354.2	6,677.1
2021	21,470.6	4,601.9	3,702.1	1,409.3	1,681.3	11,485.3	10,574.6	10,348.6	609.3	1,580.2	8,158.1
2022 July	20,562.3	4,557.4	3,698.6	1,425.7	1,555.7	10,750.6	9,910.0	8,903.5	482.1	1,355.6	7,064.9
Aug.	19,975.6	4,453.5	3,645.8	1,416.9	1,515.3	10,361.0	9,547.2	8,484.5	475.5	1,311.2	6,696.9
Sep.	19,523.0	4,428.8	3,620.2	1,396.8	1,463.3	10,010.7	9,213.4	7,917.4	460.6	1,231.4	6,224.8
Oct.	19,631.3	4,478.7	3,645.7	1,394.5	1,461.9	10,045.0	9,258.9	8,470.8	506.9	1,292.0	6,671.2
Nov.	20,045.0	4,563.4	3,705.1	1,401.6	1,503.6	10,272.9	9,485.9	9,054.7	540.0	1,401.3	7,112.8
Dec.	19,484.4	4,467.1	3,667.6	1,407.9	1,470.2	9,879.5	9,127.2	8,727.9	534.3	1,377.0	6,816.0
Growth rate ¹⁾											
2019	.	.	.	.	.	.	.	.	.	.	.
2020	.	.	.	.	.	.	.	.	.	.	.
2021	.	.	.	.	.	.	.	.	.	.	.
2022 July	3.5	2.6	7.3	5.9	2.6	2.8	3.2	0.9	-0.4	3.3	0.5
Aug.	3.5	2.6	7.4	4.9	3.0	2.8	3.2	0.8	-0.7	2.7	0.5
Sep.	3.3	3.7	5.9	2.7	2.2	2.4	2.8	0.4	-0.9	2.3	0.2
Oct.	3.3	4.7	4.0	1.1	1.3	2.8	3.3	0.4	-1.1	2.3	0.2
Nov.	3.8	5.5	4.9	1.3	0.9	3.1	3.7	0.2	-1.3	1.7	0.1
Dec.	3.7	5.7	4.3	0.2	1.0	3.1	3.7	0.3	-1.6	1.3	0.2

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	87.8	119.5	93.9
2021	99.6	93.5	93.3	88.8	71.4	86.2	120.9	94.3
2022	95.5	90.7	93.2	.	.	.	116.8	90.8
2022 Q1	96.5	91.4	92.6	84.9	69.3	82.8	118.8	92.5
Q2	95.6	90.3	93.1	83.4	67.1	81.3	116.5	90.2
Q3	94.0	89.2	92.2	81.9	64.8	80.0	114.5	88.9
Q4	95.9	91.7	94.8	.	.	.	117.3	91.6
2022 Aug.	93.6	88.8	91.8	-	-	-	114.2	88.6
Sep.	94.2	89.8	92.8	-	-	-	114.6	89.3
Oct.	94.8	91.0	93.8	-	-	-	115.5	90.6
Nov.	96.0	91.9	94.6	-	-	-	117.2	91.7
Dec.	97.0	92.2	96.0	-	-	-	119.2	92.5
2023 Jan.	97.3	92.2	96.4	-	-	-	119.9	92.7
<i>Percentage change versus previous month</i>								
2023 Jan.	0.4	0.0	0.4	-	-	-	0.6	0.2
<i>Percentage change versus previous year</i>								
2023 Jan.	0.7	1.1	4.4	-	-	-	1.0	0.4

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 Q1	7.121	24.653	7.441	364.600	130.464	4.623	0.836	4.9465	10.481	1.036	1.122
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
2022 Aug.	6.888	24.568	7.439	402.097	136.855	4.723	0.845	4.8943	10.502	0.969	1.013
Sep.	6.951	24.576	7.437	404.186	141.568	4.741	0.875	4.9097	10.784	0.964	0.990
Oct.	7.069	24.528	7.439	418.308	144.725	4.804	0.871	4.9259	10.950	0.979	0.983
Nov.	7.317	24.369	7.439	406.683	145.124	4.696	0.869	4.9142	10.880	0.984	1.020
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
<i>Percentage change versus previous month</i>											
2023 Jan.	-0.9	-1.3	0.0	-2.9	-1.6	0.3	1.5	0.0	2.0	1.0	1.7
<i>Percentage change versus previous year</i>											
2023 Jan.	1.7	-2.1	0.0	10.4	8.1	3.2	5.6	-0.4	8.2	-4.2	-4.8

Source: ECB.

