



EUROPEAN CENTRAL BANK

EUROSYSTEM

# Economic Bulletin

Issue 2 / 2022



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# Economic, financial and monetary developments

## Overview

The Russian invasion of Ukraine will have a material impact on economic activity and inflation through higher energy and commodity prices, the disruption of international commerce and weaker confidence. The extent of these effects will depend on how the conflict evolves, on the impact of current sanctions and on possible further measures.

The impact of the war has to be assessed in the context of solid underlying conditions for the euro area economy, helped by ample policy support. The recovery of the economy is being boosted by the fading impact of the Omicron variant of the coronavirus (COVID-19). Supply bottlenecks have been showing some signs of easing and the labour market has been improving further. In the baseline of the March 2022 ECB staff macroeconomic projections, which incorporate a first assessment of the implications of the war in Ukraine, GDP growth has been revised downwards for the near term owing to the conflict.

Inflation has continued to surprise on the upside because of unexpectedly high energy costs. Price rises have also become more broadly based. The baseline for inflation in the new staff projections has been revised upwards significantly. Longer-term inflation expectations across a range of measures have re-anchored at the ECB's inflation target. The Governing Council sees it as increasingly likely that inflation will stabilise at its 2% target over the medium term.

In alternative scenarios for the economic and financial impact of the war, economic activity could be dampened significantly by a steeper rise in energy and commodity prices and a more severe drag on trade and sentiment. Inflation could be considerably higher in the near term. However, in all scenarios, inflation is still expected to decrease progressively and settle at levels around the 2% inflation target in 2024.

Based on its updated assessment of the inflation outlook and taking into account the uncertain environment, the Governing Council has revised the purchase schedule for its asset purchase programme (APP) for the coming months. Monthly net purchases under the APP will amount to €40 billion in April, €30 billion in May and €20 billion in June. The calibration of net purchases for the third quarter will be data-dependent and will reflect the Governing Council's evolving assessment of the outlook. If the incoming data support the expectation that the medium-term inflation outlook will not weaken, even after the end of its net asset purchases, the Governing Council will conclude net purchases under the APP in the third quarter. If the medium-term inflation outlook changes and financing conditions become inconsistent with further progress towards the 2% target, the Governing Council stands ready to revise its schedule for net asset purchases in terms of size and/or duration. Any adjustments

to the key ECB interest rates will take place some time after the end of net purchases under the APP and will be gradual. The path for the key ECB interest rates will continue to be determined by the Governing Council's forward guidance and by its strategic commitment to stabilising inflation at 2% over the medium term. Accordingly, the Governing Council expects the key ECB interest rates to remain at their present levels until it sees inflation reaching 2% well ahead of the end of its projection horizon and durably for the rest of the projection horizon, and judges that realised progress in underlying inflation is sufficiently advanced to be consistent with inflation stabilising at 2% over the medium term. The Governing Council also confirmed its other policy measures.

## Economic activity

The global economy expanded at a robust pace during 2021, despite headwinds related to the resurgence of the coronavirus pandemic and supply bottlenecks. Survey indicators point to continued growth in activity in the first quarter of 2022. However, the Russia-Ukraine war casts significant uncertainty on an otherwise robust global outlook. Recent surveys of economic activity suggest that growth momentum picked up from January to February as pandemic and supply-side pressures eased. However, on account of the economic fallout from the war and the gradual unwinding of policy stimulus, projections of global growth have been revised downwards, in particular for 2022 and 2023, when compared with the December projections. Global real GDP (excluding the euro area) is estimated to have expanded by 6.3% in 2021, with the pace of growth projected to moderate to 4.1% in 2022 and 3.6% in both 2023 and 2024. Euro area foreign demand growth is projected to moderate from 9.9% in 2021 to 4% in 2022, 3.2% in 2023 and 3.6% in 2024. Compared with global imports, euro area foreign demand is more heavily affected by the conflict, given the relatively large share of euro area trade which stems from Russia and countries in central and eastern Europe that are particularly exposed to the headwinds from the conflict. Compared with the previous projections, the growth rate of euro area foreign demand has been left unchanged for 2022 (as the impact of the invasion fully offsets the positive carry-over effect from 2021) and has been revised downwards for 2023 and 2024. Supply bottlenecks are expected to start easing during 2022 and to fully unwind by 2023. The export prices of the euro area's competitors have been revised upwards for 2022 and 2023 as higher commodity prices, supply bottlenecks and recovering demand overlap. While the future course of the pandemic remains an important risk factor affecting the baseline projections for the global economy, the Russia-Ukraine war significantly amplifies uncertainty. Downside tail risks from a further escalation could be significant and could derail the global recovery, while fuelling inflationary pressures.

The Russia-Ukraine war will have a material impact on economic activity in the euro area through higher energy and commodity prices, the disruption of international commerce and weaker confidence. However, underlying conditions are solid, helped by ample policy support. The economy grew by 5.3% in 2021, with GDP returning to its pre-pandemic level at the end of the year. However, growth slowed to 0.3% in the last quarter of 2021 and is expected to remain weak during the first quarter of 2022.

The prospects for the economy will depend on the course of the Russia-Ukraine war and on the impact of economic and financial sanctions and other measures. At the same time, other headwinds to growth are now waning. In the baseline of the staff projections, the euro area economy should still grow robustly in 2022, but the pace will be slower than was expected before the outbreak of the war. Measures to contain the spread of the Omicron variant have had a milder impact than those employed during previous waves and are now being lifted. The supply disruptions caused by the pandemic also show some signs of easing and the labour market has continued to strengthen. The impact of the massive energy price shock on people and businesses may be partly cushioned by drawing on savings accumulated during the pandemic and by compensatory fiscal measures.

According to the March 2022 ECB staff macroeconomic projections, the euro area general government budget balance remains on a path to improvement following the very high deficits recorded as a result of the coronavirus crisis. Risks to this baseline are, however, substantial and increasingly tilted towards larger budget deficits, mainly related to the war in Ukraine. According to the baseline, the deficit ratio is estimated to have fallen to 5.5% of GDP in 2021 from a peak of 7.2% in 2020. It is projected to fall further to 3.1% in 2022 and to 2% by the end of the forecast horizon. In terms of the euro area fiscal stance, a strong expansion in 2020 was followed by a moderate tightening in 2021 once adjusted for Next Generation EU (NGEU) grants. In 2022 the stance is projected to tighten further, mainly owing to a reversal of a significant part of the coronavirus crisis emergency support. The tightening is projected to be only marginal over the last two years of the forecast horizon, and significant support to the economy remains in place. In the light of high risks currently emanating from multiple sources, which are in part already materialising, fiscal measures, including at EU level, would help to shield the economy. Fiscal policies need to remain agile as the situation evolves. A willingness to employ fiscal measures is not inconsistent with the need for a credible medium-term normalisation of public finances.

Over the medium term, according to the baseline of the staff projections, growth will be driven by robust domestic demand, supported by a stronger labour market. With more people in jobs, households should earn higher incomes and spend more. The global recovery and the ongoing fiscal and monetary policy support are also contributing to this growth outlook. Fiscal and monetary policy support remains critical, especially in this difficult geopolitical situation. Euro area growth is still expected to be robust in 2022, but the pace will be slower than was expected before the outbreak of the war. The March staff macroeconomic projections foresee annual real GDP growth at 5.4% in 2021, 3.7% in 2022, 2.8% in 2023 and 1.6% in 2024. Compared with the December projections, the outlook has been revised down for 2022 and 2023. This builds on the assumption that current disruptions to energy supplies and negative impacts on confidence linked to the conflict are temporary and that global supply chains are not significantly affected. In an adverse scenario in which stricter sanctions are imposed on Russia, leading to some disruption in global value chains, higher energy costs and some temporary cuts in euro area production, as well as additional financial disruption and more persistent uncertainty, euro area growth would be 1.2 percentage points lower than the baseline in 2022. The

difference in 2023 would be limited, and in 2024 growth would be somewhat stronger owing to catch-up effects. In the event of a severe scenario (which, in addition to the features of the adverse scenario, assumes a stronger reaction of energy prices to more stringent cuts in supply and stronger repricing in financial markets), GDP growth could end up 1.4 percentage points below the baseline in 2022 and 0.5 percentage points below it in 2023, with relatively modest catch-up effects in 2024.

## Inflation

Inflation increased to 5.8% in February from 5.1% in January and is expected to rise further in the near term. Energy inflation, which reached 31.7% in February, continues to be the main reason for the high overall rate of inflation and is pushing up prices across many other sectors. Food prices have also increased, owing to seasonal factors, elevated transportation costs and higher fertiliser prices. Energy costs have risen further in recent weeks and there will be more pressure on some food and commodity prices owing to the war in Ukraine. Price rises have become more widespread. Most measures of underlying inflation have risen over recent months to levels above 2%. However, it is uncertain how persistent the rise in these indicators will be, given the role of temporary pandemic-related factors and the indirect effects of higher energy prices. Market-based indicators suggest that energy prices will stay high for longer than previously expected but will moderate over the course of the projection horizon. Price pressures stemming from global supply bottlenecks should also subside. Labour market conditions have continued to improve, with unemployment falling to 6.8% in January. Even though labour shortages are affecting more and more sectors, wage growth remains muted overall. Over time, the economy's return to full capacity should support somewhat faster growth in wages. Various measures of longer-term inflation expectations derived from financial markets and from surveys stand at around 2%. These factors will also contribute further to underlying inflation and will help headline inflation to settle durably at the 2% target.

The March 2022 staff macroeconomic projections foresee annual inflation at 5.1% in 2022, 2.1% in 2023 and 1.9% in 2024 – substantially higher than in the previous projections in December, especially for 2022. Inflation excluding food and energy is projected to average 2.6% in 2022, 1.8% in 2023 and 1.9% in 2024, which is also higher than in the December projections. Should the adverse scenario described above materialise, inflation could be 0.8 percentage points higher in 2022. As oil and gas markets rebalance, the large spikes in energy prices would gradually unwind, causing inflation to decline to below the baseline, especially in 2024. In the more severe scenario, inflation would be 2 percentage points higher in 2022, with significantly higher inflation also seen in 2023. In 2024 stronger second-round effects would offset the negative impact on inflation from declining energy prices, leaving inflation unchanged from the baseline.

## Risk assessment

The Governing Council sees the risks to the economic outlook as substantially increased and tilted to the downside. While risks relating to the pandemic have declined, the war in Ukraine may have a stronger effect on economic sentiment and could worsen supply-side constraints again. Persistently high energy costs, together with a loss of confidence, could drag down demand more than expected and constrain consumption and investment. The same factors are risks to the outlook for inflation, which are on the upside in the near term. The war in Ukraine is a substantial upside risk, especially to energy prices. If price pressures feed through into higher than anticipated wage rises or there are persistent adverse supply-side implications, inflation could also turn out to be higher over the medium term. However, if demand were to weaken over the medium term, this could also lower pressures on prices.

## Financial and monetary conditions

The Russian invasion of Ukraine has caused substantial volatility in financial markets. Following the outbreak of war, risk-free market interest rates have partially reversed the increase observed since the Governing Council's February meeting and equity prices have fallen. The financial sanctions against Russia, including the exclusion of some Russian banks from SWIFT, have so far not caused severe strains in money markets or liquidity shortages in the euro area banking system. Bank balance sheets remain healthy overall, owing to robust capital positions and fewer non-performing loans. Banks are now as profitable as they were before the pandemic. Bank lending rates for firms have increased somewhat, while lending rates for household mortgages remain steady at historically low levels. Lending flows to firms have declined, after increasing strongly in the last quarter of 2021. Lending to households is holding up, especially for house purchases.

## Monetary policy decisions

Based on its updated assessment and taking into account the uncertain environment, the Governing Council has revised the purchase schedule for its asset purchase programme (APP) for the coming months. Monthly net purchases under the APP will amount to €40 billion in April, €30 billion in May and €20 billion in June. The calibration of net purchases for the third quarter will be data-dependent and will reflect the Governing Council's evolving assessment of the outlook. If the incoming data support the expectation that the medium-term inflation outlook will not weaken, even after the end of its net asset purchases, the Governing Council will conclude net purchases under the APP in the third quarter. If the medium-term inflation outlook changes and financing conditions become inconsistent with further progress towards the 2% target, the Governing Council stands ready to revise its schedule for net asset purchases in terms of size and/or duration.

The Governing Council also intends to continue reinvesting, in full, the principal payments from maturing securities purchased under the APP for an extended period of time past the date when it starts raising the key ECB interest rates and, in any case, for as long as necessary to maintain favourable liquidity conditions and an ample degree of monetary accommodation.

The interest rates on the main refinancing operations, the marginal lending facility and the deposit facility will remain unchanged at 0.00%, 0.25% and -0.50% respectively.

Any adjustments to the key ECB interest rates will take place some time after the end of net purchases under the APP and will be gradual. The path for the key ECB interest rates will continue to be determined by the Governing Council's forward guidance and by its strategic commitment to stabilise inflation at 2% over the medium term. Accordingly, the Governing Council expects the key ECB interest rates to remain at their present levels until it sees inflation reaching 2% well ahead of the end of its projection horizon and durably for the rest of the projection horizon, and judges that realised progress in underlying inflation is sufficiently advanced to be consistent with inflation stabilising at 2% over the medium term.

The Governing Council is conducting net asset purchases under the pandemic emergency purchase programme (PEPP) at a lower pace in the first quarter of 2022 than in the previous quarter. It will discontinue net asset purchases under the PEPP at the end of March 2022.

The Governing Council intends to reinvest the principal payments from maturing securities purchased under the PEPP 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 pandemic has shown that, under stressed conditions, flexibility in the design and conduct of asset purchases has helped to counter the impaired transmission of monetary policy and has made the Governing Council's efforts to achieve its goal more effective. Within the Governing Council's mandate, under stressed conditions, flexibility will remain an element of monetary policy whenever threats to monetary policy transmission jeopardise the attainment of price stability. In particular, in the event of renewed market fragmentation related to the pandemic, PEPP reinvestments can be adjusted flexibly across time, asset classes and jurisdictions at any time. This could include purchasing bonds issued by the Hellenic Republic over and above rollovers of redemptions in order to avoid an interruption of purchases in that jurisdiction, which could impair the transmission of monetary policy to the Greek economy while it is still recovering from the fallout from the pandemic. Net purchases under the PEPP could also be resumed, if necessary, to counter negative shocks related to the pandemic.

The Governing Council will continue to monitor bank funding conditions and ensure that the maturing of operations under the third series of targeted longer-term refinancing operations (TLTRO III) does not hamper the smooth transmission of its monetary policy. The Governing Council will also regularly assess how targeted



lending operations are contributing to its monetary policy stance. As announced, it expects the special conditions applicable under TLTRO III to end in June this year. The Governing Council will also assess the appropriate calibration of its two-tier system for reserve remuneration so that the negative interest rate policy does not limit banks' intermediation capacity in an environment of ample excess liquidity.

In view of the highly uncertain environment caused by the Russian invasion of Ukraine and the risk of regional spillovers that could adversely affect euro area financial markets, the Governing Council has decided to extend the Eurosystem repo facility for central banks (EUREP) until 15 January 2023. EUREP will therefore continue to complement the regular euro liquidity-providing arrangements for non-euro area central banks. Together, these form a comprehensive set of backstop facilities to address possible euro liquidity needs in the event of market dysfunction outside the euro area that could adversely affect the smooth transmission of the ECB's monetary policy. Requests from non-euro area central banks for individual euro liquidity lines will be assessed by the Governing Council on a case-by-case basis.

The Governing Council stands ready to adjust all of its instruments, as appropriate, to ensure that inflation stabilises at its 2% target over the medium term.

## 1 External environment

*The March 2022 ECB staff macroeconomic projections for the euro area point to subdued global economic activity at the turn of the year as the Omicron variant of the coronavirus (COVID-19) started to spread quickly, supply bottlenecks persisted and commodity prices remained high. The Russia-Ukraine war casts significant uncertainty on the global outlook, especially in the near term. Global real GDP (excluding the euro area) is estimated to have expanded by 6.3% in 2021, with the pace of growth projected to moderate to 4.1% in 2022 and 3.6% in both 2023 and 2024. Compared with the previous projections, global growth has been revised upwards for 2021, when significant policy support fuelled global demand for goods, and downwards for 2022 and 2023 in particular, on account of the economic fallout from the Russia-Ukraine war and the gradual unwinding of policy stimulus. After a strong rebound in 2021 (12.1%), global import growth is set to moderate in 2022 on the back of lower activity and the negative impact on trade of the Russia-Ukraine war. In 2023 and 2024 global imports are projected to grow at a slower pace, reflecting the effect of the ongoing conflict, a broad-based deceleration across regions and the assumption that demand for consumer goods will gradually normalise. Euro area foreign demand growth is projected to moderate from 9.9% in 2021 to 4% in 2022, 3.2% in 2023 and 3.6% in 2024. Compared with global imports, euro area foreign demand is more heavily affected by the conflict, given the higher weight in euro area trade of Russia and countries in central and eastern Europe, which are more exposed to the headwinds from the conflict than other countries outside the euro area. Compared with the previous projections, the growth rate of euro area foreign demand has been left unchanged for 2022, as the impact of the invasion fully offsets the positive carry-over effect from 2021, and revised downwards for 2023 (-1.1 percentage points) and 2024 (-0.3 percentage points). Supply bottlenecks are expected to start easing during 2022 and to fully unwind by 2023. The export prices of the euro area's competitors have been revised upwards for 2022 and 2023 as higher commodity prices, supply bottlenecks and recovering demand coalesce. While the future course of the pandemic remains an important risk factor affecting the baseline projections for the global economy, the Russia-Ukraine war significantly amplifies uncertainty. Looking ahead, downside tail risks from a further escalation of the conflict could be significant and could derail the global recovery, while fuelling inflationary pressures.*

### Global economic activity and trade

#### **The global economy expanded at a robust pace during 2021, despite headwinds related to the resurgence of the pandemic and supply bottlenecks.**

In 2021 COVID-19 infections surged at different times across the globe and weighed on economic activity even where strong containment measures were not imposed. Nonetheless, real GDP continued to recover, driven by significant policy support and a strong rebound in global demand for manufactured goods as consumer demand rotated away from services in response to pandemic-related containment measures. With producers struggling to meet higher demand by increasing the supply of goods

to an equal extent, and disruptions in the logistics industry hampering the timely supply of production inputs, severe strains in global production networks already started to weigh on the global business cycle towards the end of 2020, thus creating headwinds to the economic recovery during 2021.<sup>1</sup> Compared with the December 2021 Eurosystem staff macroeconomic projections, global real GDP growth (excluding the euro area) in 2021 has been revised up by 0.3 percentage points to 6.3%.

**Survey indicators point to continued growth in activity in the first quarter of 2022 and to supply-side disruptions having peaked since the end of 2021.** In February the global composite PMI index (excluding the euro area) rose to 53.1 from 51 in January, driven mainly by the services sector, which rebounded from a decline at the turn of the year induced by the spread of the Omicron variant. The global manufacturing output PMI also increased but to a lesser extent, signalling positive albeit moderate growth. Overall, the economic impact of the Omicron variant is expected to be moderate and limited to the first quarter of 2022. Nevertheless, the emergence of novel and more aggressive variants of the virus cannot be ruled out and COVID-19 remains a downside risk to the global economy despite the strong protection offered by vaccines. Compared with the December 2021 Eurosystem staff macroeconomic projections, global real GDP growth (excluding the euro area) for the first quarter of 2022 has been revised down by 0.7 percentage points, to 0.5% quarter on quarter, largely on account of the impact of the Omicron variant. The global suppliers' delivery times PMI (excluding the euro area) has been improving slightly of late but remains tight and still points to long delivery times, while congestion in ocean shipping remains elevated. At the same time, given strong growth in merchandise trade and car production in recent months, it appears that supply constraints in some sectors might have passed their peak. Overall, the March 2022 ECB staff macroeconomic projections continue to assume that supply bottlenecks will gradually start to ease over the course of 2022 and to fully unwind by 2023. This will happen as consumer demand rotates back from goods to services and shipping capacity and semiconductor supply increase on the back of planned investment.

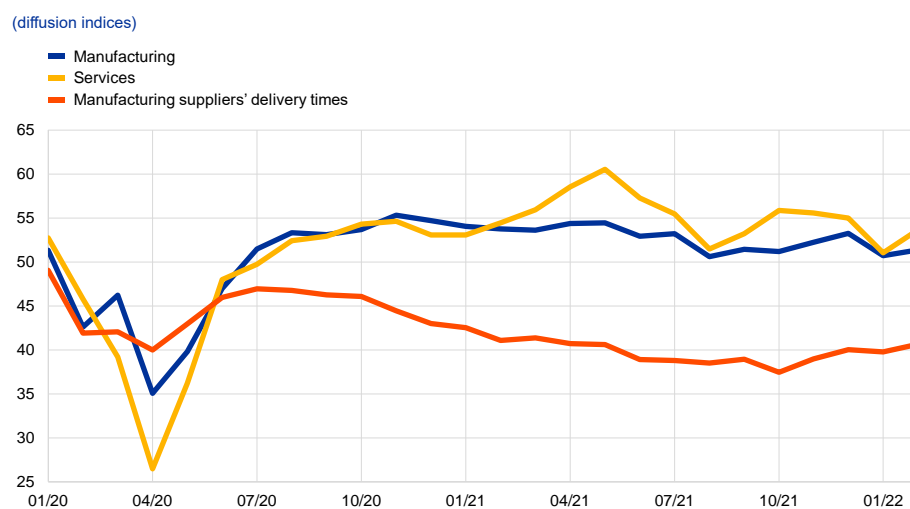
**The Russia-Ukraine war casts significant uncertainty on an otherwise robust global outlook.** The Russian invasion of Ukraine has sent jitters through the global economy and is assessed to weigh on the global outlook via three main channels. First, the substantial financial and (non-energy) trade sanctions being imposed on Russia will severely affect economic activity and trade in the country over the projection horizon. The exclusion of some Russian banks from SWIFT translates into more extensive disruptions, also affecting global trade, by severely impairing trade financing for Russian firms. Second, the conflict has put significant upward pressure on commodity prices, as Russia plays a major role in EU energy markets, while Ukraine is a top exporter of food commodities – mostly cereals – to the EU. Commodity prices had already been significantly affected by rising geopolitical tensions throughout 2021, and the invasion of Ukraine has pushed them up even

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<sup>1</sup> See Box 1 in this issue of the Economic Bulletin.

further.<sup>2</sup> Finally, the Russia-Ukraine war is hurting global confidence, inducing negative effects on both the financial and the real economy sides. The ensuing worsening of financial conditions, together with sustained geopolitical tensions and uncertainty, is expected in turn to affect investment.

**Chart 1**  
Global output PMI (excluding the euro area) by sector



Sources: IHS Markit and ECB calculations.  
Note: The latest observations are for February 2022.

**The policy support for growth is diminishing over the projection horizon.**

Continued inflation surprises in the course of 2021 have prompted central banks to announce a faster unwinding of pandemic-related stimulus, with some emerging market economies (EMEs) already entering the tightening cycle in 2021. As a result, financial conditions have become tighter, thus weighing on economic growth in Brazil and other countries. Monetary policy is turning less accommodative across some large advanced economies as well. The Bank of England started to tighten in December 2021 and has raised interest rates three times since then. In the United States, the Federal Reserve System has started to unwind the monetary policy stimulus and raised the Federal Funds Rate in March 2022. The pace of monetary policy tightening is now expected to be faster than assumed some months ago, including a reduction in the monthly pace of net asset purchases at a coming meeting. The monetary policy stance remains accommodative in China, where the central bank has recently cut reserve requirement ratios for banks and lowered several key policy rates in response to the headwinds to growth. Also in Japan, monetary policy remains accommodative as inflation is below the central bank’s target.

**Global financial conditions have tightened across advanced and emerging economies.** Since the December 2021 Eurosystem staff macroeconomic projections, financial conditions in advanced economies have become less

<sup>2</sup> While sanctions have not directly targeted the energy sector so far, some supply disruption has likely already occurred. This is because firms are increasingly reluctant to buy Russian oil, major companies are divesting Russian oil assets, and banks and insurance companies are increasingly unwilling to finance and insure Russian commodities trade.

accommodative, although they remain loose in the United States when judged against the economy's position in the business cycle. Developments were dominated initially by waning concerns about the downside risks posed by the Omicron variant and rising expectations of monetary policy tightening by the Federal Reserve System. More recently, the Russian invasion of Ukraine has had a tightening impact on financial conditions amid a deterioration in risk sentiment, particularly in European markets. Across EMEs, financial conditions continued to tighten as risk-off sentiment added to the tightening of monetary policy over the past year, especially in large EMEs, amid high inflation (excluding China).

**Global real GDP growth (excluding the euro area) is projected to gradually moderate over the projection horizon.** From 2022 onwards, global real GDP (excluding the euro area) is projected to record more moderate growth rates. This reflects the short-lived impact of the Omicron variant and, further out, the effect of the Russia-Ukraine war. Rising inflation is expected to keep private consumption subdued, while tighter labour market conditions and diminishing policy support, which are only partly counterbalanced by unwinding supply bottlenecks, are projected to remain a drag on the economy. This is especially the case for the United States, where it is assumed that monetary policy support will be unwound starting in 2022. Also, the fiscal stimulus embedded in the current baseline is smaller than assumed until the December 2021 Eurosystem staff macroeconomic projections. Given that Congress is not expected to approve the Build Back Better Act, only the measures adopted over the summer are included in the baseline projections. Economic growth in Russia is projected to take a severe hit from the effects of the war in Ukraine and the sanctions that have been imposed. Among other EMEs, growth is projected to slow in Brazil, mainly due to aggressive monetary policy tightening in response to rising inflationary pressures, and in Turkey given the market turmoil related to high policy uncertainty and very high inflation, adversely affecting consumption and investment. Compared with the December 2021 Eurosystem staff macroeconomic projections, global real GDP growth has been revised down over the projection horizon (-0.4 percentage points in 2022, -0.3 percentage points in 2023 and -0.1 percentage points in 2024). In 2022 the adverse impact of the factors listed above is partly offset by a positive carry-over effect from the end of 2021, while in later years downward revisions relate to weaker global growth on account of the Russia-Ukraine war and also to lower growth in both the United States and some large EMEs. Real GDP growth is projected to total 4.1% in 2022 and 3.6% in both 2023 and 2024.

**In the United States, economic activity is expected to have slowed down at the turn of the year as a result of the Omicron variant and lower government support.** The US economy expanded strongly in the fourth quarter of 2021, driven mainly by strong replenishment of inventories. Growth is projected to have declined at the turn of the year due to the impact of the Omicron variant and lower private consumption induced by reduced government transfers. Economic activity is expected to rebound thereafter, albeit only gradually, as the Russia-Ukraine war is seen to weigh on activity especially in the second quarter. Consumer price inflation, both headline and core, continued to surprise to the upside over the last few months, thus leading the Federal Reserve to start unwinding its monetary policy stimulus and

raising rates in March 2022. At the same time, the overall number of rate hikes anticipated for 2022 was raised to seven in the recently released March 2022 Federal Open Market Committee projections, including an overshooting of the neutral long-run rate in 2023-24. Over the forecast horizon, US growth is expected to moderate on the back of a smaller fiscal impulse and monetary policy tightening. Headline inflation is forecast to peak at above 7% in the first quarter of 2022 and decline thereafter, but to remain above the Federal Reserve's target of 2%, consistent with a positive output gap.

**In China, economic activity remained subdued at the turn of the year, buffeted by persistent headwinds.** Real GDP growth declined in the second half of 2021 in annual terms, reflecting the turmoil in the residential property sector and new outbreaks of COVID-19. These headwinds continued to weigh on investment and consumption at the turn of the year, such that GDP and trade growth are seen to decelerate in the first quarter of 2022. In the second quarter, the effect from the Russia-Ukraine war is expected to slightly limit the strength of the anticipated rebound. Headline consumer price inflation decreased from 1.5% in December to 0.9% in January (year on year), largely due to food price deflation as pork prices normalised and food supply recovered from disruptions caused by bad weather. Core CPI, excluding food and energy, remained unchanged at 1.2% (year on year). Higher commodity prices have resulted in upward revisions to forecast inflation in early 2022 but are not expected to materially change the inflation outlook for 2022-24. Policy is turning more accommodative to counterbalance the headwinds to economic growth.

**In Japan, a firmer recovery is expected further ahead following a temporary slowdown in growth at the start of 2022.** The economic recovery resumed towards the end of 2021, after containment measures were lifted in late summer and some supply constraints started to ease. While the economy is expected to have slowed again at the start of 2022 due to the impact of the Omicron variant and lingering supply constraints, a firmer recovery is seen further ahead, supported by recent announcements of additional fiscal policy stimulus. The fallout from the Russia-Ukraine war is assessed to be rather limited at this stage and to occur mainly in the short term. Economic growth is then expected to moderate and gradually return to trend. Annual CPI inflation is projected to pick up in the near term, in part reflecting the waning of some temporary factors (including lower mobile phone charges), but to remain below the central bank's target over the projection horizon.

**In the United Kingdom, the outlook is expected to remain rather subdued amid strong price pressures and persistent supply bottlenecks.** The pace of economic recovery remained weak in the last quarter of 2021, mainly because of the rapid spread of the Omicron variant in December, which added to the stress from supply bottlenecks and labour shortages in some sectors. While the drag from the Omicron variant appears short-lived, the fallout from the Russia-Ukraine war is seen to weigh on growth in the near term. Further out, other, more structural impediments, partly related to Brexit, are expected to continue weighing on UK activity over the projection horizon. Consumer price inflation surprised to the upside in January as a result of high food prices and rising services costs. Headline inflation is projected to

peak at close to 7% in the second quarter of 2022 – with further rate hikes by the Bank of England expected to come – and to moderate thereafter.

**In central and eastern EU Member States, headwinds – not least related to the war in Ukraine – are expected to slow the pace of economic expansion.** Activity in central and eastern Europe continued to expand at a solid pace in the second half of 2021 on the back of strong household consumption. Going forward, real GDP growth is forecast to moderate amid the economic fallout from the war in Ukraine, persistent supply bottlenecks, price pressures and a temporary increase in the number of new COVID-19 cases. Economic activity is expected to remain resilient in the medium term, driven by recovering domestic demand. Developments in energy markets and the latest data point to continued inflationary pressures in 2022 and 2023, while a normalisation towards more moderate rates is projected at the end of the forecast horizon.

**In Russia, the economy is expected to enter recession in 2022 as a result of the invasion of Ukraine and the ensuing sanctions imposed by Western countries.** Growth momentum was strong towards the end of 2021, but the severe sanctions and negative sentiment are expected to significantly reduce both internal and external financing, cut consumption and investment and disrupt Russia's international trade. Significant depreciation of the rouble prompted the central bank to raise its policy rate from 9.5% to 20% and impose capital controls to stabilise markets. Looking ahead, the depreciation of the rouble and import price shocks from sanctions will likely keep inflation high. Inflation is expected to return towards the Bank of Russia's target of 4% only gradually in the medium term. The outlook remains clouded by significant geopolitical risks.

**In Brazil, a fast tightening of monetary policy and a less benign foreign environment are expected to weigh on growth in 2022.** Economic growth resumed in the last quarter of 2021, as net exports became less of a drag. At the same time, the recovery in domestic demand remained subdued due to high inflation, rising interest rates, worsening market sentiment and persistent supply bottlenecks. The fast tightening of monetary policy and the less benign foreign environment are likely to weigh on growth in 2022, while the impact of the Omicron variant is expected to be only short-lived. Economic growth is projected to rebound somewhat beyond 2022 as market sentiment improves and supply bottlenecks ease. However, limited fiscal space and insufficient progress on structural reforms will continue to constrain medium-term growth prospects. Given the recent surge in commodity prices, consumer price inflation is only expected to return to target in 2023.

**In Turkey, economic activity is expected to slow sharply after growing strongly in 2021, as policy uncertainty and macroeconomic imbalances are exacerbated by significant exposure to the fallout from the Russia-Ukraine war.** In 2021 economic activity rebounded strongly in Turkey on the back of accommodative economic policies, pent-up demand and buoyant external demand. Despite rising inflationary and depreciation pressures, the central bank delivered a fourth consecutive policy rate cut in December, to 14%. As a result, the foreign exchange and stock markets experienced historically high volatility, later curbed by sizeable

currency interventions and the introduction of a new scheme of protected lira time deposits. Inflation reached 36.1% in December 2021 and rose to almost 55% in February 2022. Looking ahead, a slowdown in private consumption induced by rising living costs, coupled with a decline in investment, is expected to weigh on the growth outlook. The economic fallout from the Russia-Ukraine war is likely to be significant for Turkey, given the large flows of tourists from both countries as well as Turkey's dependency on (energy) imports from Russia. The conflict could therefore seriously affect growth and macroeconomic stability, by adding to inflationary pressures, curtailing exports and widening the current account deficit, which could in turn exacerbate the already sizeable depreciation of the lira.

**Global trade (excluding the euro area) grew robustly in 2021, supported by strong demand for goods, notwithstanding supply chain disruptions.** Global trade proved stronger than expected in the second half of 2021, driven by a robust performance in emerging Asia and, in the fourth quarter, the United States. Strains in global production networks continue to be felt in the shipping sector in particular, where prices remain elevated. By contrast, the recovery in global car production points to some easing of semiconductor shortages in recent months. Compared with the December 2021 Eurosystem staff macroeconomic projections, global import growth (excluding the euro area) for 2021 has been revised up by 1 percentage point to 12.1%.

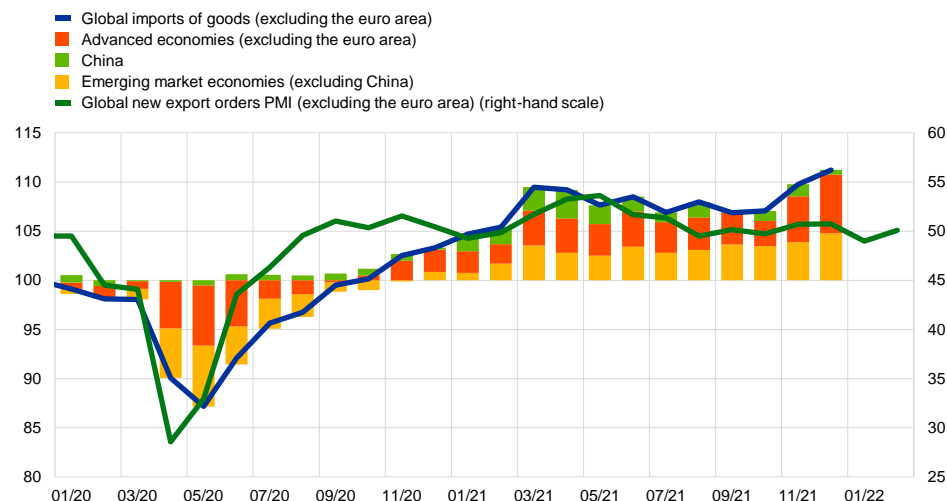
**Incoming high frequency indicators point to subdued trade growth at the turn of the year, although this is expected to be temporary.** Between December and January, services trade (as reflected in the weekly indicators for hotel bookings and numbers of flights) declined as the pandemic intensified. This volatility proved only temporary, as concerns about the severity of the Omicron variant's impact started to dissipate. For the first quarter of 2022, high frequency data point to continued trade growth stemming from strong demand, in particular for steel and tech products, and somewhat less disruptive bottlenecks. Taiwan's export orders, a global bellwether of global technology demand, have risen sharply since mid-2021 and reached record highs in November. Steel production recovered strongly towards the end of 2021 after a sharp contraction in the third quarter amid a slowdown in China's real estate sector and new waves of COVID-19 infections. This strong recovery is expected to have continued in early 2022.



## Chart 2

### Global imports of goods and new export orders PMI (excluding the euro area)

(left-hand scale: index, December 2019 = 100; right-hand scale: diffusion index)



Sources: IHS Markit, CPB Netherlands Bureau for Economic Policy Analysis and ECB calculations.

Note: The latest observations are for February 2022 for the PMI data and December 2021 for global imports of goods.

#### **Global import growth (excluding the euro area) is expected to gradually normalise over the projection horizon.**

The better than expected outturn in the second half of 2021 gives rise to a large carry-over effect into 2022 which more than offsets the weaker dynamics stemming from the revisions in global activity and the negative effects on trade of the Russia-Ukraine war. In 2023 global imports are projected to grow at a more moderate pace, reflecting the effect of the ongoing conflict, a broad-based deceleration across regions and the assumption that demand for consumer goods will gradually normalise. Compared with the December 2021 Eurosystem staff macroeconomic projections, global import growth has been revised upwards for 2022 (by 0.7 percentage points), on account of the positive carry-over effect, and downwards for 2023 and 2024 (by 0.7 percentage points and 0.2 percentage points respectively).

#### **Euro area foreign demand is also projected to moderate gradually over the projection horizon, reflecting the fallout from the Russia-Ukraine war.**

After totalling an estimated 9.9% in 2021, growth in euro area foreign demand is projected to moderate to 4.0% in 2022, 3.2% in 2023 and 3.6% in 2024. Compared with global imports, it is more heavily affected by the conflict, given the large share in euro area trade of Russia as well as countries in central and eastern Europe, which are more exposed to the headwinds from the conflict than other countries outside the euro area. Compared with the December 2021 Eurosystem staff macroeconomic projections, the growth rate of euro area foreign demand has been left unchanged for 2022, as the impact of the invasion fully offsets the positive carry-over effect from 2021, and revised downwards for 2023 (by 1.1 percentage points) and 2024 (by 0.3 percentage points).

#### **With uncertainty surrounding the forecast very high, the balance of risks around the global outlook is assessed to be to the downside for activity and to**

**the upside for inflation.** While the pandemic remains an important downside risk to the global outlook, the Russian invasion of Ukraine has raised global uncertainty significantly and is denting global growth. Looking ahead, downside tail risks from a further escalation of the conflict could be significant and could derail the global recovery while fuelling inflationary pressures. Firms may pass higher commodity prices that feed into higher production costs on to consumers in the form of higher prices for final goods. This in turn could lead to higher wage demands and further stoke inflationary pressures via wage-price spirals. Moreover, the Russia-Ukraine conflict could aggravate supply bottlenecks, causing shortages of commodities and critical raw materials in particular, as well as logistical and transport issues resulting from flight and shipping bans affecting trade across the region.

## Global price developments

### **High and rising energy prices remain a key headwind for the global economy.**

Oil spot prices have risen quickly since the cut-off date for the December 2021 Eurosystem staff macroeconomic projections (+57% as of 9 March) and continue to reflect the recovery in demand as well as supply-side limitations. On the demand side, oil markets appear to reflect optimism that the Omicron variant will not affect global oil demand as much as previously feared. More recently, oil prices have been driven primarily by risks to supply. First, the Russian invasion of Ukraine has prompted fears about short-term threats to oil supply as Russia accounts for around 10% of global supply. Second, OPEC+ countries have continued to fall short of the planned production targets, particularly Nigeria and Angola owing to outdated infrastructure and political instability. According to the latest US Energy Information Administration report, the 2022 targets are also unlikely to be reached as some countries are having difficulty bringing idle capacity back online. Oil futures prices remain on a downward slope, reflecting current tightness in the oil market and a high convenience yield, but upside tail risks have increased as tensions between Russia and Ukraine escalated into war. European gas spot prices remain very volatile, reflecting fears that Russia may ration energy supply to Europe in a potentially prolonged conflict (at the cut-off date of 9 March, they were 62% higher than in the December 2021 Eurosystem staff macroeconomic projections). Non-energy commodity prices also increased, due to the increase in both metal and food prices as high energy prices pushed up metals and fertiliser prices, among other factors. Notably, the price of wheat has increased substantially following the Russian invasion of Ukraine as the two countries are among the world's largest exporters of the cereal, together accounting for 25% of global supply.

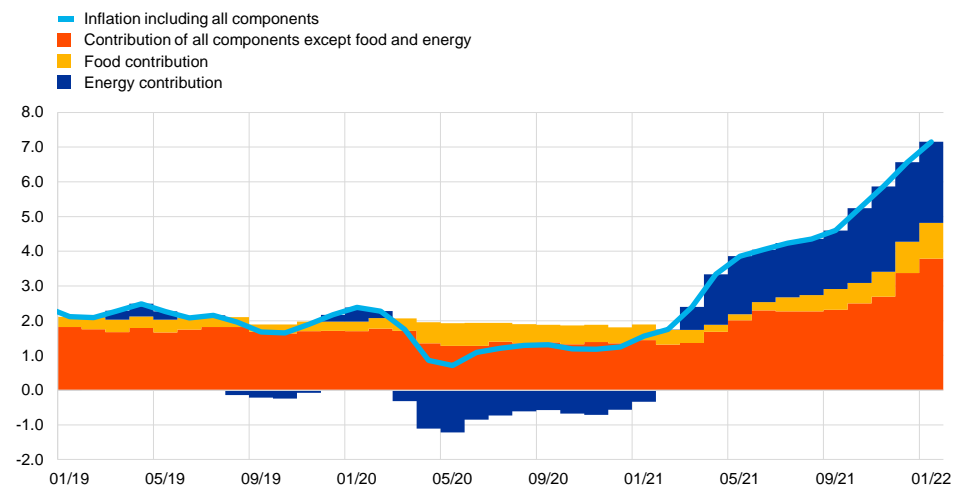
### **Consumer price inflation increased sharply across advanced and emerging economies in 2021.**

In several key economies, consumer price inflation surprised to the upside in the course of 2021 on account of a variety of factors (e.g. high energy prices, strains in global production networks and labour shortages) which are proving more persistent than initially assumed. Across OECD countries, CPI inflation accelerated for the fourth consecutive month in January to reach 7.2%, while core inflation stood at 5.1%. This marked a very steep increase compared with December (+0.6 percentage points and +0.5 percentage points respectively), largely driven by

exceptional price developments in Turkey, where headline inflation in January increased to 48.7%. Excluding Turkey, the increase in headline inflation was more moderate (rising to 5.8% from 5.5% in December) but still sizeable and broad-based across countries. While the increase in inflation in EMEs has brought it to levels broadly in line with historical regularities, inflation in advanced economies has reached multi-year highs.

**Chart 3**  
OECD consumer price inflation

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



Sources: OECD and ECB calculations.  
Note: The latest observations are for January 2022.

**Inflationary pressures among the euro area’s major trading partners are likely to persist in 2022, albeit with declining intensity in some cases, implying ongoing high growth in the export prices of euro area competitors.** Producer prices globally have increased substantially, supported by rising prices for energy and other commodities, particularly food, amid persisting mismatches between supply and demand which was also underpinned by past policy stimulus. As a reflection of this, the annual rate of increase in euro area competitors’ export prices is projected to be much stronger than previously expected in 2022 before slowing to a more subdued pace over the remainder of the projection horizon.

## 2 Financial developments

*Over the review period (16 December 2021 to 9 March 2022), euro area financial markets were predominantly influenced, before 24 February 2022, by shifts in the inflation outlook and rising geopolitical uncertainty with regard to a possible military intervention by Russia in Ukraine and, after 24 February 2022, by Russia's large-scale invasion of Ukraine. Reflecting growing expectations of monetary policy normalisation in an environment of rising near-term inflation expectations, the short end of the euro short-term rate (€STR) forward curve increased markedly, a situation which continued until the end of February. After that, forward rates declined to some extent, with markets adjusting their policy outlook in the face of Russia's invasion of Ukraine. In line with short-term rates, risk-free long-term overnight index swap (OIS) rates also increased strongly at first, before experiencing reversals towards the end of the review period. Sovereign bond spreads remained broadly unchanged overall. The heightened geopolitical uncertainty seen since the end of February triggered significant volatility across markets, with global equities recording notable losses. Euro area corporate bond spreads widened during the review period, a trend which accelerated following Russia's invasion of Ukraine. The euro depreciated against most major currencies.*

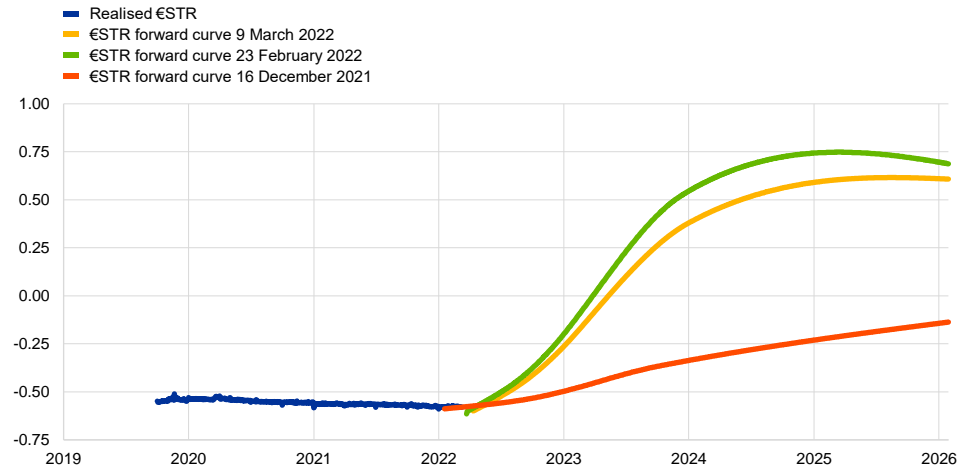
**The benchmark €STR averaged -58 basis points over the review period.** Excess liquidity increased by approximately €105 billion to €4,483 billion, mainly reflecting an increase of around €140 billion<sup>3</sup> in securities held for monetary policy purposes under the pandemic emergency purchase programme and the asset purchase programme, as well as the €51.97 billion take-up of the tenth operation under the third series of targeted longer-term refinancing operations (TLTRO III) on 22 December 2021. The growth in monetary policy assets was substantially offset by early repayments associated with previous TLTRO III operations, which amounted to €60.21 billion worth of funds borrowed.

**Following the December meeting of the Governing Council, there was a marked upward shift in the short end of the €STR forward curve, which accelerated after the February meeting of the Governing Council, suggesting a significant repricing of rate hike expectations by market participants, while the curve flattened somewhat after Russia invaded Ukraine on 24 February 2022 (Chart 4).** The short end of the €STR forward curve moved up during the first part of the review period, until late February, in an environment characterised by upward surprises in headline inflation and increasing near-term inflation expectations. The steepening was especially marked in the light of the firmer expectations of monetary policy normalisation triggered by the February meeting of the Governing Council. Later in the review period, in response to Russia's invasion of Ukraine, the rise in the €STR forward curve reversed to some extent, given increased uncertainty over the economic fallout from the still unfolding war. Overall, the expected rate path and lift-off timing were surrounded by a high level of uncertainty, as reflected by elevated volatility in money markets.

<sup>3</sup> From the week ending 17 December 2021 to the week ending 4 March 2022.

**Chart 4**  
**€STR forward rates**

(percentages per annum)



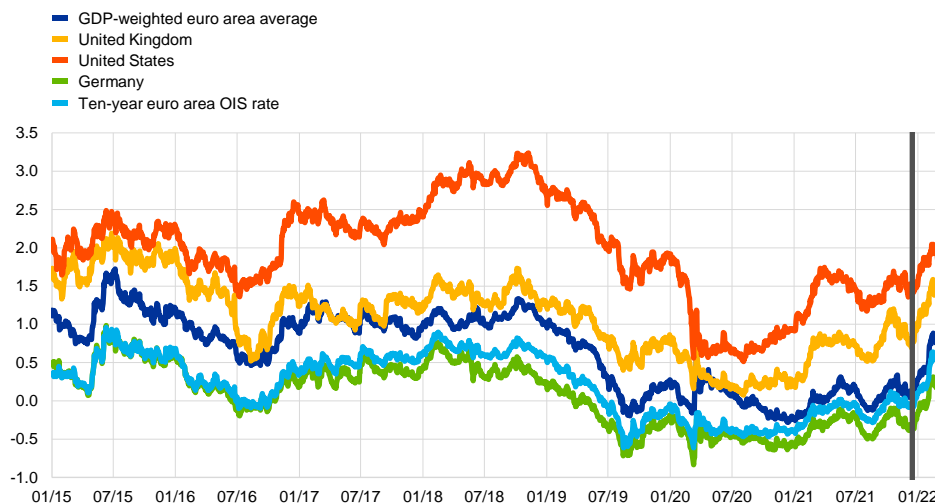
Sources: Bloomberg and ECB calculations.

**Long-term average euro area sovereign bond yields increased in line with risk-free rates, reaching levels that were significantly higher than they had been at the start of the review period, despite a transitory drop after Russia’s invasion of Ukraine on 24 February 2022, with partly differing patterns across euro area countries (Chart 5).** Between mid-December and mid-February, sovereign bond yields increased in line with the strong upward trend in longer-term risk-free rates, which also resulted in a steeper sovereign yield curve, reflecting higher inflation compensation amid waning concerns over the Omicron variant of the coronavirus (COVID-19) and firmer expectations in respect of monetary policy normalisation. However, sovereign bond yields subsequently dropped in the wake of the Russian invasion of Ukraine as real rates fell, with some minor flight-to-safety movements but, overall, a broad-based decline across the euro area amid expectations of slower monetary policy normalisation given the economic uncertainties ahead. Over the review period, both the GDP-weighted euro area average ten-year sovereign bond yield and the ten-year risk-free OIS rate based on the €STR increased by approximately 70 basis points, to 0.74% and 0.64% respectively. Similar developments were seen in the United States, where the ten-year sovereign bond yield increased by around 50 basis points, reaching 1.95% at the end of the review period.

## Chart 5

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

(percentages per annum)



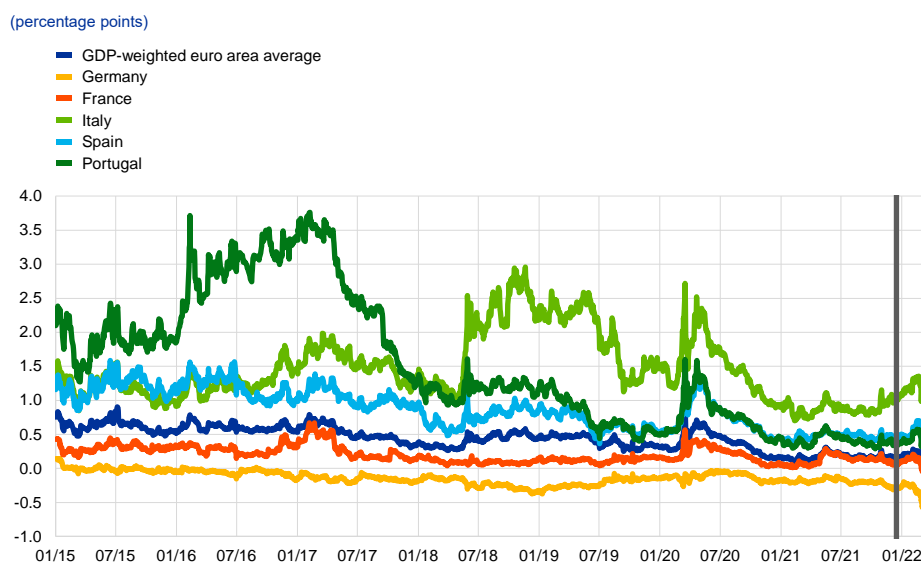
Sources: Refinitiv and ECB calculations.

Notes: The vertical grey line denotes the start of the review period on 16 December 2021. The latest observation is for 9 March 2022.

**Long-term euro area sovereign spreads relative to €STR OIS rates increased in some jurisdictions, especially following the February meeting of the Governing Council, before declining again because of the escalating war in Ukraine (Chart 6).** Several sovereign bond markets displayed spread increases around the February meeting of the Governing Council, in anticipation of potential monetary policy normalisation amid rising inflation concerns (e.g. 19 basis points in Italy, 12 basis points in Portugal and 11 basis points in Spain between 2 February and 4 February 2022). However, the more recent escalation of the Russia-Ukraine conflict more than reversed the upward movement, as expectations of interest rate increases abated. At the end of the review period, the GDP-weighted euro area average ten-year sovereign spread was 7 basis points lower than in December. This change was affected by the decrease in long-term sovereign yield spreads in Germany, which turned more negative by almost 20 basis points in the second half of the review period, possibly driven by a flight to safe-haven countries amid geopolitical tensions.

## Chart 6

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



Sources: Refinitiv and ECB calculations.

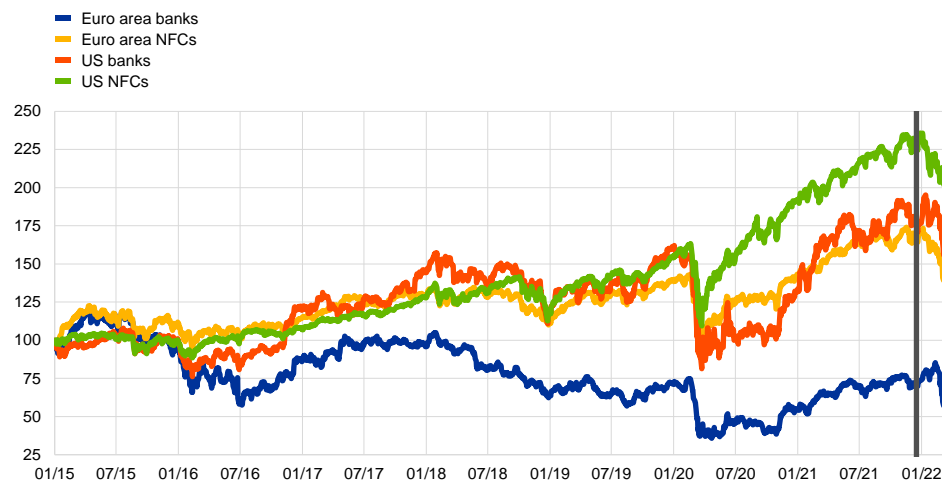
Notes: The spread is calculated by subtracting the ten-year €STR OIS rate from the ten-year sovereign bond yield. The vertical grey line denotes the start of the review period on 16 December 2021. The latest observation is for 9 March 2022.

**After an initial rise to all-time highs, global equity markets sold off, initially in response to rising risk-free rates and later, more significantly, due to the rise in geopolitical uncertainty (Chart 7).** While at the beginning of the review period solid earnings growth expectations supported equity markets overall, equity prices declined thereafter in both the euro area and the United States in response to the rise in risk-free discount rates. By the end of February, the materialisation of tensions between Russia and Ukraine, and the subsequent financial sanctions imposed by Western countries on Russia, had exerted additional downward pressure on equity prices and had led to significant market volatility on both sides of the Atlantic. More specifically, over the review period as a whole, the equity prices of non-financial corporations (NFCs) fell by 12% in the euro area and 9% in the United States, while euro area and US bank equity prices recorded a decrease of 10% and 8% respectively. The poorer performance of equity markets in the euro area compared with the United States reflected the relatively higher exposure of Europe to economic and financial fallout from the conflict and related sanctions.

## Chart 7

### Euro area and US equity price indices

(index: 1 January 2018 = 100)



Sources: Refinitiv and ECB calculations.

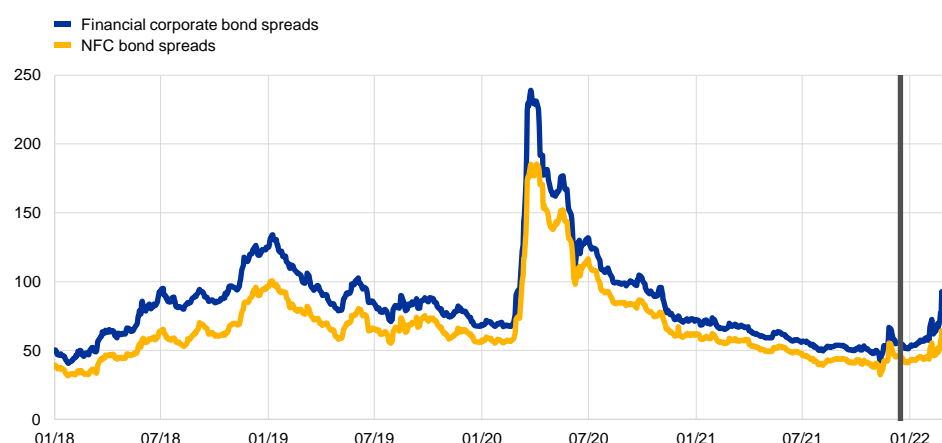
Notes: The vertical grey line denotes the start of the review period on 16 December 2021. The latest observation is for 9 March 2022.

**Mirroring developments in equity prices, euro area corporate bond spreads widened over the review period, especially after Russia's invasion of Ukraine (Chart 8).** At the beginning of the review period, the investment-grade NFC bond spread and the financial sector bond spread (relative to the risk-free rate) started to increase slightly on the back of anticipated monetary policy normalisation, before rising more significantly in response to the elevated Russia-Ukraine tensions which manifested themselves in late February.

## Chart 8

### Euro area corporate bond spreads

(basis points)



Sources: Markit iBoxx indices and ECB calculations.

Notes: The spreads are the difference between asset swap rates and the risk-free rate. The indices comprise bonds of different maturities (with at least one year remaining) with an investment-grade rating. The vertical grey line denotes the start of the review period on 16 December 2021. The latest observation is for 9 March 2022.

**In foreign exchange markets, the euro broadly depreciated in trade-weighted terms (Chart 9).** Over the review period, the nominal effective exchange rate of the

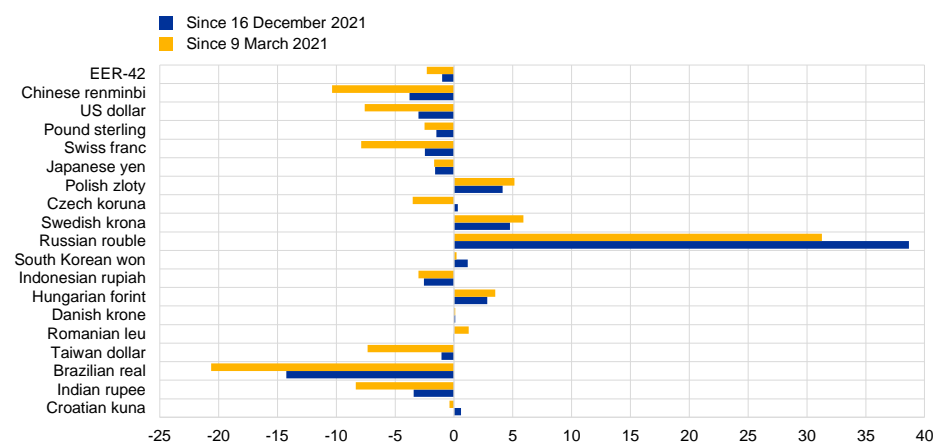


euro, as measured against the currencies of 42 of the euro area's most important trading partners, weakened by 1.0%. Turning to bilateral exchange rate movements, the euro continued to depreciate against the US dollar (-3.0%), reflecting the further widening of the short-term interest rate differential between the euro area and the United States. The latter was driven by the faster rebound in economic activity and higher inflation in the United States, which affected the expected path of US monetary policy. The euro also depreciated against other major currencies, including the Swiss franc (-2.5%), the Japanese yen (-1.6%) and the pound sterling (-1.5%). In addition, it depreciated against the currencies of most major emerging economies, including the Chinese renminbi (-3.8%). At the same time, the euro appreciated strongly against the Russian rouble, as the rouble dropped by more than 30% on a single day following the imposition of unprecedented economic and financial sanctions against the Russian Federation, in response to its invasion of Ukraine in violation of international law. Given the nature of trading activity in the rouble market, the ECB suspended the publication of a euro reference rate for the Russian rouble, as of 1 March 2022. Over the reference period, the euro broadly appreciated against the currencies of most non-euro area EU Member States.

### Chart 9

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

(percentage changes)



Source: ECB.

Notes: EER-42 is the nominal effective exchange rate of the euro against the currencies of 42 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 9 March 2022, except for the Russian rouble for which the change has been calculated using the foreign exchange rate prevailing on 1 March 2022 as the publication of a euro reference rate for the Russian rouble has been suspended.

