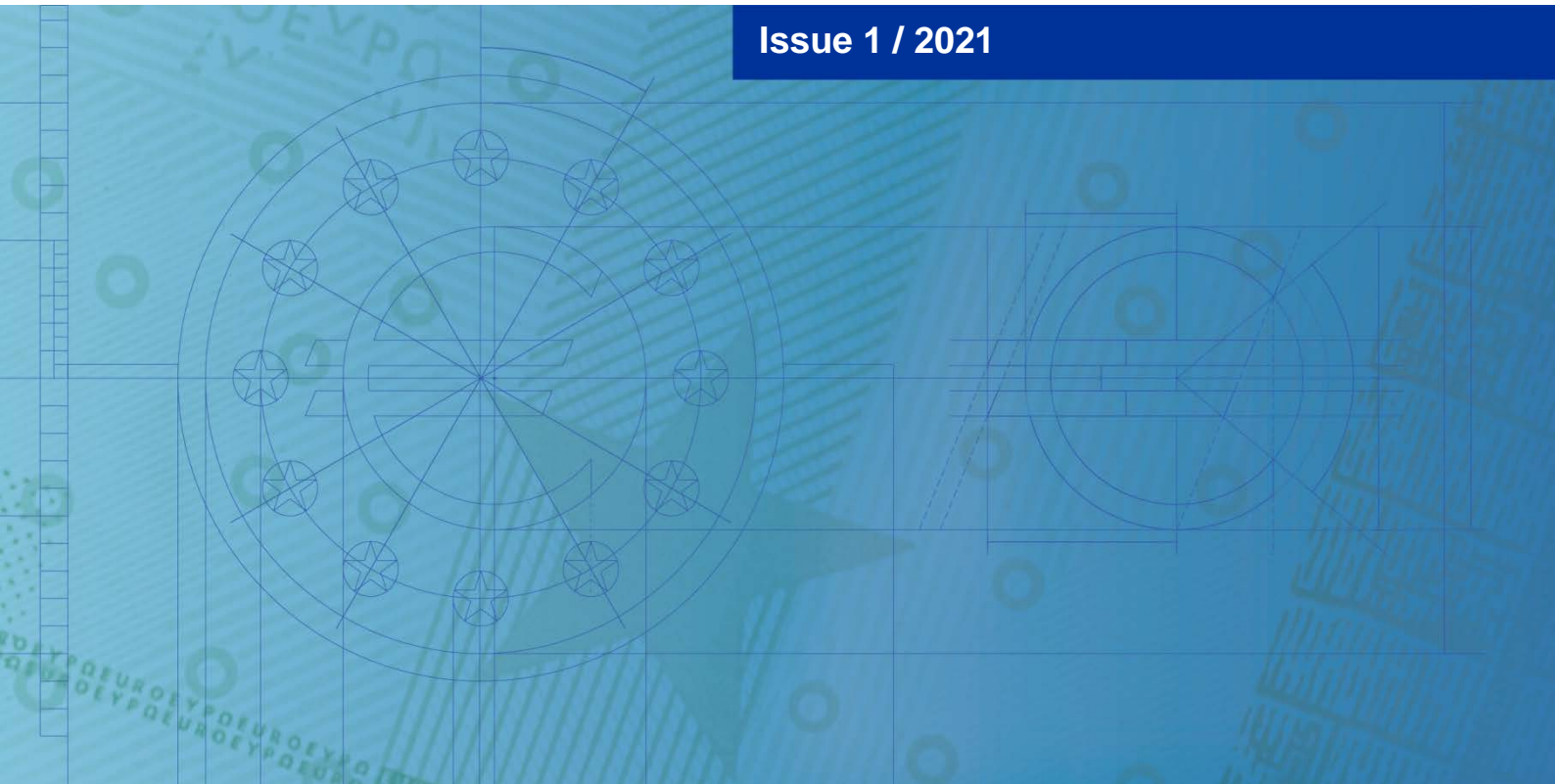




EUROPEAN CENTRAL BANK
EUROSYSTEM

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Update on economic and monetary developments

Summary

The start of vaccination campaigns across the euro area is an important milestone in the resolution of the ongoing health crisis. Nonetheless, the pandemic continues to pose serious risks to public health and to the euro area and global economies. The renewed surge in coronavirus (COVID-19) infections and the restrictive and prolonged containment measures imposed in many euro area countries are disrupting economic activity. Activity in the manufacturing sector continues to hold up well, but services sector activity is being severely curbed, albeit to a lesser degree than during the first wave of the pandemic in early 2020. Output is likely to have contracted in the fourth quarter of 2020 and the intensification of the pandemic poses some downside risks to the short-term economic outlook. Inflation remains very low in the context of weak demand and significant slack in labour and product markets. Overall, the incoming data confirm the Governing Council's previous baseline assessment of a pronounced near-term impact of the pandemic on the economy and a protracted weakness in inflation.

In this environment ample monetary stimulus remains essential to preserve favourable financing conditions over the pandemic period for all sectors of the economy. By helping to reduce uncertainty and bolster confidence, this will encourage consumer spending and business investment, underpinning economic activity and safeguarding medium-term price stability. Meanwhile, uncertainty remains high, including relating to the dynamics of the pandemic and the speed of vaccination campaigns. The Governing Council will continue to monitor developments in the exchange rate with regard to their possible implications for the medium-term inflation outlook. The Governing Council continues to stand ready to adjust all of its instruments, as appropriate, to ensure that inflation moves towards its aim in a sustained manner, in line with its commitment to symmetry.

The global economic recovery continued at the end of 2020, amid increasing headwinds from the resurgence of the pandemic. Economic activity in both the manufacturing and services sectors remains robust, although extended lockdowns in the countries more adversely affected by the pandemic increasingly pose downside risks. The recovery in global trade is ongoing, despite some signs of a loss in momentum towards the end of 2020. Global financial conditions remain highly accommodative, with equity markets being buoyed by COVID-19 vaccine-related developments, expansive fiscal policies and lower uncertainty regarding future trade relations between the European Union and the United Kingdom.

Over the review period (10 December 2020 to 20 January 2021) the forward curve of the euro overnight index average (EONIA) shifted upwards and flattened, which effectively removed most of its prior inversion. In general, risk sentiment improved and

global market-based inflation expectations increased on the back of developments in the United States. Consequently, the euro area risk-free curve does not suggest firm market expectations of an imminent rate cut. At the same time, long-term sovereign bond yields in the euro area increased somewhat, but remained at very subdued levels overall. Risk assets performed well, with equity prices increasing on both sides of the Atlantic. US equities outperformed their euro area counterparts and reached new record highs. In foreign exchange markets, the euro depreciated slightly in trade-weighted terms.

Following the unprecedented fall in euro area output in the first half of 2020, economic growth rebounded strongly in the third quarter of the year. However, incoming economic data, surveys and high-frequency indicators suggest that the resurgence of the pandemic and the associated intensification of containment measures have likely led to a decline in activity in the fourth quarter of 2020 and are also expected to weigh on activity in the first quarter of this year. This profile is broadly in line with the baseline scenario of the December 2020 macroeconomic projections. Whereas services sector activity is being severely curtailed by the intensification of containment measures (albeit to a lesser extent than in the first wave of the pandemic in spring 2020), manufacturing activity is continuing to hold up well. While growth in the fourth quarter will be weak and very possibly negative, the relative resilience of the industrial sector suggests that there could be some upside risks to growth. Growth patterns in the euro area are expected to remain uneven, both across sectors and across countries. Looking ahead, the roll-out of vaccines, which started in late December, allows for greater confidence in the resolution of the health crisis. However, it will take time until widespread immunity is achieved, and further adverse developments related to the pandemic, with challenges for public health and economic prospects, cannot be ruled out. Over the medium term, the economic recovery in the euro area should be supported by favourable financing conditions, an expansionary fiscal stance and a recovery in demand as containment measures are lifted and uncertainty recedes.

Euro area annual HICP inflation remained unchanged for the fourth month in a row, standing at -0.3% in December. Headline inflation is expected to move into positive territory in early 2021 owing to the end of the temporary VAT reduction in Germany, upward base effects in energy price inflation and the impact of recent oil price increases. However, underlying price pressures will remain subdued owing to weak demand, notably in the tourism and travel-related sectors, as well as to low wage pressures and the appreciation of the euro exchange rate. Once the impact of the pandemic fades, a recovery in demand, supported by accommodative monetary and fiscal policies, will put upward pressure on inflation over the medium term. Survey-based measures and market-based indicators of longer-term inflation expectations remain at low levels, although market-based indicators of inflation expectations have increased slightly.

In November 2020, monetary dynamics in the euro area continued to reflect the impact of the coronavirus crisis. Broad money growth increased further, while growth in loans to the private sector remained stable, with moderate lending to non-financial corporations and resilient lending to households. Strong money growth continued to be supported by the ongoing asset purchases by the Eurosystem, which remain the

largest source of money creation. The tightening of credit standards for loans to firms and to households continued in the fourth quarter of 2020 in the context of renewed COVID-19-related restrictions. Favourable lending rates have continued to support euro area economic growth.

Against this background, the Governing Council decided to reconfirm its very accommodative monetary policy stance.

First, the interest rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility will remain unchanged at 0.00%, 0.25% and -0.50% respectively. The Governing Council expects the key ECB interest rates to remain at their present or lower levels until it has seen the inflation outlook robustly converge to a level sufficiently close to, but below, 2% within its projection horizon, and such convergence has been consistently reflected in underlying inflation dynamics.

Second, the Governing Council will continue the purchases under the pandemic emergency purchase programme (PEPP) with a total envelope of €1,850 billion. The Governing Council will conduct net asset purchases under the PEPP until at least the end of March 2022 and, in any case, until it judges that the coronavirus crisis phase is over. The purchases under the PEPP will be conducted to preserve favourable financing conditions over the pandemic period. If favourable financing conditions can be maintained with asset purchase flows that do not exhaust the envelope over the net purchase horizon of the PEPP, the envelope need not be used in full. Equally, the envelope can be recalibrated if required to maintain favourable financing conditions to help counter the negative pandemic shock to the path of inflation.

The Governing Council will continue to reinvest the principal payments from maturing securities purchased under the PEPP until at least the end of 2023. In any case, the future roll-off of the PEPP portfolio will be managed to avoid interference with the appropriate monetary policy stance.

Third, net purchases under the asset purchase programme (APP) will continue at a monthly pace of €20 billion. The Governing Council continues to expect monthly net asset purchases under the APP to run for as long as necessary to reinforce the accommodative impact of its policy rates, and to end shortly before it starts raising the key ECB interest rates.

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.

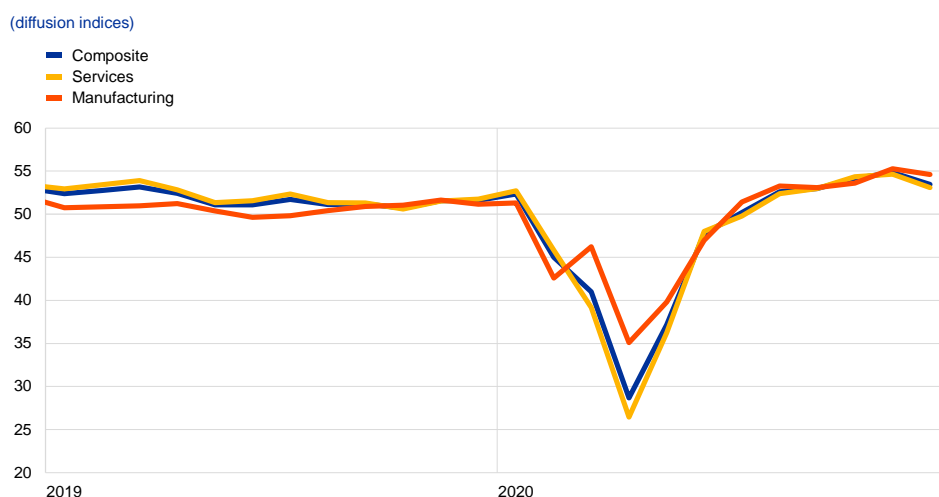
Finally, the Governing Council will continue to provide ample liquidity through its refinancing operations. In particular, the third series of targeted longer-term refinancing operations (TLTRO III) remains an attractive source of funding for banks, supporting bank lending to firms and households.

The Governing Council continues to stand ready to adjust all of its instruments, as appropriate, to ensure that inflation moves towards its aim in a sustained manner, in line with its commitment to symmetry.

1 External environment

The recovery in global economic activity continued towards the end of 2020, albeit with rising headwinds from a re-intensification of the pandemic. Daily new cases of coronavirus (COVID-19) infections continued to rise globally. However, the most recent wave of the pandemic and the related containment measures have weighed less strongly on economic activity than the first wave in March and April 2020. This can be seen in the levels of the global manufacturing and services Purchasing Managers' Index (PMI) excluding the euro area, which remained considerably higher at the end of 2020 compared with the sharp declines observed during the first wave (Chart 1). Looking ahead, global growth prospects this year will depend on how the pandemic evolves and the progress made on vaccination.

Chart 1
Global output PMI (excluding the euro area)



Sources: Markit and ECB staff calculations.
Note: The latest observations are for December 2020.

Risks to the global outlook remain skewed to the downside, driven by a re-intensification of the COVID-19 pandemic. The global rise in daily new COVID-19 infections is creating headwinds to the global economic recovery. Countries that are strongly affected by COVID-19 have lost growth momentum. At the same time, there are upside risks relating to the decline in uncertainty regarding the trade relations between the European Union (EU) and the United Kingdom, and the potential for a larger than expected fiscal support package in the United States given the new constellation of its Senate. However, slower than expected progress on vaccination rollout and further intensification of the pandemic could also imply stricter and longer lockdowns that will weigh on global growth prospects.

Global financial conditions remain highly accommodative in both advanced and emerging market economies. Equity markets edged higher, buoyed by COVID-19 vaccine-related developments, combined with supportive central bank action, expansive fiscal policies and lower uncertainty regarding future trade relations between the EU and the United Kingdom. In emerging market economies, equity prices have increased sharply, consistent with strong portfolio inflows into emerging

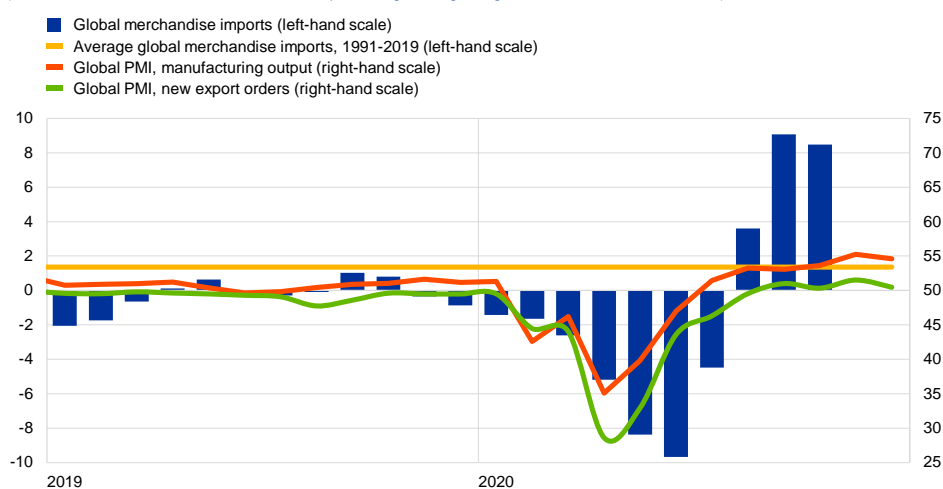
market bond and equity funds, which have now offset the record outflows from those countries' markets at the start of the COVID-19 crisis. Losses incurred by emerging market currencies in March 2020 also continued to be offset, although exchange rates remain substantially lower than pre-pandemic levels.

The recovery in global trade is ongoing, despite some signs of a loss in momentum. In the third quarter of 2020 data on goods trade pointed to a broad-based recovery across different categories. Intermediate goods, in particular, were a major driver of global exports in the third quarter, underlining the resilience of global value chains. At the same time, global PMI new export orders (excluding the euro area) fell in December, signalling some moderation in the momentum of global trade towards the end of 2020 (Chart 2).

Chart 2

Surveys and global trade in goods (excluding the euro area)

(left-hand scale: three-month-on-three-month percentage changes; right-hand scale: diffusion indices)



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

Note: The latest observations are for October 2020 for global merchandise imports and December 2020 for PMIs.

Global inflation was stable in November. Annual consumer price inflation in the countries of the Organisation for Economic Co-operation and Development remained at 1.2% in November, while inflation excluding energy and food remained at 1.6%. Looking ahead, global wage and price inflationary pressures are expected to remain contained amid ample spare capacity in most economies.

Commodity prices have continued to show broad-based increases since the last Governing Council meeting, with oil and non-energy prices increasing by more than 10%. The rebound in prices for most commodities over the past months is driven by a surge in global demand following the recovery from the COVID-19 shock. Demand from China for metals seems to be particularly strong. Copper prices have also been supported by government programmes for renewable infrastructure projects and electric vehicles, which are usually copper-intensive. Food prices have been supported by strong demand as governments stockpile and by supply disruptions as a result of hot and dry weather conditions in South America. In addition to rising

demand, in early January oil prices also benefited from Saudi Arabia's announcement of voluntary oil supply cuts of 1 million barrels per day.

Economic activity in the United States benefited from new fiscal stimulus amid headwinds from a weak labour market. Following a sharp recovery in the third quarter of 2020, economic growth is expected to slow in the fourth quarter. At the same time, a sizeable new fiscal stimulus package was agreed towards the end of last year, which will support consumption at a time when the labour market is still weak. Further stimulus measures are likely to be enacted by the new US administration. Meanwhile, the weakness in the labour market prevails, as suggested by rising permanent job losses through November, while the number of new job postings remains below pre-pandemic levels. The unemployment rate continued to be high at 6.7% in November, supported by a reduction in temporary layoffs. Overall, subdued consumer confidence, combined with rising numbers of daily new COVID-19 infections, pose downside risks to economic activity.

In Japan, the economic recovery stalled towards the end of 2020. While consumption remained relatively robust, growth in industrial production weakened in November, while the services PMI continues to stand below the neutral threshold, signalling ongoing weakness. While a new fiscal package of about 3.5% of GDP will support activity in the short term, a third wave of COVID-19 infections is prompting additional lockdown measures that will weigh on the growth outlook.

In the United Kingdom, notwithstanding support from the recent trade agreement with the EU, the near-term growth momentum remains weak. On 24 December 2020 the EU and the United Kingdom announced that they had reached an agreement on their future relationship, which ensures tariff-free goods trade and zero quotas on goods traded. However, companies face additional administrative burdens and longer border processes owing to customs and regulatory checks. This diminishes the uncertainty surrounding the Brexit negotiations, but the worsening pandemic situation and deteriorating labour market conditions continue to weigh on consumer confidence and demand. Official monthly UK GDP data and surveys signal a decline in growth into negative territory in the fourth quarter of 2020. In addition, pandemic developments escalated in December amid the emergence of a more infectious mutation of the virus. The government implemented a strict nationwide lockdown that will last at least through mid-February and further depress economic activity.

China, by contrast, experienced a continuation of its robust recovery. China's GDP in the fourth quarter increased by 2.6% (quarter on quarter), which brings annual growth for 2020 to 2.3%. This makes China one of the few countries in the world to record positive economic growth in 2020. The GDP figures for the final quarter of 2020 indicate that the recovery momentum has broadened from investment towards consumption. PMI data also signal that the service sector is gaining strength as the pandemic remains broadly under control in China, notwithstanding lockdowns in several municipalities amid new cases.

2 Financial developments

The euro overnight index average (EONIA) and the new benchmark euro short-term rate (€STR) averaged -47 and -56 basis points respectively¹ over the review period (10 December 2020 to 20 January 2021). In the same period, excess liquidity increased by approximately €86 billion to around €3,537 billion, mainly reflecting asset purchases under the pandemic emergency purchase programme (PEPP) and the asset purchase programme (APP), which were partially offset by autonomous factors and voluntary repayments of TLTRO II operations. No TLTRO III operations were conducted during the review period.

At the same time, the EONIA forward curve shifted upwards and flattened, which effectively removed most of its prior inversion. Currently, the forward curve does not suggest firm market expectations of an imminent rate cut.² EONIA forward rates remain below zero for horizons up to 2028, reflecting continued market expectations of a prolonged period of negative interest rates.

Long-term sovereign bond yields in the euro area increased somewhat in the reference period but remained at very low levels overall, while long-term yields in other major jurisdictions increased more significantly. The GDP-weighted euro area ten-year sovereign bond yield increased by 5 basis points to -0.19% (see Chart 3), reacting little to the December meeting of the Governing Council, the EU-UK Trade and Cooperation Agreement that was announced on 24 December 2020 and pandemic-related news. Ten-year sovereign bond yields in the United Kingdom and the United States were more volatile, increasing by 10 and 17 basis points respectively. This mainly reflects a global “reflation” trend driven by increasing inflation expectations in the United States since early January.

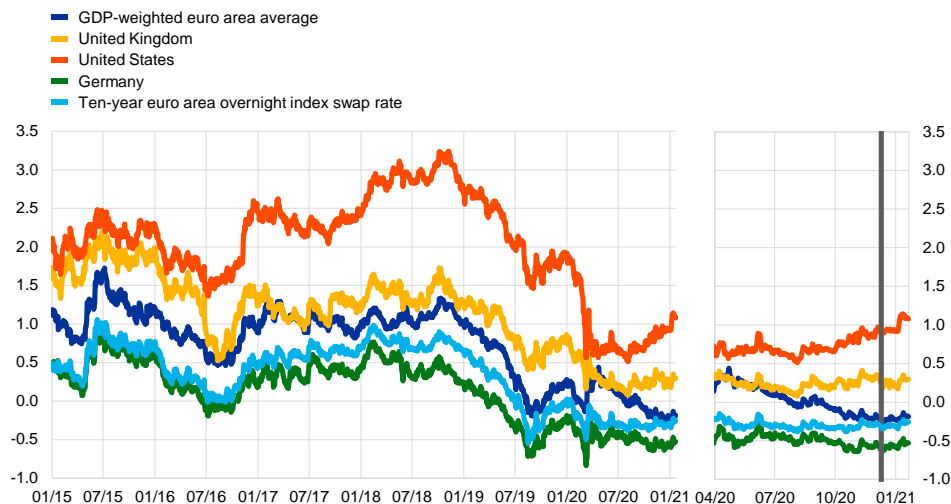
¹ The methodology for computing the EONIA changed on 2 October 2019; it is now calculated as the €STR plus a fixed spread of 8.5 basis points. See the box entitled “[Goodbye EONIA, welcome €STR!](#)”, *Economic Bulletin*, Issue 7, ECB, 2019.

² This assessment reflects information from the latest survey results and empirical estimates of “genuine” rate expectations, i.e. forward rates net of term premia.

Chart 3

Ten-year sovereign bond yields

(percentages per annum)



Sources: Refinitiv and ECB calculations.

Notes: Daily data. The vertical grey line denotes the start of the review period on 10 December 2020. The zoom window shows developments in sovereign yields since 1 April 2020. The latest observations are for 20 January 2021.

Euro area sovereign bond spreads relative to risk-free rates remained broadly unchanged.

Some countries saw their sovereign bond yields increase in early January, broadly in parallel with risk-free rates. Specifically, ten-year German, French, Italian, Spanish and Portuguese sovereign spreads moved by 0, -3, -1, -2 and -2 basis points respectively to reach -0.27, -0.05, 0.84, 0.33 and 0.29 percentage points. The GDP-weighted euro area ten-year sovereign spread (relative to the corresponding risk-free rate) consequently decreased by 2 basis point to 0.06 percentage points and as such remained below its pre-pandemic level of February 2020.

Equity prices increased on both sides of the Atlantic, with equities in the United States outperforming those in the euro area and reaching new record highs.

Equity prices in both the United States and Europe benefited from improved risk sentiment, driven in part by the global reflation trend which has been observed since early January. In the euro area, equity prices of non-financial corporations (NFCs) rose by 4.3% above the levels observed at the beginning of the review period. Bank equity prices also increased, albeit by a less pronounced 1.1%. In the United States, NFC equity prices increased by 5.5% – broadly in line with their euro area peers – while bank equity prices rose significantly, by 10.6%.

Euro area corporate bond spreads remained broadly stable and stand slightly above their pre-pandemic levels in some sectors.

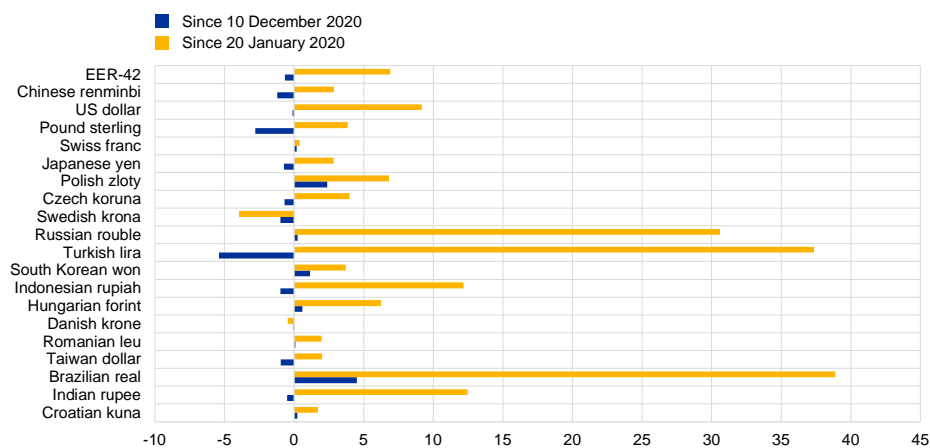
The spreads on both investment-grade NFC bonds and financial sector bonds relative to the risk-free rate remained stable over the review period to stand at 59 and 70 basis points respectively as at 20 January 2021. Overall, there have been only minor movements in corporate bond spreads since the December meeting of the Governing Council, with current conditions appearing highly predicated on ongoing fiscal and monetary policy support.

In foreign exchange markets, the euro depreciated slightly in trade-weighted terms (see Chart 4). 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, depreciated by 0.7%. Regarding bilateral exchange rate developments, the euro depreciated against the pound sterling (by 2.8%), mainly reflecting the pound's appreciation following the conclusion of the Brexit process with the announcement of the EU-UK Trade and Cooperation Agreement. Amid stabilisation in the global risk sentiment, the euro appreciated slightly against the Swiss franc (by 0.2%), while depreciating moderately against the Japanese yen (by 0.7%) and the US dollar (by 0.1%). The euro weakened against the Turkish lira (by 5.4%) and the Chinese renminbi (by 1.2%) and strengthened against the Brazilian real (by 4.5%).

Chart 4

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 20 January 2021.

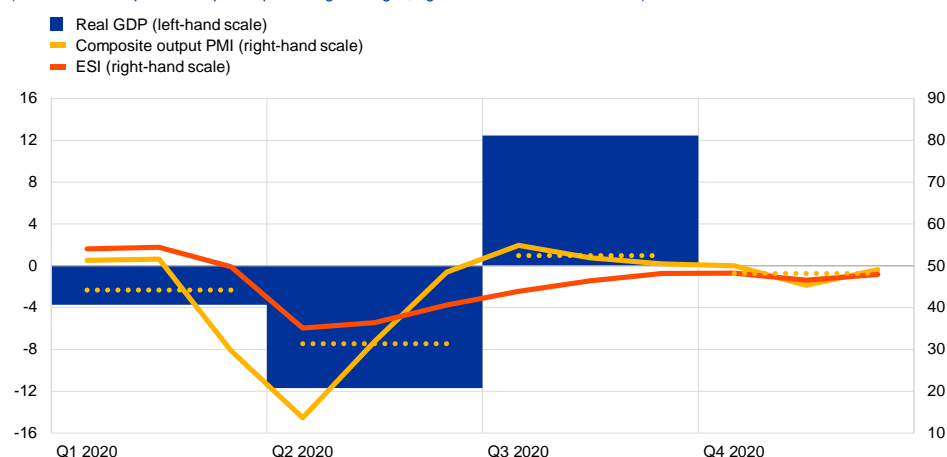
3 Economic activity

Following the sharp and deep fall in euro area output in the first half of 2020, economic growth rebounded strongly in the third quarter, but it could well turn negative again in the fourth quarter. Total economic activity rose by 12.4% quarter on quarter in the third quarter of 2020, following declines of 11.7% and 3.7% in the second and first quarters respectively (Chart 5). A breakdown of growth in the third quarter shows that the recovery in output was broadly based, with increased domestic demand and net trade making positive contributions to growth totalling 11.4 and 2.3 percentage points respectively, while changes to inventories made a negative contribution totalling 1.2 percentage points. Hard data, survey results and high-frequency indicators all point to a renewed decline in GDP in the fourth quarter, which would be broadly in line with expectations, reflecting the intensification of containment measures as a result of the renewed rise in COVID-19 infection rates. Whereas service sector activity is being severely curtailed (albeit to a lesser extent than in the first wave in spring 2020), manufacturing activity is continuing to hold up well. Growth patterns in the euro area are expected to remain uneven across sectors, with the service sector being hardest hit by the pandemic (partly as a result of its sensitivity to social distancing measures). The same is true across countries, with developments in output being dependent on infection rates and efforts to contain the pandemic. [Box 3](#) of this issue of the Economic Bulletin examines the drivers of regional differences in the economic impact of COVID-19 in the four largest euro area economies during the initial phase of the pandemic.

Chart 5

Euro area real GDP, the composite output Purchasing Managers' Index and the Economic Sentiment Indicator

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



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

Notes: The two lines indicate monthly developments; the bars show quarterly data. The Economic Sentiment Indicator (ESI) has been standardised and rescaled so that it has the same mean and standard deviation as the Purchasing Managers' Index (PMI). Dotted lines show quarterly averages of monthly PMI observations. The latest observations relate to the third quarter of 2020 for real GDP and December 2020 for the ESI and the PMI.

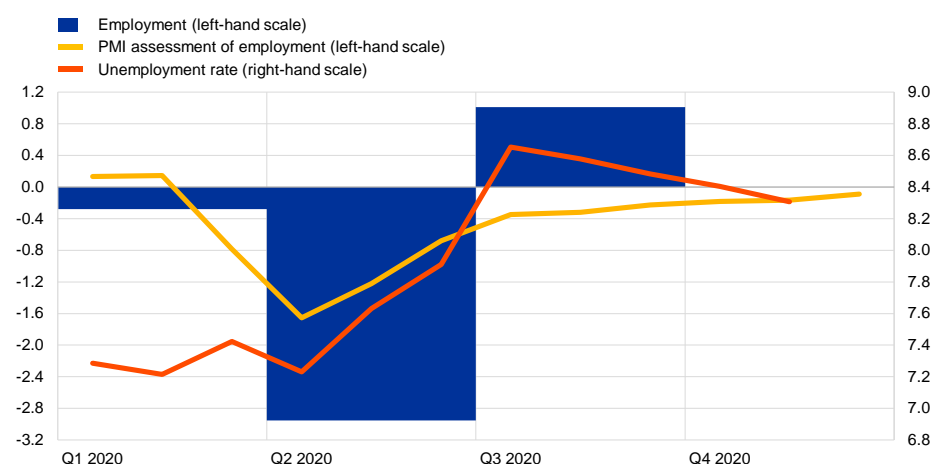
The unemployment rate in the euro area declined further in November 2020, helped by an increase in the number of workers covered by job retention schemes. The unemployment rate stood at 8.3% in November, down from 8.4% in

October and just under 8.7% in July (Chart 6). At the same time, the figure for November was still around 1.1 percentage points higher than the rate seen in February prior to the onset of the COVID-19 pandemic. Job retention schemes continued to cushion developments in the labour market, covering an estimated 5.8% of the labour force in November, up from around 5% in October in response to the latest lockdown measures.³ Employment increased by 1.0% in the third quarter of 2020, following a decline of 3.0% in the second quarter. However, despite that improvement, employment was still 2.2% lower than it had been in the fourth quarter of 2019. Total hours worked increased by 14.8% in the third quarter, having declined by 13.6% in the second quarter, but remained 4.6% lower than they had been in the fourth quarter of 2019. Information on employment and hours worked in the fourth quarter of 2020 is not yet available.