4 Financial market developments

4.10 Euro area balance of payments, financial account

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

	Total ¹⁾			Direct investment		Portfolio investment		Net financial derivatives	Other investment		Reserve assets	Memo: Gross external debt
	Assets	Liabilities	Net	Assets	Liabilities	Assets	Liabilities		Assets	Liabilities		
	1	2	3	4	5	6	7	8	9	10	11	12
Outstanding amounts (international investment position)												
2021 Q4	32,244.0	32,189.2	54.7	11,944.4	9,753.9	12,864.4	14,684.3	-98.5	6,476.6	7,751.0	1,057.0	15,909.5
2022 Q1	32,253.5	32,035.3	218.1	12,017.8	9,926.0	12,337.4	14,002.7	-57.3	6,852.8	8,106.7	1,102.8	16,357.4
Q2	32,032.2	31,599.1	433.1	12,383.0	10,169.1	11,511.6	13,107.0	-19.6	7,035.1	8,323.0	1,122.1	16,454.9
Q3	32,162.4	31,683.1	479.4	12,698.9	10,477.4	11,188.0	12,790.6	-8.0	7,147.8	8,415.1	1,135.8	16,582.8
Outstanding amounts as a percentage of GDP												
2022 Q3	246.1	242.4	3.7	97.2	80.2	85.6	97.9	-0.1	54.7	64.4	8.7	126.9
Transactions												
2021 Q4	222.3	195.8	26.5	-7.5	-66.5	155.9	73.3	40.2	30.7	189.0	2.9	-
2022 Q1	371.0	377.5	-6.5	56.6	42.4	-18.0	30.4	-1.6	334.8	304.8	-0.9	-
Q2	-32.5	-57.2	24.7	64.4	-47.9	-127.4	-86.2	28.9	-0.7	76.8	2.3	-
Q3	2.6	52.8	-50.2	68.7	86.7	-184.4	-6.0	44.1	66.8	-27.9	7.4	-
2022 June	-96.7	-125.1	28.3	-44.9	-39.6	-39.1	26.8	-0.1	-14.4	-112.3	1.8	-
July	87.8	80.0	7.8	22.3	35.2	-33.9	-70.4	11.6	86.1	115.2	1.6	-
Aug.	125.2	133.2	-8.0	44.9	74.9	-32.3	28.6	14.9	95.6	29.7	2.2	-
Sep.	-210.3	-160.4	-50.0	1.5	-23.4	-118.2	35.8	17.6	-114.9	-172.8	3.6	-
Oct.	125.7	111.5	14.2	4.6	-3.0	-10.4	37.6	7.2	120.6	76.9	3.8	-
Nov.	6.1	19.1	-13.1	15.7	12.9	43.5	52.8	2.9	-56.6	-46.5	0.6	-
12-month cumulated transactions												
2022 Nov.	232.6	249.8	-17.2	107.2	-37.3	-240.4	79.4	82.7	270.7	207.7	12.3	-
12-month cumulated transactions as a percentage of GDP												
2022 Nov.	1.8	1.9	-0.1	0.8	-0.3	-1.8	0.6	0.6	2.1	1.6	0.1	-

Source: ECB.

1) Net financial derivatives are included in total assets.

5 Financing conditions and credit developments

5.1 Monetary aggregates ¹⁾

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

	M3											12
	M2						M3-M2					
	M1		M2-M1									
	Currency in circulation	Overnight deposits		Deposits with an agreed maturity of up to 2 years	Deposits redeemable at notice of up to 3 months		Repos	Money market fund shares	Debt securities with a maturity of up to 2 years			
	1	2	3	4	5	6	7	8	9	10	11	
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	733.2	14,449.3
2021	1,469.7	9,784.0	11,253.8	916.1	2,506.4	3,422.5	14,676.2	118.0	647.5	21.7	787.2	15,463.4
2022 ^(p)	1,538.3	9,790.1	11,328.4	1,376.1	2,566.6	3,942.7	15,271.2	123.3	653.6	42.1	819.0	16,090.2
2022 Q1	1,520.4	9,918.2	11,438.6	936.6	2,519.3	3,456.0	14,894.6	123.2	591.2	44.7	759.1	15,653.7
Q2	1,528.0	10,048.6	11,576.6	972.9	2,529.6	3,502.5	15,079.1	115.9	609.1	64.6	789.7	15,868.8
Q3	1,538.1	10,177.5	11,715.5	1,175.8	2,551.8	3,727.5	15,443.1	120.4	598.0	49.5	767.9	16,211.0
Q4 ^(p)	1,538.3	9,790.1	11,328.4	1,376.1	2,566.6	3,942.7	15,271.2	123.3	653.6	42.1	819.0	16,090.2
2022 July	1,531.7	10,105.3	11,637.0	1,002.3	2,537.7	3,540.0	15,177.0	125.2	593.7	30.7	749.6	15,926.6
Aug.	1,536.4	10,184.2	11,720.6	1,031.8	2,546.8	3,578.6	15,299.2	123.7	595.5	38.4	757.7	16,056.9
Sep.	1,538.1	10,177.5	11,715.5	1,175.8	2,551.8	3,727.5	15,443.1	120.4	598.0	49.5	767.9	16,211.0
Oct.	1,541.2	10,022.3	11,563.4	1,253.3	2,556.2	3,809.6	15,373.0	125.0	619.7	19.5	764.2	16,137.2
Nov.	1,541.1	9,907.6	11,448.8	1,327.0	2,551.5	3,878.5	15,327.3	138.8	640.5	38.5	817.8	16,145.1
Dec. ^(p)	1,538.3	9,790.1	11,328.4	1,376.1	2,566.6	3,942.7	15,271.2	123.3	653.6	42.1	819.0	16,090.2
Transactions												
2020	139.2	1,243.9	1,383.2	-33.8	86.3	52.5	1,435.7	19.6	111.0	1.3	131.9	1,567.6
2021	107.4	898.7	1,006.1	-121.6	66.7	-55.0	951.1	12.1	21.2	14.5	47.8	998.8
2022 ^(p)	68.7	-3.5	65.1	426.2	56.9	483.1	548.2	3.7	6.3	73.7	83.8	632.0
2022 Q1	50.7	126.5	177.2	23.8	10.5	34.3	211.4	4.9	-56.2	23.0	-28.3	183.1
Q2	7.6	111.3	118.8	30.6	10.6	41.2	160.0	-8.6	18.0	17.0	26.4	186.3
Q3	10.1	117.9	128.0	160.5	21.9	182.4	310.4	2.6	-11.0	39.3	30.9	341.3
Q4 ^(p)	0.3	-359.2	-358.9	211.4	13.9	225.3	-133.5	4.8	55.5	-5.5	54.8	-78.7
2022 July	3.7	45.7	49.4	25.8	8.0	33.8	83.2	8.3	-15.4	14.5	7.3	90.5
Aug.	4.7	85.4	90.1	27.9	9.0	36.9	127.0	-1.8	1.9	10.9	11.0	138.0
Sep.	1.7	-13.3	-11.6	106.8	4.9	111.7	100.1	-3.8	2.5	13.9	12.7	112.8
Oct.	3.1	-150.8	-147.7	79.9	3.2	83.2	-64.5	5.0	21.6	-28.9	-2.3	-66.8
Nov.	-0.1	-99.5	-99.6	78.7	-4.6	74.1	-25.5	14.6	20.8	16.6	52.0	26.5
Dec. ^(p)	-2.8	-108.8	-111.6	52.8	15.3	68.1	-43.5	-14.8	13.1	6.8	5.1	-38.5
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	3.4	367.7	6.5	6.9
2022 ^(p)	4.7	0.0	0.6	45.6	2.3	14.0	3.7	3.0	1.0	465.1	11.3	4.1
2022 Q1	9.4	8.7	8.8	-5.7	2.0	-0.2	6.6	9.4	-3.9	71.0	0.6	6.3
Q2	7.8	7.1	7.2	2.5	1.8	2.0	6.0	-2.6	-1.1	95.4	2.6	5.8
Q3	6.5	5.5	5.6	23.6	2.3	8.0	6.2	-4.5	-1.3	367.3	7.8	6.3
Q4 ^(p)	4.7	0.0	0.6	45.6	2.3	14.0	3.7	3.0	1.0	465.1	11.3	4.1
2022 July	7.4	6.7	6.8	5.9	2.1	3.2	5.9	3.8	-5.1	101.2	1.6	5.7
Aug.	7.1	6.7	6.8	10.9	2.3	4.6	6.3	3.6	-4.8	190.8	3.4	6.1
Sep.	6.5	5.5	5.6	23.6	2.3	8.0	6.2	-4.5	-1.3	367.3	7.8	6.3
Oct.	6.0	3.4	3.8	30.1	2.3	9.9	5.2	-7.9	-0.7	65.2	3.1	5.1
Nov.	5.4	1.9	2.4	38.5	1.9	11.9	4.6	8.2	-0.7	237.2	8.5	4.8
Dec. ^(p)	4.7	0.0	0.6	45.6	2.3	14.0	3.7	3.0	1.0	465.1	11.3	4.1