### 3 Economic activity

*In 2021 euro area real GDP grew by 5.3%, slightly surpassing its pre-pandemic level at the end of the year. In the final quarter of the year the pace of the expansion moderated, owing to weak private consumption which contracted by 0.6% as a result of increasing coronavirus (COVID-19) infections, coupled with higher energy prices weighing on the purchasing power of households. Net trade also made a negative contribution to growth in the fourth quarter. In contrast, investment and public sector consumption provided positive contributions to economic growth. On the production side, the ongoing recovery in industrial production suggests still tight, but gradually easing, supply bottlenecks. Overall, incoming data, surveys and high-frequency indicators point to continued economic weakness in the first quarter of 2022, amid negative carry-over effects from weak activity at the end of 2021, persistent supply disruptions, high energy prices and the unfolding effects of the war in Ukraine.*

*Growth should pick up over the course of 2022 as a number of headwinds start to fade. The expected improvement is based on the diminishing economic impact of the COVID-19 pandemic, continued favourable financing conditions and an improving labour market. However, the war in Ukraine is estimated to have reduced spending intentions in the near term, mainly via its impact on energy costs and confidence, resulting in expectations of a weaker expansion in the second quarter.*

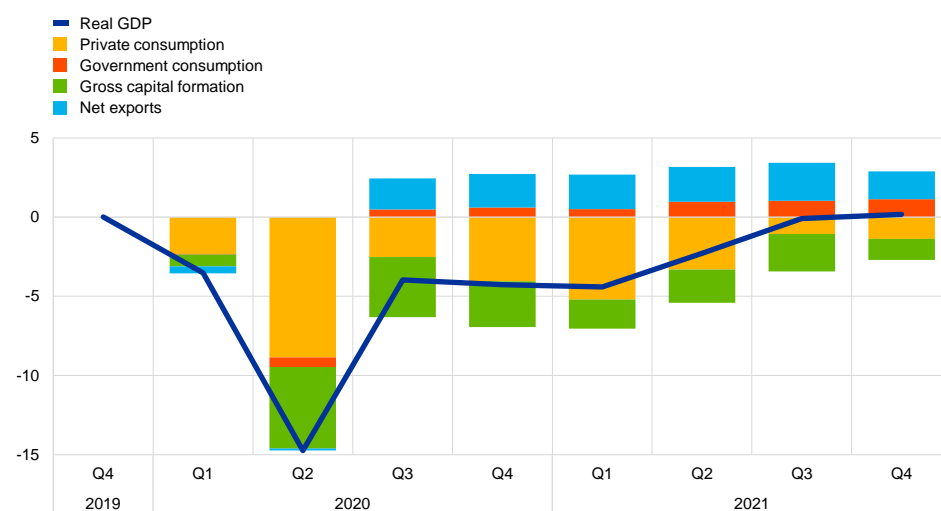
*This assessment is broadly reflected in the baseline scenario of the March 2022 ECB staff macroeconomic projections for the euro area. The projections foresee annual real GDP growth of 3.7% in 2022, 2.8% in 2023 and 1.6% in 2024. Compared with the December 2021 Eurosystem staff macroeconomic projections, the outlook for economic activity has been revised downwards by 0.5 percentage points for 2022 and 0.1 percentage points for 2023, and remains unchanged for 2024. The revisions for 2022 largely reflect the impact of the Ukraine crisis on energy prices, confidence and trade. The risks to the economic outlook have increased substantially with the Russian invasion of Ukraine and are tilted to the downside. While risks relating to the pandemic have declined, the war in Ukraine may have a stronger than anticipated effect on economic sentiment and could worsen supply-side constraints again. Before the outbreak of the Russia-Ukraine war, the euro area economy had registered a sustained recovery, with growth reaching its pre-crisis level despite headwinds related to the pandemic, supply disruptions and high energy prices. While the ECB staff macroeconomic projections foresee economic activity expanding at a robust pace over the medium-term projection horizon, the Russia-Ukraine war will have a material impact on activity. In alternative scenarios that take account of the economic impact of the war, growth could be dampened significantly by steeper rises in energy and commodity prices, as well as more severe drags on trade and sentiment.*

**Following two quarters of dynamic expansion, real GDP growth decreased in the fourth quarter of 2021.** The modest 0.3% growth in the fourth quarter was mainly due to weakness in private consumption and net trade, while investment and public sector consumption, alongside inventory developments, made positive contributions to growth (Chart 10). At the end of 2021 output had slightly surpassed

its pre-pandemic level, growing by 5.3% in the year as a whole. On the production side, developments in the fourth quarter of 2021 varied across sectors. While value added in the services sector declined following the imposing of new containment measures amid the resurgence in COVID-19 cases (Chart 11, left-hand panel), output in the industrial sector (excluding construction) increased further, marking positive dynamics in the last quarter of 2021.

**Chart 10**  
Euro area real GDP and components

(percentage changes since the fourth quarter of 2019; percentage point contributions)



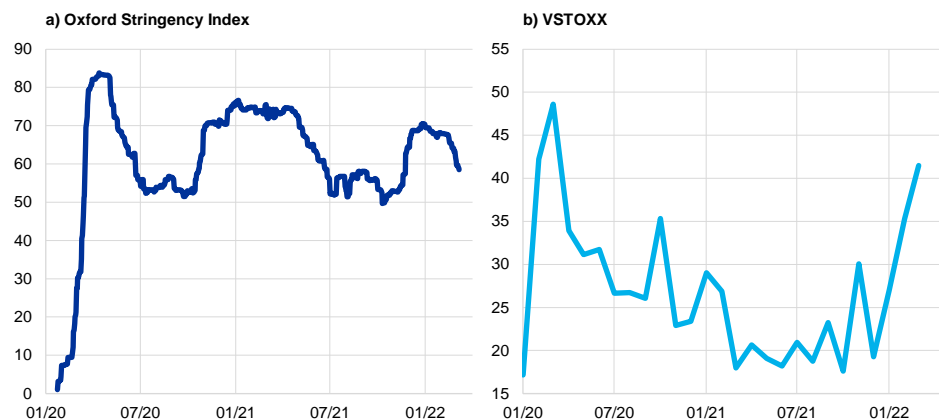
Sources: Eurostat and ECB calculations.  
Note: The latest observations are for the fourth quarter of 2021.

**Euro area GDP growth is estimated to remain subdued in the first quarter of 2022, amid negative carry-over effects from weak activity at the end of 2021, high energy prices and the unfolding effects of the war in Ukraine.** While a normalisation of growth rates was expected following emerging signs of a gradual easing of supply bottlenecks (Box 1) and the waning of the Omicron wave, the current slowdown is likely to have been amplified by the combined effects of sharp increases in energy prices and high levels of uncertainty in the context of the war in Ukraine (Chart 11, right-hand panel). Incoming data in the first few months of 2022 point to a similarly moderate rate of growth in the near term. Amid lingering uncertainty about the pandemic and elevated inflationary pressures, the February round of the European Commission’s consumer survey indicated that, overall, consumer confidence and households’ expectations about their future financial situation have deteriorated further.

## Chart 11

### The Oxford Stringency Index and the uncertainty measure in the euro area

(index)



Sources: Bloomberg, Oxford University and ECB staff calculations.

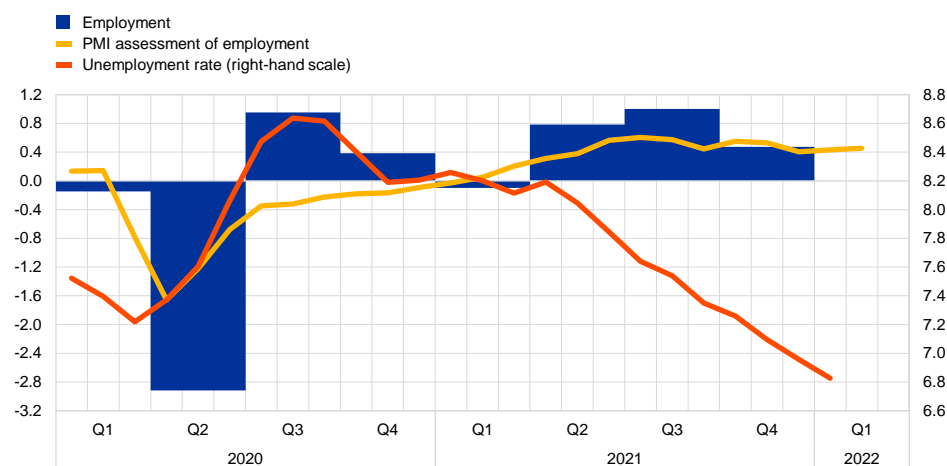
Notes: The Oxford COVID-19 Stringency Index is a composite measure based on nine government response indicators including school closures, workplace closures and travel bans, rescaled to a value from 0 to 100 (100 = strictest). The VSTOXX index measures volatility in the EURO STOXX 50 index. The latest observations are for 9 March 2022.

#### **The euro area labour market strengthened further in the fourth quarter of 2021.**

Employment grew by 0.5%, quarter on quarter, in the fourth quarter of 2021 (Chart 12), surpassing its pre-pandemic level. Strengthening labour demand was also reflected in a further increase in the aggregate job vacancy rate, which rose to a new series high of 2.7% in the fourth quarter of 2021. Moreover, this rise was more broad-based across sectors. The size of the labour force and the labour force participation rate returned to close to their pre-pandemic levels in the fourth and third quarters of 2021 respectively. After averaging 7.1% in the final quarter of 2021, the unemployment rate declined further to stand at 6.8% in January 2022. However, support from job retention schemes remained substantial, with their use ticking up slightly to 1.5% of the labour force in January as containment measures were reimposed.

**Chart 12****Euro area employment, the PMI assessment of employment and the unemployment rate**

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



Sources: Eurostat, Markit and ECB calculations.

Notes: The Purchasing Managers' Index (PMI) employment indicator and the unemployment rate are shown at a monthly frequency, while employment is shown at a quarterly frequency. The PMI is expressed as a deviation from 50 divided by 10. The latest observations are for the fourth quarter of 2021 for employment, February 2022 for the PMI and January 2022 for the unemployment rate.

**Survey data point to continued robust employment growth in the early months of 2022.** The monthly composite Purchasing Managers' Index (PMI) employment indicator, which encompasses both industry and services, stood at 54.5 in February, broadly unchanged from January and well above the threshold of 50 that indicates growth in employment. This outcome was recorded despite an intensification of the pandemic during the first few weeks of the year and reported difficulties in filling vacancies. By contrast, some downward pressure on average hours worked was likely due to absences related to the Omicron variant, although this was possibly attenuated by co-workers increasing their hours.

**Private consumption contracted at the end of 2021 and is expected to remain weak in the first quarter of 2022.** It declined by 0.6%, quarter on quarter, at the end of 2021, amid a surge in COVID-19 infections and tightening restrictions in contact-intensive sectors. Private consumption was 2.5% below its pre-pandemic level at the end of 2021. Incoming data do not suggest that this gap will be closed in the first quarter of 2022. In January 2022 retail sales registered a modest monthly increase of 0.2% after contracting by 3%, month on month, in December when new car registrations also declined, falling by 5.4%. Consumer confidence continued to fall in February, seemingly still reflecting lingering uncertainty about the pandemic as well as elevated inflationary pressures. Overall, the adverse pandemic-related impact on contact-intensive services, compounded by higher energy prices weighing heavily on the purchasing power of households, implies subdued consumption dynamics in the first quarter of 2022. Thereafter, private consumption is expected to remain the main driver of economic growth, aided by a continued normalisation of saving behaviour and as households tap the excess savings that they accumulated during the pandemic. Despite increased precautionary motives for saving related to the war in

Ukraine, the high stock of savings is expected to buffer the energy price shock to some extent.

**Corporate (non-construction) investment grew strongly in the fourth quarter of 2021 as supply bottlenecks showed signs of easing and demand for capital goods remained strong.** Euro area non-construction investment increased by 6.3%, quarter on quarter, in the fourth quarter, rebounding after the decline in the third quarter while still standing about 13% lower than its pre-pandemic level. Among the largest euro area countries, non-construction investment surged by close to 7%, quarter on quarter, in both Spain and the Netherlands, grew by about 1% in Germany and France, and rose by nearly 2% in Italy. Looking at the components of non-construction investment, investment in intellectual property products grew by 13%, while investment in transport equipment also rebounded strongly in the euro area overall – with some countries recording double-digit growth – after contracting for three quarters. A slight improvement in some survey-based indicators of delivery times and stockbuilding may suggest the first signs of a gradual easing of supply-side bottlenecks. Looking ahead, higher business confidence in February and a more optimistic assessment of order books of capital goods producers had pointed to positive conditions for business investment in the first half of 2022 prior to the outbreak of the war in Ukraine. Moreover, robust corporate revenue growth and the high level of corporate savings could support investment once the existing supply bottlenecks weaken (Box 4). However, the war in Ukraine with the associated restrictions and uncertainty are expected to dampen euro area business investment, particularly in the near term. In addition, energy price increases could strongly affect the production of energy-intensive capital goods.

**Housing investment picked up in the fourth quarter of last year and is expected to continue to grow in the short term.** Housing investment increased by 0.7% in the fourth quarter of 2021 after falling by 1.4%, quarter on quarter, in the third quarter. The European Commission's indicator of recent trends in construction activity increased markedly, on average, in the first two months of 2022, standing well above its long-term average. The PMI for residential construction activity also rose significantly, moving further into expansionary territory. On the household side, survey data from the European Commission show buoyant demand, with consumers' near-term renovation intentions remaining at a very high level in the first quarter of 2022, despite declining somewhat, while their intentions to buy or build a home in the next two years continued to increase. The favourable developments in demand are also reflected on the corporate side, with companies' assessments of order book levels improving and perceived constraints on construction activity caused by insufficient demand decreasing somewhat further. At the same time, supply bottlenecks appear to remain considerable, with companies reporting only a slight decline in shortages of materials and labour from very high levels amid a lengthening of suppliers' delivery times and increases in input prices in February. Moreover, the recent outbreak of the Russia-Ukraine war and the associated uncertainties pose further risks to the near-term outlook.

**Exports of goods grew moderately in the fourth quarter of 2021, while exports of services were dampened by the Omicron variant.** Extra-euro area exports of

goods and services expanded by 2.9% in the fourth quarter. A breakdown of exports of goods suggests that the momentum was driven by exports to the United States, while exports to the United Kingdom remained stable and exports to China declined. Extra-euro area imports of goods and services grew by 4.6% in the fourth quarter. The rise in goods imports after a decline in the previous quarter reflects pent-up demand from the industrial sector. Imports recorded particularly strong increases in value terms because of the surge in global energy prices. Forward-looking indicators point to tentative signs of easing supply chain bottlenecks, but this improvement could be offset by trade disruptions resulting from the Russia-Ukraine war. On the services side, following a slowdown in activity in the travel sector owing to the new coronavirus wave, forward-looking indicators suggest an improvement in the period ahead for exports of travel services as pandemic-related restrictions are eased. The recent outbreak of the Russia-Ukraine war, however, adds an additional layer of uncertainty to the outlook for international trade.

**Amid elevated uncertainty, euro area activity is expected to pick up in the course of 2022.** The March 2022 ECB staff macroeconomic projections for the euro area foresee annual real GDP growth at 3.7% in 2022, 2.8% in 2023 and 1.6% in 2024 (Chart 13). Compared with the December 2021 Eurosystem staff macroeconomic projections, the growth profile has been revised downwards for 2022 and has remained broadly unchanged for 2023 and 2024. The downward revisions to the near-term outlook largely reflect the stronger than expected energy price shock – despite being partially cushioned by the high savings accumulated during the pandemic – and the negative confidence shocks triggered by the Russia-Ukraine war. Despite headwinds, the expansion continues to be supported in the medium term by a further strengthening of domestic demand alongside an improving labour market and strengthening global growth, as well as ongoing policy support. Furthermore, progress with the implementation of the Next Generation EU programme is an additional factor that is expected to support the recovery.<sup>4</sup>

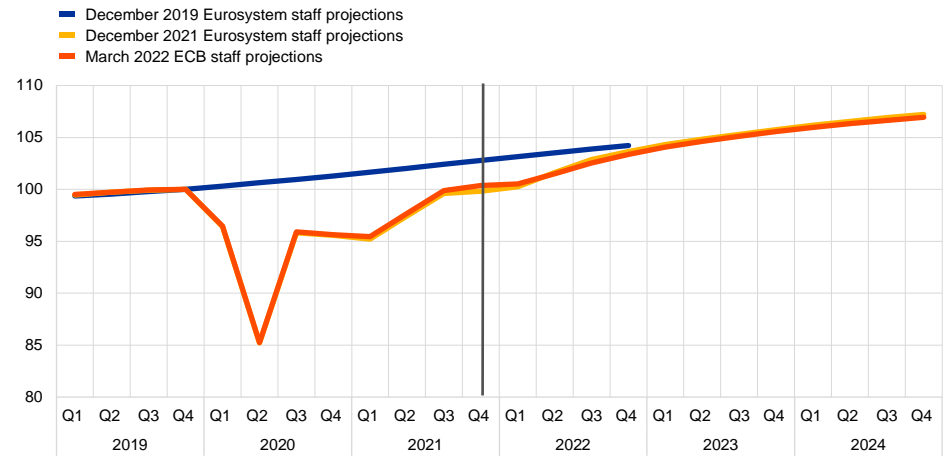
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<sup>4</sup> See the article entitled “[ECB staff macroeconomic projections for the euro area, March 2022](#)”, published on the ECB’s website on 10 March 2022.

### Chart 13

#### Euro area real GDP (including projections)

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



Sources: Eurostat and the article entitled "ECB staff macroeconomic projections for the euro area, March 2022" published on the ECB's website on 10 March 2022.

Note: The vertical line indicates the start of the March 2022 projections and follows the last observation for euro area real GDP, which relates to the fourth quarter of 2021.

**The risks to the economic outlook have increased substantially with the Russian invasion of Ukraine and are tilted to the downside.** While risks relating to the pandemic have declined, the war in Ukraine may have a stronger than anticipated effect on economic sentiment and could worsen supply-side constraints again. Persistently high energy costs, together with a loss of confidence, could drag down demand more than expected and constrain consumption and investment.



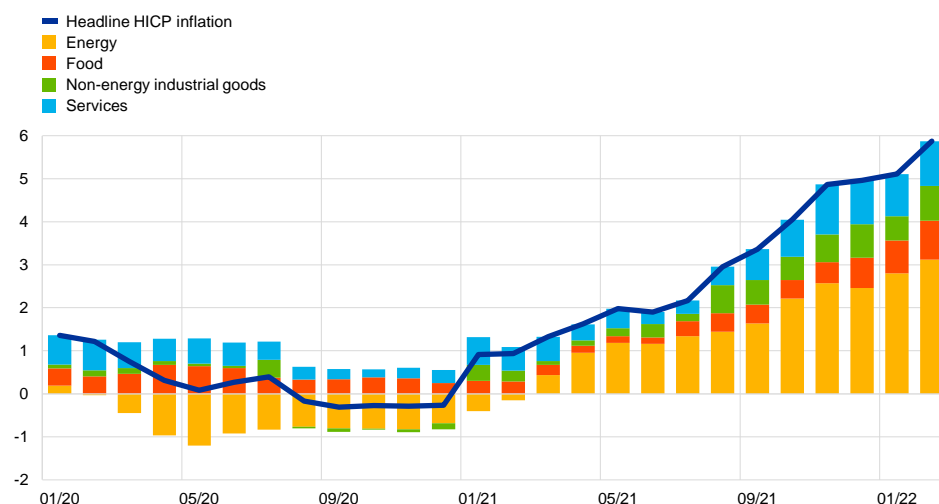
## 4 Prices and costs

*Euro area HICP inflation rose to 5.8% in February 2022, up from 5.1% in January, and it is likely to remain high in the short term. Energy prices continue to be the main reason for the elevated rate of inflation. These were directly responsible for more than half of all headline inflation in February, and they are pushing up prices in many other sectors, too. Food prices have also risen as a result of seasonal factors, elevated transport costs and increases in the price of fertiliser. Looking ahead, further pressure on some food and commodity prices should be expected as a result of the war in Ukraine. Price rises have become more widespread, with marked increases being seen in the prices of large numbers of goods and services. Most measures of underlying inflation have risen in recent months, although it is uncertain how persistent the rise in these indicators will be, given the role of temporary pandemic-related factors and the indirect effects of higher energy prices. Market-based indicators point to a moderation in energy price dynamics in the course of 2022, and price pressures stemming from global supply chain bottlenecks should also subside. Market and survey-based measures of longer-term inflation both stand at around 2%. The war in Ukraine is a substantial upside risk to the outlook for inflation in the near term, especially for energy prices.*

**According to Eurostat’s flash estimate, HICP inflation increased further in February 2022, standing at 5.8% (Chart 14).** That represented a further historical high, following rates of 5.1% in January and 5.0% in December, but still only partially reflected the impact of the war in Ukraine. All of the main components – energy, food, services and non-energy industrial goods – contributed to the increase in headline inflation. HICP inflation excluding food and energy (HICPX) rose to 2.7% in February, edging upwards again after a temporary moderation in January (when it had stood at 2.3%). That increase reflected the dynamics of both service prices and non-energy industrial goods prices.

**Chart 14****Headline inflation and its main components**

(annual percentage changes; percentage point contributions)



Sources: Eurostat and ECB calculations.

Note: The latest observations are for February 2022.

**Energy prices continued to dominate HICP inflation, with energy inflation reaching a new historical high of 31.7% in February, up from 28.8% in January.**

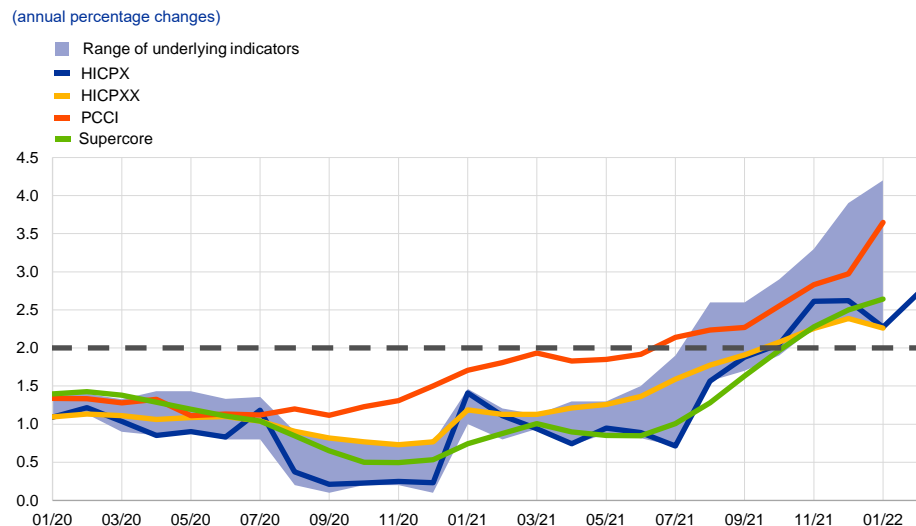
Data for January suggest that the spike in that first month of the year primarily reflected higher gas and electricity tariffs, with prices being reset for the new year in many countries. Gas and electricity have also accounted for a large percentage of the recent heterogeneity in energy inflation, with strong and sustained contributions being made by electricity and gas in countries such as Italy and the Netherlands, and by electricity in Spain. Those rising energy costs have probably also contributed to increases in other components of the HICP, including food inflation and non-energy industrial goods inflation (which stood at 4.1% and 3.0% respectively in February), given that energy is an input for both production and distribution.

**Measures of underlying inflation have continued their recent upward movement, although this is probably, to some extent, a reflection of the indirect effects of energy price dynamics and pandemic-related factors.**

Measures of inflation that seek to remove the impact of temporary factors have tended to edge upwards in recent months (Chart 15). For example, HICPX inflation rose to 2.7% in February, up from 2.3% in January. Data on other measures of underlying inflation are only available up to January. In that month, HICPXX inflation (which, in addition to energy and food, also excludes travel-related items, clothing and footwear) moderated to stand at 2.3%, down from 2.4% in December. Meanwhile, the model-based Persistent and Common Component of Inflation (PCCI) rose to 3.6%, up from 3.0% in December (while the PCCI excluding energy rose to 2.3%, up from 2.1% in December), and the Supercore indicator, which comprises cyclically sensitive HICP items, edged upwards to stand at 2.6%, up from 2.5% in December. While all indicators of underlying inflation have now moved above 2%, it is uncertain how persistent the rise in these indicators will be, given the role of

temporary pandemic-related factors (such as supply chain bottlenecks and the effect of reopening following coronavirus-related restrictions) and the indirect effects of higher energy prices.

**Chart 15**  
Indicators of underlying inflation



Sources: Eurostat and ECB calculations.

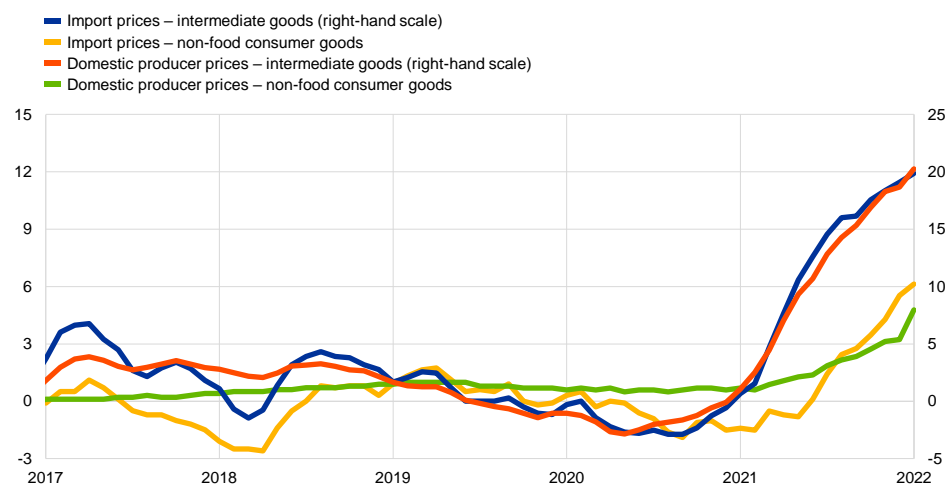
Notes: The range of indicators of underlying inflation includes HICP excluding energy, HICP excluding energy and unprocessed food, HICPX (HICP excluding energy and food), HICPXX (HICP excluding energy, food, travel-related items, clothing and footwear), the 10% and 30% trimmed means, and the weighted median. The latest observations are for January 2022, with the sole exception of HICPX (which has been obtained from the February 2022 flash estimate).

**Pipeline pressures on consumer prices for non-energy industrial goods have continued to build up, with indicators reaching record highs (Chart 16).** Cost pressures have increased substantially relative to a year ago on the back of increases in global commodity prices and – in particular – energy prices. Supply chain disruption and the global recovery in demand have also contributed to input cost pressures. Looking at early stages of the pricing chain, the annual growth rate of producer prices for domestic sales of intermediate goods increased further to stand at 20.2% in January, up from 18.7% in December. Similarly, the annual growth rate of import prices for intermediate goods rose from 19.1% in December to 19.9% in January. Pressures that have built up at early stages of the pricing chain are also featuring more prominently at later stages of the chain, with producer price inflation for domestic sales of non-food consumer goods reaching a new historical high of 4.8% in January, up from 3.2% a month earlier. Import price inflation for non-food consumer goods reached 6.1% in January, with the difference relative to domestic producer prices probably attributable to the depreciation of the euro over the last year. Import and producer prices for non-food consumer goods are key leading indicators for the dynamics of non-energy industrial goods inflation in the HICP, which implies that pressure on consumer prices is unlikely to ease in the near future.

## Chart 16

### Indicators of pipeline pressures

(annual percentage changes)



Sources: Eurostat and ECB calculations.

Note: The latest observations are for January 2022.

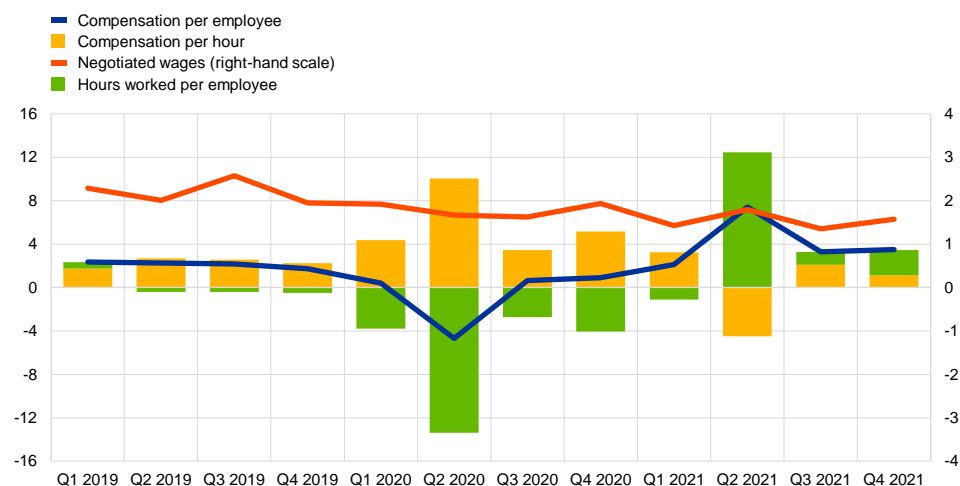
### Wage growth in the euro area has remained moderate thus far (Chart 17).

Growth in compensation per employee increased slightly to stand at 3.5% in the fourth quarter of 2021, reflecting increases in both hours worked per employee and compensation per hour (albeit the annual growth rate of the latter fell to 1.1% in that quarter). That increase in hours worked is a sign of further normalisation following the reopening of countries' economies. At the same time, the pattern of growth in compensation per employee also reflects the changing impact of government support measures related to job retention schemes. In contrast, negotiated wages have not been directly affected by developments in hours worked or the recording of benefits from job retention schemes introduced in response to the pandemic, making them an important additional indicator of wage pressures. Growth in negotiated wages remained moderate in the fourth quarter of 2021, standing at 1.5%, up from 1.4% in the previous quarter (and averaging 1.5% over 2021 as a whole, down from 1.8% in 2020). However, this indicator is unlikely to reflect the impact of the current high levels of inflation, as it is backward-looking and based on past wage bargaining agreements. An ECB survey of large European companies indicates that wage growth in 2022 could be somewhat stronger, with some respondents citing the current high levels of inflation as a contributing factor.

## Chart 17

### Breakdown of compensation per employee into compensation per hour and hours worked

(annual percentage changes)



Sources: Eurostat and ECB calculations.

Note: The latest observations are for the fourth quarter of 2021.

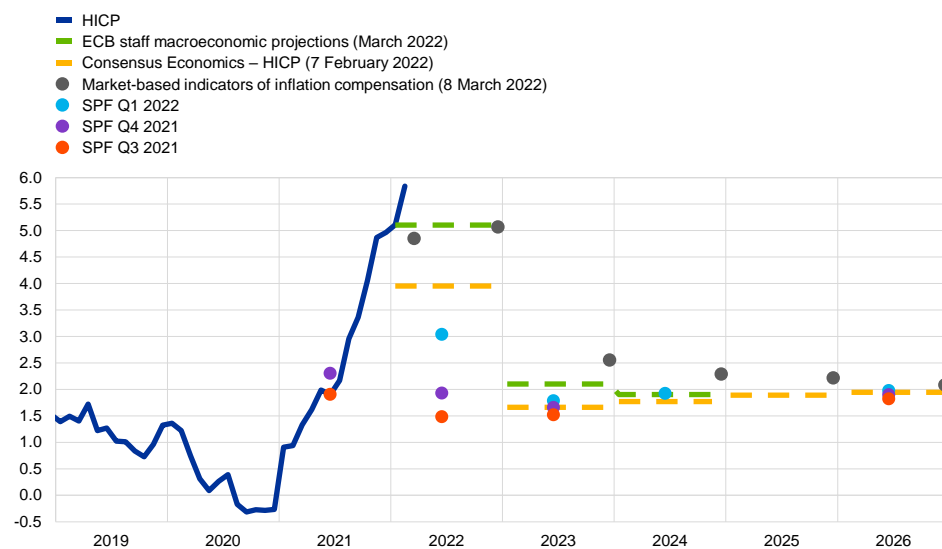
### Market-based indicators of inflation compensation have increased markedly amid extraordinary intra-period fluctuations, with survey-based measures of inflation expectations also edging upwards since the beginning of 2022.

Russia's invasion of Ukraine has led to a significant repricing of oil and natural gas in anticipation of a sharp deterioration in supply, with short-term inflationary pressures having already been strong prior to those events. As a result, short-term forward inflation compensation in the euro area has risen markedly. Markets are now pricing in a sharper and more persistent rise in euro area inflation over the short term relative to mid-December, with the one-year forward inflation-linked swap (ILS) rate one year ahead currently standing at around 2.50%, about 78 basis points higher than on 16 December 2021 at the start of the review period. Meanwhile, longer-term forward ILS rates initially declined in anticipation of a tightening of monetary policy, before rising again following the intensification of geopolitical tensions and the outbreak of war in Ukraine. Indeed, the five-year forward ILS rate five years ahead declined slightly to stand at around 1.85% at the end of January, before rising to 2.16% in early March. According to the ECB's Survey of Professional Forecasters (SPF) for the first quarter of 2022 (which was conducted in the second week of January) and the January 2022 Consensus Economics forecasts, longer-term inflation expectations have risen to 2.0%, up from 1.9% in their respective previous survey rounds (Chart 18).

## Chart 18

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

(annual percentage changes)



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

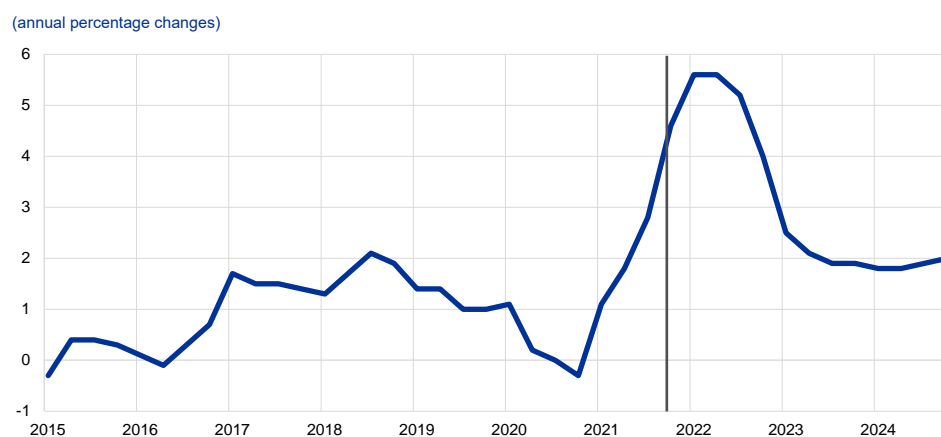
Notes: The market-based indicators of inflation compensation series is based on the one-year spot inflation rate, the one-year forward rate one year ahead, the one-year forward rate two years ahead, the one-year forward rate three years ahead and the one-year forward rate four years ahead. The latest observations for market-based indicators of inflation compensation relate to 8 March 2022. The Survey of Professional Forecasters for the first quarter of 2022 was conducted between 7 and 13 January 2022. In the Consensus Economics forecasts, the cut-off date for 2024, 2025 and 2026 was 10 January 2022, and the cut-off date for 2022 and 2023 was 7 February 2022. The cut-off date for data included in the ECB staff macroeconomic projections was 2 March 2022.

**The March 2022 ECB staff macroeconomic projections for the euro area foresee inflation remaining elevated over the next few months before falling in the second half of the year, with headline inflation settling at 1.9% at the end of the projection horizon.** Having reached 5.8% in February 2022, headline HICP inflation is expected to remain high over the next few months, before slowly declining in the second half of the year. Baseline projections point to headline HICP inflation averaging 5.1% in 2022, 2.1% in 2023 and 1.9% in 2024 (Chart 19). The spike in headline inflation in 2022 reflects a large increase in energy prices (driven by electricity and gas), strong increases in food prices, the impact of the reopening of the contact-intensive part of the service sector, and price pressures along the pricing chain (including energy input costs). Compared with the December 2021 Eurosystem staff macroeconomic projections, HICP inflation has been revised upwards across the entire projection horizon – most notably for 2022, for which the revision totalled 1.9 percentage points. That upward revision can, in part, be attributed to recent surprises in inflation outcomes and stronger than anticipated developments in current and future energy prices, which have been exacerbated by the geopolitical tensions surrounding the invasion of Ukraine. HICPX inflation is expected to hover around 2.6% for the next two quarters, before falling to 2.3% in the fourth quarter of 2022 (averaging 2.6% across 2022 as a whole). Strong demand, indirect effects of higher energy prices, and price pressures along the pricing chain as a result of supply bottlenecks are all expected to exert upward pressure. The impact of those factors is expected to ease in the medium term, bringing average HICPX inflation down to 1.8% in 2023 and 1.9% in 2024. Wage growth is projected to stand at 3.6%

in 2022, before falling to 2.9% in 2024 – above the historical average since 1999 (2.2%) and higher than the rate observed before the global financial crisis (2.6%), reflecting the tightening of the labour market and some limited second-round effects from higher inflation.

### Chart 19

#### Euro area HICP inflation (including projections)



Sources: Eurostat and [ECB staff macroeconomic projections for the euro area \(March 2022\)](#).

Notes: The vertical line indicates the start of the projection horizon. The latest observations are for the fourth quarter of 2021 (data) and the fourth quarter of 2024 (projections). The cut-off date for data included in the projections was 2 March 2022.

## 5 Money and credit

*Money creation in the euro area continued to normalise in January 2022, amid greater volatility and despite heightened geopolitical risks. Eurosystem asset purchases remained the dominant driver of money creation. Growth in loans to the private sector increased, owing to favourable financing conditions and the improving economic situation. Bank lending rates remained close to their historical lows in January 2022, despite a slight rise in rates on lending to firms. In the fourth quarter of 2021, the total volume of external financing for firms increased further, primarily owing to the significant increase in bank loans. The overall cost of firms' external financing increased from October 2021 to January 2022 – reaching the peak levels last seen in March 2020 – driven by the increase in market debt financing costs and statistical factors. Recent market fluctuations, triggered by Russia's invasion of Ukraine, have contributed to a further increase in the cost of market-based debt and to a higher cost of equity following a pronounced stock market decline.*

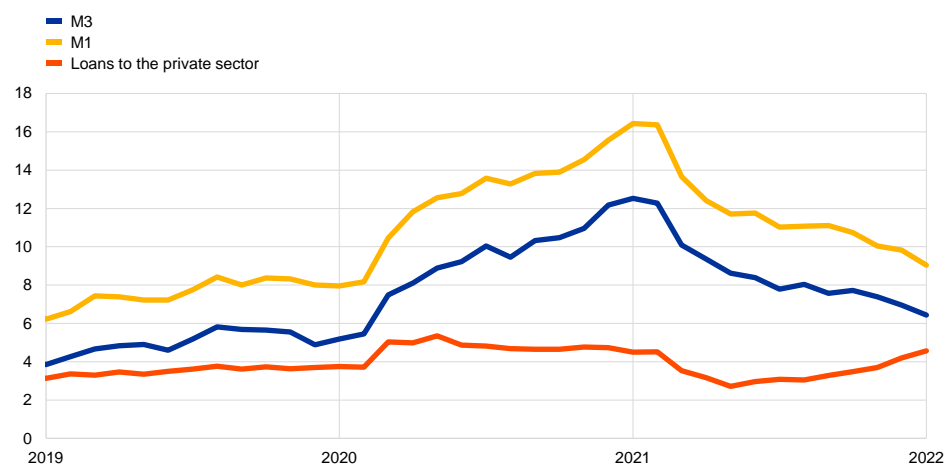
**In January 2022 broad money growth stabilised close to its pre-pandemic pace.** The annual growth rate of M3 declined to 6.4% in January, from 6.9% in December (Chart 20), amid greater volatility and despite heightened geopolitical risks, which increase the demand for liquid assets. The quarterly pace of money growth returned to a level close to its longer-term average, with shorter-run dynamics of M3 continuing to benefit from the significant support provided by the pandemic-related policy measures. On the components side, the main driver of M3 growth was the narrow aggregate M1, which includes the most liquid components of M3. During the early phases of the pandemic in 2020, money holders favoured liquid assets, which reflected precautionary motives. With pandemic-related containment measures being relaxed, and economic activity recovering, growth in M1 moderated in 2021 from the high growth rates observed during 2020. In January 2022, the annual growth rate of M1 decreased further, falling from 9.8% to 9.0%, which mainly reflected a normalisation in the growth of overnight deposits. Meanwhile, the annual growth rate of currency in circulation, which had been moderating since the first quarter of 2021, stood at 7.7% in January. The contribution of other short-term deposits and marketable instruments was neutral in that month, reflecting the low remuneration of these instruments.



## Chart 20

### M3, M1 and loans to the private sector

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



Source: ECB.

Notes: Loans are adjusted for loan sales, securitisation and notional cash pooling. The latest observations are for January 2022.

#### Growth in overnight deposits moderated further, while remaining at high levels.

The annual growth rate of overnight deposits fell to 9.2% in January, from 10.2% in December. This decline was driven by firms and households, which made the largest contributions from a sectoral perspective. Sizeable inflows into overnight deposits have been observed since the onset of the pandemic, reflecting increased economic uncertainty.<sup>5</sup> Growth in the deposit holdings of firms and households has varied across countries, reflecting differences in liquidity needs and national (fiscal) support measures. In the fourth quarter of 2021, deposit accumulation by households temporarily fell below its pre-pandemic average, reflecting an increase in consumer confidence and consumption, as well as higher energy prices which compressed disposable income. However, in January 2022 there was a broad-based rebound in deposit flows, suggesting that households increased saving and reduced consumption. In addition, corporate deposits continued to grow, though more moderately than household deposits.

#### Money creation continued to be driven by Eurosystem asset purchases in January 2022.

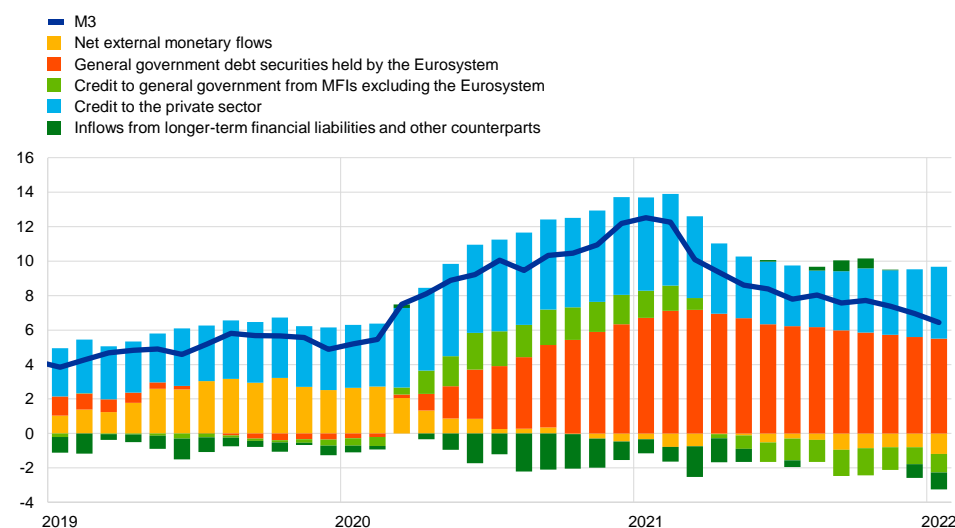
The Eurosystem's net purchases of government securities under the asset purchase programme (APP) and the pandemic emergency purchase programme (PEPP) made the largest contribution to M3 growth (red portion of the bars in Chart 21), although this contribution moderated somewhat. Further support for M3 growth came from a higher contribution of credit to the private sector (blue portion of the bars). However, three factors dampened money creation: first, bank credit to general government made a negative contribution owing to sales of government bonds (light green portion of the bars); second, net external monetary outflows strengthened (yellow portion of the bars), coinciding with a weakening of the effective exchange rate of the euro; and third, outflows from other counterpart

<sup>5</sup> See the box entitled "COVID-19 and the increase in household savings: an update", *Economic Bulletin*, Issue 5, ECB, 2021.

outweighed the modest inflows from longer-term financial liabilities (dark green portion of the bars).

**Chart 21**  
M3 and its counterparts

(annual percentage changes; contributions in percentage points; adjusted for seasonal and calendar effects)



Source: ECB.

Notes: Credit to the private sector includes monetary financial institution (MFI) loans to the private sector and MFI holdings of debt securities issued by the euro area private non-MFI sector. As such, it also covers the Eurosystem's purchases of non-MFI debt securities under the corporate sector purchase programme and the PEPP. The latest observations are for January 2022.

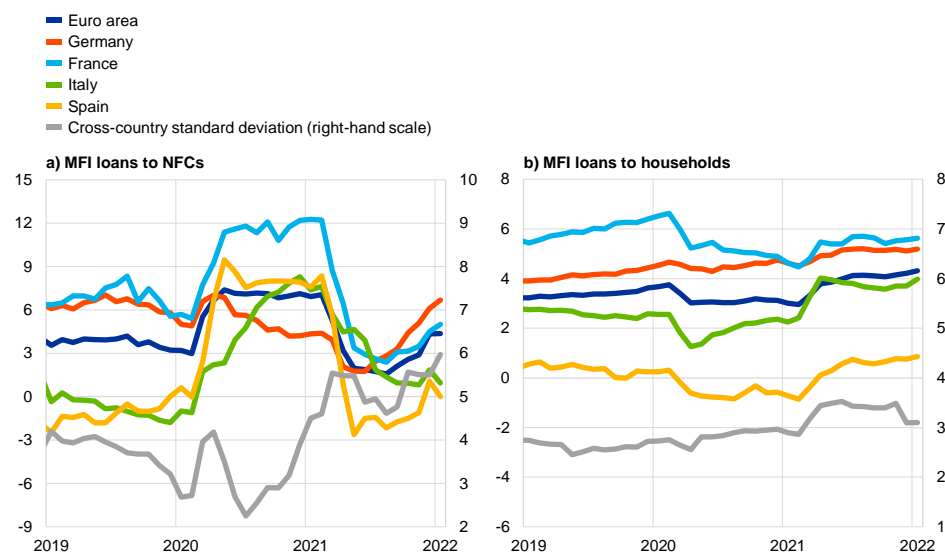
**Annual growth in loans to the private sector increased in January 2022.** Growth in loans to the private sector increased further in January, to 4.6% from 4.2% in December (Chart 20). This development was driven by lending to both firms and households, which continued to benefit from favourable financing conditions and the ongoing economic recovery. The annual growth rate of loans to non-financial corporations (NFCs) rose slightly in January, to 4.4% from 4.3% in December (Chart 22, panel a), driven by long-term loans and probably reflecting fixed investment needs. The growth rate of loans to households also increased slightly, to 4.3% in January from 4.2% in December (Chart 22, panel b). This was mainly the result of solid mortgage lending, as consumer credit growth remained weak. Overall, loan developments mask differences across euro area countries, reflecting among other things the uneven impact of the pandemic and the varying progress of the economic recovery across countries.<sup>6</sup>

<sup>6</sup> See the box entitled “The heterogeneous economic impact of the pandemic across euro area countries”, *Economic Bulletin*, Issue 5, ECB, 2021.

## Chart 22

### MFI loans in selected euro area countries

(annual percentage changes; standard deviation)



Source: ECB.

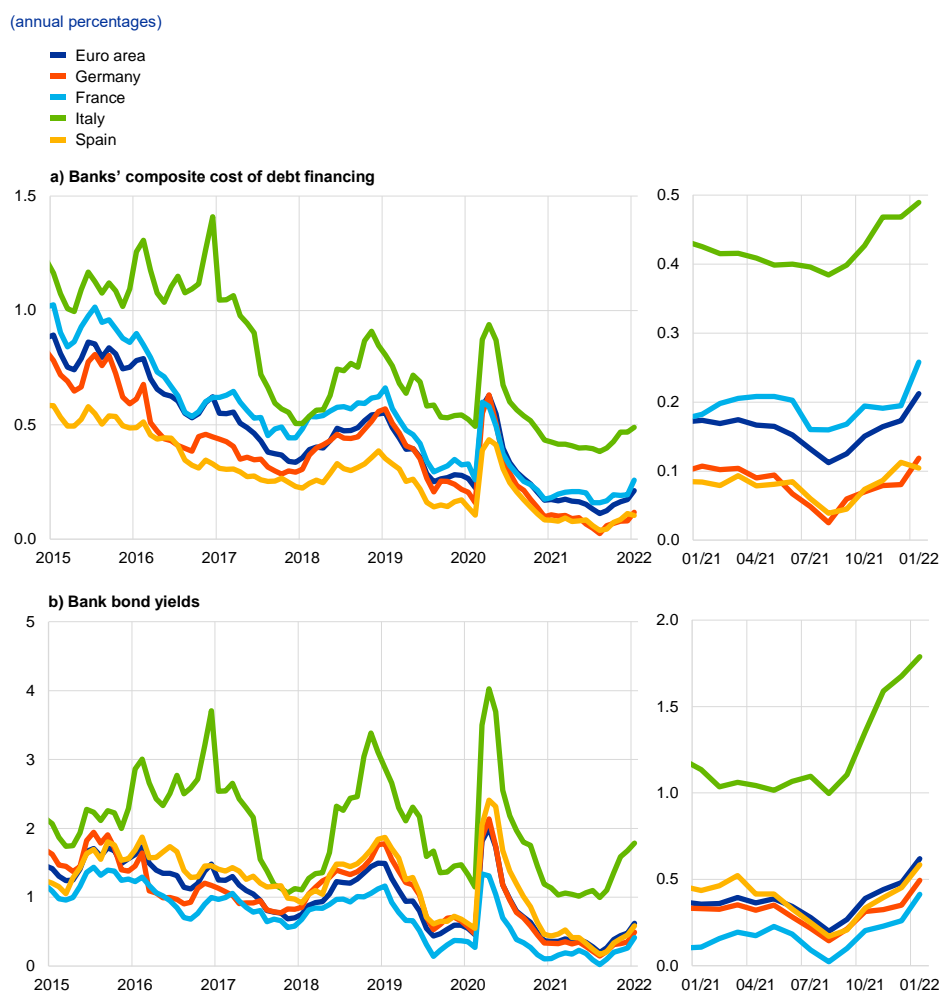
Notes: Loans are adjusted for loan sales and securitisation; in the case of non-financial corporations (NFCs), loans are also adjusted for notional cash pooling. The cross-country standard deviation is calculated using a fixed sample of 12 euro area countries. The latest observations are for January 2022.

### Debt funding costs for euro area banks have started to increase and now stand at around pre-pandemic levels.

The recent increase in the composite cost of debt financing (Chart 23, panel a), was driven by higher bank bond yields (Chart 23, panel b) and reflects an increase in risk-free rates, while deposit rates have remained stable at historical lows. The ECB's monetary policy measures have so far helped to contain upward pressure on bank bond yields and to reduce divergence in funding conditions across countries, risk classes and maturities. Before the fourth quarter, bank funding costs had remained insulated from upward pressure for three reasons: the continued repricing of deposits at negative rates; the decline in banks' share of debt funding; and banks' access to central bank funding at favourable conditions, especially the third series of targeted longer-term refinancing operations (TLTRO III) and the pandemic emergency longer-term refinancing operations (PELTROs). However, if market rates increase further, there is a risk that bank funding costs will become subject to more upward pressure, especially given the prospective repayment of outstanding TLTRO funds. This may eventually translate into higher lending rates for firms and households.

## Chart 23

### Composite bank funding rates in selected euro area countries



Sources: ECB, ECB calculations and Markit iBoxx indices.

Notes: Composite bank funding rates are the weighted 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 corresponding outstanding amounts. Bank bond yields refer to monthly averages of senior-tranche bonds. The latest observations are for January 2022.

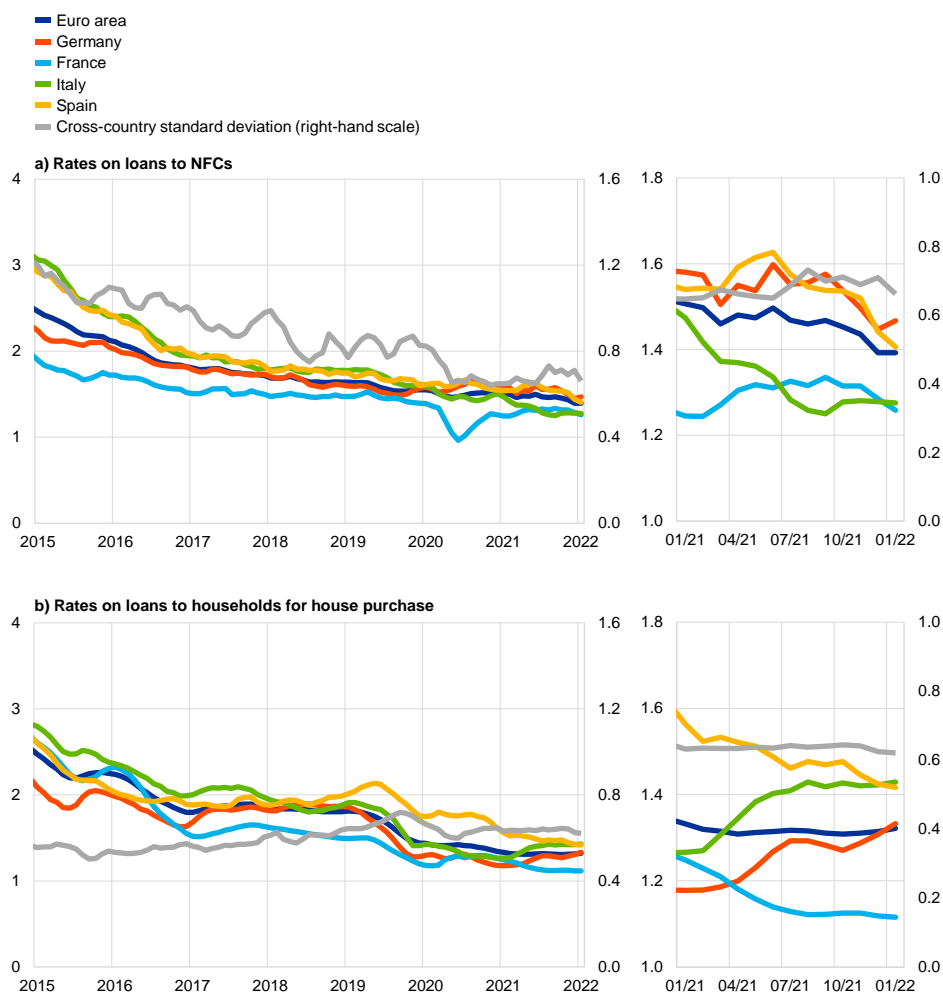
### Bank lending rates remained close to their historical lows in January 2022 (Chart 24), even though rates on lending to firms picked up somewhat.

The composite bank lending rate for loans to NFCs increased to 1.43%, offsetting the decreases in the fourth quarter of 2021, while the equivalent rate for loans to households for house purchase remained broadly unchanged at 1.33%. The increase in lending rates for firms, which was most pronounced for loans with medium-term maturities, reflected a broad-based increase in market rates amid country heterogeneity. The spread between bank lending rates on very small loans and those on large loans was broadly unchanged and remained below pre-pandemic levels. The increase in euro area yields over the past few months could put upward pressure on domestic lending rates. The ECB's policy measures have so far prevented a broad-based tightening of financing conditions, which would have amplified the adverse impact of the pandemic on the euro area economy.

## Chart 24

### Composite bank lending rates in selected euro area countries

(annual percentages, three-month moving averages; standard deviation)



Source: ECB.

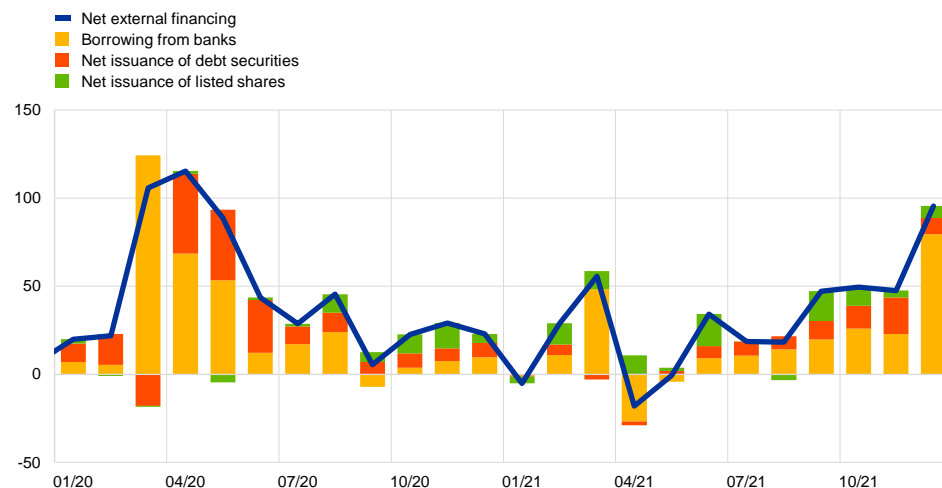
Notes: Composite bank lending rates are calculated by aggregating short and long-term rates using a 24-month moving average of new business volumes. The cross-country standard deviation is calculated using a fixed sample of 12 euro area countries. The latest observations are for January 2022.

**The total volume of external financing for firms increased further in the fourth quarter of 2021.** The annual growth rate of external financing rose sharply from 2.3% in October to 2.8% in December, supported by firms' greater need for financing and the low cost of debt financing. Larger external financing flows originated mostly from an increase in bank loans to firms, while greater issuance of debt securities and listed shares made a smaller contribution (Chart 25). This demand for credit was supported by business investment and higher working capital spending, in part related to persistent supply bottlenecks.<sup>7</sup> In countries and sectors that have been particularly affected by supply bottlenecks, the need for increased working capital – as a result of production delays and the rebuilding of inventories – has led to an increase in short-term borrowing.

<sup>7</sup> See the box entitled “Supply chain bottlenecks in the euro area and the United States: where do we stand?” in this issue of the Economic Bulletin.

**Chart 25****Net external financing flows for euro area NFCs**

(monthly flows in EUR billions)



Sources: ECB and ECB calculations, Eurostat and Dealogic.

Notes: Net external financing is the sum of borrowing from banks (MFI loans), net issuance of debt securities and net issuance of listed shares. MFI loans are adjusted for sales, securitisation and cash-pooling activities. The latest observations are for December 2021.

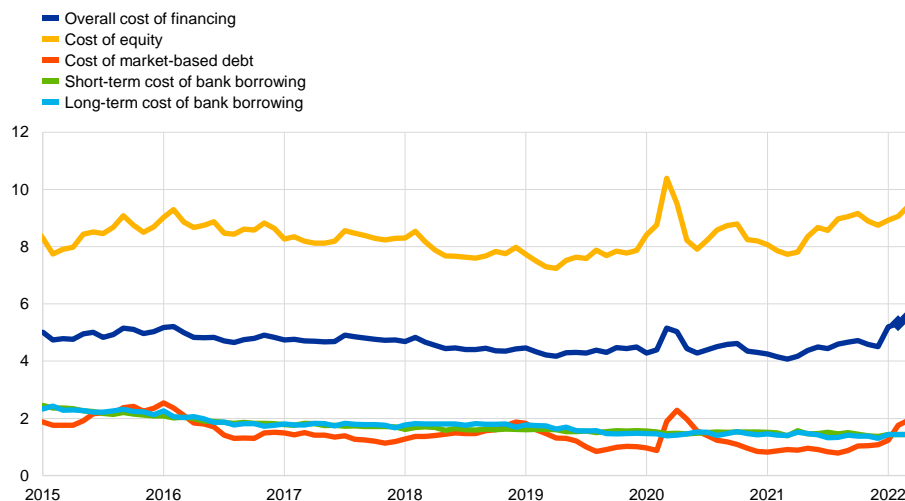
**The overall nominal cost of external financing for NFCs (comprising bank loans, debt issuance in the market and equity finance) increased between October 2021 and January 2022, driven mainly by the cost of market-based debt.** The cost of external financing rose to 5.2% in January 2022 (Chart 26), the same level as the peak seen in March 2020 and 110 basis points higher than the historical low of March 2021. This increase was mainly the result of both a higher cost of market-based debt and an increase in the weight of equity in the calculation of the overall cost of financing.<sup>8</sup> The latter more than compensated for a slight decline in the cost of equity in January compared with October, which was driven by a lower equity risk premium, in turn outweighing the effect of higher risk-free rates. The cost of borrowing from banks remained virtually unchanged between October and January. Higher risk-free rates and wider corporate bond spreads – in both the investment grade and high yield segments – were the factors accounting for the increase in the cost of market-based debt, which reached levels last seen in August 2020. More recently, the overall cost of financing is estimated to have increased further between the end of January and 9 March, reflecting a higher cost of equity amid the significant stock price declines since the end of February triggered by the war in Ukraine. Wider corporate bond spreads, combined with further increases in the risk-free rate, have also contributed to the increase in the cost of financing.