Chart 6

Euro area employment, the PMI assessment of employment and the unemployment rate

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



Sources: Eurostat, Markit and ECB calculations.

Notes: The two lines indicate monthly developments; the bars show quarterly data. The PMI is expressed as a deviation from 50 divided by 10. The latest observations relate to the third quarter of 2020 for employment, December 2020 for the PMI and November 2020 for the unemployment rate.

Short-term labour market indicators have continued to improve somewhat, but are still signalling contractionary developments. The monthly PMI for employment rose marginally to stand at 49.1 in December – its eighth consecutive increase – up from 48.3 in November and 48.2 in October (Chart 6). The PMI for employment has recovered significantly since recording an all-time low in April 2020. However, it continues to point to a contraction in employment and could be read as an early indication of subdued employment prospects in the period ahead.

Having increased by some 14% in the third quarter, consumer spending weakened in the fourth quarter as social distancing measures were strengthened. In November, retail trade shrank by 6.1% month on month, following a 1.4% increase in October. At the same time, consumer confidence rebounded in

³ See the article entitled “The impact of the COVID-19 pandemic on the euro area labour market”, *Economic Bulletin*, Issue 8, ECB, 2020.

December. The European Commission's consumer confidence indicator rose to -13.9 in that month, up from -17.6 in November, mainly on account of relative improvements in the forward-looking components of the survey. However, consumer confidence remained low compared with pre-pandemic levels. While labour income has been severely affected by the COVID crisis, fiscal transfers have absorbed most of the impact on euro area households' disposable income. The rebound in consumption in the third quarter of 2020 was reflected in a decline in the household saving rate, which fell to 17.3% in that quarter, down from 24.6% in the second quarter. Looking ahead, the saving rate is likely to remain above its pre-COVID level in the short term on account of both precautionary and involuntary motives, before gradually normalising thereafter.⁴

After the strong growth seen in the third quarter, which was driven by very dynamic growth in machinery and equipment, corporate investment is likely to have increased slightly further in the fourth quarter, but the second wave of the pandemic suggests downside risks to investment in the first quarter of 2021.

Industrial production of capital goods increased further in November, with its average value in October and November standing 6.6% higher than the level seen in the third quarter. Capacity utilisation increased to 76%, up from 72% in the third quarter, but was still 5 percentage points lower than it had been prior to the pandemic. Meanwhile, survey indicators for the capital goods sector (such as the European Commission's industrial confidence indicator and the relevant PMI) tended to improve in the fourth quarter relative to the third quarter. In addition, the third quarter brought some relief to corporate balance sheets, with national accounts data indicating that gross operating surpluses rebounded by 12% in that quarter, following a cumulative decline of more than 14% in the first half of 2020. New loans to non-financial corporations contracted slightly in the third quarter, having increased strongly in the first two quarters in the interest of maintaining essential business operations, before remaining broadly stable in October and November. However, the further intensification of the pandemic suggests downside risks to investment in the first quarter of 2021.

Housing investment (proxied by real residential investment) recovered strongly in the third quarter, increasing by 12.3% quarter on quarter, following a cumulative decline of 14.3% in the first half of 2020, and is expected to remain subdued in the short term.

That recovery was particularly strong in the large euro area countries that were most affected by lockdowns during the first wave of the pandemic, with Italy, France and Spain seeing substantial increases of 45.0%, 30.6% and 15.7% respectively. In Germany, meanwhile, housing investment declined by 2.0% in the third quarter. Activity tended, overall, to be driven by firms working their way through a large backlog of construction plans, with construction sites reopening and new building projects being launched. However, the short-term outlook for housing investment remains subdued, with the backlog of orders dwindling and new business activity drying up as countries increase restrictions in order to contain the spread of the virus. Indeed, the euro area PMI for construction output remained below the expansionary threshold in the fourth quarter, declining further quarter on quarter in average terms. Meanwhile, construction production increased by just 1.4% month on

⁴ See also the box entitled "[COVID-19 and the increase in household savings: precautionary or forced?](#)", *Economic Bulletin*, Issue 6, ECB, 2020.

month in November, pointing to an overall slowdown in quarter-on-quarter terms in the fourth quarter and suggesting that housing investment might be following a similar trend. Looking further ahead, despite some slight improvements in the fourth quarter of 2020, firms' expectations continue to point to weak developments over the short term.

Following the rebound in euro area trade seen in the third quarter, growth in trade has moderated. November data on nominal trade in goods confirm that growth in extra- and intra-euro area trade has moderated since September, but the process of returning to pre-pandemic levels of trade is continuing, with growth rates higher than those seen in the two years to February 2020 (with extra-euro area imports and exports around 4.5% below pre-pandemic levels, and intra-euro area trade around 3.2% lower). Euro area imports and exports have increased in all sub-categories since April 2020, especially exports to the United Kingdom (in part as a consequence of UK stockpiling of goods ahead of Brexit) and exports to China. Consumption goods (especially cars and fuel) have seen a robust expansion, boosted by strong Chinese demand for German goods. Conversely, the weakness of private investment has dampened trade in capital goods and will continue to weigh on activity until uncertainty surrounding the rolling-out of vaccines and the evolution of the pandemic dissipates. While it has been less affected than capital goods, trade in intermediate goods (which remains subdued) tends to shape the overall picture, as it accounts for the bulk of total flows (especially for intra-euro area trade). Leading indicators point to further improvements at the end of the year, including improvements to trade in services (which is still very depressed). Indeed, the PMI for new service export orders suggests that the situation improved slightly in December as the winter holiday season kicked in.

Economic indicators (particularly survey results) suggest that output may well contract in the fourth quarter of 2020, reflecting the strengthening of containment measures. Industrial production (excluding construction) increased by 2.5% month on month in November, meaning that the average level of production in the first two months of the fourth quarter was 3.8% higher than the average for the third quarter. However, if we look at more recent survey data, we can see that the composite output PMI fell to 48.1 in the fourth quarter, down from 52.4 in the third quarter, thus indicating a contraction in output. This decline was explained entirely by developments in the service sector, while the manufacturing sector displayed a small improvement. This is not surprising and reflects services' greater sensitivity to social distancing measures. While growth will be weak – and very possibly negative – in the fourth quarter, the relatively resilient industrial sector points to some upside risks to growth. High-frequency indicators also point to a slowdown in the fourth quarter.

Looking ahead, the roll-out of vaccines, which started in late December, allows for greater confidence in the resolution of the health crisis. However, it will take time for widespread immunity to be achieved, and further adverse developments relating to the pandemic cannot be ruled out. While uncertainty surrounding COVID-19 is likely to dampen the recovery in the labour market and weigh on consumption and investment, the economic recovery in the euro area should be supported by favourable financing conditions, an expansionary fiscal stance and a recovery in

demand as containment measures are lifted and uncertainty recedes. The results of the latest round of the [Survey of Professional Forecasters](#) (which was conducted in early January) show that private sector GDP growth forecasts have been revised downwards for 2021 and upwards for 2022 relative to the previous round (which was conducted in early October). Forecasters foresee a 2.5% decline in GDP in the final quarter of 2020, followed by flat growth in the first quarter of 2021. This is somewhat more pessimistic than the short-term outlook entailed by the December 2020 Eurosystem staff macroeconomic projections, which foresaw a 2.2% decline in the fourth quarter, followed by a 0.6% increase in the first quarter of 2021. That revision is consistent with increased pessimism regarding the short-term outlook on account of the intensification of containment measures, together with some rising hope regarding medium-term prospects on the back of expectations of a safe and successful start to the vaccination process.

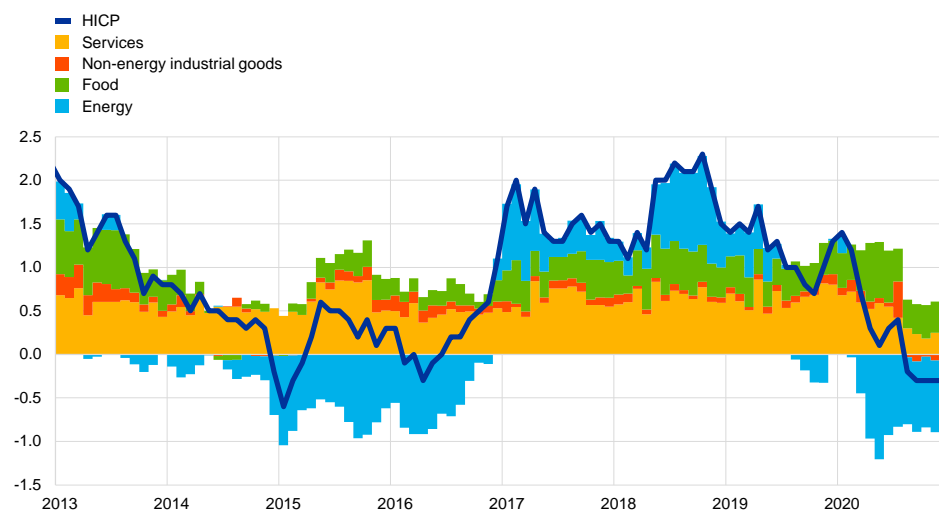
4 Prices and costs

Headline inflation remained unchanged for the fourth consecutive month in December 2020 at -0.3%. The unchanged inflation rate of -0.3% in December masks movements in the main components: while energy and services inflation increased, food inflation and non-energy industrial goods (NEIG) inflation decreased (Chart 7). Despite the recent increase, energy inflation remained deep in negative territory at -6.9%, representing a still substantial drag on HICP inflation. Most HICP sub-indices in December were considered reliable by Eurostat, although the share of price imputations has risen again owing to new containment and lockdown measures.

Chart 7

Contributions of components of euro area headline HICP inflation

(annual percentage changes; percentage point contributions)



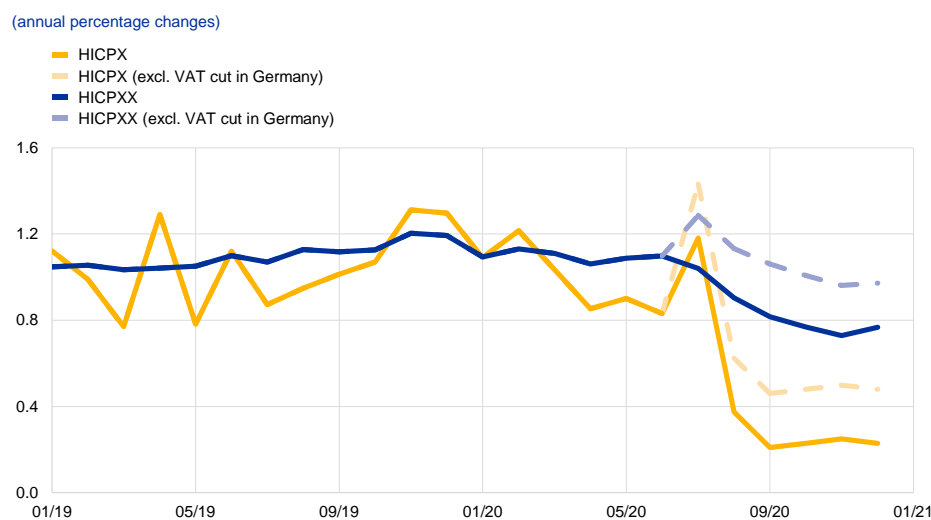
Sources: Eurostat and ECB calculations.

Notes: The latest observations are for December 2020. Growth rates for 2015 are distorted upwards owing to a methodological change (see the box entitled "A new method for the package holiday price index in Germany and its impact on HICP inflation rates", *Economic Bulletin*, Issue 2, ECB, 2019).

Measures of underlying inflation remained broadly unchanged at low levels.

HICP inflation excluding energy and food (HICPX) remained unchanged for the fourth consecutive month at a historical low of 0.2% in December. The unchanged inflation rate conceals a decline in NEIG inflation to -0.5% in December from -0.3% in November and a slight increase in services inflation to 0.7% from 0.6% over the same period. The decline in NEIG inflation was mainly due to the clothing and footwear component, while the increase in services inflation was largely due to a modest reversal of the substantial declines in travel-related services inflation (see Box 6). Other measures of underlying inflation remained broadly stable at low levels in December. The low levels also continued to reflect the temporary reduction in German VAT rates during the second half of 2020 (Chart 8).

Chart 8
Measures of underlying inflation



Sources: Eurostat and ECB calculations based on estimates in "Impact of the temporary reduction in VAT on consumer prices", *Monthly Report*, Deutsche Bundesbank, November 2020.
Notes: The latest observations are for December 2020. HICPXX stands for HICP excluding energy, food, travel-related items and clothing and footwear.

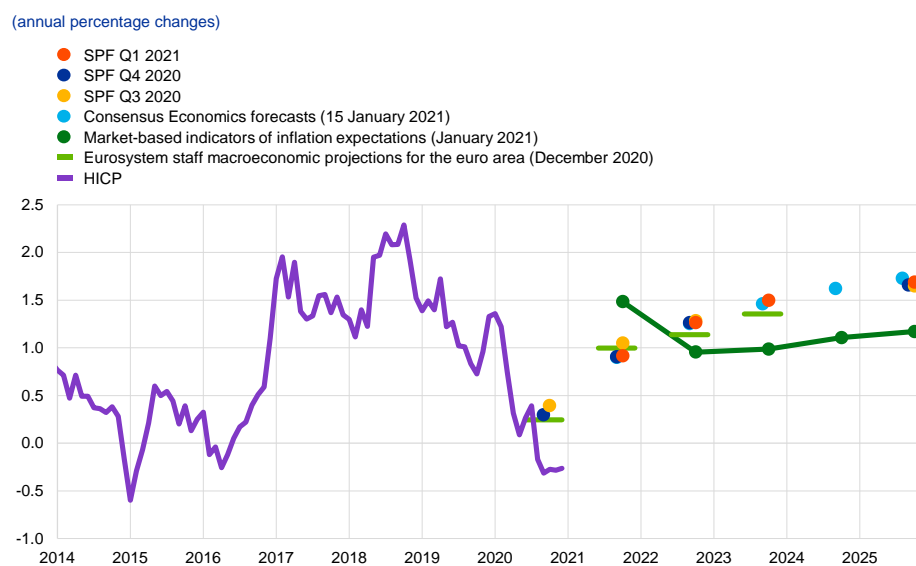
Pipeline price pressures for NEIG inflation increased in the early stages of the supply chain, albeit from generally low levels. Domestic producer price inflation for non-food consumer goods was 0.7% in November, unchanged from the previous month and continuing to hover slightly above its long-term average, while import price inflation for non-food consumer goods remained negative, partly owing to past euro appreciation, albeit increasing marginally to -1.1% in November from -1.2% in October. At the earlier input stages, inflation for intermediate goods increased substantially in November: domestic producer price inflation increased to -0.6%, from -1.3% in the previous month, while import price inflation increased to -1.6% from -2.4% over the same period. This may in part reflect some easing in downward pressures from the euro effective exchange rate and oil prices and a further strengthening in upward pressures from prices for other commodities.

Output price inflation as measured by the GDP deflator declined in the third quarter of 2020. The annual growth rate of the GDP deflator declined to 1.1% in the third quarter of 2020 from 2.4% in the previous quarter. This mainly reflected the impact of a sharp decline in unit labour cost growth as less negative labour productivity growth, which was boosted by a strong pick-up in GDP growth, outweighed a strengthening of compensation per employee growth.⁵ A lower recourse to short-time work schemes in view of the rebound in economic activity not only supported compensation per employee growth but, via lower subsidies, also implied an easing of the negative contribution from net indirect taxes to the GDP deflator. At the same time, reflecting the pick-up in economic activity, profit margins increased compared to the previous quarter, although their contribution was still negative.

⁵ For more information, see the box entitled "Short-time work schemes and their effects on wages and disposable income", *Economic Bulletin*, Issue 4, ECB, 2020.

Market-based indicators of medium to longer-term inflation expectations in the euro area increased, but still remained at very subdued levels, while survey-based indicators of inflation expectations were broadly stable at low levels (Chart 9). Movements in inflation markets remained limited, with an uptick taking place in mid-January. Since the Governing Council meeting on 10 December, the most prominent indicator of longer-term market-based inflation expectations, the five-year forward inflation-linked swap (ILS) rate five years ahead, has risen by 6 basis points to 1.32%, slightly above its pre-pandemic level (1.25%). Nevertheless, current levels of longer-term forward ILS rates continue to be very subdued and do not suggest a return of inflation to the ECB's aim in the foreseeable future. Survey-based indicators of longer-term inflation expectations were unchanged or increased slightly, but remained at low levels. According to the ECB Survey of Professional Forecasters (SPF) for the first quarter of 2021, conducted in early January 2021, longer-term inflation expectations were unchanged at 1.7%. Longer-term inflation expectations as measured by Consensus Economics in January were also 1.7%, up slightly from 1.6% in the previous round in October.

Chart 9
Market and survey-based indicators of inflation expectations



Sources: ECB Survey of Professional Forecasters (SPF), Eurosystem staff macroeconomic projections for the euro area (December 2020) and Consensus Economics (15 January 2021).
Notes: The SPF for the first quarter of 2021 was conducted between 7 and 11 January 2021. The market-implied curve is based on the one-year spot inflation rate and 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 expectations are for 19 January 2021.

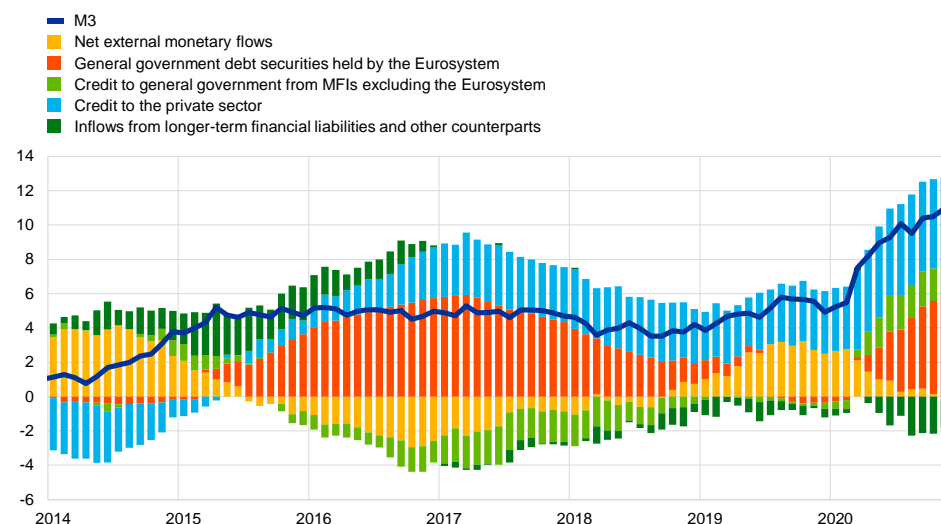
5 Money and credit

Broad money growth increased further in November 2020. The annual growth rate of M3 rose to 11.0% in November, after 10.5% in October (Chart 10). While the coronavirus (COVID-19) crisis has triggered an exceptional preference for liquidity, the strong growth in broad money is, to a large extent, reflecting the sizeable support measures taken by the ECB and supervisory authorities, as well as by national governments, to ensure that sufficient liquidity is provided to the economy to address the economic consequences and uncertainties stemming from the crisis. In November, a further contributing factor was higher net spending by governments from the deposit buffers accumulated in previous months, as these deposits are not part of M3. The use of these buffers reflected the tightening of COVID-related restrictions and the reactivation of fiscal support measures in a month with broadly zero net borrowing by governments. The increase in M3 was mainly driven by the narrow aggregate M1, which includes the most liquid components of M3. The annual growth rate of M1 increased to 14.5% in November, after 13.8% in October. This development was mainly attributable to the strong annual growth in overnight deposits held by firms and households, for which an important driver was a strong preference for liquidity. Other short-term deposits and marketable instruments continued to make a small contribution to annual M3 growth, mirroring the low level of interest rates and the search-for-yield behaviour of investors.

Domestic credit has remained the main source of money creation. The Eurosystem's net purchases of government securities under the ECB's asset purchase programme (APP) and the pandemic emergency purchase programme (PEPP) made the largest contribution to M3 growth in November 2020 (red portion of the bars in Chart 10). Credit to the private sector lost some momentum but continued to provide the second largest contribution to M3 growth (blue portion of the bars in Chart 10). Further support to M3 growth came from credit to general government from monetary financial institutions (MFIs) excluding the Eurosystem (light green portion of the bars in Chart 10), but the respective flows have moderated recently. As in previous months, the contribution from annual net external monetary flows remained negligible in November (yellow portion of the bars in Chart 10), while longer-term financial liabilities and other counterparts dampened broad money growth. This was due to developments in other counterparts (repurchase agreements, in particular), while favourable conditions on targeted longer-term refinancing operations (TLTROs) continued to support banks' funding substitution, resulting in net redemptions in long-term bank bonds.

Chart 10 M3 and its counterparts

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



Source: ECB.

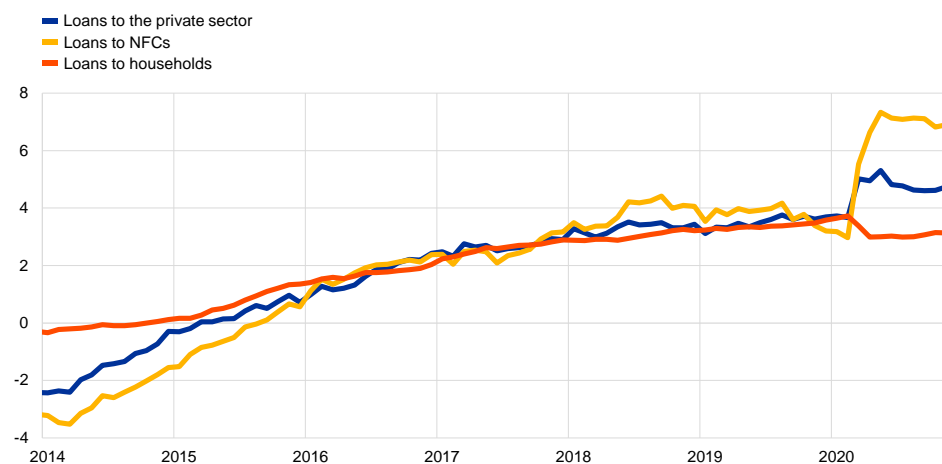
Notes: Credit to the private sector includes monetary financial institution (MFI) loans to the private sector and MFI holdings of securities issued by the euro area private non-MFI sector. As such, it also covers the Eurosystem's purchases of non-MFI debt securities under the corporate sector purchase programme and the PEPP. The latest observation is for November 2020.

Growth in loans to the private sector remained stable in November 2020. The annual growth rate of bank loans to the private sector stood at 4.7% in November, broadly unchanged since June (Chart 11). The pattern of broadly stable lending to households and moderating lending to firms since the end of the summer has continued. This shift is being driven by the specific nature of the COVID-19 crisis, which led to a collapse in corporate cash flows and compelled firms to step up significantly their reliance on external financing during the first phase of the crisis. In November loans to non-financial corporations (NFCs) were broadly unchanged at 6.9%, while monthly lending flows to NFCs continued to moderate. The moderation in borrowing by firms from banks since the summer has coincided with lower recourse to government guarantees, which may signal that firms' emergency liquidity needs are diminishing. Annual growth in loans to households remained almost unchanged at 3.1% in November, after 3.2% in October. Mortgage lending continued to drive household borrowing, while growth in consumer credit weakened in November, in line with a tightening of COVID-related restrictions.

Chart 11

Loans to the private sector

(annual growth rate)



Source: ECB.

Notes: Loans are adjusted for loan sales, securitisation and notional cash pooling. The latest observation is for November 2020.

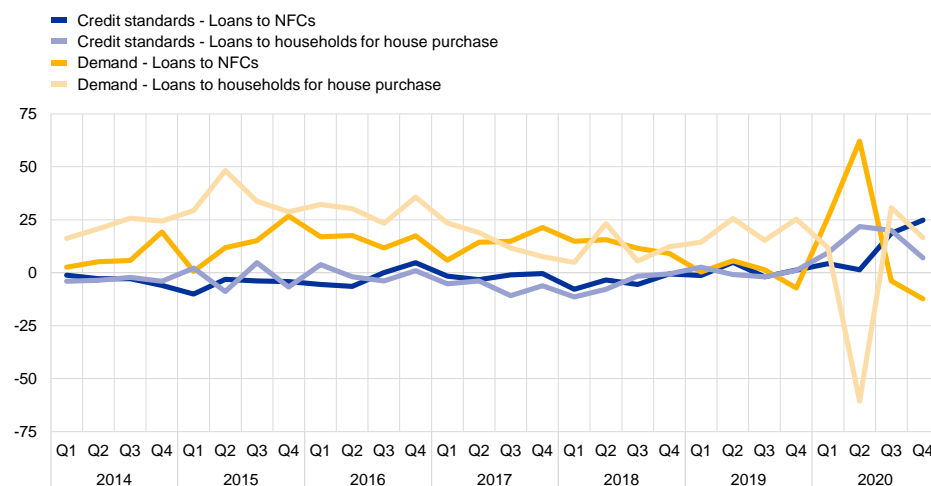
The January 2021 euro area bank lending survey shows that the tightening of credit standards for loans to firms and to households continued in the fourth quarter of 2020 in the context of renewed COVID-related restrictions (Chart 12).

Credit standards on loans to firms tightened in the fourth quarter of 2020, mainly driven by heightened risk perceptions (related to the deterioration in the general economic outlook and the firm-specific situation). For the first quarter of 2021, banks expect a further net tightening of credit standards for firms. Credit standards for housing loans and for consumer credit continued to tighten in the fourth quarter of 2020 but at a slower pace than in the previous quarters of 2020. Firms' demand for loans or drawing of credit lines declined in the fourth quarter of 2020, after a continued net increase in demand for inventories and working capital in previous quarters, which reflected firms building up precautionary liquidity buffers. By contrast, net demand for housing loans increased in the fourth quarter, supported by the low general level of interest rates and, to a lesser extent, improving housing market prospects, while net demand for consumer credit declined. Banks expect a further moderate net tightening of credit standards for households and a slight decline in housing loan demand in the first quarter of 2021. Banks also indicated that COVID-related government guarantees were important in supporting banks' credit standards and terms and conditions for loans to firms – both SMEs and large enterprises – in 2020. Euro area banks' access to retail and wholesale funding generally improved in the fourth quarter of 2020. Euro area banks also indicated that their access to debt securities funding and securitisation continued to improve in the fourth quarter of 2020. At the same time, they highlighted a continued strengthening of their capital position against the backdrop of regulatory and supervisory actions in the second half of 2020 and a net tightening of their credit standards for loans to enterprises and for consumer credit on account of non-performing loan ratios.

Chart 12

Changes in credit standards and net demand for loans (or credit lines) to enterprises and to households for house purchase

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



Source: ECB (euro area bank lending survey).

Notes: For the bank lending survey questions on credit standards, "net percentages" are defined as the difference between the sum of the percentages of banks responding "tightened considerably" or "tightened somewhat" and the sum of the percentages of banks responding "eased somewhat" or "eased considerably". For the survey questions on demand for loans, "net percentages" are defined as the difference between the sum of the percentages of banks responding "increased considerably" or "increased somewhat" and the sum of the percentages of banks responding "decreased somewhat" or "decreased considerably". The latest observation is for the fourth quarter of 2020.

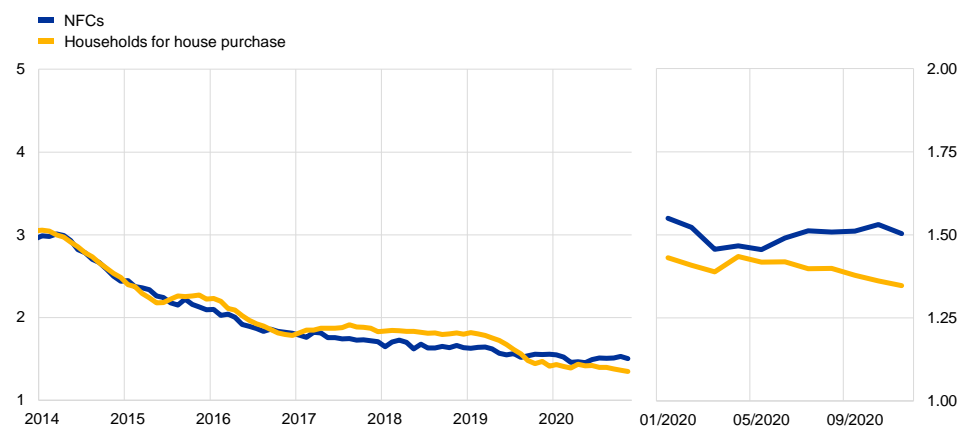
Favourable lending rates have continued to support euro area economic growth.

Lending rates have stabilised at their historical lows, reflecting the continued impact of the measures taken by the ECB, supervisors and governments to support credit supply conditions. In November 2020 the composite bank lending rates for loans to NFCs and households remained broadly unchanged at 1.50% and 1.35% respectively (Chart 13). This development was widespread across euro area countries. Moreover, the spread between bank lending rates on very small loans and those on large loans stabilised at levels below those observed before the start of the pandemic. At the same time, the severe economic impact of the resultant crisis on firms' revenues, households' employment prospects and overall borrower creditworthiness, as reflected in the bank lending survey, may put upward pressure on bank lending rates. Therefore, policy support – notably the expansion of the PEPP and the recalibration of TLTRO III adopted in December 2020 – will help to limit upward pressures on bank lending rates in a difficult and uncertain economic environment.

Chart 13

Composite bank lending rates for NFCs and households

(percentages per annum)



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 latest observation is for November 2020.

Boxes

1 Pandemic-induced constraints and inflation in advanced economies

Prepared by Alina Bobasu, Luigi Crucil, Alistair Dieppe and Marcel Tirpák

The coronavirus (COVID-19) pandemic had a severe and extraordinary impact on the global economy during the first half of 2020. Economic activity across advanced economies was severely affected, and consumer price inflation declined on the back of these developments. The pandemic weighed on not only headline inflation but also underlying inflation measures, such as consumer price inflation excluding food and energy, which declined during the initial lockdowns and gradually rebounded thereafter. This pattern was shaped by the confluence of two key forces triggered by the crisis: weak demand and constrained supply. This box uses granular data on consumer spending and prices, together with a structural analysis using Bayesian Vector Autoregression (BVAR) models, to study their relative impact on inflation in key advanced economies outside the euro area.⁶

Understanding the relative impact of demand and supply shocks in the pandemic is crucial for gauging the inflation outlook. As the crisis propagated through many channels in the economy, the existing literature has not yet reached a consensus on the relative contribution of demand and supply shocks.⁷ Lockdowns and public health measures reduce economic activity by making it impossible for firms and households to produce and spend as they usually would. This results in varied disruption to production networks across countries and sectors.