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	2,968.8	2,517.0	308.2	140.2	3.3	7,665.2	4,967.3	437.0	2,260.1	0.9	1,087.6	235.3	497.3
2021	3,234.7	2,810.2	288.9	128.7	6.9	8,090.5	5,383.9	372.5	2,333.4	0.7	1,225.3	227.8	546.3
2022 ^(p)	3,368.5	2,732.2	495.7	134.7	5.9	8,392.7	5,555.8	441.8	2,394.3	0.9	1,301.1	235.3	558.6
2022 Q1	3,268.6	2,839.5	289.1	129.7	10.3	8,187.2	5,478.3	358.0	2,349.8	1.0	1,256.3	231.7	553.5
Q2	3,303.4	2,857.6	304.4	130.6	10.8	8,252.4	5,538.1	354.0	2,359.6	0.7	1,309.6	231.3	570.3
Q3	3,382.7	2,852.2	388.4	133.3	8.8	8,371.0	5,620.1	369.9	2,380.0	1.0	1,476.0	243.9	551.9
Q4 ^(p)	3,368.5	2,732.2	495.7	134.7	5.9	8,392.7	5,555.8	441.8	2,394.3	0.9	1,301.1	235.3	558.6
2022 July	3,331.4	2,869.3	321.8	130.4	9.8	8,294.2	5,571.1	354.1	2,368.3	0.8	1,335.9	241.0	567.9
Aug.	3,387.3	2,899.2	347.4	132.5	8.2	8,330.3	5,596.6	357.0	2,375.8	0.8	1,364.7	237.5	566.5
Sep.	3,382.7	2,852.2	388.4	133.3	8.8	8,371.0	5,620.1	369.9	2,380.0	1.0	1,476.0	243.9	551.9
Oct.	3,409.2	2,821.3	446.9	131.7	9.3	8,384.9	5,613.6	384.7	2,385.6	1.1	1,350.8	255.0	557.1
Nov.	3,395.5	2,767.8	487.9	131.8	8.1	8,378.0	5,581.6	412.9	2,382.5	1.0	1,343.3	250.4	557.7
Dec. ^(p)	3,368.5	2,732.2	495.7	134.7	5.9	8,392.7	5,555.8	441.8	2,394.3	0.9	1,301.1	235.3	558.6
Transactions													
2020	511.7	466.2	55.3	-6.8	-3.0	612.8	561.7	-53.8	105.0	0.0	137.8	20.6	33.1
2021	252.0	277.0	-21.4	-6.9	3.3	424.5	412.7	-65.1	77.0	-0.2	142.2	-9.5	46.6
2022 ^(p)	122.1	-87.7	205.6	5.7	-1.4	297.0	167.7	73.1	56.1	0.1	43.8	7.9	12.6
2022 Q1	28.3	24.4	-0.3	0.9	3.3	95.3	93.2	-10.6	12.4	0.3	30.5	4.1	7.5
Q2	22.4	8.9	12.5	0.8	0.2	62.9	57.9	-4.8	10.1	-0.3	42.6	-0.6	16.5
Q3	69.0	-11.8	80.5	2.7	-2.3	113.1	77.4	15.1	20.4	0.3	127.8	11.4	-18.5
Q4 ^(p)	2.5	-109.1	112.8	1.3	-2.6	25.7	-60.7	73.4	13.2	-0.1	-157.1	-7.1	7.0
2022 July	23.5	8.9	15.9	-0.2	-1.1	38.3	29.9	-0.2	8.6	0.1	19.4	8.8	-2.4
Aug.	54.1	29.0	24.8	2.1	-1.7	35.3	24.9	2.8	7.5	0.1	36.0	-3.5	-1.4
Sep.	-8.6	-49.7	39.8	0.8	0.5	39.4	22.6	12.5	4.2	0.1	72.4	6.1	-14.7
Oct.	29.7	-29.0	59.7	-1.6	0.6	14.0	-5.5	15.1	4.4	0.1	-122.9	11.3	5.3
Nov.	-5.6	-48.2	43.5	0.1	-1.1	-4.5	-30.4	29.0	-3.0	0.0	2.4	-3.9	0.7
Dec. ^(p)	-21.6	-31.9	9.6	2.8	-2.1	16.2	-24.8	29.4	11.8	-0.2	-36.5	-14.6	1.0
Growth rates													
2020	20.6	22.5	21.5	-4.5	-46.6	8.7	12.8	-10.9	4.9	-5.4	13.8	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 ^(p)	3.8	-3.1	70.0	4.4	-17.2	3.7	3.1	19.8	2.4	20.0	3.8	3.5	2.3
2022 Q1	6.9	8.7	-5.0	-4.2	39.8	4.6	7.1	-14.3	2.6	26.1	13.5	5.7	12.6
Q2	6.0	6.7	2.5	-1.2	22.5	4.1	6.2	-12.5	2.3	-15.0	12.2	2.7	15.8
Q3	5.9	3.3	34.0	1.8	-15.2	4.2	5.6	-4.2	2.6	55.7	18.1	7.2	6.4
Q4 ^(p)	3.8	-3.1	70.0	4.4	-17.2	3.7	3.1	19.8	2.4	20.0	3.8	3.5	2.3
2022 July	6.1	6.1	9.5	-0.9	16.4	4.2	6.1	-10.8	2.5	-4.5	11.6	5.7	13.3
Aug.	7.2	6.3	19.4	1.3	-18.5	4.2	5.8	-8.9	2.7	6.7	14.7	3.9	12.3
Sep.	5.9	3.3	34.0	1.8	-15.2	4.2	5.6	-4.2	2.6	55.7	18.1	7.2	6.4
Oct.	6.0	1.4	51.1	1.8	2.6	4.1	5.0	1.1	2.5	7.6	6.8	8.4	7.4
Nov.	5.3	-0.9	66.8	1.7	-2.8	3.8	4.0	10.3	2.2	7.9	6.6	8.7	6.8
Dec. ^(p)	3.8	-3.1	70.0	4.4	-17.2	3.7	3.1	19.8	2.4	20.0	3.8	3.5	2.3