<sup>8</sup> The cost of financing is calculated as a weighted average of the cost of equity, the cost of market-based debt and the cost of short and long-term borrowing from banks. The weights represent the share of each of the financing instruments in total outstanding external financing instruments of NFCs. Hence, the contribution of each component to the level of the overall cost of financing at any point in time is the cost (as a percentage) multiplied by its weight. The weights are updated regularly to account for changes in the NFC financing structure. The change in the contribution of a particular component to the change in the overall cost of financing is, therefore, the net result of the change in the cost and the change in the weight.

## Chart 26

### Nominal cost of external financing for euro area NFCs by component

(annual percentages)



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 dark blue diamonds indicate nowcasts for the overall cost of financing in February and March 2022 (including data until 9 March), assuming that the cost of borrowing from banks remains unchanged at its January 2022 level. The latest observations are for 9 March 2022 for the cost of market-based debt (monthly average of daily data), 4 March 2022 for the cost of equity (weekly data) and February 2022 for the cost of borrowing from banks (monthly data).

## 6 Fiscal developments

*According to the March 2022 ECB staff macroeconomic projections, the euro area general government budget balance continues to improve from the very high deficits recorded as a result of the coronavirus (COVID-19) crisis. Risks to this baseline are, however, substantial and increasingly tilted towards larger budget deficits, mainly related to the Russian war in Ukraine. According to the baseline, the deficit ratio is estimated to have fallen to 5.5% of GDP in 2021 from a peak of 7.2% in 2020. It is projected to fall further to 3.1% in 2022 and to 2% by the end of the forecast horizon. In terms of the euro area fiscal stance, a strong expansion in 2020 was followed by a less supportive fiscal stance in 2021 once adjusted for Next Generation EU (NGEU) grants. In 2022 the stance is projected to tighten further, mainly owing to a reversal of a significant part of the coronavirus crisis emergency support. The tightening is projected to be only marginal over the last two years of the forecast horizon, and significant support to the economy remains in place. In the light of high risks currently emanating from multiple sources, which are in part already materialising, fiscal measures, including at the European Union level, would help to shield the economy. Fiscal policies need to remain agile as the situation evolves. A willingness to employ fiscal policies is not inconsistent with the need for a credible path towards reducing budgetary imbalances over the medium term.*

**According to the March 2022 ECB staff macroeconomic projections, the euro area general government budget balance is still improving, continuing along the path that started in 2021.**<sup>9</sup> The general government deficit-to-GDP ratio for the euro area is estimated to have declined to 5.5% of GDP in 2021, after having reached an unprecedented 7.2% in 2020. It is projected to fall even more strongly to 3.1% of GDP in 2022 and then to 2.1% and 2.0%, respectively, in the subsequent two years (Chart 27). Following economic support measures in response to the COVID-19 pandemic of around 4.0% of GDP in 2020, crisis and recovery support is estimated to have increased to about 4.3% of GDP in 2021. This reflects the fact that governments prolonged and gradually expanded the scale of emergency measures and/or adopted new ones to support the recovery, including the measures set out by countries in their national recovery and resilience plans under the NGEU.<sup>10</sup> The large negative cyclical component, which contributed to the large increase in the government deficit in 2020, is estimated to have started contributing less in 2021, albeit only moderately. The more significant improvement in the budget balance from 2022 onwards is projected to be driven by a higher cyclically adjusted primary balance, as a large share of the emergency measures not funded by NGEU grants will expire. Moreover, the negative contribution from the economic cycle is expected to fade swiftly as of 2022, turning slightly positive from 2023. The improvement in the budget balance will also be helped, albeit to a lesser extent, by somewhat lower

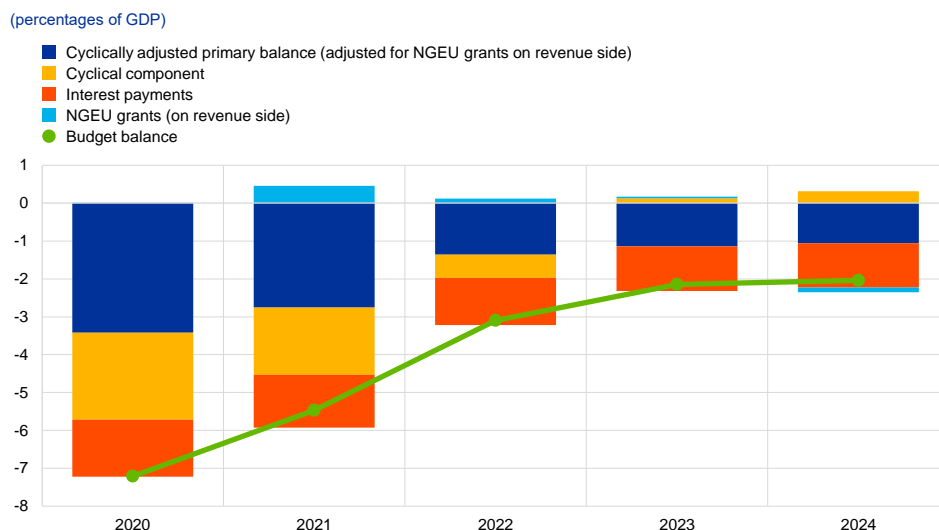
<sup>9</sup> See the “[ECB staff macroeconomic projections for the euro area, March 2022](#)”, published on the ECB’s website on 11 March 2021.

<sup>10</sup> NGEU grants amount to around 0.5% of GDP, on average, over the projection horizon, declining gradually after 2022. Together with a limited amount of loans, they are assumed to finance budget spending of 2.5% of GDP. The fiscal developments described in this section do not include the European supranational deficit and debt related to NGEU transfers.



interest payments than has been the case over the past few years. In the current projections, this effect refers mainly to 2022 and fades away over 2023-24.

**Chart 27**  
Budget balance and its components



Sources: ECB and March 2022 ECB staff macroeconomic projections.  
Note: The data refer to the aggregate general government sector of euro area countries.

**The euro area aggregate fiscal stance is estimated to have tightened somewhat in 2021, following a very expansionary stance in 2020.**<sup>11</sup> From still high levels of support after adjustment for revenues related to NGEU grants, a greater tightening of the fiscal stance is expected in 2022 as the fiscal support fades along with the expiry of pandemic and temporary support measures. In 2023 and 2024 the fiscal stance is projected to tighten only marginally.<sup>12</sup> Notwithstanding the fiscal tightening, the level of fiscal support to the economic recovery remains large over the whole projection horizon, which is reflected in the overall primary fiscal balance remaining firmly negative.

**Compared with the December 2021 Eurosystem staff macroeconomic projections, the budget balance at the end of the projection horizon has been revised slightly downwards.** The most significant annual revision concerns a more favourable budget balance estimate for 2021. Specifically, for 2021 the euro area general government budget balance as a share of GDP has been revised up by 0.5 percentage points to -5.5% of GDP, primarily on account of a higher-than-expected cyclically adjusted primary balance. Despite this improvement, the budget balance

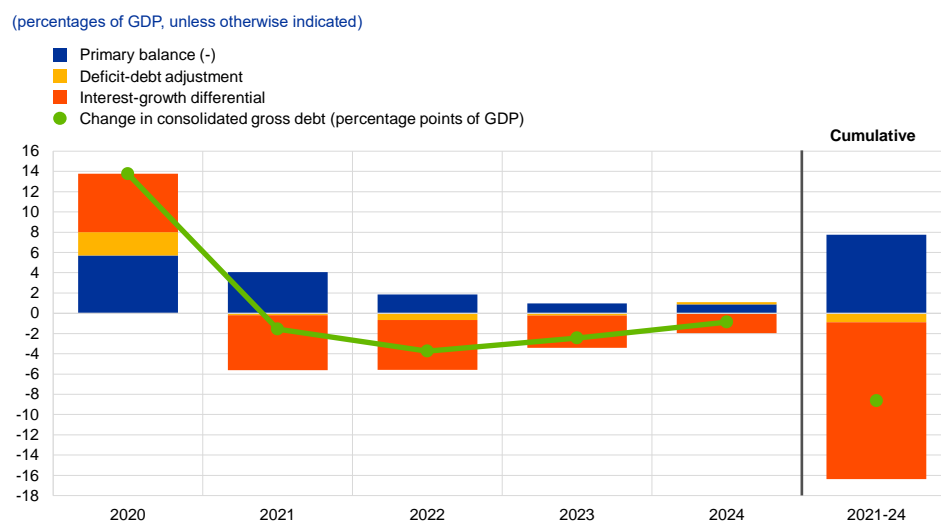
<sup>11</sup> The fiscal stance reflects the direction and size of the stimulus from fiscal policies to the economy beyond the automatic reaction of public finances to the business cycle. It is measured here as the change in the cyclically adjusted primary balance ratio net of government support to the financial sector. Given that the higher budget revenues related to NGEU grants from the EU budget do not have a contractionary impact on demand, the cyclically adjusted primary balance is in this context adjusted to exclude those revenues. For more details on the concept of the euro area fiscal stance, see the article entitled "The euro area fiscal stance", *Economic Bulletin*, Issue 4, ECB, 2016.

<sup>12</sup> The euro area aggregate fiscal stance was -4.2 percentage points of GDP in 2020 and is estimated to have been +0.5 percentage points of GDP in 2021. It is projected to stand at +0.9, +0.2 and +0.1 percentage points of GDP in 2022, 2023 and 2024 respectively, after adjustment for revenues related to NGEU grants.

has been revised upwards only marginally by 0.1 percentage points for 2022, while it is left unchanged for 2023 and revised downwards by 0.2 percentage points for 2024. The downward revision of the budget balance at the end of the forecast horizon in the baseline stems from the deterioration in the macroeconomic outlook triggered by the Ukraine crisis and the upward revisions of interest payments as a share of GDP.

**Following a large increase in 2020, the euro area government debt-to-GDP ratio is estimated to have declined slightly to around 96% in 2021 and is expected to shrink further to 89% in 2024.** After an increase of close to 14 percentage points in the debt ratio in 2020, a falling but still high primary deficit in 2021 is estimated to have been more than offset by a significant debt-reducing contribution from the interest-growth differential. In 2022 and 2023 the debt ratio is projected to decline more quickly as debt-increasing primary deficits, although falling, are outweighed by favourable contributions from interest-growth differentials and, to a lesser extent, by negative deficit-debt adjustments (Chart 28). At the end of the projection horizon in 2024, the debt-to-GDP ratio is expected to fall to just below 89%, 5 percentage points above its pre-crisis level in 2019. Overall, the COVID-19 crisis has had a significantly smaller adverse impact on the euro area aggregate debt path than was generally expected in the initial phase of the crisis.<sup>13</sup>

**Chart 28**  
Drivers of change in euro area government debt



Sources: ECB and March 2022 ECB staff macroeconomic projections.  
Note: The data refer to the aggregate general government sector of euro area countries.

**Risks to this fiscal baseline are, however, substantial and increasingly tilted towards larger budget deficits.** The main uncertainty relates to the macroeconomic effects of the war in Ukraine and potential additional fiscal stimulus in the euro area. Such stimulus would mainly come from three sources: (i) additional support in response to high energy prices; (ii) higher defence spending; and (iii) increased

<sup>13</sup> For instance, in the June 2020 Eurosystem staff macroeconomic projections, the debt-to-GDP level at the end of 2022 was projected to be about 8 percentage points higher than in the current projections.

spending on refugees. Furthermore, fiscal risks related to further waves of the COVID-19 pandemic cannot be ruled out.

**National fiscal policies should remain agile as the situation evolves, while remaining attentive to medium-term fiscal sustainability.** In the light of high risks currently emanating from multiple sources, which are in part already materialising, fiscal measures, including at the European Union level, would help to shield the economy. Fiscal policies need to remain agile as the situation evolves. A decisive shift towards a more growth-friendly composition of public finances and structural reforms that raise the growth potential of euro area economies would create additional fiscal room for manoeuvre if needed, while also helping to reduce budgetary imbalances. A willingness to employ fiscal policies is not inconsistent with the need for a credible path towards reducing budgetary imbalances over the medium term.

# Boxes

## 1 Supply chain bottlenecks in the euro area and the United States: where do we stand?

Prepared by Maria Grazia Attinasi, Roberto A. De Santis, Claudia Di Stefano, Rinalds Gerinovics and Máté Barnabás Tóth

**Strains in global supply chains of goods have been weighing on the global business cycle since late 2020.** Supply chain bottlenecks stem from the interplay of several factors. First, the strong rebound in global demand for manufacturing goods, in part induced by the rotation of consumption away from services in the context of the pandemic-related containment measures, was not matched by an equal increase in the supply of goods. Second, some sectors have been hit by severe supply shortages, particularly of semiconductors, with supply struggling to accommodate the surge in demand for electronic products and equipment, and in the automotive sector, which is gradually recovering after a sharp drop in output in 2020. Finally, disruptions in the logistics industry – resulting primarily from container vessel activity, port congestion and strict lockdown measures in some key Asian countries that produce intermediate inputs – further exacerbated supply bottlenecks.<sup>1</sup>

**Given the multifaceted nature of supply bottlenecks, monitoring a relatively large set of indicators is useful for tracking their causes.** This can make it easier to identify any signs of improvement or deterioration in specific economic sectors at an earlier stage. To this end, this box assesses the severity of supply bottlenecks by looking at a comprehensive set of indicators covering the manufacturing and services sectors, as well as transportation and commodity prices.<sup>2</sup>

**In what follows, sectoral indicators of supply bottlenecks for the euro area and the United States are represented in the form of heatmaps.** While the selection of indicators is subject to data availability, for both regions the heatmaps include the Purchasing Managers' Indices (PMIs) for suppliers' delivery times (SDT), backlogs of work, the orders-to-inventories ratio and intermediate input prices. Where the information is available, the corresponding PMIs for the services sector are also included. In addition, the heatmaps cover transportation costs, which are represented by the freight rates associated with air freight and ocean freight. In the case of ocean freight, a distinction needs to be made between the costs associated with containers and with dry bulk shipping. While dry bulk shipping is used for

<sup>1</sup> 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 following boxes entitled: “[What is driving the recent surge in shipping costs?](#)”, *Economic Bulletin*, Issue 3, ECB, 2021; “[The semiconductor shortage and its implication for euro area trade, production and prices](#)”, *Economic Bulletin*, Issue 4, ECB, 2021; “[The impact of supply bottlenecks on trade](#)”, *Economic Bulletin*, Issue 6, ECB, 2021; and “[Sources of supply chain disruptions and their impact on euro area manufacturing](#)”, *Economic Bulletin*, Issue 8, ECB, 2021.

<sup>2</sup> A similar approach was proposed by Van Roye, B., Murray, B. and Orlik, T., “[Supply chain crisis risks taking the global economy down with it](#)”, *Bloomberg*, November 2021; and Benigno, G., di Giovanni, J., Groen, J.J.J. and Noble, A.I., “[A new barometer of global supply chain pressures](#)”, *New Liberty Street Economics*, Federal Reserve Bank of New York, January 2022.

transporting commodities, container ships are commonly employed to transport intermediate and finished goods. Therefore, the cost of container shipping is more relevant for assessing the severity of current supply bottlenecks, since the constraints appear to have been mostly affecting intermediate and finished goods. For this reason, the heatmaps rely on the Harper Petersen (HARPEX) shipping cost index, which tracks global changes in charter rates for container ships, and the Freightos Baltic Index (FBX), which measures “directional” container freight rates from China to the EU and the United States.<sup>3</sup> The euro area heatmap also measures economy-wide shortages of inputs (e.g. labour, equipment and construction materials, with the latter being available for Germany only) from surveys, in order to capture the ongoing supply chain disruptions from the viewpoint of affected firms. For the United States, the ratio of vacancies to unemployment in the transportation sector is included to capture labour shortages in the logistics sector. In order to allow for comparisons between different indicators, the Z-scores are computed by subtracting the sample mean from each time series and dividing the difference by the sample standard deviation. Positive values of each indicator represent how many standard deviations each index is above the average, whereas negative values represent how many standard deviations each index is below the average. Negative Z-scores, which indicate a supply-demand deficit, would point to supply bottlenecks and are highlighted in red. Broadly speaking, Z-scores below -1.5 would suggest that supply bottlenecks are tight.

**Recent data suggest that supply bottlenecks in the euro area and the United States remain at historically high levels.** The heatmaps (Chart A), which range from dark blue (abundant supply relative to demand) to dark red (supply shortages), show that all indicators moved to a shade of red over the course of 2021 and mostly remained in the red in both economies in January/February 2022. In general, the situation remains difficult, particularly in the euro area. This was recently corroborated by our regular survey of contacts in the corporate sector, who indicated that supply issues have generally not eased over recent months and are expected to continue throughout 2022.<sup>4</sup> In particular, supply constraints caused by disruptions to transportation and logistics are more pervasive and are likely to be more persistent in the absence of any softening of global demand.

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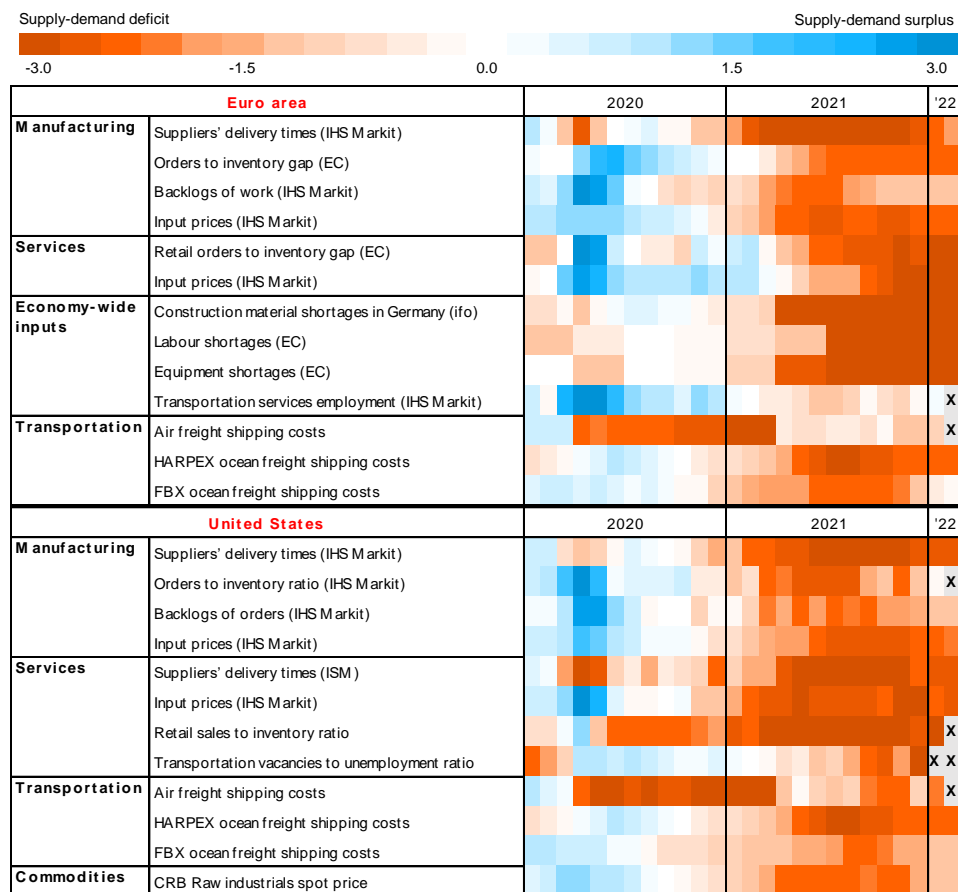
<sup>3</sup> It is not unusual to monitor the Baltic Dry Index. However, this index is constructed to track only the cost of shipping commodities (such as coal, ore and grain), which seem to have been less affected by supply bottlenecks.

<sup>4</sup> With regard to firms’ views on the persistence of supply constraints, see the box entitled “[Main findings from the ECB’s recent contacts with non-financial companies](#)”, *Economic Bulletin*, Issue 1, ECB, 2022.

## Chart A

### Supply chain pressures – heatmaps for the euro area and the United States

(Z-scores)



Sources: U.S. Bureau of Labor Statistics, European Commission (EC), ISM, IHS Markit, ifo Institute, Bloomberg and ECB staff calculations.

Notes: The heatmaps show Z-scores, which are computed by subtracting the mean from the observation at time  $t$  and dividing the difference by the standard deviation. The mean and the standard deviation are computed over the available sample from January 1999. For transportation costs and commodity prices, Z-scores based on year-on-year growth rates are shown. Soft indicators are shown together with their sources. Observations marked with an X are not yet available.

**The summary indicators derived from the heatmap confirm that there are continuing pressures resulting from supply chain disruptions, although these pressures may be easing in some sectors.** The PMI SDT is a useful indicator for monitoring supply disruptions in the logistics sector.<sup>5</sup> To summarise the evidence from the other measures, a single summary indicator is constructed using a dynamic factor model (DFM).<sup>6</sup> The first factor of the DFM, which accounts for over 50% of the total variance in the underlying indicators, is highly correlated with the PMI SDT in

<sup>5</sup> The PMI SDT provides the percentage of companies reporting an improvement, deterioration or no change in the delivery times for intermediate and finished goods. An index below 50 implies that delivery times have deteriorated relative to the previous month.

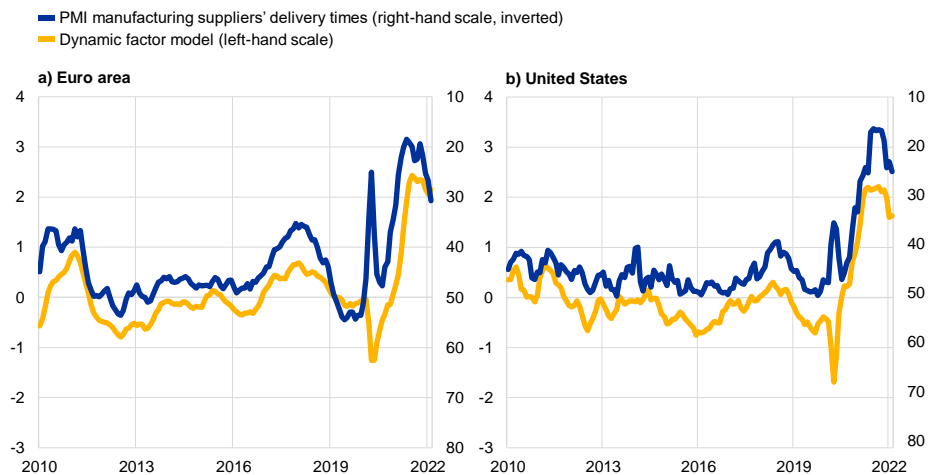
<sup>6</sup> To test the reliability of the data, a summary statistic – based on a principal component model – has also been computed, and this provides very similar results. The advantage of a DFM over a principal component model is that it makes it possible to deal with data gaps using the estimated common component (see Stock, J.H. and Watson, M.W., “Macroeconomic Forecasting Using Diffusion Indexes”, *Journal of Business & Economic Statistics*, Vol. 20, Issue 2, 2002, pp. 147-162; and Doz, C., Giannone, D. and Reichlin, L., “A two-step estimator for large approximate dynamic factor models based on Kalman filtering”, *Journal of Econometrics*, Vol. 164, Issue 1, 2011, pp. 188-205). Therefore, the DFM also includes the FBX shipping cost indices, which have only been available since 2016.

both the euro area and the United States (Chart B), thus capturing a similar pattern in supply bottlenecks. The January/February 2022 data for the PMI SDT and the DFM suggest that supply chain pressures, while still historically high, have peaked and started to ease in both economies (Chart B). Particularly in the United States, the PMI orders-to-inventories ratio is improving, which suggests that firms are starting to rebuild inventories and that bottlenecks may be easing. However, the spread of the Omicron variant of COVID-19, and the potential closure of factories and ports as a result of this, casts further uncertainty, especially in the near term. In particular, there might be setbacks to supply chains if China continues to adhere to a strict zero-COVID strategy. The war in Ukraine may also lead to a reintensification of supply bottlenecks.

### Chart B

#### Supply chain pressures in the euro area and the United States

(left-hand scale: standard deviations from the long-term mean, right-hand scale: diffusion index)



Sources: U.S. Bureau of Labor Statistics, European Commission, ISM, IHS Markit, ifo Institute, Haver Analytics, Bloomberg and ECB staff calculations.

Notes: The DFM includes only monthly indicators (euro area labour and equipment shortages, at quarterly frequency, are not included). Appropriate transformations have been applied to the series to ensure stationarity. The latest observations are for February 2022.

## 2 The role of credit risk in recent global corporate bond valuations

Prepared by Livia Chițu, Magdalena Grothe and Tatjana Schulze<sup>1</sup>

**Corporate vulnerabilities increased particularly strongly around the world at the onset of the coronavirus (COVID-19) pandemic and – despite the subsequent recovery – could still be a cause for concern in some parts of the market.** Vulnerabilities increased markedly, with firms around the world experiencing a wave of credit rating downgrades (Chart A, panel a). In the course of 2021, corporate credit quality (as assessed by credit rating agencies) recovered somewhat, with US firms, for instance, seeing more upgrades than downgrades. However, credit ratings have not yet fully returned to pre-pandemic levels, as there is uncertainty about longer-term prospects in some sectors – particularly those that have been more affected by the pandemic. Moreover, while earnings per share have increased on average, the ongoing pandemic has had a scarring effect, leaving some firms with weaker earnings, despite public support measures (see, for example, panel b of Chart A, which looks at firms in the S&P 500).

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<sup>1</sup> Tatjana Schulze contributed to this box during her traineeship at the European Central Bank.

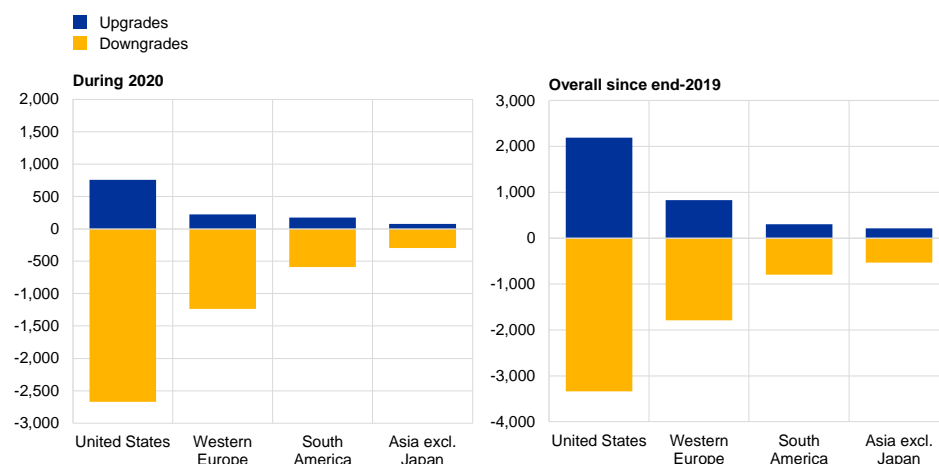


## Chart A

### Changes in corporate credit quality during the pandemic

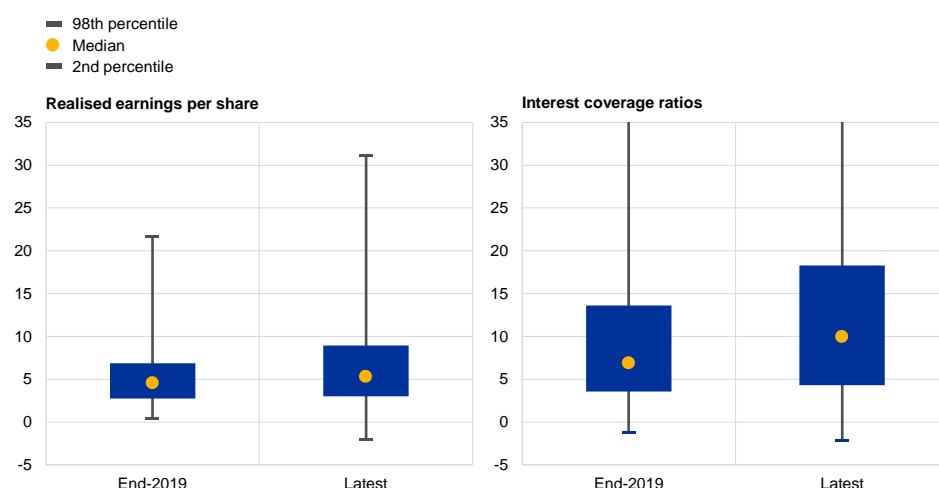
#### a) Changes to the long-term ratings of firms

(numbers of upgrades and downgrades)



#### b) Earnings per share and interest coverage ratios for firms in the S&P 500

(USD for earnings per share; percentages for interest coverage ratios)



Sources: Bloomberg and ECB calculations.

Notes: Panel a shows the numbers of non-financial corporations in different regions which were upgraded and downgraded (i) in 2020 and (ii) in the period since end-2019, with the latest observations relating to Q1 2022. Panel b shows the realised earnings per share and interest coverage ratios (interest payments relative to earnings) of firms in the S&P 500, with dots representing the median, bars showing the interquartile range (25th to 75th percentiles) and whiskers indicating the 2nd and 98th percentiles. In the right-hand chart in panel b, the 98th percentiles of the two interest coverage ratio distributions (not shown in the chart) stand at around 130% and 390% for end-2019 and the latest data respectively. In panel b, the latest observations relate to 14 January 2022 (earnings per share; weekly) and Q4 2021 (interest coverage ratios; quarterly).

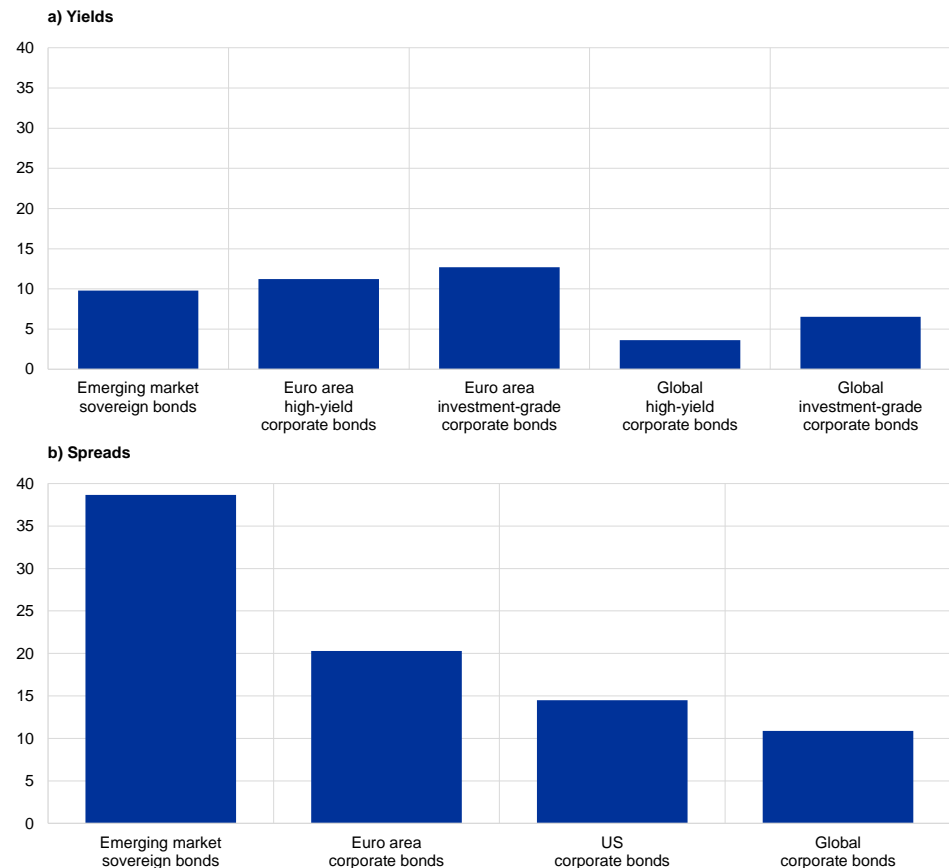
### Corporate bond valuations are close to historical highs, despite those lingering vulnerabilities.

That is particularly true of lower-rated segments. After spiking in March 2020, US corporate bond yields have fallen to historical lows across rating classes. Those low yields are, in part, a reflection of the low level of interest rates, as central banks have reduced policy rates and used asset purchases to compress term premia on government bonds. However, corporate bond valuations are also very high in relative terms, as usually measured by the difference between the yields on high and low-risk corporate bonds or the difference between corporate bond yields and risk-free rates. Corporate spreads are back to pre-pandemic levels

and close to the historical lows that were observed in the run-up to the global financial crisis. With further compression of spreads being seen across most asset classes in recent months, concerns have emerged about possible exuberance in some corporate market segments (Chart B).<sup>2</sup>

### Chart B Valuations in global bond markets

(percentage of months since January 1999 where lower yields/spreads have been recorded)



Sources: Bloomberg, Refinitiv Datastream and ECB calculations.

Notes: Valuations are based on ICE BofA corporate bond indices, as well as JPM EMBI indices for emerging US dollar-denominated sovereign markets. In this chart, corporate spreads are calculated as the difference between high-yield and investment-grade corporate bonds. The latest observations relate to January 2022.

**Notwithstanding the recent pick-up in corporate spreads in some markets, the strong declines seen overall since the peak of the COVID-19 crisis have largely been linked to the strength of investors' risk appetite.** Building on literature on corporate bond pricing, developments in global corporate bond valuations can be interpreted using a model with a credit risk component and factors capturing broader market conditions and liquidity. Credit risk is measured using an indicator of expected default frequency (EDF) provided by the rating agency Moody's. Rooted in option pricing theory, this measures the probability that a firm will default (i.e. fail to make scheduled payments of principal or interest) over the next 12 months.<sup>3</sup> It

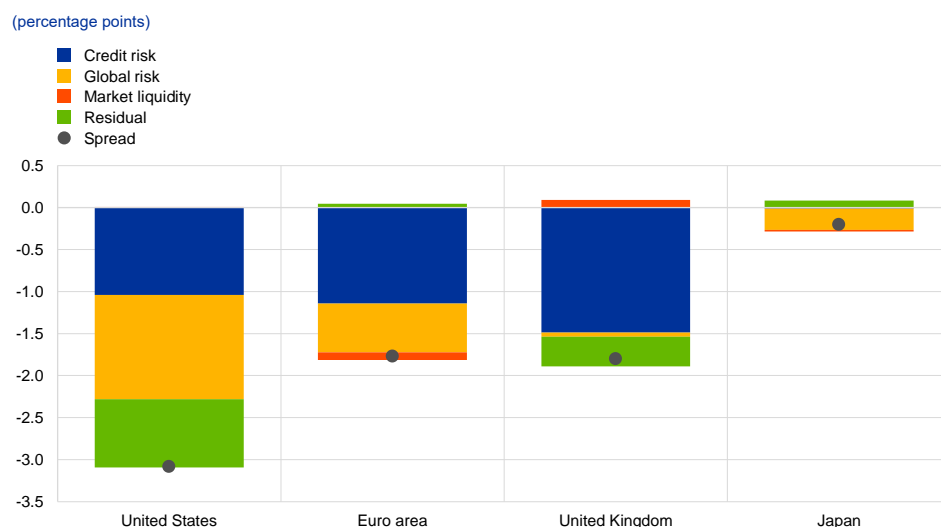
<sup>2</sup> For a comprehensive discussion of risks relating to asset market valuations, see ECB, *Financial Stability Review*, November 2021, [Chapter 2](#).

<sup>3</sup> See, for example, Moody's Analytics, "[EDF Overview](#)", 2011.

therefore captures the market’s assessment of corporate credit quality. The model captures market uncertainty and risk aversion using the VIX, which provides a measure of expected stock market volatility derived from option prices (and is commonly used as a proxy for uncertainty and risk aversion across financial markets). The model captures liquidity conditions using the money market spread, which is defined as the spread between the three-month interbank rate and the yield on three-month government bonds. Estimates derived from the model suggest that the overall declines seen in global corporate bond spreads since the peak of the pandemic – notwithstanding the recent increases in some segments – have been driven by the easing of market uncertainty, as well as the market’s relatively favourable assessment of corporate default risk (Chart C).<sup>4</sup> The contributions made by model residuals in some markets point to potential exuberance in valuations and suggest that investors have an exceptionally strong risk appetite.

### Chart C

#### Factors driving the recovery in global corporate spreads since March 2020



Sources: Moody’s Analytics, Refinitiv Datastream and ECB calculations.

Notes: This chart shows model-based estimates of the contributions that credit risk, market uncertainty and market liquidity have made to the changes seen in BBB-rated corporate bond spreads since March 2020. Here, corporate spreads measure the difference between the yields on corporate bonds and government bonds with the same maturity in the same jurisdiction. Corporate spreads are measured at country index level for BBB-rated bonds with maturities of three to five years. “Credit risk” denotes the market’s assessment of corporate default risk, as measured by the EDF indicator produced by Moody’s; “global risk” is proxied by the VIX; and “market liquidity” is proxied by the money market spread – i.e. the spread between the three-month interbank rate and the yield on three-month government bonds (e.g. the TED spread for the United States). The model has been estimated using daily data extending back to June 2006, with the latest observations relating to 17 February 2022.

**Those results can be checked against the findings of a second model based on more granular data, which confirms the role of risk appetite for recent valuations, pointing to a potential risk of market repricing.** Indeed, using bond and firm-level data for the United States, one of the world’s largest corporate markets, model-based estimates illustrate the key role that investors’ risk appetite has played in recent corporate bond valuations for non-financial corporations in the S&P 500. The model assumes that there is a linear relationship between corporate

<sup>4</sup> The results are robust to the use of alternative metrics for explanatory variables. For a broader review of euro area valuations, see, for example, Altavilla, C., Lemke, W., Linzert, T., Tapking, J. and von Landesberger, J., “Assessing the efficacy, efficiency and potential side effects of the ECB’s monetary policy instruments since 2014”, *Occasional Paper Series*, No 278, ECB, September 2021.

spreads and firm-specific default risk and a vector of bond-specific characteristics.<sup>5</sup> A positive value for a bond’s model residual, also referred to as the “excess bond premium”, can be interpreted as compensation for incurring exposure to the bond that exceeds the compensation which is typically required for expected defaults. Since the peak of the COVID-19 crisis, the excess bond premium has declined and reached negative levels, above those observed before 2007 and similar to those seen prior to the pandemic. This indicates that the strength of investors’ risk appetite has pushed risk premia down to levels somewhat lower than the market’s historical pricing of default risk (Chart D).

### Chart D

#### Excess bond premium for non-financial corporations in the S&P 500



Sources: Bloomberg, Moody’s Analytics, Refinitiv Datastream and ECB calculations.

Notes: The excess bond premium component of option-adjusted corporate spreads has been estimated for a panel of non-financial corporations in the S&P 500 and aggregated at firm level, following the approach adopted by Gilchrist and Zakrajšek. This chart shows the excess bond premium for firms with median profitability in terms of realised earnings per share. The estimation process accounts for a firm-specific measure of expected default (as captured by the EDF indicator produced by Moody’s) and a vector of bond-specific characteristics (including duration, coupon, age and volume, and a dummy for callable bonds), as well as industry fixed effects and double-clustered standard errors. The measure of option-adjusted corporate spreads accounts for the presence of embedded options in a subset of the sample of bonds. The latest observations relate to 17 December 2021 (weekly data).

#### Possible market-wide risk-off shocks could significantly increase corporate funding costs and expected default probabilities, particularly for firms with the weakest balance sheets.

A repricing of assets in response to a shift in global risk sentiment could exacerbate firms’ funding vulnerabilities and increase their probability of default. This effect could be particularly strong for firms with weak fundamentals (e.g. poor earnings prospects or low interest coverage ratios). Model-based estimates looking at the response to a global risk-off shock enable us to estimate the impact that a reversal of investor sentiment could have on corporate

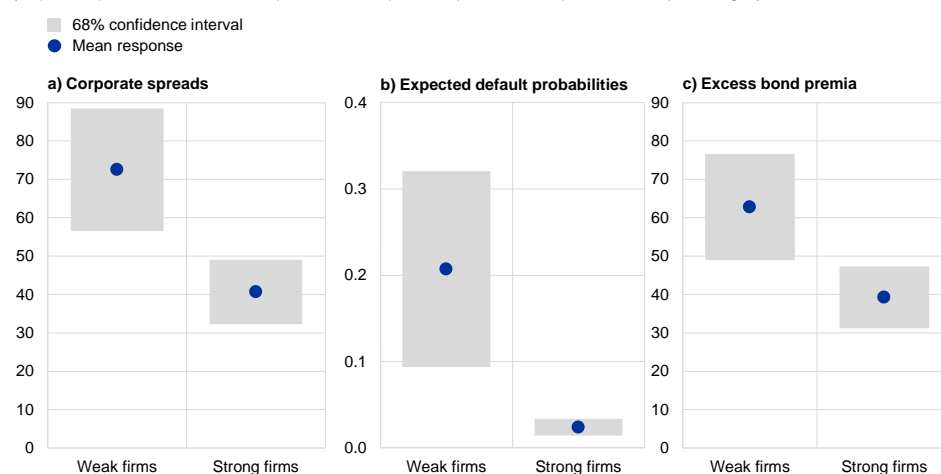
<sup>5</sup> This approach is in line with Gilchrist, S. and Zakrajšek, E., “Credit Spreads and Business Cycle Fluctuations”, *American Economic Review*, Vol. 102, No 4, June 2012, pp. 1692-1720, as well as Favara, G., Gilchrist, S., Lewis, K. and Zakrajšek, E., “Updating the Recession Risk and the Excess Bond Premium”, *FEDS Notes*, 2016.

spreads and default probabilities.<sup>6</sup> The results show that corporate spreads are highly sensitive to global risk-off shocks, particularly for the weakest firms. For those firms, the estimated response in terms of repricing stands at around 70 basis points three weeks after the shock, compared with around 40 basis points for stronger firms (Chart E, panel a). In addition, the expected probability of a firm defaulting over the next year rises by 0.2 percentage points (Chart E, panel b), which is a substantial increase considering that the expected default frequency of a median US non-financial corporation does not usually exceed 1%. The bulk of the sensitivity of funding costs can be attributed to the increase in investors' risk aversion, as proxied by the excess bond premium (Chart E, panel c).

### Chart E

The impact that market-wide risk-off shocks have on corporate spreads, expected default probabilities and excess bond premia for the strongest and weakest firms

(corporate spreads and excess bond premia in basis points; expected default probabilities in percentages)



Sources: Bloomberg, Moody's Analytics, Refinitiv Datastream and ECB calculations.

Notes: This chart shows the estimated responses of corporate spreads, expected default probabilities and excess bond premia three weeks after a global risk-off shock for a panel of non-financial corporations in the S&P 500. The responses are estimated using panel local projections. "Weak" firms are the 20% of the panel that have the lowest interest coverage ratios; "strong" firms are the 20% with the highest ratios. The shocks are estimated using a daily BVAR model with a combination of sign, relative magnitude and narrative restrictions and are calibrated as a 10 basis point decline in long-term US Treasury yields over five days. Estimates of local projections are weekly, span the period from January 2005 to May 2021, control for the Citigroup Economic Surprise Index, the two-year US Treasury rate and the VIX, as well as dummies for the global financial crisis and the COVID-19 crisis, and account for firm fixed effects. Standard errors are clustered by industry and time. Expected default probabilities are measured using the EDF indicator produced by Moody's, which captures the probability that a firm will default (i.e. fail to make scheduled payments of principal or interest) over the next year. The excess bond premium component of corporate spreads is estimated for the panel of S&P 500 corporate bonds and aggregated at firm level, in line with the approach adopted by Gilchrist and Zakrajšek. That estimation process accounts for a firm-specific measure of expected default (as captured by the EDF indicator produced by Moody's) and a vector of bond-specific characteristics (including duration, coupon, age and volume, and a dummy for callable bonds), as well as industry fixed effects. The latest observations relate to 17 December 2021 (weekly data).

**Overall, this box illustrates the important role that risk appetite plays in corporate bond valuations, both internationally and across firms in one of the**

<sup>6</sup> That shock is estimated using a daily BVAR model in the spirit of Brandt, L., Saint Guilhem, A., Schröder, M. and Van Robays, I., "What drives euro area financial market developments? The role of US spillovers and global risk", *Working Paper Series*, No 2560, ECB, 2021. The model uses a combination of sign, relative magnitude and narrative restrictions. Thanks to this approach, the global risk shock captures flight-to-safety dynamics, assuming that heightened global risk aversion triggers a shift out of equity and into safe long-term US bonds, while also leading to a strengthening of the US dollar given its status as a safe haven. In addition, a narrative event is imposed on the day of Lehman Brothers' collapse, whereby the global risk shock is the most important driver of equity prices on that day. The impact of the shock is calibrated as a 10 basis point decline in long-term US Treasury yields over five days. We are grateful to Ine Van Robays for sharing the global risk shock series that was used for this project.

**largest corporate bond markets.** Model-based analysis suggests that, while the strong decline that has been seen in corporate bond spreads across countries since the peak of the COVID-19 pandemic has partly reflected the market's assessment of improving credit quality across firms, it has also, to a large extent, been driven by a strengthening of investors' risk appetite. This is confirmed by analysis of bond-level valuations in the US corporate market. Looking ahead, the box also indicates that – given that some firms have relatively weak balance sheets and there is potential for a shift in investor sentiment – market-wide risk-off shocks could conceivably result in a significant increase in corporate funding costs and expected default probabilities, particularly for the weakest firms.

## 3 Liquidity conditions and monetary policy operations from 3 November 2021 to 8 February 2022

Prepared by Ross James Murphy and Nikolaus Solonar

**This box describes the ECB’s monetary policy operations and liquidity developments during the seventh and eighth reserve maintenance periods of 2021.** Together, these two maintenance periods ran from 3 November 2021 to 8 February 2022 (the “review period”).

**Average excess liquidity in the euro area banking system rose by €45.6 billion during the review period, reaching a record level of €4,412.6 billion.** This was due to asset purchases conducted under the pandemic emergency purchase programme (PEPP) and the asset purchase programme (APP). The effect of asset purchases on excess liquidity was partially offset by a sizeable increase in net autonomous factors. The TLTRO III programme had a net draining effect on liquidity for the first time.

### Liquidity needs

**The average daily liquidity needs of the banking system, defined as the sum of net autonomous factors and reserve requirements, increased by €205.4 billion to €2,495.7 billion in the review period.** The increase compared with the previous two maintenance periods was almost totally due to an increase in net autonomous factors by €202.5 billion to €2,340.8 billion (see the section of Table A entitled “Other liquidity-based information”). Instead, minimum reserve requirements increased only marginally by €2.9 billion to €154.8 billion.

**Liquidity-absorbing autonomous factors increased in the review period by €55.3 billion to €3,172.0 billion, mainly due to increases in other autonomous factors and banknotes in circulation.** Other autonomous factors (Table A) increased in the review period by €76.4 billion to €1,035.8 billion. At the same time, banknotes in circulation increased by €27.3 billion to €1,531.0 billion. Government deposits remain at a high level despite decreasing by €48.3 billion to €605.2 billion, although this is well below the record high of €729.8 billion reached during the review period covering the fifth and sixth maintenance periods of 2020.

**Liquidity-providing autonomous factors decreased by €147.2 billion to €831.4 billion.** This decrease was the net outcome of a decline of €174.7 billion in net assets denominated in euro and an increase of €27.5 billion in net foreign assets. The decrease in net assets denominated in euro was caused to a large extent by the increase in the Eurosystem balance sheet item L.6 (“Liabilities to non-euro area residents denominated in euro”) on account of increases in Eurosystem Reserve Management Service deposits and securities lending operations against cash collateral with non-euro area counterparties over year-end. Balance sheet item L.6

reached €710 billion on 31 December 2021, the highest level ever recorded, as placing euro liquidity in the market over the year-end period became very costly.

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

**Table A**  
Eurosystem liquidity conditions

	Current review period 3 November 2021 to 8 February 2022						Previous review period 28 July 2021 to 2 November 2021	
	Seventh and eighth maintenance periods		Seventh maintenance period 3 November to 21 December		Eighth maintenance period 22 December to 8 February		Fifth and sixth maintenance periods	
<b>Autonomous liquidity factors</b>	<b>3,172.0</b>	<b>(+55.3)</b>	<b>3,146.4</b>	<b>(-0.6)</b>	<b>3,197.5</b>	<b>(+51.1)</b>	<b>3,116.6</b>	<b>(+120.3)</b>
Banknotes in circulation	1,531.0	(+27.3)	1,521.4	(+14.0)	1,540.6	(+19.2)	1,503.7	(+28.7)
Government deposits	605.2	(-48.3)	628.3	(-43.0)	582.0	(-46.3)	653.5	(+36.6)
Other autonomous factors (net) <sup>1</sup>	1,035.8	(+76.4)	996.7	(+28.4)	1,074.9	(+78.2)	959.4	(+55.1)
<b>Current accounts above minimum reserve requirements</b>	<b>3,673.0</b>	<b>(+58.5)</b>	<b>3,689.1</b>	<b>(+35.4)</b>	<b>3,656.9</b>	<b>(-32.2)</b>	<b>3,614.5</b>	<b>(+143.3)</b>
of which exempted excess reserves under the two-tier system	919.6	(+15.3)	919.6	(+10.4)	919.6	(+0.0)	904.2	(+17.1)
of which non-exempted excess reserves under the two-tier system	2,769.5	(+60.0)	2,769.5	(+25.8)	2,769.5	(+0.0)	2,709.5	(+123.2)
<b>Minimum reserve requirements<sup>2</sup></b>	<b>154.8</b>	<b>(+2.9)</b>	<b>154.2</b>	<b>(+1.4)</b>	<b>155.4</b>	<b>(+1.2)</b>	<b>151.9</b>	<b>(+3.0)</b>
<b>Exemption allowance<sup>3</sup></b>	<b>928.9</b>	<b>(+17.7)</b>	<b>925.4</b>	<b>(+8.5)</b>	<b>932.5</b>	<b>(+7.0)</b>	<b>911.3</b>	<b>(+18.1)</b>
<b>Deposit facility</b>	<b>739.6</b>	<b>(-12.9)</b>	<b>745.0</b>	<b>(+6.5)</b>	<b>734.2</b>	<b>(-10.8)</b>	<b>752.6</b>	<b>(+32.2)</b>
<b>Liquidity-absorbing fine-tuning operations</b>	<b>0.0</b>	<b>(+0.0)</b>	<b>0.0</b>	<b>(+0.0)</b>	<b>0.0</b>	<b>(+0.0)</b>	<b>0.0</b>	<b>(+0.0)</b>

Source: ECB.

Notes: All figures in the table are rounded to the nearest €0.1 billion. Figures in brackets denote the change from the previous review or maintenance period.

1) Computed as the sum of the revaluation accounts, other claims and liabilities of euro area residents, capital and reserves.

2) Memo item that does not appear on the Eurosystem balance sheet and therefore should not be included in the calculation of total liabilities.

3) Exempted and non-exempted excess reserves are explained on the ECB's [website](#).

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



## Assets

(averages; EUR billions)

	Current review period 3 November 2021 to 8 February 2022						Previous review period 28 July 2021 to 2 November 2021	
	Seventh and eighth maintenance periods		Seventh maintenance period 3 November to 21 December		Eighth maintenance period 22 December to 8 February		Fifth and sixth maintenance periods	
<b>Autonomous liquidity factors</b>	<b>831.4</b>	<b>(-147.2)</b>	<b>870.5</b>	<b>(-99.5)</b>	<b>792.3</b>	<b>(-78.3)</b>	<b>978.6</b>	<b>(-47.5)</b>
Net foreign assets	858.4	(+27.5)	839.2	(+4.1)	877.7	(+38.5)	830.9	(+15.6)
Net assets denominated in euro	-27.0	(-174.7)	31.4	(-103.6)	-85.4	(-116.7)	147.7	(-63.1)
<b>Monetary policy instruments</b>	<b>6,908.3</b>	<b>(+251.0)</b>	<b>6,864.5</b>	<b>(+142.2)</b>	<b>6,952.0</b>	<b>(+87.5)</b>	<b>6,657.3</b>	<b>(+346.3)</b>
Open market operations	6,908.3	(+251.0)	6,864.5	(+142.2)	6,952.0	(+87.5)	6,657.3	(+346.3)
Credit operations	2,205.4	(-6.3)	2,208.9	(-1.1)	2,201.8	(-7.1)	2,211.7	(+63.5)
MROs	0.2	(+0.1)	0.2	(+0.0)	0.3	(+0.2)	0.2	(+0.0)
Three-month LTROs	0.1	(-0.0)	0.1	(-0.0)	0.1	(-0.0)	0.1	(-0.1)
TLTRO II operations	0.0	(+0.0)	0.0	(+0.0)	0.0	(+0.0)	0.0	(+0.0)
TLTRO III operations	2,202.2	(+7.2)	2,206.3	(+5.2)	2,198.1	(-8.2)	2,195.0	(+74.3)
PELTROs	2.9	(-13.5)	2.4	(-6.2)	3.4	(+1.0)	16.4	(-10.8)
Outright portfolios	4,702.9	(+257.3)	4,655.6	(+143.3)	4,750.2	(+94.5)	4,445.6	(+282.8)
First covered bond purchase programme	0.4	(-0.0)	0.4	(-0.0)	0.4	(-0.1)	0.4	(-0.0)
Second covered bond purchase programme	2.1	(-0.3)	2.4	(+0.0)	1.8	(-0.6)	2.4	(-0.0)
Third covered bond purchase programme	297.7	(+1.8)	298.1	(+0.9)	297.3	(-0.7)	295.9	(+4.4)
Securities Markets Programme	6.5	(-3.0)	6.5	(+0.0)	6.5	(+0.0)	9.5	(-7.7)
Asset-backed securities purchase programme	28.3	(+1.3)	28.7	(+2.1)	28.0	(-0.7)	27.0	(-1.4)
Public sector purchase programme	2,487.7	(+39.8)	2,479.3	(+23.0)	2,496.2	(+16.9)	2,448.0	(+36.0)
Corporate sector purchase programme	310.2	(+15.4)	307.1	(+8.2)	313.2	(+6.1)	294.8	(+15.4)
Pandemic emergency purchase programme	1,570.0	(+202.4)	1,533.2	(+109.0)	1,606.8	(+73.7)	1,367.5	(+236.1)
Marginal lending facility	0.0	(-0.0)	0.0	(-0.0)	0.0	(+0.0)	0.0	(+0.0)

Source: ECB.

Notes: All figures in the table are rounded to the nearest €0.1 billion. Figures in brackets denote the change from the previous review or maintenance period.

## Other liquidity-based information

(averages; EUR billions)

	Current review period 3 November 2021 to 8 February 2022						Previous review period 28 July 2021 to 2 November 2021	
	Seventh and eighth maintenance periods		Seventh maintenance period 3 November to 21 December		Eighth maintenance period 22 December to 8 February		Fifth and sixth maintenance periods	
Aggregate liquidity needs <sup>1</sup>	2,495.7	(+205.4)	2,430.5	(+100.3)	2,560.9	(+130.4)	2,290.2	(+170.8)
Net autonomous factors <sup>2</sup>	2,340.8	(+202.5)	2,276.2	(+98.9)	2,405.5	(+129.2)	2,138.4	(+167.8)
Excess liquidity <sup>3</sup>	4,412.6	(+45.6)	4,434.1	(+42.0)	4,391.1	(-43.0)	4,367.0	(+175.5)

Source: ECB.

Notes: All figures in the table are rounded to the nearest €0.1 billion. Figures in brackets denote the change from the previous review or maintenance period.

1) Computed as the sum of net autonomous factors and minimum reserve requirements.

2) Computed as the difference between autonomous liquidity factors on the liability side and autonomous liquidity factors on the asset side. For the purposes of this table, items in the course of settlement are also added to net autonomous factors.

3) Computed as the sum of current accounts above minimum reserve requirements and the recourse to the deposit facility minus the recourse to the marginal lending facility.

## Interest rate developments

(averages; percentages)

	Current review period 3 November 2021 to 8 February 2022						Previous review period 28 July 2021 to 2 November 2021	
	Seventh and eighth maintenance periods		Seventh maintenance period 3 November to 21 December		Eighth maintenance period 22 December to 8 February		Fifth and sixth maintenance periods	
MROs	0.00	(+0.00)	0.00	(+0.00)	0.00	(+0.00)	0.00	(+0.00)
Marginal lending facility	0.25	(+0.00)	0.25	(+0.00)	0.25	(+0.00)	0.25	(+0.00)
Deposit facility	-0.50	(+0.00)	-0.50	(+0.00)	-0.50	(+0.00)	-0.50	(+0.00)
€STR	-0.576	(-0.006)	-0.574	(-0.004)	-0.578	(-0.004)	-0.570	(-0.005)
RepoFunds Rate Euro Index	-0.746	(-0.156)	-0.615	(-0.018)	-0.878	(-0.263)	-0.590	(+0.003)

Source: ECB, RepoFunds Rate (CME Group).

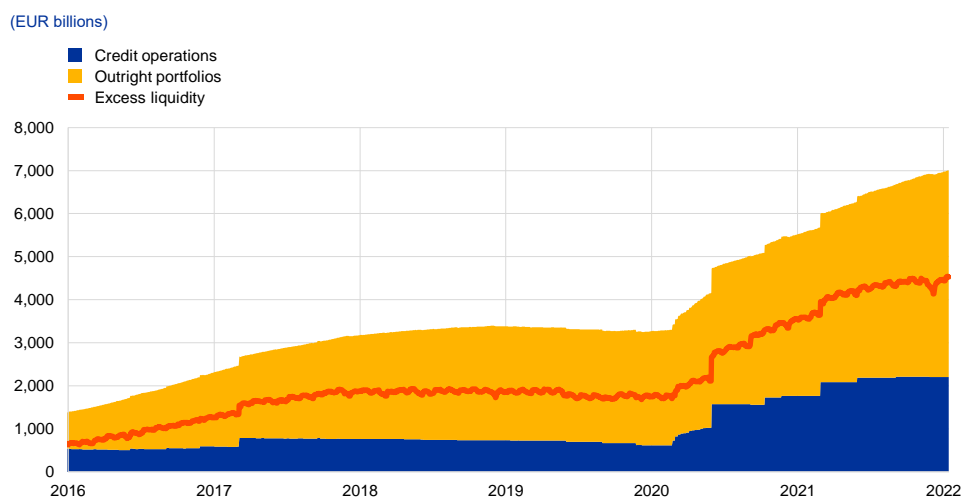
Note: Figures in brackets denote the change from the previous review or maintenance period.

## Liquidity provided through monetary policy instruments

**The average amount of liquidity provided through monetary policy instruments increased by €251.0 billion to €6,908.3 billion during the review period (Chart A).** The increase was the result of net purchases under the asset purchase programmes, primarily the PEPP, while maturing credit operations and TLTRO repayments drained liquidity.

## Chart A

### Evolution of liquidity provided through open market operations and excess liquidity



Source: ECB.

Note: The latest observations are for 8 February 2022.

#### **The average amount of liquidity provided through credit operations decreased by €6.3 billion during the review period.**

The largest part of this decrease was caused by the maturity of pandemic emergency longer-term refinancing operations (PELTROs) in the previous review period, the effect of which only fully materialises in this period. Under the PELTRO, only €1.1 billion was allotted in the final operation in December 2021. Overall, the new PELTRO allotments and maturing tenders resulted in an average net liquidity absorption of €13.5 billion compared with the previous review period. The settlement of €51.97 billion in the tenth TLTRO III on 22 December was offset by voluntary repayments of earlier TLTRO III operations of €60.2 billion on the same date, so that, on a net basis, for the first time since their launch, TLTRO III drained liquidity. The main refinancing operations (MROs) and three-month longer-term refinancing operations (LTROs) continued to play only a marginal role, with average recourse to both of these regular refinancing operations remaining at record low levels, as in the previous review period.