Survey data show sectoral output and prices declining precipitously in the second quarter amid strict containment measures. Lockdowns and mobility restrictions were tightened further as the pandemic spread, stoking uncertainty among firms and consumers. This negative shock to the labour supply meant that firms were unable to meet existing demand. Activity in contact-intensive services sectors, such as tourism and recreation, fell particularly sharply, as did demand for transport services (Chart A, panel (a)). Healthcare services was the only sector where output remained broadly unchanged, while foodstuffs and pharmaceutical and biotechnology products

⁶ For analysis of the euro area and euro area countries, see “The role of demand and supply factors in HICP inflation during the COVID-19 pandemic – a disaggregated perspective”, *Monthly Bulletin*, Issue 1, ECB, 2021.

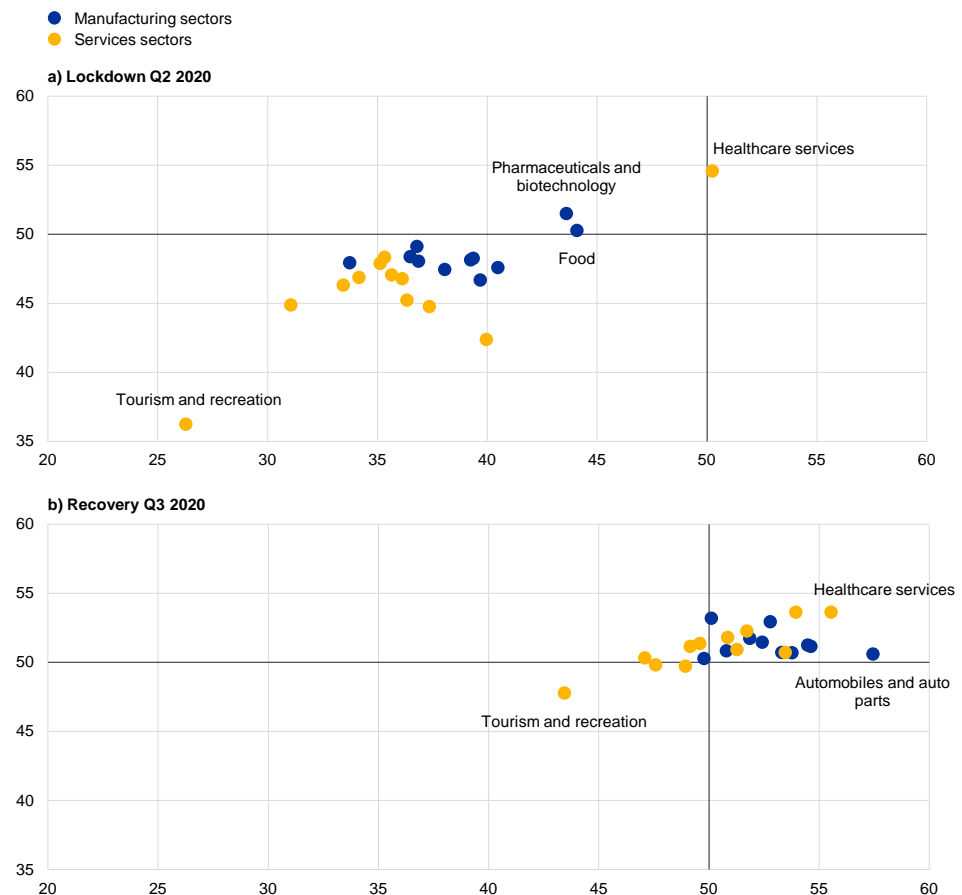
⁷ Some papers find that aggregate demand shocks dominated in the first quarter of 2020, whereas aggregate supply shocks prevailed in the second quarter of 2020 (see Bekaert, G., Engstrom E. and Ermolov A., “Aggregate Demand and Aggregate Supply Effects of COVID-19: A Real-time Analysis”, Finance and Economics Discussion Series, No 2020-049, Board of Governors of the Federal Reserve System, 2020). By contrast, other analysis (see Baqaee, D. and Farhi, E., “Supply and Demand in Disaggregated Keynesian Economies with an Application to the Covid-19 crisis”, [CEPR Discussion Papers](#), No 14743, Centre for Economic Policy Research, 2020) used a sectoral model to demonstrate that both stagflationary sectoral supply shocks and deflationary demand shocks are needed to explain the large fall in output and moderate inflation response observed in the United States during the initial lockdown.

saw rising prices despite falling output. In the third quarter, when less stringent containment measures were in place, output and prices recovered across most sectors of the economy, with the notable exception of tourism and recreation, where the impact of the pandemic persisted (Chart A, panel (b)).

Chart A

Global sectoral output and prices: a survey data perspective

(x-axis: output; y-axis: output price; PMI, diffusion indices, quarterly averages)



Source: IHS Markit (via Haver Analytics).

Notes: PMI surveys for global sectoral output and output prices. Values above (below) 50 indicate an increase (decline) in global sectoral output and output prices. The charts report 11 manufacturing sectors and 12 services sectors.

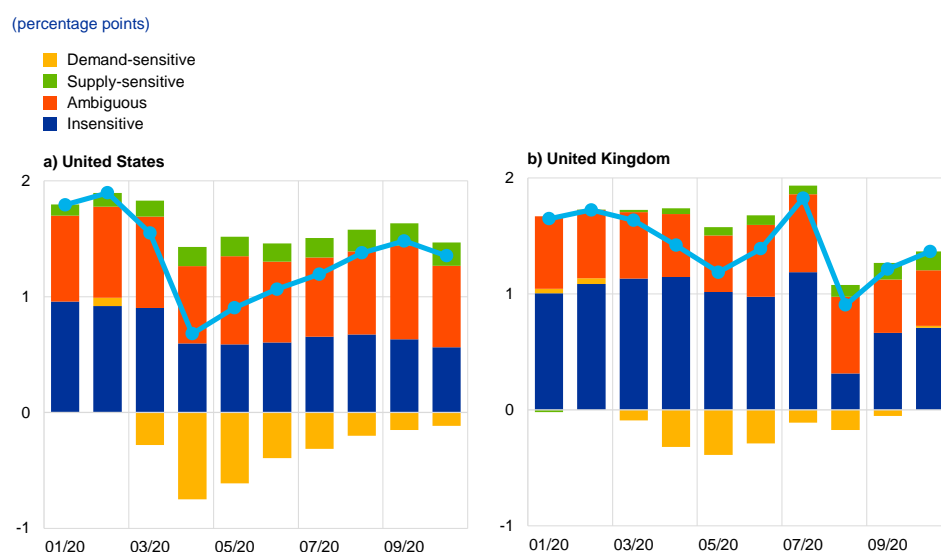
Demand-sensitive components of the consumption basket largely account for declining core inflation during the initial lockdowns. Following Shapiro,⁸ we study the sensitivity of consumer basket components to disruptions caused by the pandemic.⁹ For the United States, more than 60% of personal consumption expenditures show some degree of sensitivity, while the equivalent share in the United Kingdom is around 40%. For both countries, the demand-sensitive components account for a large proportion of the initial decline in consumer price inflation during the first lockdowns, as well as for its gradual increase observed during the third quarter

⁸ See Shapiro A.H., “A Simple Framework to Monitor Inflation”, *Working Papers*, 2020-29, Federal Reserve Bank of San Francisco, 2020.

⁹ The methodology is based on a system of seemingly unrelated regressions, which aims at assessing the role of demand and supply factors in explaining sectoral inflation developments during the pandemic.

(see Chart B). Looking ahead, the inflation outlook remains subject to large uncertainty. For instance, disagreement among consumers surveyed by the Federal Reserve Bank of New York on the expected level of inflation one year ahead in the United States, measured by the interquartile range of their responses, has widened significantly since the onset of the pandemic. Meanwhile, inflation expectations appear to remain skewed towards higher inflation following an initial drop.

Chart B
Core inflation decomposition



Source: ECB calculations based on Shapiro.

Notes: The framework relies on a two-equation, seemingly unrelated univariate regression of prices and quantities.

$\pi_{i,t} = \beta_1^i 1_{t \in \text{COVID}} + \alpha_1^i + \varepsilon_{1,t}^i$ and $\Delta x_{i,t} = \beta_2^i 1_{t \in \text{COVID}} + \alpha_2^i + \varepsilon_{2,t}^i$, where $1_{t \in \text{COVID}} = 1_{t \in 2020M4}$ for the United States and $1_{t \in 2020Q2}$ for the United Kingdom. These equations are estimated for the period from January 2010 to October 2020 in case of the United States and from the first quarter of 2010 to the third quarter of 2020 for the United Kingdom. In the charts we report results for the period from January to October 2020, which is relevant for the pandemic crisis. COVID-19-sensitive components include those categories where either prices or quantities moved in a statistically significant manner at the onset of the pandemic, while COVID-19-insensitive components include all other core inflation categories. Among the sensitive components, demand-sensitive components are those for which prices and quantities changed in the same direction during the initial lockdown period; supply-sensitive components are those for which prices and quantities moved in opposite directions; ambiguous components are defined as sensitive categories with a statistically significant change in either prices or quantity, but not both.

Results from a structural model confirm that demand effects dominate during the crisis, though supply effects remain notable. We estimate a structural BVAR

model for the United States, United Kingdom and Japan and find that during the second quarter of 2020, demand shocks contributed around twice as much to the decline in output as supply shocks (Chart C, panel (a)).¹⁰ The recovery in the third quarter of 2020 was driven by both demand and supply factors in broadly similar proportions. Turning to nominal developments, the impact of weak demand on inflation dominated in the second quarter of 2020, as it was only partly outweighed by supply constraints. During the initial recovery, demand strengthened and pushed up inflation, which was also supported by some unwinding of the supply constraints (Chart C, panel (b)). The model provides a relatively accurate forecast for consumer inflation for the second and third quarters of 2020, if conditioned on the actual path for

¹⁰ The Structural Vector Autoregressive model comprises oil prices, GDP, inflation and shadow interest rates. A standard set of sign restrictions identification is used: a demand shock moves prices and output in the same direction, while a supply shock moves them in opposing directions. The oil supply shock increases inflation and decreases GDP, but does not react to domestic interest shocks. A tightening of monetary policy lowers both GDP and prices.

GDP and oil prices. This in turn supports the above findings, which suggest that inflation dynamics during the crisis were shaped by a combination of shocks, with those originating from the demand side dominating.

The pace of recovery in supply and demand are key determinants of inflation moving forward. While pent-up demand may support the recovery and push up inflation, supply constraints could unwind quickly, which would create disinflationary pressures.¹¹ Nonetheless, supply disruptions could still be significant, especially if a renewed rise in infections and waning policy support trigger a series of bankruptcies. The economic ramifications of the pandemic could persist for the labour supply, especially in those sectors where human capital formation is contact-intensive. This could lower incomes and employment, thus undermining the recovery in demand. Furthermore, human capital and labour supply could be eroded in the long term by the re-introduction of strict containment measures weighing on educational attainment and keeping unemployment elevated.

More granular analysis is needed to assess the consequences of the pandemic for the drivers of inflation. Recent international evidence also raises the possibility that supply shocks could affect different sectors of the economy asymmetrically and morph into larger negative demand effects with disinflationary pressures.¹² These findings argue against approaches that use aggregate data and may erroneously classify such sectoral supply shocks as aggregate demand shocks. Therefore, a more granular sectoral analysis could provide additional insights.¹³

¹¹ See Baqaee and Farhi, op. cit. The authors find that sectors classified as demand-constrained in April (e.g. air and water transport, oil and gas extraction) recovered by an average of 1.8%, whereas those classified as supply-constrained (e.g. food services and accommodation) recovered by 7.5% after the economy started to improve in May. Other analysis (see Coibion, O., Gorodnichenko Y. and Weber M., “The Cost of the Covid-19 Crisis: Lockdowns, Macroeconomic Expectations, and Consumer Spending”, *NBER Working Paper*, No 27141, National Bureau of Economic Research, 2020), using survey data for the United States, finds that changes in the spending patterns of survey respondents indicate a persistent drop in future aggregate demand, reflecting low expected income and heightened uncertainty.

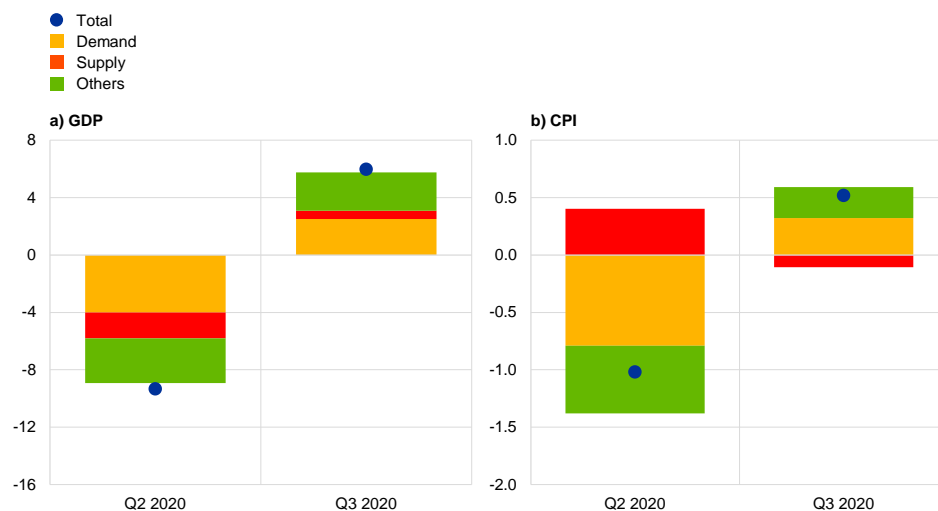
¹² See Guerrieri V., Lorenzoni G., Straub L. and Werning I., “Macroeconomic Implications of COVID-19: Can Negative Supply Shocks Cause Demand Shortages?”, *NBER Working Paper*, No 26918, National Bureau of Economic Research, 2020. The authors propose a concept in which supply shocks can trigger a response in demand that leads to a larger contraction of output than the supply shock itself. Other analysis (see Cesa-Bianchi, A. and Ferrero A., “The Transmission of Keynesian Supply Shocks”, *Working Paper*, Bank of England, 2020) provide empirical support for this concept. The same argument of supply-induced disruption is supported by other analysis (see Fornaro, L. and Wolf, M., “Covid-19 Coronavirus and Macroeconomic Policy: Some Analytical Notes”, *manuscript*, VoxEU, 2020). They argue that negative supply shocks generate persistent or permanent drops in GDP, thus depressing aggregate demand, which might even fall more than supply.

¹³ Other challenges include the inflation measurement issues which relate to the rapidly changing consumption patterns and price collection difficulties brought on by the lockdown measures. Although the measurement issues had an impact on published statistics in the first few months of the pandemic, ECB staff analysis indicates that they have decreased significantly in recent months, see the box entitled “Consumption patterns and inflation measurement issues during the COVID-19 pandemic”, *Economic Bulletin*, Issue 7, ECB, 2020.

Chart C

Historical decomposition of gross domestic product (GDP) and consumer price inflation (CPI)

(quarterly percentage changes, percentage points)



Source: ECB calculations.

Notes: GDP and inflation are shown in deviation from trend/steady state and are based on an aggregation with GDP weights of country-specific results for the United States, the United Kingdom and Japan. "Others" refers to monetary policy and oil shocks. The ECB's BEAR toolbox Version 4.2 was used.

2 Rotation towards normality – the impact of COVID-19 vaccine-related news on global financial markets

Prepared by Johannes Gräß, Moritz Kellers and Helena Le Mezo

The outbreak of the coronavirus (COVID-19) pandemic led to a synchronised sell-off of global risky assets, followed by an uneven recovery across sectors and countries. The stock market recovery was characterised by investors rebalancing away from countries and sectors hit by the pandemic, including airlines, tourism and energy, towards those perceived to benefit from the crisis, most notably IT and communications services, as well as pharmaceutical firms. Across countries, the pre-pandemic sector composition of the stock market explains the bulk of the differences in equity market performances in 2020 (Chart A, upper panel).

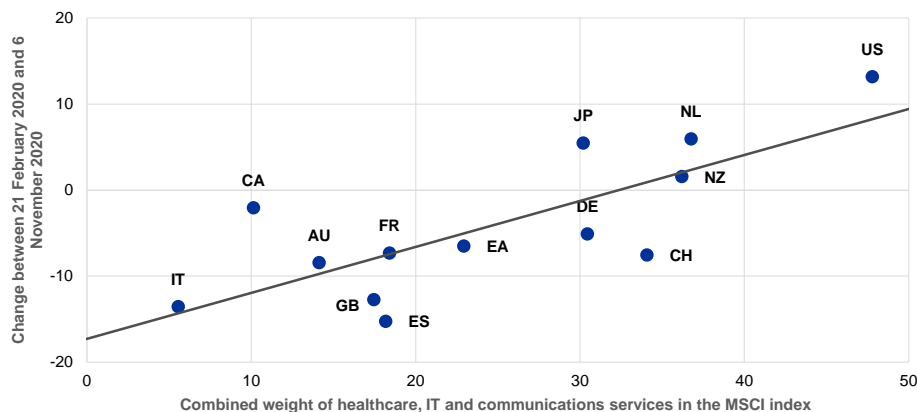
The announcements in mid-November on the successful development of several vaccines seem to have partly reversed this “COVID trade” investment strategy. News of the effectiveness and imminent arrival of multiple vaccines led to a rotation out of equity market sectors with high momentum until then. Countries with equity markets that were lagging the recovery, in part because they have a smaller share in the sectors that gained from the pandemic, benefited more from the news on the development of an effective vaccine (Chart A, lower panel).

Chart A

Countries and sectors hit harder by the pandemic benefited more from vaccine-related announcements

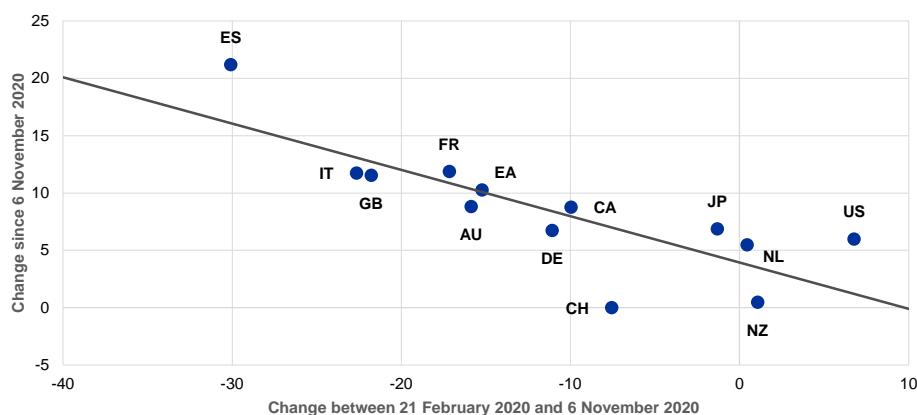
Advanced economies' equity market performance pre-vaccine news

(percentages)



Post vaccine news

(percentages)



Sources: Bloomberg and ECB staff calculations.

Notes: The date 21 February corresponds to the COVID-19 shock. The date 6 November corresponds to the day before the announcement of a first successful vaccine by Pfizer/BioNTech. Sector shares are as of December 2019. The latest observation is for 7 December 2020.

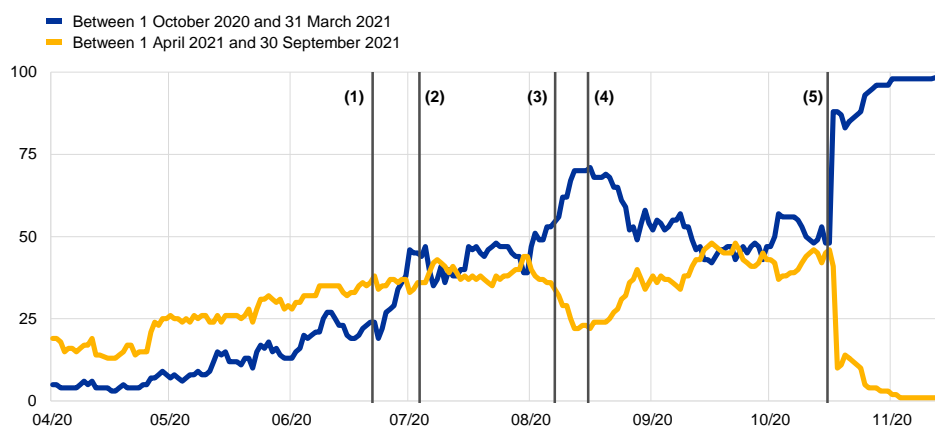
The vaccine announcements in November 2020 were not the first vaccine-related news to materially affect the probability of near-term vaccine delivery. According to Good Judgement, which surveys “superforecasters”, the likelihood that a vaccine would be delivered by the end of the first quarter of 2021 increased markedly during summer 2020 (Chart B). Hopes for an early delivery of a vaccine experienced a setback in September, which created some volatility in the probability indicator.

Chart B

Previous vaccine-related news also affected the probability of near-term vaccine delivery

Probability of vaccine delivery by the first and third quarters of 2021

(percentages)



Source: Good Judgement.

Notes: (1) Vaccine approval in Russia, (2) Pfizer/BioNTech late-stage tests, (3) US Food and Drug Administration fast-track announcement, (4) AstraZeneca trial put on hold, (5) Pfizer/BioNTech announce vaccine. The latest observation is for 7 December 2020.

This box assesses how confidence in the probability of vaccine delivery has affected a broad range of financial assets. Local projections are used to estimate the impact of vaccine-related news between April and mid-November 2020 on different market segments, sectors and countries. The shock variable is defined as the first difference in the probability of vaccine delivery by the first quarter of 2021 on major vaccine event days. The events are identified on a narrative basis.¹⁴ Control variables include past macro news, monetary policy and market stress.

The econometric results suggest that the stock market sectors hit hardest by the pandemic benefited the most from positive vaccine news. This holds when looking at US and euro area airline and energy sectors, as well as in assessing the impact on so-called low momentum indices, such as the Dow Jones Low Momentum Index which includes the 200 US companies ranked as having the lowest returns over the past year (Chart C). In quantitative terms, the results suggest that a 10 percentage point increase in the probability of early vaccine delivery boosted euro area airline shares by 5%.

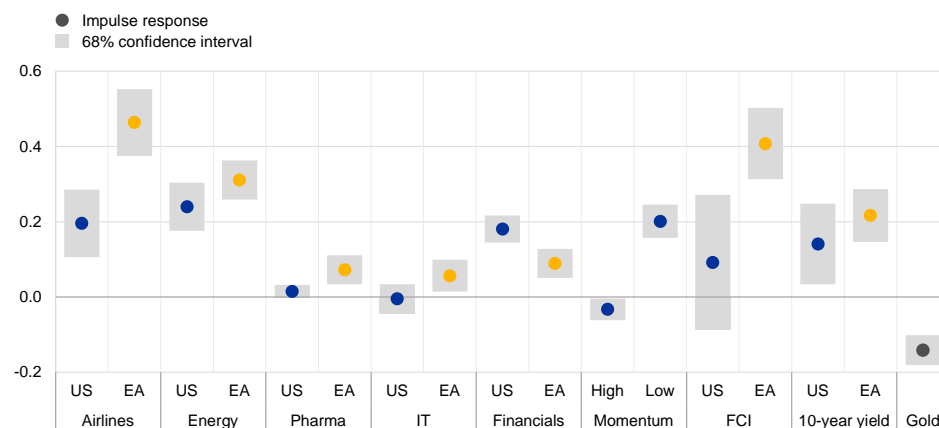
¹⁴ All events that capture progress/setbacks in vaccine development or major changes in relevant institutional frameworks are selected.

Chart C

Low momentum sectors outperformed

Cumulative responses over three working days to a 1 percentage point increase in the probability of vaccine shipment by the first quarter of 2021 in the United States and euro area

(percentages/basis points)



Sources: Bloomberg, Good Judgement and ECB staff calculations.

Note: Change in 10-year yields in basis points. The euro area (EA) bond yield corresponds to the 10-year Bund. An increase in the Financial Condition Index (in index points) represents an easing, while a decline represents a tightening. All other variables are expressed as percentages. The latest observation is for 7 December 2020.

By contrast, equity market sectors that have benefited from the pandemic have tended to underperform in response to increases in the probability of near-term vaccine delivery. The impact of vaccine news on sectors that led the recovery out of the market trough has been largely insignificant. This holds when looking at individual sectors, IT and pharmaceutical, or when looking at high momentum stock market indices. The fact that these sectors' equity prices have not declined also suggests that optimistic vaccine-related news has had a positive effect on aggregate.

The euro area seems to have benefited disproportionately from positive vaccine news. Across most sectors, including the energy, airline, pharmaceutical and technology sectors, euro area equity prices are estimated to have increased more in response to positive vaccine events compared with their US peers. This may reflect the fact that economies in which risky asset markets were hit harder by the pandemic are expected to benefit more from a vaccine.

Despite an increase in risk-free yields, financial conditions have tended to ease. Longer-term risk-free yields increased in response to positive vaccine news, suggesting that it provided a boost to global risk sentiment. However, financial conditions have eased overall, as the increase in yields has not offset the easing impulses from equity markets and other risky assets. Consistent with the stronger impact on euro area equity market sectors compared with US peers, euro area financial conditions are estimated to have eased more.

Overall, positive news regarding the arrival, effectiveness and number of vaccines has boosted risky assets and eased financial conditions, suggesting that investors have become more willing to look through the near-term challenges of the pandemic. At the same time, the results also suggest that any

setback in the development or shipment of the vaccine may have economically significant implications for global financial markets.

The economic impact of the pandemic – drivers of regional differences

Prepared by Philipp Meinen and Roberta Serafini

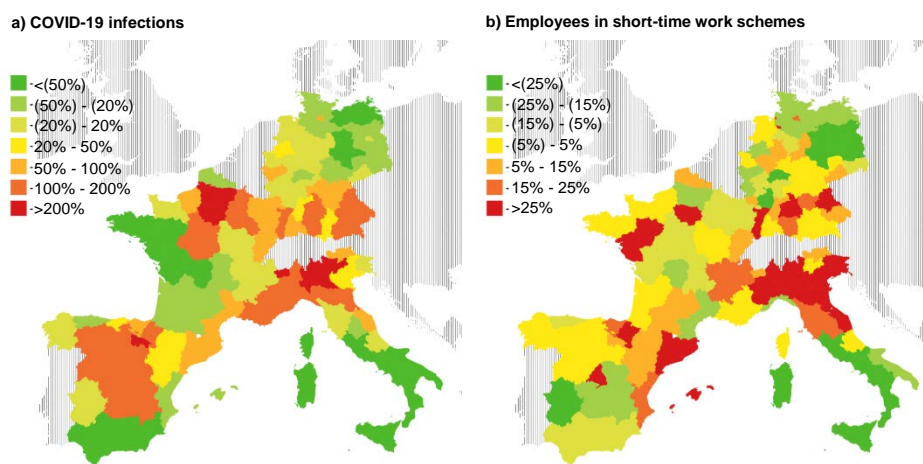
This box examines the drivers of intra-country regional differences in the economic impact of the coronavirus (COVID-19), as observed in the four largest euro area economies during the initial phase of the pandemic. More specifically, it discusses the role played by sectoral structure and trade linkages in explaining the difference in terms of how COVID-19 affects the regions within these countries economically.

During the first phase of the pandemic, the economic impact of the crisis was evident in severe labour market disruptions, affecting local labour markets to varying degrees. The number of employees in short-time work schemes, one of the main policy tools used to contain lay-offs, spiked dramatically in France, Germany, Italy and Spain during the first wave of the COVID-19 pandemic.¹⁵ These spikes were characterised by significant regional variations, displaying a pattern that did not fully mirror the intra-country geographical distribution of the disease (Chart A), highlighting the need to identify the other factors at play.

Chart A

Within-country variation in employees in short-time work schemes and COVID-19 infections

(Deviation from country-specific median)



Sources: National sources and ECB staff calculations.

Notes: Figures refer to (cumulated) numbers of March and April in 2020. Regional COVID-19 infections and employees in STW are normalised by regional population. Regions are defined according to the 2-digit level of the NUTS classification. STW refer to Cassa Integrazione Guadagni (Italy), Expediente de Regulacion Temporal de Empleo (Spain), Activite' Partielle (France) and Kurzarbeit (Germany).

The first possible driver of the heterogeneous labour market impact of COVID-19 is the interaction between country-wide containment measures and

¹⁵ For more details about short-time work schemes, see the box entitled "A preliminary assessment of the impact of the COVID-19 pandemic on the euro area labour market", *Economic Bulletin*, Issue 5, ECB, 2020.

the sectoral structures of different regions. In particular, sectors are exposed to government restrictions to varying degrees, depending, for instance, on the extent to which social distancing can be ensured at work and/or work-related activities can be performed remotely. Since sectoral activities are unevenly distributed across the regions within an individual country, the degree to which these regions are exposed to the COVID-19 shock differs accordingly. In order to investigate this point empirically, we generate a measure of regions' sectoral exposure by first combining sector-level data about employees' susceptibility to the virus whilst at work¹⁶ and the capacity to perform tasks remotely¹⁷, before using regional sector employment shares from Eurostat to aggregate the data at the regional level. Furthermore, we calculate an indicator of stringency of country-wide containment measures by combining data on workplace closures, limits on the size of private gatherings, shelter in place orders and restrictions on internal movement.¹⁸

In addition to the direct impact related to its sectoral structure, a region's trade relations with other regions heavily exposed to the COVID-19 shock could also be a further cause of economic burden. Indeed, regional supply chains can represent a powerful indirect channel for the propagation of the crisis, both through international trade and interconnections between regions within a country. More specifically, a region's activity may be affected by a shortfall in the supply of intermediate goods sourced from other regions heavily affected by the virus and/or by a drop in demand for its exports. In order to investigate this point empirically, we generate measures of regional trade-related exposure based on inter-regional input-output tables, which make it possible to consider both intra-country and international trade flows for each region.¹⁹

The results of empirical analysis support the hypotheses referred to above, showing that the different economic impact of COVID-19 across regions cannot be explained solely by the spread of infections, while both a region's sectoral structure and its trade linkages are relevant determinants. We employ a regression framework to investigate the role of regions' sectoral structures and trade linkages in explaining intra-country variation in the number of people in short-time work within the four largest euro area economies (Table A). First, the results in columns 1 and 2 illustrate that the variable controlling for the regional number of COVID-19 cases becomes insignificant once regional GDP per capita is accounted

¹⁶ Based on "Documento tecnico sulla possibile rimodulazione delle misure di contenimento del contagio da SARS-CoV-2 nei luoghi di lavoro e strategie di prevenzione", INAIL, 2020.