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			
												Adjusted loans ²⁾
1	2	3	4	5	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	14,802.6	12,332.2	12,716.4	4,861.4	6,373.6	937.4	159.7	1,582.3	888.1
2022 ^(p)	6,373.3	1,007.1	5,341.1	15,381.6	12,978.8	13,151.2	5,126.6	6,632.3	1,073.5	146.4	1,566.2	836.6
2022 Q1	6,550.9	1,001.6	5,546.6	15,018.2	12,561.3	12,699.2	4,915.7	6,472.2	1,020.1	153.3	1,587.9	869.0
Q2	6,503.0	1,000.6	5,478.2	15,180.6	12,788.3	12,926.2	5,020.4	6,552.7	1,051.7	163.6	1,561.3	830.9
Q3	6,360.0	1,002.3	5,333.3	15,420.7	13,050.1	13,185.0	5,165.7	6,612.6	1,110.6	161.2	1,546.0	824.6
Q4 ^(p)	6,373.3	1,007.1	5,341.1	15,381.6	12,978.8	13,151.2	5,126.6	6,632.3	1,073.5	146.4	1,566.2	836.6
2022 July	6,537.0	998.0	5,514.8	15,252.9	12,857.0	12,991.3	5,068.7	6,576.3	1,052.0	160.0	1,564.5	831.4
Aug.	6,426.8	998.3	5,404.3	15,320.4	12,941.4	13,073.2	5,132.6	6,595.7	1,060.1	153.0	1,548.9	830.1
Sep.	6,360.0	1,002.3	5,333.3	15,420.7	13,050.1	13,185.0	5,165.7	6,612.6	1,110.6	161.2	1,546.0	824.6
Oct.	6,378.6	996.3	5,358.0	15,410.4	13,039.3	13,172.9	5,187.6	6,621.2	1,071.0	159.5	1,537.2	833.8
Nov.	6,423.0	994.5	5,403.5	15,439.6	13,041.2	13,191.0	5,164.4	6,630.8	1,096.3	149.7	1,561.1	837.4
Dec. ^(p)	6,373.3	1,007.1	5,341.1	15,381.6	12,978.8	13,151.2	5,126.6	6,632.3	1,073.5	146.4	1,566.2	836.6
Transactions												
2020	1,039.9	13.5	1,026.3	733.4	534.7	555.5	287.6	209.3	20.7	17.1	170.6	28.2
2021	665.7	-0.4	675.7	561.9	473.9	507.3	176.0	261.8	46.2	-10.2	78.8	9.2
2022 ^(p)	178.4	10.1	167.3	627.6	619.4	667.8	267.7	240.6	124.3	-13.1	14.6	-6.3
2022 Q1	100.4	4.3	96.1	197.3	192.6	186.5	46.3	71.8	80.3	-5.9	18.6	-13.9
Q2	68.6	-0.9	69.5	210.2	229.1	237.8	100.9	84.7	33.3	10.3	-14.0	-4.9
Q3	-36.4	1.9	-38.6	223.9	233.6	238.0	139.2	58.2	39.4	-3.2	-9.2	-0.5
Q4 ^(p)	45.8	4.8	40.3	-3.9	-36.0	5.5	-18.8	25.9	-28.8	-14.3	19.1	13.0
2022 July	-15.4	-2.7	-12.8	53.4	60.2	59.7	45.2	21.1	-1.8	-4.3	-5.0	-1.8
Aug.	-27.0	0.8	-27.7	85.6	92.9	93.2	63.7	19.4	16.8	-7.0	-8.4	1.1
Sep.	6.0	3.9	1.9	84.9	80.6	85.1	30.3	17.8	24.5	8.1	4.2	0.1
Oct.	11.4	-6.0	17.4	-5.2	-3.7	-2.3	25.4	10.0	-37.5	-1.6	-9.7	8.2
Nov.	7.6	-2.0	9.0	38.3	16.9	32.7	-16.2	12.7	29.9	-9.5	19.6	1.9
Dec. ^(p)	26.8	12.8	14.0	-37.0	-49.2	-24.9	-28.0	3.2	-21.2	-3.2	9.3	2.9
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	3.8	4.3	5.1	-4.6	5.2	1.1
2022 ^(p)	2.8	1.0	3.1	4.2	5.0	5.3	5.5	3.8	13.3	-7.9	0.9	-0.6
2022 Q1	10.1	0.8	11.9	4.2	4.3	4.6	3.5	4.4	8.7	-1.2	6.6	-1.7
Q2	8.4	-0.2	10.1	5.2	5.9	6.2	6.0	4.6	13.7	7.8	5.0	-2.8
Q3	5.0	0.5	5.8	5.8	6.7	7.0	8.0	4.4	15.0	10.0	3.5	-3.0
Q4 ^(p)	2.8	1.0	3.1	4.2	5.0	5.3	5.5	3.8	13.3	-7.9	0.9	-0.6
2022 July	7.0	-0.9	8.5	5.2	5.9	6.3	6.6	4.5	12.2	4.9	4.3	-2.7
Aug.	5.5	-0.5	6.7	5.6	6.4	6.8	7.8	4.4	13.9	-0.7	3.7	-3.0
Sep.	5.0	0.5	5.8	5.8	6.7	7.0	8.0	4.4	15.0	10.0	3.5	-3.0
Oct.	4.6	0.8	5.3	5.2	6.2	6.5	8.1	4.1	11.4	3.1	0.9	-1.8
Nov.	3.7	0.4	4.3	5.1	5.8	6.2	7.3	4.0	12.2	-6.4	2.8	-0.9
Dec. ^(p)	2.8	1.0	3.1	4.2	5.0	5.3	5.5	3.8	13.3	-7.9	0.9	-0.6