#### **Outright portfolios increased by €257.3 billion to €4,702.9 billion, owing to net purchases under the PEPP and the APP.**

Average holdings in the PEPP increased by €202.4 billion to €1,570.0 billion compared with the average for the previous review period. Purchases under the PEPP represented the largest increase across the ECB's asset purchase programmes, followed by the public sector purchase programme (PSPP) and the corporate sector purchase programme (CSPP), with average increases of €39.8 billion to €2,487.7 billion and €15.4 billion to €310.2 billion respectively. The maturing of securities held in non-active programmes reduced the size of outright portfolios by €3.4 billion.

## Excess liquidity

**Average excess liquidity increased by €45.6 billion, reaching a new record high of €4,412.6 billion (Chart A).** Excess liquidity is the sum of banks' reserves above the reserve requirement and the recourse to the deposit facility net of any recourse to the marginal lending facility. It reflects the difference between the total liquidity provided to the banking system and banks' liquidity needs. Banks' current account holdings in excess of minimum reserve requirements grew by €58.5 billion to €3,673.0 billion, while average recourse to the deposit facility decreased by €12.9 billion to €739.6 billion.

**Excess reserves exempt from the negative deposit facility rate under the two-tier system rose by €15.3 billion to €919.6 billion.<sup>2</sup> Non-exempt excess liquidity, which includes the deposit facility, increased by €47.1 billion, reaching €3,509.2 billion.** The aggregate utilisation rate of the maximum exemption allowance, i.e. the ratio of exempted reserves to the maximum exempted amount,<sup>3</sup> which has remained above 98% since the third maintenance period of 2020, decreased marginally from 99.2% to 99.0%. The share of exempted excess reserves in total excess liquidity stood at 20.8%, compared with 20.7% in the previous review period.

## Interest rate developments

**The average €STR remained broadly unchanged at -57.6 basis points during the review period.** As a result of the high level of excess liquidity, the €STR continues to be relatively inelastic, even in response to substantial fluctuations in liquidity. The EONIA was discontinued on 3 January 2022 and is therefore no longer reported. The ECB policy rates – the rates on the deposit facility, MROs and the marginal lending facility – were left unchanged during the review period.

**The average euro area repo rate, measured by the RepoFunds Rate Euro Index, decreased by 15.6 basis points during the review period to -0.746%.** This decline was unusually large and broad-based, affecting not only repo rates for transactions with German and French government bonds as collateral, but also those with Italian and Spanish government bonds as collateral. The decline can be attributed to end-of-year patterns, which were particularly pronounced. After following a steady downward trend in the earlier part of the review period, repo rates exhibited a very sharp drop on 31 December 2021, when the RepoFunds Rate Euro Index declined to its lowest level on record of -4.498%. In January 2022 this rate soon normalised and returned to close to the average for the seventh maintenance period.

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<sup>2</sup> More information about the two-tier system for remunerating excess reserve holdings is available on the ECB's [website](#).

<sup>3</sup> The maximum exempted amount is measured as the sum of the minimum reserves and the exemption allowance, which is equal to six times the minimum reserves amount.

Prepared by Gabe de Bondt

**This box takes stock of the evolution of the saving ratios of non-financial corporations in the euro area and in the largest euro area countries during the pandemic.** It focuses on corporate savings as part of the integrated euro area accounts. A distinction is made between savings including “consumption of fixed capital”, also known as depreciation expenses, and net savings, which are often referred to as retained earnings. Corporate saving is the part of entrepreneurial income that is not distributed as dividends to shareholders. Generally, firms accumulate savings because they help protect them in the event of a financial emergency, can be used to pay for operational as well as capital expenditures, help them to access external financing, reduce financial stress, and provide a greater sense of financial freedom. Savings are important as an internal source of funding for investment. The pecking order theory of corporate finance says that firms prioritise their sources of financing, with a preference for internal financing, then debt, and equity as a last resort.<sup>1</sup> In addition, having a high saving ratio can make it easier for firms to borrow funds, to the extent that it suggests a firm pursues sound balance sheet management and has good business prospects. If high savings are sustained over time, however, they may also signal a lack of productive investment opportunities or unwillingness to take business risks.<sup>2</sup>

**Corporate saving ratios have reached record highs in recent quarters.** After previously reaching record highs in 2017, saving ratios of non-financial corporations in the euro area began a declining trend, while staying above historical averages. At the start of the COVID-19 crisis the euro area non-financial corporation gross saving ratio declined further, mainly because of falling revenues. The drop in saving was even stronger when measured in net terms, which excludes the consumption of fixed capital (Chart A, panel a). The main driver of saving was entrepreneurial income, which fell sharply in the second quarter of 2020. Since around mid-2020 saving has rebounded strongly, again predominantly driven by entrepreneurial income developments, and saving ratios have reached levels far above their average since 1999. This rebound has been heavily supported by policy measures and firms’ own

<sup>1</sup> For empirical evidence that the availability of internal sources of finance matters significantly for aggregate business investment in the euro area and the United States, see de Bondt, G. and Diron, M., “Investment, financing constraints and profit expectations: new macro evidence”, *Applied Economics Letters*, Vol. 15(8), 2008, p. 577-581. For panel evidence based on 47 countries that higher business saving is linked significantly to higher business investment, see Bebczuk, R. and Cavallo, E., “Is business saving really none of our business?”, *Applied Economics*, Vol. 48(24), 2016, p. 2266-2284. This study concludes that business savings and external financing are complementary sources of financing for investment.

<sup>2</sup> For example, excessive corporate savings in Japan have been linked to a lack of growth opportunities and poor corporate governance. See, for example, Tong, J. and Bremer, M., “Stock repurchases in Japan: A solution to excessive corporate saving?”, *Journal of the Japanese and International Economies*, Vol. 41(C), 2016, pp. 41-56; Aoyagi, C. and Ganelli, G., “Unstash the Cash! Corporate Governance Reform in Japan”, *Journal of Banking and Financial Economics*, Vol. 1(7), University of Warsaw, Faculty of Management, 2017, pp. 51-69; Sun, Z. and Wang, Y., “Corporate precautionary savings: Evidence from the recent financial crisis”, *Quarterly Review of Economics and Finance*, Vol. 56(C), 2015, pp. 175-186; and Dudley, E. and Zhang, N., “Trust and corporate cash holdings”, *Journal of Corporate Finance*, Vol. 41(C), 2016, pp. 363-387.

efforts to improve their liquidity conditions.<sup>3</sup> These developments have been broad-based across countries. The non-financial corporation gross saving ratio was in recent quarters at or close to record highs in three of the four largest euro area countries, i.e. excluding Spain. Cross-country differences since the start of the pandemic reflect in part different policy support measures.<sup>4</sup> From a longer perspective, however, non-financial corporation saving ratios in Spain have been high compared with other countries since the global financial crisis, reflecting a strong and long-lasting corporate deleveraging process.

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<sup>3</sup> For more detailed descriptions, see the box entitled "[Non-financial corporate health during the pandemic](#)", *Economic Bulletin*, Issue 6, ECB, 2021, and the article entitled "[Assessing corporate vulnerabilities in the euro area](#)" in this issue of the Economic Bulletin.

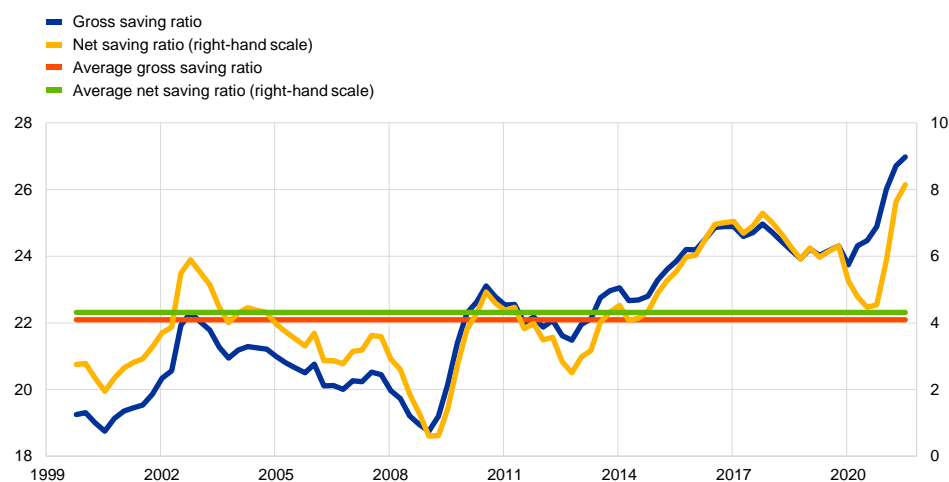
<sup>4</sup> For cross-country differences in the take-up of public loan guarantees, see the box entitled "[Public loan guarantees and bank lending in the COVID-19 period](#)", *Economic Bulletin*, Issue 6, ECB, 2020.

## Chart A

### Non-financial corporation saving ratio in the euro area and largest euro area countries

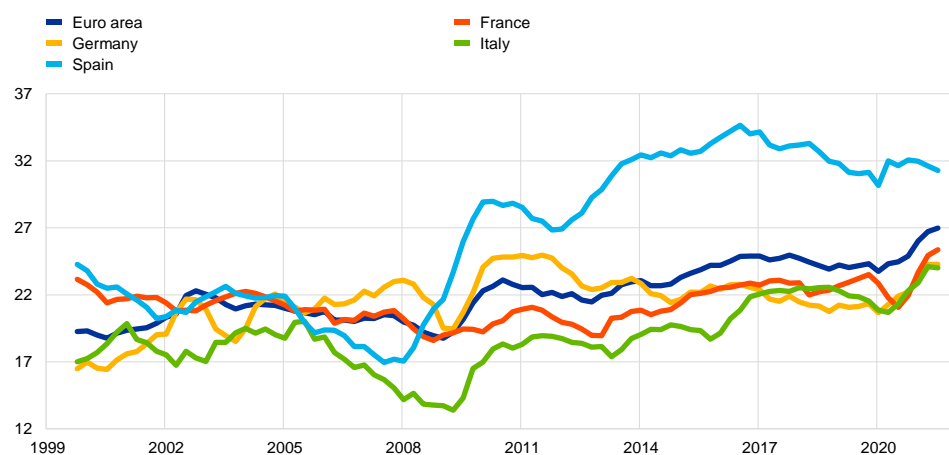
#### a) Euro area

(saving as a percentage of value added, four-quarter sums)



#### b) Gross saving ratio

(saving as a percentage of value added, four-quarter sums)



Sources: Eurostat, ECB and authors' calculations.

Notes: The difference between gross and net saving is the consumption of fixed capital.

#### Similarly, measures of saving relative to investment in the non-financial corporate sector have rebounded strongly over recent quarters.

If firms save more than they invest, they are net lenders. In the euro area, non-financial corporation net lending, i.e. saving in excess of investment, and the non-financial corporation saving-to-investment ratio have reached new highs in recent quarters (Chart B, panel a). Net lending amounted to €318 billion in the third quarter of 2021. It is unclear how permanent the increase in net lending will turn out to be; this depends on, among other factors, firms' long-term confidence in their ability to secure external finance.<sup>5</sup> The rebound in net lending has been broad-based across the largest euro area countries, with all countries recording a positive value, of about

<sup>5</sup> See Nakajima, K. and Sasaki, T., "Bank dependence and corporate propensity to save", *Pacific-Basin Finance Journal*, Vol. 36, February 2016, pp. 150-165.

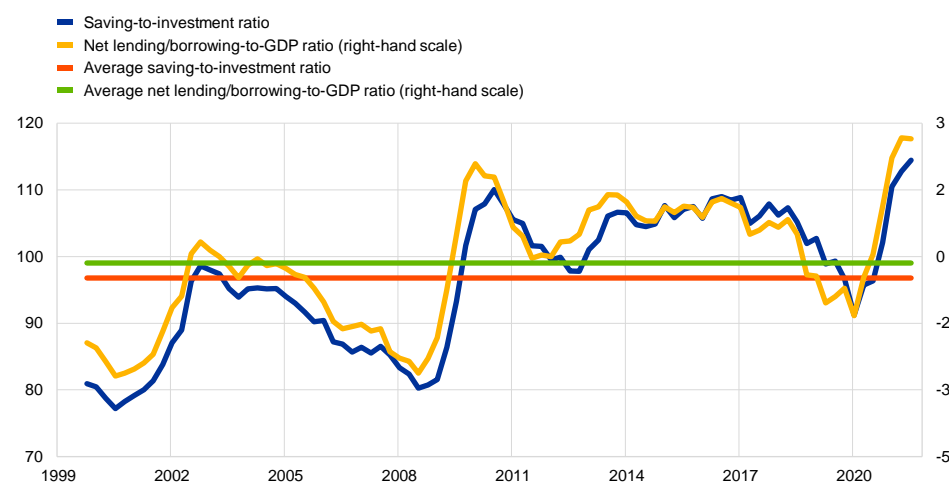
½% of GDP in France and around 3% of GDP in the other large euro area countries (Chart B, panel b). It is noteworthy that, on average since 1999, non-financial corporation net lending in the euro area has been close to zero. Similarly, non-financial corporation saving has been close to 100% of business investment, highlighting the importance of savings as a source of internal funding for investment.

### Chart B

Ratios of non-financial corporation saving to investment and net lending to GDP in the euro area and largest euro area countries

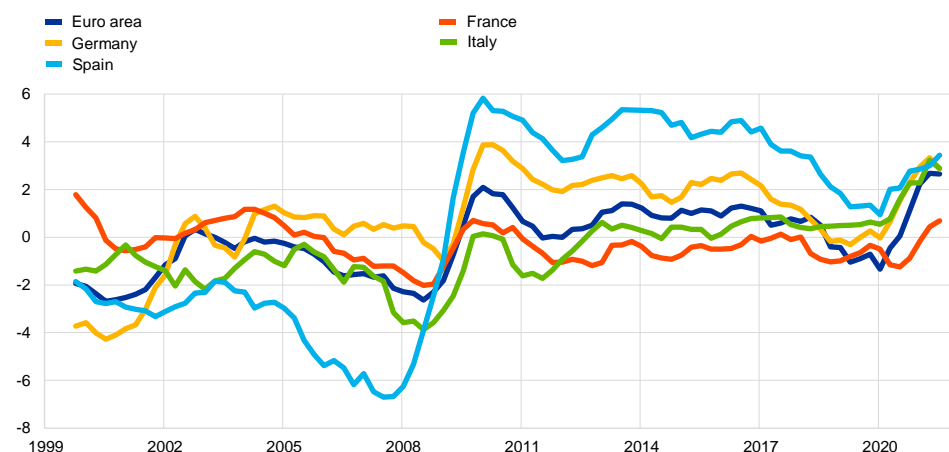
#### a) Euro area

(four-quarter sums in percentages)



#### b) Net lending/borrowing-to-GDP ratio

(four-quarter sums in percentages)



Sources: Eurostat, ECB and authors' calculations.

Notes: "Saving-to-investment ratio" refers to the ratio of gross saving to gross fixed capital formation. Negative net lending is referred to as "net borrowing".

**At the aggregate euro area level there currently appears to be no lack of internal finance available for corporate investment.** Over recent quarters euro area firms have allocated a comparatively large share of their financial assets to liquid assets (Chart C, panel a). In addition, the aggregate euro area debt-to-asset and net debt-to-gross operating surplus ratios for non-financial corporations were in the third quarter of 2021 lower than in the fourth quarter of 2019, i.e. before the



pandemic (Chart C, panel b). The latter ratio approximates the ratio of net debt to earnings before interest, taxes, depreciation and amortisation (EBITDA) as commonly used by credit agencies to determine the probability of a company defaulting on its debt. This ratio provides an indication of how long a company would need to operate at its current level to pay off all its debt. Against this background, the ample availability of savings, and thus internal sources of finance, for non-financial corporations at the aggregate euro area level, in combination with continued favourable external financing conditions, should support a strengthening of business investment in the period ahead.<sup>6</sup> On the other hand, the currently high uncertainty and the fading out of fiscal support measures might suggest that firms are maintaining higher corporate savings for precautionary motives.<sup>7</sup>

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<sup>6</sup> For more disaggregated sector and size effects, see the article entitled “Assessing corporate vulnerabilities in the euro area” in this issue of the Economic Bulletin.

<sup>7</sup> See also Demary, M., Hasenclever, S. and Hüther, M., “Why the COVID-19 Pandemic Could Increase the Corporate Saving Trend in the Long Run”, *Intereconomics – Review of European Economic Policy*, Vol. 56, No 1, 2021, pp. 40-44; and Riddick, L.A. and Whited, T.M., “The Corporate Propensity to Save”, *The Journal of Finance*, Vol. 64, No 4, 2009, pp. 1729-1766. The latter study reports that firms hold higher precautionary cash balances when external finance is costly, income uncertainty is high and/or investments are large and entail costly financing. Firms are also likely to accumulate more liquid assets at times when capital productivity is low.

### Chart C

#### Liquid asset and debt ratios for non-financial corporations in the euro area

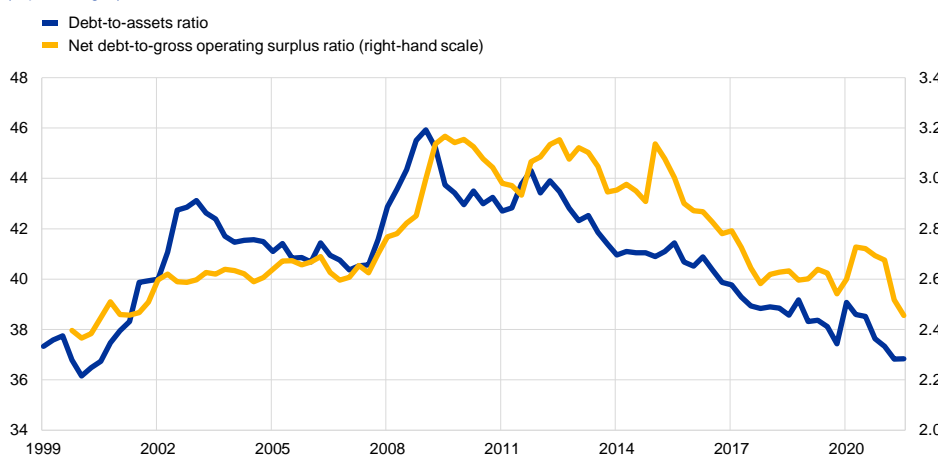
##### a) Liquid assets ratio

(in percentages)



##### b) Debt ratios

(in percentages)



Sources: Eurostat, ECB and authors' calculations.

Notes: "Liquid assets ratio" refers to cash and deposits as a percentage of total financial assets. "Debt-to-assets ratio" refers to non-consolidated debt as a percentage of total financial and non-financial assets. "Net debt" refers to consolidated loans plus debt securities plus insurance and pension schemes, minus liquid assets. Gross operating surplus is measured as four-quarter sums.

## 5 The role of the inventory cycle in the current recovery

Prepared by Malin Andersson and Gwenaël Le Breton

**The inventory cycle is generally procyclical, with changes in inventories being a notoriously volatile expenditure component of GDP.** This box reviews the impact of inventories and their drivers on euro area activity in the current economic recovery. The inventory cycle correlates strongly and positively with activity. Over the past two decades it has made contributions ranging from +1.0 percentage point to -1.5 percentage points to year-on-year euro area GDP growth rates, with particularly large fluctuations seen in crisis periods (Chart A). The economic interpretation of inventory dynamics is challenging for two main reasons. First, inventory contributions to GDP growth reflect changes in the speed of stockbuilding, i.e. whether there is an acceleration or deceleration.<sup>1</sup> Therefore, inventories can make a positive contribution to growth if the pace of destocking (i.e. reduction of inventories) merely slows down; it does not require actual stockbuilding to take place. Second, stockbuilding not only captures developments in several categories of inventories, which can offset each other in aggregate terms, but it also includes discrepancies (a “residual” component) and the net acquisition of valuables. The dynamics in these two elements are often unrelated to the business cycle.<sup>2</sup>

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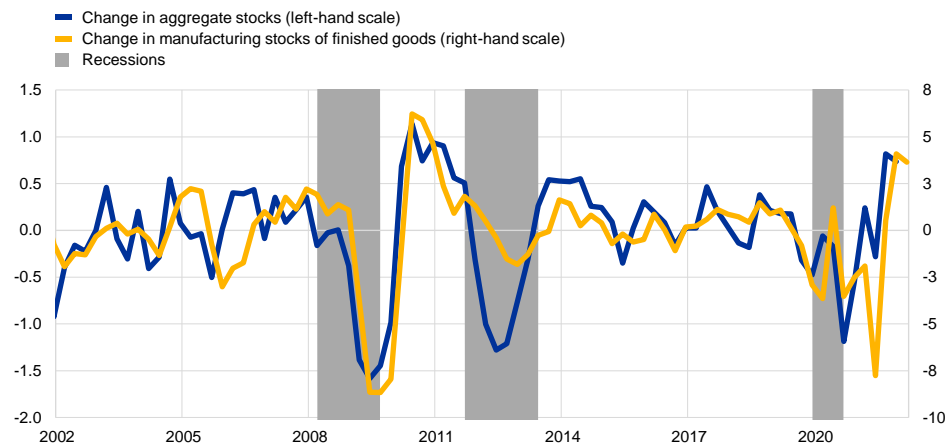
<sup>1</sup> This is because production that is not sold in the accounting period in which it is made increases inventories in that period; hence it is the change in inventories that enters the “accounting identity” that links GDP and its expenditure components. See the box entitled “[Stockbuilding – theoretical considerations and recent developments](#)”, *Monthly Bulletin*, ECB, May 2012.

<sup>2</sup> Discrepancies occur because inventories often play a prominent role in the balancing process of national accounts and thus contain a large “residual” component, owing to the lack of actual or reliable source data on inventories at a quarterly frequency. Valuables comprise, for instance, precious metals and art objects and constitute a small share of inventories.

## Chart A

### Changes in stocks

(percentage point contributions to year-on-year GDP growth – left-hand scale; diffusion index, four-quarter differences – right-hand scale)



Sources: Eurostat and Markit.

Notes: Markit data comprise quarterly averages of monthly data. Aggregate stocks are based on national accounts data. The stock of finished goods refers to responses to the question in the Purchasing Managers' Index (PMI) survey on "the level of finished products which has come off the production line and is awaiting shipment/sales (in units, not money) this month compared with the situation one month ago". The recession periods are as defined by the Centre for Economic Policy Research. The latest observations are for the fourth quarter of 2021 for stocks and February 2022 for the PMI survey.

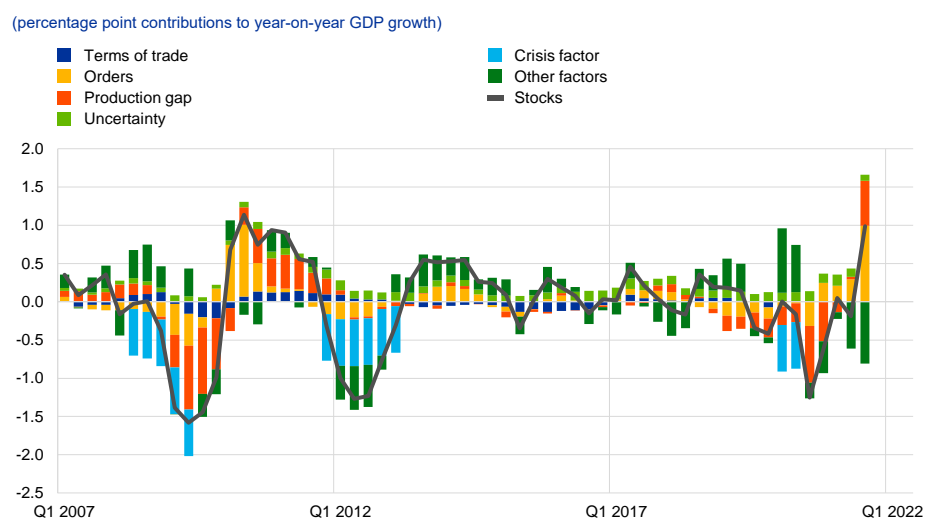
Inventories comprise finished products, goods for resale, work in progress and inputs. Inventories therefore relate to several different stages of the production process. For instance, the ratio of input inventories to finished goods inventories is procyclical, as the build-up of inputs takes place early in economic upswings and precedes the accumulation of finished goods. In the absence of conjunctural data, survey indicators can give insights into the short-term inventory situation. The annual change in stocks of finished goods in manufacturing, based on the survey for the Purchasing Managers' Index (PMI) – which measures the change in the growth of stocks – is well aligned with the annual contribution from changes in inventories to GDP growth based on the national accounts, and points to a continued positive contribution from stockbuilding in the first quarter of 2022 (Chart A).

**Fluctuations in the contribution of stockbuilding to GDP growth reflect adjustments to changes in supply and demand conditions.** Changes in the inventories of firms primarily serve as a buffer to enable a smooth production process, and to reduce the costs of adjusting production and the cost of deliveries as sales vary.<sup>3</sup> A regression equation estimated using a data sample for the period 2000-19 shows that the production gap – defined as the difference between dynamics in manufacturing production and in retail sales – explains the inventory cycle relatively well in times of crisis (Chart B). In other words, the contribution of stockbuilding to GDP growth declines when production falls more than retail sales (because stocks are used to make up the shortfall), and vice versa. Demand factors, as captured by the dynamics in orders, also induce firms to adjust their inventories. Deteriorating terms of trade and rising uncertainty, which could potentially trigger

<sup>3</sup> See Khan, A., "The Role of Inventories in the Business Cycle" *Business Review*, Federal Reserve Bank of Philadelphia, Q3 2003.

stockbuilding, have played a minor role. The contribution of stockbuilding has been particularly negative during times of crisis. In “normal” times “other factors”, i.e. the residual component, explain a non-negligible part of the contributions of stocks to GDP, reflecting the fact that inventory statistics contain a residual component which is not related to the business cycle, as described above.

**Chart B**  
Inventories and their drivers



Sources: Eurostat and ECB calculations.  
Notes: The estimation is based on Boata, A., “Painful destocking in sight for European corporates”, *EulerHermes*, 2019. The estimation period in the chart covers the period from the first quarter of 2000 to the fourth quarter of 2019. Orders (based on the PMI manufacturing survey information), terms of trade (the export/import deflator), and the production gap (industrial production minus retail trade) are expressed in year-on-year terms, lagged by one quarter. Uncertainty is captured by the level of the European Policy Uncertainty index. The crisis factor is a dummy variable for the recession periods (as defined by the Centre for Economic Policy Research). The item “Other factors” reflects the residual component. The latest observation is for the third quarter of 2021.

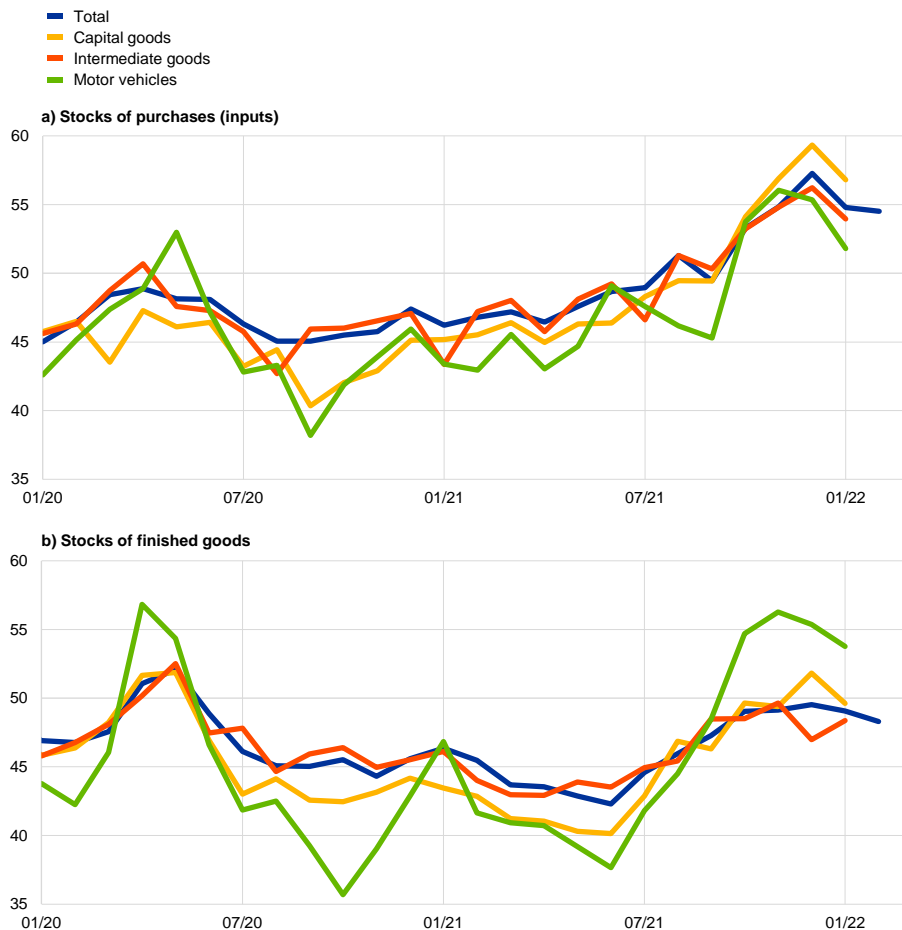
**The current acceleration in stockbuilding could also reflect a “bullwhip effect” related to supply bottlenecks.** In an environment characterised by high demand and uncertainty about the supply of inputs, as a precaution manufacturing firms tend to hoard inventories of inputs and at times they inflate orders compared with their actual needs. This so-called bullwhip effect might have led to an amplification of the procyclicality of changes in inventories in the present environment.<sup>4,5</sup> A breakdown of the PMI data for the manufacturing sector shows that the speed of stockbuilding of purchases (i.e. inputs) reached an all-time high at the end of 2021 for capital goods, intermediate goods and motor vehicles (Chart C, panel a), then started to ease at the beginning of 2022. Overall, the PMI data on stocks of finished goods suggest that inventories have been broadly unchanged over the past few months for capital and intermediate goods, after having progressively increased since mid-2021. By contrast, stockbuilding continued to increase for motor vehicles until late 2021 (Chart C, panel b), owing to the accumulation of (almost) finished cars lacking microchips. The stock of finished motor vehicles only started to decline very recently, following an improvement in the global supply of microchips.

<sup>4</sup> See Lee, H. L., Padmanabhan, V. and Whang, S., “Information Distortion in a Supply Chain: The Bullwhip Effect”, *Management Science*, 1997, Vol. 43, Issue 4.

<sup>5</sup> See Shin, H. S., “Bottlenecks, labour markets and inflation in the wake of the pandemic”, speech at the G20 International Seminar “Recover together, recover stronger”, December 2021.

**Chart C**  
Stocks by type and sector

(diffusion indices, 50 = no change)



Source: Markit.

Notes: The stock of purchases refers to responses to the PMI survey question on “the level of inventory of materials purchased (in units, not money) this month compared with the situation one month ago”; regarding the stock of finished goods, see the notes to Chart A. The latest observations are for February 2022 for the total and for January 2022 for the components.

**Looking ahead, the very low levels of inventories and the persistence of supply-side constraints may point to additional inventory building.** The PMI manufacturing survey indicates an overall continued acceleration in stockbuilding in the first quarter of 2022, while in the European Commission survey inventory levels in both the manufacturing and retail sectors are still assessed as historically low, despite some recent improvements in the manufacturing sector (Chart D). Evidence from corporate contacts<sup>6</sup> reflects heterogeneous views on stocks across sectors, product complexity and the place in the production chain, but overall confirms that inventories of inputs and finished goods are low, while stocks of semi-finished goods and goods in transit tend to be high.<sup>7</sup> The aggregate change in the pace of

<sup>6</sup> 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.

<sup>7</sup> See the box entitled “Main findings from the ECB’s recent contacts with non-financial companies”, *Economic Bulletin*, Issue 1, ECB, 2022. Higher than usual finished goods inventories could reflect shipping constraints, a lack of components or high prices, raising the value of inventories and thus the cost of working capital, while unusually low inventories result from high demand.

stockbuilding – which determines the contribution of stocks to GDP growth – depends in particular on the resolution of supply-side constraints and possible over-ordering. Corporate contacts expect bottlenecks to linger at least until the second half of this year, which could prolong the bullwhip effect. While the additional expected stockbuilding could reflect precautionary motives, corporate contacts and other sources<sup>8</sup> have not so far provided strong evidence of a general change in firms' inventory management strategies from just-in-time<sup>9</sup> to just-in-case production, which could permanently affect the inventory cycle.

### Chart D

#### Assessment of stocks of finished goods

(demeaned, percentage balances)



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

Notes: The data refer to responses to the European Commission survey question "Do you consider your current stock of finished products to be too large (above normal) / adequate / too small (below normal)?". The latest observation is for February 2022.

<sup>8</sup> See for instance Alicke, K., Barriball, E. and Trautwein, V., "How COVID-19 is reshaping supply chains" *McKinsey & Company*, November 2021.

<sup>9</sup> The "just-in-time" supply chain model focuses on lean inventories to reduce production costs, which dampens the inventory cycle, see Piger, M., "Is the Business Cycle Still an Inventory Cycle?", Economic Synopses, No 2, Federal Reserve Bank of St Louis, 2005. Inventories are reduced to a minimum level and short-term supply contracts, which can quickly be adjusted to changes in demand, are used.

## 6 The labour market recovery in the euro area through the lens of the ECB Consumer Expectations Survey

Prepared by António Dias da Silva, Desislava Rusinova and Marco Weißler

**This box analyses the current labour market recovery using data from the ECB Consumer Expectations Survey (CES).**<sup>1</sup> The CES offers new insights into the euro area labour market.<sup>2</sup> Respondents provide information about their employment status, job searches, expectations regarding employment and earnings, their level of job satisfaction and how well their skills match their job. Some of this information is not available from the official EU labour market statistics and, for the main labour market aggregates, the CES provides more timely data. Thus, the CES data are a useful complement to the official EU data. This box uses these data to shed light on the current recovery in the euro area labour market.

**The labour force participation rate is recovering overall, in line with a decline in the numbers of discouraged workers.** The CES data show that the labour force participation rate – i.e. the proportion of the working-age population that is in work or actively looking for work – has rebounded since January last year (Chart A).<sup>3</sup> However, the data for January 2022 show a decline in the labour force participation rate and an increase in discouraged workers – i.e. those who are not currently searching for work because they think there are no suitable jobs available, or who have not yet started searching. These recent developments are likely related to the tightening of coronavirus (COVID-19) containment measures as well as seasonal factors suppressing labour demand during the winter months. The increase in the labour force participation rate during 2021 was accompanied by a decrease in discouragement.<sup>4</sup> Therefore, the increase in the participation rate has in part been the result of transitions of respondents who are not actively searching for work (i.e. inactive) directly into employment, hence indicating improving labour market prospects also for unemployed respondents who are actively searching for jobs. The unemployment rate, as measured by the CES, continued to decline in January 2022 to stand about 2.4 percentage points below the highest level it reached during the pandemic period.

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<sup>1</sup> More detail on the CES is available in “[ECB Consumer Expectations Survey: an overview and first evaluation](#)”, *Occasional Paper Series*, No 287, ECB, December 2021.

<sup>2</sup> The dataset covers six euro area countries: Belgium, Germany, Spain, France, Italy and the Netherlands.

<sup>3</sup> For a recent analysis of developments in the labour force using Eurostat data, see “[Labour supply developments in the euro area during the COVID-19 pandemic](#)”, *Economic Bulletin*, Issue 7, ECB, 2021.

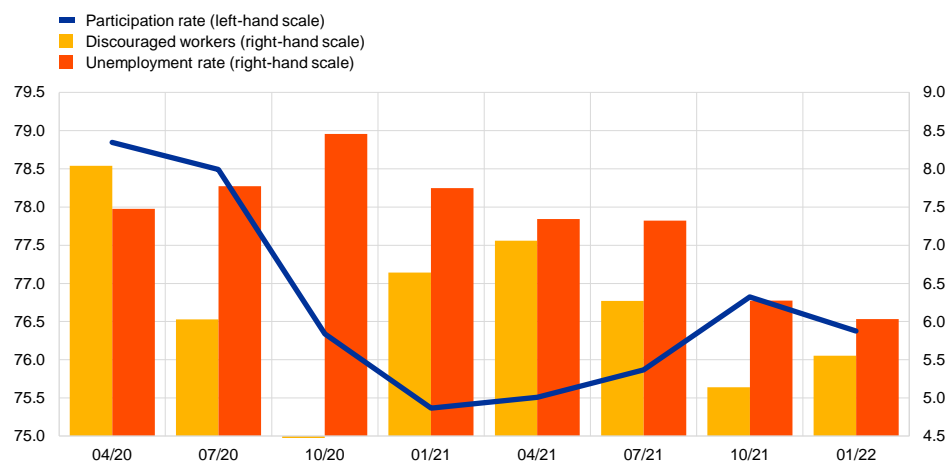
<sup>4</sup> Owing to methodological changes during the pilot phase of the CES, the employment status of respondents in April and July 2020 and the ratio of discouraged workers in July and October 2020 are not fully comparable to the rest of the sample.



## Chart A

### Labour force, unemployment and discouraged workers

(left-hand scale: percentages of the working-age population; right-hand scale: percentages of inactive respondents for discouraged workers and percentages of the labour force for the unemployment rate)



Source: CES.

Notes: The labour force participation rate is the share of employed respondents, plus the share of unemployed respondents who are currently searching for jobs, relative to all survey respondents aged 20-64. The unemployment rate is the share of unemployed respondents who are searching for jobs relative to the labour force aged 20-64. Both rates reported in the CES differ from those calculated by Eurostat owing to various sampling and methodological differences. In addition, owing to a revision to the CES question on employment status, there is potentially a break in these series in October 2020. Discouraged workers is the share of all respondents aged 20-64 who are inactive and not currently searching for a job because "there are no jobs available" or because they "haven't started looking yet".

### Perceptions about developments in the labour market improved substantially after the first few months of the COVID-19 pandemic (Chart B).

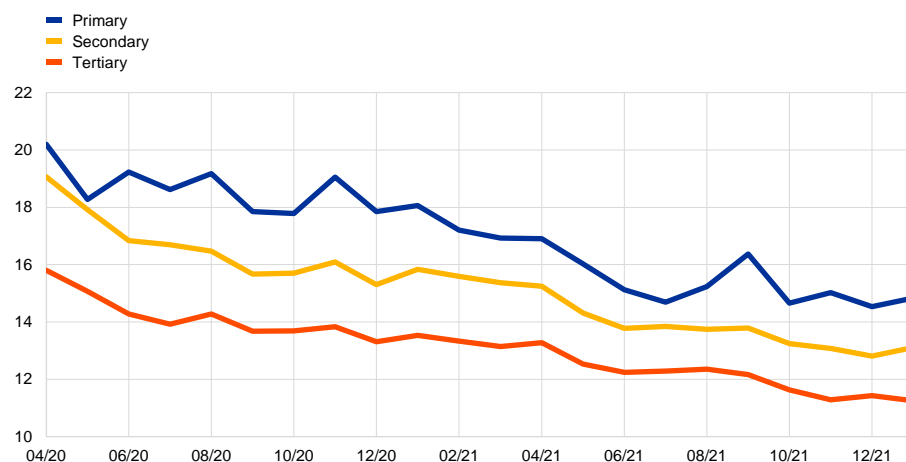
As economic conditions recovered in aggregate terms, perceptions about labour market developments improved, which was reflected in a steady decline in unemployment rate expectations across all groups of respondents based on their level of education. Respondents who have completed primary or secondary education tend to expect the unemployment rate 12 months ahead to be higher than the levels expected by respondents with a tertiary education. Unemployment rate expectations of all groups have proven significantly higher than observed rates, which is a common finding of surveys on expectations.<sup>5</sup> Consistent with expectations regarding the unemployment rate, employees have recently been reporting less concern that they will lose their jobs.

<sup>5</sup> See, for example, Broer, T., Kohlhas, A., Mitman, K. and Schlafmann, K., "Information and Wealth Heterogeneity in the Macroeconomy", *CEPR Discussion Paper*, No 15934, 2021. For individual job loss expectations, see, for example, Stephens, M. "Job loss expectations, realizations, and household consumption behavior", *Review of Economics and Statistics*, Vol. 86, No 1, 2004, pp. 253-269.

## Chart B

Expectations regarding the unemployment rate 12 months ahead, broken down by respondents' level of education

(percentages)



Source: CES.

Notes: The data refer to average expectations regarding the unemployment rate in the countries of the respondents 12 months ahead. The education levels refer to the highest level of schooling completed, or degree achieved, according to the International Standard of Classification of Education (ISCED).

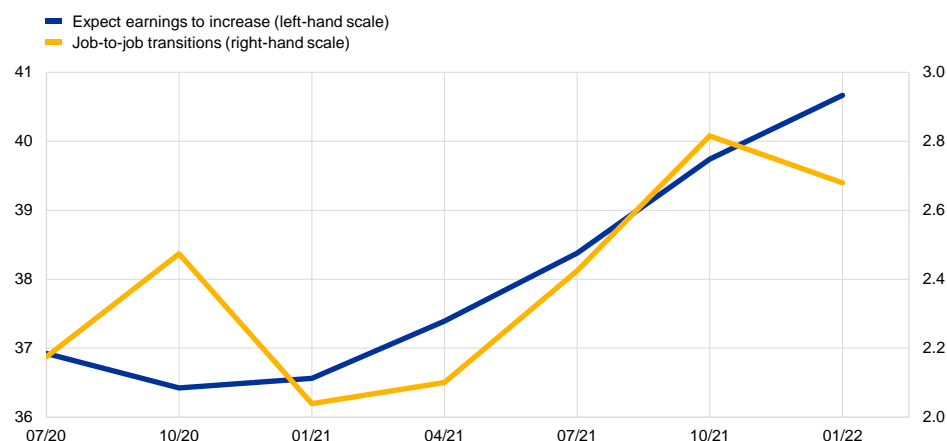
**Job-to-job transitions and improved earnings expectations show that employees' perceptions of the labour market situation improved overall (Chart C).** Job-to-job transitions tend to decrease during economic downturns and increase during upturns. As labour market conditions improve during upturns, firms compete for workers currently employed by other firms and workers use the opportunity to move to better paid jobs, which possibly implies some upward pressure on wages.<sup>6</sup> CES data suggest that the share of employees moving to another firm in a quarter has been steadily increasing since January 2021, except for a small decline in the latest data for January 2022, which is potentially related to similar reasons as for the drop in labour force participation. The improvement in job-to-job transitions during 2021 was accompanied by an increase in the share of respondents expecting higher total net household income over the next 12 months, as workers searching for jobs became more optimistic about their wages, hours worked or overall employment prospects.

<sup>6</sup> See, for example, Karahan, F., Michaels, R., Pugsley, B., Şahin, A. and Schuh, R. "Do Job-to-Job Transitions Drive Wage Fluctuations Over the Business Cycle?", *American Economic Review: Papers & Proceedings*, Vol. 107, No 5, 2017, pp. 353–357; and Moscarini, G. and Postel-Vinay, F. "The Relative Power of Employment-to-Employment Reallocation and Unemployment Exits in Predicting Wage Growth", *American Economic Review: Papers & Proceedings*, Vol. 107, No 5, 2017, pp. 364–368.

### Chart C

#### Job-to-job transitions and expectations of increasing earnings

(left-hand scale: percentages of respondents; right-hand scale: percentages of employees)



Source: CES.

Notes: Job-to-job transitions is the share of respondents who were in employment three months earlier and report a tenure of less than three months with their current employer. Earnings expectations are shown as the share of respondents who expect their net household earnings to increase in the next 12 months.

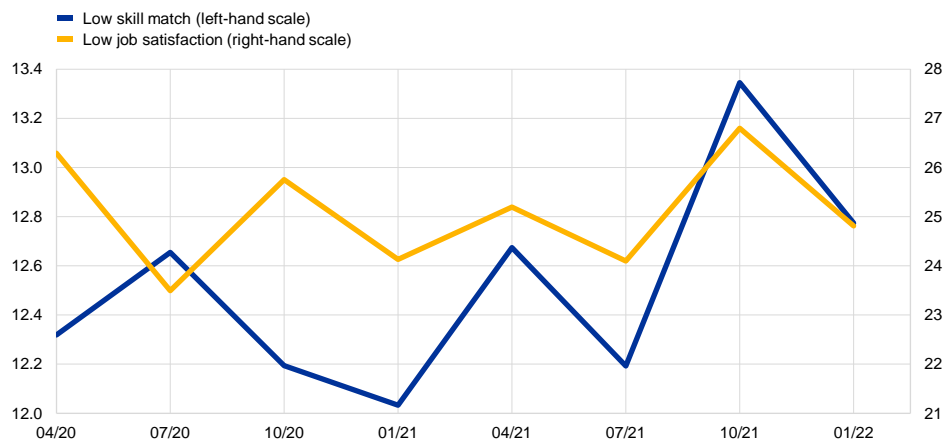
#### **At the same time, workers do not perceive their working conditions to have worsened considerably during the pandemic.**

The CES includes questions on how respondents perceive skill match quality and job satisfaction, which allow information on job quality to be inferred (Chart D). In January 2022 less than 13% of respondents said that there was a low skill match in their current job and about 26% expressed low satisfaction with their jobs. Neither of the two indicators points to a significant worsening of job quality since the beginning of the pandemic, suggesting that the labour market recovery is not being driven by a surge in low quality jobs. Linking this information with the responses on job-to-job transitions suggests that workers who change jobs are more likely to report an increase in skill match and job satisfaction.

## Chart D

### Share of workers with low job satisfaction and low skill match

(percentages of respondents)



Source: CES.

Note: The share of employed respondents who report a low skill match in their current job is defined as those who select the lowest three values on a scale from 1 to 7, while low job satisfaction is defined as those reporting the lowest two values on a scale from 1 to 5.

**Overall, the CES suggests positive dynamics in the labour market, while the pandemic continues to affect the pace of the recovery.** During 2021 the number of workers in the labour force increased, accompanied by a decline in discouragement and a decrease in the unemployment rate. Labour supply has thus responded quickly to the strengthening of demand. In addition, more respondents changed jobs, revised up their earnings expectations and expected better labour market conditions. These developments suggest a dynamic labour market.

## 7 Which sub-components are driving owner-occupied housing costs?

Prepared by Rodolfo Arioli and Eduardo Gonçalves

**In January 2022, Eurostat began publishing official euro area aggregates as part of its Owner-Occupied Housing Price Index (OOHPI).** This box looks at the various sub-components of that index and provides details of their correlation with other price indicators.

**Owner-occupied housing costs comprise costs relating to the acquisition and ownership of dwellings.**<sup>1</sup> Acquisition costs measure the cost of “self-built dwellings and major renovations” and “purchases of new dwellings”. The purchase of a new dwelling is considered to be part consumption and part asset, with the former reflecting the value of the services provided by the building (e.g. the shelter that it offers) and the latter reflecting the value of the building itself and the land on which it stands.<sup>2</sup> In contrast, land prices are not included in the “self-built dwellings and major renovations” sub-component, which mainly covers the construction costs of detached dwellings built on land already owned by the relevant self-builders. The OOHPI also gauges the cost of “other services related to the acquisition of dwellings”, such as property transfer taxes and real estate agents’ fees. In terms of ownership costs, the index mainly covers “major repairs and maintenance” and “insurance connected with dwellings”.<sup>3</sup>

**In 2021, acquisition costs accounted for around 78% of the OOHPI at euro area level (Chart A).** “Self-built dwellings and major renovations”, “purchases of new dwellings” and “other services related to the acquisition of dwellings” accounted for 45%, 21% and 12% respectively. The remaining 22% of the OOHPI related to ownership costs, with “major repairs and maintenance” accounting for 19% and “insurance connected with dwellings” accounting for 3%.

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<sup>1</sup> See the article entitled “[Owner-occupied housing and inflation measurement](#)”, Economic Bulletin, Issue 1, ECB, 2022.

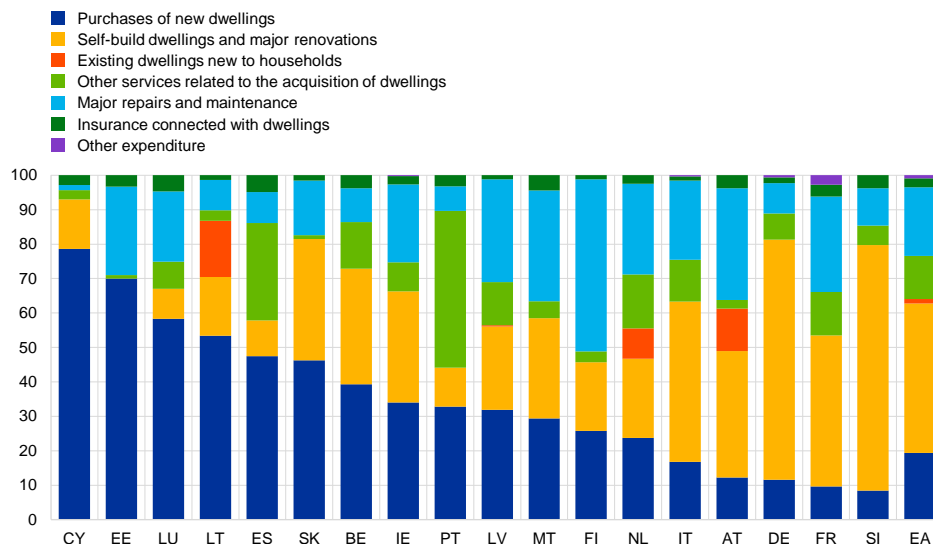
<sup>2</sup> See the box entitled “The treatment of land in OOHPIs” in “[Inflation measurement and its assessment in the ECB’s monetary policy strategy review](#)”, *Occasional Paper Series*, No 265, ECB, September 2021.

<sup>3</sup> Acquisition costs also include “existing dwellings new to households”, which accounts for around 0.5% of the total index for the euro area. However, that sub-component has, with the exception of Chart A, been excluded from the analysis in this box, as data collection is subject to quality issues owing to limited coverage and a lack of harmonisation across countries. The same applies to “other expenditure”, a sub-component of ownership costs which accounts for 0.9% of the euro area aggregate.

## Chart A

### Breakdown of the OOHPI for the euro area

(percentages)



Sources: Eurostat and ECB calculations.

Notes: Data for Greece are not available. All data relate to 2021.

**When analysing the OOHPI at the level of the euro area, it is important to note that the relative importance of individual sub-components varies considerably across countries.** For instance, in Germany, France and Italy, the “self-build dwellings and major renovations” sub-component is considerably more important than “purchases of new dwellings”, whereas in countries such as Spain the opposite is true.

**At the level of the euro area as a whole, price dynamics differ widely across sub-components.** The price index for “purchases of new dwellings” has seen the strongest average annual growth over the last decade (Chart B, panel a).<sup>4</sup> However, “self-build dwellings and major renovations” has made the largest contribution to the annual growth rate of the index as a whole, followed by “purchases of new dwellings”. Indeed, those two sub-components accounted, together, for 5.0 percentage points of the 6.6% annual growth that was recorded for the OOHPI as a whole in the third quarter of 2021, with most of the remainder being accounted for by “major repairs and maintenance” (Chart B, panel b). With other sub-components accounting for less of the OOHPI and seeing more moderate price developments, their individual contributions to average annual growth have consistently been smaller, although they remain significant when grouped together (accounting for a combined total of around a third of average annual growth since 2012).

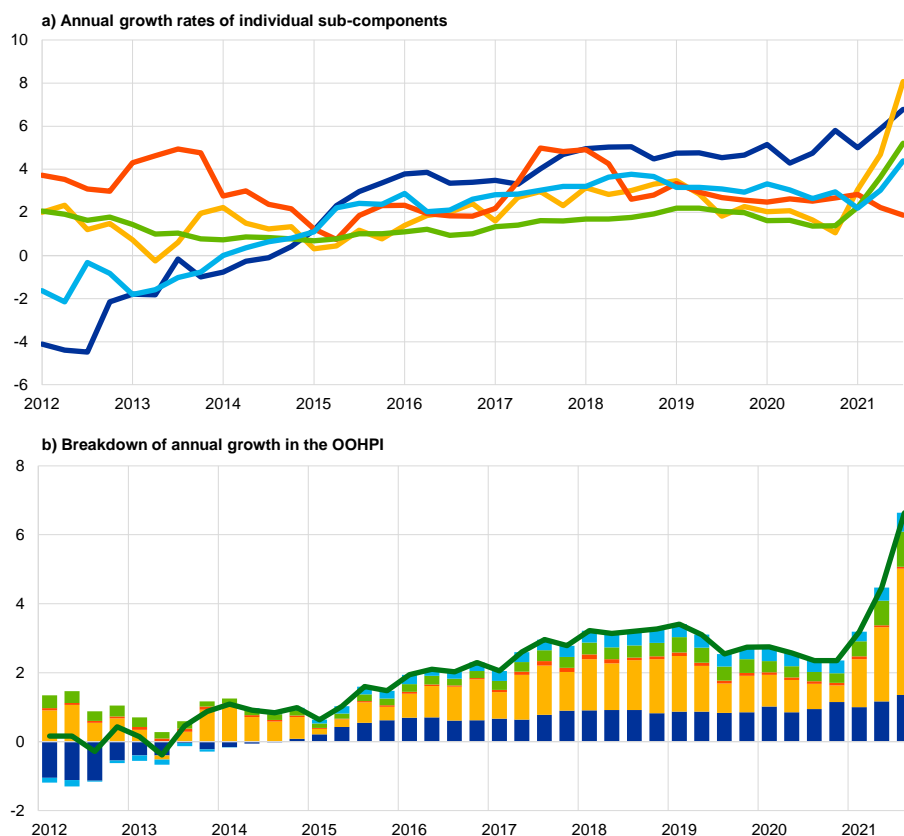
<sup>4</sup> Since 2012, the price index for “purchases of new dwellings” has seen average annual growth of 2.4%, compared with 2.1% for “self-build dwellings and major renovations” and 1.6% for “major repairs and maintenance”.

## Chart B

### Sub-components' contributions to annual growth in owner-occupied housing costs

(panel a: annual percentage changes; panel b: annual percentage changes and percentage point contributions)

- Purchases of new dwellings (21%)
- Self-build dwellings and major renovations (45%)
- Insurance connected with dwellings (3%)
- Major repairs and maintenance (19%)
- Other services related to the acquisition of dwellings (12%)
- OOHPI



Sources: Eurostat and ECB calculations.

Notes: The figures in parentheses in the legend indicate the relevant sub-component's weight in the OOHPI in 2021. The latest observations relate to the third quarter of 2021.

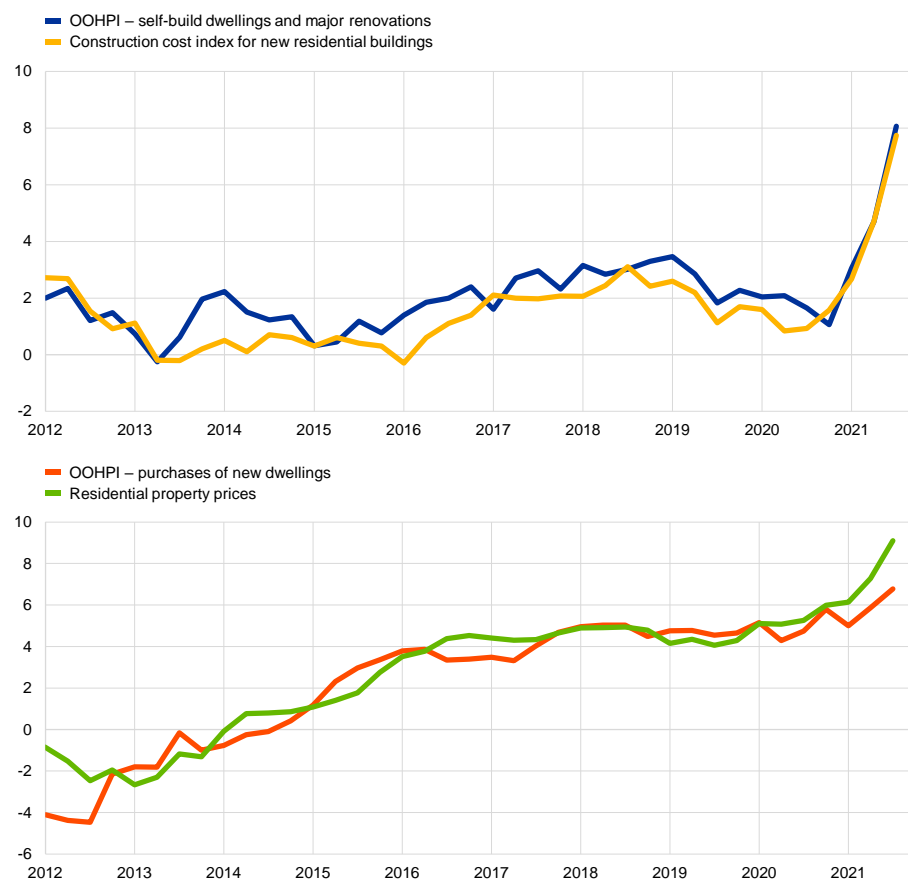
#### Some individual sub-components are closely correlated with construction costs and house prices.

For instance, the annual growth rate for “self-build dwellings and major renovations” exhibits a strong correlation with the construction costs available in short-term business statistics (Chart C, top panel). Similarly, “major repairs and maintenance” shows strong co-movement with the HICP series “services for the maintenance and repair of the dwelling”. Meanwhile, “purchases of new dwellings” is closely correlated with residential property prices (Chart C, bottom panel).

## Chart C

### Correlation between OOHPI sub-components and other indices

(annual percentage changes)



Sources: Eurostat and ECB calculations.

Note: The latest observations relate to the third quarter of 2021.

**Overall, further analysis is required in order to assess the behaviour of the OOHPI and its underlying sub-components over time.**<sup>5</sup> In particular, a better understanding of the various correlations will, among other things, help when it comes to devising ways of nowcasting (and forecasting) OOHPI developments (for instance, if data on particular correlates were to be available earlier than the 100-working-day lag with which the OOHPI is published).

<sup>5</sup> See also the article entitled “The euro area housing market during the COVID-19 pandemic”, *Economic Bulletin*, Issue 7, ECB, 2021, and the article entitled “The state of the housing market in the euro area”, *Economic Bulletin*, Issue 7, ECB, 2018.



# Articles

## 1 Financial risks in China’s corporate sector: real estate and beyond

Prepared by Apostolos Apostolou, Alexander Al-Haschimi and Martino Ricci

### 1 Introduction

**Recent tensions in China’s real estate market have highlighted the risks inherent in the country’s highly leveraged corporate sector.** These risks have been building up for some time, as high investment rates have coincided with high levels of debt accumulation. Moreover, the source of debt has moved beyond the traditional banking sector, with non-bank financial institutions providing financing which is less stable and more susceptible to sudden changes in investor sentiment. In addition, tensions in large corporate sectors could be transmitted to the rest of the economy through a number of channels. These channels include households, which are themselves increasingly leveraged and whose wealth is significantly exposed to the real estate market. A wider Chinese growth slowdown could, in turn, have global repercussions, given the size of the Chinese economy, its important global trade linkages and the central role it plays in international commodity markets. Against this backdrop, this article will review the rise in financial risks in China’s economy stemming from increasing private sector leverage, the interconnectedness between the financial and non-bank financial sectors, and households’ rising debt exposures.

### 2 China’s global importance and rising debt

**Recent stress in the real estate sector has highlighted the tension in China’s corporate sector between high rates of growth and high leverage.** As the world’s second largest economy, China has accounted for around one-third of global GDP growth over the last decade (Chart 1) while, at the same time, its share of global credit to the non-financial sector has increased from around 8% to 20%.<sup>1</sup> To some extent, this reflects the contribution made by investment spending as one of the main drivers of growth. However, the recent turmoil in China’s real estate sector and the payment difficulties experienced by several large Chinese property developers, such as Evergrande, illustrate the risks inherent in the high leverage, high growth and, ultimately, highly interconnected business model that is widespread among Chinese corporates, and real estate developers in particular.