¹⁷ Based on Dingel, J. and Neiman, B., "How many jobs can be done at home?", CEPR Discussion Papers, No DP14584, April 2020.

¹⁸ Based on Hale, T., Angrist, N., Cameron-Blake, E., Hallas, L., Kira, B., Majumdar, S., Petherick, A., Phillips, T., Tatlow, H. and Webster, S., "Oxford COVID-19 Government Response Tracker", Blavatnik School of Government, 2020.

¹⁹ We measure export-related exposure by combining data about each region's share of output sold to other regions, the sectoral exposure of the other regions and the stringency of containment measures in the countries where the partner regions are located. Intermediate goods import-related exposure is calculated based on data about the share of intermediate goods sourced from other regions in the region's total output and the exposure of these other regions to the virus owing to their sectoral structure and the prevailing containment measures. Note that we distinguish between intra-country regional trade and international trade. The inter-regional input-output tables are obtained from Thissen, M., Ivanova, O., Mandras, G. and Husby, T., "European NUTS 2 regions: construction of interregional trade-linked Supply and Use tables with consistent transport flows", JRC Working Papers on Territorial Modelling and Analysis No 01/2019, European Commission, 2019.

for, indicating that, during the first wave of the pandemic, regions with a high incidence of COVID-19 cases had relatively high average income (e.g. regions in northern Italy, southern Germany and the Paris and Madrid areas). Second, the results show that a region's sectoral structure is an important determinant of the economic consequences of COVID-19: a region with a sectoral exposure measure of one standard deviation higher has, on average, 30% more employees in short-time work schemes (column 3). Furthermore, this effect increases with the stringency of national containment measures (column 4). Finally, the results suggest that trade linkages can be an additional indirect channel through which coronavirus-related disruptions affect regional economic activity (column 5).²⁰

Table A
Drivers of intra-country regional heterogeneity in the number of employees in short-time work

(Coefficient estimates and standard errors (in parenthesis); dependent variable: regional number of employees in short-time work schemes)

Explanatory variables	1	2	3	4	5
Sectoral exposure			0.294*** (0.048)	0.270*** (0.044)	0.260*** (0.049)
Sectoral exposure × stringency of country-wide containment measures				0.138*** (0.038)	0.118*** (0.036)
Export-related exposure: intra-country					0.094** (0.046)
Export-related exposure: international					-0.062 (0.045)
Intermediate goods import-related exposure: intra-country					-0.012 (0.046)
Intermediate goods import-related exposure: international					0.104*** (0.028)
Log(number of COVID-19 cases)	0.147** (0.064)	0.018 (0.039)	0.039+ (0.022)	0.031 (0.019)	0.027 (0.022)
Log(population)	0.902*** (0.059)	0.869*** (0.036)	0.874*** (0.022)	0.868*** (0.02)	0.859*** (0.051)
Log(GDP per capita)		0.193*** (0.029)	0.148*** (0.024)	0.157*** (0.021)	0.152*** (0.024)
Observations	100	100	100	100	100
Pseudo R-squared	0.938	0.957	0.977	0.98	0.984
Country FE	Yes	Yes	Yes	Yes	Yes

Sources: National sources; INAIL, op. cit.; Dingel and Neiman, op. cit.; Eurostat, Labour Force Survey; Hale et al., op. cit.; Thissen et al., op. cit..

Notes: The table presents Poisson regressions. The dependent variable is the cumulative number of people in short-time work schemes in each of the NUTS 2 regions in France, Germany, Italy and Spain by the end of April 2020. All variables vary across regions and are standardised to have a mean of zero and a standard deviation of one. Robust standard errors in parentheses: *** p < 0.01, ** p < 0.05, * p < 0.1. McFadden's pseudo R-squared is calculated as $1 - \ln(\text{model}) / \ln(\text{null})$ where \ln refers to the log likelihood.

²⁰ On the one hand, this relates to shortfalls in demand for a region's exports, an effect which is present for intra-country exports only (see the variable "Export-related exposure: intra-country"). On the other hand, when considering the role of supply linkages, international trade becomes relevant (see the variable "Intermediate goods import-related exposure: international"). Further analysis suggests that the latter effect is driven wholly by international trade within EU borders, highlighting vulnerabilities which may arise from disruptions to highly integrated EU supply chains.

4 Model-based risk analysis during the pandemic: introducing ECB-BASIR

Prepared by Elena Angelini, Matthieu Darracq Pariès and Srečko Zimic

The interplay between epidemiological fundamentals of the coronavirus (COVID-19) pandemic, containment policies and the macroeconomy can be assessed by combining a macroeconomic model with an epidemiological model. ECB-BASIR²¹ is an extension of the ECB-BASE²² model which addresses specific features of the COVID-19 crisis by combining a standard pandemic susceptible-infected-recovered (SIR) model with a semi-structural large-scale macroeconomic model. An SIR model – a compartmental model introduced by Kermack and McKendrick²³ – divides the population into groups and, using differential equations, predicts how a disease will spread on the basis of the number of susceptible, infected, recovered or deceased individuals. We extend that model by incorporating two additional categories: (i) quarantined individuals, and (ii) people who have been vaccinated (who are assumed to be immune to the virus). We postulate that economic behaviour will affect the transmission of the disease (with declines in consumption and work activity reducing the probability of people getting infected, for example), establishing a channel from the macroeconomic model to the epidemiological model through the sensitivity of transmission to economic interaction between people. The channel running in the opposite direction, from the epidemiological model to macroeconomic behaviour, is established by assuming that different groups of agents modelled in the epidemiological component have differing ability to work, consume and invest. For example, agents that are constrained by lockdowns can only consume part of what unconstrained agents consume, with those differences between the consumption of constrained and unconstrained agents being estimated on the basis of data for the first and second quarters of 2020. Those effects then propagate through the macroeconomic linkages in the model.

In this environment, interaction between the severity of infection rates and the lockdowns that are imposed to curb the pandemic becomes the main driver of macroeconomic dynamics. The infection rate in the model is based on several factors, one of which is the containment measures that are implemented (including lockdowns). Lockdowns²⁴ are based on a decision-making rule for containment measures which assumes that policymakers seek to ensure that infection rates do not result in hospital admissions²⁵ exceeding hospital capacity, while minimising economic costs.

²¹ See Angelini, E., Damjanović, M., Darracq Pariès, M. and Zimic, S., “[ECB-BASIR: a primer on the macroeconomic implications of the Covid-19 pandemic](#)”, *Working Paper Series*, No 2431, ECB, June 2020.

²² See Angelini, E., Bokan, N., Christoffel, K., Ciccarelli, M. and Zimic, S., “[Introducing ECB-BASE: The blueprint of the new ECB semi-structural model for the euro area](#)”, *Working Paper Series*, No 2315, ECB, September 2019.

²³ See Kermack, W.O. and McKendrick, A.G., “[A Contribution to the Mathematical Theory of Epidemics](#)”, *Proceedings of the Royal Society, Series A*, Vol. 115, No 772, August 1927, pp. 700-721.

²⁴ The severity of lockdowns is estimated using information from [Google's COVID-19 Community Mobility Reports](#).

²⁵ In the model, admissions exceed hospital capacity if they surpass 88% of the admissions seen in the first wave in spring 2020.

The unique nature of the COVID-19 shock makes it difficult to use standard econometric analysis to characterise uncertainty, requiring the use of dedicated scenario analysis.²⁶ ECB-BASIR is designed to serve that very purpose. In the analysis below, for example, it is used to consider a favourable scenario in which a medical solution to the pandemic (i.e. a vaccine) is implemented more quickly than expected. In that scenario (which is established as a deviation from a baseline scenario approximate to the baseline in the Eurosystem's December 2020 staff macroeconomic projections), a medical solution is assumed to be effective as of 1 January 2021, rather than the second quarter of the year, thus being closer to the mild scenario in the December 2020 staff macroeconomic projections. In the model, that earlier implementation of a vaccine leads to lower levels of uncertainty for economic agents²⁷ and the weakening of lockdown restrictions on spending behaviour and productive capacity.

As Chart A shows, the relaxation of containment measures as a result of early implementation of a vaccine produces an inverted V-shaped boost to economic activity. The macroeconomic impact of this scenario peaks at 3.5% of GDP in the second quarter of 2021, while the overall impact on inflation is fairly limited (peaking at just under 0.25 percentage points in 2022). The economic stimulus declines quickly in the third quarter of 2021, and the expansionary effects then recede further in 2022 and 2023 (albeit remaining fairly persistent). On the nominal side, the inflation response gradually declines over the simulation horizon, but inflation remains 0.1 percentage points higher than in the baseline scenario at the end of 2023. Overall, the inflationary impact appears to be fairly limited when compared with the magnitude of the rebound in economic activity. This is a key feature of the macroeconomic dynamics stemming from COVID-related containment measures, which inflict V-shaped adjustment patterns on the real economy and act on both the demand and supply sides of goods and labour markets.²⁸

²⁶ Indeed, since June 2020 the Eurosystem's staff macroeconomic projections for the euro area have featured alternative scenarios alongside the baseline projection.

²⁷ In the ECB-BASIR model, the effect of pandemic-related uncertainty is estimated via local projection methods for the period from the second quarter of 2020 to the fourth quarter of 2022. It is assumed that those effects disappear one quarter before the vaccine starts to be implemented efficiently.

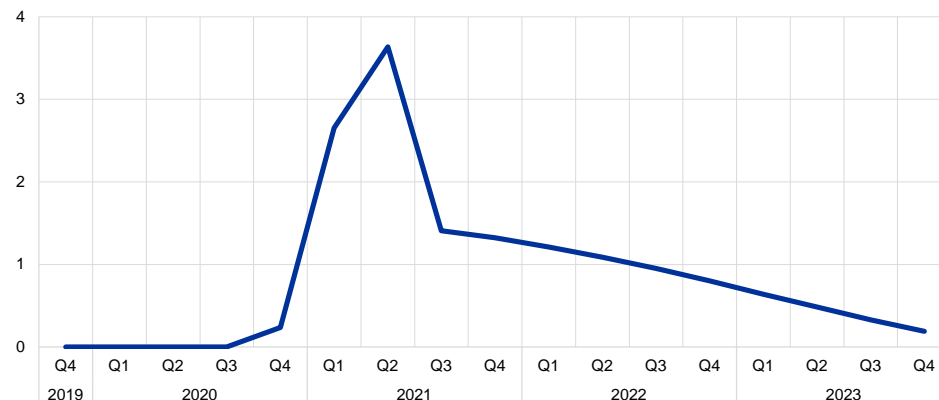
²⁸ As a sensitivity analysis, the same scenario can be run using anticipation channels. If households and firms fully anticipate the earlier medical solution, the macroeconomic outcomes are frontloaded (notably on the nominal side), but are also short-lived, with inflation actually returning to the baseline scenario by end-2023.

Chart A

Macroeconomic and financial implications of early implementation of a vaccine

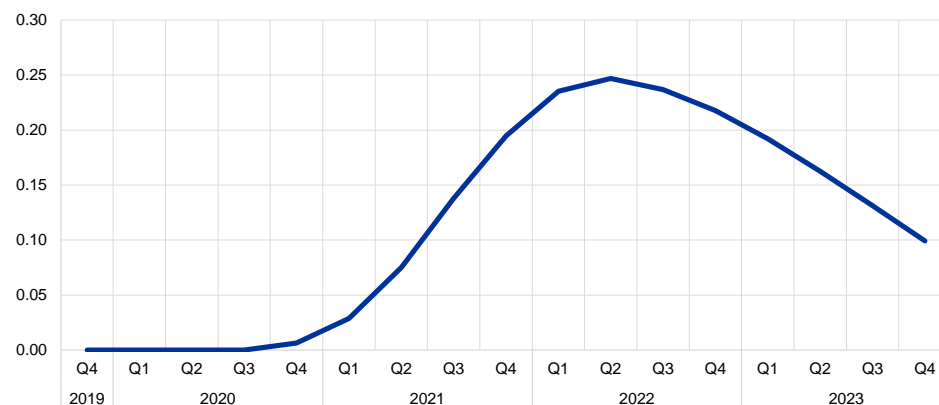
a) Euro area GDP

(levels; deviation from baseline scenario in percentages)



b) Annual HICP inflation

(levels; deviation from baseline scenario in percentage points)



Source: ECB calculations.

In addition to scenario analysis looking at a discrete event, ECB-BASIR can also indicate the distribution of risk, spanning all relevant sources of uncertainty. In particular, the model can be used to assess a combination of economic and pandemic-related risk factors. Chart B, for example, shows a composite measure of risk density combining (i) the standard historical uncertainty captured in the residuals of the model, (ii) uncertainty about the timing and efficiency of the vaccine's implementation²⁹ and (iii) uncertainty about the fundamentals of the pandemic (estimated epidemiological parameters).

The percentage of the population that will be vaccinated and the potential for a third wave are key pandemic-related risk factors. In the bottom right panel of Chart B, we can see that differences in the timing and efficiency of implementation result in differences in the percentage of the population that is vaccinated. In the short term, a

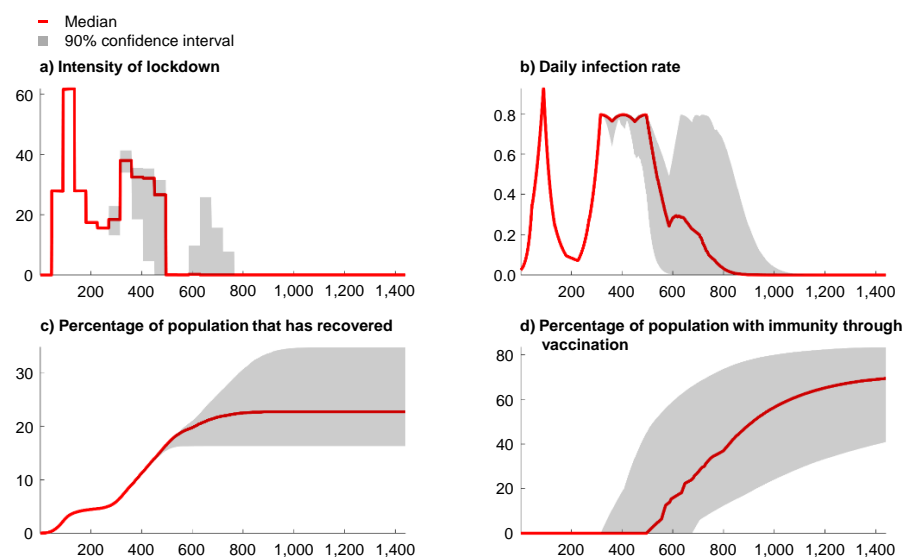
²⁹ Within the confines of the theoretical model, uncertainty around the deployment of the vaccination strategy is captured by the start date for the vaccination process, assuming that vaccinated people have immediate immunity. In practice, it may take some time for vaccines to be rolled out, so the percentage of the population that is immune in the median model-based scenario is roughly consistent with a vaccination campaign starting in the first quarter of 2021.

successful vaccination programme allows policymakers to ease lockdowns, as can be seen in the top left panel of Chart B. In the medium term, however, that increases the likelihood of a third wave, resulting in greater medium-term risks in respect of the potential severity of containment measures.

Chart B

Uncertainty surrounding pandemic-related developments

(y-axis: percentages; x-axis: number of days after 31 December 2019)



Source: ECB calculations.

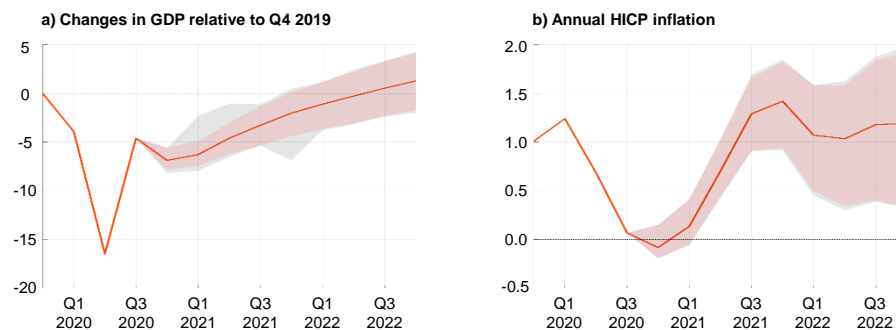
Note: The daily infection rate indicates the percentage of the population that has the virus on a given day.

Turning to the distribution of risk, the pandemic-related risk factors which are considered above are such that uncertainty surrounding the short-term outlook for growth is significantly higher than standard economic risk factors would suggest. For the purposes of this analysis, we have assumed that the median pandemic-related developments in Chart B are consistent with the baseline scenario in the December 2020 staff macroeconomic projections. Chart C presents the resulting risk distributions around the projection baseline, drawing on either (i) a combination of pandemic-related and economic risk factors or (ii) economic risk factors alone. Given the uncertainty surrounding the severity of containment measures, efficient and timely vaccination has the potential to increase GDP by almost 5% in the first half of 2021 and raise inflation at end-2021 by around 0.5 percentage points. At the same time, however, the recovery may be hampered considerably if the pandemic worsens and a third wave is seen. At longer horizons, the dominant factor is the standard model-based uncertainty resulting from historical residuals, rather than pandemic-related developments.

Chart C

Uncertainty surrounding macroeconomic developments

(percentages)



Source: ECB calculations.

Notes: Red shading denotes economic risk factors alone; grey shading denotes economic and pandemic-related risk factors combined. All shading indicates 90% confidence intervals.

5 Housing costs and homeownership in the euro area

Prepared by Moreno Roma

Housing costs represent a significant share of the household budget. Housing costs typically include the utility costs (water, electricity, gas and heating), maintenance, and rental or mortgage interest payments, altogether accounting for around one-fifth³⁰ of household income expenditure in 2019. Changes in these costs are closely linked with housing market developments, such as rental and house prices, as well as mortgage payments. Furthermore, housing costs are dependent on structural features, which will be the focus of this box, such as the homeownership rate or certain household characteristics. This is due to the fact that tenants and less affluent households, for example, tend to spend a large share of their income on housing. Against this background, this box examines certain data that help to frame the housing cost burden in the euro area and across types of household.

Housing cost burden and overcrowding tend to be distributed unevenly across households. A common indicator of household stretch is the housing cost overburden rate, which is the percentage of the population living in a household where the total housing costs amount to more than 40% of the disposable income.³¹ In the euro area, around 10% of households were overburdened in 2019 (Chart A). This aggregate figure masks considerable heterogeneity across households, with 24% of those tenants renting at market price being overburdened, compared with less than 5% in the case of outright owners (mortgage-free owners). Based on the same metric, more than 12% of all households in cities exceeded this threshold in 2019 compared with less than 7% in rural areas. Moreover, and unsurprisingly, around one-third of all households in the lower quintile of the income distribution was overburdened in 2019. In addition, the housing cost overburden rate was high for both single and foreign households (over 20%). Households facing a higher cost overburden rate – tenants, households with lower incomes, those living in cities and foreigners – were apparently also those more likely to be living in overcrowded dwellings (Chart B). Finally, the overburden rate varies considerably across euro area countries and, in general, it appears to be lower in countries where the homeownership rate is higher (Chart C). These developments highlight the importance of household choices and characteristics when it comes to the housing cost burden.

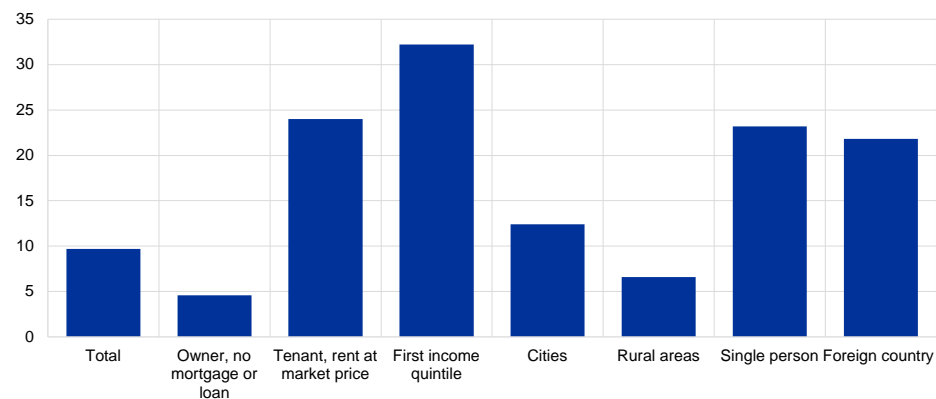
³⁰ This includes imputed rents.

³¹ Housing costs and disposable income are both net of housing allowances. They are obtained from microdata based on household responses included in the surveys by EU statistics on income and living conditions (EU-SILC). For further details, see [Eurostat](#).

Chart A

Housing cost overburden rate in the euro area in 2019

(percentages)



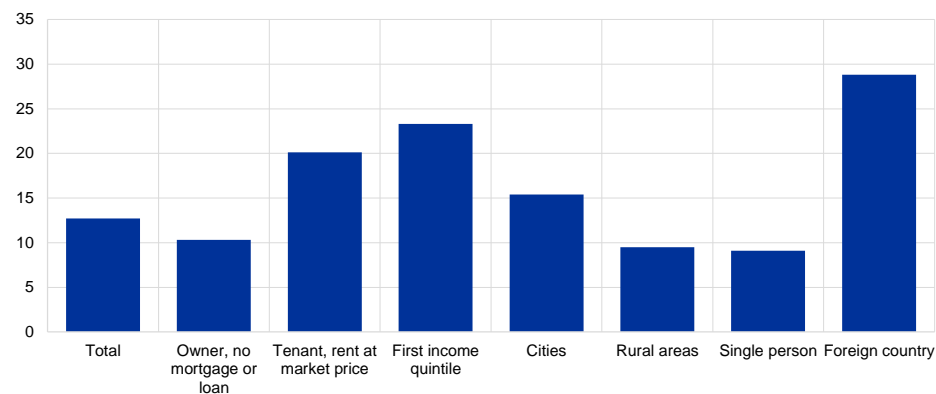
Source: EU-SILC.

Notes: Distribution of population with housing costs of over 40% of disposable income. For "foreign country", data refer to the population aged 18 or over.

Chart B

Housing overcrowding rate in the euro area in 2019

(percentages)



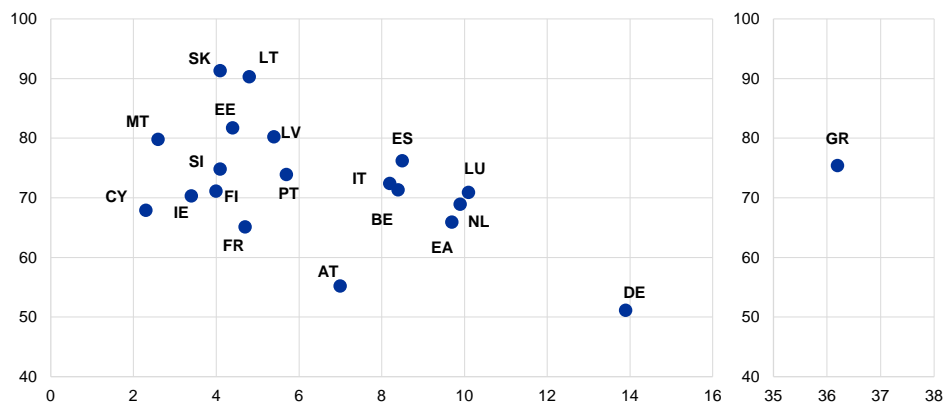
Source: EU-SILC.

Notes: The overcrowding rate is defined as the percentage of the population living in an overcrowded household that does not have at its disposable a minimum number of rooms equal to: (i) one room for the household; (ii) one room per couple in the household; (iii) one room for each single person aged 18 or over; (iv) one room per pair of single people of the same gender between 12 and 17 years of age; (v) one room for each single person between 12 and 17 years of age and not included in the previous category; and (vi) one room per pair of children under 12 years of age. For "foreign country", data refer to the population aged 18 or over.

Chart C

Housing overburden rate and homeownership rate across euro area countries

(x-axis: housing overburden rate; y-axis: homeownership rate; percentages)



Source: EU-SILC.

Note: The latest observations are for 2019, except for Ireland, France, Italy and Slovakia for which they refer to 2018.

The relationship between homeownership and housing cost burden depends on household characteristics.

Roughly two-thirds of euro area households were homeowners in 2019. Outright homeownership stood close to 39%, while 27% of households had a mortgage or loan (Chart D). As for tenants, the vast majority rented at market price and less than one-third rented at a reduced price. Tenure status varied across households, with differing characteristics. Starting with income, households with an income above 60% of the median (equivalised) income were predominantly homeowners and those with an income below this threshold were mainly tenants (Chart E). Furthermore, the percentage of single households in rented accommodation was higher than for those that owned their property, while in the case of larger households the opposite was true (Chart F).

Higher homeownership rates are not necessarily good or bad.

A higher share of homeownership can be associated with both positive and negative economic outcomes. Homeowners are generally less burdened than tenants by housing costs, particularly in cases where they are mortgage-free or have a high income. Furthermore, higher homeownership rates can also be correlated with a greater sense of community in certain neighbourhoods or with better educational outcomes for the offspring. In addition, homeownership, and the associated housing wealth, is distributed more evenly across households compared with financial wealth, such as equity and bonds. These are generally held by a proportionally smaller share of the population at the top of the wealth distribution bracket, thus a high homeownership rate could possibly imply beneficial effects in terms of inequality.³² However, higher homeownership rates may also be associated with reduced geographical mobility, which can prevent efficient labour market outcomes, hampering the relocation of workers to more productive regions.³³ A larger share of homeowners may also be

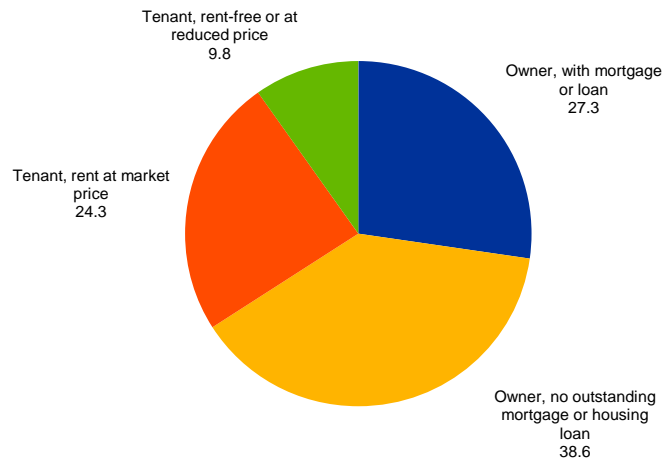
³² For a discussion, see Causa, O., N. Woloszko and D. Leite, "Housing wealth accumulation and wealth distribution: Evidence and stylised facts", *OECD Economics Department Working Papers*, No 1588, OECD, Paris, December 2019.

³³ See, for example, Barceló, C., "Housing tenure and labour mobility: a comparison across European countries", *Working Papers*, No 0603, Banco de España, February 2006.

associated with a less developed rental market.³⁴ Furthermore, a tax system that disproportionately favours homeownership, through interest rate deductibility and other forms of related tax incentives, can be distortive.

Chart D
Euro area tenure status in 2019

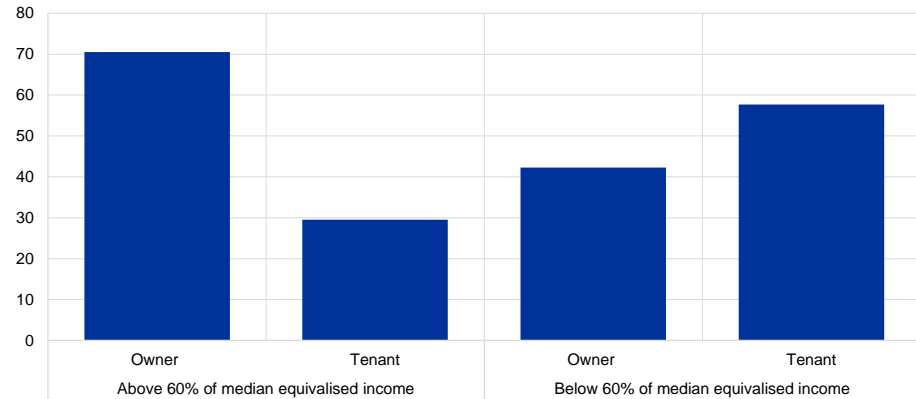
(percentages)



Source: EU-SILC.

Chart E
Euro area tenure status by income characteristic in 2019

(percentages)



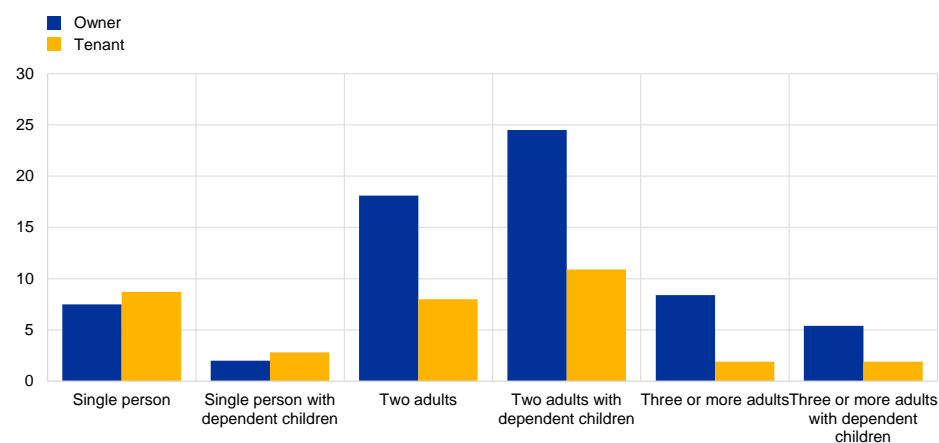
Source: EU-SILC.

³⁴ For a discussion, see Halket, J., and Pignatti Morano di Custoza, M., "Homeownership and the scarcity of rentals", *Journal of Monetary Economics*, Vol. 76, November 2015, pp. 107-123.

Chart F

Euro area tenure status by type of household in 2019

(percentages)



Source: EU-SILC.

The unfolding coronavirus (COVID-19) crisis may exacerbate the heterogeneity of the housing cost burden across households. Looking ahead, the negative effects of the COVID-19 crisis are likely to be particularly severe for the most disadvantaged households and to exacerbate existing differences, including those related to the housing cost burden.³⁵ This is, for instance, due to the fact that housing costs tend to be resilient in relation to income levels, thus posing a challenge whenever income is negatively affected, as in the case of the current pandemic. That said, the broader and medium-term impact of the COVID-19 crisis on the housing market in terms of the structural changes and household choices is something that can only be observed over time.

³⁵ See “COVID-19: Protecting people and societies”, [OECD, 2020](#).