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					6				
	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	4,861.4	4,993.3	885.1	1,005.8	2,970.5	6,373.6	6,638.4	698.5	4,971.1	704.0
2022 ^(p)	5,126.6	5,118.4	965.2	1,078.4	3,083.0	6,632.3	6,827.1	716.7	5,214.8	700.8
2022 Q1	4,915.7	4,890.2	909.5	1,003.0	3,003.2	6,472.2	6,672.1	701.5	5,063.2	707.4
Q2	5,020.4	4,995.6	949.8	1,028.3	3,042.2	6,552.7	6,742.3	709.0	5,138.6	705.1
Q3	5,165.7	5,136.5	1,008.0	1,067.9	3,089.8	6,612.6	6,801.3	713.1	5,194.4	705.2
Q4 ^(p)	5,126.6	5,118.4	965.2	1,078.4	3,083.0	6,632.3	6,827.1	716.7	5,214.8	700.8
2022 July	5,068.7	5,041.2	962.2	1,042.0	3,064.6	6,576.3	6,763.4	711.3	5,159.5	705.4
Aug.	5,132.6	5,098.2	987.6	1,063.0	3,082.0	6,595.7	6,784.7	711.5	5,178.7	705.5
Sep.	5,165.7	5,136.5	1,008.0	1,067.9	3,089.8	6,612.6	6,801.3	713.1	5,194.4	705.2
Oct.	5,187.6	5,153.9	1,006.4	1,077.5	3,103.7	6,621.2	6,811.7	715.4	5,202.0	703.8
Nov.	5,164.4	5,144.3	993.1	1,072.8	3,098.5	6,630.8	6,824.7	716.7	5,210.3	703.8
Dec. ^(p)	5,126.6	5,118.4	965.2	1,078.4	3,083.0	6,632.3	6,827.1	716.7	5,214.8	700.8
Transactions										
2020	287.6	324.9	-53.5	138.5	202.6	209.3	193.7	-11.6	210.8	10.2
2021	176.0	208.2	-1.5	2.7	174.9	261.8	267.2	10.7	255.0	-3.8
2022 ^(p)	267.7	304.2	80.1	76.5	111.1	240.6	248.6	21.6	217.5	1.5
2022 Q1	46.3	53.5	20.6	-3.2	28.9	71.8	80.5	5.1	65.0	1.7
Q2	100.9	106.6	40.5	22.6	37.7	84.7	74.6	7.5	75.7	1.5
Q3	139.2	139.7	55.4	39.6	44.3	58.2	59.0	4.0	55.0	-0.8
Q4 ^(p)	-18.8	4.4	-36.4	17.5	0.1	25.9	34.7	5.0	21.7	-0.9
2022 July	45.2	44.3	11.1	13.2	20.9	21.1	19.3	2.1	20.7	-1.7
Aug.	63.7	58.8	26.6	21.7	15.5	19.4	22.0	0.0	19.1	0.3
Sep.	30.3	36.7	17.8	4.7	7.8	17.8	17.6	1.9	15.2	0.6
Oct.	25.4	24.0	-0.4	10.6	15.2	10.0	11.7	2.4	8.3	-0.7
Nov.	-16.2	-4.0	-12.6	-0.9	-2.7	12.7	17.7	2.1	8.9	1.7
Dec. ^(p)	-28.0	-15.5	-23.4	7.8	-12.4	3.2	5.3	0.5	4.5	-1.8
Growth rates										
2020	6.4	7.1	-5.6	15.9	7.7	3.5	3.1	-1.6	4.7	1.5
2021	3.8	4.3	-0.2	0.3	6.2	4.3	4.2	1.5	5.4	-0.5
2022 ^(p)	5.5	6.3	9.0	7.6	3.7	3.8	3.8	3.1	4.4	0.2
2022 Q1	3.5	4.2	2.4	-0.8	5.4	4.4	4.5	2.6	5.4	-0.2
Q2	6.0	6.9	14.1	5.9	3.7	4.6	4.6	3.4	5.4	0.0
Q3	8.0	8.9	19.6	9.9	4.0	4.4	4.4	3.3	5.1	0.2
Q4 ^(p)	5.5	6.3	9.0	7.6	3.7	3.8	3.8	3.1	4.4	0.2
2022 July	6.6	7.6	15.5	7.5	3.8	4.5	4.5	3.4	5.3	-0.3
Aug.	7.8	8.7	18.7	9.7	4.1	4.4	4.5	3.3	5.2	0.0
Sep.	8.0	8.9	19.6	9.9	4.0	4.4	4.4	3.3	5.1	0.2
Oct.	8.1	8.9	16.9	11.0	4.7	4.1	4.2	3.3	4.8	0.0
Nov.	7.3	8.3	14.1	10.0	4.4	4.0	4.1	3.0	4.6	0.3
Dec. ^(p)	5.5	6.3	9.0	7.6	3.7	3.8	3.8	3.1	4.4	0.2