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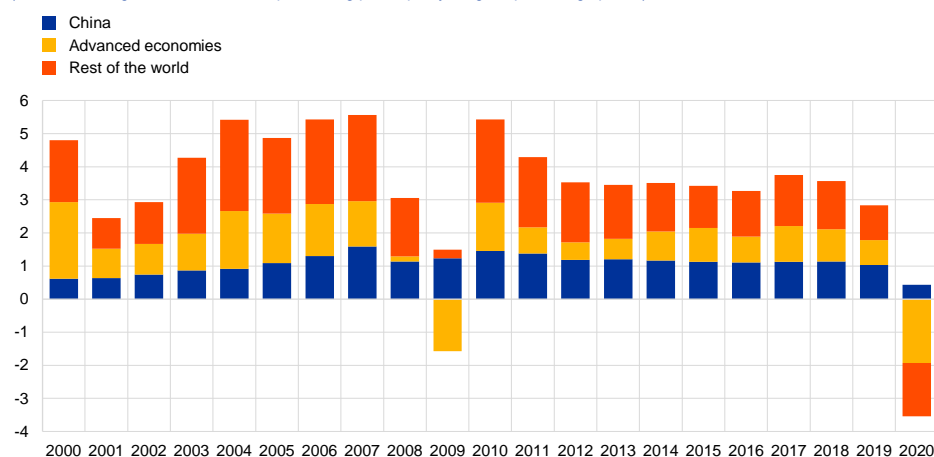
<sup>1</sup> See Dieppe, A., Gilhooly, R., Han, J., Korhonen, I. and Lodge, D. (eds.) “[The transition of China to sustainable growth – implications for the global economy and the euro area](#)”, *Occasional Paper Series*, No 206, ECB, January 2018.

## Chart 1

### China's role in global economic activity

#### China's contribution to global GDP growth remains considerable

(contribution to global GDP based on purchasing power parity weights, percentage points)



Sources: IMF and ECB staff calculations.

#### At the same time, a significant proportion of debt financing originates outside the banking sector.

China's debt-to-GDP ratio for the entire private sector now stands at over 250% (Chart 2). Given that the corporate component of this debt is the highest in the world, the banking regulations introduced by the Chinese authorities have increasingly placed limits on the provision of credit to highly leveraged corporates. While China's financial system remains largely bank based, a significant proportion of funding is supplied to the corporate sector by non-bank financial institutions. The so-called shadow banking sector facilitates corporate financing that can circumvent capital constraints and credit regulations. Moreover, investors commonly expect an implicit guarantee for returns on investment products issued by the shadow banking sector. Despite the fact that contracts clearly state that returns are not guaranteed, both individual and institutional investors assume that the issuing financial company and, in some cases, the local or central government, will make up any shortfall if the investments do not deliver the targeted returns.<sup>2</sup> This leads to a significant underpricing of risks, which results in investor sentiment towards these products being subject to sudden change if a significant shortfall materialises. While the macroprudential regulations adopted by the authorities since 2015 have curbed the growth of shadow banking, its level of outstanding assets remains significant in size and continues to pose risks to the financial system. Moreover, large fintech companies are providing new sources of debt financing to the economy, thereby presenting new and additional challenges to the regulatory efforts made by the authorities to reduce leverage in the Chinese economy.

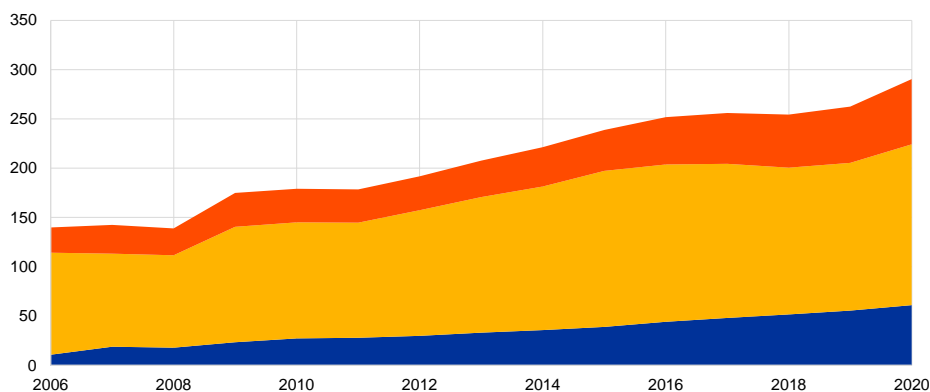
<sup>2</sup> See Allen, F., Gu, X., Li, C. W., Qian, J. and Qian, Y., *Implicit Guarantees and the Rise of Shadow Banking: The Case of Trust Products*, mimeo, 13 December 2021.

## Chart 2 Debt in China

### Debt by sector

(percentage of GDP)

■ Household debt  
■ Corporate debt  
■ Government debt



Sources: BIS, IMF and ECB staff calculations. The latest observation is for 2020.

**Finally, households could increasingly amplify the impact of corporate stress on the broader economy.** For instance, household wealth is increasingly dependent on real estate market developments, and risks which materialise in the corporate sector could spill over to household wealth and, therefore, consumption. Similarly, wealth products provided by the shadow banking sector to households intertwine non-bank financial sector and household risks. As the level of household debt has been rising sharply in China, the interdependence of risk exposures in the private sector has given rise to systemic risks in China that could have adverse spillover effects, both domestically and internationally.

**Considering China's global interconnectedness, developments in the country are important for the global economy.** The stress in China's property sector has reverberated beyond its borders. Reports of Evergrande's liquidity distress intensified around mid-September (Chart 3, panel a), when the developer reportedly missed the payment deadline on a number of bonds, triggering risk-off sentiment in global financial markets. Global equities fell, temporarily, by around 2-3%, credit spreads widened, and indicators of investor uncertainty rose steadily against a backdrop of flight-to-safety considerations. In addition, metal and oil prices declined, highlighting potentially reduced demand for commodities resulting from a slowdown in real estate activity in China (Chart 3, panel b). While the global spillovers proved to be short lived, in part due to the belief that the Chinese government would take action to mitigate adverse spillovers within its own economy, real and financial shocks in the world's second largest economy have global repercussions. The ECB reported, in the May 2018 and May 2021 issues of its Financial Stability Review, that China's weight and systemic relevance in the global financial system is increasing – even if the country remains relatively isolated financially.<sup>3</sup> Furthermore, China-

<sup>3</sup> See the box entitled “The growing systemic footprint of Chinese banks”, *Financial Stability Review*, ECB, May 2018, pp. 36-38.

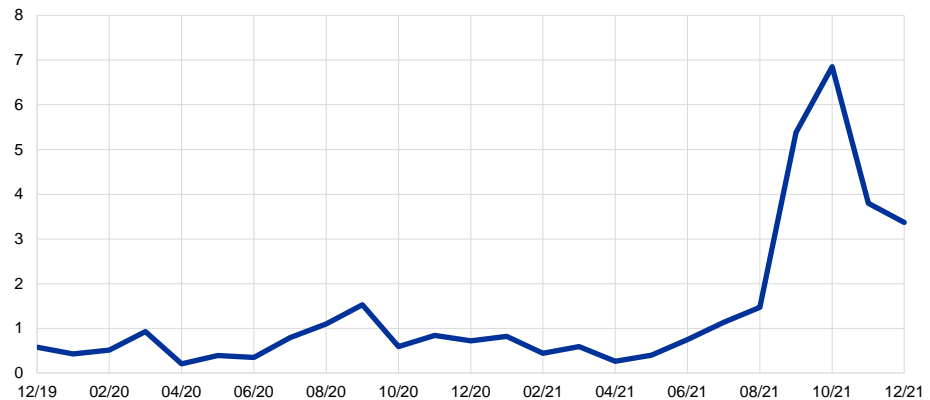
specific shocks could have greater financial stability implications than shocks in other emerging markets.<sup>4</sup> Against this backdrop, this article will review the rise in financial risks in China’s economy deriving from increasing private sector leverage, the interconnectedness between the financial and non-bank financial sectors, and households’ rising debt exposures.

### Chart 3

#### Global market response to the Evergrande crisis

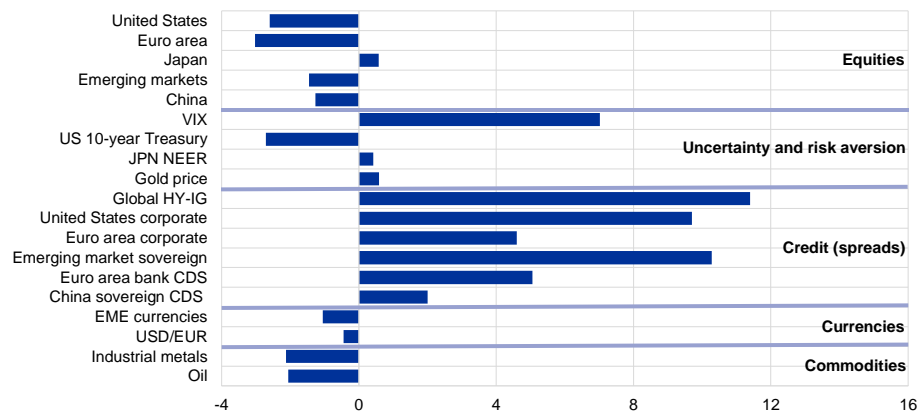
##### a) The number of newspaper articles mentioning Evergrande increased substantially in 2021

(share of total articles mentioning China, percentages)



##### b) Financial markets reacted negatively around mid-September: 16/09/2021 to 20/09/2021

(percentages and basis points)



Notes: Panel a: Shares of newspaper articles mentioning Evergrande of total articles published on China in the Wall Street Journal and the South China Morning Post. Panel b: Changes between 16 September 2021 and 20 September 2021. Equities (United States: S&P 500, Euro area: EURO STOXX 50, Japan: Nikkei 225, Emerging markets: MSCI Emerging Markets Index, China: Shanghai Stock Exchange Composite Index) – price (change, percentages); Uncertainty and risk aversion (VIX) – level change; Uncertainty and risk aversion (US 10-year Treasury) – yield (change, basis points); Uncertainty and risk aversion (Japan: Nominal Effective Exchange Rate) – index (change, percentage points); Uncertainty and risk aversion (gold price) – nominal price (change, percentages); Credit (ICE BofA, ICE BofA US Non-Financial, ICE BofA Euro Area Non-Financial, JP Morgan Emerging Market Bond Index, euro area bank CDS, China sovereign CDS) – yield spread (change, basis points); Currencies (JP Morgan Emerging Market Currency Index, USD/EUR) – index (change, percentage points); Commodities (GSCI Industrial Metals Index, Brent oil price) – nominal prices (change, percentages).

<sup>4</sup> See the box entitled “Emerging markets’ vulnerability to a reassessment of risk”, *Financial Stability Review*, ECB, May 2021.

### 3 Rising leverage in the corporate sector and the implications for growth and financial stability

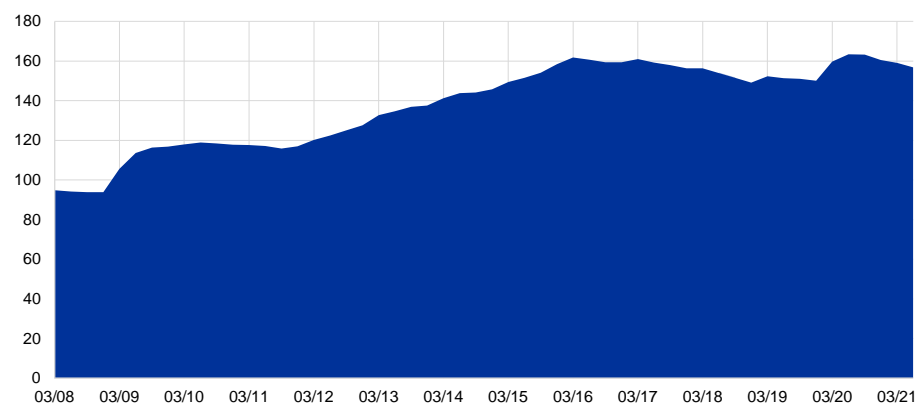
**The rise in corporate debt outpaced that of other countries.** Corporate credit rose from around 90% of GDP in 2008 to 160% in 2016, and currently exceeds the corresponding figure for both advanced and other emerging market economies (Chart 4, panel b). Although the government launched a deleveraging campaign in 2015, which led to a stabilisation of debt-to-GDP ratios at lower levels, the onset of the coronavirus (COVID-19) pandemic in 2020 saw the debt-to-GDP ratio once again reaching historical highs, although it has slowly declined since then amid volatile GDP growth (Chart 4, panel a).

#### Chart 4

##### Corporate sector debt dynamics and international comparison

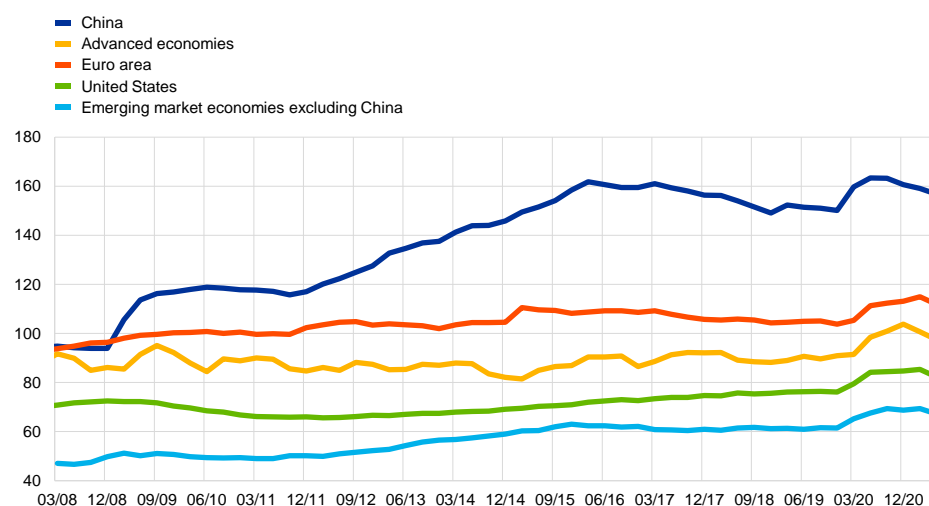
###### a) Credit to non-financial corporations in China increased sharply

(percentage of GDP)



###### b) Credit to non-financial corporations is high by international comparison

(percentage of GDP)



Source: BIS via Haver Analytics. The latest observation is for Q2 2021.

Notes: Debt is estimated at market value, which is the price at which an asset would change hands if sold on the open market. Advanced economies are AU, CA, DK, EA, JA, NZ, NO, SE, CH, UK, US. Emerging market economies are AR, BR, CL, HK, IN, ID, MY, MX, PL, RU, SA, ZA, TH, TK.

**The challenge for China is to strike a balance between the deleveraging of the corporate sector and supporting economic growth.** The real estate sector has been at the epicentre of the government's recent regulatory efforts to establish limitations on leverage for property developers. As corporate debt has declined in the real estate sector, housing activity has also slowed, creating headwinds to growth. More recently, banking-related activity undertaken by large technology companies has also become subject to more restrictive financial regulation. While the reforms are helping to lower financial risks in these sectors, lower provisions of credit may affect growth and, therefore, de-risking the corporate sector requires a highly targeted approach.

### The real estate sector's central role in the economy

**The real estate sector plays a central role in China's economy.** According to China's national account statistics the combined share of GDP for real estate services and construction increased from 10% in 1995 to around 14% in 2020. Investment in residential real estate has also increased steadily over the last 25 years, stabilising after 2015 as a result of the authorities' deleveraging efforts, and now stands at around 10% of GDP, while overall investment in real estate is around 13% of GDP (Chart 5, panel a). However, according to many experts, these figures understate the importance of the sector for the Chinese economy. Most notably, using input-output tables, Rogoff and Yang<sup>5</sup> estimate that the impact of real estate activity on GDP is around 29% and has spiked over time, reaching levels which in other advanced economies, such as Spain or Ireland, had called for sharp corrections (Chart 5, panel b). Housing plays a prominent role in the Chinese economy – owning a house is a status symbol and housing represents both a store of value and a source of potential capital appreciation in the absence of other viable investment options. As a result, it accounts for more than half of households' overall assets, and therefore has an important bearing on households' expenditure decisions.

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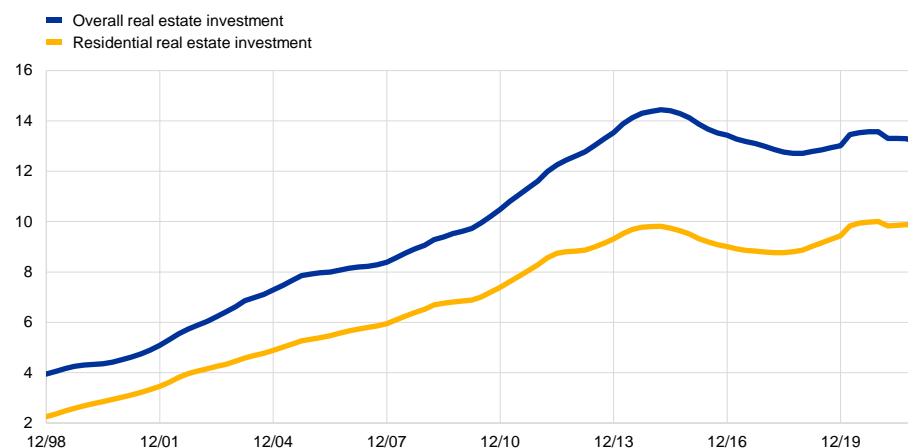
<sup>5</sup> Rogoff, K. and Yang, Y., "Has China's Housing Production Peaked?", *China & World Economy*, Vol. 29, No 1, Institute of World Economics and Politics, Chinese Academy of Social Sciences, January 2021, pp. 1-31.

## Chart 5

### The importance of the real estate sector

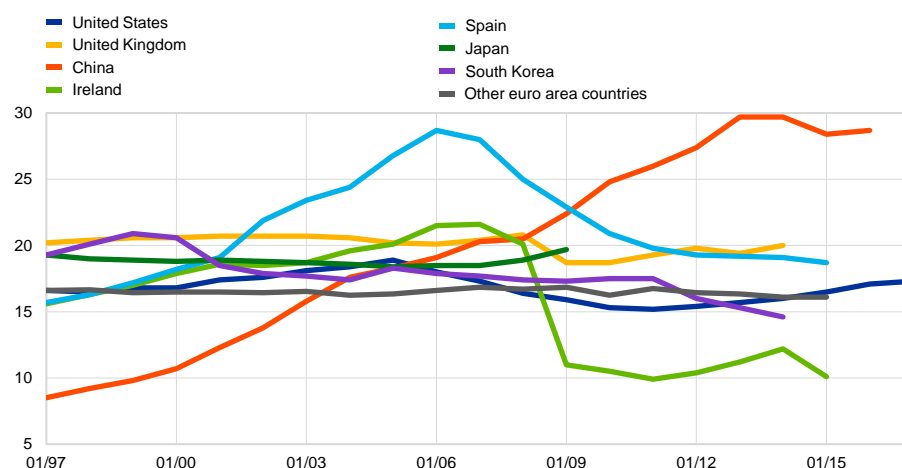
#### a) The share of real estate investment of GDP has risen

(percentages)



#### b) The share of real estate-related activities of GDP is high by international comparison

(percentages)



Sources: Panel a: National Bureau of Statistics via CEIC and ECB staff calculations. The latest observation is for December 2021. Panel b: Rogoff and Yang (2021) using national input-output matrices. For China, see data sources in the paper; for other countries, KLEMS. The latest observation is 2017 for China and the United States, 2015 for Spain and Ireland as well as other euro area countries, 2014 for the United Kingdom and South Korea, and 2009 for Japan.

Indeed, according to China's National Bureau of Statistics, households in China spend 23% of their income on housing, plus an additional 6% on household facilities, articles and services.<sup>6</sup> Furthermore, land sales represent one of the biggest sources of revenue for local governments.<sup>7</sup>

**The majority of property developers in China are domestically funded.** As of 2020, the number of China's property developers surpassed 100,000 (Chart 6, panel a) with the pace of expansion accelerating in the aftermath of the global financial

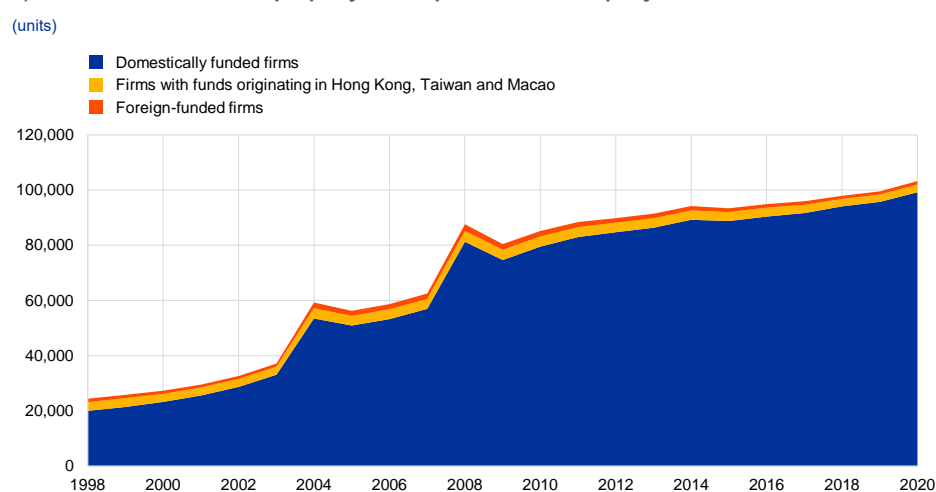
<sup>6</sup> This figure refers to expenditure on household and individual articles for living purposes as well as household services. It includes furniture and interior decoration, home appliances, home textiles, miscellaneous daily household articles, personal articles and household services.

<sup>7</sup> According to the 2019 IMF Article IV Consultation, local government revenues from land sales accounted for around 39% of local government revenues and 7% of GDP in 2017.

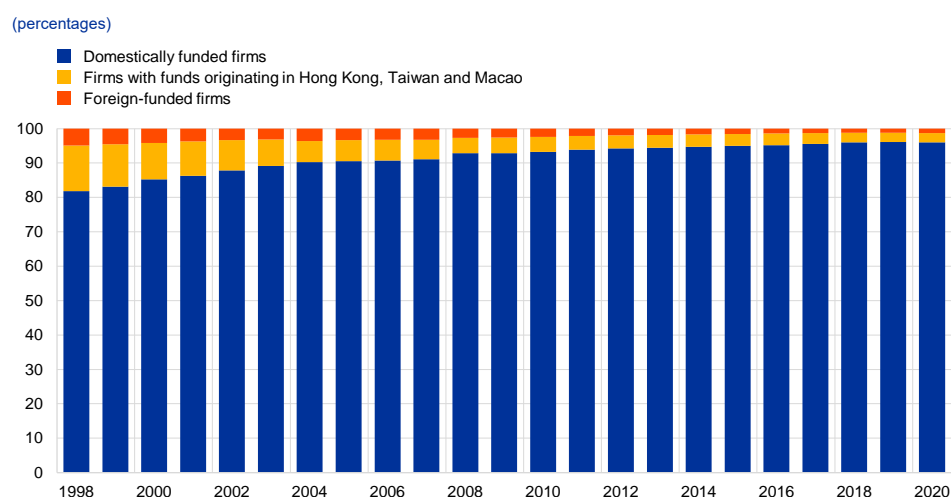
crisis. Property developers directly employ around three million people out of a total urban working population of around 400 million, a figure that does not account for the jobs created by residential-connected sectors. Firms in the sector are mostly domestically funded with the share of foreign capital-funded firms, including funds originating from Hong Kong, Macao and Taiwan, having decreased from around 18% in 1998 to less than 4% in 2020 (Chart 6, panel b). Prepayment for yet-to-be-built residential housing provides a substantial part of the liquidity of real estate developers.

**Chart 6**  
Number of domestic property developers and source of funding

**a) The number of China’s property developers has risen rapidly**



**b) Most Chinese property developers are domestically funded**



Source: China National Bureau of Statistics via Haver Analytics. The latest observation is for 2020.

**In addition to the steep increase recorded in 2008 in the number of enterprises, the property sector built up leverage fast.** The liabilities-to-assets ratio increased from around 72% in 2008 to more than 80% in 2020 for developers overall (Chart 7, panel a). Partly as a response to these dynamics, in August 2020 the Chinese authorities introduced new regulations aimed at de-risking the residential sector.

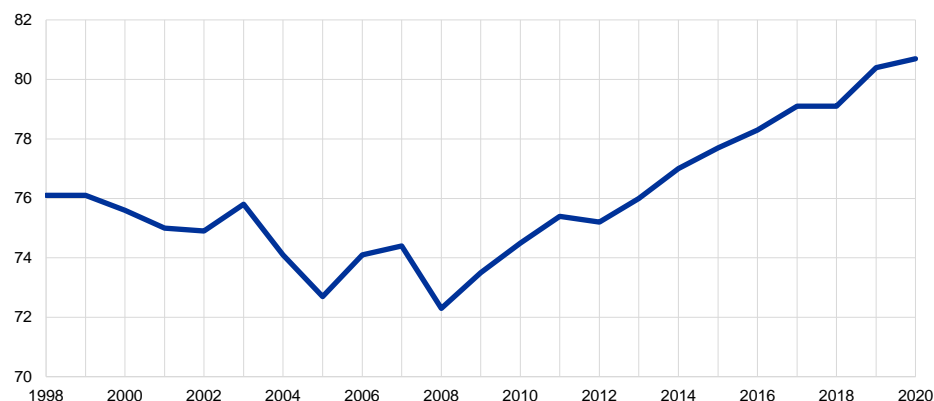


## Chart 7

### Property sector leverage and loan dynamics

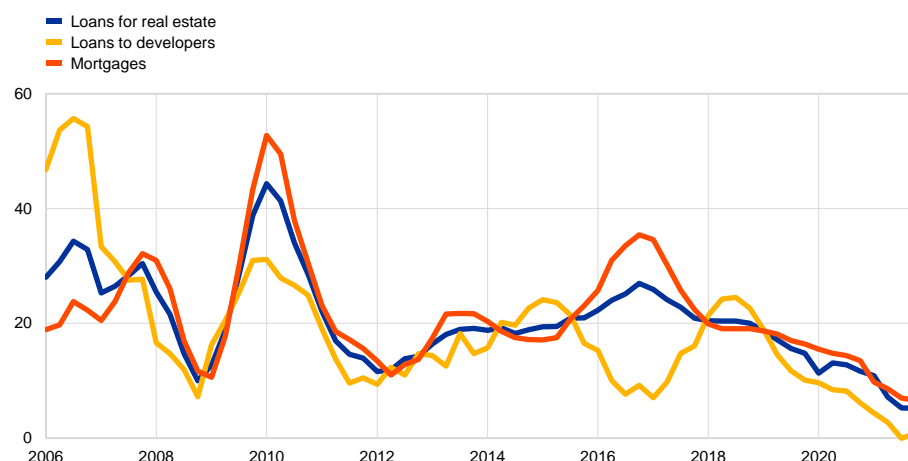
#### a) The liabilities-to-assets ratio is rising

(percentages)



#### b) Growth in loans to the real estate sector has declined

(yoy, percentages)



Sources: National Bureau of Statistics via Haver and CEIC and ECB staff calculations. The latest observations are for 2020 (panel a) and December 2021 (panel b).

The most significant regulation was the introduction of the three red lines – a set of thresholds for three financial ratios which, if crossed, would limit property developers' ability to raise new debt. As a result, credit to the sector dried up in the second half of 2021, with both mortgages and loans to developers reaching historical lows (Chart 7, panel b).

**Recent dynamics in the residential sector – in particular the liquidity problems faced by several developers – have raised concerns over the possibility of contagion spreading to other sectors.** Although the authorities appear to be in control of the situation and are able to manage the deleveraging process, high debt levels and the importance of the residential sector to the economy remain potential sources of financial risk.

## Risks posed by large technology companies' expansion into credit provision

**The activities of China's large technology companies are raising concerns over market concentration, opaqueness and financial stability.**<sup>8</sup> Over time, large technology companies have expanded beyond their (rapidly rising) provision of online payment services (Chart 8, panel a) into areas such as peer-to-peer lending, deposit taking, insurance and direct lending. As such, technology companies, which operate within a lighter regulatory and supervisory framework, are increasingly competing directly with commercial banks. The credit provided by large technology companies is now substantial, amounting to more than 2% of total domestic credit for the financial sector and more than 4% of GDP per capita (from a share which was little more than 0% in 2014), meaning that large technology companies (Chart 8, panel b) are a significant source of credit for consumers and small companies. The provision of credit in a light-touch regulatory setting has raised concerns over the adequacy of capital requirements, collateral sufficiency and the sale of online deposit products.<sup>9</sup>

**The expansion of large technology companies into shadow banking activities in the form of risky fintech lending has exposed some financial risks.** Fintech companies have facilitated the expansion of credit to new and financially constrained borrowers since the onset of the pandemic. A recent study finds that fintech lending to low-income users has expanded more than it has for traditional banks.<sup>10</sup> The study points to the financial risks associated with this activity, as delinquency rates for these shadow banking loans have tripled during the pandemic, while there has been no significant change in delinquency rates for bank loans. The results of the study show the potential fragility of large technology companies when delinquency rates spike. They also point to the negative implications for broader credit availability and the consequences for growth and financial stability.

**Chinese policymakers have recently introduced stricter regulations for technology companies.** The new regulations reflect the Chinese authorities' increasing concerns over companies' ability to use significant funds raised from capital markets to provide credit within a lighter regulatory and supervisory framework. The recent regulatory changes affecting internet enterprises also seek to reduce the financial risks posed by major incumbents. This could, in turn, help to safeguard financial stability and also foster innovation and generate positive spillovers for China's small and medium-sized enterprises.

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<sup>8</sup> Large technology companies include fintech and big tech companies. Fintech companies are companies that facilitate peer-to-peer/marketplace lending and invoice trading through their online lending platforms rather than through traditional banks or lending companies. Big tech companies are large companies whose primary business is technology which have entered credit markets, lending either directly or in partnership with financial institutions. For a detailed discussion see Bank for International Settlements, "Big tech in finance: opportunities and risks", *BIS Annual Economic Report*, Chapter III, June 2019; and Claessens, S., Frost, J., Turner, G. and Zhu, F., "Fintech credit markets around the world: size, drivers and policy issues", *BIS Quarterly Review*, September 2018.

<sup>9</sup> By the end of 2020 large technology companies had removed online deposit products from their platforms.

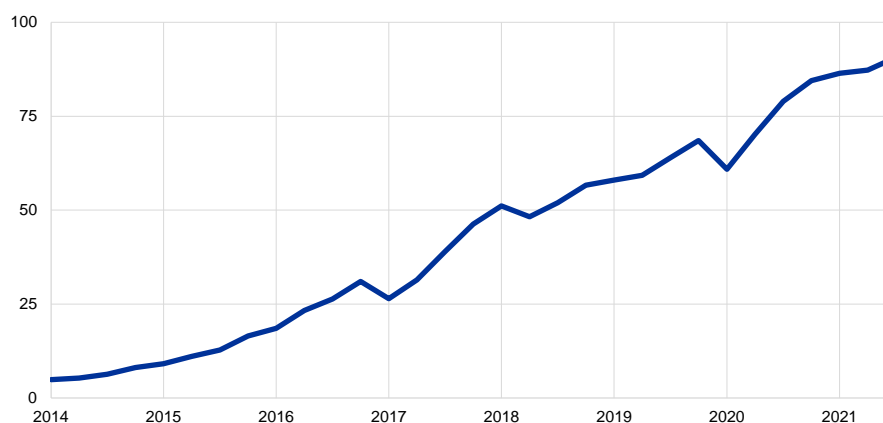
<sup>10</sup> Zhengyang, B. and Huang, D., "Shadow Banking in a Crisis: Evidence from FinTech During COVID-19", *Journal of Financial and Quantitative Analysis*, Vol. 46, No 7, July 2021.

## Chart 8

### Online payments processed and credit provision

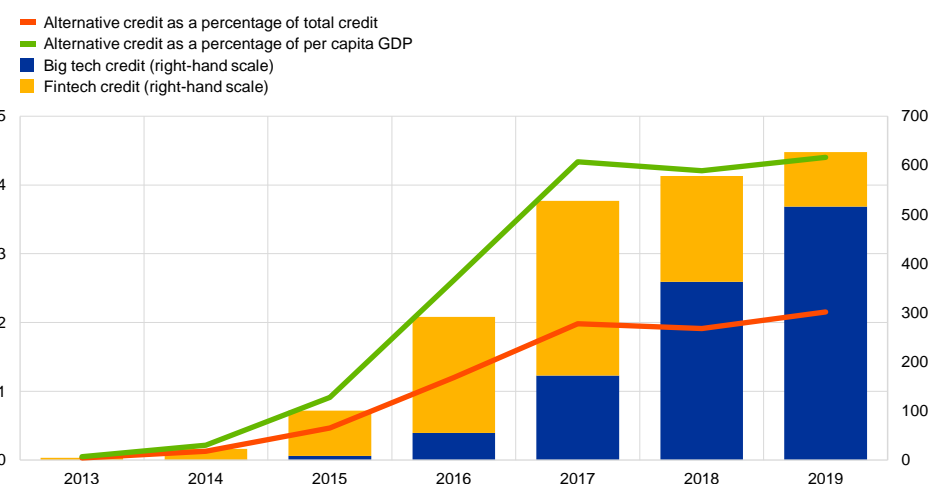
#### a) Online payments by non-banks continue to increase

(CNY trillions, not seasonally adjusted)



#### b) Credit provided by fintech and big tech has risen sharply

(percentages; USD billions)



Sources: National Bureau of Statistics via Haver; Cornelli, G., Frost, J., Gambacorta, L., Rau, R., Wardrop, R. and Ziegler, T., "Fintech and big tech credit: a new database", *BIS Working Papers*, No 887, BIS, September 2020; World Economic Forum, IMF, 2021; and ECB staff calculations. The latest observations are for Q3 2021 and 2019.  
Note: Alternative credit is provided by fintech and big tech.

## 4 Leverage and exposures between banks and non-bank financial institutions

**Linkages to and ownership of banks and other financial institutions by large corporates are leading to a rise in financial stability risks.** In part, this is due to the underlying nature of the so-called shadow banking sector. The People's Bank of China defines shadow banking in China as "credit intermediation involving entities and activities outside the regular banking system, with the functions of liquidity and credit transformation, which could potentially cause systemic risks or regulatory

arbitrage".<sup>11</sup> In the context of high corporate leverage in China, shadow banking constitutes an important source of finance that has fuelled the rise in corporate debt.

**Although the rate of growth of shadow banking has slowed recently, the shadow banking sector remains particularly vulnerable to adverse shocks.**

Shadow banking was virtually non-existent prior to 2008, but has expanded rapidly in recent years, reaching a share of about 60% of GDP (Chart 9, panel a). Although macroprudential policies have curbed growth in the sector, levels remain near all-time highs, posing risks to the Chinese economy. China's shadow banking sector is mainly concentrated on activities that are highly vulnerable to changes in investor sentiment. These activities include certain types of investment vehicles, such as wealth management products whose value amounts to around 25% of GDP.

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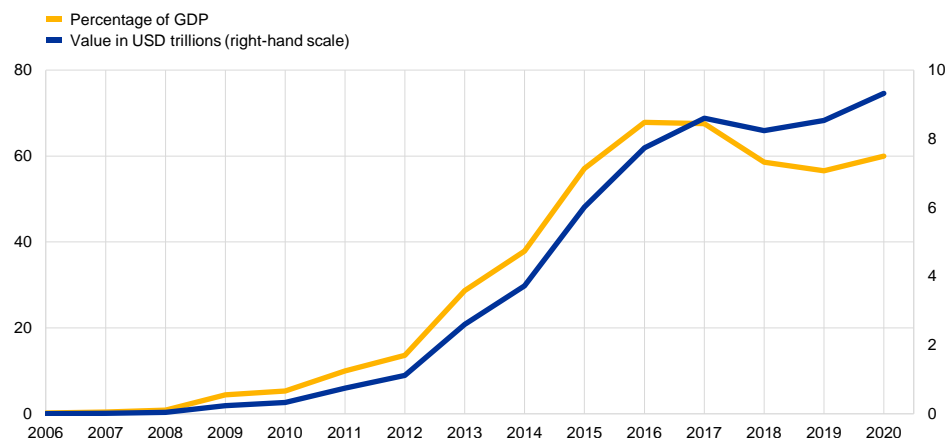
<sup>11</sup> See People's Bank of China, "Shadow Banking", *China Financial Stability Report*, Special Topic IV, 2013, pp. 197-205.

## Chart 9

### Shadow banking and its components

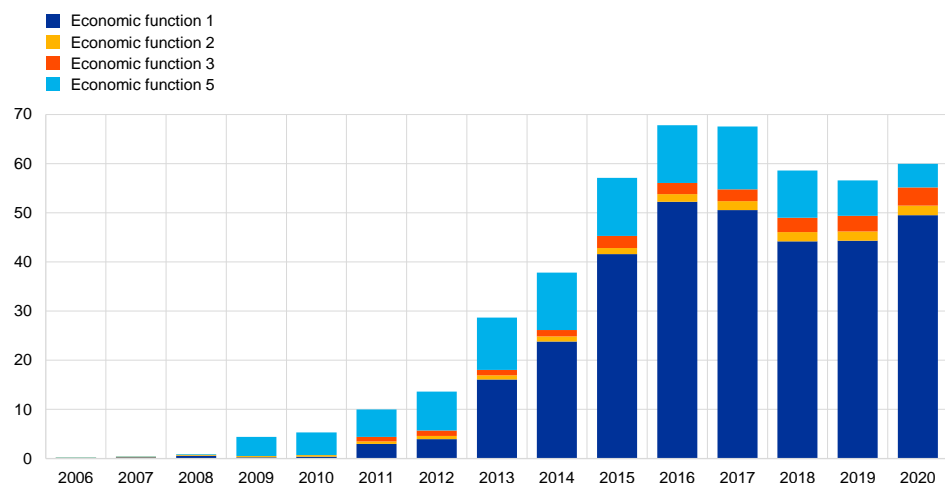
#### a) Shadow banking has stabilised and its share of GDP has remained roughly unchanged

(percentage of GDP; USD trillions)



#### b) The rise of shadow banking has been driven by unstable funding components

(percentages of GDP)



Source: Financial Stability Board, 2020.

Notes: The Financial Stability Board's definitions, for non-bank financial intermediation, of economic functions (EFs) are: EF1: collective investment vehicles susceptible to runs (wealth management products); EF2: non-bank financial entities dependent on short-term funding to support lending activities; EF3: market intermediaries dependent on short-term funding; EF4: insurance or guarantees of financial products; and EF5: securitisation-based credit intermediation vehicles. Data for category EF4 are not reported for China.

#### Shadow banking is vulnerable given its reliance on short-term funding, its use in already highly leveraged sectors of the economy and its lack of transparency.

Shadow banking remains dominated by wealth management products (WMPs) which are structured and offered by banks in cooperation with trust companies and securities firms. This legal structure moves them off banks' balance sheets and out of the purview of deposit regulations, so they can offer higher rates of return than bank deposits. On the liabilities side, over 40% of outstanding WMPs have maturities of three months or lower, although these funds often feed into longer-term lending. As a result, WMPs need to roll over their funding very frequently, exposing themselves to liquidity and rollover risks (Chart 9, panel b). This risk is compounded by the fact that 70% of WMPs issued since 2007 are not covered by explicit guarantees, while investors perceive WMPs as being implicitly covered by

guarantees from the banks distributing these products or, in the event of a default, by the government (Dang et al.).<sup>12</sup> Shadow banking has fuelled a rise in funding in riskier areas such as the real estate sector. Sun<sup>13</sup> reports that the shadow funding of real estate has far outpaced that of other sources such as loans. Banks can lend to non-banking financial institutions such as trust companies, which in turn provide entrusted loans to real estate companies to whom lending has otherwise been restricted. Trust companies have been subject to less regulation as they act on behalf of their beneficiaries. Shadow banking therefore increases the link between banks and non-bank financial institutions. More recently, non-financial enterprises have increasingly invested in a variety of financial institutions, while maintaining complex and non-transparent ownership structures.

**The lack of transparency regarding cross-exposures between the non-financial and financial sectors harbours further risk in China's financial system.** In China there are cases in which multiple financial entities across different financial sub-sectors are controlled by the same non-financial conglomerate. In some cases, investments are made using borrowed funds, resulting in an increase of corporate leverage ratios. At the same time, ownership structures remain opaque with ownership being disguised through the use of complex equity arrangements or special purpose vehicles. As a result, the People's Bank of China has found that some large holding companies give rise to contagion risk amid a severe lack of transparency of risk conditions.<sup>14</sup>

**The authorities have tightened regulation considerably, to reduce many of the risks associated with shadow banking and the lack of transparency in the cross-exposures between corporate entities.** For instance, new rules have been introduced to identify cross-ownerships of enterprises and financial institutions and to require such structures to be regulated as financial holding companies. In addition, stricter rules have been applied to limit lending to the real estate sector and to increase the oversight of fintech companies expanding into more traditional banking services. At the same time, many of the new regulations are being phased in gradually, so some systemic risks in the financial system will remain in the near term.

## 5 Household debt dynamics

**Financial issues faced by a number of real estate developers have exposed the interdependence between households and corporates, and the importance of housing wealth to economic activity.** The extent to which real estate developers rely for funding on households prepaying for yet-to-be-built residential housing, along with significant investment by households in real estate assets, has exposed the interconnectedness between corporate and household balance sheets. Housing represents a large part of household wealth, so it weighs heavily on households'

<sup>12</sup> See Dang, T.V., Liu, L., Wang, H. and Yao, A., *Shadow Banking Modes: The Chinese versus US System*, Columbia University, mimeo, 2019.

<sup>13</sup> Sun, G., "China's Shadow Banking: Bank's Shadow and Traditional Shadow Banking", *BIS Working Papers*, No 822, Bank for International Settlements, 2019.

<sup>14</sup> See, for example, *Trial Measures on Regulation of Financial Holding Companies*, Order No 4, People's Bank of China, 11 September 2020.

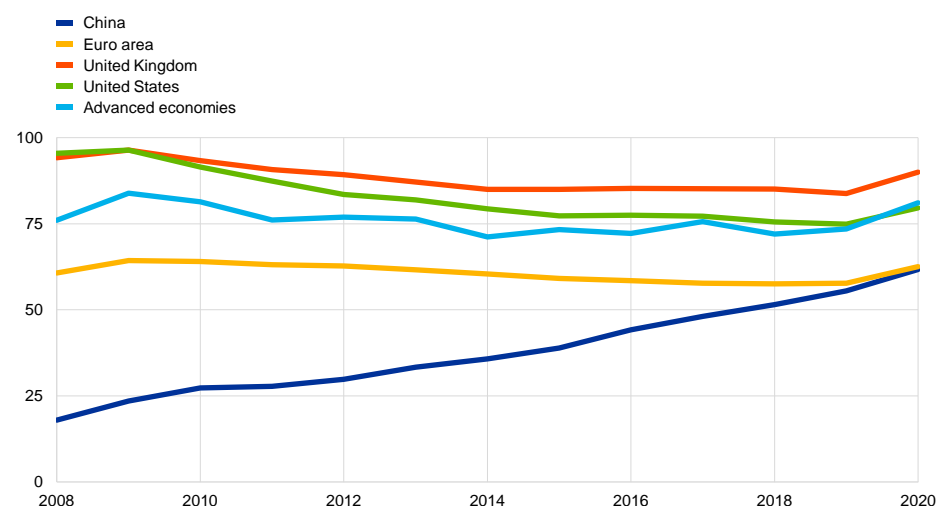
expenditure and risk tolerance and directly affects corporate incomes and funding. It also affects economic activity generally. Moreover, the high level of household debt constrains future household spending and is creating potential headwinds to economic growth. With real estate investment amounting to around 14% of GDP in 2020, a marked slowdown in the housing market could cause China’s economic growth to decelerate, with spillovers to the rest of the world.

**Although the corporate sector accounts for the largest share of debt, household indebtedness has risen rapidly and is approaching advanced economy levels.** Chinese household debt has more than tripled since the global financial crisis – it is now substantially above the emerging market average, very close to the euro area average (Chart 10), and near the levels reached by Japanese households in the 1990s. In its 2019 Financial Stability Report, the People’s Bank of China emphasised the need to closely monitor household debt risks from a macroprudential perspective. It also encouraged banks to strengthen their practices and recommended that a comprehensive credit information system be built up. The speed of debt accumulation by Chinese households has raised concerns as to whether further debt increases could lead to significant adverse effects on growth and financial stability.<sup>15</sup> Both the level and the rate of increase in household debt could pose risks to financial stability, given the lack of personal bankruptcy laws, which further impedes debt resolution.<sup>16</sup> Moreover, nominal interest rates are higher in China than in advanced economies, which makes debt servicing by households relatively more expensive.

**Chart 10**  
Household indebtedness

The household credit-to-GDP ratio has risen to the euro area average

(percentage of GDP)



Sources: BIS via Haver Analytics and ECB staff calculations. The latest observation is for 2020.

<sup>15</sup> See International Monetary Fund, “People’s Republic of China – selected issues”, *IMF Staff Country Reports*, No 19/274, August 2019.

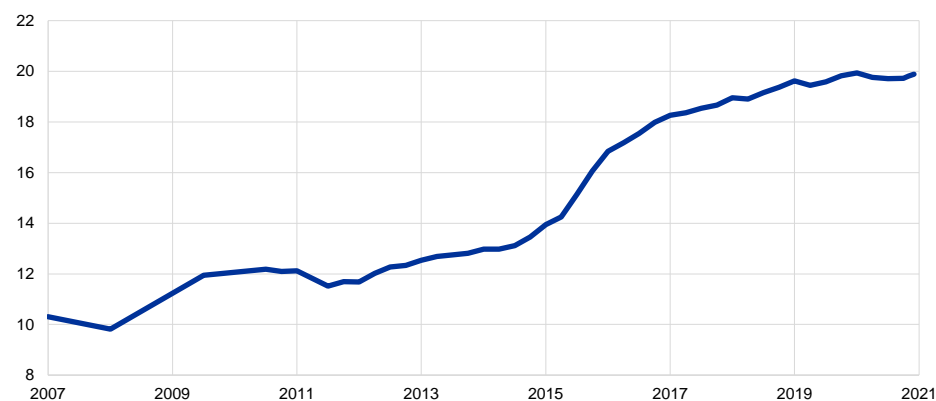
<sup>16</sup> See Cheung, K-Y., *China Law of the People’s Republic of China on Enterprise Bankruptcy*, Baker McKenzie, 2018.

**The exposure of households to housing and other real estate developers is a cause for concern.** Chinese household leverage (the ratio of debt to disposable income) has more than tripled since the global financial crisis (Chart 11, panel b). Most residential housing in China is purchased in the pre-sale market before construction has been completed.<sup>17</sup> In this way, households provide funding to real estate developers by prepaying for yet-to-be-built residential housing. The recent financial issues faced by several developers raise questions as to the completion prospects for prepaid housing and the availability of such funding in the future, while the weakness of residential housing prices could affect household balance sheets.<sup>18</sup>

**Chart 11**  
Household indebtedness

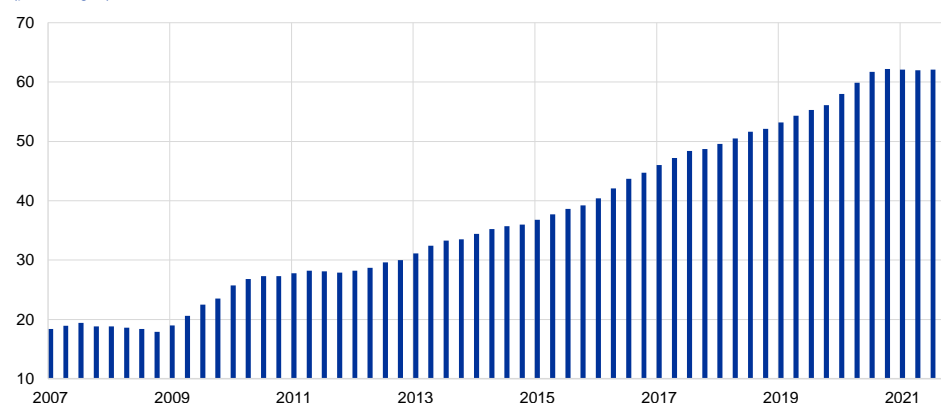
**a) Mortgage debt doubled between 2007 and 2021**

(percentage of total loans)



**b) The ratio of household debt to disposable income tripled between 2007 and 2021**

(percentages)



Source: People's Bank of China via CEIC. The latest observation is for December 2021.

<sup>17</sup> See Deng, Y. and Liu, P., "Mortgage Prepayment and Default Behavior with Embedded Forward Contract Risks in China's Housing Market", Vol. 28, No 3, *The Journal of Real Estate Finance and Economics*, 2009, pp. 214-240.

<sup>18</sup> Substantial savings levels help to mitigate household debt risks. However, they have been declining in recent years, while employment conditions currently constitute another headwind.



## 6 Conclusion

**China's corporate debt remains high by international comparison and represents a risk to growth.** High leverage in the corporate sector has underpinned high rates of investment and economic growth. However, as corporate debt in China has risen to levels significantly beyond those of advanced economies such as the United States and the euro area, financial risks have continued to build up. The current turmoil in the real estate sector illustrates the impact of the materialisation of such risks on the economy. Defaults by major property developers have increased financing costs in the corporate sector and slowed real estate activity, which in turn is weighing on GDP growth.

**Deleveraging the corporate sector and stabilising the rise in household debt remains a priority but would probably create headwinds to economic activity.** Reducing financial risks in China entails slowing the provision of credit to the non-financial corporate sector. Slowing down household debt accumulation and monitoring and analysing household debt risks could help to mitigate financial stability risks and promote sustainable growth. Striking a balance between de-risking the economy and maintaining stable growth will be a challenge. Targeted macroprudential and microprudential measures will help to achieve these dual aims.

**At the same time, unstable funding sources from the shadow banking sector remain exposed to sudden changes in investor sentiment.** In addition to high corporate leverage, the shadow banking sector gives rise to risks. Although growth in assets originating in the non-bank financial sector has been halted, the stock of assets that are subject to short-term financing needs remains historically high. As these assets remain vulnerable to sudden changes in investor sentiment they represent risks to the financial system. Furthermore, a lack of transparency with regard to exposures between the financial and non-financial sectors is giving rise to uncertainties which could intensify systemic stress when financial risks materialise. Overall, financial risks in the Chinese economy remain significant and it is essential to continue with ongoing regulatory efforts to de-risk the economy to ensure stable growth in the medium term.

## 2 Assessing corporate vulnerabilities in the euro area

Prepared by Giulio Nicoletti, Ralph Setzer, Mika Tujula and Peter Welz

### 1 Introduction

**The coronavirus (COVID-19) crisis was a major shock for the non-financial corporate (NFC) sector.** The pandemic and the associated containment measures translated into a large drop in sales for firms. The rapid pace of the decline in revenue in conjunction with the difficulty of adjusting costs sufficiently quickly led to a sudden increase in liquidity needs. These liquidity needs, if left unaddressed, could have easily morphed into broader solvency issues, leading to a sharp increase in corporate defaults and bankruptcies.

**The COVID-19 pandemic hit the services sector and small firms particularly hard.** There is a high concentration of small businesses in contact-intensive sectors. This creates additional challenges when assessing the vulnerability of the euro area economy, as comprehensive information on the health of small companies' balance sheets typically becomes available only with significant time lags. The information contained in the Survey on the Access to Finance of Enterprises in the euro area (SAFE) was particularly useful to fill, at least partially, the information gap.<sup>1</sup>

**The timely and forceful policy response at national and EU level mitigated the short-term impact of the pandemic.** Fiscal, monetary and supervisory measures have substantially supported corporates by preventing large corporate losses and a rise in non-performing loans for banks. Government support to firms helped to reduce their costs (for instance via job retention schemes) and provided liquidity support, while monetary policy helped to provide favourable financing conditions and supervisory policies freed up capital that banks could use for lending. The effect of these policy measures is also reflected in exceptionally low numbers of corporate insolvency cases over the past two years.

**Two years after the onset of the pandemic, the short-term vulnerabilities of the corporate sector seem to have abated somewhat amid the ongoing recovery, but risks remain, especially for smaller firms and for sectors most affected by the pandemic.** Corporate revenues recovered after some of the strictest containment measures were eased, thus also improving debt servicing capacity. At the same time, weaker corporate balance sheets and heterogeneous indebtedness across firms pose risks to the recovery. Higher gross corporate debt, in particular for those firms that also face an increase in net debt, may hamper the capacity of firms to support the recovery via an increase in capital spending, especially once policy support is phased out. The higher debt ratios render firms vulnerable to potential shifts in risk sentiment, a rise in real interest rates or a fall in profits. Weaker

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<sup>1</sup> The survey is conducted twice a year: once by the ECB, covering euro area countries, and once in cooperation with the European Commission, covering all EU Member States plus some neighbouring countries. For the latest survey, see [Survey on the access to finance of enterprises](#).

corporate balance sheets also pose a risk for banks, potentially activating adverse feedback loops and financial stability concerns through increases in non-performing loans and corporate bankruptcies.

**Aside from the COVID-19 pandemic, the corporate sector also faces broader structural challenges.** The pandemic has accelerated several structural transformations already under way in the euro area economy. A non-exhaustive list of structural challenges includes new forms of work (including remote working), the use of e-commerce and digital technologies, a reconfiguration of global value chains and the transition to a carbon-neutral economy. Such changes require a comprehensive modernisation of firms' capital stock, which may be harder for small and medium-sized enterprises (SMEs) to implement, partly owing to their pre-existing weaknesses compared with larger firms.

**This article is structured as follows.** Section 2 reviews recent developments, focusing on vulnerabilities stemming from corporate indebtedness. Section 3 looks at implications for corporate insolvencies, complemented by Box 1, which views this through the lens of bank asset quality. Section 4 looks at the possible investment implications of increased levels of corporate indebtedness. Box 2 discusses some structural features of euro area SMEs in the context of the COVID-19 pandemic. Section 5 concludes.

## 2 Recent developments in the non-financial corporate sector

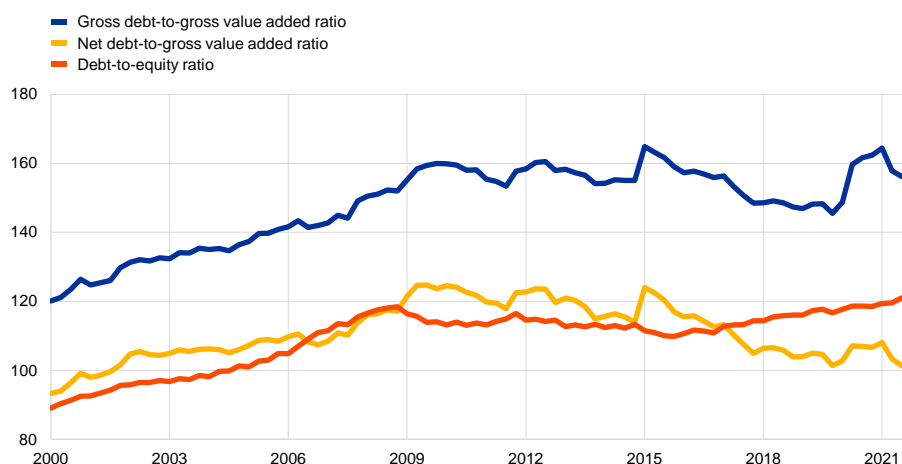
**Euro area NFC sector gross indebtedness increased strongly during the pandemic.** The NFC gross debt-to-value added ratio (debt ratio) increased by 18.8 percentage points between the end of 2019 and early 2021, to peak at 164.4%, only 0.5 percentage points lower than its record in early 2015 (Chart 1, panel a). This increase was explained almost equally by firms' stronger recourse to debt financing and by the marked decline in gross value added. At the end of the third quarter of 2021, the debt ratio still stood 10.6 percentage points above its level at the end of 2019, which is almost entirely due to stronger recourse to debt financing rather than lower gross value added (Chart 1, panel b). The debt-to-equity ratio also increased significantly between the fourth quarter of 2019 and the third quarter of 2021, as the increase in debt was compensated only partly by greater equity issuance.

**Chart 1**

**NFC debt and leverage in the euro area**

**a) Level of consolidated debt and leverage**

(percentages)



**b) Change in consolidated debt and leverage between the fourth quarter of 2019 and the third quarter of 2021**

(percentage points, percentage point contributions)



Sources: Eurostat, ECB and ECB estimates.

Notes: Consolidated gross debt is defined as the sum of total loans granted to NFCs, debt securities issued and pension liabilities minus intra-sectoral lending. Consolidated net debt is defined as consolidated gross debt net of currency and deposit holdings. The debt-to-equity ratio is at book value, which is proxied by notional stocks. In panel b, in the first column the blue dot represents the change in the gross debt-to-gross value added ratio, in the second column it represents the change in the net-debt-to-gross value added ratio, and in the third column it represents the change in the debt-to-equity ratio. The latest observations are for the third quarter of 2021.

**The increase in gross NFC debt has been accompanied by a strong accumulation of liquid assets, especially by large corporates.** NFC deposits increased by €713 billion between the fourth quarter of 2019 and the third quarter of 2021. As a result, the net debt ratio increased much less than gross indebtedness, and in the third quarter of 2021 net debt stood 0.4 percentage points below its level at the end of 2019 (Chart 1, panel b).<sup>2</sup> During the early stages of the pandemic, firms parked a substantial part of the proceeds from new bank loans and debt securities issuance in deposits in order to pre-fund working capital needs and necessary investment, as well as to prepare for possible cash shortages due to the collapse of sales and operating

<sup>2</sup> Consolidated net debt, defined as consolidated gross debt net of currency and deposit holdings.

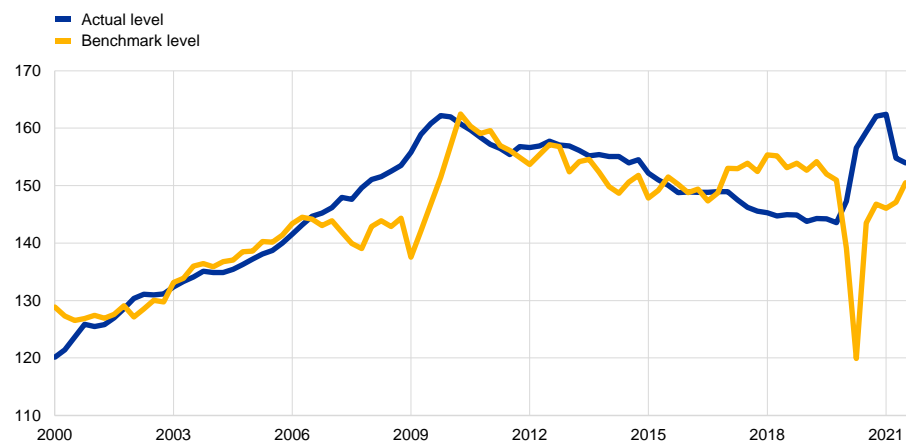
cash flows. More recently, the improvements in profits and retained earnings have contributed to an increase in liquid asset holdings. These holdings can act as a mitigating factor for high corporate debt at an aggregate sectoral level.<sup>3</sup>

**Indebtedness remains significantly above a benchmark level estimated on the basis of macro-financial conditions.** Since mid-2020 gross indebtedness has exceeded its estimated benchmark level by a large margin (Chart 2).<sup>4</sup> Observed indebtedness rose sharply after the end of 2019, mirroring the marked increase in borrowing in the period from March to June 2020. Meanwhile, benchmark indebtedness declined strongly in the second quarter of 2020 and has since remained significantly below actual indebtedness. This was due first to the collapse of economic activity and then to its continued weakness, which historically would normally have been accompanied by lower indebtedness. The observed indebtedness also exceeded by a considerable margin its benchmark level between the end of 2006 and early 2010. This period was characterised by strong credit growth in the run-up to the global financial crisis in 2008 and a collapse in economic activity after the crisis erupted, followed by a lengthy period of deleveraging. The gap is projected to narrow and close in the coming quarters as the debt overhang and liquid asset holdings limit the demand for debt financing and the economy recovers.

## Chart 2

### NFC consolidated gross debt and its estimated benchmark level in the euro area

(percentages of NFC gross value added, notional stocks)



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

Notes: Consolidated gross debt is the sum of loans to NFCs, debt securities issued and pension liabilities minus intra-sectoral lending (all notional stocks). Benchmark levels are estimates based on an error correction model relating NFC consolidated gross debt to NFC output, the relative cost of debt financing and the term spread (i.e. the difference between the euro area ten-year government bond yield and the euro area three-month money market rate). The relative cost of debt financing is defined as the composite cost of debt minus the cost of equity financing. The estimation period is from the first quarter of 1999 to the fourth quarter of 2019. The latest observations are for the third quarter of 2021.