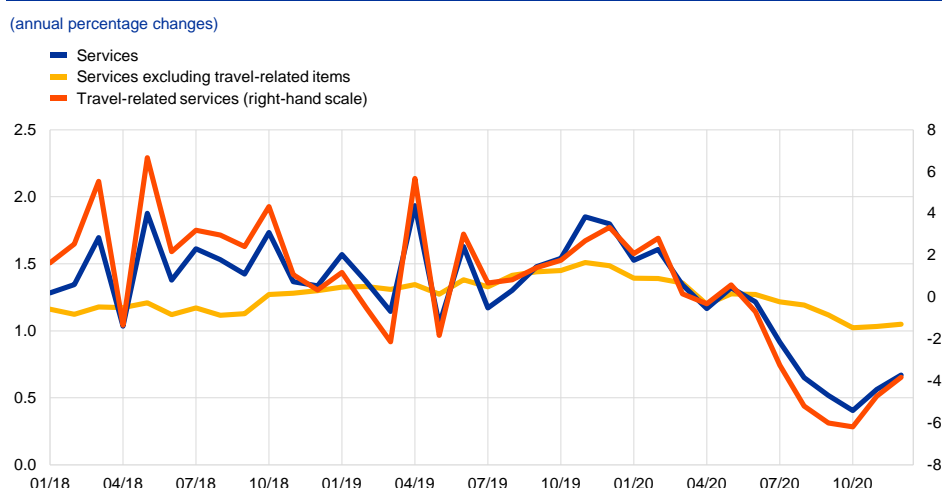
6 Prices for travel during the COVID-19 pandemic: is there commonality across countries and items?

Prepared by Eliza Lis and Jakob Nordeman

Inflation for travel-related items has plummeted in the euro area during the coronavirus (COVID-19) pandemic. Services inflation in general has deteriorated recently reaching a trough in October 2020. The main driver behind the decline has been the strong drop in inflation for travel-related services (here referring to package holidays, accommodation services, and passenger transport by air), despite its relatively moderate weight in HICP services (Chart A).³⁶ This likely reflects the nature of the containment and lockdown measures taken across the euro area.³⁷ Given that the impact of lockdown measures on inflation has been particularly visible in those countries that are heavily exposed to tourism³⁸, this box analyses the potential commonalities in travel-related items affected by COVID-19 lockdowns pulling down services inflation across the euro area countries.

Chart A

Developments in services inflation and services inflation excluding travel-related items



Sources: Eurostat and ECB calculations.

Notes: Travel-related items include (i) package holidays, (ii) accommodation services, and (iii) passenger transport by air.

The decline in travel-related services inflation in the euro area is broad-based across its included items (i.e. package holidays, accommodation and passenger transport by air).³⁹ The drop in inflation rates for passenger transport by

³⁶ Package holiday prices are recorded in the country where the trip starts, although the largest part of the underlying service may be provided in the travel destination. The price of the package holiday is still likely to reflect price developments for accommodation, restaurants and other similar services in the travel destination.

³⁷ It should be kept in mind that the lockdowns have led to large changes in consumer spending patterns that have not been reflected so far in official inflation statistics. For a detailed discussion of pandemic-induced changes in household consumption and their implications for inflation see the box entitled “[Consumption patterns and inflation measurement issues during the COVID-19 pandemic](#)”, Economic Bulletin, Issue 7, ECB, 2020.

³⁸ See the box entitled “[Developments in the tourism sector during the COVID-19 pandemic](#)”, Economic Bulletin, Issue 8, ECB, 2020.

³⁹ In 2020 the travel-related services amounted to approximately 10% of the weight in euro area services HICP.

air contributed most to the overall decline (about 45%) followed by accommodation services, while package holidays contributed the least to the decline (Chart B, panel a).⁴⁰ Usually, travel-related service items show high seasonality, reaching a price-level peak during the summer months. In 2020, the price levels for accommodation services and passenger transport by air (vis-à-vis January) have, since the summer, been below their relative average levels of previous years, and substantially lower than the price levels observed in 2019 (Chart B, panel b). Furthermore, the strong seasonal upward impact on price levels for passenger transport by air, which usually occurs in the summer months, was more muted in summer 2020. Taken together, this implies that the price level for accommodation services and passenger transport by air has been lower since the pandemic started.

⁴⁰ From February 2020 inflation for passenger transport dropped by about 20 percentage points, reaching a trough in October 2020. In the same period, inflation for accommodation services fell by about 7.5 percentage points, reaching a trough in September 2020. Similarly, inflation for package holidays dropped by about 5.5 percentage points, reaching a trough in August 2020.

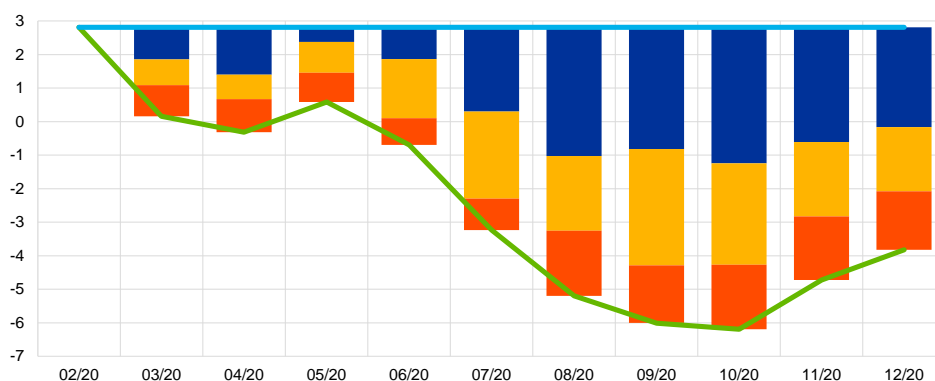
Chart B

Drivers of travel-related services inflation

(panel a: annual percentage changes, percentage point contributions with respect to February 2020; panel b: index January=100)

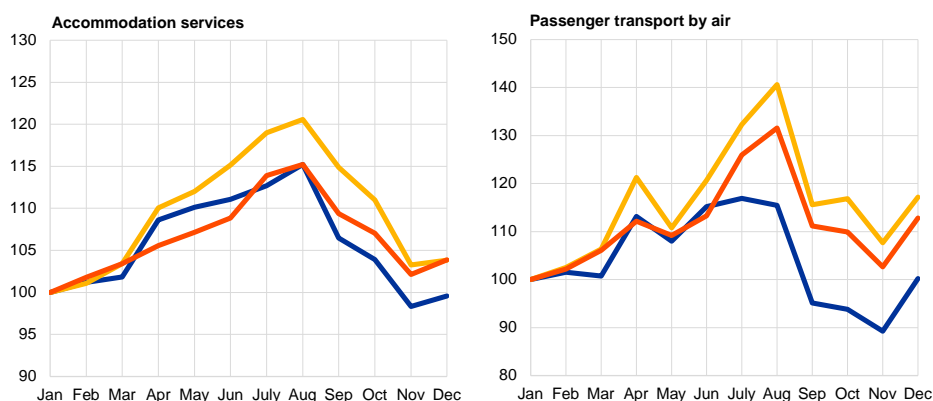
a) Contributions

- Passenger transport by air (19%)
- Accommodation services (46%)
- Package holidays (35%)
- Travel-related services
- Travel-related services Feb-20



b) Seasonality

- 2020
- 2019
- Average 2018-2011



Sources: Eurostat and ECB calculations.

Notes: The weights for package holidays, accommodation services, and passenger transport by air in travel-related services shown in brackets in panel a. The bars in panel a refer to cumulative contributions to the change in HICP travel-related services inflation since February 2020, and the horizontal line refers to HICP travel-related services at that date.

The international component of travel-related services has been the main driver of the historical contraction in inflation for travel-related services overall (Chart C). This is amplified for both package holidays and passenger transport by air because the weight of the international component⁴¹ amounts to around 85% for the euro area.⁴² In comparison, domestic tourism remained relative resilient in many euro

⁴¹ Prices for international flights includes flights between euro area countries and flights to countries outside the euro area. Domestic flights cover only flights within a euro area country.

⁴² For accommodation services, a more granular breakdown would include (i) hotels, motels, inns and similar accommodation services, (ii) holiday centres, camping sites, youth hostels and similar accommodation services, as well as (iii) accommodation services of other establishments. Such a breakdown does not distinguish between domestic and other guests.

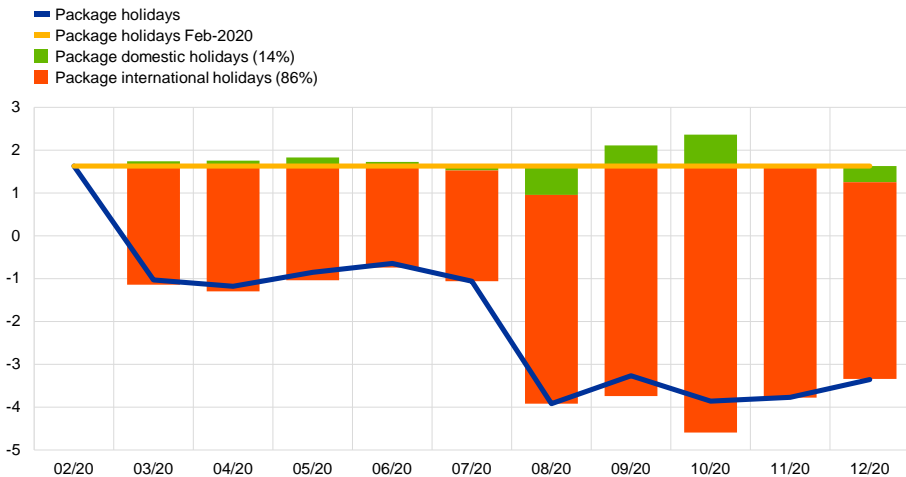
area countries and the decline in the annual rates of change for prices of domestic holidays and flights was milder.⁴³

Chart C

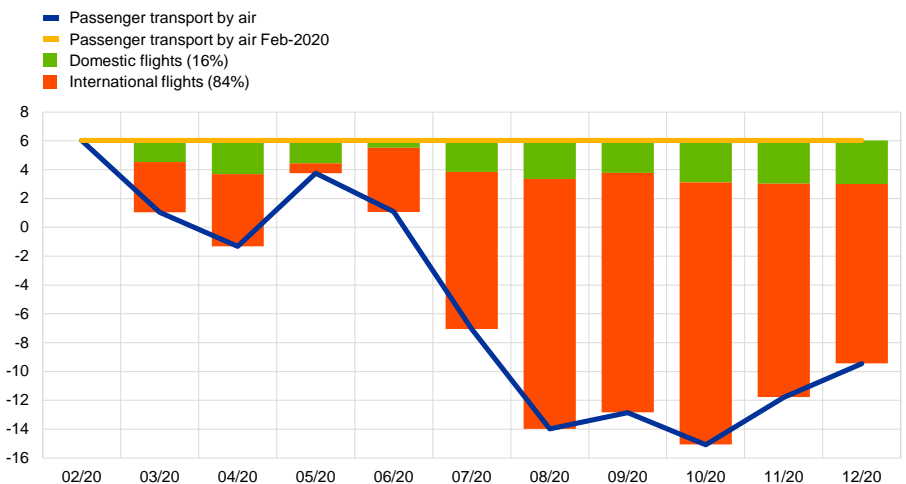
Inflation of domestic and international components of package holidays and passenger transport by air

(annual percentage changes, percentage point contributions with respect to February 2020)

a) Package holidays



b) Passenger transport by air



Sources: Eurostat and ECB calculations.

Notes: The weights of the domestic and international components of both package holidays and passenger transport by air are shown in brackets.

During the initial lockdowns in the second quarter of 2020, the pass through to prices in travel-related services lagged.⁴⁴ There are various reasons for the initial persistence in travel-related inflation. First, social distancing and direct restrictions on mobility (and/or indirectly via quarantine requirements) implied that even if firms had

⁴³ The decline in inflation for domestic flights amounted to about 10 percentage points between February and July 2020, whereas it was about 20 percentage points for international flights. Inflation rates of domestic package holidays observed a dip in July and August 2020, but they stayed relatively resilient before and thereafter.

⁴⁴ See the article entitled "The role of demand and supply factors in HICP inflation during the COVID-19 pandemic – a disaggregated perspective", in this issue of the Economic Bulletin.

reduced prices, demand was likely to remain low or absent. Second, firms may have preferred to delay price changes until restrictions were lifted to avoid additional menu costs. Third, published price indices in the second quarter of 2020 were based on elevated degrees of price imputation and thus may not have captured the underlying negative economic impact during that period.⁴⁵ Instead, inflation rates generally reflected developments in past data from 2019. Once these effects faded, weak demand came more clearly to the fore in the third quarter of 2020.⁴⁶

The recent upward movement in inflation rates for travel-related services may be affected by a renewed increase in imputation rates. Many euro area countries recently re-imposed strict lockdown measures, which caused imputation shares to rise. In the fourth quarter of 2020 the imputed prices were concentrated in the services sector with an imputation share of around 20% for the euro area. During that quarter the indices for package holidays and accommodation services in the euro area were flagged as unreliable.⁴⁷ Similar to the lockdown during the second quarter in 2020, imputed prices and postponement of price reviews by firms might not reflect the actual price pressures.

All euro area countries have experienced a decline in travel-related services inflation compared to their pre-pandemic levels (Chart D). However, there is some country heterogeneity related to both the magnitude of the decrease and the main contributing items. By and large, countries which are usually net exporters of travel services also showed the largest drop in travel-related services inflation compared to February 2020.⁴⁸ The most common contributing item to the sharp decline in travel-related services inflation across countries is prices for passenger transport by air. While inflation for accommodation services also contributed heavily in many southern European countries, package holidays have been a major source of the decline in Germany⁴⁹ and the Netherlands.⁵⁰

⁴⁵ For services in general the imputation share reached above 40% in April 2020 for the euro area as whole. In some euro area countries imputation shares were higher and for some travel-related services they even reached 100%.

⁴⁶ Notwithstanding a decline in imputation rates in the third quarter of 2020, some countries had imputed rates for travel-related services items. For example, when looking at the large euro area countries, passenger transport prices were imputed in Germany throughout the third quarter of 2020 and in Italy in July and August 2020.

⁴⁷ Passenger transport by air has been flagged as unreliable in some EU Member States but not at the euro area level.

⁴⁸ See the box entitled “[Developments in the tourism sector during the COVID-19 pandemic](#)”, *Economic Bulletin*, Issue 8, ECB, 2020.

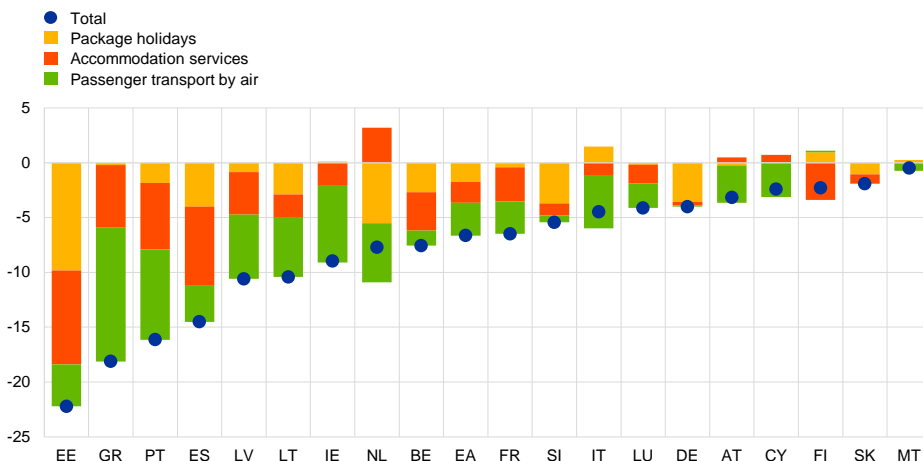
⁴⁹ In Germany some of the impact is also due to the German VAT rate cut in July 2020.

⁵⁰ Methodologically, the item *package holidays* has a prominent weight, mainly in Germany, Spain and the Netherlands, when considering the five largest euro area countries.

Chart D

Developments in travel-related services inflation across euro area countries

(changes with respect to February 2020, percentage point contributions)



Sources: Eurostat and ECB calculations.

Looking ahead, uncertainty around the outlook for inflation in travel-related services has increased. While lockdown measures have been gradually re-imposed, vaccination campaigns have started across the euro area. If lockdowns become tighter, imputation shares are likely to increase for travel-related items. Firms might hold back on price changes as demand is rather inelastic to price changes in the current circumstances. These factors may hamper the interpretation of actual price pressures. Once lockdown restrictions are lifted again, the normal interplay of price adjustments by firms will be resumed but their size and nature will depend on the prevailing demand and supply conditions. By and large, the outlook for travel-related services inflation remains uncertain as both upside and downside risks may materialise depending on the progression of the COVID-19 pandemic.

Articles

1 The ECB's dialogue with non-financial companies

Prepared by Catherine Elding, Richard Morris and Michal Slavik

As part of the process of gathering information on the outlook for economic activity and prices, the ECB maintains regular contacts with non-financial companies. This gathering of business intelligence has become more structured over time and tends to be particularly valuable during exceptional periods, such as those resulting from the coronavirus (COVID-19) pandemic. Therefore, starting with this issue of the Economic Bulletin, the ECB will provide a summary of the main findings from its contacts with leading euro area businesses. This article explains how these interactions contribute to the ECB's economic analysis and how they are organised and summarised. The main findings from the most recent exchanges with companies, which took place in early January 2021, are summarised in Box 1.

1 Introduction

Like many central banks, the ECB maintains regular contacts with the non-financial business community. These contacts mainly take the form of regular telephone calls between ECB staff and leading non-financial companies. These exchanges are a means to gather information on the state of the economy in support of the ECB's monetary policy. High-level contacts are also organised under the umbrella of the Non-Financial Business Sector Dialogue (NFBD).⁵¹ In addition, occasional surveys are carried out on specific topics into which business leaders can provide particular insights. The most recent example is a short survey on the long-term effects of the COVID-19 pandemic.⁵²

2 How contacts with non-financial companies contribute to the ECB's economic analysis

The ECB's contacts with non-financial companies provide real-time information on the state of the economy. This helps to anticipate trends which may only become evident in economic data with a lag. The exchanges are also used to gather qualitative insights to supplement the more quantitative information gathered from statistical data and surveys. The ECB makes extensive use of surveys such as the Purchasing Managers' Index (PMI) Survey and the European Commission Business Survey, which usually provide a timely and informative gauge of movements in economic

⁵¹ The NFBD is one of three high-level dialogues. The others are the Banking Industry Dialogue and the Institutional Investor Dialogue. The agendas and summaries of NFBD meetings can be found on the [ECB's website](#).

⁵² See the box entitled "[The long-term effects of the pandemic: insights from a survey of leading companies](#)", *Economic Bulletin*, Issue 8, ECB, 2020.

activity and expectations. However, as they are based on closed questions, these surveys mainly provide quantitative indicators. Moreover, the supporting qualitative information, which aids interpretation of the indicators, can be quite limited.⁵³ The ECB's contacts with non-financial companies provide an opportunity to "look behind the numbers" and understand the underlying drivers of current and anticipated future economic trends.

Contacts are maintained over the telephone, as this is an efficient way of gathering information based on a set of open questions. Therefore, these exchanges are also referred to as the Corporate Telephone Survey. Conversations typically start with asking the respondent to provide an initial assessment of overall activity, prices, costs and employment in their sector as well as their expectations about where these indicators are heading. The focus then turns to what is driving these developments, based, for example, on how different segments of the business are performing. The exact content of these conversations is strictly confidential. Confidentiality is protected by ensuring that only the small team of economists working on the survey have access to information identifying individual companies. Any reporting of findings is anonymised so that no figure or statement can be attributed to an individual person or company.

For efficiency and tractability reasons, the companies contacted regularly are generally large entities, most of which have operations spanning the euro area or large parts of it. Many are also active globally. This makes it possible to obtain insights with broad sectoral and geographical coverage from a relatively small number of conversations. Contacts are maintained, as far as possible, with companies active across the entire private non-financial corporate sector. The aim of the conversations is to understand developments at the sectoral level. However, the insights from a conversation are not only limited to the sectors in which the company operates. A company active in one sector will typically have information that aids understanding of developments in other sectors, as its customers and suppliers may operate in different sectors. Piecing together information received from contacts in different sectors and considering the interlinkages between them helps foster an understanding of developments across the economy as a whole.

The ECB's dialogue with non-financial companies is similar to the business intelligence gathering activities of other central banks. Table 1 provides an overview of some of the more well-known business intelligence gathering exercises carried out by other central banks outside the euro area. In comparative terms, the ECB's dialogue is small in size, as measured by the number of companies contacted, but the quarterly frequency of its regular contacts has also been adopted by other central banks. An important difference is that the ECB's contacts are based on telephone conversations, whereas most other central banks maintain contacts through regional agents who carry out on-site, face-to-face interviews. However, the Riksbank's Business Survey quite closely resembles the approach of the ECB in that

⁵³ A closed question means that respondents are given a menu of options from which to choose in order to indicate the direction of movement of a particular variable over a given reference period. Unless otherwise provided for, a closed question does not allow subsequent clarification.

Sveriges Riksbank economists carry out interviews with a relatively small number of large companies.

Contacts with businesses are particularly helpful to understand and anticipate sectoral developments that might otherwise be poorly understood. A good example of this was when activity in the automotive industry was affected in autumn 2018 by the introduction of new testing standards (the Worldwide Harmonised Light Vehicle Test Procedure). This resulted in a lull in car production large enough to cause a marked slowdown in GDP growth. The effect of these new standards on economic activity was not well captured by the PMI Survey or the European Commission Business Survey, but was flagged some months in advance by contacts in the automotive sector. More generally, business contacts tend to be particularly helpful for understanding the extent to which developments in a particular sector or geographical area are affected by regulatory changes, natural or man-made disasters, protests, strikes or unusual holiday patterns, among other things. This, in turn, helps economists to judge whether movements in economic data are likely to be temporary or longer lasting.

Table 1
Qualitative business intelligence gathering carried out by selected central banks

How the ECB's contacts with companies compare with those of other central banks

Central bank	Name	Frequency	Number of companies contacted	Brief description
ECB	Corporate Telephone Survey	Quarterly	50-70	ECB economists hold telephone conversations with high-level contacts in leading non-financial companies to gather insights on current and future economic trends.
Federal Reserve System	Beige Book	Eight times per year	Not known	The Beige Book summarises economic conditions in 12 Federal Reserve districts based on information collected from a wide range of business and community contacts through a variety of formal and informal methods.
Bank of England	Agents' summary of business conditions	Quarterly	More than 700	Bank of England agents operating in 12 regional agencies have one-to-one conversations with businesses in their area, gathering insights into all sectors of the economy. They also produce quantitative assessments indicating how different aspects of the economy are behaving on a scale from -5 to +5.
Swiss National Bank	Business cycle signals	Quarterly	240	Swiss National Bank delegates for regional economic relations hold talks with company managers, the main results of which are summarised in the Business cycle signals report. Delegates grade part of the qualitative information received according to a numerical scale ranging from -2 to +2.
Sveriges Riksbank	Business Survey	Three times per year	30-45	Sveriges Riksbank economists regularly interview the largest companies in industry, construction, trade and parts of the service sector. The results of the interviews are reported in the Riksbank's Business Survey.
Norges Bank	Regional network report	Quarterly	More than 300	On a quarterly basis, Norges Bank surveys executives from over 300 enterprises and organisations about recent economic developments and the outlook.

Sources: With the exception of the information about the ECB, the descriptions are based on information provided on the websites of the respective central banks.

Developments during the COVID-19 pandemic have underscored the importance of maintaining contacts with businesses. Many of the companies with which contacts are maintained have operations throughout the world, including in China. Therefore, at the time when the impact of the virus was not yet apparent in Europe, ECB economists were able to talk to directly affected companies about the

implications for global supply chains. When the pandemic spread to Europe it was possible to discuss how and to what extent production was likely to be affected. As the extreme conditions disrupted the usual statistical relationship between survey indicators and GDP, contacts with businesses helped economists fill the gap and quickly gauge in broad, but still reasonably accurate, terms the extent to which activity had contracted in April and how quickly it rebounded in May and June.

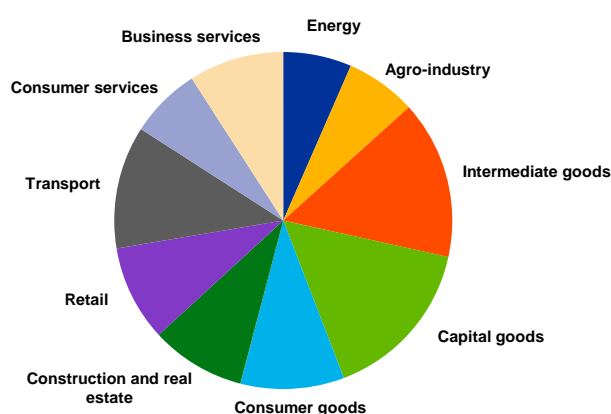
3 How the ECB’s contacts with non-financial companies are organised

The ECB seeks to maintain contacts with up to around 150 leading companies and to have conversations with somewhere between 50 and 70 of these companies each quarter. The frequency of contacts with a company varies depending on the focus and breadth of the company’s activities and, crucially, the availability of the contacts during the survey period. The ECB’s contacts in these companies are mostly at management board level. Rounds of calls take place over a period of one to two weeks, usually in early January, April, July and October, so that the findings can feed into the preparation of Governing Council meetings later in those months. Conversations usually focus on developments in the immediately preceding quarter and the outlook for the current quarter and beyond. Contacts on a smaller scale may also be arranged at other times if there is a particular need.

Chart 1

Distribution of participating companies across broad economic sectors

(share of total companies)



Notes: The chart shows the distribution across sectors of companies contacted during 2020. The allocation to sectors refers to the organisation of the survey and not to sectors for statistical classification purposes. Many companies operate in more than one sector (e.g. consumer goods manufacturers may also have retail outlets).

Sectoral coverage is broad, albeit with some overweighting of manufacturing.

The average sectoral breakdown of participating companies in 2020 is shown in Chart 1. Compared with the actual structure of the economy, there is a slight over-representation of manufacturing and an under-representation of parts of the services sector. This largely reflects the nature and organisation of these sectors. In manufacturing, there are many large companies operating across jurisdictions,

whereas the services sector is characterised by greater segmentation across national markets and a predominance of smaller firms. Such “bias” is therefore hard to avoid and is also a typical characteristic of business surveys more generally.

Conversations are guided by questions covering activity, prices and employment. The telephone conversations typically last around 20-30 minutes and are based on a questionnaire, which is largely unchanged from one round to the next. Specifically, there are four regular questions.

1. How has euro area activity (for instance, output, sales, deliveries, orders...) evolved in recent months in your sector, and what do you expect to happen in the near term? What are the main factors underlying this assessment?
2. How have prices in your sector evolved in recent months, and what do you expect to happen in the near term? What are the main reasons behind these developments (for example, input costs, competitive pressures, etc.)? In particular, what is your assessment of labour cost pressures?
3. Please comment on recent and expected future employment developments in your sector. What are the main issues affecting employment in your sector at the present time?
4. Are there any other issues you would like to flag to the ECB's policymakers?

The last question offers an opportunity for our contacts to raise awareness of issues that may be of concern to them, relating, for example, to the functioning of financial markets, the effects of the ECB's policy or broader economic policies. This helps to inform the ECB's decisions and its dialogue with other EU and international policy institutions and social partners.

Box 1

Main findings from the ECB's contacts with non-financial companies (January 2021)

Prepared by Eduardo Maqui, Richard Morris and Moreno Roma

This box summarises the results of contacts between ECB staff and representatives of leading non-financial companies operating in the euro area. The exchanges took place between 4 and 11 January 2021.

Contacts reported very divergent trends in the fourth quarter of 2020 in the context of the second wave of the coronavirus (COVID-19) pandemic, but on the whole activity was more resilient than it had been in the spring.

As in previous quarters, during the final quarter of 2020 lockdown restrictions and consequent changes in spending patterns reduced demand for certain goods and services while increasing it for others. This was true not only across different sectors of activity, but also within sectors and, quite often, within different segments of the same business. However, the second wave of the pandemic and the associated lockdowns were having less impact on most businesses than the first wave. Where permitted by regulation, businesses were better able to maintain production (through testing, screening and home working), while consumers had become increasingly familiar with online sales

platforms. Export-oriented industries benefited from growth in parts of the world where the virus was less prevalent.

Much of the manufacturing sector experienced a continued recovery in demand, and constraints on production were tilting increasingly to the supply side.

Contacts in industries such as steel, chemicals, automotive and electronics all reported expanding production, sales and orders, recovering towards – or in some cases exceeding – pre-pandemic levels. At the start of the pandemic, businesses had reduced working capital to preserve liquidity. As the recovery in demand for manufactured goods had been stronger than expected since then, both globally and in Europe, restocking and very robust demand for consumer durables were generating strong demand for many intermediate and short-cycle capital goods. Several contacts in these industries said that their businesses were now operating at, or close to, full capacity and/or that limits to production were now primarily on the supply side. This reflected global demand and supply conditions as well as some bottlenecks in transport and logistics.

By contrast, renewed lockdowns were causing further significant declines in sales of personal goods, as well as in travel, tourism, and entertainment services.

For most retailers, booming online sales could not compensate for the periodic closure of brick-and-mortar outlets. This particularly affected manufacturers and retailers of clothes and other personal accessories, as their sales depend on customers being able to try on items. Underlying demand also suffered from the lack of need for business, social event or holiday attire. Following a very limited recovery in the summer, tourism and travel contracted again after many countries reinstated travel restrictions from late-August onwards. The entertainment industry was again hit by closures of theatres from October. By contrast, many other business and consumer services recorded quite normal levels and/or growth in activity.

Little change was expected for the first quarter of 2021, but latent demand for services could give rise to a substantial recovery and to changes in consumption patterns later in the year.

With vaccines being rolled out, there was hope for a significant lifting of pandemic-related restrictions but also uncertainty as to whether this would take place in the second quarter or later on in the year. Contacts in the travel industry were confident of seeing decent demand for travel and tourism services once restrictions are lifted. Clothes retailers and manufacturers were also hopeful about a pick-up in demand after Easter. Conversely, there could be some softening of demand for (other) manufactured goods. The spread of the pandemic and roll-out of vaccines in recent weeks had broadly offsetting effects in terms of the outlook for 2021 overall, while high levels of debt and the need for fiscal retrenchment at some point weighed on the outlook in the medium term.

Adjustments in hours, agency staff and take-up of short-time work schemes were used to adapt labour inputs in the short-term, while permanent employment continued to decline in most companies.

Employment placement agencies observed an uptick in activity in the fourth quarter of 2020 relative to the third quarter, but it was still well below the levels seen a year earlier. The strongest growth segments were logistics, transportation and delivery services, driven by e-commerce. Looking beyond short-term fluctuations, for most companies the downward revision to sales forecasts caused by the pandemic, coupled with productivity gains, implied a downward trend in headcount. For the most part, this could be realised through voluntary redundancy and early retirement. Some contacts

saw more scope for recruitment later in the year when, for example, new investment projects would be launched.