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	6,883.7	1,837.3	37.1	1,997.3	3,011.9	1,372.6	391.9	128.5	136.8
2022 ^(p)	683.6	6,731.8	1,780.9	31.0	2,112.9	2,807.0	1,332.1	418.6	137.8	147.6
2022 Q1	740.2	6,882.8	1,848.2	35.9	1,988.7	3,010.1	1,361.1	346.4	160.7	164.4
Q2	757.5	6,801.3	1,843.8	31.6	2,008.6	2,917.3	1,313.5	430.6	166.5	157.3
Q3	642.5	6,782.7	1,801.9	31.5	2,096.5	2,852.9	1,319.0	536.5	148.0	146.7
Q4 ^(p)	683.6	6,731.8	1,780.9	31.0	2,112.9	2,807.0	1,332.1	418.6	137.8	147.6
2022 July	741.2	6,902.2	1,833.1	31.2	2,059.4	2,978.6	1,345.4	434.7	173.4	159.7
Aug.	649.5	6,827.1	1,813.2	31.9	2,080.4	2,901.6	1,362.0	424.3	157.4	145.7
Sep.	642.5	6,782.7	1,801.9	31.5	2,096.5	2,852.9	1,319.0	536.5	148.0	146.7
Oct.	676.4	6,745.2	1,789.3	30.8	2,101.2	2,824.0	1,280.2	489.7	144.4	156.1
Nov.	692.3	6,792.4	1,788.1	30.8	2,109.6	2,863.9	1,307.3	459.9	161.2	170.6
Dec. ^(p)	683.6	6,731.8	1,780.9	31.0	2,112.9	2,807.0	1,332.1	418.6	137.8	147.6
Transactions										
2020	299.6	-35.8	-15.1	-8.0	-101.0	88.3	-59.6	117.6	-43.6	-47.5
2021	40.0	-37.1	-75.1	-5.0	-39.7	82.7	-115.8	-110.0	-8.3	-4.3
2022 ^(p)	-75.8	38.9	-90.1	-5.3	15.5	118.7	-72.5	-138.5	10.5	17.9
2022 Q1	-19.0	-28.3	-19.5	-1.3	-25.0	17.5	-32.6	-129.2	32.0	34.7
Q2	17.2	20.0	-8.1	-4.2	-16.0	48.3	-60.9	5.5	7.2	-7.1
Q3	-115.0	-4.1	-47.0	-0.1	-2.2	45.2	-26.3	60.9	-18.6	-10.6
Q4 ^(p)	41.0	51.3	-15.5	0.4	58.7	7.8	47.3	-75.7	-10.2	1.0
2022 July	-16.2	-2.7	-12.6	-0.4	-5.2	15.6	-4.6	38.3	6.8	2.4
Aug.	-91.7	-8.2	-20.6	0.7	4.7	7.0	30.6	-51.2	-16.0	-14.0
Sep.	-7.1	6.8	-13.8	-0.4	-1.6	22.6	-52.2	73.8	-9.5	1.0
Oct.	33.9	-10.0	-11.9	0.1	12.7	-10.9	4.4	-53.4	-3.6	9.4
Nov.	15.4	37.3	1.9	0.1	33.8	1.5	11.7	21.6	16.9	14.5
Dec. ^(p)	-8.4	24.0	-5.4	0.2	12.2	17.1	31.2	-43.9	-23.4	-22.9
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 ^(p)	-10.0	0.6	-4.8	-14.1	0.6	4.1	-	-	7.9	12.7
2022 Q1	5.8	-0.7	-4.0	-13.1	-2.0	2.3	-	-	19.6	30.3
Q2	12.2	0.0	-3.0	-21.2	-1.5	3.2	-	-	26.0	21.7
Q3	-7.4	-0.1	-4.8	-18.6	-2.0	4.4	-	-	4.4	4.2
Q4 ^(p)	-10.0	0.6	-4.8	-14.1	0.6	4.1	-	-	7.9	12.7
2022 July	7.8	-0.1	-3.4	-21.0	-2.2	3.8	-	-	30.2	25.1
Aug.	-8.2	-0.1	-4.1	-18.4	-1.7	3.8	-	-	25.0	18.0
Sep.	-7.4	-0.1	-4.8	-18.6	-2.0	4.4	-	-	4.4	4.2
Oct.	-8.2	-0.4	-5.0	-17.2	-2.2	3.9	-	-	2.4	9.6
Nov.	-2.8	0.2	-4.4	-15.8	-0.7	3.8	-	-	11.3	18.5
Dec. ^(p)	-10.0	0.6	-4.8	-14.1	0.6	4.1	-	-	7.9	12.7