**The uneven distribution of debt reflects vulnerabilities among SMEs and micro firms – especially in the sectors most affected by the pandemic.** Gross debt increased to different degrees across firms, depending on their exposure to the

<sup>3</sup> See the box entitled “Non-financial corporate health during the pandemic”, *Economic Bulletin*, Issue 6, ECB, 2021.

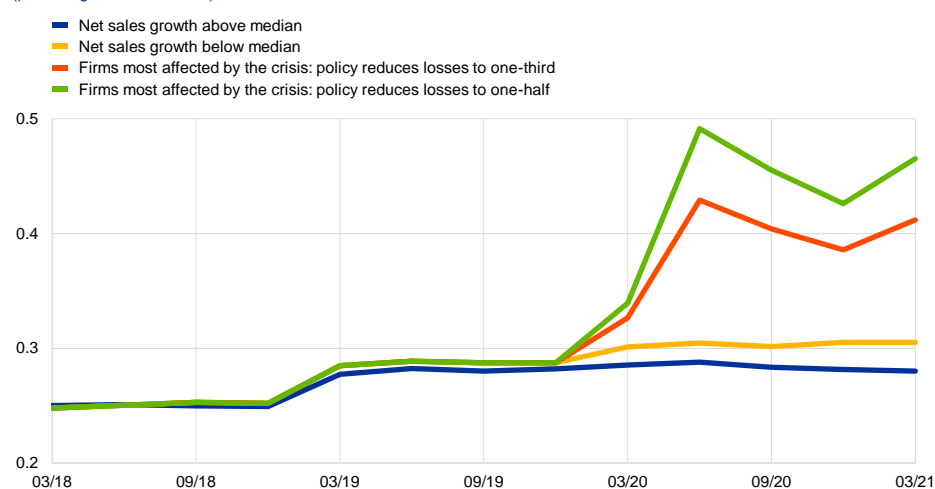
<sup>4</sup> An error-correction model relates the long-run level of gross debt to output, the relative cost of debt financing and the term spread. Based on these fundamentals, it allows a time-varying benchmark level to be derived that is consistent with historical regularities.

COVID-19 pandemic and the related lockdown measures. Among listed firms, those with sales below the median in 2020 increased their debt by about 3 percentage points more than firms with sales above the median (Chart 3). While data for non-listed companies are not available, estimates based on sectoral turnover suggest that for an average firm in the most affected sectors (e.g. accommodation), the increase in leverage could be close to 10 percentage points, even after considering a scenario in which only a third of corporate losses are filled by additional debt (the red line in Chart 3), while the rest are offset by government support policies.

### Chart 3

#### Ratio of debt to assets of firms with different sales performance in 2020

(percentages of total assets)



Sources: Refinitiv and extrapolation based on Eurostat data.

Notes: The exercise underlying this chart documents the relationship between decreasing sales and increasing debt. The blue and yellow lines compare debt dynamics for listed firms with net sales growth above or below the median in 2020. The red and green lines ("Firms most affected by the crisis") extrapolate debt dynamics for firms in the most affected euro area sector (i.e. accommodation), for which no hard data are yet available. The prediction is based on a panel model with turnover (entering into the model as linear and quadratic term) explaining the increase in the debt-to-assets ratio, after controlling for individual firm effects. The model is estimated for the post-COVID-19 period and used to extrapolate the unobserved debt-to-assets ratio using observed Eurostat turnover. For "policy reduces losses to one-third" (red line) it is assumed that government support policies (e.g. short-time working schemes) cover two-thirds of the costs, while for "policy reduces losses to one-half" (green line) it is assumed that only one-half is covered. The latest observations are for the first quarter of 2021.

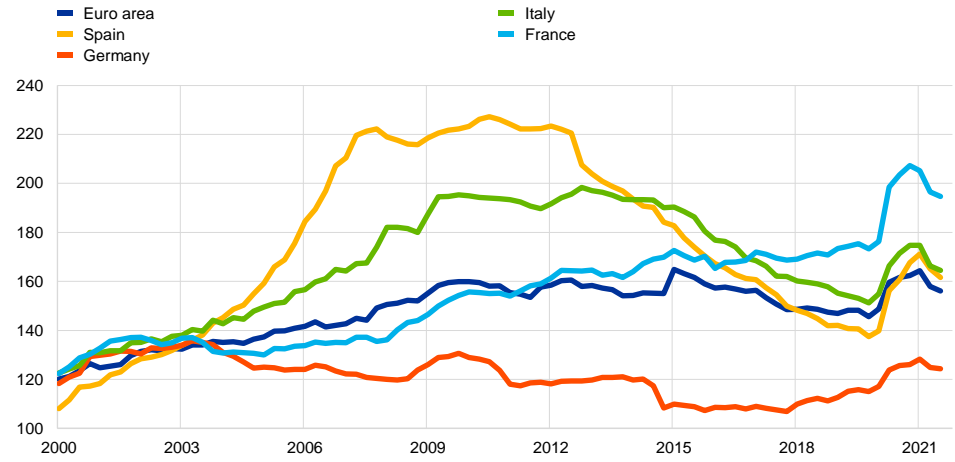
#### There are also significant differences in corporate indebtedness across

**countries.** The NFC gross debt-to-value added ratio amounted to close to 200% in France in the third quarter of 2021, compared with around 120% in Germany (Chart 4, panel a). In France, the gross debt ratio has increased continuously since the end of 2007, as firms have financed their capital expenditure and mergers and acquisitions mostly with debt instruments. In Germany, indebtedness remains significantly lower than in other large euro area economies, as firms had financed their expansion mainly with internal funds before the pandemic. At the same time, the increase in the debt ratio since the end of 2019 was most significant in Spain, where, like in Italy, a large part of the decline observed between 2012 and 2019 was reversed (Chart 4, panel b). The decline in the level of net debt was particularly large in Italy, while in Germany, France and Spain net debt has increased (Chart 4, panel c). Differences between countries in the size of debt increases during the pandemic can largely be explained by (i) differences in the severity of the COVID-19 crisis and the resultant length and extent of lockdowns, (ii) differences in the take-up of state-guaranteed bank loans, and (iii) differences in economic and financial structures.

**Chart 4**  
**NFC debt in the euro area**

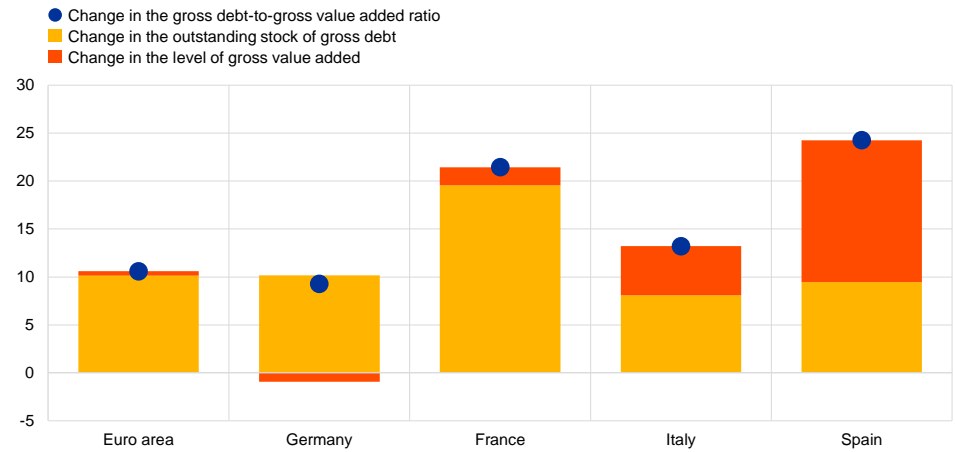
**a) Level of consolidated gross debt**

(percentages of NFC gross value added)



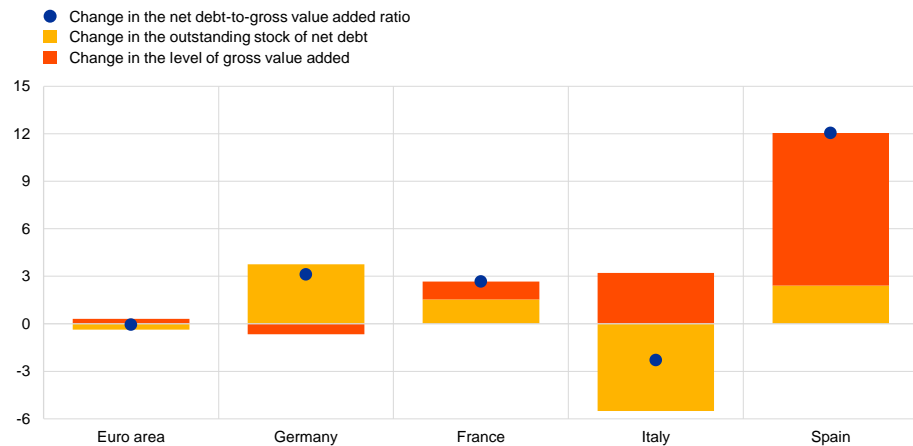
**b) Change in consolidated gross debt between the fourth quarter of 2019 and the third quarter of 2021**

(percentage points, percentage point contributions)



c) Change in consolidated net debt between the fourth quarter of 2019 and the third quarter of 2021

(percentage points, percentage point contributions)



Sources: Eurostat, ECB and ECB estimates.

Notes: Consolidated gross debt is defined as the sum of total loans granted to NFCs, debt securities issued and pension liabilities minus intra-sectoral lending. Consolidated net debt is defined as consolidated gross debt net of currency and deposit holdings. The latest observations are for the third quarter of 2021.

**Despite the increase in gross indebtedness, the debt service burden has**

**continued to decline to new record lows.** Gross interest payments by firms in the large euro area countries have decreased by between 1.8% and 9.1% since the end of 2019, despite the increase in the level of debt. This decline reflects the favourable financing conditions promoted by the policy response to the crisis, which have alleviated corporate debt sustainability concerns and supported the recovery. However, debt servicing costs as a percentage of profits continue to vary significantly across countries (Chart 5, panel a). This mainly reflects differences in gross debt levels and sectoral compositions across countries, the latter of which affects the gross operating surplus-to-value added ratio (Chart 5, panel b).<sup>5</sup>

<sup>5</sup> For different classifications of “quasi-corporations” across countries, see Lequiller, F. and Blades, D., *Understanding National Accounts: Second Edition*, OECD Publishing, 2014.

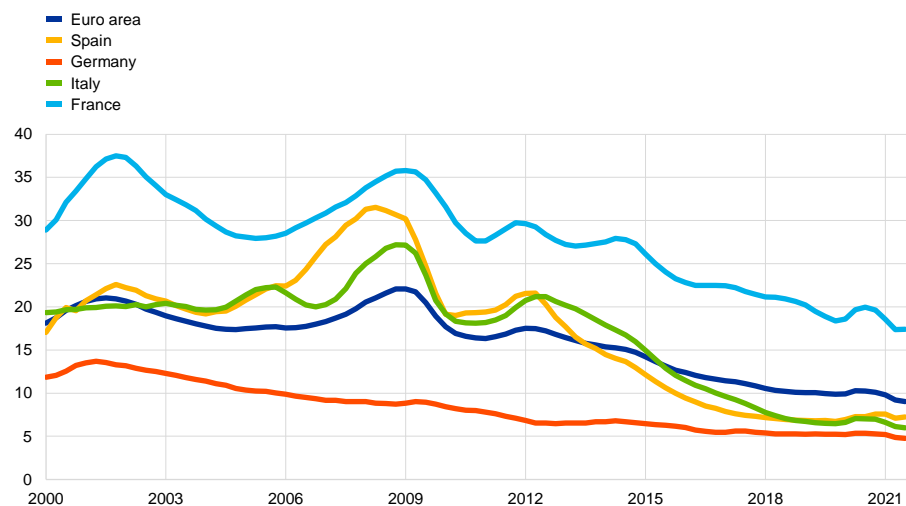


## Chart 5

### NFC interest payments and profit margins in selected euro area countries

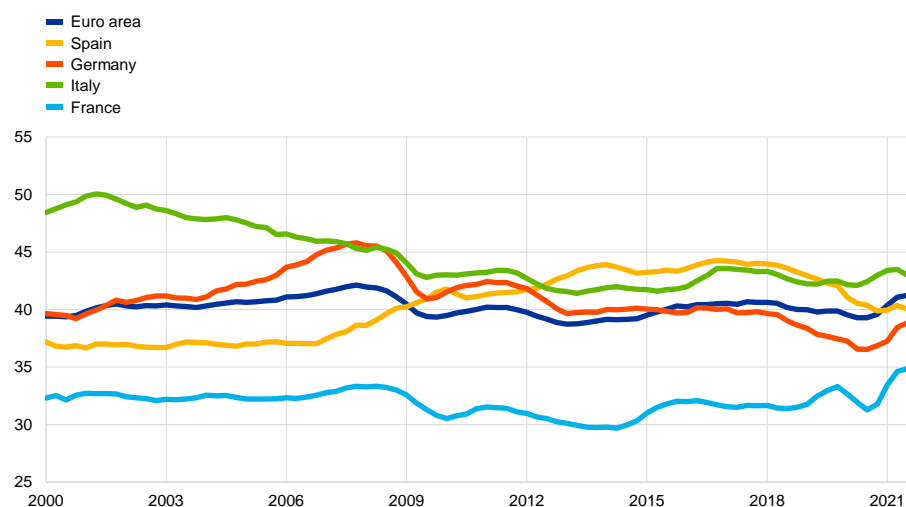
#### a) Gross interest payments

(four-quarter moving sums as a percentage of gross operating surplus)



#### b) Gross operating margins

(percentages)



Sources: Eurostat, ECB and ECB calculations.

Notes: Gross interest payments are calculated before financial intermediation services indirectly measured. Gross operating margins are calculated by dividing the gross operating surplus by the gross value added. The latest observations are for the third quarter of 2021.

### Government and supranational support measures have contributed to a sizeable reduction in the liquidity risks of firms.<sup>6</sup>

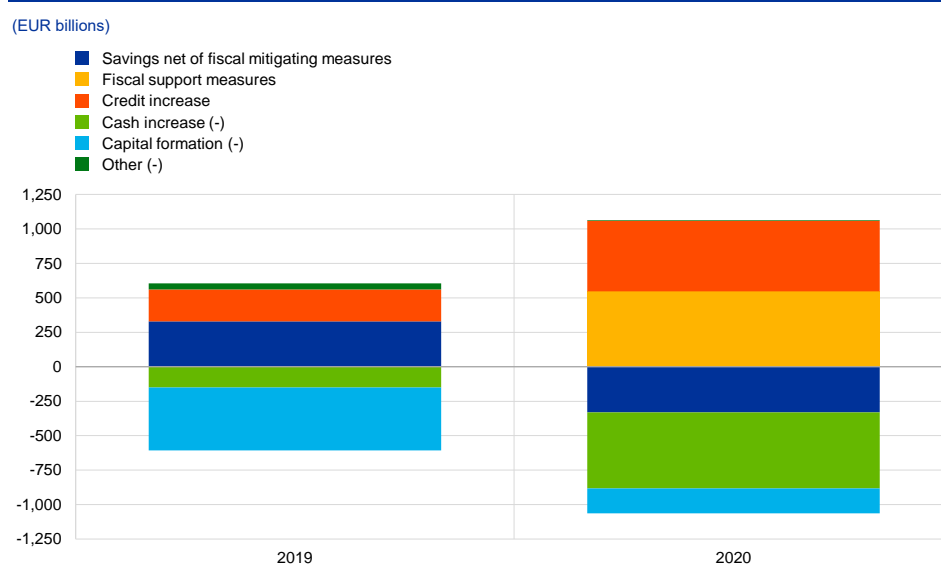
First, governments provided loan guarantees and direct liquidity support to corporates, while short-time working arrangements alleviated the wage bill. Second, deferrals of social security contributions and taxes also supported the liquidity position of firms. In aggregate, corporates received around €550 billion through these direct and indirect government support measures (Chart 6). Without these measures, corporate savings net of capital depreciation would have been significantly negative in 2020. Third,

<sup>6</sup> For a comprehensive list of EU-level interventions to support jobs and the economy after the pandemic, see “Jobs and economy during the coronavirus pandemic”, European Commission.

temporary supervisory measures for banks allowed them to offer loan payment moratoria. Fourth, the ECB provided support through its monetary policy measures. Firms also markedly reduced their investment expenditure compared with 2019. Total net credit flow was about €280 billion higher in 2020 than in 2019, supported to a considerable extent by the third series of longer-term refinancing operations (TLTRO III), the pandemic emergency purchase programme (PEPP)<sup>7</sup>, government loan guarantees and supervisory measures.<sup>8</sup> All in all, NFC cash holdings increased by about €400 billion more in 2020 than the year before, although the increase was mainly concentrated in large firms. Also, in 2021 firms received significant amounts of extra resources from governments (about €325 billion), which further limited the decline in savings.

### Chart 6

#### Euro area NFCs: sources and uses of funds, including fiscal support measures



Sources: Eurostat, ECB and ECB estimates.

Notes: "Fiscal support" is defined as the sum of the wage bill savings of firms due to job retention schemes, the effect of moratoria on loan interest payments and rents, tax deferrals and direct grants to firms. "Savings" is gross savings minus consumption of capital. "Credit" includes borrowing from banks and net issuance of debt securities, while "cash" includes currency and deposits. "Capital formation" is gross fixed capital formation plus change in inventories minus consumption of capital. The latest observations are for 2020.

**The improved debt servicing capacity of firms and low financing/rollover risks underpin the currently moderate level of corporate vulnerabilities.** NFC vulnerabilities – as measured by the ECB's composite vulnerability index based on aggregate data – increased sharply following the outbreak of the COVID-19 pandemic, exceeding by a large margin the levels observed in the aftermath of the

<sup>7</sup> Under the PEPP and the corporate sector purchase programme (CSPP), the ECB purchases corporate bonds and commercial paper of the NFC sector in both the primary and secondary markets.

<sup>8</sup> For bank-level microprudential measures, see the ECB's banking supervision website; for macroprudential measures, see the special feature entitled "Financial stability considerations arising from the interaction of coronavirus-related policy measures", *Financial Stability Review*, ECB, November 2020.

global financial crisis (Chart 7, panel a).<sup>9</sup> The rise was mostly driven by a fall in activity and profitability and an increase in leverage. However, the corporate vulnerability index has been declining since mid-2020, reaching a historical low in the second quarter of 2021. This reflected increases in the interest coverage ratio and savings, the very low cost of debt financing, the record high cash holdings and the observed shift from short-term debt financing towards instruments with longer maturities. Leverage also contributed slightly to the decline in the vulnerability index in the third quarter of 2021. This was because of the decline in the gross and net debt ratios following the continued improvement in the economy and the significant accumulation of cash at the height of the pandemic. However, the gross debt and debt-to-equity ratios remain at elevated levels and significantly above their end-2019 levels, increasing firms' sensitivity to negative shocks. A counterfactual exercise shows that without the combined policy interventions, the vulnerability index would have reached a considerably higher value in mid-2020 and remained significantly above its current level (Chart 7, panel b).<sup>10</sup>

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<sup>9</sup> The composite measure is based on a broad set of indicators along five different dimensions: debt service capacity (measured by the interest coverage ratio, corporate savings and revenue generation), leverage (debt-to-equity ratio, net debt-to-EBIT ratio and gross debt-to-income ratio), activity (sales growth, trade creditors ratio and change in accounts receivable turnover ratio), profitability (return on assets, profit margin and market-to-book value ratio), and financing/rollover (short-term debt-to-long-term debt ratio, quick ratio, overall cost of debt financing and credit impulse). For the construction of the index in more detail, see the box entitled "[Assessing corporate vulnerabilities in the euro area](#)", *Financial Stability Review*, ECB, November 2020.

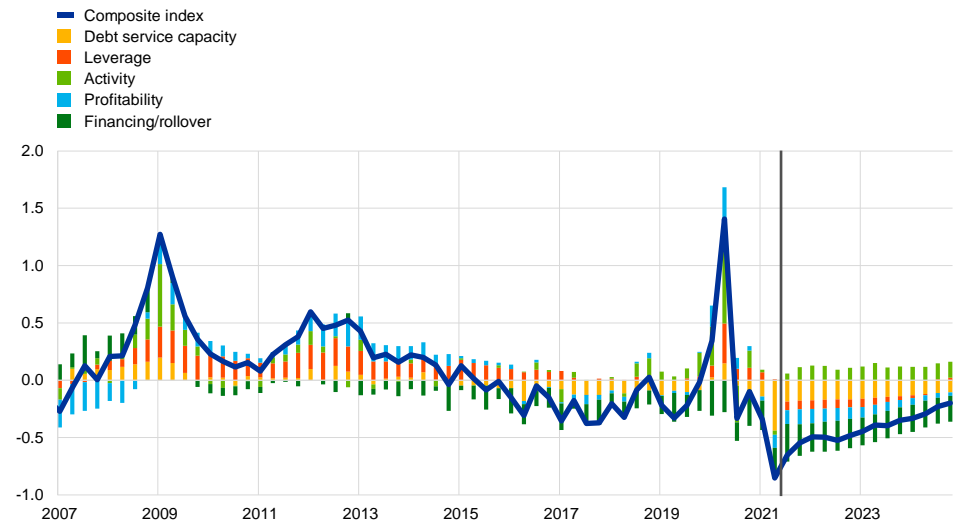
<sup>10</sup> Without cost relief from governments, NFCs' debt financing would have increased by €550 billion in 2020 and €325 billion in 2021 to compensate for revenue shortfalls. This would have translated, in the corporate vulnerability index, into higher leverage and corporate gross interest payments while lowering their internally generated funds. The simulation assumes that the effective interest rate on firms' outstanding debt and the share of long-term debt in total debt would have remained at around their end-2019 levels in the absence of the additional monetary policy measures, supervisory measures and government loan guarantees.

## Chart 7

### Corporate vulnerabilities for euro area NFCs

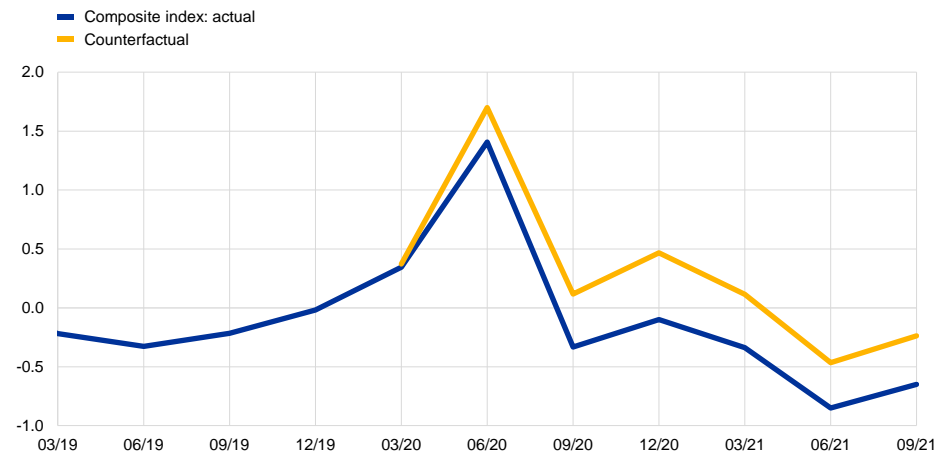
#### a) Composite index and its components

(Z-scores)



#### b) Composite index and its counterfactual

(Z-scores)



Sources: Eurostat, ECB, Merrill Lynch, Refinitiv and ECB calculations.

Notes: Positive values indicate higher vulnerability, negative values indicate lower vulnerability. The latest observations are for the second quarter of 2021. ECB staff estimates from the third quarter of 2021 to the fourth quarter of 2024.

## 3 Corporate balance sheet health and insolvency risk

### Corporate insolvencies during the COVID-19 pandemic turned out to be historically low.

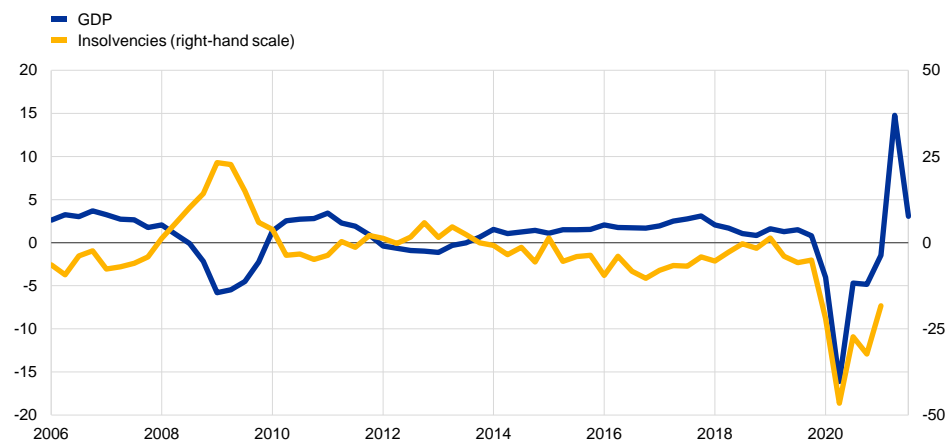
In the past, insolvencies tended to be countercyclical and to lag real GDP growth (Chart 8, panel a). In 2020 this relationship between economic growth and insolvency procedures broke down. A key reason was the policy measures that were implemented to attenuate the negative economic effects of the pandemic crisis. As a result of these measures, insolvencies did not rise along with the collapse in economic activity. Instead, they decreased by around a third in 2020 and remained at low levels throughout 2021.

## Chart 8

### Economic activity and corporate insolvencies

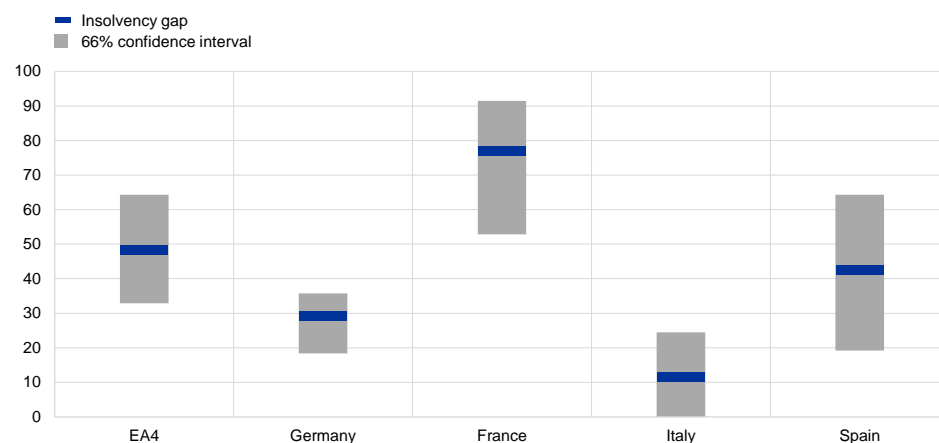
#### a) Real GDP and insolvencies

(annual percentage changes)



#### b) Estimated insolvency gaps

(percentages)



Sources: Haver Analytics, Cerved, Eurostat and ECB staff calculations.

Notes: Panel a: the latest observations are for the third quarter of 2021 for GDP and the second quarter of 2021 for insolvencies. Panel b: annual data, seasonally adjusted. Insolvency forecast based on Bayesian vector autoregression models at country level, estimated up to 2019 and simulated for 2020, conditional on the observed paths of GDP and unemployment. The gaps are computed as the percentage distance between the predicted annual number of insolvencies and annual observed insolvencies. EA4 is the four largest euro area countries (Germany, France, Italy and Spain).

**There are sizeable gaps between the predicted and observed number of insolvencies in the euro area.** Insolvencies are predicted using country-level models reflecting the historical relationship between real GDP, unemployment and insolvencies. In 2020 the predicted number of insolvency cases for the four largest euro area countries exceeded observed cases by around 50% (Chart 8, panel b). In addition to policy support, these large gaps may also reflect business closures without insolvency procedures, especially for very small SMEs and sole proprietors. Overall, the large estimated insolvency gaps in conjunction with the fact that debt increases are more likely for smaller firms suggests that insolvency cases could still

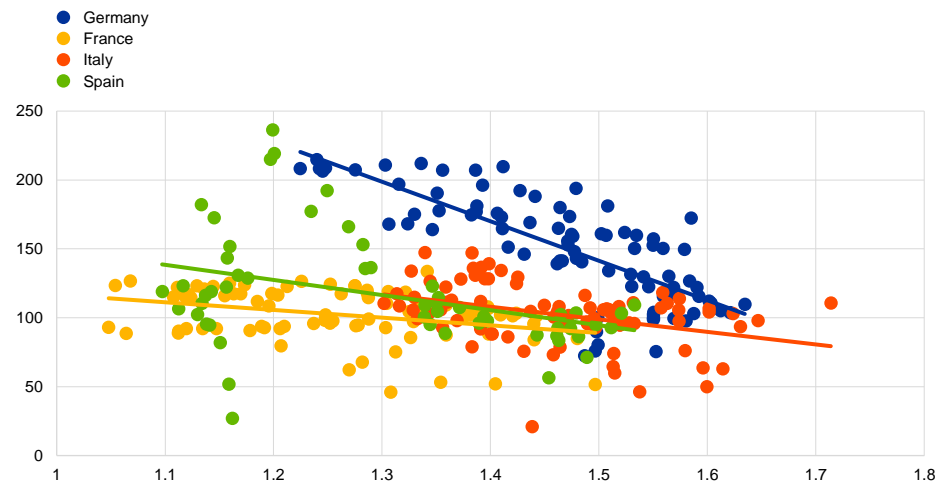
rise, particularly among smaller firms in sectors that are most affected by the pandemic.<sup>11</sup>

### Chart 9

#### Balance sheet health and corporate insolvencies

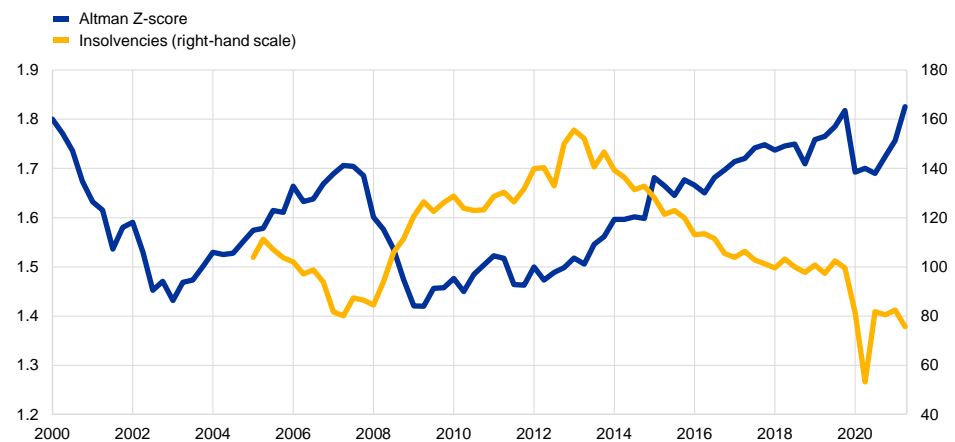
##### a) Insolvencies and Altman Z-score

(x-axis: score; y-axis: index: 2019 = 100)



##### b) Insolvencies and Altman Z-score over time

(left-hand scale: score; right-hand scale: index: 2019 = 100)



Sources: Haver Analytics, Cerved, Eurostat and ECB staff calculations.

Notes: Panel a: the dots denote quarterly country-level observations from the first quarter of 2005 to the second quarter of 2021. The Altman score is computed as  $0.717 \times \text{working capital}/\text{total assets} + 0.847 \times \text{retained earnings}/\text{total assets} + 3.107 \times \text{EBIT}/\text{total assets} + 0.420 \times \text{equity}/\text{debt} + 0.998 \times \text{sales}/\text{total assets}$ , where EBIT stands for earnings before interest and taxes. A higher Altman score corresponds to a healthier balance sheet structure. Panel b: the insolvency index is computed as the average across the four countries – Germany, France, Italy and Spain. The latest observation for insolvencies and the Altman score is for the second quarter of 2021.

#### On aggregate, the balance sheets of firms suggest limited insolvency risks.

The Altman Z-score<sup>12</sup> provides one indicator for assessing corporate balance sheet health and insolvency risk. While this indicator was designed to assess the insolvency risk of an individual firm, it can also be computed for the NFC sector as

<sup>11</sup> See, for example, Cros, M., Epaulard, A. and Martin, P., “Will Schumpeter Catch Covid-19?”, *CEPR Discussion Papers*, No 15834, Centre for Economic Policy Research, 2021.

<sup>12</sup> See Altman, E.I., “Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy”, *The Journal of Finance*, Vol. 23, No 4, September 1968, pp. 589-609. For details of the computation, see the notes to Chart 9, panel a.

whole, as the availability of timely data is better at the aggregate level than for individual non-listed companies. At the country level, the index shows a negative relationship with insolvencies (Chart 9, panel a). Following a sharp deterioration in 2020 due to the pandemic, the Z-score partially rebounded in 2021, reflecting improved corporate balance sheets.

**The recent general decline in insolvencies notwithstanding, developments are heterogenous across countries.** Differences persist in national insolvency laws and in the culture of using insolvency procedures to close a business. Other ways of handling solvency problems include, for example, voluntary closures and out-of-court procedures. Such differences also affect the link between insolvencies at firm level and macroeconomic developments.<sup>13</sup> Although all euro countries introduced temporary relief from existing insolvency rules, there were notable differences in scope and time. National differences, whether structural or temporary, are reflected in different insolvency rates across countries (Chart 10, panel a), in differences in estimated insolvency gaps (Chart 8, panel b) and in the varying linear relationships between Altman scores and the number of insolvency cases.

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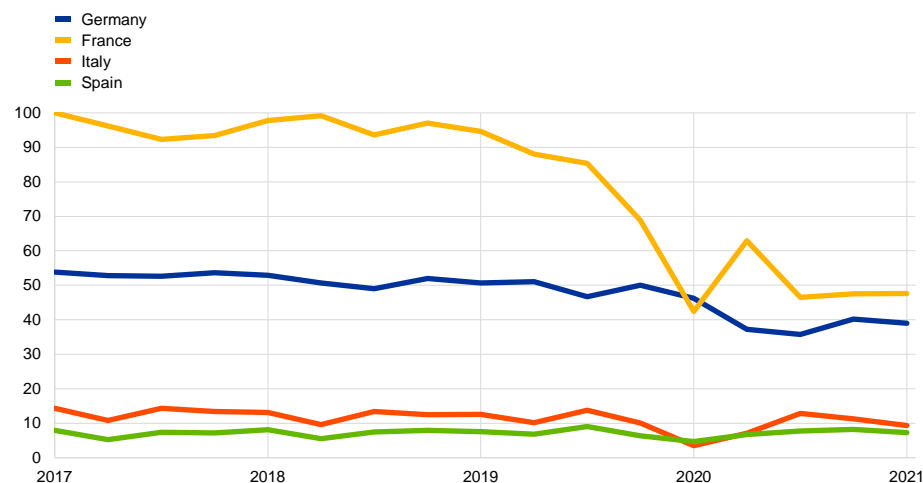
<sup>13</sup> See, for example, *Corporate insolvencies in Europe 2020*, Creditreform, 2021.

**Chart 10**

**Insolvency rates and SME loan recoveries across countries**

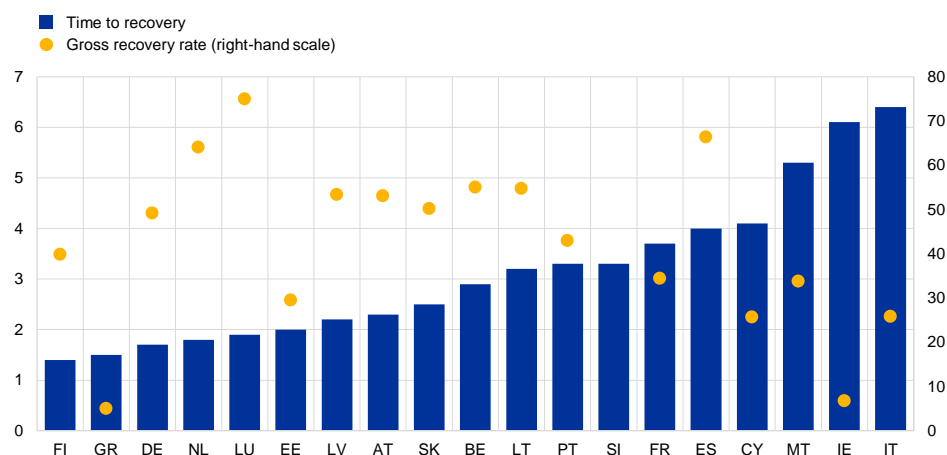
**a) Insolvency rates across countries**

(insolvencies per 10,000 firms)



**b) Duration and effect of SME loan recoveries**

(left-hand scale: years; right-hand scale: percentages)



Sources: Haver Analytics, Cerved, Eurostat, European Banking Authority and ECB staff calculations.

Notes: Panel b: data were collected for the period between 2015 and 2018 and refer to formal insolvency procedures launched by creditors with respect to SME lending and do not consider non-judicial settlements. Cross-country comparability may be limited by differences in bank practices. The gross recovery rate is defined as the percentage of the bank claim before deducting the cost of recovering the claim. Data on recovery rates are not available for Slovenia.

**There are also noteworthy differences in the functioning of insolvency frameworks across euro area countries.**

For example, the recent European Banking Authority insolvency benchmarking exercise found that recovery value and recovery time vary substantially across euro area countries.<sup>14</sup> For the euro area, the recovery of value from a distressed SME loan takes around four years on average, and creditors recover only about 40% of the loan amount (Chart 10, panel b). Unfavourable insolvency procedure metrics could be a motivation for seeking alternative ways to restructure or close a business.

<sup>14</sup> See “[Report on the benchmarking of national loan enforcement frameworks](#)”, EBA/REP/2020/29, European Banking Authority, 2020.



### **Whether insolvencies and business closures will rise in the future also depends on how vulnerable corporates are to future economic shocks.**

Corporate vulnerabilities judged through the lens of bank asset quality suggest that some deterioration could be observed during the pandemic (Box 1), as also reflected in the vulnerability index shown in Chart 7 and the Altman score shown in Chart 9, panel b. The vulnerability index is projected to remain significantly below its average historical level at least until the end of 2024, indicating a limited level of corporate vulnerability. This outcome is, however, conditional on a further strengthening of economic activity and favourable financing conditions, which would keep the cost of debt servicing low.

## **Box 1**

### **Bank asset quality in the COVID-19 pandemic and prior corporate vulnerabilities**

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Prepared by Maciej Grodzicki and Martina Spaggiari

An analysis of deterioration in corporate loan quality shows that pre-existing borrower vulnerabilities, such as elevated leverage, low liquidity buffers and low profitability, were more frequently associated with increased credit risk resulting in a reclassification of exposures to IFRS 9 Stage 2 (elevated credit risk) in 2020.

In the first year of the COVID-19 pandemic, euro area banks recognised a significant increase in corporate credit risk in their balance sheets. Banks reclassified 11.3% of their previously performing (IFRS 9 Stage 1) corporate loan books to IFRS 9 Stage 2 (loans that have a significant increase in credit risk but remain performing).<sup>15</sup> The frequency of reclassifications almost doubled compared with 2019, mainly driven by the economic sectors most affected by the lockdowns. However, only a small share of loans ended up in Stage 3 (credit impaired). This box investigates the role played by pre-existing corporate vulnerabilities, sectoral shocks, bank-level factors and policy support measures in the reclassification of loans in 2020.

Pre-existing corporate vulnerabilities, such as a heavy debt load, a weak liquidity position and low profitability, are associated with significant increases in credit risk (Chart A). Combining firm-level data with loan-level data from AnaCredit (the euro area credit dataset) indicates that firms entering the crisis with higher leverage and lower liquid assets were more likely to have loans that were reclassified to Stages 2 and 3 than other firms. In addition, firms with loans that moved to Stage 2 were generally less profitable than those with loans that remained in Stage 1, while most loss-making companies moved directly to Stage 3. The distribution of firms' financial ratios across the three categories thus suggests that pre-existing vulnerabilities played an important role in banks' decisions on reclassification.

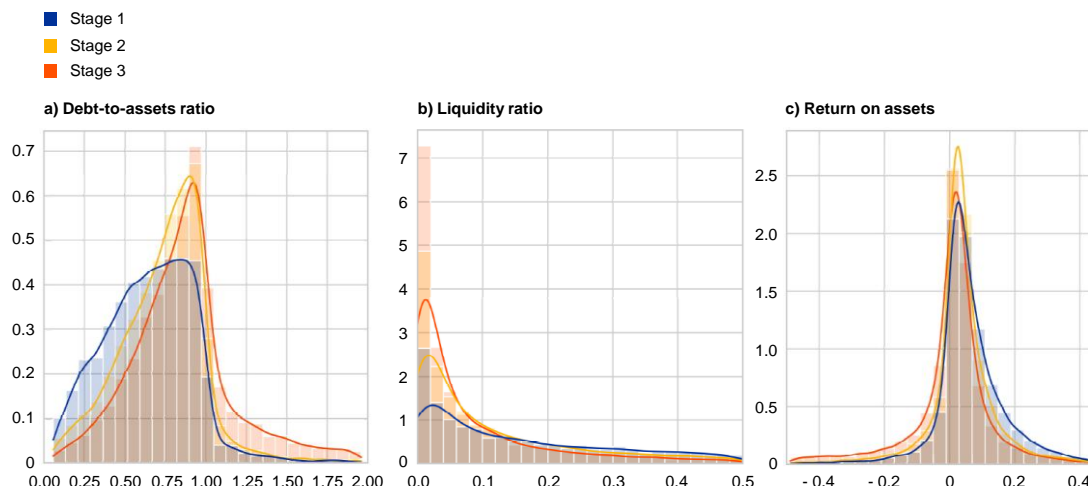
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<sup>15</sup> Under the IFRS 9 accounting framework, loans are classified as Stage 1 if their credit risk has not increased significantly since initial recognition; Stage 2 if their credit risk has increased significantly since initial recognition, but they are still performing; and Stage 3 if they are credit impaired.

## Chart A

### Distribution of borrowers' financial ratios by IFRS 9 stage classification at the end of 2020

(x-axis: multiples; bars: histogram; lines: kernel density)



Sources: ECB (supervisory data, AnaCredit), Bureau van Dijk (Orbis) and ECB calculations.

Notes: According to IFRS 9, banks must classify loans into three stages (see footnote 15). The panels show that loans to more leveraged, less liquid and less profitable firms were more likely to be reclassified from IFRS 9 Stage 1 to Stages 2 and 3 between the end of 2019 and the end of 2020. The sample covers 1,500,000 firms with an active lending relationship classified as Stage 1 at the end of 2019 that remained active at the end of 2020 and for which financial ratios are available in Orbis. The panels show the distribution of three financial ratios for firms whose lending relationships remained in Stage 1 (blue), migrated to Stage 2 (yellow) or migrated to Stage 3 (red) during 2020. Firms with multiple credit relationships classified in different IFRS 9 stages are assigned to the stage corresponding to the worst credit quality. The liquidity ratio is defined as the ratio of cash and cash equivalents to current liabilities.

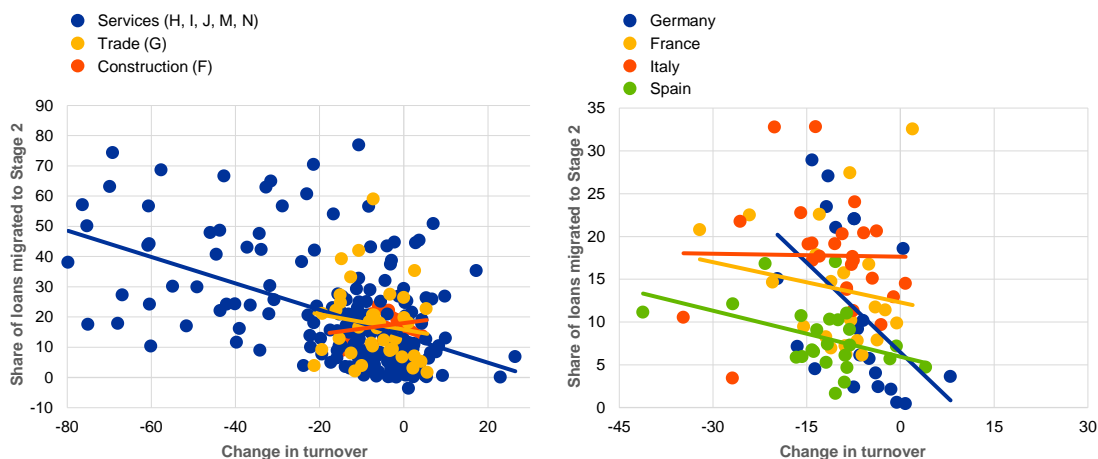
Sectoral shocks arising from business closures and restrictions on economic activity also contributed to weaker corporate asset quality (Chart B, panel a). Firms operating in sectors most affected by the lockdowns were more likely to see their loans reclassified to Stage 2 or 3, although the noisiness of the relationship between sectoral turnover shocks and loan migrations suggests that other factors were significant too. This relationship is particularly strong in the services sector and much weaker in the construction sector, while manufacturing displays heterogeneous behaviours across countries.

## Chart B

### Turnover losses, pre-pandemic vulnerabilities and loan migrations during the first year of pandemic

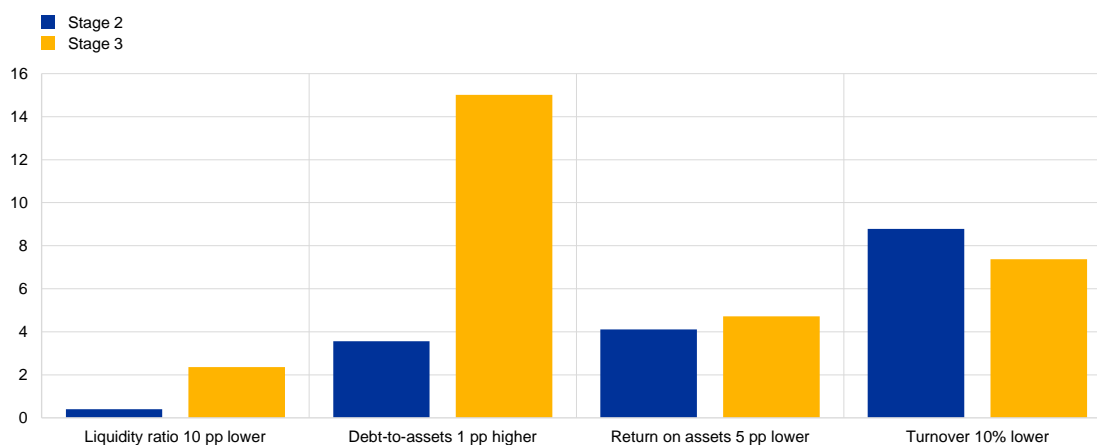
#### a) Change in turnover relative to 2019 and Stage 2 migration rates in 2020

(percentages)



## b) Impact of deteriorating fundamentals on migration to Stages 2 and 3

(percentage changes in odds of migration from Stage 1)



Sources: ECB (supervisory statistics, AnaCredit), Eurostat, Bureau van Dijk (Orbis) and ECB calculations.

Notes: Panel a: each data point indicates a subsector-country pair (e.g. travel agents in Greece). Letters refer to NACE, the statistical classification of economic activities in the EU. "Services" includes subsectors of the following NACE sections: H – Transportation and storage; I – Accommodation and food service activities; J – Information and communication; M – Professional, scientific and technical activities; and N – Administrative and support service activities. "Trade" includes wholesale and retail trade, and repair of motor vehicles and motorcycles. Panel b: odds ratios estimated using a multinomial logit model with bank and debtor country fixed effects, with about 750,000 firm-level observations. All estimated parameters are statistically significant at the 1% level. pp stands for percentage points.

Results from regression analysis confirm that prior fundamentals and sectoral shocks explain the observed asset quality deterioration. A multinomial logit model is used to assess the role of several factors in driving the deterioration in corporate credit quality. The dependent variable is defined as the IFRS 9 stage in which the firm's loans were classified at the end of 2020, while three groups of explanatory variables are considered: firm-level financial variables, representing the pre-pandemic fundamentals of the borrower; macro variables, representing the country and sector-specific impact of the pandemic; and bank-specific factors. Firms' profitability and leverage played a particularly important role: a 1 percentage point increase in the debt-to-assets ratio raised the odds of migration to Stage 2 by 3.6% for an average firm, and a 5 percentage point decrease in return on assets increased these odds by over 4% (Chart B, panel b). Among the macro factors, sectoral cash flow changes show a strong negative relationship with migration to both Stage 2 and Stage 3.

The take-up of moratoria and guarantees interacted with loan classification in 2020. While policy support measures were key in avoiding large-scale asset quality deterioration, banks have nonetheless recognised that their use may be associated with higher vulnerability of individual corporate borrowers. Indeed, the take-up of guarantees and moratoria translated into heightened reclassification of loans to Stage 2. Focusing on moratoria, this reclassification tendency was stronger for borrowers with high leverage than for borrowers with liquidity problems, which was in line with the stated purpose of the moratoria of preventing liquidity-driven defaults.

## 4 The impact of weakened corporate balance sheets on investment

**The increased corporate indebtedness could inhibit investment spending and the economic recovery.** Even if insolvencies were not to rise strongly in the period ahead, the increase in the corporate debt burden compared with the pre-COVID-19

period as well as the heterogenous distribution of debt across firms could still put a drag on the economic recovery by impeding investment growth. This could occur through several channels. High corporate indebtedness implies higher interest expenses and thus fewer funds available for investment. Firms with high leverage also find it harder to obtain new funds from external sources due to their higher default risk. Moreover, the desire to repair weak balance sheets leads firms to deleverage, and thereby forgo investment opportunities, potentially with negative implications for profits as well.<sup>16</sup>

**A negative link between high debt and investment is empirically well established.** A large body of literature has investigated the link between indebtedness and investment at the firm level. Recent studies highlight in particular the non-linear nature of this relationship by identifying a threshold level beyond which the structural relationship between debt and investment changes.<sup>17</sup> While low and medium levels of leverage do not have a negative impact on investment, highly indebted firms report lower investment (Chart 11, panel a). Empirical evidence for the euro area suggests that in particular a sizeable number of micro, small and medium-sized firms are located in “vulnerability regions” where debt, and hence reliance on external finance, negatively affects investment. By contrast, investment by larger firms, which typically face lower financial frictions, does not seem to be influenced by higher leverage (Chart 11, panel b).

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<sup>16</sup> See Myers, S.C., “Determinants of corporate borrowing”, *Journal of Financial Economics*, Vol. 5, Issue 2, November 1977, pp. 147-175.

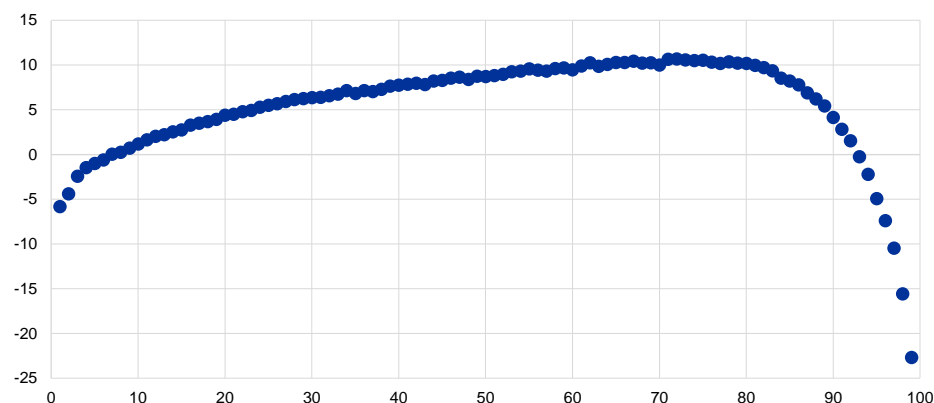
<sup>17</sup> See Kalemli-Özcan, S., Laeven, L. and Moreno, D., “[Debt overhang, rollover risk, and corporate investment: evidence from the European crisis](#)”, Working Paper Series, No 2241, ECB, February 2019; and Gebauer, S., Setzer, R. and Westphal, A., “Corporate debt and investment: A firm-level analysis for stressed euro area countries”, *Journal of International Money and Finance*, Vol. 86, Issue C, September 2018, pp. 112-130.

**Chart 11**

**Corporate debt and investment in the euro area**

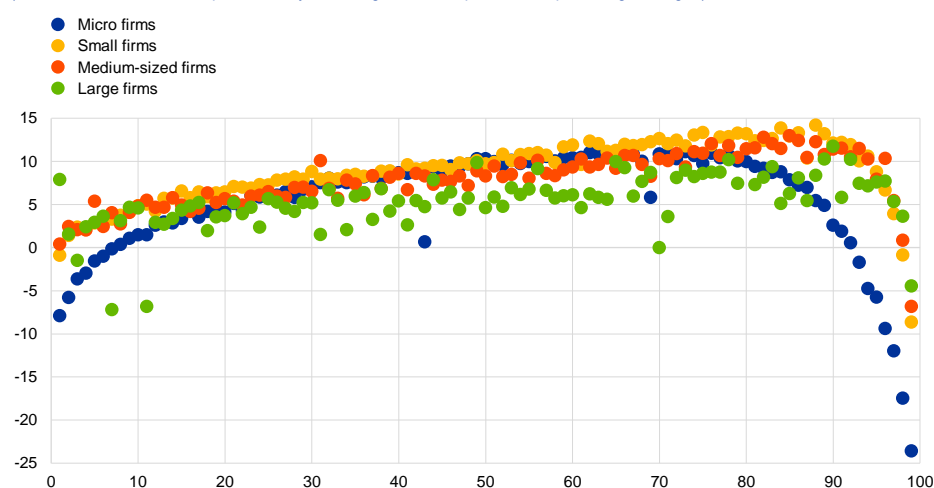
**a) Debt-to-assets and investment ratios**

(x-axis: debt-to-assets ratio, percentiles; y-axis: tangible fixed capital, annual percentage changes)



**b) Debt-to-assets and investment ratios by firm size**

(x-axis: debt-to-assets ratio, percentiles; y-axis: tangible fixed capital, annual percentage changes)



Source: Barrela, R., Lopez Garcia, P. and Setzer, R., "Medium-term investment responses to activity shocks: the role of corporate debt", *Working Paper Series*, ECB, forthcoming.

Notes: The percentiles of the debt-to-assets ratio are defined at the two-digit sector level for a sample of 14 euro area countries from 2005 to 2018. The investment ratio is defined as the annual change in tangible fixed assets over previous year's tangible fixed assets. Firm size is defined according to the number of employees. Micro firms have fewer than ten employees, small firms are those with fewer than 50 employees, medium-sized firms have fewer than 250 employees, and large firms have more than 250 employees.

**High debt is associated with low investment in the aftermath of economic**

**crises.** The sensitivity of investment to debt differs in economic booms and economic busts. ECB analysis based on firm-level data for 14 euro area countries from 2005 to 2018 suggests that investment by high-debt firms is significantly depressed for an extended period following an economic crisis.<sup>18</sup> Over the four years after a large economic contraction, the growth rate of tangible fixed capital of high-debt firms is some 15 percentage points below that of their counterparts with lower debt burdens (Chart 12, panel a). This result is driven in particular by micro firms, which experience a more protracted fall in investment post-crisis than larger firms (Chart 12, panel b). Applying these findings to the COVID-19 crisis suggests

<sup>18</sup> See Barrela, R., Lopez Garcia, P. and Setzer, R., "Medium-term investment responses to activity shocks: the role of corporate debt", *Working Paper Series*, ECB, forthcoming.

that the COVID-19 shock may lead to a 5% drop in the aggregate stock of tangible fixed assets by 2024.

**Improving the equity position of firms could strengthen the prospect of sustainable investment growth in euro area countries.**

Investment needs in the post-COVID-19 period are likely to be substantial. The COVID-19 pandemic has accelerated large-scale structural transformations that are likely to be associated with high investment needs. New forms of work that necessitate additional hardware and software to allow staff to work from home effectively, an increased take-up of digital technologies and the transition to a carbon-neutral economy all require a comprehensive modernisation of firms' capital stock. The European Commission estimates that the private and public investment needs related to the green and digital transitions will amount to nearly €650 billion per year until 2030, corresponding to 4.5% of EU GDP in 2021, and around one-fifth of total private and public investment in the EU in 2021.<sup>19</sup> Such high levels of investment would be facilitated by a corporate sector that improves its ability to access the credit needed by strengthening its reliance on equity instead of debt.<sup>20</sup>

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<sup>19</sup> See Gentiloni, P., "[Opening remarks at the press conference on the relaunch of the review of EU economic governance](#)", European Commission, 19 October 2021.

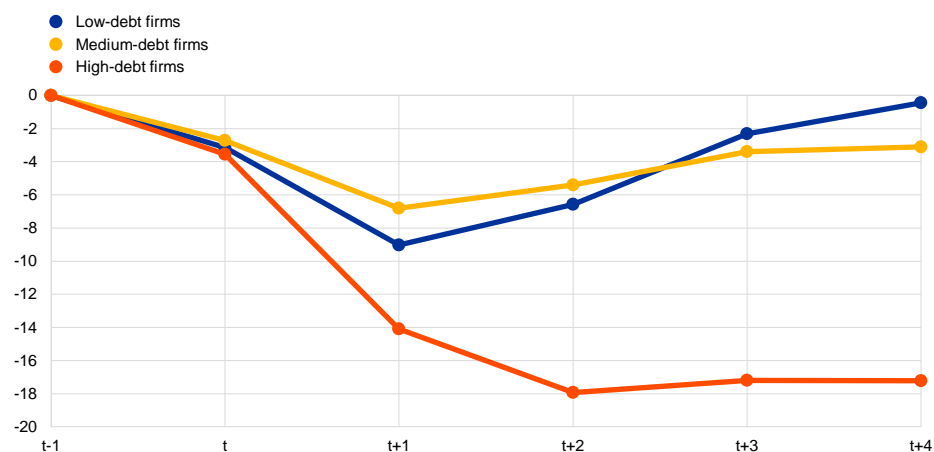
<sup>20</sup> Several studies have shown that high debt can exacerbate constraints on firms' access to credit, which restrains corporate investment and employment. See Cherchye, L., De Rock, B., Ferrando, A., Mulier, K. and Verschelde, M., "[Identifying financial constraints](#)", *Working Paper Series*, No 2420, ECB, June 2020; and De Haas, R. and Popov, A., "[Finance and carbon emissions](#)", *Working Paper Series*, No 2318, ECB, September 2019.

## Chart 12

### Investment response to a contraction in economic activity

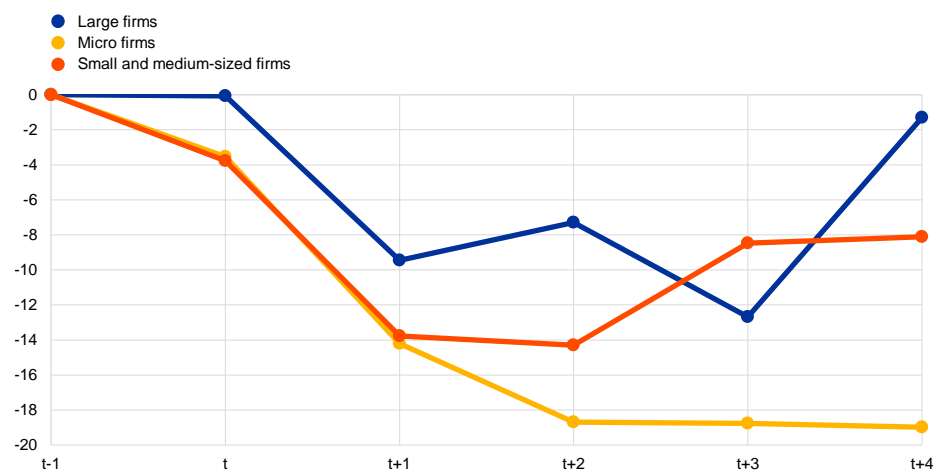
#### a) Investment by firm leverage

(cumulative growth of tangible fixed capital, percentages)



#### b) Investment of high-debt firms by firm size

(cumulative growth of tangible fixed capital, percentages)



Source: Barrela, R., Lopez Garcia, P. and Setzer, R., "Medium-term investment responses to activity shocks: the role of corporate debt", *Working Paper Series*, ECB, forthcoming.