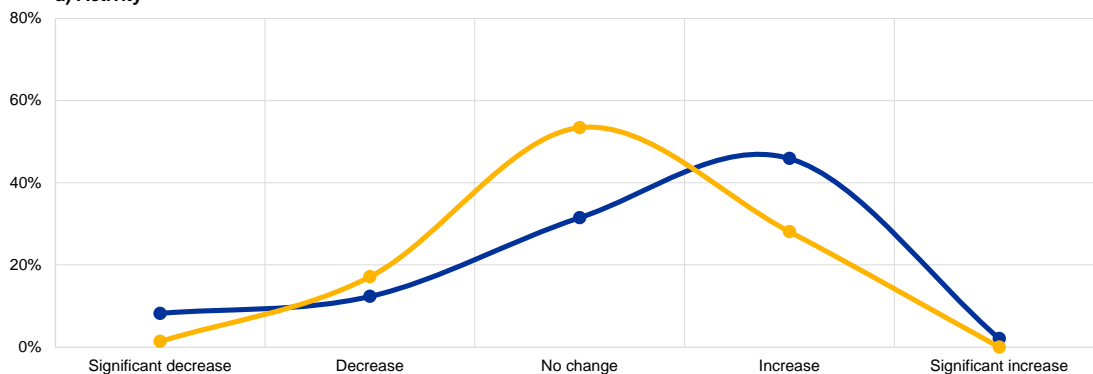
Chart A

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

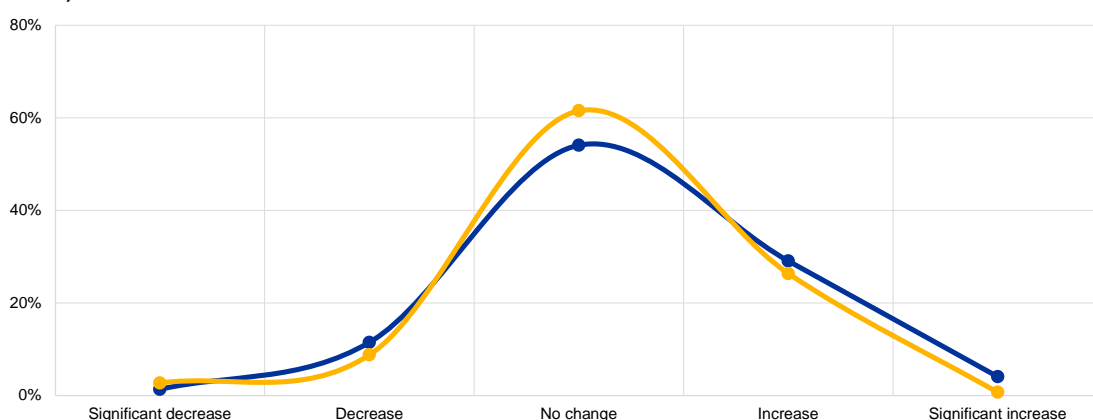
(percentage of respondents)

- Previous quarter
- Current quarter

a) Activity



b) Prices



Source: ECB.

Notes: The scores for the previous quarter reflect the ECB staff assessment of what contacts said about activity (sales, production, orders) and prices in the fourth quarter of 2020. The scores for the current quarter reflect the assessment of what contacts said about the outlook for activity and prices in the first quarter of 2021.

Following downward pricing pressures during the early phase of the pandemic, the pricing environment in many sectors was gradually improving.

In much of the manufacturing sector the recovery in demand coupled with some initial pass-through from recently rising raw material costs had led companies to raise their prices and/or anticipate further, albeit generally modest, increases in the first quarter of 2021. However, this development tended to be concentrated upstream rather than in final consumer prices. For the most part, consumer goods manufacturers, retailers and business services providers described their pricing environment as stable. The relative strength in demand for consumer goods had to some extent eroded earlier fears of heavy discounting. Moreover, even in sectors acutely affected by the pandemic, price discounting was somewhat limited, as consumers' spending decisions were driven more by regulatory and safety considerations than by prices.

Input prices were mostly described as increasing, driven by raw materials and transport and logistics costs, while the wage outlook remained moderate.

In the wake of the recovery of global manufacturing, the prices of most raw materials had continued to rise in recent months and in some cases had already reached very high levels. Depending on contract structures and hedging practices, this was either already feeding into actual costs or would do so during 2021. Transport costs (in particular sea and air freight rates) were widely cited as having risen significantly, while businesses also faced increased costs from the implementation of COVID-19-related safety measures. Most contacts described wage developments as moderate, as in many sectors there was greater than usual emphasis on job preservation. The continued availability of short-time work schemes helped transform usually fixed labour costs into variable ones.

2 The role of demand and supply factors in HICP inflation during the COVID-19 pandemic – a disaggregated perspective

Prepared by Derry O’Brien, Clémence Dumoncel and Eduardo Gonçalves

1 Introduction

The economic impact of the coronavirus (COVID-19) pandemic is not a standard textbook shock. Instead the shock is multidimensional, with sources on both the external and the domestic side, on both the demand and the supply side, and at both the aggregate and the sector-specific level. This poses challenges for the assessment of inflation. Established relationships between inflation and its determinants may not hold up or may not be scalable, given the magnitude of disturbances in product and labour markets. Moreover, the increasing emphasis of the inflation literature on distributions rather than point outcomes for future inflation is relevant for analysing the impact that the COVID-19 shock has had on inflation risks.

Understanding the drivers of inflation during the pandemic is helped by adopting a more granular perspective than usual. A disaggregated approach is often used by central banks to complement assessments based on headline inflation. Typically, such an approach is used to distil underlying (common) trends in inflation or to improve forecast accuracy.⁵⁴ To understand the drivers of inflation, the ECB’s analysis regularly looks at the main components of inflation, such as energy, food, non-energy industrial goods (NEIG) and services. By moving to a higher level of granularity than usual (i.e. the 12 sub-components of the Harmonised Index of Consumer Prices, HICP), the analysis in this article helps to better understand the diverse impact of the pandemic across components and ultimately to enhance our understanding of the current drivers of headline inflation.⁵⁵

The role of supply-side effects in particular is likely to be larger than usual for a number of inflation components. The nature of the lockdowns and containment measures imposed after the outbreak of the pandemic implied a shutdown of business

⁵⁴ See the article entitled “[Measures of underlying inflation for the euro area](#)”, *Economic Bulletin*, Issue 4, ECB, 2018; Benalal, N., Diaz del Hoyo, J.L., Landau, B., Roma, M. and Skudelny, F., “[To aggregate or not to aggregate? Euro area inflation forecasting](#)”, *Working Paper Series*, No 374, ECB, July 2004; and Chalmovianský, J., Porqueddu, M. and Sokol, A., “[Weigh\(t\)ing the basket: aggregate and component-based inflation forecasts for the euro area](#)”, *Working Paper Series*, No 2501, ECB, December 2020.

⁵⁵ This complements existing literature that analyses sectoral inflation – see, for example, Imbs, J., Jondeau, E. and Pelgrin, F., “Sectoral Phillips curves and the aggregate Phillips curve”, *Journal of Monetary Economics*, Vol. 58(4), May 2011, pp. 328-344; Reis, R. and Watson, M.W., “Relative Goods’ Prices, Pure Inflation, and the Phillips Correlation”, *American Economic Journal: Macroeconomics*, Vol. 2(3), July 2010, pp. 128-157; and Stock, J.H. and Watson, M.W., “Trend, Seasonal, and Sectoral Inflation in the Euro Area”, in Castex, G., Galí, J. and Saravia, D. (eds.), *Changing Inflation Dynamics, Evolving Monetary Policy*, Central Bank of Chile, 2020, pp. 317-344.

and/or an increase in costs for some sectors.⁵⁶ Price changes associated with such supply-side effects may, in the first instance, change relative price developments and not necessarily aggregate inflation. It is common in regular inflation analysis to assess short-term supply disturbances in energy and food prices due to the often large magnitude of these types of shocks. What is distinctive about the pandemic, however, is the larger than usual role of supply effects on core inflation that stem from the lockdowns. A disaggregated approach extended to core components can also shed light on the consequences of the demand shock associated with COVID-19-related income losses or uncertainty. Given the magnitude of the shock, there can be implications for both aggregate price levels and, depending on income and substitution elasticities, relative prices.

This article illustrates how a more disaggregated perspective can help to gauge the implications of COVID-19, augmenting the regular inflation analysis. Section 2 first describes the evolution of aggregate inflation during the COVID-19 period and explains the motivation for the level of granularity adopted in the analysis. Section 3 then examines the drivers of the inflation response, component by component, mainly focusing on the role of domestic factors that are unique to the pandemic. The section also examines the role of demand and supply effects and includes a component-level decomposition of inflation into the structural shock contributions of such effects. Section 4 provides some concluding messages.

2 How has HICP inflation adjusted so far?

The main components of HICP inflation responded heterogeneously to the pandemic shock. Headline inflation declined from 1.2% in February to 0.1% in May, before dropping into negative territory in August (Chart 1). However, at the level of main components, the response was uneven in terms of both speed and magnitude. The initial steep decline in headline inflation was mainly due to a fall in the contribution of energy inflation from 0.0 to -1.2 percentage points between February and May. The declining contribution of energy can be clearly ascribed to a commodity (oil) related external supply price shock. During the same period, however, the contribution of food inflation increased, mainly owing to the unprocessed food component.⁵⁷ The rising contribution of food inflation cannot easily be ascribed to a particular type of shock, as it is likely that there were upward effects from food commodity prices owing to the H1N1 swine flu and higher costs in international and domestic supply chains, but also

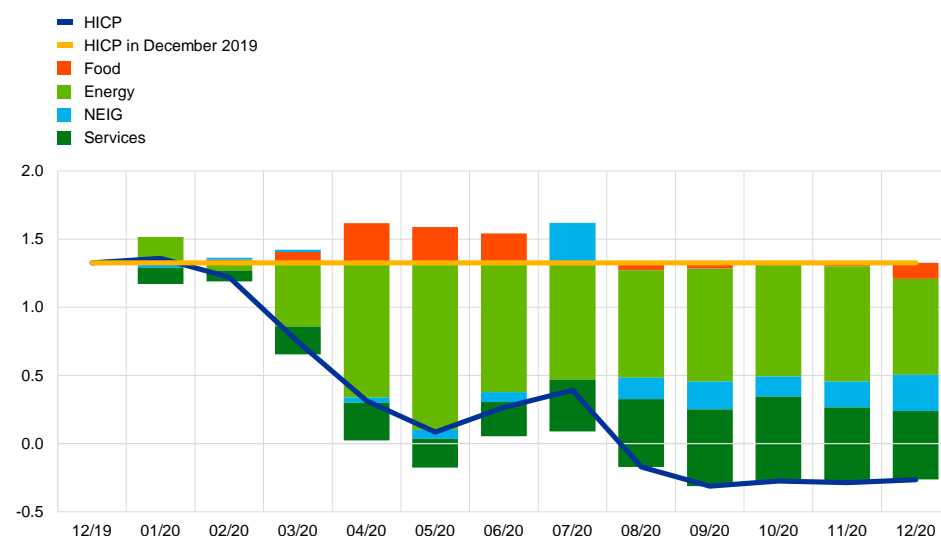
⁵⁶ Indeed, recent evidence on the impact of the initial lockdowns suggests that the associated supply effects may have exerted significant upward pressure on inflation. For the Netherlands and the euro area, see Bonam, D. and Smadu, A., “Supply and demand shocks due to the coronavirus pandemic contribute equally to contraction in production”, *DNBulletin*, De Nederlandsche Bank, 5 November 2020; for Germany, see Balleer, A., Link, S., Menkhoff, M. and Zorn, P., “Demand or Supply? Price Adjustment during the Covid-19 Pandemic”, *Covid Economics, Vetted and Real-Time Papers*, Issue 31, Centre for Economic Policy Research, June 2020, pp. 59-102; for the United Kingdom, see Macaulay, A. and Surico, P., “Is the Covid-19 recession caused by supply or demand factors?”, *Questions and answers about coronavirus and the UK economy*, Economics Observatory, 2020; and for the United States, see Shapiro, A., “A Simple Framework to Monitor Inflation”, *Working Papers*, No 2020-29, Federal Reserve Bank of San Francisco, August 2020; and Baqaee, D. and Farhi, E., “Supply and Demand in Disaggregated Keynesian Economies with an Application to the Covid-19 Crisis”, *NBER Working Papers*, No 27152, May 2020.

⁵⁷ See the box entitled “Recent developments in euro area food prices”, *Economic Bulletin*, Issue 5, ECB, 2020.

higher demand as households were forced to shift expenditure from restaurants and canteens to food for home consumption during lockdown. From the middle of the year onwards, headline inflation fell further as HICP inflation excluding energy and food (HICPX) also increasingly contributed to the disinflationary tendencies, mainly owing to a decline in services inflation and, to a lesser extent, a decline in NEIG inflation.

Chart 1
Decomposition of HICP inflation

(annual percentage changes; percentage point contributions)



Sources: Eurostat and ECB calculations.

Note: The bars show contributions of components to the change in annual HICP since December 2019.

Until the third quarter of 2020 the response of HICPX inflation was broadly in line with historical regularities, pointing to a clear role for downward demand effects. The response of HICPX inflation during the pandemic was modest relative to the decline in activity. Such short-term persistence can reflect a range of factors, including menu costs, pre-existing supply contracts or a higher priority assigned to maintaining good relationships with business clients.⁵⁸ In this respect, HICPX evolved broadly in line with a Phillips curve-based forecast conditioned on developments in standard activity and slack indicators.⁵⁹ Assuming that the recessionary impact of the pandemic became fully pervasive in the second quarter, the response of HICPX was broadly in line with expectations (Chart 2). This response in line with slack indicators suggests that weaker (net) demand is likely to have played an important role, but does not preclude the possibility that the multidimensional COVID-19 shock was also characterised by larger than usual supply effects. Indeed, a more structural analysis of

⁵⁸ The notion of muted price adjustment relative to activity is confirmed by Purchasing Managers Index (PMI) data for the manufacturing and services sectors. PMI data have the advantage that the price and activity data are from the same source. Moreover, European Commission survey data on 3-month ahead selling price expectations suggest that the PMI survey data do not reflect unexpected developments, but are instead broadly expected at each point in time going forward, i.e. they are part of firms' price-setting plans.

⁵⁹ As such Phillips curve specifications also include lagged inflation, the forecasts depend to some extent on the starting point. See the article entitled "Drivers of underlying inflation in the euro area over time: a Phillips curve perspective", *Economic Bulletin*, Issue 4, ECB, 2019.

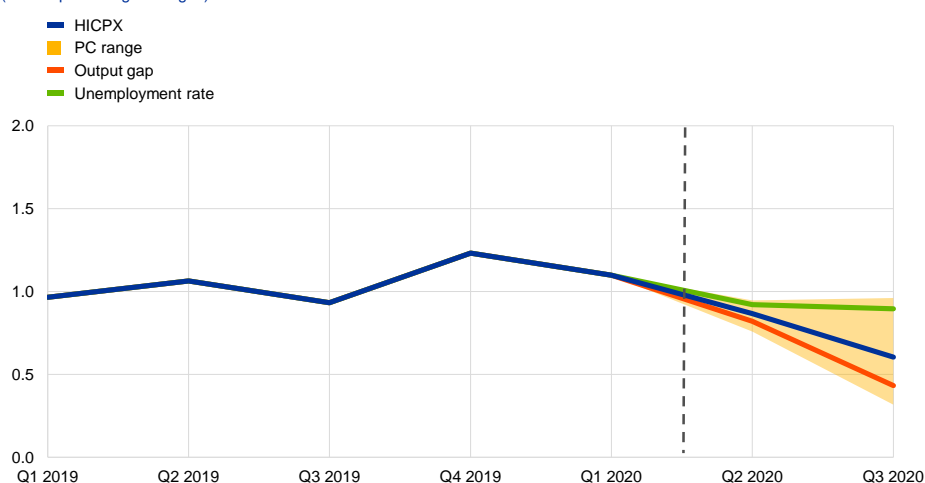
the drivers of aggregate headline inflation points to a role for domestic supply effects in the recent dynamics of headline inflation (see Box 1).

The remainder of this article examines the adjustment in HICPX inflation during the pandemic in terms of its short-term persistence and its main drivers. A component-by-component approach based on a higher level of disaggregation for HICPX inflation is used, which can also be related more easily to other sector-specific effects, including measurement issues relating to price imputations.

Chart 2

HICPX inflation response during the pandemic relative to Phillips curve forecasts

(annual percentage changes)



Sources: Eurostat and ECB calculations.

Notes: The estimation period ends in the first quarter of 2020. "PC range" refers to the Phillips curve-based forecasts conditioned on GDP growth, the output gap, the unemployment rate and the unemployment gap.

Box 1

Decomposing inflation dynamics during the pandemic: an aggregate perspective

Prepared by Michael Kühl

Interpreting price dynamics in terms of structural drivers is a regular exercise in inflation assessment and forecasting. This box does so through the lens of a structural macroeconomic model, the New Area-Wide Model II (NAWM II), which is the ECB's main dynamic stochastic general equilibrium (DSGE) model.⁶⁰ The model is able to disentangle drivers of real GDP growth and inflation in a coherent framework and thereby inform the analysis of the price adjustment.⁶¹

⁶⁰ See Coenen, G., Karadi, P., Schmidt, S. and Warne, A., "The New Area-Wide Model II: an extended version of the ECB's micro-founded model for forecasting and policy analysis with a financial sector", *Working Paper Series*, No 2200, ECB, November 2018. The DSGE model is based on the optimisation problems of agents faced with constraints. NAWM II features an elaborated financial sector in which borrowing-constrained banks intermediate funds between the household sector and the goods-producing non-financial sector. Furthermore, the effect on the domestic economy of developments in the global economy is modelled using a stylised external sector. The model is estimated with euro area data. Exogenous shocks drive the business cycle through the imposed structure of the economy, and the drivers behind euro area business cycle and inflation developments can be visualised by looking at the historical shock decomposition.

⁶¹ Since the estimation of the model covers a long period, including the financial crisis, it may also be well suited to analyse the recent crisis.

Based on the historical shock decomposition from the NAWM II, Chart A visualises the drivers of quarterly GDP growth (panel a) and HICP inflation (panel b).⁶² The model interprets the weakening in real economic activity as being driven by adverse domestic supply-side and demand-side effects as well as foreign/trade effects, reflecting the global nature of the pandemic shock. The domestic demand-side shocks mainly reflect a fall in domestic consumption following the introduction of confinement measures across almost all countries in the euro area to stop the spread of the virus. Furthermore, a steep fall in foreign demand, owing to the global dimension of the crisis, contributed to the contraction in euro area GDP. GDP recovered in the third quarter of 2020, mainly driven by domestic demand-side factors as consumption rose and, to a lesser extent, by a positive impact from the external sector. Based on the projections for GDP growth in 2021, 2022 and 2023, supply-side factors remain slightly contractionary.

Domestic and foreign demand-side effects and pressures from shocks to interest rates, which drove GDP growth down in 2020, were the main factors behind the fall in euro area HICP inflation in the first half of 2020. This reflects the fact that firms tend to lower prices in response to lower demand. Supply-side effects, however, prevented inflation from falling even further. On the supply side, the drivers of the fall in GDP growth were a combination of adverse effects on factor productivity and direct pricing decisions of firms. Shocks related to the former have, however, only minor consequences for inflation dynamics. Through the lens of the model, firms tried to stabilise profits by leaving prices largely unchanged, whereas the weaker demand would have indicated an even stronger fall in inflation.⁶³ On balance, these domestic supply-side factors largely offset the downward pressure from weaker domestic demand and mitigate the pass-through from the real side to the nominal side of the economy. The downward pressure on inflation from demand-side factors is more persistent, which is a reflection of price stickiness. Inflation is expected to return to its pre-crisis level in the course of 2021, at which time the model sees both supply-side and demand-side factors vanish.

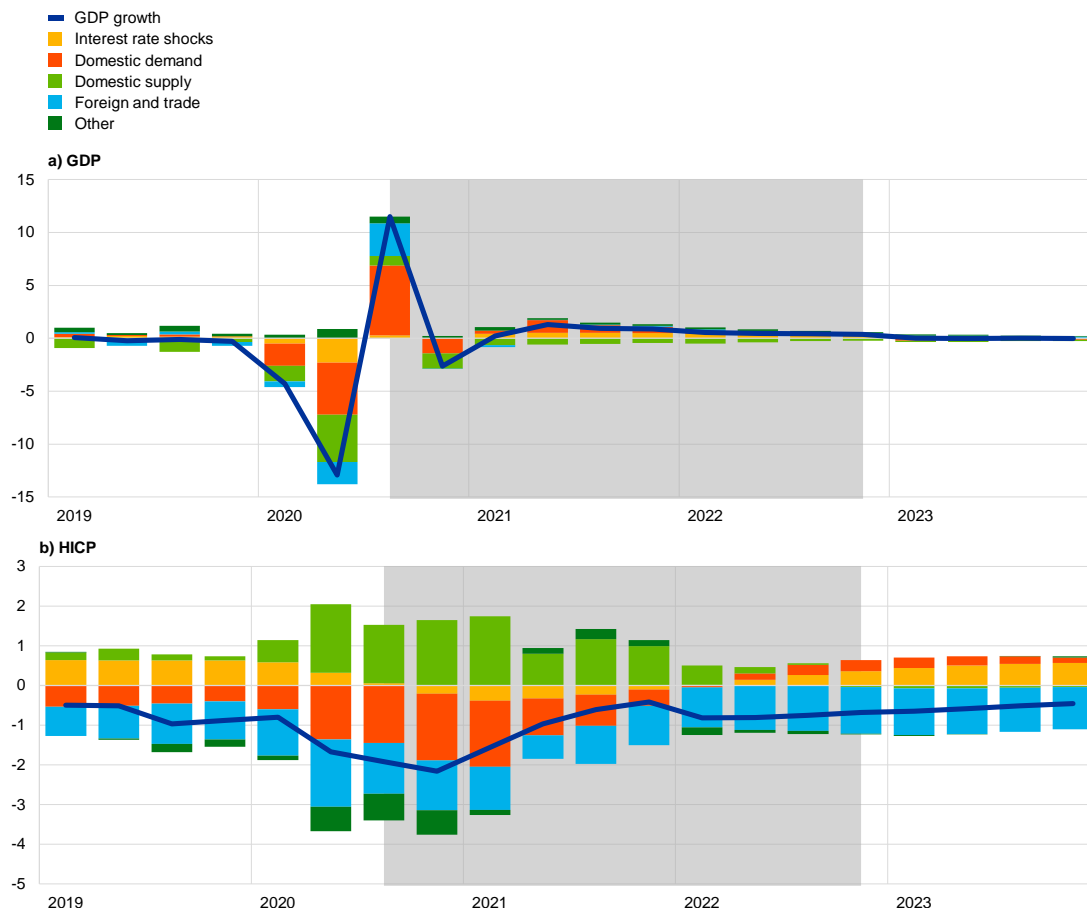
⁶² The model features 24 structural shocks. For the sake of simplicity and to facilitate an interpretation of the drivers, the contributions of shocks are bundled in groups. The group “interest rate shocks” comprises shocks which mainly affect short-term and long-term domestic interest rates and domestic lending rates. Shocks to the external sector or to variables directly related to the external sector are collected in “foreign and trade”. Domestic shocks entailing a negative correlation between GDP and inflation are grouped together in “domestic supply”, while remaining shocks with a positive correlation are included in “domestic demand”. The group “other” captures observation errors and errors in bridge equations.

⁶³ Technically, the upside pressure on inflation comes mainly from domestic price mark-up shocks which capture the notion of changes in the pricing behaviour of firms.

Chart A

Historical shock decomposition based on NAWM II

(panel a: quarterly percentage changes, deviations from steady state of 1.5%; panel b: annual percentage changes, deviations from steady state of 1.9%)



Source: ECB calculations using NAWM II.

Notes: Panel a: historical shock decomposition – historical data combined with the December 2020 Eurosystem staff macroeconomic projections (grey area) for GDP growth; panel b: historical shock decomposition – historical data combined with the December 2020 Eurosystem staff macroeconomic projections (grey area) for HICP inflation. Shock decompositions are conducted using NAWM II. See Coenen, G., Karadi, P., Schmidt, S. and Warne, A., “The New Area-Wide Model II: an extended version of the ECB’s micro-founded model for forecasting and policy analysis with a financial sector”, *Working Paper Series*, No 2200, ECB, November 2018. The category “Interest rate shocks” comprises shocks which mainly explain the short-term interest rate (monetary policy shocks), the long-term interest rate (shocks to banks’ survival rate) and the lending rate (shocks to retail banks’ markdown). The category “Foreign and trade” captures shocks to foreign demand, foreign prices, US 3-month and 10-year interest rates, competitors’ export prices, oil prices, import demand and export preferences, mark-up shocks to export prices and import prices, and foreign risk-premium shocks. The category “Domestic demand” includes domestic risk-premium shocks and shocks to government spending, while “Domestic supply” includes transitory and permanent technology shocks as well as wage and price mark-ups. The category “Other” includes measurement errors and residuals from bridge equations.

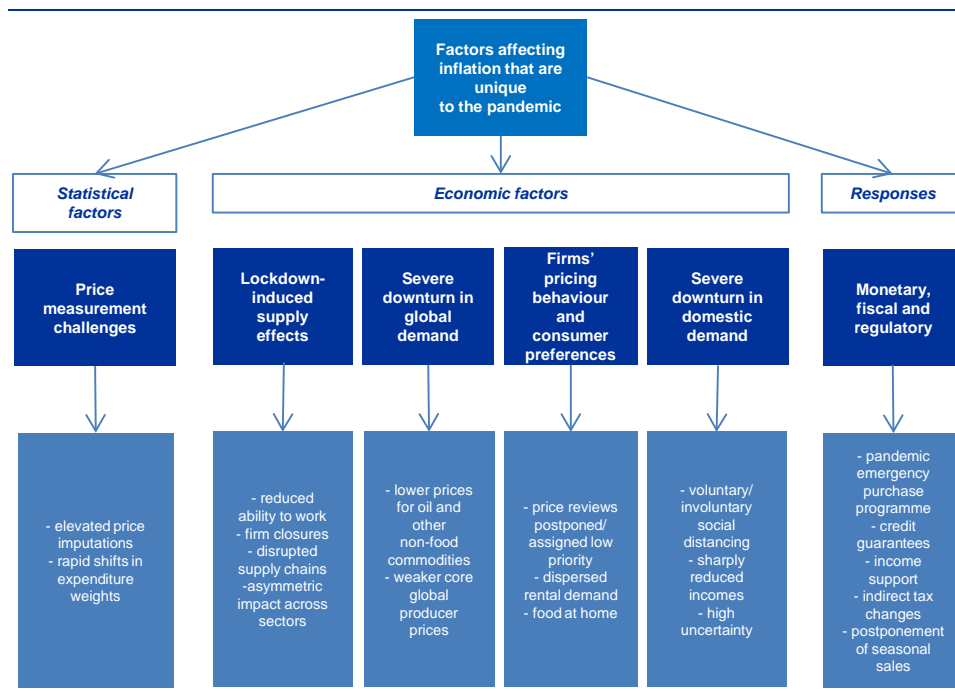
3 What explains the adjustment of HICP inflation so far?

3.1 Overview of factors unique to the pandemic

A diverse mix of domestic and global pandemic-related factors have influenced recent inflation dynamics (Figure 1). These factors are of both direct and indirect relevance for inflation, but have in common that they are unparalleled in scale. This holds for the sharp decline in domestic demand, especially in the consumer-facing sectors most exposed to the impact of social distancing. It also holds for the

large-scale responses from both monetary and fiscal authorities to the consequences of the pandemic. Given the global nature of the pandemic, the confluence of domestic and external factors has also been unusually strong, including, on the external side, the impact of much weaker global demand, lower prices for oil and other non-food commodities, and, from the third quarter of 2020, the appreciation of the euro effective exchange rate.

Figure 1
Factors that affected the response of inflation to the pandemic shock



Sources: ECB.

Note: For a more detailed exposition on the channels for demand and supply shocks, see, for example, Bobeica, E. and Hartwig, B., "The COVID-19 shock and challenges for time series models", *Working Paper Series*, ECB, forthcoming, 2021.

Fiscal and regulatory factors have directly influenced inflation dynamics. The pandemic has triggered fiscal and regulatory responses with a direct, albeit temporary, impact on inflation. In response to the pandemic, several euro area countries have reduced indirect tax rates on a scale not seen before.⁶⁴ Taking into account their net effect on a mechanical basis, the impact on HICPX inflation is estimated to be around -0.7 percentage points in the second half of 2020.⁶⁵ This compares with an average contribution of 0.2 percentage points since 2004. Regulatory changes have also influenced recent inflation dynamics. For example, the sales season for clothing and footwear in some euro area countries, including Italy and France, was postponed from July to August and extended into September. This added to the volatility of annual inflation rates, making it more challenging to gauge underlying price trends. In assessing the impact of such developments, and pricing behaviour more generally, the availability of timely micro price data has proved helpful (see Box 2).

⁶⁴ See the box entitled "The role of indirect taxes in euro area inflation and its outlook", *Economic Bulletin*, Issue 6, ECB, 2020.

⁶⁵ This mechanical estimate assumes a full and immediate pass-through.

Pandemic-related factors with an impact on prices beyond the near term have also emerged. The pandemic has had a profound impact on consumer behaviour. Demand for travel and tourism is depressed and seems likely to remain so until there has been a widespread roll-out of effective vaccines. This not only dampened inflation at the aggregate euro area level, but also led to increased heterogeneity in inflation developments across euro area countries, given the important role of tourism in some of them. Moreover, some prices that are typically resilient in crises have also weakened. One example is rents, for which the annual growth rate declined from 1.4% in February 2020 to 1.2% in October 2020. The downward pressure on rents could stem from the indexation of rents to past inflation. However, it could also reflect the introduction of rent freezes in certain cities in response to the pandemic.⁶⁶ The pandemic may have also provided some support to price developments in other areas. For example, the prevalence of remote working arrangements has seen an increase in the share of expenditure on personal IT equipment.⁶⁷ Other goods for which demand has been boosted include gardening equipment and bicycles.

The lockdowns are unique to the pandemic, especially in terms of the magnitude of the supply effects they have generated. The lockdowns triggered by the pandemic led to severe disruptions to labour supply and production supply chains, particularly during April and May and, to a somewhat lesser extent, in November and December. As noted above, recent evidence on the impact of the initial lockdowns suggests that the associated supply effects have exerted upward pressure on inflation to some extent. Lockdowns also presented price collection difficulties for statisticians. The remainder of this article contains an empirical analysis of the impact of the lockdowns.

Box 2

The role of microdata in inflation analysis

Prepared by Lukas Henkel, Alberto Lentini and Federico Rodari

Microdata on prices complement inflation analysis based on official price indices by providing additional information on the behaviour of individual prices. While official price indices allow price levels and inflation rates of narrowly defined product groups to be tracked, these do not allow the tracking of individual prices. Microdata on prices allow additional aspects of price movements to be analysed, e.g. whether price changes become less or more common over time. Microdata on prices are available from three different sources: web-scraped information collected from online stores, shop scanner data and household scanner data. The latter two are collected by, for example, market research companies.^{68,69} This box provides an example of the use of web-scraped information.

⁶⁶ See Kholodilin, K., “[Housing Policies Worldwide during Coronavirus Crisis: Challenges and Solutions](#)”, *DIW focus*, No 2, DIW Berlin, April 2020.

⁶⁷ A higher expenditure share on IT equipment may, however, exert downward pressure on overall inflation, given that inflation for such items tends by nature to be relatively low.

⁶⁸ Shop scanner data are transaction data collected in shops directly at the point of sale (e.g. from supermarket checkouts). Household scanner data are data collected directly from households which record the prices and quantities of goods they purchase.