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
2018	-0.4	-1.0	0.1	0.2	0.3	1.4
2019	-0.6	-1.0	0.1	0.1	0.3	1.0
2020	-7.0	-5.8	-0.4	0.0	-0.9	-5.5
2021	-5.1	-5.1	-0.1	0.1	-0.1	-3.7
2021 Q4	-5.1	.	.	.	.	-3.7
2022 Q1	-4.0	.	.	.	.	-2.5
Q2	-2.8	.	.	.	.	-1.3
Q3	-2.6	.	.	.	.	-1.0

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

6.2 Revenue and expenditure

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

	Revenue						Expenditure						
	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
2018	46.5	46.0	12.9	13.0	15.2	0.5	46.9	43.2	9.9	5.3	1.8	22.3	3.7
2019	46.3	45.8	12.9	13.0	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	4.5
2021	47.2	46.5	13.3	13.1	15.3	0.7	52.3	47.5	10.2	6.0	1.5	24.2	4.8
2021 Q4	47.2	46.5	13.3	13.1	15.3	0.7	52.3	47.5	10.2	6.0	1.5	24.2	4.8
2022 Q1	47.2	46.5	13.3	13.2	15.2	0.7	51.2	46.4	10.1	5.9	1.5	23.7	4.7
Q2	47.4	46.7	13.6	13.2	15.1	0.7	50.3	45.6	10.0	5.9	1.5	23.3	4.6
Q3	47.5	46.8	13.7	13.2	15.0	0.7	50.1	45.6	9.9	5.8	1.6	23.2	4.6

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

6.3 Government debt-to-GDP ratio

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

	Total	Financial instrument			Holder			Original maturity		Residual maturity			Currency	
		Currency and 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	
	MFIs													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
2018	86.0	3.1	13.8	69.0	48.3	32.6	37.6	8.2	77.8	16.1	28.3	41.5	84.5	1.5
2019	83.9	3.0	13.0	67.9	45.5	30.7	38.4	7.7	76.2	15.6	27.7	40.6	82.6	1.3
2020	97.0	3.2	14.2	79.7	54.4	39.1	42.6	11.1	85.9	18.9	31.0	47.2	95.4	1.7
2021	95.4	3.0	13.6	78.7	55.5	41.6	39.9	9.9	85.4	17.8	30.3	47.3	93.9	1.4
2021 Q4	95.4	3.0	13.6	78.7	.	.	.	.	.	.	.	.	.	.
2022 Q1	95.2	2.9	13.4	78.9	.	.	.	.	.	.	.	.	.	.
Q2	94.2	3.0	13.3	77.9	.	.	.	.	.	.	.	.	.	.
Q3	93.0	2.9	13.4	76.7	.	.	.	.	.	.	.	.	.	.

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

6 Fiscal developments

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

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

	Change in debt-to-GDP ratio ²⁾	Primary deficit (+)/surplus (-)	Deficit-debt adjustment								Interest-growth differential	Memo item: Borrowing requirement
			Total	Transactions in main financial assets					Revaluation effects and other changes in volume	Other		
				Total	Currency and deposits	Loans	Debt securities	Equity and investment fund shares				
	1	2	3	4	5	6	7	8	9	10	11	12
2018	-2.0	-1.4	0.4	0.4	0.4	-0.1	0.0	0.2	0.0	-0.1	-1.0	0.8
2019	-2.0	-1.0	0.1	0.2	0.1	0.0	0.0	0.2	-0.2	0.0	-1.1	0.9
2020	13.1	5.5	2.2	2.5	2.0	0.4	-0.1	0.1	-0.3	0.0	5.4	9.5
2021	-1.7	3.7	-0.1	0.6	0.4	0.1	0.0	0.1	-0.1	-0.6	-5.3	5.1
2021 Q4	-1.7	3.7	-0.1	0.6	0.4	0.1	0.0	0.1	-0.1	-0.6	-5.3	5.1
2022 Q1	-4.4	2.5	0.4	0.9	0.5	0.1	0.0	0.2	0.0	-0.5	-7.3	4.4
Q2	-3.7	1.3	0.9	1.2	0.9	0.1	0.0	0.2	0.1	-0.4	-5.8	3.7
Q3	-4.3	1.0	0.4	0.3	-0.2	0.3	0.0	0.2	0.2	-0.1	-5.8	2.8

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

1) Intergovernmental lending in the context of the financial crisis is consolidated except in quarterly data on the deficit-debt adjustment.

2) Calculated as the difference between the government debt-to-GDP ratios at the end of the reference period and a year earlier.