Notes: A contraction in economic activity is defined as a large drop in sector value added growth (1.5 standard deviations below the sectoral historical average). The chart shows the cumulative impact (in percent) on tangible fixed capital at time  $t+h$  vis-à-vis  $t-1$  of such an activity shock at time  $t$ . The impulse response functions are estimated using the local projection approach in Jordà, O., "Estimation and Inference of Impulse Responses by Local Projections", *American Economic Review*, Vol. 95, No 1, March 2005, pp. 161-182. The sample comprises 14 euro area countries from 2005 to 2018. Firm size is defined according to the number of employees. Low-debt firms are defined as firms in the bottom 20th percentile of the debt ratio distribution, medium-debt firms are firms between the 20th and the 80th percentile, and high-debt firms are firms standing above the 80th percentile of the distribution. Micro firms have fewer than ten employees, small and medium-sized firms are those with fewer than 250 employees, and large firms have more than 250 employees.

## Box 2

### Some structural features of SMEs

Prepared by Ralph Setzer

SMEs are the dominant form of business organisation in the euro area (Chart A, panel a). They represent a heterogeneous segment, ranging from single, unincorporated entrepreneurs to medium-sized companies listed on a stock exchange. They account for about 62% of total employment and 50% of value added in the euro area. In all euro area countries, SMEs typically

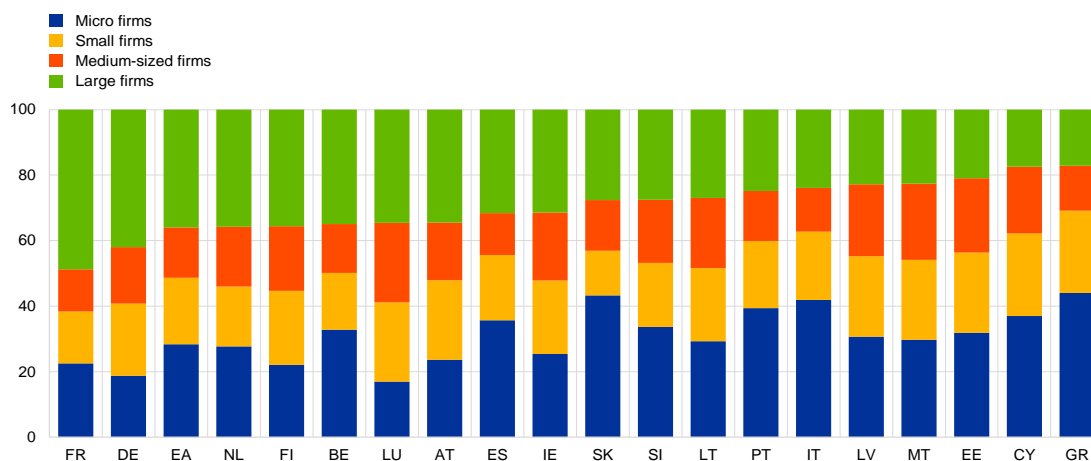
deliver less value added per number of employees than large firms. At the euro area level, the productivity gap relative to large firms amounted to 44%, 34% and 16% for micro, small and medium-sized firms respectively in 2019 (Chart A, panel b). In Ireland, Greece and Portugal in particular, SMEs are less productive than larger firms, while the productivity differences are less pronounced in the Netherlands, Luxembourg, Estonia and Malta, for instance. This notwithstanding, according to the Organisation for Economic Co-operation and Development (OECD), smaller firms often outperform larger enterprises on account of competitive advantages in responding to niche demand and greater flexibility to customise and differentiate products. Start-ups and young firms, which are generally small or micro firms, are also the primary source of job creation in many countries.<sup>21</sup>

## Chart A

### Structural features of SMEs in the euro area

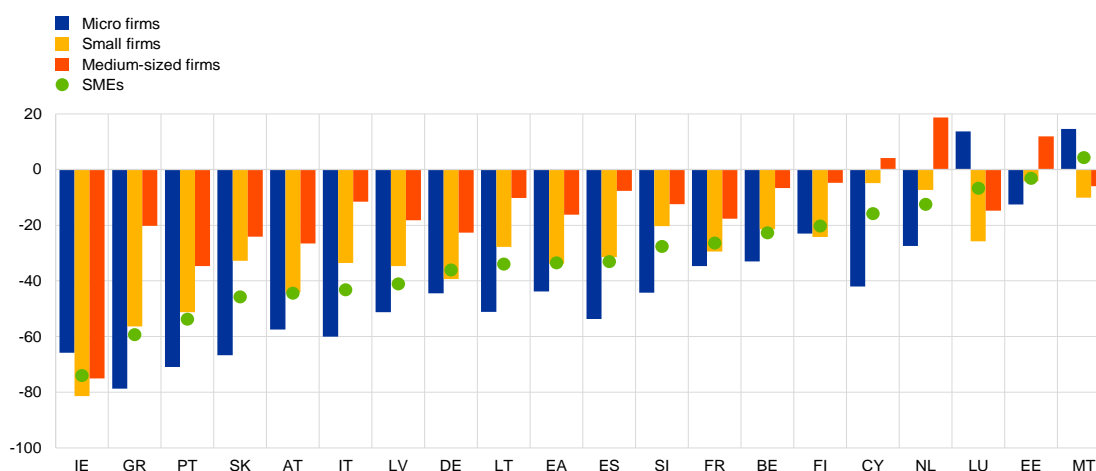
#### a) Employment share by firm size, 2019

(percentages of the total population of employed persons)



#### b) Productivity gap between SMEs and large firms, 2019

(percentage differences compared with the productivity of large companies in the same country)



Sources: Eurostat (annual enterprise statistic) and ECB calculations.

Notes: Panel a: countries are ordered according to the combined share of employment of SMEs. Panel b: productivity is defined as value added divided by the number of employees at the sector level. For some countries, data exclude certain sectors for which no data were available. Countries are ordered according to the size of the productivity gap for all SMEs (green dot).

<sup>21</sup> See “Small, Medium, Strong. Trends in SME Performance and Business Conditions”, OECD, 2017.



The productivity gap between small and large firms can be explained by some specific features of small firms and by institutional factors. This has been attributed to lower diversification, the existence of barriers to entry and growth (due to size-contingent regulations), and obstacles to entrepreneurial capacity. The latter are associated among other things with family-owned company structures and, in some cases, a system of managerial selection based on loyalty rather than competence.<sup>22</sup> Furthermore, micro firms record lower productivity than larger SMEs, which are more export-oriented, compete with large multinationals and are often among the market leaders in their particular niches.

The COVID-19 crisis has further exposed the vulnerability of SMEs. While differences across sectors and countries exist, the higher vulnerability of SMEs compared with larger firms relates to their prevalence in COVID-19-sensitive sectors (such as tourism) and their more difficult access to finance.<sup>23</sup> Risks associated with corporate undercapitalisation are stronger for SMEs than for larger firms. SMEs are also less likely to access equity markets due to the disproportionate costs (e.g. various fees) and concerns over undue influence of new investors.

At the same time, the COVID-19 pandemic has led to the acceleration of pre-existing structural trends, such as the deglobalisation of global value chains and the digital and green transitions. These trends may provide new opportunities for SMEs, for instance by strengthening their comparative advantages in terms of radical innovation and capacity to respond rapidly to changing market conditions. Digitalisation also opens up new ways for SMEs to reach global markets at lower cost. A sound business environment and conducive framework conditions are preconditions for all firms to reap the benefits of digitalisation trends, but this is particularly the case for SMEs as they are disproportionately affected by inefficient insolvency regimes and the high costs associated with administrative burdens and red tape.<sup>24</sup>

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## 5 Conclusions

**Corporate indebtedness increased during the pandemic.** On aggregate, firms' higher debt has been partly offset by additional cash holdings, especially for larger firms. Bank loans and policy support have helped to cover the liquidity needs of firms and mitigate the risk of immediate insolvencies as cash flows plummeted. As a result, the number of corporate bankruptcies in the euro area has declined significantly since the start of the pandemic, reinforced by the suspension of mandatory insolvency filings in some countries. Corporate insolvency rates are likely to rise, but probably by less than would be predicted by historical regularities.

**The heterogenous impact of the pandemic on the balance sheets of firms and ongoing structural transformations will influence the outlook for the corporate sector.** High corporate leverage could deter investment during the recovery. While

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<sup>22</sup> See Crouzet, N. and Mehrotra, N.R., "Small and Large Firms over the Business Cycle", *American Economic Review*, Vol. 110, No 11, 2020, pp. 3549-3601; and Pellegrino, B. and Zingales, L., "Diagnosing the Italian Disease", *NBER Working Paper*, No 23964, National Bureau of Economic Research, 2017.

<sup>23</sup> See "Coronavirus (COVID-19): SME policy responses", OECD, 2020.

<sup>24</sup> See "Enhancing the Contributions of SMEs in a Global and Digitalised Economy", OECD, 2017.

large firms are more resilient to future shocks on account of their large cash holdings, a failure to address the high leverage of SMEs, most notably in sectors hit hard by the pandemic, could also lead to an increase in the number of non-viable firms, which could crowd out viable firms from available credit. This would negatively affect the capacity of the corporate sector to pursue the investment required to support the green and digital transitions.

**Broadening the funding sources of firms beyond debt financing could foster sustainable investment growth.** Several measures have been proposed to strengthen incentives for private investors to provide equity to viable firms in distress or support balance sheet restructuring.<sup>25</sup> These include reducing the tax bias against equity financing and ensuring access to timely and reliable information for equity investors. Changes to accounting rules could improve access to equity provided by private investors, with notable benefits for SMEs.

**Sound structural policies could further promote the capacity of the corporate sector to support the recovery.** Shorter insolvency procedures might enable a smoother reallocation of resources from less productive firms to firms that are more likely to thrive in the post-pandemic economy. Reducing barriers to entry and investment for new, innovative market entrants could further strengthen the corporate sector, especially through greater use of digitalisation and low-emission technologies. Advancing the banking and capital markets unions and rolling out the Next Generation EU programme could play a strong supporting role in increasing corporate resilience and strengthening the recovery.<sup>26</sup>

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<sup>25</sup> See, for instance, “[Reviving and Restructuring the Corporate Sector Post-Covid: Designing Public Policy Interventions](#)”, Working Group on Corporate Sector Revitalization, Group of Thirty, 2020.

<sup>26</sup> See de Guindos, L., “[Banking Union and Capital Markets Union after COVID-19](#)”, keynote speech at the CIRSF (Research Centre on Regulation and Supervision of the Financial Sector, Portugal) online Annual International Conference 2020 on Major Trends in Financial Regulation, 12 November 2020; and the article entitled “[Next Generation EU: a euro area perspective](#)”, *Economic Bulletin*, Issue 1, ECB, 2022.

# Statistics

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4 Prices and costs	S 14
5 Money and credit	S 18
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## Further information

ECB statistics can be accessed from the Statistical Data Warehouse (SDW):	<a href="http://sdw.ecb.europa.eu/">http://sdw.ecb.europa.eu/</a>
Data from the statistics section of the Economic Bulletin are available from the SDW:	<a href="http://sdw.ecb.europa.eu/reports.do?node=1000004813">http://sdw.ecb.europa.eu/reports.do?node=1000004813</a>
A comprehensive Statistics Bulletin can be found in the SDW:	<a href="http://sdw.ecb.europa.eu/reports.do?node=1000004045">http://sdw.ecb.europa.eu/reports.do?node=1000004045</a>
Methodological definitions can be found in the General Notes to the Statistics Bulletin:	<a href="http://sdw.ecb.europa.eu/reports.do?node=10000023">http://sdw.ecb.europa.eu/reports.do?node=10000023</a>
Details on calculations can be found in the Technical Notes to the Statistics Bulletin:	<a href="http://sdw.ecb.europa.eu/reports.do?node=10000022">http://sdw.ecb.europa.eu/reports.do?node=10000022</a>
Explanations of terms and abbreviations can be found in the ECB's statistics glossary:	<a href="http://www.ecb.europa.eu/home/glossary/html/glossa.en.html">http://www.ecb.europa.eu/home/glossary/html/glossa.en.html</a>

## 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 <sup>1)</sup> (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 <sup>2)</sup> (HICP)
							Total	excluding food and energy					
	1	2	3	4	5	6	7	8	9	10	11	12	13
2019	2.9	2.3	1.7	-0.2	6.0	1.6	2.1	2.2	1.8	1.8	0.5	2.9	1.2
2020	-3.2	-3.4	-9.4	-4.5	2.3	-6.4	1.4	1.8	1.2	0.9	0.0	2.5	0.3
2021	.	5.6	7.5	1.7	8.1	5.3	4.0	2.9	4.7	2.6	-0.3	0.9	2.6
2021 Q1	0.6	1.5	-1.2	-0.5	0.3	-0.1	1.9	1.8	1.9	0.6	-0.5	0.0	1.1
Q2	0.4	1.6	5.6	0.6	1.3	2.2	3.7	2.8	4.8	2.0	-0.8	1.1	1.8
Q3	1.8	0.6	1.0	-0.7	0.7	2.3	4.4	3.2	5.3	2.8	-0.2	0.8	2.8
Q4	.	1.7	1.0	1.3	1.6	0.3	5.9	4.0	6.7	4.9	0.5	1.8	4.6
2021 Sep.	-	-	-	-	-	-	4.6	3.2	5.4	3.1	0.2	0.7	3.4
Oct.	-	-	-	-	-	-	5.2	3.6	6.2	4.2	0.1	1.5	4.1
Nov.	-	-	-	-	-	-	5.9	3.9	6.8	5.1	0.6	2.3	4.9
Dec.	-	-	-	-	-	-	6.6	4.6	7.0	5.4	0.8	1.5	5.0
2022 Jan.	-	-	-	-	-	-	.	.	7.5	5.5	0.5	0.9	5.1
Feb. <sup>3)</sup>	-	-	-	-	-	-	.	.	.	.	.	.	5.8

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 <sup>1)</sup>		
	Composite Purchasing Managers' Index					Memo item: euro area	Global Purchasing Managers' Index <sup>2)</sup>			Global	Advanced economies	Emerging market economies
	Global <sup>2)</sup>	United States	United Kingdom	Japan	China		Manufacturing	Services	New export orders			
	1	2	3	4	5	6	7	8	9	10	11	12
2019	51.7	52.5	50.2	50.5	51.8	51.3	50.3	52.2	48.8	-0.4	-0.4	-0.5
2020	47.5	48.8	46.5	42.4	51.4	44.0	48.5	46.3	45.3	-4.2	-4.5	-4.0
2021	54.9	59.6	55.9	49.4	52.0	54.9	53.7	55.2	52.1	11.4	9.6	13.3
2021 Q1	54.3	59.3	49.1	48.4	52.3	49.9	53.8	54.5	50.3	4.4	1.9	7.2
Q2	57.5	65.3	61.9	49.6	53.0	56.8	53.9	58.8	52.9	1.8	1.6	2.1
Q3	53.0	56.8	56.3	47.4	50.6	58.4	51.7	53.4	50.3	-1.1	-0.4	-1.8
Q4	54.6	57.3	56.3	52.1	51.9	54.3	52.2	55.5	50.4	2.0	2.1	1.8
2021 Sep.	52.8	55.0	54.9	47.9	51.4	56.2	51.4	53.2	50.1	-1.1	-0.4	-1.8
Oct.	54.7	57.6	57.8	50.7	51.5	54.2	51.2	55.9	49.7	-0.4	-0.5	-0.2
Nov.	54.7	57.2	57.6	53.3	51.2	55.4	52.3	55.6	50.7	0.1	0.3	-0.1
Dec.	54.6	57.0	53.6	52.5	53.0	53.3	53.3	55.0	50.7	2.0	2.1	1.8
2022 Jan.	51.0	51.1	54.2	49.9	50.1	52.3	50.7	51.0	49.0	.	.	.
Feb.	53.1	55.9	59.9	45.8	50.1	55.5	51.4	53.6	50.1	.	.	.

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 Financial developments

### 2.1 Money market interest rates (percentages per annum; period averages)

	Euro area <sup>1)</sup>						United States	Japan
	Euro short-term rate (€STR) <sup>2)</sup>	Overnight deposits (EONIA) <sup>3)</sup>	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	8
2019	-0.48	-0.39	-0.40	-0.36	-0.30	-0.22	2.33	-0.08
2020	-0.55	-0.46	-0.50	-0.43	-0.37	-0.31	0.64	-0.07
2021	-0.57	-0.48	-0.56	-0.55	-0.52	-0.49	0.16	-0.08
2021 Aug.	-0.57	-0.48	-0.56	-0.55	-0.53	-0.50	0.12	-0.10
Sep.	-0.57	-0.49	-0.56	-0.55	-0.52	-0.49	0.12	-0.08
Oct.	-0.57	-0.49	-0.56	-0.55	-0.53	-0.48	0.13	-0.08
Nov.	-0.57	-0.49	-0.57	-0.57	-0.53	-0.49	0.16	-0.09
Dec.	-0.58	-0.49	-0.60	-0.58	-0.54	-0.50	0.21	-0.08
2022 Jan.	-0.58	-	-0.56	-0.56	-0.53	-0.48	0.25	-0.03
Feb.	-0.58	-	-0.55	-0.53	-0.48	-0.34	0.43	-0.02

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.

3) The European Money Markets Institute discontinued EONIA on 3 January 2022.

### 2.2 Yield curves

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

	Spot rates					Spreads			Instantaneous forward rates			
	Euro area <sup>1), 2)</sup>					Euro area <sup>1), 2)</sup>	United States	United Kingdom	Euro area <sup>1), 2)</sup>			
	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
2019	-0.68	-0.66	-0.62	-0.45	-0.14	0.52	0.34	0.24	-0.62	-0.52	-0.13	0.41
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
2021 Aug.	-0.68	-0.73	-0.77	-0.68	-0.39	0.34	1.24	0.56	-0.79	-0.79	-0.43	0.16
Sep.	-0.71	-0.73	-0.72	-0.54	-0.17	0.56	1.41	0.78	-0.74	-0.66	-0.16	0.46
Oct.	-0.74	-0.69	-0.62	-0.37	-0.07	0.62	1.43	0.45	-0.63	-0.46	0.03	0.34
Nov.	-0.90	-0.85	-0.82	-0.64	-0.35	0.50	1.23	0.49	-0.81	-0.73	-0.30	0.07
Dec.	-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 Jan.	-0.70	-0.66	-0.57	-0.27	0.03	0.69	1.00	0.37	-0.59	-0.36	0.17	0.40
Feb.	-0.73	-0.68	-0.54	-0.11	0.22	0.90	0.81	0.44	-0.56	-0.21	0.42	0.59

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.

### 2.3 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
2018	375.5	3,386.6	766.3	264.9	172.6	115.8	173.1	629.5	502.5	278.8	292.9	800.5	2,746.2	22,310.7
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 Aug.	468.5	4,177.0	1,014.5	303.3	191.9	91.6	169.0	865.0	938.2	380.0	303.6	922.1	4,454.2	27,692.7
Sep.	465.5	4,158.3	993.9	295.0	188.1	93.9	169.0	863.3	969.5	371.3	294.8	917.5	4,449.6	29,893.6
Oct.	461.4	4,132.2	976.8	294.4	185.0	101.7	175.8	836.1	925.6	367.5	285.7	897.1	4,460.7	28,586.2
Nov.	478.7	4,306.4	1,020.6	311.7	191.9	100.4	176.9	859.8	1,002.3	380.2	286.3	933.0	4,668.9	29,370.6
Dec.	469.1	4,207.9	1,020.3	303.9	189.5	99.9	172.3	846.9	961.1	383.4	283.8	909.0	4,677.0	28,514.2
2022 Jan.	471.0	4,252.3	1,031.4	300.2	190.1	107.0	185.0	846.7	910.8	385.5	281.3	887.8	4,573.8	27,904.0
Feb.	452.7	4,084.1	978.2	285.0	180.8	107.8	185.6	805.7	823.6	374.5	286.1	863.7	4,436.0	27,066.5

Source: Refinitiv.

## 2 Financial developments

### 2.4 MFI interest rates on loans to and deposits from households (new business) <sup>1), 2)</sup>

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

	Deposits				Revolving loans and overdrafts	Extended credit card credit	Loans for consumption			Loans to sole proprietors and unincorporated partnerships	Loans for house purchase				Composite cost-of-borrowing indicator	
	Over-night	Redeemable at notice of up to 3 months	With an agreed maturity of:				By initial period of rate fixation	APRC <sup>3)</sup>	By initial period of rate fixation				APRC <sup>3)</sup>			
			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
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
2021 Feb.	0.01	0.35	0.23	0.66	5.01	15.75	5.10	5.25	5.87	1.98	1.30	1.48	1.27	1.32	1.59	1.31
Mar.	0.01	0.35	0.20	0.61	4.98	15.78	4.93	5.13	5.73	1.94	1.32	1.43	1.24	1.32	1.58	1.31
Apr.	0.01	0.35	0.21	0.62	4.89	15.76	5.20	5.18	5.80	1.98	1.32	1.49	1.27	1.31	1.60	1.31
May	0.01	0.34	0.18	0.57	4.88	15.77	5.21	5.32	5.95	2.04	1.31	1.43	1.26	1.31	1.61	1.32
June	0.01	0.34	0.16	0.59	4.89	15.72	5.21	5.16	5.78	1.94	1.31	1.43	1.26	1.30	1.60	1.32
July	0.01	0.34	0.19	0.58	4.78	15.69	5.37	5.25	5.86	1.97	1.34	1.45	1.27	1.30	1.61	1.32
Aug.	0.01	0.34	0.17	0.59	4.83	15.72	5.75	5.31	5.92	2.04	1.34	1.47	1.24	1.28	1.60	1.32
Sep.	0.01	0.34	0.18	0.57	4.90	15.64	5.50	5.25	5.88	1.93	1.31	1.45	1.25	1.29	1.59	1.30
Oct.	0.01	0.34	0.19	0.58	4.81	15.91	5.61	5.21	5.85	2.00	1.32	1.47	1.26	1.30	1.60	1.31
Nov.	0.01	0.34	0.19	0.57	4.81	15.86	5.11	5.20	5.83	2.06	1.32	1.48	1.30	1.32	1.61	1.32
Dec.	0.01	0.35	0.17	0.60	4.74	15.89	5.13	5.05	5.66	1.87	1.34	1.46	1.30	1.30	1.60	1.31
2022 Jan. <sup>(a)</sup>	0.01	0.35	0.20	0.57	4.80	15.78	5.59	5.27	5.86	1.96	1.35	1.46	1.31	1.32	1.61	1.33

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).

### 2.5 MFI interest rates on loans to and deposits from non-financial corporations (new business) <sup>1), 2)</sup>

(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	
2021 Feb.	-0.01	-0.21	0.25	1.84	1.96	2.00	1.95	1.58	1.44	1.43	1.16	1.22	1.23	1.48
Mar.	-0.01	-0.11	0.22	1.82	1.91	1.96	2.01	1.56	1.45	1.40	1.09	0.71	1.23	1.39
Apr.	-0.01	-0.18	0.25	1.80	2.03	1.96	1.98	1.56	1.44	1.40	1.31	1.33	1.38	1.56
May	-0.01	-0.23	0.19	1.79	1.86	1.95	2.04	1.57	1.45	1.42	1.16	1.17	1.27	1.46
June	-0.02	-0.31	0.27	1.83	1.88	1.97	2.02	1.55	1.43	1.54	1.20	1.13	1.24	1.46
July	-0.02	-0.31	0.13	1.72	1.81	2.14	1.99	1.58	1.43	1.37	1.27	1.32	1.16	1.48
Aug.	-0.03	-0.35	0.17	1.76	1.78	1.93	2.02	1.55	1.45	1.36	1.23	1.12	1.14	1.44
Sep.	-0.03	-0.35	0.15	1.78	1.80	1.99	2.00	1.51	1.43	1.34	1.27	1.25	1.28	1.49
Oct.	-0.03	-0.36	0.17	1.72	1.80	2.09	1.99	1.54	1.42	1.32	1.15	1.19	1.24	1.43
Nov.	-0.03	-0.35	0.16	1.69	1.80	2.01	2.03	1.49	1.43	1.36	1.07	1.11	1.23	1.39
Dec.	-0.03	-0.33	0.17	1.68	1.84	1.96	1.95	1.51	1.43	1.32	1.14	0.97	1.19	1.36
2022 Jan. <sup>(a)</sup>	-0.04	-0.32	0.21	1.68	1.91	1.94	2.01	1.52	1.41	1.38	1.13	1.24	1.29	1.43

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.

## 2 Financial developments

### 2.6 Debt securities issued by euro area residents, by sector of the issuer and initial maturity

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

	Outstanding amounts							Gross issues <sup>1)</sup>						
	Total	MFIs (including Euro-system)	Non-MFI corporations			General government		Total	MFIs (including Euro-system)	Non-MFI corporations			General government	
			Financial corporations other than MFIs	FVCs	Non- financial corporations	Central govern- ment	Other general govern- ment			Financial corporations other than MFIs	FVCs	Non- financial corporations	Central govern- ment	Other general govern- ment
1	2						8	9						
Short-term														
2018	1,215	503	170	.	72	424	47	389	171	66	.	41	76	35
2019	1,283	550	181	.	85	406	61	415	177	80	.	47	73	38
2020	1,530	455	145	.	98	714	118	455	177	70	.	45	114	49
2021 July	1,543	478	151	.	101	688	124	473	224	46	.	39	113	50
Aug.	1,542	493	150	.	100	678	121	415	232	41	.	25	93	25
Sep.	1,574	507	144	.	100	697	127	475	220	45	.	39	124	46
Oct.	1,530	485	138	.	104	686	117	419	203	39	.	41	105	32
Nov.	1,528	498	138	.	98	680	113	427	223	44	.	31	102	27
Dec.	1,453	457	138	.	93	669	95	305	134	43	.	37	76	15
Long-term														
2018	15,747	3,687	3,167	.	1,244	7,022	627	228	64	68	.	15	75	6
2019	16,314	3,817	3,402	.	1,319	7,152	626	247	69	74	.	20	78	7
2020	17,288	3,892	3,208	.	1,457	8,006	725	296	68	71	.	27	114	16
2021 July	18,154	3,991	3,366	.	1,502	8,515	780	300	56	97	.	18	119	10
Aug.	18,184	3,990	3,361	.	1,500	8,554	779	136	27	35	.	4	66	3
Sep.	18,282	4,020	3,393	.	1,521	8,558	788	305	72	81	.	23	114	15
Oct.	18,369	4,038	3,464	.	1,526	8,553	787	293	64	102	.	22	92	13
Nov.	18,525	4,062	3,518	.	1,555	8,597	792	268	50	82	.	36	90	9
Dec.	18,503	4,055	3,516	.	1,546	8,590	796	178	45	76	.	8	42	7

Source: ECB.

1) For the purpose of comparison, annual data refer to the average monthly figure over the year.

### 2.7 Growth rates and outstanding amounts of debt securities and listed shares

(EUR billions; percentage changes)

	Debt securities							Listed shares			
	Total	MFIs (including Eurosystem)	Non-MFI corporations			General government		Total	MFIs	Financial corporations other than MFIs	Non- financial corporations
			Financial corporations other than MFIs	FVCs	Non- financial corporations	Central govern- ment	Other general govern- ment				
1	2						8	9	10	11	
Outstanding amount											
2018	16,962.6	4,190.1	3,337.1	.	1,316.0	7,445.8	673.5	7,030.2	465.0	1,099.2	5,466.0
2019	17,597.3	4,367.0	3,582.4	.	1,403.3	7,558.1	686.5	8,560.4	537.8	1,410.5	6,612.1
2020	18,817.7	4,346.2	3,352.9	.	1,555.0	8,720.3	843.3	8,442.0	468.4	1,312.0	6,661.5
2021 July	19,696.8	4,469.4	3,517.0	.	1,602.8	9,202.8	904.7	9,902.6	559.2	1,526.8	7,816.5
Aug.	19,726.4	4,482.9	3,511.5	.	1,599.7	9,232.6	899.6	10,168.8	587.9	1,605.1	7,975.9
Sep.	19,856.0	4,526.9	3,537.4	.	1,621.3	9,255.6	914.9	9,908.8	597.2	1,616.8	7,694.8
Oct.	19,898.7	4,523.7	3,601.4	.	1,630.3	9,239.3	904.0	10,304.8	613.8	1,700.7	7,990.3
Nov.	20,052.5	4,560.3	3,655.9	.	1,653.0	9,277.6	905.7	10,020.9	566.5	1,618.3	7,836.0
Dec.	19,956.3	4,511.7	3,654.6	.	1,639.6	9,259.1	891.3	10,314.4	586.5	1,544.2	8,183.6
Growth rate											
2018	1.9	1.7	3.1	.	3.2	1.9	-4.3	0.7	0.3	2.4	0.3
2019	3.1	3.8	4.9	.	5.6	1.5	1.8	0.0	0.5	0.0	0.0
2020	7.5	1.2	2.7	.	12.3	10.9	24.3	1.0	0.6	2.3	0.8
2021 July	4.6	0.3	5.2	.	3.8	6.1	10.1	2.2	2.1	5.8	1.5
Aug.	4.1	0.8	4.3	.	3.5	5.3	9.2	2.1	2.0	6.4	1.3
Sep.	4.1	1.0	4.5	.	3.8	5.0	8.6	2.2	2.0	6.7	1.4
Oct.	4.3	1.4	5.5	.	4.1	5.3	5.6	2.0	1.9	5.1	1.3
Nov.	5.1	2.2	7.0	.	4.9	5.7	5.3	1.9	2.0	5.6	1.1
Dec.	5.0	2.1	6.7	.	5.1	5.9	4.7	1.9	1.7	5.8	1.1

Source: ECB.

## 2 Financial developments

### 2.8 Effective exchange rates <sup>1)</sup>

(period averages; index: 1999 Q1=100)

	EER-19						EER-42	
	Nominal	Real CPI	Real PPI	Real GDP deflator	Real ULCM	Real ULCT	Nominal	Real CPI
	1	2	3	4	5	6	7	8
2019	98.1	93.1	92.9	88.7	77.5	87.0	115.4	92.4
2020	99.6	93.5	94.1	89.3	76.8	87.5	119.4	93.9
2021	99.6	93.4	94.5	.	.	.	120.8	94.2
2021 Q1	100.7	94.6	95.2	90.1	74.5	87.7	121.7	95.3
Q2	100.5	94.1	94.9	89.3	72.7	85.5	121.9	95.0
Q3	99.5	93.3	94.4	88.4	72.2	84.6	120.5	94.0
Q4	97.7	91.7	93.4	.	.	.	119.1	92.6
2021 Sep.	99.4	93.3	94.5	-	-	-	120.4	93.8
Oct.	98.4	92.3	93.7	-	-	-	119.5	93.1
Nov.	97.6	91.6	93.3	-	-	-	118.8	92.5
Dec.	97.1	91.1	93.3	-	-	-	119.0	92.3
2022 Jan.	96.6	91.1	92.5	-	-	-	118.6	92.3
Feb.	96.9	91.6	92.7	-	-	-	118.9	92.5
	<i>Percentage change versus previous month</i>							
2022 Feb.	0.3	0.4	0.2	-	-	-	0.3	0.2
	<i>Percentage change versus previous year</i>							
2022 Feb.	-3.8	-3.2	-2.6	-	-	-	-2.1	-2.8

Source: ECB.

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

### 2.9 Bilateral exchange rates

(period averages; units of national currency per euro)

	Chinese renminbi	Croatian kuna	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	12
2019	7.735	7.418	25.670	7.466	325.297	122.006	4.298	0.878	4.7453	10.589	1.112	1.119
2020	7.875	7.538	26.455	7.454	351.249	121.846	4.443	0.890	4.8383	10.485	1.071	1.142
2021	7.628	7.528	25.640	7.437	358.516	129.877	4.565	0.860	4.9215	10.146	1.081	1.183
2021 Q1	7.808	7.572	26.070	7.437	361.206	127.806	4.546	0.874	4.8793	10.120	1.091	1.205
Q2	7.784	7.528	25.638	7.436	354.553	131.930	4.529	0.862	4.9240	10.141	1.098	1.206
Q3	7.626	7.497	25.500	7.437	353.871	129.763	4.566	0.855	4.9319	10.195	1.083	1.179
Q4	7.310	7.518	25.374	7.438	364.376	130.007	4.617	0.848	4.9489	10.128	1.054	1.144
2021 Sep.	7.601	7.492	25.392	7.436	352.514	129.656	4.568	0.857	4.9471	10.171	1.086	1.177
Oct.	7.450	7.513	25.496	7.440	360.822	131.212	4.591	0.847	4.9480	10.056	1.071	1.160
Nov.	7.293	7.520	25.391	7.437	364.504	130.118	4.646	0.848	4.9494	10.046	1.052	1.141
Dec.	7.199	7.520	25.246	7.436	367.499	128.800	4.614	0.849	4.9492	10.273	1.041	1.130
2022 Jan.	7.192	7.525	24.470	7.441	358.680	130.009	4.552	0.835	4.9454	10.358	1.040	1.131
Feb.	7.196	7.534	24.437	7.441	356.970	130.657	4.549	0.838	4.9458	10.534	1.046	1.134
	<i>Percentage change versus previous month</i>											
2022 Feb.	0.0	0.1	-0.1	0.0	-0.5	0.5	-0.1	0.3	0.0	1.7	0.6	0.2
	<i>Percentage change versus previous year</i>											
2022 Feb.	-7.9	-0.5	-5.6	0.1	-0.3	2.5	1.2	-4.0	1.5	4.4	-3.6	-6.2

Source: ECB.



## 2 Financial developments

### 2.10 Euro area balance of payments, financial account

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

	Total <sup>1)</sup>			Direct investment		Portfolio investment		Net financial derivatives	Other investment		Reserve assets	Memo: Gross external debt
	Assets	Liabilities	Net	Assets	Liabilities	Assets	Liabilities		Assets	Liabilities		
	1	2	3	4	5	6	7	8	9	10	11	12
<i>Outstanding amounts (international investment position)</i>												
2020 Q4	28,404.4	28,923.5	-519.1	11,051.2	9,359.9	10,737.8	12,825.4	-94.4	5,830.0	6,738.2	879.7	14,839.8
2021 Q1	29,716.7	30,252.6	-535.9	11,390.2	9,479.9	11,486.1	13,623.3	-132.1	6,123.2	7,149.4	849.4	15,477.1
Q2	30,235.9	30,621.4	-385.5	11,421.3	9,467.6	12,003.1	13,994.9	-123.6	6,066.0	7,158.9	869.0	15,367.0
Q3	30,985.5	31,256.9	-271.4	11,649.1	9,436.7	12,222.1	14,310.7	-92.6	6,204.5	7,509.5	1,002.4	15,733.0
<i>Outstanding amounts as a percentage of GDP</i>												
2021 Q3	257.6	259.8	-2.3	96.8	78.4	101.6	119.0	-0.8	51.6	62.4	8.3	130.8
<i>Transactions</i>												
2021 Q1	528.3	429.9	98.4	101.6	-7.3	266.3	178.5	6.0	157.6	258.7	-3.1	-
Q2	177.2	89.5	87.8	-28.7	-19.9	226.8	57.7	1.0	-28.4	51.7	6.5	-
Q3	369.7	288.4	81.3	49.0	-78.2	117.3	64.6	14.1	66.9	302.1	122.4	-
Q4	129.2	8.5	120.8	-14.6	-62.1	141.5	-60.7	31.8	-32.5	131.3	2.9	-
2021 July	190.5	152.7	37.7	34.9	-26.4	38.7	59.3	21.7	95.5	119.9	-0.3	-
Aug.	155.1	143.8	11.3	-10.2	-54.8	35.2	11.9	-8.3	16.6	186.7	121.9	-
Sep.	24.1	-8.1	32.2	24.2	3.0	43.5	-6.6	0.7	-45.2	-4.5	0.8	-
Oct.	262.9	251.3	11.6	14.9	-6.9	39.8	22.7	4.6	200.5	235.6	3.2	-
Nov.	115.6	76.1	39.5	42.2	31.9	54.3	-40.1	21.0	-2.5	84.4	0.6	-
Dec.	-249.3	-319.0	69.7	-71.6	-87.1	47.3	-43.3	6.2	-230.4	-188.7	-0.8	-
<i>12-month cumulated transactions</i>												
2021 Dec.	1,204.5	816.2	388.2	107.3	-167.6	752.0	240.1	53.0	163.6	743.7	128.7	-
<i>12-month cumulated transactions as a percentage of GDP</i>												
2021 Dec.	9.8	6.7	3.2	0.9	-1.4	6.1	2.0	0.4	1.3	6.1	1.1	-

Source: ECB.

1) Net financial derivatives are included in total assets.

## 3 Economic activity

### 3.1 GDP and expenditure components

(quarterly data seasonally adjusted; annual data unadjusted)

	GDP											
	Total	Domestic demand							External balance <sup>1)</sup>			
	Total	Private consumption	Government consumption	Gross fixed capital formation			Changes in inventories <sup>2)</sup>	Total	Exports <sup>1)</sup>	Imports <sup>1)</sup>		
				Total construction	Total machinery	Intellectual property products						
1	2	3	4	5	6	7	8	9	10	11	12	
<i>Current prices (EUR billions)</i>												
2019	11,984.2	11,578.1	6,378.5	2,456.5	2,654.2	1,253.6	770.6	623.0	89.0	406.0	5,766.1	5,360.1
2020	11,405.6	10,982.1	5,905.3	2,572.4	2,497.0	1,216.4	682.6	591.1	7.3	423.5	5,177.3	4,753.8
2021	12,255.5	11,756.0	6,248.8	2,709.6	2,694.1	1,362.9	759.2	564.5	103.5	499.5	6,063.9	5,564.3
2021 Q1	2,945.9	2,808.9	1,471.5	661.7	648.2	325.2	186.6	134.6	27.6	137.0	1,407.0	1,269.9
Q2	3,018.4	2,888.8	1,533.6	675.0	664.4	337.8	189.3	135.5	15.8	129.7	1,476.6	1,347.0
Q3	3,122.9	2,990.2	1,614.4	682.8	671.4	344.5	187.7	137.2	21.7	132.6	1,542.4	1,409.7
Q4	3,157.9	3,058.8	1,626.7	690.6	703.8	351.8	193.4	156.7	37.7	99.1	1,632.1	1,533.0
<i>as a percentage of GDP</i>												
2021	100.0	95.9	51.0	22.1	22.0	11.1	6.2	4.6	0.8	4.1	-	-
<i>Chain-linked volumes (prices for the previous year)</i>												
<i>quarter-on-quarter percentage changes</i>												
2021 Q1	-0.1	-0.2	-2.3	-0.5	0.1	0.6	2.3	-3.7	-	-	1.3	1.2
Q2	2.2	2.3	3.9	2.3	1.3	1.8	0.5	1.0	-	-	2.8	3.1
Q3	2.3	2.1	4.5	0.3	-0.9	-0.9	-1.8	0.1	-	-	1.7	1.4
Q4	0.3	0.9	-0.6	0.5	3.5	0.6	2.1	12.5	-	-	2.9	4.6
<i>annual percentage changes</i>												
2019	1.6	2.5	1.3	1.8	6.8	3.3	1.8	22.3	-	-	2.7	4.7
2020	-6.4	-6.2	-7.9	1.1	-7.0	-4.6	-11.9	-5.8	-	-	-9.1	-9.0
2021	5.3	4.2	3.5	3.8	4.3	6.4	9.8	-6.5	-	-	10.9	8.7
2021 Q1	-0.9	-3.6	-5.6	2.6	-5.9	2.7	7.3	-31.4	-	-	0.1	-5.6
Q2	14.6	12.2	12.3	7.9	18.6	19.5	30.5	3.6	-	-	26.7	21.8
Q3	4.0	3.7	2.9	2.6	3.0	3.0	2.4	3.7	-	-	10.6	10.6
Q4	4.6	5.2	5.4	2.5	4.0	2.1	3.0	9.6	-	-	9.0	10.7
<i>contributions to quarter-on-quarter percentage changes in GDP; percentage points</i>												
2021 Q1	-0.1	-0.2	-1.2	-0.1	0.0	0.1	0.1	-0.2	1.0	0.1	-	-
Q2	2.2	2.2	1.9	0.5	0.3	0.2	0.0	0.0	-0.5	0.0	-	-
Q3	2.3	2.0	2.3	0.1	-0.2	-0.1	-0.1	0.0	-0.1	0.2	-	-
Q4	0.3	0.8	-0.3	0.1	0.7	0.1	0.1	0.6	0.3	-0.6	-	-
<i>contributions to annual percentage changes in GDP; percentage points</i>												
2019	1.6	2.4	0.7	0.4	1.4	0.3	0.1	1.0	-0.1	-0.8	-	-
2020	-6.4	-6.0	-4.2	0.2	-1.5	-0.5	-0.8	-0.3	-0.5	-0.4	-	-
2021	5.3	4.2	1.9	0.9	1.0	0.7	0.6	-0.3	0.4	1.4	-	-
2021 Q1	-0.9	-3.5	-2.9	0.6	-1.4	0.3	0.4	-2.1	0.2	2.6	-	-
Q2	14.6	11.9	6.4	1.9	3.9	2.0	1.7	0.2	-0.3	2.7	-	-
Q3	4.0	3.5	1.5	0.6	0.6	0.3	0.1	0.2	0.8	0.5	-	-
Q4	4.6	4.9	2.8	0.6	0.9	0.2	0.2	0.5	0.7	-0.3	-	-

Sources: Eurostat and ECB calculations.

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

2) Including acquisitions less disposals of valuables.

## 3 Economic activity

### 3.2 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
<b>Current prices (EUR billions)</b>												
2019	10,742.5	178.3	2,101.5	560.9	2,041.4	531.7	478.8	1,205.1	1,249.8	2,025.5	369.4	1,241.7
2020	10,275.9	177.1	1,971.7	552.6	1,801.0	545.3	471.1	1,211.7	1,168.1	2,054.6	322.8	1,129.7
2021	10,991.5	186.1	2,168.5	603.3	1,994.8	584.8	476.2	1,246.6	1,257.8	2,142.3	331.1	1,264.0
2021 Q1	2,652.3	44.6	531.6	146.2	456.7	141.4	119.3	307.5	303.7	523.9	77.5	293.6
Q2	2,705.9	45.8	535.3	150.3	480.8	144.7	118.9	309.5	308.9	530.8	80.8	312.5
Q3	2,794.1	47.1	545.7	150.3	521.9	146.5	119.0	312.3	320.2	543.0	88.0	328.8
Q4	2,825.6	48.7	557.9	154.8	533.4	151.0	118.6	313.2	325.4	539.2	83.2	332.3
<i>as a percentage of value added</i>												
2021	100.0	1.7	19.7	5.5	18.1	5.3	4.3	11.3	11.4	19.5	3.0	-
<b>Chain-linked volumes (prices for the previous year)</b>												
<i>quarter-on-quarter percentage changes</i>												
2021 Q1	0.1	-3.6	1.0	-1.2	-0.9	2.1	1.0	0.0	0.6	0.1	-0.5	-2.3
Q2	1.9	0.8	0.5	1.8	4.4	1.7	0.5	0.8	1.8	1.8	5.7	5.0
Q3	2.5	-0.7	0.4	-0.8	7.3	1.5	-0.4	0.7	3.1	1.6	11.1	0.4
Q4	0.1	1.4	0.0	1.1	0.2	2.8	0.2	0.1	1.1	-1.1	-3.3	1.6
<i>annual percentage changes</i>												
2019	1.6	1.6	0.2	2.0	2.5	5.7	0.3	1.5	1.8	1.1	1.7	1.6
2020	-6.4	-0.1	-6.8	-5.3	-13.7	1.2	-0.8	-0.8	-7.9	-3.0	-17.1	-6.4
2021	5.3	-1.7	7.8	5.0	7.5	6.6	2.0	1.7	6.7	3.6	2.6	6.1
2021 Q1	-1.2	-1.3	3.6	0.6	-7.9	3.5	1.5	0.3	-2.3	0.7	-16.4	1.2
Q2	14.4	-0.7	22.0	18.5	23.1	10.9	4.7	3.7	16.4	9.8	15.1	16.1
Q3	4.1	-2.6	5.7	1.7	7.1	4.1	0.8	1.2	7.2	1.9	3.2	3.3
Q4	4.6	-2.2	1.9	0.9	11.3	8.3	1.2	1.6	6.8	2.4	12.9	4.7
<i>contributions to quarter-on-quarter percentage changes in value added; percentage points</i>												
2021 Q1	0.1	-0.1	0.2	-0.1	-0.2	0.1	0.0	0.0	0.1	0.0	0.0	-
Q2	1.9	0.0	0.1	0.1	0.8	0.1	0.0	0.1	0.2	0.4	0.2	-
Q3	2.5	0.0	0.1	0.0	1.3	0.1	0.0	0.1	0.4	0.3	0.3	-
Q4	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	-0.2	-0.1	-
<i>contributions to annual percentage changes in value added; percentage points</i>												
2019	1.6	0.0	0.0	0.1	0.5	0.3	0.0	0.2	0.2	0.2	0.1	-
2020	-6.4	0.0	-1.3	-0.3	-2.6	0.1	0.0	-0.1	-0.9	-0.6	-0.6	-
2021	5.3	0.0	1.6	0.3	1.4	0.4	0.1	0.2	0.8	0.8	0.1	-
2021 Q1	-1.2	0.0	0.7	0.0	-1.5	0.2	0.1	0.0	-0.3	0.1	-0.6	-
Q2	14.4	0.0	4.1	1.0	3.8	0.6	0.2	0.5	1.8	2.0	0.4	-
Q3	4.1	0.0	1.1	0.1	1.3	0.2	0.0	0.1	0.8	0.4	0.1	-
Q4	4.6	0.0	0.4	0.0	2.0	0.4	0.1	0.2	0.8	0.5	0.4	-

Sources: Eurostat and ECB calculations.

## 3 Economic activity

### 3.3 Employment <sup>1)</sup>

(quarterly data seasonally adjusted; annual data unadjusted)

	Total	By employment status		By economic activity									
	1	Employees 2	Self-employed 3	Agriculture, forestry and fishing 4	Manufacturing, energy and utilities 5	Construction 6	Trade, transport, accommodation and food services 7	Information and communication 8	Finance and insurance 9	Real estate 10	Professional, business and support services 11	Public administration, education, health and social work 12	Arts, entertainment and other services 13
Persons employed													
<i>as a percentage of total persons employed</i>													
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	86.0	14.0	3.0	14.5	6.2	24.5	3.0	2.4	1.0	13.9	24.9	6.6
2021	100.0	86.2	13.8	3.0	14.3	6.3	24.2	3.1	2.4	1.0	14.1	25.1	6.5
<i>annual percentage changes</i>													
2019	1.3	1.5	0.2	-2.4	1.1	2.5	1.5	3.3	0.0	1.7	1.4	1.4	0.4
2020	-1.5	-1.5	-1.7	-2.3	-1.9	0.8	-3.7	1.5	-0.6	-0.3	-2.4	0.9	-3.0
2021	1.1	1.4	-0.3	0.3	-0.4	3.0	0.0	4.5	0.2	0.6	2.5	2.1	-0.2
2021 Q1	-1.7	-1.7	-1.5	-0.5	-2.3	1.5	-5.4	2.2	-0.7	0.9	-1.7	1.4	-4.0
Q2	2.0	2.4	-0.2	2.5	-0.5	4.8	0.8	4.3	0.4	1.5	4.3	2.7	2.0
Q3	2.1	2.3	0.5	0.1	0.4	2.8	1.9	5.4	0.7	0.2	4.3	2.2	1.0
Q4	2.2	2.5	-0.1	-0.8	0.9	2.9	2.8	6.2	0.3	-0.1	3.4	2.0	0.6
Hours worked													
<i>as a percentage of total hours worked</i>													
2019	100.0	81.3	18.7	4.1	14.9	6.8	25.9	3.1	2.4	1.0	13.9	21.7	6.1
2020	100.0	82.0	18.0	4.3	14.9	6.9	24.2	3.3	2.6	1.1	13.8	23.1	5.7
2021	100.0	81.8	18.2	4.2	14.8	7.2	24.4	3.4	2.5	1.1	14.0	22.8	5.7
<i>annual percentage changes</i>													
2019	1.0	1.3	-0.2	-3.4	0.5	2.3	1.1	3.4	0.3	2.0	1.3	1.3	0.2
2020	-7.8	-7.0	-11.2	-2.5	-7.6	-6.3	-13.8	-1.8	-2.7	-6.8	-8.2	-2.0	-13.1
2021	5.3	5.0	6.5	1.7	4.5	8.8	6.1	6.7	2.2	6.3	6.8	3.8	5.1
2021 Q1	-2.6	-2.8	-1.3	1.6	-1.3	5.3	-10.7	2.2	0.8	2.7	-1.9	2.4	-7.8
Q2	16.7	15.2	23.9	7.0	15.1	25.7	24.6	11.1	5.7	19.0	18.6	8.8	25.2
Q3	3.2	3.5	1.8	-0.8	2.5	2.6	4.4	7.1	1.3	3.4	6.5	1.8	0.7
Q4	4.9	4.9	4.5	-0.7	2.5	4.0	10.2	6.2	0.8	1.6	5.3	1.9	6.7
Hours worked per person employed													
<i>annual percentage changes</i>													
2019	-0.3	-0.2	-0.4	-1.0	-0.6	-0.2	-0.4	0.0	0.2	0.3	-0.1	-0.1	-0.2
2020	-6.4	-5.6	-9.7	-0.2	-5.8	-7.0	-10.5	-3.2	-2.2	-6.5	-5.9	-2.8	-10.4
2021	4.1	3.6	6.9	1.4	4.9	5.6	6.1	2.1	2.0	5.6	4.2	1.7	5.3
2021 Q1	-0.9	-1.1	0.2	2.1	1.1	3.8	-5.6	-0.1	1.5	1.8	-0.2	1.0	-3.9
Q2	14.4	12.5	24.2	4.4	15.6	19.9	23.6	6.5	5.3	17.3	13.7	5.9	22.8
Q3	1.1	1.2	1.4	-0.9	2.1	-0.2	2.4	1.6	0.6	3.2	2.1	-0.4	-0.3
Q4	2.6	2.3	4.6	0.1	1.6	1.1	7.2	0.0	0.4	1.7	1.9	-0.1	6.0

Sources: Eurostat and ECB calculations.

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

## 3 Economic activity

### 3.4 Labour force, unemployment and job vacancies

(seasonally adjusted, unless otherwise indicated)

	Labour force, millions	Under-employment, % of labour force	Unemployment <sup>1)</sup>											Job vacancy rate <sup>3)</sup>	
			Total		Long-term unemployment, % of labour force <sup>2)</sup>	By age				By gender					% of total posts
			Millions	% of labour force		Adult		Youth		Male		Female			
						Millions	% of labour force	Millions	% of labour force	Millions	% of labour force	Millions	% of labour force		
			1	2	3	4	5	6	7	8	9	10	11		12
% of total in 2020			100.0		80.1	19.9		51.3	48.7						
2019	163.492	3.5	12.430	7.6	3.3	10.062	6.8	2.368	16.3	6.349	7.3	6.081	8.0	2.2	
2020	161.008	3.5	12.826	8.0	3.0	10.275	7.0	2.551	18.1	6.576	7.6	6.250	8.3	1.8	
2021	.	.	12.608	7.7	.	10.164	6.8	2.444	16.8	6.409	7.4	6.199	8.1	2.4	
2021 Q1	161.937	3.7	13.409	8.3	3.2	10.816	7.3	2.593	18.3	6.811	7.9	6.598	8.7	2.1	
Q2	163.223	3.5	12.968	7.9	3.3	10.382	7.0	2.586	17.8	6.573	7.6	6.395	8.4	2.3	
Q3	164.039	3.3	12.386	7.6	3.1	9.960	6.7	2.426	16.4	6.292	7.2	6.095	8.0	2.6	
Q4	.	.	11.670	7.1	.	9.497	6.4	2.172	14.7	5.961	6.8	5.709	7.4	2.7	
2021 Aug.	-	-	12.374	7.5	-	9.979	6.7	2.395	16.1	6.286	7.2	6.088	7.9	-	
Sep.	-	-	12.064	7.3	-	9.742	6.5	2.322	15.6	6.144	7.0	5.920	7.7	-	
Oct.	-	-	11.914	7.3	-	9.667	6.5	2.247	15.2	6.062	6.9	5.852	7.6	-	
Nov.	-	-	11.656	7.1	-	9.476	6.3	2.180	14.8	5.940	6.8	5.716	7.4	-	
Dec.	-	-	11.439	7.0	-	9.349	6.2	2.090	14.2	5.880	6.7	5.558	7.2	-	
2022 Jan.	-	-	11.225	6.8	-	9.187	6.1	2.038	13.9	5.777	6.6	5.448	7.1	-	

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).

### 3.5 Short-term business statistics

	Industrial production						Construction production	Retail sales				Services turnover <sup>1)</sup>	New passenger car registrations	
	Total (excluding construction)		Main Industrial Groupings					Total	Food, beverages, tobacco	Non-food	Fuel			
	1	2	Manufacturing	Intermediate goods	Capital goods	Consumer goods								Energy
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														
2019	-1.1	-1.1	-2.5	-1.1	1.4	-1.7	2.2	2.4	1.0	3.7	0.8	2.9	1.8	
2020	-7.9	-8.4	-7.2	-11.9	-4.2	-4.6	-5.8	-0.8	3.7	-2.3	-14.4	-8.6	-25.1	
2021	7.8	8.5	9.5	8.5	8.0	1.5	4.9	5.1	1.1	7.7	9.4	13.1	-3.1	
2021 Q1	4.7	5.1	4.9	8.7	1.3	-0.1	2.9	2.4	2.6	3.2	-5.1	-0.1	3.7	
Q2	23.1	25.2	25.6	31.3	18.5	5.6	17.9	11.8	2.1	18.7	29.8	25.0	53.4	
Q3	6.0	6.8	7.7	5.1	8.9	-0.8	0.7	2.5	0.2	4.1	3.5	13.0	-23.6	
Q4	0.1	-0.1	1.9	-4.5	4.6	1.8	-0.2	4.0	-0.5	6.1	13.9	16.4	-25.0	
2021 Aug.	5.6	6.7	6.9	4.8	9.4	-1.9	-2.6	1.4	-1.4	3.3	1.4	-	-24.7	
Sep.	4.0	4.5	4.9	2.9	6.8	0.0	1.8	2.8	0.8	4.0	5.0	-	-24.0	
Oct.	0.1	0.3	2.4	-2.4	1.5	-0.8	3.3	1.7	-1.1	3.0	9.1	-	-28.4	
Nov.	-1.4	-1.9	2.0	-9.5	5.7	4.3	0.4	8.5	0.9	12.6	19.8	-	-21.6	
Dec.	1.6	1.7	1.3	-1.0	7.0	1.8	-3.9	2.1	-1.1	3.4	13.8	-	-24.9	
2022 Jan.	.	.	.	.	.	.	.	7.8	-1.7	14.8	12.7	-	-10.0	
month-on-month percentage changes (s.a.)														
2021 Aug.	-1.6	-2.0	-1.3	-2.2	-2.2	0.6	-0.9	0.8	-0.7	2.3	-0.7	-	0.2	
Sep.	-0.7	-0.8	-0.2	-1.5	0.4	1.4	0.8	-0.1	0.8	-1.4	1.0	-	1.7	
Oct.	-1.5	-1.4	-0.1	1.2	-4.3	0.5	0.9	0.3	0.1	0.4	0.5	-	-1.9	
Nov.	2.4	2.8	1.0	1.4	2.8	1.6	-0.2	1.1	0.2	1.8	-1.7	-	0.5	
Dec.	1.2	1.1	0.5	2.6	0.5	-0.8	-4.0	-2.7	0.5	-4.9	0.1	-	2.4	
2022 Jan.	.	.	.	.	.	.	.	0.2	0.0	0.2	-1.3	-	-5.4	

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

1) Including wholesale trade.

## 3 Economic activity

### 3.6 Opinion surveys (seasonally adjusted)

	European Commission Business and Consumer Surveys (percentage balances, unless otherwise indicated)							Purchasing Managers' Surveys (diffusion indices)				
	Economic sentiment indicator (long-term average = 100)	Manufacturing industry		Consumer confidence indicator	Construction confidence indicator	Retail trade confidence indicator	Service industries		Purchasing Managers' Index (PMI) for manufacturing	Manufacturing output	Business activity for services	Composite output
		Industrial confidence indicator	Capacity utilisation (%)				Services confidence indicator	Capacity utilisation (%)				
	1	2	3	4	5	6	7	8	9	10	11	12
1999-15	98.8	-5.2	80.6	-11.6	-15.4	-8.6	7.3	-	51.2	52.5	53.0	52.8
2019	103.3	-5.1	81.9	-6.9	6.7	-0.5	10.8	90.5	47.4	47.8	52.7	51.3
2020	88.0	-14.3	73.9	-14.3	-7.4	-12.9	-16.5	86.3	48.6	48.0	42.5	44.0
2021	110.1	9.5	81.7	-7.6	3.4	-2.5	7.1	87.6	60.2	58.3	53.6	54.9
2021 Q1	94.6	-2.4	79.8	-13.7	-5.7	-16.6	-14.7	85.9	58.4	58.5	46.9	49.9
Q2	113.2	11.8	82.6	-5.5	4.4	0.7	10.5	87.3	63.1	62.7	54.7	56.8
Q3	116.8	14.2	82.4	-4.6	5.7	3.5	16.9	88.5	60.9	58.6	58.4	58.4
Q4	115.7	14.4	82.0	-6.7	9.2	2.2	15.7	88.6	58.2	53.6	54.5	54.3
2021 Sep.	116.4	14.2	-	-4.0	7.5	1.4	15.1	-	58.6	55.6	56.4	56.2
Oct.	117.2	14.4	82.0	-4.9	8.7	1.9	18.0	89.0	58.3	53.3	54.6	54.2
Nov.	116.2	14.3	-	-6.8	9.0	3.7	18.2	-	58.4	53.8	55.9	55.4
Dec.	113.8	14.6	-	-8.4	10.1	1.1	10.9	-	58.0	53.8	53.1	53.3
2022 Jan.	112.7	13.9	81.9	-8.5	8.1	3.7	9.1	88.1	58.7	55.4	51.1	52.3
Feb.	114.0	14.0	-	-8.8	9.9	5.4	13.0	-	58.2	55.5	55.5	55.5

Sources: European Commission (Directorate-General for Economic and Financial Affairs) (col. 1-8) and Markit (col. 9-12).

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

	Households							Non-financial corporations						
	Saving ratio (gross)	Debt ratio	Real gross disposable income	Financial investment	Non-financial investment (gross)	Net worth <sup>2)</sup>	Housing wealth	Profit share <sup>3)</sup>	Saving ratio (net)	Debt ratio <sup>4)</sup>	Financial investment	Non-financial investment (gross)	Financing	
	Percentage of gross disposable income (adjusted) <sup>1)</sup>	Annual percentage changes					Percentage of net value added	Percentage of GDP	Annual percentage changes					
	1	2	3	4	5	6	7	8	9	10	11	12	13	
2018	12.5	93.0	1.9	1.9	6.2	2.5	4.6	35.5	5.9	75.3	2.0	7.7	1.5	
2019	13.1	93.3	1.9	2.7	3.8	6.0	4.0	35.3	6.3	74.9	2.0	7.9	1.8	
2020	19.4	96.1	-0.6	4.1	-3.5	4.6	3.9	31.3	4.5	82.0	3.3	-14.5	2.0	
2020 Q4	19.4	96.1	0.2	4.1	1.9	4.6	3.9	31.3	4.5	82.0	3.3	-20.7	2.0	
2021 Q1	20.6	96.6	-0.4	4.6	11.0	6.9	3.9	32.4	5.9	83.2	4.0	-10.6	2.2	
Q2	19.0	96.7	3.2	4.1	31.1	5.9	4.3	34.3	7.6	80.6	4.5	19.1	2.3	
Q3	18.5	97.0	0.8	3.9	16.9	6.6	5.6	34.5	8.1	79.8	4.6	14.7	2.5	

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 share uses net entrepreneurial income, which is broadly equivalent to current profits in business accounting.