⁶⁹ In addition to these data sources, microdata collected by national statistical offices for the compilation of the HICP are also available to researchers in several countries but are not published in most countries.

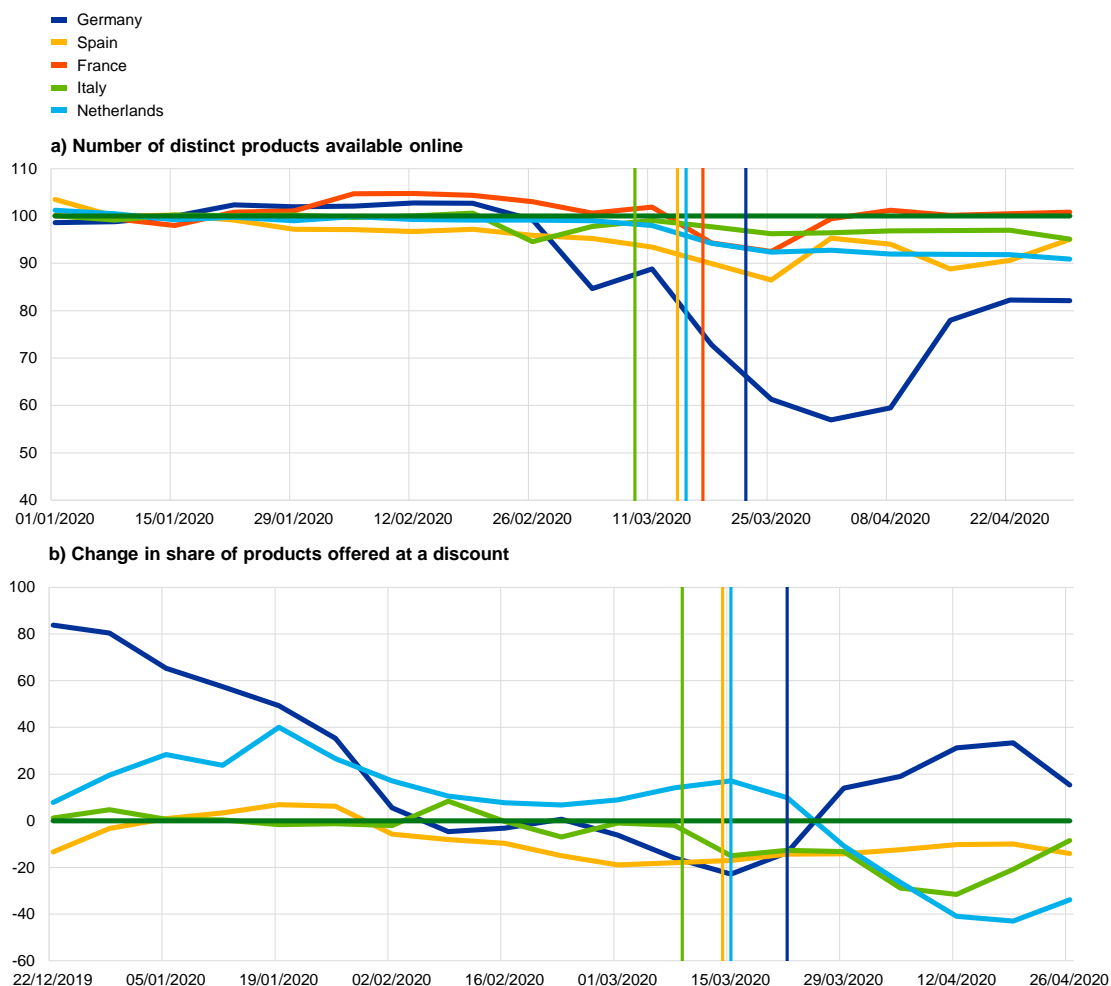
Web-scraped data provide highly granular price information in a timely fashion. The data are collected directly from websites of online retailers, making it possible to monitor price movements in quasi-real time. In addition to tracking individual prices over time, these data provide additional information on prices and products offered. For example, online retailers often include information on whether a product price is currently discounted, thereby allowing, for example, the behaviour of discounts during the COVID-19 pandemic to be analysed.

An analysis of web-scraped supermarket data provided by PriceStats shows that during the first wave of the virus both the number of distinct products available online and the share of products offered at a discount decreased. Panel a of Chart A shows that the number of products available online started to decrease at the beginning of March 2020 and, for most online supermarkets in the sample, had not recovered by the end of April. While the number of products available online decreased in all supermarkets in the sample, it did so to different extents, with the largest drop being observed in Germany, where the number of products available in early April was less than 60% of the number available in January 2020. Panel b of Chart A shows that temporary price discounts also became less common during the first wave of the virus, compared to the same period in the previous year. For example, in the Italian supermarket in our sample, the share of products at temporarily reduced prices was nearly 40% lower in mid-April 2020 than a year earlier. This decrease in discounts could be one factor that contributed to the temporary surge in food prices observed in the spring of 2020.

Chart A

Number of distinct products available online by country and annual percentage change in the share of products offered at a discount

(panel a: index, January 2020 = 100; panel b: year-on-year percentage changes)



Source: PriceStats, web-scraped price data.

Notes: Microdata on online prices provided by PriceStats for one online supermarket per country. Panel a shows a weekly index of the number of products available online by country, computed as the ratio of the weekly median of the number of distinct products to the median number of products in January 2020. Panel b shows the 5-week moving average of the year-on-year percentage change in the weekly median of the share of products offered at a discount. France is excluded from the analysis of temporary discounts, as no information on temporary discounts was available from the French online supermarket. The vertical lines indicate the start of the country-specific lockdowns. Latest observations: 30 April 2020.

Microdata on prices will be further analysed within the Price-setting Microdata Analysis Network (PRISMA), which was set up by the European System of Central Banks to deepen the understanding of price-setting behaviour and inflation dynamics in the EU.

3.2 Lockdown-induced inflation persistence

While there is some evidence of postponements of price reviews, it is likely that the impact on inflation persistence was at most modest and temporary. During the initial phase of lockdowns, many firms were closed. Subsequently, during the

containment phases, social distancing meant that some firms (e.g. in the tourism and travel sectors) continued to face difficulties in enticing customers. Indeed, reducing prices appears to have generated little or no rebound in demand. Such extraordinary conditions could have resulted in an unanticipated change in pricing behaviour, i.e. the response of the profit margins of firms was fundamentally different to before. Partly to avoid incurring additional menu costs, firms may have also preferred to delay changing prices until the degree of uncertainty surrounding their business outlook eased. The ECB's Corporate Telephone Survey, for example, indicates that price reviews were pushed down the list of priorities, with postponements not uncommon among firms (see also Box 3). However, other studies based on different data sources point to a quicker reaction in the pricing behaviour of firms, suggesting that the overall impact on frequency of price changes is not clear cut.⁷⁰

Price imputations are also likely to have imparted some short-lived increase in inflation persistence. Price collection by statisticians faced severe challenges during the lockdown.⁷¹ For example, price collection could not take place in stores that were closed. In addition, sampling in supermarkets and drugstores was largely discontinued in order to protect price collectors. The recreation sector was heavily affected by price imputations, owing to the non-availability of package holidays and the cancellation of entertainment events. Thus, several prices needed to be imputed, sometimes based on the patterns of previous years. This was especially the case for items that typically exhibit relatively low persistence (Chart 3). For example, the share of imputation for air fares jumped in April and remained elevated for some euro area countries until the autumn. The high level of imputations is likely to mean that these published price indices did not fully capture the impact of the severe downturn, but instead generally reflected developments in past data from more normal times. As a result, the overall persistence of inflation during the pandemic may have appeared higher than it actually was for certain components of core inflation, particularly for the second quarter of 2020.⁷²

⁷⁰ See Balleer et al., op. cit.

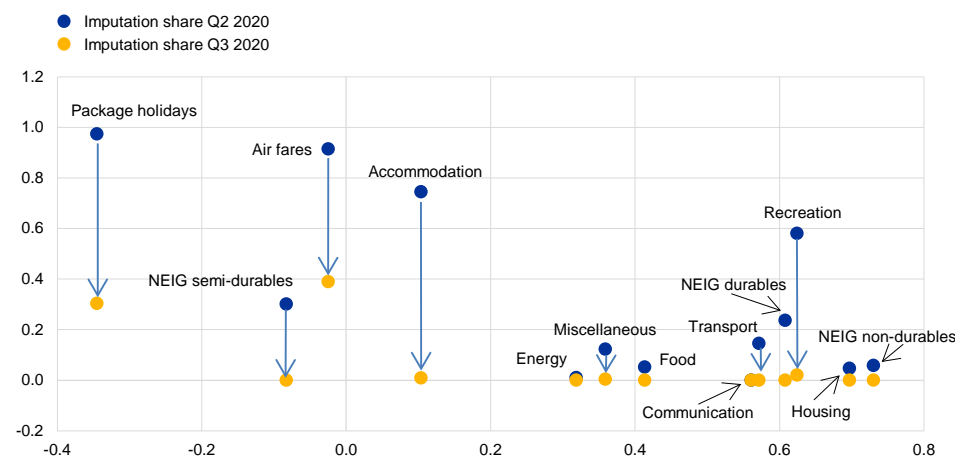
⁷¹ See the box entitled "[Consumption patterns and inflation measurement issues during the COVID-19 pandemic](#)", *Economic Bulletin*, Issue 7, ECB, 2020.

⁷² It is worth noting that the pandemic also disproportionately affected the sectors of the economy that tend to show higher persistence (i.e. services rather than goods). This was more marked than, for example, during the global financial crisis.

Chart 3

Inflation persistence and price imputations

(x-axis: inflation persistence, sum of autoregressive coefficients; y-axis: imputation share, percentages)



Sources: Eurostat and ECB calculations.

Note: "Transport" excludes air fares and "Recreation" excludes accommodation services and package holidays. The dependent variable is annualised quarter-on-quarter seasonally adjusted inflation, and the number of autoregressive lags is chosen according to the Schwarz Information Criterion. The estimation sample period is from the first quarter of 1999 to the fourth quarter of 2019. The negative inflation persistence estimates for package holidays and air fares may be partly due to the impact of calendar effects. The shares of price imputations were close to zero for all components prior to the second quarter of 2020.

Box 3

Insights from PMI data on pricing by firms during the pandemic⁷³

Prepared by Eduardo Gonçalves and Derry O'Brien

How quickly prices adjust in the face of sharp economic downturns is naturally related to the frequency of price changes. For instance, the avoidance of menu costs implies very infrequent price updates and thus, as a minimum, a delay in price and inflation adjustment to changes in activity developments.⁷⁴ In the case of short-lived changes in activity, prices may even remain unchanged throughout. This box uses monthly PMI data for manufacturing and services to gauge the frequency of price changes during the COVID-19 pandemic. For this purpose, the frequency of price changes is defined as the sum of the percentages of PMI survey respondents indicating that prices were "higher" or "lower" than the previous month.⁷⁵

The frequency of output price changes has generally remained unchanged during the pandemic, with the exception of a temporary increase in the services sector during the severe lockdown months of April and May 2020. In the manufacturing sector, the frequency of changes in output prices declined

⁷³ Data on the breakdown of responses were provided by PMI Markit. Other data sources point to a quicker reaction of firms' pricing behaviour.

⁷⁴ As well as menu costs, other factors, including pre-existing supply contracts or a higher priority assigned to maintaining good relationships with business clients, can also play an important role.

⁷⁵ PMI respondents are asked the following: "Is the level of output at your unit (in volume terms) higher, the same or lower than one month ago?". The focus of the analysis in this box is solely on whether a larger share of firms than usual adjusted their prices. The frequency of price changes is generally not helpful in explaining inflation because the change in the share of firms reporting price increases is normally partly offset by the change in the share of firms reporting price decreases. To determine inflation in a low-inflation environment, the relative shares of upward and downward price adjustments (see Cornille, D. and Dossche, M., "Some Evidence on the Adjustment of Producer Prices", *The Scandinavian Journal of Economics*, Vol. 110, No 3, September 2008, pp. 489-518) or information on the average magnitude of price changes (see Gagnon, E., "Price Setting during Low and High Inflation: Evidence from Mexico", *The Quarterly Journal of Economics*, Vol. 124, No 3, August 2009, pp. 1221-1263) can be used.

sharply in 2012 and thereafter remained subdued until 2016. This may have been in part due to a lower frequency of changes in input prices, which in turn probably reflected lower volatility in commodity prices, such as oil prices. This also broadly corresponds to a prolonged period of subdued wage growth.⁷⁶ Subsequently, the frequency of price changes gradually picked up, before stabilising during 2018. More recently, looking through seasonal variations, the frequency of price changes during the first half of 2020 was broadly comparable to pre-COVID-19 levels (Chart A, upper panel). In the services sector, the frequency of price changes was on a slight downward trend during 2012-2016 and picked up thereafter. Again, this largely reflected trends in the frequency of changes for input prices, where weak developments in wage costs are directly taken into account. The frequency of price changes was somewhat higher during April and May 2020 than their pre-pandemic levels in 2019, and also higher than in the manufacturing sector (Chart A, lower panel).⁷⁷

Overall, the sharp economic downturn does not appear to have been mirrored in a more pronounced frequency of price adjustment. Firms generally did not respond with greater urgency than usual in changing output prices. This may partly reflect the fact that firms update output prices if this is justified by input price changes. It is also worth noting that there is no guarantee that the frequency of changes in factory output prices can be mapped to a corresponding frequency at the level of retail prices.

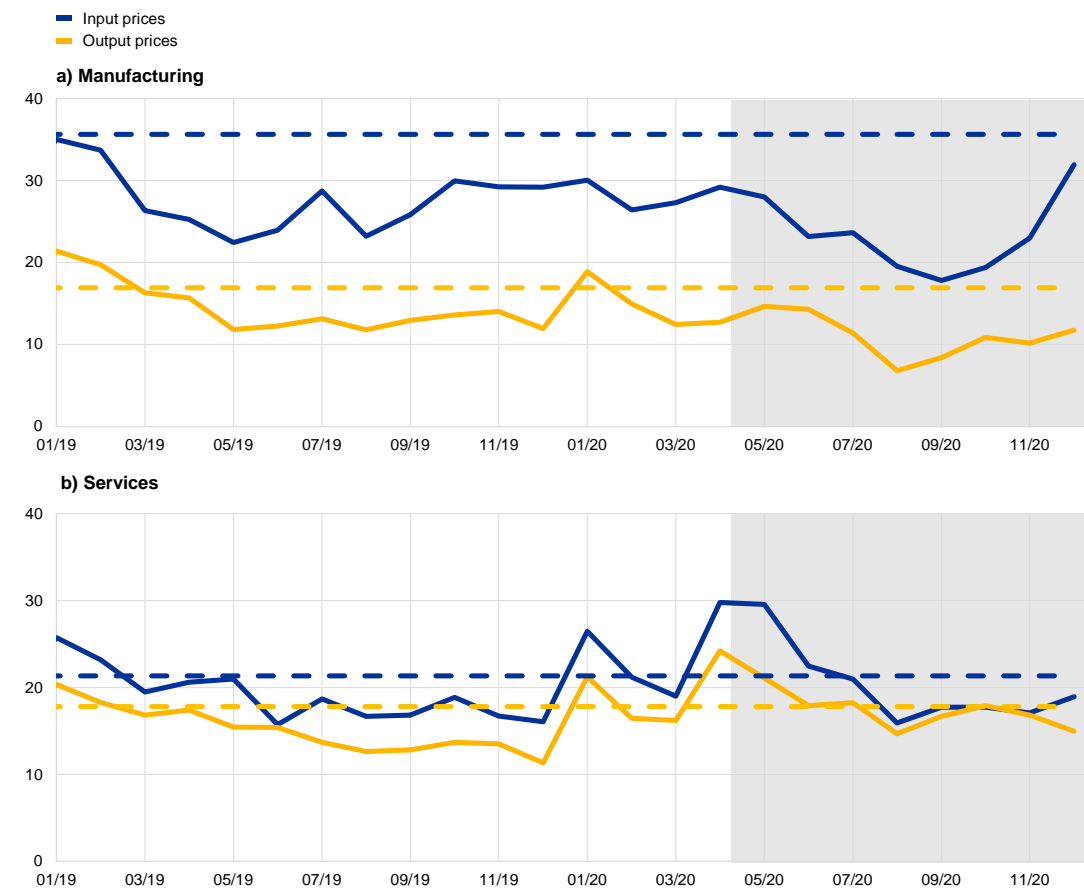
⁷⁶ Wage costs are not taken into account in PMI manufacturing input prices.

⁷⁷ The results are broadly similar across the four largest euro area economies. See also Vermeulen, P., Dias, D.A., Dossche, M., Gautier, E., Hernando, I., Sabbatini, R. and Stahl, H., "Price Setting in the Euro Area: Some Stylized Facts from Individual Producer Price Data", *Journal of Money, Credit and Banking*, Vol. 44(8), December 2012, pp. 1631-1650.

Chart A

Frequency of price changes for manufacturing and services

(percentages)



Sources: PMI Markit and ECB calculations.

Notes: The latest observation is for December 2020. Dashed lines correspond to historical averages. The shaded regions correspond to the pandemic. The frequency of price changes is defined as the sum of the percentages of PMI survey respondents indicating that prices were "higher" or "lower" than the previous month.

3.3 Lockdown-induced supply effects

Different approaches can be used to assess whether adverse supply effects may have played a role in the response of some components of inflation to the pandemic. All such approaches are subject to caveats and, in the context of the complex nature of the COVID-19 crisis, should be seen as contributing to an approximation of what is going on rather than as conclusive pieces of evidence. One approach used to shed light on the role of demand and supply effects is based on unconditional out-of-sample forecasting exercises.⁷⁸ The forecasting errors for the prices and quantities of components for the second and third quarters of 2020 are compared with their respective average historical forecasting errors.⁷⁹ A larger than

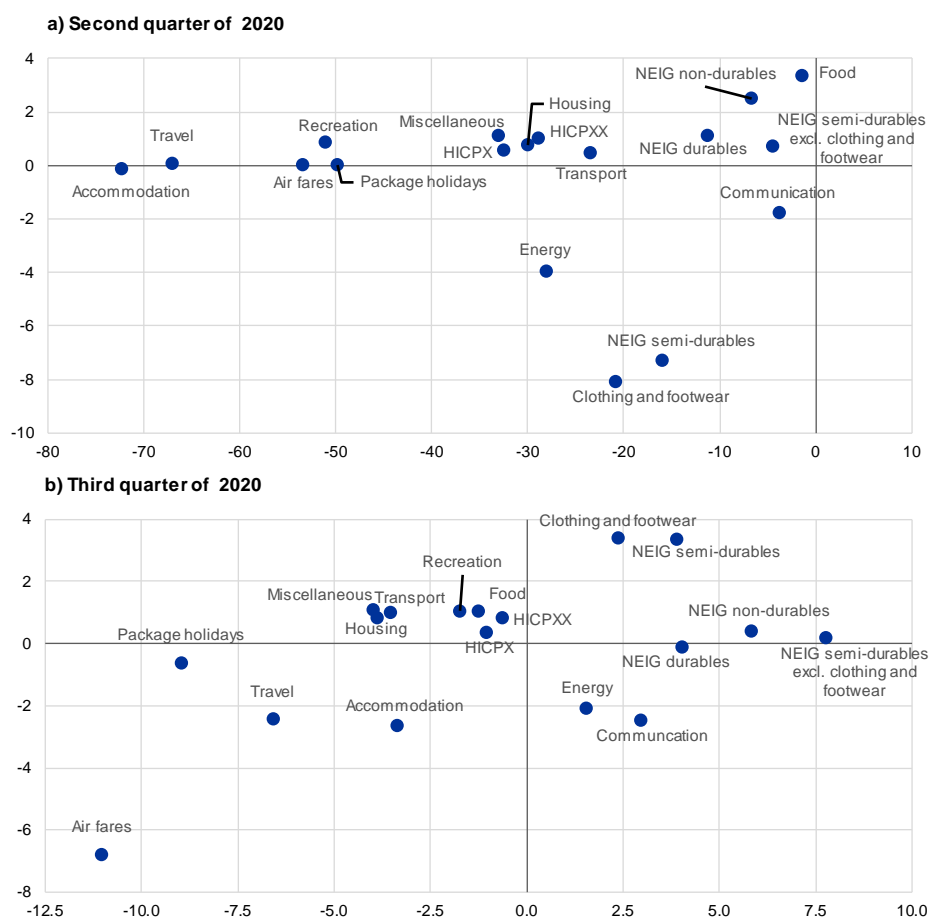
⁷⁸ A vector autoregressive (VAR) model is used to produce forecasts for the first, second and third quarters of 2020, taking into account the joint dynamics of the prices and quantities of components prior to the pandemic.

⁷⁹ For more details on the quantity series, see Table A in the box entitled "[Consumption patterns and inflation measurement issues during the COVID-19 pandemic](#)", *Economic Bulletin*, Issue 7, ECB, 2020.

usual positive forecasting error for prices accompanied by a larger than usual negative forecasting error for quantities or vice versa would tentatively point to a more dominant than usual role of supply shocks. This assumes the broad characterisation of a supply shock in the economic literature as a movement of prices and quantities in opposite directions.⁸⁰ On that basis, there is some evidence of supply effects in the second quarter of 2020, mainly for food and non-durable goods (Chart 4). At the same time, for some other components where demand fell more than expected (e.g. semi-durables), supply effects cannot be ruled out, as high imputation shares could mask underlying upward movements in inflation. In the third quarter of 2020, any supply effects that existed tended to ease.

Chart 4
Relative forecasting errors for inflation components

(x-axis: quantities, y-axis: prices; forecasting error divided by the average of absolute historical forecasting errors)



Sources: Eurostat and ECB calculations.

Notes: A value greater than one or less than minus one for either prices or quantities implies a larger than usual forecasting error. The forecasting model is a VAR model containing a price and a quantity series (estimated nominal household spending) in log levels at quarterly frequency with four lags and is estimated using Bayesian techniques (the prior is a Normal-Wishart prior with grid search for hyperparameter optimisation, $\lambda_{1}=0.05$, $\lambda_{2}=1$, $\lambda_{3}=1$, $\lambda_{4}=100$, $\lambda_{5}=0.001$ and λ_{6} and $\lambda_{7}=0.01$; 2,000 iterations and burn-in of 1,000). "HICPXX" refers to HICPX excluding clothing and footwear and travel-related items. The ECB's BEAR toolbox Version 4.2 is used (see Dieppe, A., LeGrand, R. and van Roye, B., "The BEAR toolbox", Working Paper Series, No 1934, ECB, July 2016).

⁸⁰ See also Shapiro, A., "A Simple Framework to Monitor Inflation", Working Papers, No 2020-29, Federal Reserve Bank of San Francisco, August 2020.

A more clear-cut distinction between demand and supply effects ideally relies on a structural identification. Hence, another approach to disentangling demand and supply effects uses conventional VAR models, each containing seven variables: volumes and prices per HICPX component, real GDP, real GDP relative to world real GDP, oil prices, HICP and the short-term interest rate. Five structural drivers are identified: global demand, domestic demand, domestic supply, oil supply and monetary policy. The identification relies on a mix of zero and sign restrictions as informed by theory.⁸¹ The model is estimated using Bayesian techniques.⁸² The historical decompositions of the first three quarters of 2020 point to a pervasive and dominant downward impact of both domestic and global demand effects (Chart 5). Furthermore, the decompositions point to a more limited role for adverse supply shocks having an upward impact on inflation even if these were unusually large compared with the typical size of previous supply shocks. These upward supply effects mainly related to certain non-energy industrial goods and miscellaneous services in the second quarter of 2020.⁸³ Overall, although the two approaches individually come with important caveats and are intended to provide a first-pass assessment, both tend to point to some role for supply effects in explaining the behaviour of inflation during the pandemic, but indicate that demand effects were the dominant factor.

⁸¹ The identification scheme used is based on elements of Corsetti, G., Dedola, L. and Leduc, S., "The international dimension of productivity and demand shocks in the US economy", *Journal of the European Economic Association*, Vol. 12(1), February 2014, pp. 153-176; and Bobeica, E. and Jarociński, M., "Missing disinflation and missing inflation: the puzzles that aren't", *Working Paper Series*, No 2000, ECB, January 2017.

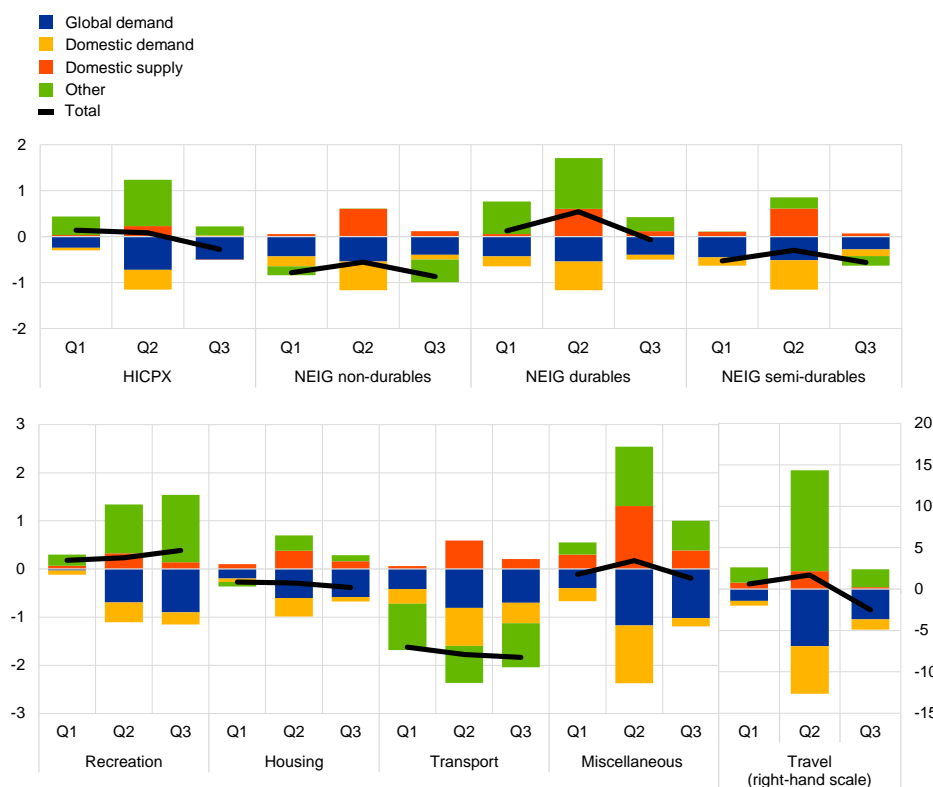
⁸² See Lenza, M. and Primiceri, G., "How to estimate a VAR after March 2020", *Working Paper Series*, No 2461, ECB, August 2020. In order to allay concerns about the unprecedented variation in parameter estimates, a pre-pandemic sample from the second quarter of 2002 to the fourth quarter of 2019 is used to provide historical decompositions for the first to the third quarters of 2020.

⁸³ It is worth noting that the positive contributions from "Other" in the second quarter for several components, including travel-related and recreational services, may partly reflect the distortionary impact of the increased use of price imputations.

Chart 5

Historical decompositions based on a structural VAR for inflation components for the first to the third quarters of 2020

(percentage point contributions from structural factors to the quarter-on-quarter growth rate of inflation excluding trend, percentage changes)



Sources: Eurostat and ECB calculations.

Notes: "NEIG semi-durables" excludes clothing and footwear, "Transport" excludes air fares and "Recreation" excludes accommodation services and package holidays. The VAR model contains a component price and quantity series in log levels as well as GDP, HICP and oil prices in log levels, euro area GDP relative to rest-of-world GDP, and the short-term interest rate (the euro overnight index average, EONIA). The model is estimated using Bayesian techniques (for more details, see the notes to Chart 4). Zero and sign restrictions are used to identify five structural shocks (domestic demand, domestic supply, global demand, oil supply and monetary policy) based on theory. The ECB's BEAR toolbox Version 4.2 is used (see Dieppe, Legrand and van Roye, op. cit.).

4 Conclusions

Summing up, a disaggregated perspective can help to better comprehend the response of inflation to the multi-dimensional COVID-19 shock. A disaggregated approach, which goes beyond just analysing the main components of inflation, is particularly suited to current circumstances where past empirical regularities in the interpretation of recent aggregate and core inflation may not apply. By taking a disaggregated approach, the analysis in this article points to a dominant role for downward domestic and global demand effects. This was only partly offset by upward supply effects, which were strongest in the second quarter of 2020 and were more prevalent in goods than in services. Increased use of price imputations, such as for travel-related services, may also help to explain the response of inflation, although these effects appear to have eased, which may partly explain why the decline in inflation gained further momentum during the second half of 2020.

It is likely that a more granular than usual perspective will continue to be needed to assess the evolution of the pandemic and its implications for the drivers of inflation. For monetary policy it is important to identify and look beyond any supply-side effects in order to gain a clearer picture of the disinflationary demand effects that inevitably come with income losses and uncertainty. Moreover, recent research also raised the possibility that supply effects could morph into larger negative demand effects.⁸⁴ Given the clear policy relevance of such a scenario, further consideration of this mechanism in the context of the euro area, which partly depends on the degree of its inter-sectoral linkages, would be useful. Finally, although generally weaker, pre-pandemic, non-commodity-related supply effects (e.g. technology shocks) are an ever-present factor in price dynamics. In this regard, the more granular analysis of inflation drivers presented here can also continue to be useful after the pandemic.

⁸⁴ For example, for the United States, see Guerrieri, V., Lorenzoni, G., Straub, L. and Werning, I., “Macroeconomic Implications of COVID-19: Can Negative Supply Shocks Cause Demand Shortages?”, *NBER Working Papers*, No 26918, April 2020; and Cesa-Bianchi, A. and Ferrero, A., “[The Transmission of Keynesian Supply Shocks](#)”, 20 October 2020.

3 The initial fiscal policy responses of euro area countries to the COVID-19 crisis

Prepared by Stephan Haroutunian, Steffen Osterloh and Kamila Sławińska

This article was updated on 10 February to amend footnote 88 and the title of Chart 2 on the European Commission's evaluation of Member States' draft budgetary plans for 2021.

Euro area countries have relied extensively on fiscal policy to counter the harmful impact of the coronavirus (COVID-19) pandemic on their economies. They have implemented a broad range of measures, some with an immediate budgetary impact and others, such as liquidity measures, which, in principle, are not expected to cause an immediate deterioration in the fiscal outlook. Since all euro area countries were hit by the economic shock largely through the same channels, their fiscal responses in the early stages of the crisis were similar in terms of the instruments used. Fiscal emergency packages were mostly aimed at limiting the economic fallout from containment measures through direct measures to protect firms and workers in the affected industries. Simultaneously, extensive liquidity support measures in the form of tax deferrals and State guarantees were announced to help firms particularly impacted by the containment policies to avoid liquidity shortages. In order to support the recovery, fiscal policy needs to provide targeted and mostly temporary stimulus, tailored to the specific characteristics of the crisis and countries' fiscal positions. Government investments, complemented by the Next Generation EU package, and accompanied by appropriate structural policies, should play a major role in this respect.