6.5 Government debt securities ¹⁾

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

	Debt service due within 1 year ²⁾					Average residual maturity in years ³⁾	Average nominal yields ⁴⁾						
	Total	Principal		Interest			Outstanding amounts					Transactions	
		Maturities of up to 3 months	Maturities of up to 3 months	Total	Floating rate		Zero coupon	Fixed rate	Issuance	Redemption			
											Maturities of up to 1 year		
	1	2	3	4	5	6	7	8	9	10	11	12	13
2019	12.2	10.8	3.6	1.4	0.4	7.5	2.2	1.3	-0.1	2.5	2.1	0.3	1.1
2020	14.9	13.5	4.2	1.4	0.4	7.6	1.8	1.2	-0.2	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
2021 Q3	14.5	13.2	4.4	1.3	0.3	7.9	1.7	1.1	-0.3	2.0	1.8	-0.1	0.5
Q4	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 Q1	14.7	13.4	5.0	1.3	0.3	8.0	1.5	1.1	-0.3	1.9	1.7	-0.1	0.4
Q2	14.6	13.4	4.8	1.3	0.3	8.0	1.6	1.1	-0.2	1.9	1.8	0.1	0.4
2022 July	14.3	13.0	4.6	1.3	0.3	8.1	1.6	1.1	-0.2	1.9	1.7	0.2	0.5
Aug.	14.5	13.3	4.7	1.3	0.3	8.0	1.6	1.1	-0.1	1.9	1.7	0.3	0.3
Sep.	14.0	12.8	4.0	1.3	0.3	8.1	1.6	1.1	0.0	1.9	1.9	0.6	0.4
Oct.	14.4	13.2	3.8	1.3	0.3	8.1	1.6	1.1	0.2	1.8	1.9	0.7	0.5
Nov.	14.4	13.1	4.0	1.3	0.3	8.1	1.6	1.2	0.3	1.9	1.9	1.0	0.5
Dec.	14.2	12.9	4.5	1.3	0.3	8.0	1.6	1.2	0.4	1.9	1.9	1.0	0.5

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	Italy	Cyprus	
	1	2	3	4	5	6	7	8	9	
Government deficit (-)/surplus (+)										
2018	-0.9	1.9	-0.6	0.1	0.9	-2.6	-2.3	-2.2	-3.6	
2019	-1.9	1.5	0.1	0.5	1.1	-3.1	-3.1	-1.5	1.3	
2020	-9.0	-4.3	-5.5	-5.0	-9.9	-10.1	-9.0	-9.5	-5.8	
2021	-5.6	-3.7	-2.4	-1.7	-7.5	-6.9	-6.5	-7.2	-1.7	
2021 Q4	-5.6	-3.7	-2.4	-1.7	-7.5	-6.9	-6.5	-7.2	-1.7	
2022 Q1	-4.8	-2.8	-1.8	-0.2	-5.1	-5.4	-5.1	-6.5	0.0	
Q2	-4.0	-1.7	-0.6	0.1	-2.4	-4.6	-3.9	-5.3	1.3	
Q3	-3.7	-1.9	-0.2	1.2	-2.1	-3.8	-4.0	-4.9	2.6	
Government debt										
2018	99.9	61.3	8.2	63.0	186.4	100.4	97.8	134.4	98.1	
2019	97.6	58.9	8.5	57.0	180.6	98.2	97.4	134.1	90.4	
2020	112.0	68.0	18.5	58.4	206.3	120.4	115.0	154.9	113.5	
2021	109.2	68.6	17.6	55.4	194.5	118.3	112.8	150.3	101.0	
2021 Q4	109.2	68.6	17.6	55.4	194.5	118.3	112.8	150.3	101.1	
2022 Q1	109.0	67.4	17.2	53.1	189.6	117.4	114.6	152.1	102.0	
Q2	108.3	67.2	16.7	51.2	183.5	116.1	113.1	150.4	95.3	
Q3	106.3	66.6	15.8	49.0	178.2	115.6	113.4	147.3	91.6	
	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Austria	Portugal	Slovenia	Slovakia	Finland
	10	11	12	13	14	15	16	17	18	19
Government deficit (-)/surplus (+)										
2018	-0.8	0.5	3.0	2.1	1.5	0.2	-0.3	0.7	-1.0	-0.9
2019	-0.6	0.5	2.2	0.6	1.8	0.6	0.1	0.6	-1.2	-0.9
2020	-4.3	-7.0	-3.4	-9.4	-3.7	-8.0	-5.8	-7.7	-5.4	-5.5
2021	-7.0	-1.0	0.8	-7.8	-2.6	-5.9	-2.9	-4.7	-5.5	-2.7
2021 Q4	-7.0	-1.0	0.8	-7.5	-2.6	-5.9	-2.9	-4.7	-5.5	-2.8
2022 Q1	-5.2	0.0	0.8	-7.5	-1.5	-3.5	-1.6	-3.6	-4.8	-2.1
Q2	-3.6	1.0	0.9	-6.7	0.1	-1.5	0.2	-3.1	-3.8	-1.6
Q3	-3.2	0.9	0.7	-5.5	0.5	-1.9	1.1	-2.7	-3.7	-1.3
Government debt										
2018	37.0	33.7	20.9	43.7	52.4	74.1	121.5	70.3	49.4	64.9
2019	36.5	35.8	22.4	40.7	48.5	70.6	116.6	65.4	48.0	64.9
2020	42.0	46.3	24.5	53.3	54.7	82.9	134.9	79.6	58.9	74.8
2021	43.6	43.7	24.5	56.3	52.4	82.3	125.5	74.5	62.2	72.4
2021 Q4	43.6	43.7	24.5	55.2	52.4	82.3	125.5	74.5	62.2	72.3
2022 Q1	41.7	39.8	22.6	56.2	50.7	83.4	124.8	74.7	61.6	72.2
Q2	41.6	39.6	25.3	53.9	50.8	82.6	123.4	73.5	60.3	71.7
Q3	39.9	37.3	24.6	53.2	49.0	81.3	120.1	72.3	58.6	70.8

Source: Eurostat.

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This Bulletin was produced under the responsibility of the Executive Board of the ECB. Translations are prepared and published by the national central banks.

The cut-off date for the statistics included in this issue was 1 February 2023.

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PDF ISSN 2363-3417, QB-BP-23-001-EN-N
HTML ISSN 2363-3417, QB-BP-23-001-EN-Q