4) Defined as consolidated loans and debt securities liabilities.

## 3 Economic activity

### 3.8 Euro area balance of payments, current and capital accounts

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

	Current account											Capital account <sup>1)</sup>	
	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 Q1	1,048.5	952.9	95.6	601.5	501.1	226.9	202.9	189.7	174.5	30.4	74.5	15.6	12.4
Q2	1,071.5	992.1	79.4	617.9	536.3	233.4	208.7	190.3	174.9	29.9	72.3	18.3	11.5
Q3	1,109.5	1,040.8	68.7	626.3	554.4	249.5	234.4	191.9	176.6	41.8	75.3	30.7	13.2
Q4	1,152.9	1,086.7	66.2	668.0	625.3	273.1	213.8	179.2	171.9	32.6	75.6	59.9	44.8
2021 July	371.7	340.8	30.9	210.4	182.7	82.1	74.4	64.1	59.6	15.1	24.1	12.5	5.3
Aug.	368.8	354.0	14.8	207.8	185.5	82.4	83.4	63.7	60.2	14.9	25.0	8.0	3.3
Sep.	369.0	346.0	23.0	208.1	186.3	85.0	76.6	64.1	56.8	11.8	26.2	10.2	4.6
Oct.	376.0	356.0	20.0	215.2	199.0	90.8	72.7	58.9	58.9	11.1	25.4	8.6	4.3
Nov.	390.7	367.1	23.6	226.0	210.7	93.3	70.4	60.7	60.1	10.6	25.8	5.7	3.7
Dec.	386.2	363.6	22.6	226.8	215.6	89.0	70.7	59.5	52.9	10.9	24.4	45.6	36.9
<i>12-month cumulated transactions</i>													
2021 Dec.	4,382.3	4,072.5	309.8	2,513.6	2,217.2	982.9	859.8	751.1	697.8	134.7	297.7	124.5	81.9
<i>12-month cumulated transactions as a percentage of GDP</i>													
2021 Dec.	35.8	33.3	2.5	20.5	18.1	8.0	7.0	6.1	5.7	1.1	2.4	1.0	0.7

1) The capital account is not seasonally adjusted.

### 3.9 Euro area external trade in goods<sup>1)</sup>, values and volumes by product group<sup>2)</sup>

(seasonally adjusted, unless otherwise indicated)

	Total (n.s.a.)		Exports (f.o.b.)					Imports (c.i.f.)					
	Exports	Imports	Total			Memo item: Manu- facturing	Total			Memo items:			
			Intermediate goods	Capital goods	Consumption goods		Intermediate goods	Capital goods	Consumption goods	Manu- facturing	Oil		
1	2	3	4	5	6	7	8	9	10	11	12	13	
<i>Values (EUR billions; annual percentage changes for columns 1 and 2)</i>													
2021 Q1	0.7	0.4	581.7	280.6	115.1	174.2	486.9	512.2	284.3	91.5	129.7	382.8	47.1
Q2	34.4	34.0	596.2	291.4	116.9	177.4	493.6	558.8	324.2	92.3	136.1	405.4	53.6
Q3	13.6	22.8	607.5	305.1	118.4	171.6	501.7	580.5	344.7	93.7	135.3	415.3	58.8
Q4	12.0	31.1	632.9	.	.	.	521.2	643.6	.	.	.	446.6	.
2021 July	12.1	18.1	202.0	99.4	40.8	57.6	167.3	189.2	112.6	30.6	43.8	135.0	19.7
Aug.	19.5	29.1	203.0	103.2	39.2	56.7	167.0	194.4	115.4	31.7	45.3	140.3	19.6
Sep.	10.2	21.7	202.5	102.5	38.5	57.3	167.3	197.0	116.7	31.4	46.2	139.9	19.5
Oct.	7.4	24.7	207.3	104.3	37.5	60.6	170.7	206.5	124.6	30.6	47.5	143.2	23.0
Nov.	14.5	32.0	213.5	107.5	38.6	62.9	175.3	215.3	131.0	31.6	49.9	149.9	25.1
Dec.	14.1	36.7	212.2	.	.	.	175.2	221.9	.	.	.	153.6	.
<i>Volume indices (2000 = 100; annual percentage changes for columns 1 and 2)</i>													
2021 Q1	0.8	0.2	104.5	108.5	100.8	101.5	103.8	104.8	103.2	112.6	105.4	108.2	85.8
Q2	29.3	20.4	104.7	109.2	101.7	101.8	103.4	109.8	110.5	113.8	108.5	112.2	85.1
Q3	4.4	5.4	103.5	109.7	100.9	96.5	102.0	108.1	109.1	112.3	104.9	110.8	84.9
Q4	.	.	.	.	.	.	.	.	.	.	.	.	.
2021 June	19.2	16.0	104.4	110.2	100.1	100.3	103.1	109.3	109.4	114.5	108.2	112.2	83.7
July	4.9	3.2	104.3	109.1	104.7	97.6	103.2	107.0	108.7	110.0	103.5	108.9	85.9
Aug.	9.1	11.3	103.3	110.8	100.0	95.3	101.4	108.8	109.6	115.1	105.2	112.5	85.9
Sep.	0.1	2.5	102.8	109.4	97.9	96.6	101.4	108.5	109.0	112.0	105.9	110.9	82.8
Oct.	-2.9	2.8	104.1	109.6	94.9	101.4	102.8	110.7	112.4	106.0	108.2	111.8	89.8
Nov.	3.1	9.1	106.2	112.1	98.0	103.1	104.7	114.4	118.0	107.5	111.7	115.3	95.4

Sources: ECB and Eurostat.

1) Differences between ECB's b.o.p. goods (Table 3.8) and Eurostat's trade in goods (Table 3.9) are mainly due to different definitions.

2) Product groups as classified in the Broad Economic Categories.

## 4 Prices and costs

### 4.1 Harmonised Index of Consumer Prices <sup>1)</sup>

(annual percentage changes, unless otherwise indicated)

	Total					Total (s.a.; percentage change vis-à-vis previous period) <sup>2)</sup>						Administered prices	
	Index: 2015 = 100	Total		Goods	Services	Total	Processed food	Unprocessed food	Non-energy industrial goods	Energy (n.s.a.)	Services	Total HICP excluding administered prices	Administered prices
		1	2										
% 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
2019	104.8	1.2	1.0	1.0	1.5	-	-	-	-	-	-	1.1	1.9
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
2021 Q1	105.8	1.1	1.2	0.8	1.3	1.2	0.4	-0.7	1.1	6.5	0.5	1.0	1.4
Q2	107.4	1.8	0.9	2.5	0.9	0.6	0.3	1.6	-0.1	3.7	0.3	1.8	2.4
Q3	108.0	2.8	1.4	4.1	1.2	1.2	0.7	0.7	1.4	4.3	0.6	2.7	3.5
Q4	109.9	4.6	2.4	6.2	2.4	1.6	0.9	1.1	0.0	9.1	1.0	4.6	5.1
2021 Sep.	108.5	3.4	1.9	4.6	1.7	0.2	0.2	0.3	-0.5	1.4	0.4	3.3	3.6
Oct.	109.4	4.1	2.0	5.5	2.1	0.7	0.3	-0.2	0.0	5.6	0.3	4.0	4.6
Nov.	109.9	4.9	2.6	6.3	2.7	0.7	0.2	0.8	0.3	2.9	0.5	4.8	5.2
Dec.	110.4	5.0	2.6	6.8	2.4	0.3	0.5	0.9	0.4	0.4	0.1	4.9	5.6
2022 Jan.	110.7	5.1	2.3	7.1	2.3	1.1	0.5	0.8	0.7	6.2	0.2	4.9	6.3
Feb. <sup>3)</sup>	111.7	5.8	2.7	.	2.5	0.7	0.6	0.8	0.6	3.3	0.2	.	.

	Goods						Services					
	Food (including alcoholic beverages and tobacco)			Industrial goods			Housing	Transport	Communication	Recreation and personal care	Miscellaneous	
	Total	Processed food	Unprocessed food	Total	Non-energy industrial goods	Energy	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
2019	1.8	1.9	1.4	0.5	0.3	1.1	1.4	1.3	2.0	-0.7	1.7	1.5
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
2021 Q1	1.3	1.2	1.7	0.5	0.9	-0.6	1.3	1.2	1.1	-0.4	1.4	1.5
Q2	0.6	0.8	-0.2	3.6	0.8	12.0	1.4	1.3	0.8	-0.1	0.5	1.6
Q3	1.9	1.7	2.5	5.4	1.8	15.8	1.4	1.1	2.4	0.7	1.1	1.6
Q4	2.5	2.4	2.7	8.4	2.4	25.7	1.6	1.1	4.0	1.2	3.1	1.7
2021 Sep.	2.0	1.9	2.6	6.1	2.1	17.6	1.5	1.2	3.3	0.6	1.9	1.5
Oct.	1.9	2.1	1.4	7.6	2.0	23.7	1.6	1.2	3.6	1.5	2.3	1.7
Nov.	2.2	2.3	1.9	8.8	2.4	27.5	1.6	1.1	4.4	1.0	3.8	1.7
Dec.	3.2	2.8	4.7	8.9	2.9	25.9	1.6	1.1	4.0	1.0	3.3	1.8
2022 Jan.	3.5	3.0	5.2	9.3	2.1	28.8	1.7	1.2	3.1	0.0	3.8	1.6
Feb. <sup>3)</sup>	4.1	3.5	6.1	.	3.0	31.7	.	.	.	.	.	.

Sources: Eurostat and ECB calculations.

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

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

3) Flash estimate.



## 4 Prices and costs

### 4.2 Industry, construction and property prices

(annual percentage changes, unless otherwise indicated)

	Industrial producer prices excluding construction <sup>1)</sup>										Con- struction <sup>2)</sup>	Residential property prices <sup>3)</sup>	Experimental indicator of commercial property prices <sup>3)</sup>
	Total (index: 2015 = 100)	Total	Industry excluding construction and energy						Energy				
			Manu- facturing	Total	Intermedi- ate 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	1.9	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	1.2	5.4	1.7
2021	114.5	12.3	7.4	5.8	10.9	2.5	2.1	2.0	1.8	32.3	.	.	.
2021 Q1	105.9	2.1	1.3	1.4	2.7	1.0	0.0	-0.7	0.7	3.8	2.7	6.1	-1.6
Q2	109.4	9.2	6.8	4.7	9.0	1.7	1.8	1.8	1.2	23.7	4.7	7.3	-4.3
Q3	115.6	14.0	9.3	7.5	14.1	3.0	2.8	2.9	2.1	34.3	7.7	9.1	.
Q4	127.2	24.0	12.3	9.6	18.0	4.3	3.9	3.9	3.0	67.5	.	.	.
2021 Aug.	115.0	13.5	9.2	7.5	14.3	3.1	2.8	2.9	2.2	32.0	-	-	-
Sep.	118.1	16.1	10.4	8.1	15.3	3.6	3.0	3.1	2.3	40.8	-	-	-
Oct.	124.5	21.9	11.9	9.0	16.9	4.0	3.4	3.2	2.7	62.4	-	-	-
Nov.	126.7	23.7	12.7	9.8	18.3	4.4	3.9	3.9	3.1	66.1	-	-	-
Dec.	130.5	26.3	12.3	10.1	18.7	4.7	4.5	4.7	3.2	73.8	-	-	-
2022 Jan.	137.3	30.6	13.9	11.7	20.2	5.7	6.1	6.3	4.8	85.6	-	-	-

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](https://www.ecb.europa.eu/stats/ecb_statistics/governance_and_quality_framework/html/experimental-data.en.html) for further details).

### 4.3 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 <sup>1)</sup>	Imports <sup>1)</sup>		Import-weighted <sup>2)</sup>			Use-weighted <sup>2)</sup>		
			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	
2019	105.3	1.7	1.5	1.1	1.8	2.3	0.8	0.3	57.2	2.0	4.4	-0.1	3.0	8.2	-2.3
2020	107.1	1.7	1.2	0.5	3.6	1.2	-1.3	-2.6	37.0	1.4	3.3	-0.3	-1.0	-0.3	-1.8
2021	109.2	2.0	2.7	2.2	1.4	3.4	5.5	7.6	59.8	29.5	21.3	37.2	28.8	21.7	37.1
2021 Q1	108.1	1.5	1.5	1.1	2.5	1.2	1.0	0.9	50.4	18.3	9.2	27.3	14.1	5.5	24.6
Q2	108.4	0.6	1.5	1.5	-1.3	2.7	4.5	7.1	57.0	38.3	20.2	56.4	35.7	20.5	54.4
Q3	109.7	2.8	3.6	2.6	2.7	4.7	7.1	9.7	61.9	31.0	26.1	35.4	32.3	28.2	36.7
Q4	110.6	3.0	4.2	3.7	2.0	5.3	9.8	13.0	69.4	30.7	30.0	31.3	33.7	33.4	34.0
2021 Sep.	-	-	-	-	-	-	-	-	63.4	26.8	23.5	29.9	29.9	27.1	33.0
Oct.	-	-	-	-	-	-	-	-	72.1	33.3	26.6	39.7	34.0	26.3	42.7
Nov.	-	-	-	-	-	-	-	-	70.8	29.8	31.0	28.7	33.4	35.7	30.8
Dec.	-	-	-	-	-	-	-	-	65.7	29.1	32.3	26.4	33.7	38.0	29.4
2022 Jan.	-	-	-	-	-	-	-	-	75.5	29.1	29.5	28.7	33.3	34.8	31.7
Feb.	-	-	-	-	-	-	-	-	84.4	29.5	31.7	27.7	32.4	34.3	30.4

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.

## 4 Prices and costs

### 4.4 Price-related opinion surveys

(seasonally adjusted)

	European Commission Business and Consumer Surveys (percentage balances)					Purchasing Managers' Surveys (diffusion indices)			
	Selling price expectations (for next three months)				Consumer price trends over past 12 months	Input prices		Prices charged	
	Manu- facturing	Retail trade	Services	Construction		Manu- facturing	Services	Manu- facturing	Services
	1	2	3	4	5	6	7	8	9
1999-15	4.3	5.6	-	-4.5	32.3	56.7	56.3	-	49.7
2019	4.3	7.3	9.1	7.5	18.2	48.8	57.1	50.4	52.4
2020	-1.1	1.6	-0.8	-5.7	10.9	49.0	52.1	48.7	47.2
2021	31.1	22.8	9.4	18.6	28.7	84.0	61.9	66.8	53.4
2021 Q1	10.9	4.9	-1.8	-3.5	8.2	74.0	54.0	56.5	48.6
Q2	30.2	18.1	8.5	16.2	20.4	85.9	60.1	68.2	53.1
Q3	37.0	27.8	12.3	26.3	35.0	87.7	63.8	70.3	55.1
Q4	46.5	40.6	18.5	35.5	51.3	88.4	69.5	72.1	56.9
2021 Sep.	38.4	30.4	13.1	25.0	39.3	86.9	65.2	70.4	55.1
Oct.	42.3	36.7	16.5	32.9	46.3	89.5	67.5	72.6	55.8
Nov.	49.3	44.1	19.7	37.8	52.5	88.9	71.4	73.7	57.8
Dec.	48.0	40.9	19.3	35.7	55.2	86.7	69.6	70.2	57.2
2022 Jan.	47.4	42.6	21.0	37.1	57.9	83.5	70.9	72.7	57.9
Feb.	49.8	47.4	22.3	38.1	62.7	82.0	72.2	71.7	58.8

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

### 4.5 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 <sup>1)</sup>
			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	106.9	2.4	2.6	2.0	2.4	2.5	2.2
2020	110.3	3.1	3.7	1.0	2.8	3.8	1.8
2021	.	.	.	.	.	.	1.5
2021 Q1	104.8	1.5	2.3	-1.1	1.2	2.0	1.4
Q2	116.0	-0.1	-0.5	1.2	-0.9	1.8	1.8
Q3	107.6	2.5	2.3	3.0	2.4	2.6	1.4
Q4	.	.	.	.	.	.	1.5

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](https://www.ecb.europa.eu/stats/ecb_statistics/governance_and_quality_framework/html/experimental-data.en.html) for further details).

## 4 Prices and costs

### 4.6 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
<b>Unit labour costs</b>												
2019	105.3	1.8	-0.9	2.3	1.8	0.7	0.9	1.8	2.5	2.4	2.6	2.0
2020	110.1	4.5	-1.6	3.0	4.5	6.4	0.8	0.2	1.6	5.5	6.5	13.5
2021	109.9	-0.1	5.0	-3.5	2.8	-1.3	2.2	0.9	4.3	0.3	0.3	1.6
2021 Q1	110.1	1.3	3.1	-3.9	5.6	2.3	0.9	1.1	3.7	2.9	2.8	14.6
Q2	109.0	-4.4	6.5	-11.0	-1.8	-7.0	1.2	-2.3	8.2	-2.7	-4.5	-2.4
Q3	109.9	1.4	6.0	-1.3	2.9	-0.2	4.8	2.9	3.0	0.5	2.4	0.4
Q4	110.8	1.0	4.6	2.1	4.4	-0.8	1.5	1.9	2.8	0.4	0.7	-5.9
<b>Compensation per employee</b>												
2019	107.4	2.1	3.2	1.4	1.4	1.6	3.2	2.2	2.4	2.8	2.3	3.3
2020	106.7	-0.7	0.5	-2.2	-1.8	-4.7	0.5	0.0	1.0	-0.4	2.4	-3.0
2021	111.0	4.0	3.0	4.4	4.8	6.2	4.2	2.8	5.5	4.4	1.8	4.4
2021 Q1	109.4	2.1	2.3	2.0	4.7	-0.5	2.2	3.4	3.1	2.4	2.0	-0.2
Q2	109.7	7.4	3.1	9.1	11.1	13.6	7.7	1.9	10.6	8.6	2.1	10.2
Q3	112.1	3.3	3.2	3.9	1.8	4.9	3.6	3.0	4.1	3.4	2.1	2.6
Q4	112.8	3.5	3.1	3.1	2.4	7.4	3.5	2.9	4.5	3.6	1.1	5.5
<b>Labour productivity per person employed</b>												
2019	102.0	0.3	4.1	-0.8	-0.5	0.9	2.4	0.3	-0.1	0.3	-0.3	1.3
2020	97.0	-4.9	2.2	-5.0	-6.0	-10.4	-0.3	-0.2	-0.5	-5.6	-3.8	-14.5
2021	101.0	4.2	-2.0	8.2	2.0	7.5	2.0	1.9	1.1	4.1	1.5	2.7
2021 Q1	99.3	0.8	-0.8	6.1	-0.9	-2.7	1.3	2.2	-0.6	-0.5	-0.8	-12.9
Q2	100.7	12.3	-3.1	22.6	13.1	22.1	6.4	4.3	2.2	11.6	6.9	12.9
Q3	102.0	1.9	-2.7	5.3	-1.1	5.1	-1.2	0.1	1.1	2.9	-0.3	2.2
Q4	101.8	2.4	-1.4	1.0	-1.9	8.3	2.0	0.9	1.7	3.3	0.4	12.2
<b>Compensation per hour worked</b>												
2019	107.4	2.3	3.7	1.9	1.7	2.0	3.1	1.8	2.1	2.8	2.4	3.7
2020	113.0	5.2	2.7	3.3	3.9	5.8	2.9	1.5	5.8	4.7	4.8	6.2
2021	113.4	0.4	0.7	-0.1	-0.2	0.6	2.3	1.0	1.3	0.8	0.5	0.2
2021 Q1	114.2	3.3	0.8	0.8	1.3	6.3	2.3	1.8	3.3	2.9	1.3	3.3
Q2	112.5	-4.5	-2.5	-4.5	-5.9	-6.2	1.8	-2.6	-0.3	-2.9	-2.8	-5.9
Q3	113.8	2.1	3.2	1.9	2.1	2.1	1.7	2.7	0.8	1.4	2.7	2.5
Q4	114.9	1.1	1.5	1.7	2.0	0.2	3.8	2.8	1.9	2.0	1.4	0.8
<b>Hourly labour productivity</b>												
2019	102.5	0.6	5.1	-0.3	-0.2	1.3	2.3	0.1	-0.4	0.4	-0.2	1.5
2020	104.1	1.5	2.4	0.8	1.1	0.1	3.0	2.0	6.4	0.3	-1.0	-4.6
2021	104.1	0.0	-3.4	3.1	-3.4	1.3	-0.1	-0.2	-4.3	-0.1	-0.2	-2.4
2021 Q1	104.7	1.7	-2.9	5.0	-4.5	3.1	1.4	0.7	-2.3	-0.4	-1.7	-9.3
Q2	104.2	-1.8	-7.2	6.0	-5.7	-1.2	-0.1	-0.9	-12.8	-1.9	0.9	-8.1
Q3	104.4	0.8	-1.7	3.1	-0.8	2.6	-2.8	-0.5	-2.1	0.7	0.1	2.5
Q4	104.6	-0.2	-1.5	-0.6	-3.0	1.0	2.0	0.5	0.0	1.4	0.5	5.8

Sources: Eurostat and ECB calculations.

## 5 Money and credit

### 5.1 Monetary aggregates <sup>1)</sup>

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

	M3											
	M2						M3-M2					
	M1		M2-M1				Repos	Money market fund shares	Debt securities with a maturity of up to 2 years			
	Currency in circulation	Overnight deposits	Deposits with an agreed maturity of up to 2 years	Deposits redeemable at notice of up to 3 months								
1	2	3	4	5	6	7	8	9	10	11	12	
Outstanding amounts												
2019	1,222.4	7,721.9	8,944.3	1,069.7	2,364.2	3,433.9	12,378.2	79.3	528.8	-1.4	606.6	12,984.8
2020	1,360.8	8,886.2	10,247.0	1,034.9	2,450.1	3,485.0	13,731.9	101.5	636.5	-0.7	737.3	14,469.2
2021	1,464.7	9,796.5	11,261.2	927.5	2,507.6	3,435.1	14,696.4	117.6	658.5	16.4	792.5	15,488.9
2021 Q1	1,392.9	9,137.6	10,530.4	991.4	2,477.0	3,468.4	13,998.9	109.3	617.9	15.8	743.1	14,741.9
Q2	1,419.7	9,350.5	10,770.2	936.3	2,489.6	3,425.9	14,196.1	111.9	613.7	27.5	753.2	14,949.2
Q3	1,444.6	9,617.8	11,062.4	903.2	2,493.4	3,396.6	14,458.9	120.6	600.9	38.7	760.2	15,219.1
Q4	1,464.7	9,796.5	11,261.2	927.5	2,507.6	3,435.1	14,696.4	117.6	658.5	16.4	792.5	15,488.9
2021 Aug.	1,435.9	9,519.2	10,955.2	914.2	2,487.1	3,401.3	14,356.5	112.8	617.9	36.9	767.5	15,124.0
Sep.	1,444.6	9,617.8	11,062.4	903.2	2,493.4	3,396.6	14,458.9	120.6	600.9	38.7	760.2	15,219.1
Oct.	1,451.8	9,664.4	11,116.2	927.0	2,495.7	3,422.7	14,539.0	133.7	618.9	39.5	792.0	15,331.0
Nov.	1,459.9	9,698.3	11,158.1	928.9	2,499.4	3,428.3	14,586.5	126.1	644.5	40.7	811.3	15,397.8
Dec.	1,464.7	9,796.5	11,261.2	927.5	2,507.6	3,435.1	14,696.4	117.6	658.5	16.4	792.5	15,488.9
2022 Jan. <sup>(p)</sup>	1,481.9	9,816.3	11,298.2	951.8	2,512.7	3,464.4	14,762.6	131.2	610.1	30.2	771.5	15,534.2
Transactions												
2019	57.7	604.8	662.5	-61.6	62.4	0.8	663.3	4.2	-4.1	-58.5	-58.3	605.0
2020	138.4	1,250.1	1,388.5	-28.9	86.7	57.8	1,446.3	19.5	113.8	0.1	133.4	1,579.8
2021	105.2	902.9	1,008.2	-118.4	67.2	-51.2	956.9	12.0	22.7	14.2	48.8	1,005.8
2021 Q1	32.1	238.9	271.0	-47.1	28.5	-18.6	252.3	6.9	-18.6	18.1	6.4	258.7
Q2	26.9	217.3	244.2	-54.0	12.6	-41.4	202.8	2.9	-3.6	11.7	11.0	213.8
Q3	25.1	256.1	281.3	-34.4	11.7	-22.6	258.6	5.7	-12.9	10.0	2.8	261.4
Q4	21.1	190.6	211.7	17.1	14.4	31.5	243.2	-3.5	57.7	-25.6	28.6	271.8
2021 Aug.	8.5	81.1	89.5	-17.2	4.7	-12.5	77.0	-3.1	-0.1	1.0	-2.1	74.8
Sep.	8.6	95.8	104.4	-12.1	6.2	-5.9	98.5	4.9	-17.0	0.9	-11.2	87.3
Oct.	8.2	47.6	55.8	24.0	2.3	26.3	82.1	13.2	18.0	1.2	32.4	114.5
Nov.	8.1	44.4	52.5	-5.0	3.6	-1.4	51.1	-8.1	25.6	-2.1	15.4	66.5
Dec.	4.8	98.6	103.4	-1.9	8.5	6.6	110.0	-8.6	14.0	-24.6	-19.2	90.8
2022 Jan. <sup>(p)</sup>	17.2	15.0	32.2	24.6	5.7	30.3	62.5	12.7	-48.3	14.1	-21.6	40.9
Growth rates												
2019	5.0	8.5	8.0	-5.4	2.7	0.0	5.7	5.5	-0.8	-	-8.8	4.9
2020	11.3	16.2	15.6	-2.7	3.7	1.7	11.7	24.4	21.6	-	22.0	12.2
2021	7.7	10.2	9.8	-11.4	2.7	-1.5	7.0	11.9	3.6	-	6.6	6.9
2021 Q1	10.1	14.2	13.7	-7.8	4.9	0.9	10.2	-3.6	16.5	-	7.7	10.1
Q2	9.0	12.2	11.8	-12.9	3.8	-1.4	8.3	13.5	8.5	-	10.6	8.4
Q3	8.5	11.5	11.1	-15.5	3.2	-2.5	7.6	12.7	1.0	-	7.5	7.6
Q4	7.7	10.2	9.8	-11.4	2.7	-1.5	7.0	11.9	3.6	-	6.6	6.9
2021 Aug.	8.6	11.4	11.1	-12.7	3.3	-1.5	7.8	15.4	7.7	-	12.7	8.0
Sep.	8.5	11.5	11.1	-15.5	3.2	-2.5	7.6	12.7	1.0	-	7.5	7.6
Oct.	8.5	11.1	10.7	-12.3	2.9	-1.7	7.5	28.9	3.9	197.2	11.2	7.7
Nov.	8.1	10.3	10.0	-11.0	2.6	-1.4	7.1	20.6	8.1	104.2	12.3	7.4
Dec.	7.7	10.2	9.8	-11.4	2.7	-1.5	7.0	11.9	3.6	-	6.6	6.9
2022 Jan. <sup>(p)</sup>	7.7	9.3	9.0	-6.6	2.6	-0.1	6.8	14.8	-3.8	85.3	0.6	6.4

Source: ECB.

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

## 5 Money and credit

### 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
<b>Outstanding amounts</b>													
2019	2,483.9	2,070.3	256.7	150.5	6.4	7,044.4	4,399.1	492.0	2,152.4	1.0	1,026.5	215.7	464.7
2020	2,980.7	2,527.3	309.9	140.3	3.2	7,659.1	4,960.7	437.3	2,260.3	0.9	1,097.0	234.6	501.2
2021	3,249.2	2,823.4	290.7	128.7	6.5	8,083.3	5,375.4	373.0	2,334.2	0.7	1,236.8	228.3	551.6
2021 Q1	3,052.8	2,604.9	300.1	140.4	7.5	7,821.2	5,108.9	422.1	2,289.2	0.9	1,133.2	217.0	491.1
Q2	3,092.1	2,656.2	290.7	136.8	8.5	7,914.1	5,202.6	407.1	2,303.7	0.7	1,164.8	222.5	494.6
Q3	3,160.5	2,736.3	283.8	130.9	9.6	8,020.8	5,314.2	388.9	2,317.1	0.7	1,210.6	227.4	515.6
Q4	3,249.2	2,823.4	290.7	128.7	6.5	8,083.3	5,375.4	373.0	2,334.2	0.7	1,236.8	228.3	551.6
2021 Aug.	3,128.9	2,707.2	282.4	130.7	8.7	7,988.4	5,282.3	394.6	2,310.8	0.7	1,187.0	227.1	501.9
Sep.	3,160.5	2,736.3	283.8	130.9	9.6	8,020.8	5,314.2	388.9	2,317.1	0.7	1,210.6	227.4	515.6
Oct.	3,188.1	2,758.2	292.7	128.9	8.2	8,040.3	5,332.5	383.5	2,323.3	1.0	1,244.7	239.2	508.5
Nov.	3,212.1	2,783.7	291.5	129.5	7.5	8,058.5	5,354.2	377.8	2,325.6	1.0	1,233.2	231.9	517.0
Dec.	3,249.2	2,823.4	290.7	128.7	6.5	8,083.3	5,375.4	373.0	2,334.2	0.7	1,236.8	228.3	551.6
2022 Jan. (p)	3,234.1	2,802.4	294.3	127.1	10.3	8,134.1	5,424.7	364.9	2,343.1	1.4	1,266.5	238.6	538.5
<b>Transactions</b>													
2019	149.5	167.0	-18.9	1.8	-0.4	396.1	361.2	-26.3	61.7	-0.5	25.1	9.8	29.3
2020	515.6	469.6	55.8	-6.8	-2.9	612.0	560.6	-53.8	105.3	0.0	142.6	20.4	36.7
2021	254.6	279.9	-21.3	-6.9	3.0	423.3	410.8	-65.0	77.6	-0.2	145.9	-8.3	48.2
2021 Q1	67.2	72.8	-10.0	0.1	4.2	160.6	146.0	-15.7	30.4	0.0	27.5	-18.2	-10.0
Q2	41.6	53.2	-9.2	-3.5	1.1	93.7	94.2	-14.9	14.5	-0.1	34.3	5.6	3.6
Q3	60.9	69.2	-8.0	-1.2	0.9	108.4	111.3	-18.3	15.5	-0.1	46.0	1.9	21.9
Q4	84.9	84.6	5.7	-2.3	-3.1	60.6	59.3	-16.0	17.2	0.1	38.0	2.3	32.7
2021 Aug.	18.8	21.0	-2.6	-0.5	0.8	44.8	44.4	-4.6	5.0	0.0	-0.5	-0.2	2.6
Sep.	26.2	24.9	0.5	0.1	0.8	33.4	33.0	-5.9	6.4	-0.1	22.9	-2.6	14.7
Oct.	28.0	22.6	8.8	-2.0	-1.4	19.7	18.4	-5.3	6.2	0.4	34.6	11.9	-7.1
Nov.	20.0	23.1	-2.8	0.5	-0.8	17.1	20.8	-5.8	2.2	-0.1	-1.6	-5.9	5.2
Dec.	36.8	38.9	-0.3	-0.7	-1.0	23.8	20.1	-4.9	8.8	-0.2	5.1	-3.7	34.5
2022 Jan. (p)	-12.3	-19.6	3.1	0.5	3.7	44.6	43.0	-6.4	7.4	0.7	28.8	10.0	-13.1
<b>Growth rates</b>													
2019	6.4	8.8	-6.8	1.2	-6.5	6.0	8.9	-5.1	3.0	-35.6	2.5	4.8	6.7
2020	20.7	22.7	21.6	-4.5	-47.0	8.7	12.7	-10.9	4.9	-5.2	14.3	9.4	7.9
2021	8.5	11.0	-6.9	-5.0	98.2	5.5	8.3	-14.8	3.4	-18.6	13.2	-3.5	9.6
2021 Q1	17.9	19.6	15.2	-2.7	9.2	9.1	12.6	-10.4	5.9	40.9	4.6	-5.7	4.1
Q2	8.4	11.4	-8.3	-5.7	47.4	7.6	11.0	-11.8	4.5	-20.2	15.9	-2.7	5.6
Q3	7.1	10.3	-12.1	-5.5	38.0	7.0	10.2	-13.1	4.0	-31.8	15.1	-6.8	9.1
Q4	8.5	11.0	-6.9	-5.0	98.2	5.5	8.3	-14.8	3.4	-18.6	13.2	-3.5	9.6
2021 Aug.	6.8	10.1	-13.0	-5.6	97.0	7.3	10.7	-12.6	4.1	-27.9	16.8	-1.8	6.1
Sep.	7.1	10.3	-12.1	-5.5	38.0	7.0	10.2	-13.1	4.0	-31.8	15.1	-6.8	9.1
Oct.	7.4	10.5	-10.1	-6.9	44.7	6.5	9.6	-13.7	3.9	6.7	18.3	-0.4	6.0
Nov.	7.9	10.6	-7.6	-6.2	35.6	6.0	9.0	-14.4	3.4	0.0	15.7	-3.9	6.9
Dec.	8.5	11.0	-6.9	-5.0	98.2	5.5	8.3	-14.8	3.4	-18.6	13.2	-3.5	9.6
2022 Jan. (p)	7.5	9.3	-3.7	-4.1	55.9	5.3	8.0	-15.1	3.2	58.4	15.0	3.1	7.2

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) Refers to the general government sector excluding central government.

## 5 Money and credit

### 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 <sup>3)</sup>	To households <sup>4)</sup>	To financial corporations other than MFIs and ICPFs <sup>3)</sup>	To insurance corporations and pension funds			
	1	2	3	4	5	Adjusted loans <sup>2)</sup>	6	7	8	9	10	11
Outstanding amounts												
2019	4,654.6	989.2	3,653.6	13,856.8	11,446.4	11,835.1	4,474.3	5,930.1	891.0	151.0	1,560.5	849.9
2020	5,914.6	998.8	4,903.9	14,333.2	11,919.8	12,299.4	4,710.6	6,129.7	911.7	167.8	1,548.2	865.3
2021	6,552.1	997.2	5,553.1	14,815.2	12,341.8	12,726.8	4,869.1	6,367.5	944.0	161.2	1,584.3	889.0
2021 Q1	6,069.4	994.5	5,073.2	14,457.5	12,058.9	12,411.5	4,766.3	6,187.3	953.7	151.6	1,518.5	880.2
Q2	6,217.0	1,003.7	5,211.6	14,488.0	12,077.6	12,441.9	4,736.2	6,250.2	942.1	149.1	1,523.2	887.2
Q3	6,364.7	999.2	5,363.9	14,611.5	12,182.5	12,536.2	4,775.0	6,311.0	951.8	144.7	1,532.4	896.6
Q4	6,552.1	997.2	5,553.1	14,815.2	12,341.8	12,726.8	4,869.1	6,367.5	944.0	161.2	1,584.3	889.0
2021 Aug.	6,347.8	1,004.0	5,342.2	14,556.8	12,137.3	12,492.9	4,759.1	6,292.7	939.4	146.0	1,524.0	895.5
Sep.	6,364.7	999.2	5,363.9	14,611.5	12,182.5	12,536.2	4,775.0	6,311.0	951.8	144.7	1,532.4	896.6
Oct.	6,391.9	987.4	5,402.9	14,682.9	12,231.6	12,592.5	4,795.3	6,334.5	947.2	154.6	1,555.8	895.5
Nov.	6,476.2	987.3	5,487.3	14,739.4	12,310.2	12,659.5	4,821.0	6,360.0	968.7	160.6	1,541.7	887.4
Dec.	6,552.1	997.2	5,553.1	14,815.2	12,341.8	12,726.8	4,869.1	6,367.5	944.0	161.2	1,584.3	889.0
2022 Jan. <sup>(p)</sup>	6,546.2	992.3	5,552.2	14,904.6	12,446.6	12,598.0	4,869.8	6,415.0	989.1	172.7	1,566.6	891.3
Transactions												
2019	-88.4	-23.2	-65.6	449.7	376.1	422.9	115.0	200.3	40.6	20.2	30.2	43.4
2020	1,041.9	13.5	1,028.3	737.1	538.1	559.0	288.2	209.1	23.9	16.9	170.8	28.2
2021	667.2	-0.5	677.3	570.6	480.8	515.8	176.4	262.2	51.9	-9.7	80.4	9.4
2021 Q1	150.1	-3.8	164.3	150.6	139.6	111.2	56.1	60.7	39.2	-16.4	2.7	8.3
Q2	163.8	9.1	154.1	53.3	43.5	51.7	-18.3	75.0	-10.8	-2.4	4.8	5.0
Q3	152.2	-4.7	156.9	136.9	122.5	125.4	40.1	65.9	23.5	-7.0	9.6	4.8
Q4	201.0	-1.2	202.0	229.8	175.3	227.5	98.6	60.7	-0.1	16.1	63.2	-8.7
2021 Aug.	51.0	-3.1	54.1	32.6	30.6	29.0	10.3	19.9	2.4	-1.9	-3.1	5.1
Sep.	38.0	-4.8	42.9	54.8	44.2	49.0	15.2	20.7	12.2	-3.9	8.6	2.0
Oct.	31.9	-12.0	43.9	79.7	48.0	60.5	19.3	23.1	-4.4	9.9	35.2	-3.6
Nov.	65.0	1.0	64.0	52.3	72.9	65.7	25.6	23.2	18.6	5.6	-14.0	-6.7
Dec.	104.1	9.8	94.1	97.8	54.3	101.2	53.7	14.3	-14.3	0.5	41.9	1.6
2022 Jan. <sup>(p)</sup>	11.6	-5.3	17.0	60.5	71.5	60.5	1.2	26.1	45.0	-0.7	-15.5	4.5
Growth rates												
2019	-1.9	-2.3	-1.8	3.4	3.4	3.7	2.6	3.5	4.8	16.0	2.0	5.5
2020	22.2	1.4	27.8	5.4	4.7	4.7	6.4	3.5	2.7	10.3	11.4	3.4
2021	11.3	-0.1	13.8	4.0	4.0	4.2	3.8	4.3	5.7	-4.7	5.3	1.1
2021 Q1	21.7	-0.8	28.0	4.6	3.6	3.5	4.6	3.8	-1.2	-3.5	10.1	8.3
Q2	13.1	0.5	16.2	3.6	3.1	3.0	1.4	4.5	3.4	-3.5	5.3	7.5
Q3	11.0	0.0	13.5	3.4	3.2	3.3	1.6	4.3	6.4	-10.1	3.0	7.3
Q4	11.3	-0.1	13.8	4.0	4.0	4.2	3.8	4.3	5.7	-4.7	5.3	1.1
2021 Aug.	12.1	1.0	14.8	3.2	3.0	3.0	1.0	4.5	5.7	-6.0	2.7	7.1
Sep.	11.0	0.0	13.5	3.4	3.2	3.3	1.6	4.3	6.4	-10.1	3.0	7.3
Oct.	10.5	-1.2	13.2	3.7	3.4	3.5	1.9	4.3	6.3	-5.6	4.6	7.7
Nov.	10.8	-1.2	13.5	3.8	3.7	3.7	2.4	4.4	6.2	0.5	3.2	6.2
Dec.	11.3	-0.1	13.8	4.0	4.0	4.2	3.8	4.3	5.7	-4.7	5.3	1.1
2022 Jan. <sup>(p)</sup>	10.8	0.1	13.0	4.3	4.4	4.6	3.7	4.4	8.2	4.7	4.5	1.6

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 Money and credit

### 5.4 MFI loans to euro area non-financial corporations and households <sup>1)</sup>

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

	Non-financial corporations <sup>2)</sup>					Households <sup>3)</sup>				
	Total		Up to 1 year	Over 1 and up to 5 years	Over 5 years	Total		Loans for consumption	Loans for house purchase	Other loans
		Adjusted loans <sup>4)</sup>					Adjusted loans <sup>4)</sup>			
	1	2	3	4	5	6	7	8	9	10
<b>Outstanding amounts</b>										
2019	4,474.3	4,576.5	966.7	877.5	2,630.1	5,930.1	6,221.7	720.1	4,523.5	686.5
2020	4,710.6	4,832.1	897.6	1,010.2	2,802.8	6,129.7	6,398.1	700.6	4,724.7	704.4
2021	4,869.1	5,000.1	888.0	1,008.7	2,972.5	6,367.5	6,630.7	698.3	4,970.8	698.4
2021 Q1	4,766.3	4,888.3	893.9	1,016.7	2,855.8	6,187.3	6,450.4	696.7	4,787.4	703.2
Q2	4,736.2	4,857.3	832.4	970.4	2,933.3	6,250.2	6,509.1	694.1	4,852.6	703.5
Q3	4,775.0	4,890.0	835.1	972.2	2,967.7	6,311.0	6,569.3	696.6	4,914.4	699.9
Q4	4,869.1	5,000.1	888.0	1,008.7	2,972.5	6,367.5	6,630.7	698.3	4,970.8	698.4
2021 Aug.	4,759.1	4,873.7	828.1	969.4	2,961.7	6,292.7	6,552.2	695.4	4,895.1	702.2
Sep.	4,775.0	4,890.0	835.1	972.2	2,967.7	6,311.0	6,569.3	696.6	4,914.4	699.9
Oct.	4,795.3	4,913.2	859.2	971.8	2,964.3	6,334.5	6,590.4	699.0	4,935.1	700.4
Nov.	4,821.0	4,933.1	869.8	980.3	2,970.8	6,360.0	6,615.5	702.5	4,956.9	700.6
Dec.	4,869.1	5,000.1	888.0	1,008.7	2,972.5	6,367.5	6,630.7	698.3	4,970.8	698.4
2022 Jan. <sup>(a)</sup>	4,869.8	4,843.8	888.0	1,000.6	2,981.1	6,415.0	6,615.5	696.5	5,010.8	707.7
<b>Transactions</b>										
2019	115.0	142.5	-13.0	44.8	83.2	200.3	216.2	41.0	168.5	-9.2
2020	288.2	325.2	-54.1	138.6	203.6	209.1	193.0	-11.8	210.7	10.2
2021	176.4	209.0	-2.3	3.4	175.2	262.2	268.4	10.8	254.9	-3.5
2021 Q1	56.1	58.3	-3.8	6.8	53.1	60.7	58.0	-2.2	63.2	-0.3
Q2	-18.3	-22.0	-57.6	-43.0	82.2	75.0	70.4	2.3	72.1	0.6
Q3	40.1	44.5	4.1	1.9	34.1	65.9	67.6	4.1	64.0	-2.2
Q4	98.6	128.3	55.1	37.7	5.8	60.7	72.4	6.6	55.7	-1.6
2021 Aug.	10.3	14.1	0.0	0.8	9.5	19.9	21.3	0.3	20.5	-0.9
Sep.	15.2	19.8	7.0	2.4	5.8	20.7	21.3	2.1	19.7	-1.2
Oct.	19.3	25.9	23.8	-0.9	-3.6	23.1	23.0	2.8	20.3	0.1
Nov.	25.6	22.8	10.6	9.6	5.4	23.2	24.2	4.7	18.8	-0.3
Dec.	53.7	79.6	20.6	29.0	4.0	14.3	25.2	-0.9	16.6	-1.4
2022 Jan. <sup>(a)</sup>	1.2	0.7	-1.2	-8.2	10.6	26.1	25.7	-2.6	24.2	4.5
<b>Growth rates</b>										
2019	2.6	3.2	-1.3	5.3	3.2	3.5	3.6	6.0	3.9	-1.3
2020	6.4	7.1	-5.7	15.9	7.8	3.5	3.1	-1.6	4.7	1.5
2021	3.8	4.3	-0.2	0.4	6.3	4.3	4.2	1.6	5.4	-0.5
2021 Q1	4.6	5.3	-9.2	11.1	7.5	3.8	3.3	-1.6	5.0	1.5
Q2	1.4	1.9	-11.8	-2.1	7.3	4.5	4.0	0.6	5.7	0.6
Q3	1.6	2.1	-8.6	-3.6	6.9	4.3	4.1	0.5	5.6	-0.1
Q4	3.8	4.3	-0.2	0.4	6.3	4.3	4.2	1.6	5.4	-0.5
2021 Aug.	1.0	1.5	-11.0	-3.8	6.8	4.5	4.1	0.1	5.8	0.1
Sep.	1.6	2.1	-8.6	-3.6	6.9	4.3	4.1	0.5	5.6	-0.1
Oct.	1.9	2.6	-5.1	-3.5	6.1	4.3	4.1	0.6	5.5	-0.3
Nov.	2.4	2.9	-3.6	-2.2	6.0	4.4	4.2	1.6	5.5	-0.3
Dec.	3.8	4.3	-0.2	0.4	6.3	4.3	4.2	1.6	5.4	-0.5
2022 Jan. <sup>(a)</sup>	3.7	4.4	0.4	0.0	6.1	4.4	4.3	1.4	5.5	0.3

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) 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 Money and credit

### 5.5 Counterparts to M3 other than credit to euro area residents <sup>1)</sup>

(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 <sup>2)</sup>	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 <sup>3)</sup>	Reverse repos to central counterparties <sup>3)</sup>	
1	2	3	4	5	6	7	8	9	10	
<b>Outstanding amounts</b>										
2019	363.4	7,055.1	1,944.5	50.2	2,155.2	2,905.3	1,474.7	417.4	178.9	187.2
2020	744.6	6,961.4	1,914.8	42.1	1,991.8	3,012.7	1,437.6	489.8	130.1	139.2
2021	797.1	6,888.0	1,838.9	37.1	1,998.0	3,013.9	1,368.5	438.1	118.8	136.8
2021 Q1	704.0	6,891.3	1,897.4	41.2	1,985.5	2,967.2	1,409.5	400.9	127.2	130.2
Q2	680.1	6,847.3	1,868.8	40.2	1,956.0	2,982.3	1,411.7	359.9	123.7	134.5
Q3	690.9	6,856.6	1,850.7	38.6	1,975.9	2,991.4	1,375.2	415.2	139.0	146.0
Q4	797.1	6,888.0	1,838.9	37.1	1,998.0	3,013.9	1,368.5	438.1	118.8	136.8
2021 Aug.	708.7	6,873.8	1,851.2	39.0	1,960.7	3,022.9	1,446.7	355.2	125.3	128.4
Sep.	690.9	6,856.6	1,850.7	38.6	1,975.9	2,991.4	1,375.2	415.2	139.0	146.0
Oct.	739.5	6,872.5	1,842.7	38.1	2,002.6	2,989.0	1,392.0	476.1	140.0	147.6
Nov.	706.9	6,905.5	1,830.9	37.7	2,011.9	3,025.1	1,394.9	399.7	144.5	149.9
Dec.	797.1	6,888.0	1,838.9	37.1	1,998.0	3,013.9	1,368.5	438.1	118.8	136.8
2022 Jan. <sup>(p)</sup>	724.6	6,880.8	1,840.6	36.8	1,992.8	3,010.6	1,346.7	342.0	164.1	157.5
<b>Transactions</b>										
2019	-25.0	107.2	-5.5	-2.9	28.0	87.6	311.8	14.2	-2.7	-2.5
2020	316.3	-34.8	-14.9	-8.0	-101.1	89.1	-60.2	142.4	-48.8	-48.0
2021	53.1	-36.6	-74.2	-5.0	-39.8	82.4	-117.4	-98.0	-11.3	-2.3
2021 Q1	-40.5	-27.3	-20.9	-0.9	-29.6	24.1	10.9	-120.6	-2.9	-8.9
Q2	-24.0	-19.4	-21.9	-1.0	-24.5	28.0	-16.5	-30.1	-3.6	4.3
Q3	10.8	1.8	-18.1	-1.5	8.2	13.3	-44.6	29.6	15.3	11.5
Q4	106.7	8.2	-13.3	-1.6	6.1	16.9	-67.2	23.1	-20.2	-9.2
2021 Aug.	22.0	-9.3	-10.0	-0.4	-3.9	5.0	2.6	1.3	-8.0	-4.8
Sep.	-17.9	11.2	-1.0	-0.4	4.0	8.6	-53.4	41.1	13.7	17.6
Oct.	48.6	17.1	-7.7	-0.5	23.8	1.5	4.5	64.2	0.9	1.6
Nov.	-32.3	-11.9	-13.4	-0.5	1.0	1.0	-31.7	-63.2	4.6	2.2
Dec.	90.4	2.9	7.8	-0.6	-18.7	14.4	-39.9	22.1	-25.7	-13.1
2022 Jan. <sup>(p)</sup>	-72.6	-16.1	-16.1	-0.3	-14.1	14.4	-16.1	-103.8	45.8	21.1
<b>Growth rates</b>										
2019	-6.4	1.6	-0.3	-5.3	1.3	3.1	-	-	-1.5	-1.5
2020	87.4	-0.5	-0.8	-15.9	-4.7	3.0	-	-	-27.3	-25.7
2021	7.1	-0.5	-3.9	-11.9	-2.0	2.8	-	-	-8.7	-1.7
2021 Q1	56.2	-0.3	-1.6	-12.6	-4.1	3.5	-	-	-30.7	-33.7
Q2	-10.3	-0.6	-2.7	-8.2	-4.8	3.9	-	-	-22.3	-22.9
Q3	-12.9	-0.7	-3.5	-9.9	-4.4	3.9	-	-	-0.6	-0.9
Q4	7.1	-0.5	-3.9	-11.9	-2.0	2.8	-	-	-8.7	-1.7
2021 Aug.	-12.0	-0.7	-3.8	-9.4	-3.8	3.5	-	-	-26.5	-27.7
Sep.	-12.9	-0.7	-3.5	-9.9	-4.4	3.9	-	-	-0.6	-0.9
Oct.	-11.3	-0.3	-3.9	-10.5	-2.1	3.5	-	-	-5.9	-4.3
Nov.	-5.6	-0.4	-5.1	-11.2	-1.4	3.5	-	-	-2.4	1.9
Dec.	7.1	-0.5	-3.9	-11.9	-2.0	2.8	-	-	-8.7	-1.7
2022 Jan. <sup>(p)</sup>	4.9	-0.4	-4.5	-12.1	-1.5	3.3	-	-	11.7	7.7

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	
2017	-0.9	-1.4	0.1	0.2	0.2	1.0
2018	-0.4	-1.0	0.1	0.2	0.3	1.4
2019	-0.6	-1.0	0.0	0.0	0.3	1.0
2020	-7.2	-5.9	-0.4	0.0	-0.9	-5.7
2020 Q4	-7.2	.	.	.	.	-5.7
2021 Q1	-8.3	.	.	.	.	-6.8
Q2	-6.9	.	.	.	.	-5.4
Q3	-6.2	.	.	.	.	-4.8

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	
	1	2	3	4	5	6	7	8	9	10	11	12	13
2017	46.2	45.8	12.8	13.0	15.2	0.4	47.1	43.3	9.9	5.3	1.9	22.4	3.8
2018	46.4	45.9	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	5.3	1.6	22.4	3.7
2020	46.6	46.1	13.0	12.8	15.6	0.5	53.8	49.2	10.7	6.0	1.5	25.5	4.6
2020 Q4	46.6	46.1	13.0	12.8	15.6	0.5	53.8	49.2	10.7	6.0	1.5	25.5	4.6
2021 Q1	46.6	46.1	13.0	12.7	15.7	0.5	54.9	50.2	10.8	6.1	1.5	25.8	4.7
Q2	46.5	45.9	12.9	12.8	15.5	0.6	53.4	48.7	10.5	6.0	1.5	25.0	4.7
Q3	46.7	46.0	13.0	12.9	15.4	0.7	52.9	48.2	10.4	6.0	1.5	24.7	4.7

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		
	1	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 curren- cies	
		2	3	4	5	6	7	8	9	10	11	12	13	14
2017	87.5	3.2	14.5	69.9	48.0	32.0	39.5	8.6	78.9	16.4	28.9	42.3	85.7	1.8
2018	85.5	3.1	13.7	68.7	47.9	32.2	37.7	8.1	77.5	16.0	28.3	41.2	84.1	1.5
2019	83.6	3.0	12.9	67.6	45.2	30.4	38.4	7.6	75.9	15.6	27.7	40.3	82.2	1.4
2020	97.3	3.2	14.2	79.9	54.6	39.1	42.7	11.3	86.0	19.1	31.5	46.7	95.6	1.7
2020 Q4	97.3	3.2	14.2	79.9	.	.	.	.	.	.	.	.	.	.
2021 Q1	100.0	3.2	14.1	82.7	.	.	.	.	.	.	.	.	.	.
Q2	98.3	3.1	13.9	81.3	.	.	.	.	.	.	.	.	.	.
Q3	97.7	3.0	13.8	80.8	.	.	.	.	.	.	.	.	.	.

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 <sup>1)</sup>

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

	Change in debt-to-GDP ratio <sup>2)</sup>	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
2017	-2.5	-1.0	-0.1	0.4	0.5	0.0	-0.1	0.1	-0.2	-0.4	-1.3	1.0
2018	-2.0	-1.4	0.4	0.5	0.4	-0.1	0.0	0.2	0.1	-0.1	-1.0	0.8
2019	-2.0	-1.0	0.1	0.3	0.1	0.0	0.0	0.2	-0.2	0.0	-1.1	0.9
2020	13.8	5.7	2.3	2.5	2.0	0.4	-0.1	0.1	-0.1	-0.1	5.8	9.6
2020 Q4	13.8	5.7	2.3	2.5	2.0	0.4	-0.1	0.1	-0.1	-0.2	5.8	9.6
2021 Q1	14.2	6.8	1.9	2.2	1.6	0.5	0.0	0.2	-0.1	-0.2	5.5	10.3
Q2	3.9	5.4	-1.1	-0.4	-1.0	0.4	0.0	0.2	0.0	-0.7	-0.4	5.8
Q3	1.1	4.8	-1.0	-0.3	-0.7	0.2	0.0	0.2	0.0	-0.7	-2.8	5.3

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 <sup>1)</sup>

(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 <sup>2)</sup>					Average residual maturity in years <sup>3)</sup>	Average nominal yields <sup>4)</sup>							
	Total	Principal		Interest			Outstanding amounts					Transactions		
		Maturities of up to 3 months	Maturities of up to 3 months	Total	Floating rate		Zero coupon	Fixed rate	Maturities of up to 1 year	Issuance	Redemption			
	1	2	3	4	5	6	7	8	9	10	11	12	13	
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	13.6	4.2	1.4	0.3	7.6	1.9	1.1	-0.2	2.2	2.3	0.0	0.8	
2021	15.2	13.9	4.6	1.3	0.3	7.9	1.6	1.1	-0.3	1.9	1.9	-0.1	0.5	
2020 Q4	14.9	13.6	4.2	1.4	0.3	7.6	1.9	1.1	-0.2	2.2	2.3	0.0	0.8	
2021 Q1	15.7	14.2	5.5	1.4	0.4	7.8	1.8	1.1	-0.2	2.1	2.1	0.0	0.5	
Q2	15.5	14.1	5.2	1.4	0.3	7.9	1.7	0.5	-0.3	2.0	2.1	-0.1	0.5	
Q3	15.6	14.2	4.7	1.4	0.3	7.9	1.7	1.1	-0.3	2.0	1.8	-0.1	0.5	
2021 Aug.	15.4	14.0	5.4	1.4	0.3	7.9	1.7	1.1	-0.3	2.0	1.9	-0.1	0.5	
Sep.	15.6	14.2	4.7	1.4	0.3	7.9	1.7	1.1	-0.3	2.0	1.8	-0.1	0.5	
Oct.	15.4	14.1	4.3	1.4	0.3	8.0	1.6	1.1	-0.3	2.0	1.9	-0.1	0.5	
Nov.	15.5	14.1	4.2	1.4	0.3	8.0	1.6	1.1	-0.3	1.9	1.9	-0.1	0.5	
Dec.	15.2	13.9	4.6	1.3	0.3	7.9	1.6	1.1	-0.3	1.9	1.9	-0.1	0.5	
2022 Jan.	15.1	13.8	5.2	1.3	0.3	8.0	1.6	1.1	-0.4	1.9	1.9	-0.1	0.6	

Source: ECB.

1) At face value and not consolidated within the general government sector.

2) Excludes future payments on debt securities not yet outstanding and early redemptions.

3) Residual maturity at the end of the period.

4) Outstanding amounts at the end of the period; transactions as 12-month average.

## 6 Fiscal developments

### 6.6 Fiscal developments in euro area countries

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

	Belgium 1	Germany 2	Estonia 3	Ireland 4	Greece 5	Spain 6	France 7	Italy 8	Cyprus 9	
Government deficit (-)/surplus (+)										
2017	-0.7	1.3	-0.5	-0.3	0.6	-3.0	-3.0	-2.4	1.9	
2018	-0.8	1.9	-0.6	0.1	0.9	-2.5	-2.3	-2.2	-3.5	
2019	-1.9	1.5	0.1	0.5	1.1	-2.9	-3.1	-1.5	1.3	
2020	-9.1	-4.3	-5.6	-4.9	-10.1	-11.0	-9.1	-9.6	-5.7	
2020 Q4	-9.1	-4.3	-5.6	-4.9	-10.1	-11.0	-9.1	-9.6	-5.7	
2021 Q1	-8.8	-5.7	-5.6	-5.5	-12.6	-11.6	-10.3	-10.1	-7.4	
Q2	-6.3	-5.0	-4.3	-4.3	-10.9	-8.7	-8.7	-8.9	-6.2	
Q3	-6.5	-4.3	-3.8	-3.3	-9.5	-8.1	-8.6	-8.0	-4.6	
Government debt										
2017	102.0	64.7	9.1	67.8	179.5	98.6	98.1	134.2	92.9	
2018	99.9	61.3	8.2	63.1	186.4	97.5	97.8	134.4	98.4	
2019	97.7	58.9	8.6	57.2	180.7	95.5	97.5	134.3	91.1	
2020	112.8	68.7	19.0	58.4	206.3	120.0	115.0	155.6	115.3	
2020 Q4	112.8	68.7	19.0	58.4	206.3	120.0	115.0	155.6	115.3	
2021 Q1	116.9	69.9	19.6	60.4	209.8	125.3	117.9	159.6	121.4	
Q2	113.7	69.7	19.6	59.0	207.3	122.7	114.5	156.4	111.9	
Q3	111.4	69.4	19.6	57.6	200.7	121.8	116.0	155.3	109.6	
	Latvia 10	Lithuania 11	Luxembourg 12	Malta 13	Netherlands 14	Austria 15	Portugal 16	Slovenia 17	Slovakia 18	Finland 19
Government deficit (-)/surplus (+)										
2017	-0.8	0.4	1.4	3.2	1.3	-0.8	-3.0	-0.1	-1.0	-0.7
2018	-0.8	0.5	3.0	1.9	1.4	0.2	-0.3	0.7	-1.0	-0.9
2019	-0.6	0.5	2.3	0.5	1.7	0.6	0.1	0.4	-1.3	-0.9
2020	-4.5	-7.2	-3.5	-9.7	-4.2	-8.3	-5.8	-7.7	-5.5	-5.5
2020 Q4	-4.5	-7.2	-3.5	-9.7	-4.2	-8.3	-5.8	-7.7	-5.5	-5.6
2021 Q1	-6.6	-7.1	-2.5	-9.9	-5.8	-10.6	-7.1	-8.2	-6.3	-6.1
Q2	-7.1	-5.3	-0.3	-8.4	-4.2	-8.5	-5.9	-6.3	-6.1	-4.5
Q3	-5.6	-3.4	-0.2	-8.5	-3.6	-7.1	-3.9	-6.3	-5.7	-3.7
Government debt										
2017	39.0	39.1	21.8	47.7	56.9	78.5	126.1	74.2	51.6	61.2
2018	37.1	33.7	20.8	43.6	52.4	74.0	121.5	70.3	49.6	59.8
2019	36.7	35.9	22.3	40.7	48.5	70.6	116.6	65.6	48.1	59.5
2020	43.2	46.6	24.8	53.4	54.3	83.2	135.2	79.8	59.7	69.5
2020 Q4	43.2	46.6	24.8	53.3	54.3	83.2	135.2	79.8	59.7	69.6
2021 Q1	45.4	45.1	28.0	57.3	54.9	87.0	139.1	85.0	59.8	70.4
Q2	43.3	44.6	26.1	59.1	54.2	86.2	135.4	80.0	61.0	69.4
Q3	43.6	45.1	25.3	57.2	52.6	84.1	130.5	79.6	61.1	68.7

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 9 March 2022.

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PDF ISSN 2363-3417, QB-BP-22-002-EN-N  
HTML ISSN 2363-3417, QB-BP-22-002-EN-Q