1 Introduction

This article discusses the initial fiscal policy responses of euro area countries to the COVID-19 crisis and the implications for further policy measures. It examines the specific fiscal policy measures taken in the course of 2020 and elaborates on the experiences of euro area countries during the pandemic. The article finds that successful recovery strategies from previous crisis episodes cannot be replicated without being adapted to the current crisis' circumstances. Looking forward, it discusses the implications for the fiscal stance and considers the main policy questions such as the design and timing of fiscal measures.

Fiscal policy is the most suitable instrument for addressing the detrimental impact of the pandemic on the economy, as it is well equipped to differentiate and channel economic support to where it is most needed. First and foremost, by providing adequate public health care, fiscal policies can help in dealing with the immediate health consequences of the pandemic, which is also a prerequisite for countering the economic effects of the health crisis. Moreover, fiscal policy can alleviate the negative impact of the crisis by bolstering aggregate demand and providing well targeted support to vulnerable households and firms. Overall, fiscal

policies have supported the euro area economy in two ways: through the functioning of automatic stabilisers and discretionary actions. In general, automatic stabilisers are sizeable in euro area countries and are effective in cushioning economic shocks. However, the severity and particularities of the COVID-19 crisis, with both demand and supply significantly affected, in particular during the lockdown phases, required the use of significant discretionary fiscal support measures.

A wide range of discretionary fiscal instruments was implemented or announced in 2020. The fiscal policy reactions were unparalleled in size and scope, as the COVID-19 pandemic and its economic implications posed specific challenges, leading to multi-measure fiscal policy responses. The measures taken by countries can be roughly categorised into two categories: (i) budgetary measures, which typically have an immediate effect on the budget balance, and (ii) liquidity measures, which typically do not immediately affect the budget balance in the year in which they are implemented, but imply contingent liabilities that may affect the fiscal positions. These two types of fiscal measure affect both the expenditure and the revenue side of government budgets (see Table 1).

Table 1
Categories of fiscal instrument

	Liquidity measures	Budgetary measures
Expenditure side	Guarantees Loans	Short-time work schemes Support to firms Support to households Public investment
Revenue side	Tax deferrals Other tax measures	Indirect tax cuts Direct tax/social contribution cuts

Notes: Own representation.

The fiscal interventions took account of the particular challenges posed by the pandemic. First, in the initial phase of the crisis, emergency packages consisting of both liquidity support and budgetary measures were announced to cope with the first phase of broad lockdowns in March 2020, when all euro area countries introduced strict restrictions on businesses and movement of people. Those measures were aimed at supporting the firms and households particularly affected by the health crisis. These emergency measures were renewed, albeit to a lesser extent, towards the end of 2020, when Member States had to introduce partial or “lighter” lockdowns to address the second wave of the pandemic. Second, additional measures were gradually introduced during the interim phase that followed the phasing out of most lockdown measures in mid-2020 in order to support the recovery. In this phase, most businesses reopened, but some sectors were still impaired by ongoing health measures and local and targeted shutdowns, as well as changed consumer behaviour and preferences. Third, further recovery measures are envisaged which are aimed at the more medium to long-term challenges that may arise once the health-related restrictions come to an end.

This article consists of seven sections. Section 2 presents the overall fiscal policy response during the initial phases of the crisis. The subsequent sections review in detail the various measures introduced. Budgetary and liquidity measures on the

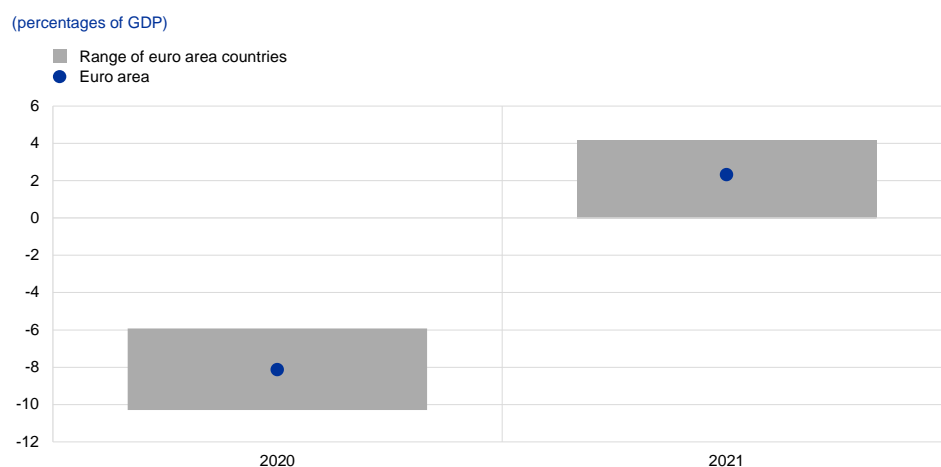
expenditure side are discussed in Sections 3 and 4 respectively. Sections 5 and 6 give an overview of budgetary and liquidity measures on the revenue side. Section 7 elaborates on the challenges associated with the assessment of the fiscal stance using standard measures, and Section 8 concludes.

2 Budgetary impact of fiscal responses

The COVID-19 crisis led to a substantial expansion in budget deficits in the euro area. According to the European Commission’s Autumn 2020 Economic Forecast, the euro area budget deficit is expected to increase from 0.6% of GDP in 2019 to 8.8% of GDP in 2020 (see Chart 1). The fiscal deficits and the contraction in GDP led to an increase in the euro area debt ratio from 85.9% of GDP in 2019 to a projected 101.7% of GDP in 2020. The deterioration in fiscal balances partly reflects the operation of automatic stabilisers, which are designed to dampen the effects of the economic cycle. According to European Central Bank (ECB) estimates, these account for around one-third of the large budget deficit in 2020.⁸⁵ But the worsening of the fiscal outlook is principally a result of the discretionary fiscal measures adopted since the outbreak of the crisis. According to the Commission’s forecast, the expected improvement in the economic situation and withdrawal in 2021 of part of the discretionary fiscal measures taken the year before are projected to reduce the euro area aggregate deficit to 6.4% of GDP in 2021. However, these projections are subject to exceptionally high uncertainty, as they depend, inter alia, on the course of the pandemic. In particular, at the time of publication of the European Commission’s Autumn Forecast in early November 2020, the implications of the growing number of infections and the new containment measures imposed later in the autumn and beyond had not fully unfolded.

Chart 1

Projected change in the euro area and euro area countries’ budget balances relative to the preceding year

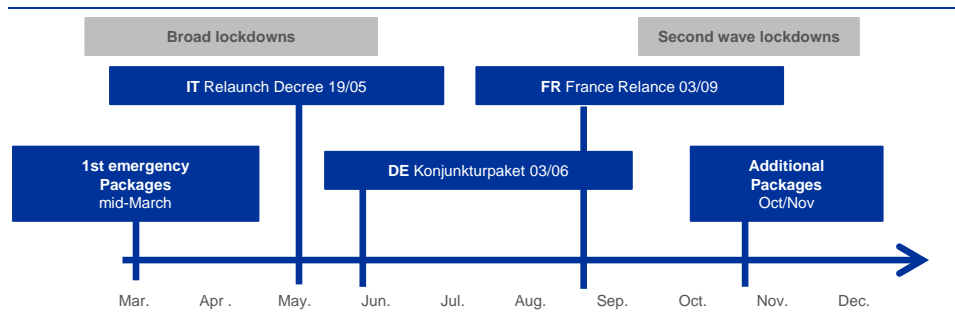


Source: European Commission’s Autumn 2020 Economic Forecast.

⁸⁵ See “Automatic fiscal stabilisers in the euro area and the COVID-19 crisis”, *Economic Bulletin*, Issue 6, ECB, 2020.

Fiscal measures were implemented via sequences of fiscal packages that reflected the change in priorities over the course of 2020. The four largest Member States, namely Germany, France, Italy and Spain, implemented their first emergency packages as of mid-March, a few days after the introduction of the first broad lockdown measures in Italy (see Figure 1). These packages aimed to address the health crisis and to support the sectors most hit by lockdown measures. They were relatively similar across countries. Later, some of the countries announced further fiscal packages to extend the liquidity and emergency measures included in the first package. Following the end of the broad lockdowns in the summer, Member States progressively announced further packages, which were typically more concerned with supporting the recovery and had a longer-range focus, including measures that would come into effect in 2021 and beyond. Most notably, in June Germany announced its “*Konjunktur- und Zukunftspaket*” with measures amounting to €130 billion (i.e. 3.9% of GDP) and in September France launched its “*France Relance*” package comprising measures worth €100 billion, (i.e. 4.4% of GDP). Later, around mid-October, several other Member States announced in their draft budgetary plans for 2021 additional measures for 2021 and subsequent years. Overall, the timing of the recovery packages is much more heterogeneous than that of the emergency measures taken in the spring. Finally, at the end of October 2020 several Member States reacted quickly to the second wave of the pandemic and announced additional emergency measures specifically targeting firms affected by the new partial lockdowns.

Figure 1
Largest fiscal packages announced in the euro area



Source: Own illustration.

Quantifying the discretionary fiscal measures in response to the COVID-19 crisis and comparing them across countries is subject to major challenges.

First, there is no consistent track record of the measures that countries have implemented. While Member States typically announced ex ante estimates of the budgetary costs at the time of announcement of the fiscal packages, those numbers were often prone to substantial revisions over time, in particular owing to lower take-up rates than expected.⁸⁶ The stability programmes published in spring 2020 did not provide full details on fiscal measures, especially in the longer term, as countries considered uncertainty to be too high. In their DBPs for 2021, many countries did not

⁸⁶ For instance, out of €75 billion provided as emergency support to small companies by the German federal government, only €15 billion had been drawn on by the end of October 2020. See Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung, “Jahresgutachten 2020/21 - Corona-Krise gemeinsam bewältigen, Resilienz und Wachstum stärken”, Wiesbaden, 2020.

provide a detailed quantitative overview of the actual costs of the measures they had taken in 2020. Second, statistical recording of the often unprecedented measures is challenging, even with Eurostat providing guidance. For instance, while tax deferrals were often reported by Member States as part of the total costs of fiscal packages, these typically do not affect the budget balance (see the discussion below). Third, the boundaries between discretionary measures and automatic stabilisers are in some cases difficult to discern. For instance, the treatment of short-time work schemes differs across countries, because in some countries the existing elements are treated as automatic stabilisers.

Against this backdrop, the following overview first aims to capture the size of the overall fiscal packages that countries implemented in the course of 2020 to address the pandemic, before reporting on their composition.

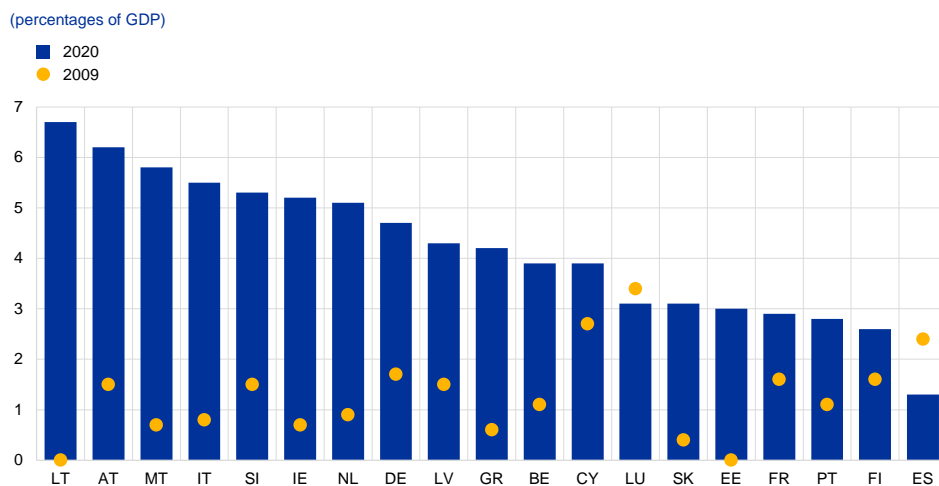
In the absence of a consistent overview of discretionary measures, the following analysis scrutinises the information provided by the European Commission on the overall size of coronavirus-related measures as incorporated in Member States' draft budgetary plans (DBPs). Chart 2 shows the expected overall effect of discretionary fiscal measures related to COVID-19 on the budget balances of Member States in 2020, which has been included in the European Commission's Autumn 2020 Economic Forecast.⁸⁷ All reporting countries had legislated for substantial fiscal packages in 2020, with a weighted average of slightly above 4% of GDP. However, as mentioned above, the cross-country comparison is cumbersome owing to heterogeneity in the reporting of the measures. For instance, for a few countries, the Commission's quantifications differ from those of the national authorities, notably as regards spending related to short-time work schemes. Whereas the Commission tends to treat this spending as part of the operation of automatic stabilisers, possibly but not necessarily under the assumption that this spending is triggered automatically by criteria such as a decline in sales or a drop in output, some countries report this as a discretionary measure in their DBPs.⁸⁸ Other differences relate to the treatment of deferrals of taxes and social contributions. Moreover, the actual outcome of fiscal measures taken in 2020 might have been even higher in a number of countries than that assessed by the Commission, given that the DBPs were prepared before the second wave of the pandemic in the autumn, which led to additional costs for existing measures and the adoption of new measures.

⁸⁷ The information is provided in the [Commission Working Documents accompanying the Draft Budgetary Plans 2021](#).

⁸⁸ For instance, this assumption partly explains why the figures for Spain and Luxemburg are substantially below those reported in the countries' DBPs (5.5% and 5.1% of GDP respectively). In addition, in the case of Spain, some measures reported in the DBP, such as the COVID-19 fund for regions, the salary increase in the public sector and the pension indexation to the consumer price index, are incorporated implicitly in the Commission's baseline projections and are therefore not included in Chart 2.

Chart 2

Discretionary fiscal measures related to COVID-19 with a budgetary impact in 2020 compared with gross discretionary stimulus in 2009



Sources: Own presentation based on Commission Staff Working Documents accompanying the Commission Opinions on the Draft Budgetary Plans for 2021; "Public finances in EMU – 2010", *European Economy*, Issue 4, European Commission Directorate-General for Economic and Financial Affairs, 2010.

The budgetary impact of discretionary fiscal measures is unprecedented

compared with previous crisis episodes. By comparison, at the height of the Global Financial Crisis (GFC) in 2009, the overall amount of discretionary stimulus in EU countries amounted to 1.5% of GDP.⁸⁹ Moreover, the heterogeneity of measures appears to have been larger during the GFC than in the COVID-19 crisis. In 2009 stimulus measures reached over 3% in Luxembourg, while some countries did not provide any stimulus at all, even implementing considerable consolidation measures.

A more detailed look at the aggregate euro area fiscal responses in 2020 shows that emergency measures were predominantly focused on supporting firms and employment.

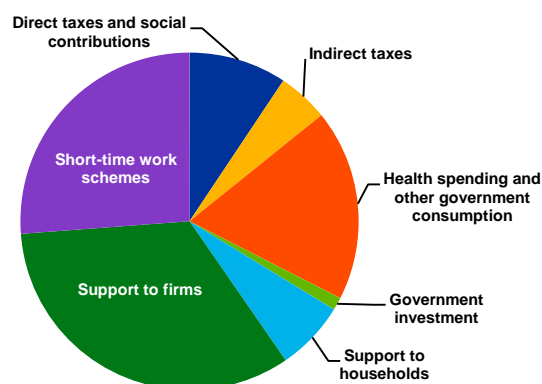
In Chart 3, the composition of aggregate discretionary fiscal measures in the euro area is estimated based on information provided in the DBPs for 2021.⁹⁰ As shown, the biggest contribution to the fiscal stimulus in 2020 was from emergency measures to address the immediate consequences of the COVID-19 pandemic. First, Member States took substantial measures to protect employment, in particular in the form of short-time work schemes and other support measures to the most affected firms, such as subsidies. Second, to address the health crisis, Member States increased health spending to cover the additional costs for staff, pharmaceuticals and hospitals, as well as additional public spending to ensure the functioning of the public sector.

⁸⁹ "Public finances in EMU – 2010", *European Economy*, Issue 4, European Commission Directorate-General for Economic and Financial Affairs, 2010.

⁹⁰ The estimates are based on a subset of Member States, as not all countries have provided detailed information on the composition of discretionary measures in 2020.

Chart 3

Estimated composition of measures related to COVID-19 in 2020



Source: Own calculations based on DBPs for 2021.

Turning to governments' plans for 2021, measures tend to shift towards supporting a recovery, although the amount and composition of fiscal measures is uncertain.

For 2021, the overall amount of planned discretionary measures reported in the DBPs is substantially smaller and more heterogeneous across Member States compared with that for 2020. On average, the size of the concrete discretionary measures included in the DBPs amounts on average to slightly above 1% of GDP. Among the larger Member States, Germany stands out with measures amounting to 2.1% of GDP in 2021. For the euro area as a whole, the decline compared to 2020 mostly reflects the planned unwinding of the bulk of emergency measures. The composition of stimulus measures also changes compared with 2020, as new discretionary measures included in the budgets for 2021 tend to focus on economic stimulus policies, with a larger share related to public investment and tax measures. Moreover, the stimulus in 2021 will depend on the extent to which Member States will be able to absorb funds from the new Next Generation EU (NGEU) instrument (see Box 1). Some Member States have included estimates in their DBPs for 2021, but more information will become available in spring 2021 as Member States submit their recovery and resilience plans, which should outline the projects that they intend to finance using the NGEU.

However, a continuation of the health and economic crisis will inevitably lead to an increase in the costs of existing policy measures, including additional health spending or higher costs of prolonged short-time work schemes.

Moreover, several Member States have announced in their DBPs that they will provide additional support in the event that the pandemic worsens. In particular, additional support measures for firms appear likely in the case of new lockdowns, as already observed in autumn 2020.

The following sections describe how the set of measures introduced during the early stages of the crisis on both the expenditure and the revenue side were aimed at dealing with the immediate consequences of the pandemic.

The sharp economic downturn following the outbreak of the virus differed from previous crisis

episodes, such as the GFC, as it did not result from economic imbalances. It was a truly exogenous shock, which hit otherwise sound economic structures in the euro area. Consequently, there was broad consensus that fiscal policies should focus on preserving the pre-crisis structure of the economy where it was viable and on minimising crisis-related insolvencies and the exit of firms from the market. The exit of healthy firms hit by the temporary lockdown would be detrimental to the subsequent recovery, as it would lead to an inefficient loss of production capital, in particular firm-specific intangible and human capital.

In addition to the discretionary measures with an immediate effect on the budget balance, Member States also implemented liquidity measures, mainly in the form of State guarantees and tax deferrals. These measures were introduced by most euro area countries at the start of the broad lockdowns to support companies affected by the restrictions. They facilitated companies' access to external financing and allowed them to shift tax obligations to when normal activity resumes.

3 Budgetary measures on the expenditure side

Short-time work schemes played a particularly important role in stabilising employment during the COVID-19 crisis, in particular during the period of broad lockdowns. These programmes accounted for more than a quarter of the fiscal packages in 2020 (see Chart 3). Such schemes aim to prevent the loss of human capital and stabilise consumption for those who would have become unemployed. Moreover, they can help the labour market recover faster, as they allow firms and workers to resume activity without the costly and lengthy process of search and matching that would have to occur if an employment relationship was lost.⁹¹ The use of short-time work schemes during the lockdown was unprecedented: in Germany, almost 10 million people were using the country's short-time work scheme in mid-May 2020, compared with a maximum of around 1.4 million during the GFC. An empirical analysis of the short-time work schemes of 23 developed countries during the GFC finds that such schemes had a significant impact on preserving jobs during the crisis as employment became less elastic with respect to output.⁹² Further studies of country-specific schemes confirm a positive effect on employment during the crisis, e.g. for Germany⁹³ and France⁹⁴. Another study for Italy confirms a positive effect for temporary shocks, but highlights that, when shocks become persistent, the short-term benefits in terms of employment need to be traded off against the potential reallocation effects of the scheme.⁹⁵ During the COVID-19 crisis, the extension of such schemes is particularly useful in cases where demand in specific sectors is still depressed

⁹¹ "A preliminary assessment of the impact of the COVID-19 pandemic on the euro area labour market", *Economic Bulletin*, Issue 5, ECB, 2020.

⁹² Hijzen, A. and Martin, S., "The role of short-time work schemes during the global financial crisis and early recovery: a cross-country analysis", *IZA J Labor Policy*, Vol. 2, Issue 5, 2013.

⁹³ Balleer, A., Gehrke, B., Lechthaler, W. and Merkl, C., "Does short-time work save jobs? A business cycle analysis", *European Economic Review*, Vol. 84, 2016, pp. 99-122.

⁹⁴ Cahuc, P., Kramarz, F. and Nevoux, S., "When Short-Time Work Works", *Banque de France Working Paper*, No 692, 2018

⁹⁵ Giupponi, G. and Landais, C., "Subsidizing Labor Hoarding in Recessions: The Employment and Welfare Effects of Short Time Work", *CEPR Discussion Paper*, No 13310, 2020.

owing to health restrictions or temporary local lockdowns. Moreover, the extension of such schemes supports private demand and business confidence during the recovery phase. However, past experience shows that broad use of short-time work schemes during the recovery may hamper the reallocation of workers if structural changes occur, and therefore adversely influence job creation during the recovery.⁹⁶ Consequently, it has been recommended that time limits reduce the risk that jobs that are no longer viable in the longer term are supported, and that the provision of training and support for job search to subsidised workers can facilitate job mobility.⁹⁷

The high income losses incurred by firms, in particular small and medium-sized enterprises (SMEs), during the lockdowns have led to the provision of substantial support to firms in many Member States. While almost all countries provided support to the firms most affected by the lockdowns at an early stage in the form of loan guarantees and a partial sharing of wage costs in the context of short-time work schemes, fixed costs may still lead to liquidity shortfalls which – if left unaddressed – could ultimately result in firms’ insolvency and market exit. Given the uncertainty and swift developments during the lockdown, it was difficult to tailor solvency support to firms’ needs, as the true burden for firms was difficult to assess. Moreover, support could only be linked to very broad criteria, such as the degree to which the sector as a whole was affected. Consequently, governments faced a trade-off between providing emergency support quickly and unbureaucratically on the one hand and avoiding windfall gains for enterprises and fraud on the other. A few countries chose to provide direct support schemes for firms at an early stage, most notably Germany, which provided several programmes for emergency assistance to small companies and the self-employed across all sectors facing a threat to their existence. Other countries later initiated programmes for partial compensation of losses incurred during the lockdown, which were often linked to specific fixed costs of companies or related sector, or turnover losses. In several countries, such measures were renewed in the autumn in order to compensate firms affected by the partial lockdowns in response to the second wave of the pandemic. Finally, at an early stage several countries provided subsidies to self-employed or other workers who were not sufficiently covered by existing national social security systems. However, those transfers were typically rather limited, as they merely served as social assistance in the form of replacement income and did not cover operational costs.

Member States have pledged substantial amounts for capital injections to firms, which may lead to additional fiscal costs in the future. In the early stages of the crisis, several governments already announced the provision of substantial amounts for capital injections to firms (for example, 3% of GDP in Germany and 0.9% of GDP in France), and a relaxation of State aid rules has in principle facilitated the recapitalisation of bigger firms. The first larger-scale recapitalisation operations in the euro area were limited to the aviation industry, but long-run fiscal costs from recapitalisations may rise if other sectors are also affected in the longer term. In particular, fiscal and economic costs might arise if companies that were already unhealthy before the crisis are artificially kept going, hampering structural change.

⁹⁶ See footnote 8.

⁹⁷ “Job retention schemes during the COVID-19 lockdown and beyond”, OECD, 2020.

Moreover, such State aid measures need to address competition concerns, as differing approaches across countries might impair the Single Market. The Commission has therefore approved the recent transactions subject to certain conditions, such as the State having a credible exit strategy.

The effectiveness of other spending measures to support private demand is hampered by the COVID-19 crisis. In previous crises, such as the GFC, the majority of fiscal measures taken to stimulate the economy were aimed at supporting household purchasing power, either by increasing income, reducing taxes or providing benefits to stimulate consumption, as the increase in uncertainty about future income and higher risk of unemployment leads to a rise in precautionary savings. The emergency measures supported incomes and allowed households to maintain their living standards to a large extent. However, as a consequence of the containment measures, their immediate impact on consumption was reduced. These measures prevented consumers from making purchases and led to a strong increase in the saving ratio particularly in the higher income groups.⁹⁸ This implies that income support that is targeted towards lower income households has a larger macroeconomic impact, since these have a higher propensity to consume and are more likely to raise their consumption following the lockdowns. In fact, several countries have already taken measures consisting of targeted transfers to certain households, such as families or the unemployed. Such measures can be assumed to have a stronger impact insofar as they target households with a higher propensity to consume. Little recourse has been made to direct consumption incentives which were a popular instrument in the GFC, in particular car scrapping schemes. This is because the car sector is expected to be less affected than others in the current crisis, in which the service sector in particular is hit to a greater extent. Notable exceptions are a few countries that have provided consumption incentives for other sectors, such as holiday vouchers.

Government spending on investment should be a priority during the interim phase in the run-up to the economic recovery. Whereas fiscal stimulus in the form of tax cuts or transfers may not be very effective in stimulating the economy during the interim phase, where partial lockdowns and high levels of uncertainty may still be in place, stimulating the economy through various public works is more effective.⁹⁹ This type of spending is not significantly affected by social distancing and, given its complementary nature to private investment, may act to crowd-in private investment. Some countries, most notably Germany¹⁰⁰ and France¹⁰¹, have already announced fiscal packages in 2020 which foresee considerable increases in government

⁹⁸ While the surge in the household saving rate in the second quarter of 2020 can in principle be explained by forced savings owing to lockdown measures and precautionary savings owing to the risk of future unemployment, an empirical analysis suggests that forced savings seem to be the main driver; see “COVID-19 and the increase in household savings: precautionary or forced?”, *Economic Bulletin*, Issue 6, ECB, 2020.

⁹⁹ “Fiscal Monitor: Policies for the Recovery”, IMF, 2020.

¹⁰⁰ In June 2020 the German government reached agreement on a fiscal stimulus package which includes a €50 billion envelope for investment promotion measures, including support for E-cars and more charging stations, investment in support of digitalisation and additional support for Deutsche Bahn.

¹⁰¹ On 3 September 2020 the French government announced the “*France Relance*” (Relaunch France) recovery plan, which is expected to mobilise €100 billion. This initiative has a significant public investment component. Some 30% of the funds will be devoted to financing environmental investments, while the plan also envisages investments in future technologies.

investment in 2021 and beyond. In practice, however, achieving these increases swiftly can be challenging owing to the time needed to properly assess investment needs and roll out expenditures. It is therefore important to have “shovel-ready” projects which can be automatically rolled out when the need arises. In that respect, maintenance activities can be frontloaded as they tend to be more easily implemented than new projects. In this way, the increases in investment can be implemented in a timely manner and provide effective stabilisation.

Government investment also has an important role to play in the post-pandemic economic recovery, most notably through the financing provided by the Next Generation EU scheme.

In particular, the additional investment under the Next Generation EU scheme will play a major role in supporting the recovery once the pandemic ends.¹⁰² It is expected that this facility would imply a debt-based fiscal expansion of around 1% of GDP on average in the euro area over the period 2021-24. Most of this expenditure should be spent on investment and growth-enhancing structural reforms (see Box 1). It is thus important to ensure the additionality of these expenditures over and above national expenditures, so that the EU funds do not crowd out national government investment expenditures. It is important to note that even if NGEU funded investments were to replace national expenditure, the impact would nonetheless be beneficial, as EU grants do not raise domestic public debt levels. This expected increase in investment in the aftermath of the crisis stands in sharp contrast to the years following the GFC, when considerable cuts in government investment took place as part of the fiscal consolidation strategies followed by euro area Member States,¹⁰³ with the government investment ratio in the euro area dropping from 3.7% of GDP in 2009 to 2.7% in 2018.

Both national and EU responses are expected to have a significant component dedicated to meeting environmental objectives.

The July 2020 European Council¹⁰⁴ agreement set an overall target of at least 30% of the total amount of the EU’s budget and NGEU expenditures in support of climate objectives. A notable example is France, where according to the 2021 DBP, 30% of the €100 billion “*France Relance*” programme is earmarked for investments in all aspects of “ecological transition, including the energy retrofitting of buildings, green infrastructure and mobility, decarbonisation of industrial processes and support for green innovation, support for the circular economy, limits on land take, and agricultural transition.” This is not the first time that stimulus measures in an economic crisis pursue environmental objectives, as during the GFC over 16% of all GFC-related fiscal stimulus was directed towards various green activities.¹⁰⁵ The experience has shown that the implementation of sufficiently large, timely and properly designed green stimulus

¹⁰² See the box entitled “[The fiscal implications of the EU’s recovery package](#)”, *Economic Bulletin*, Issue 6, ECB, 2020.

¹⁰³ See the article entitled “[The composition of public finances](#)”, *Economic Bulletin*, Issue 5, ECB, 2017.

¹⁰⁴ The conclusions adopted on 21 July 2020 by the European Council on the recovery plan and multiannual financial framework for 2021-2027.

¹⁰⁵ The green policies supported comprised renewable energy generation, energy efficiency in buildings, scrappage payments for vehicles with low fuel efficiency, support for clean technology development, mass transit, nature conservation and water resource management; see Agrawala, S., Dussaux, D. and Monti, N., “What policies for greening the crisis response and economic recovery? Lessons learned from past green stimulus measures and implications for the COVID-19 crisis”, *OECD Environment Working Papers*, No 164, 2020.

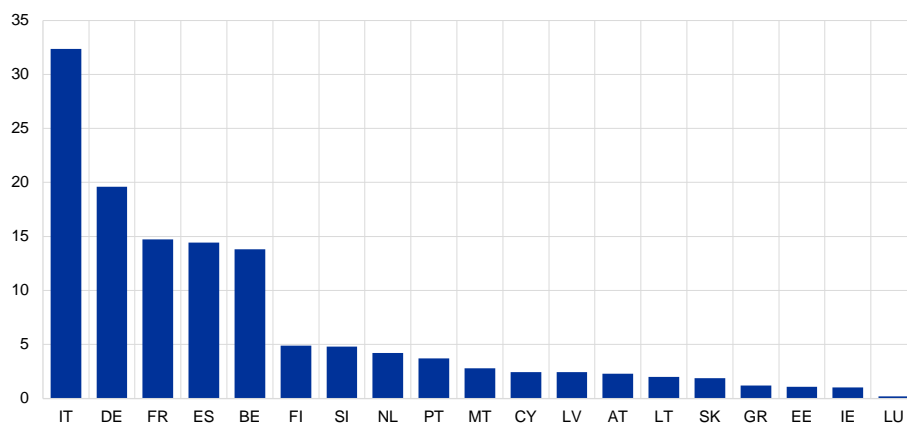
measures can generate economic growth while also delivering environmental benefits. However, there can also be various trade-offs between growth and environmental objectives, which in turn highlights the importance of proper policy design.

4 Liquidity measures on the expenditure side

In the early phase of the COVID-19 crisis, loan guarantees were the predominant instrument used to address firms' liquidity shortages. Such guarantees aimed to avert liquidity shortages for firms particularly affected by the containment policies, in particular SMEs. In addition, several Member States provided additional liquidity to firms in the form of loans through State-owned development banks. At the euro area level, announced guarantees amounted to over 16% of GDP (see Chart 4). While the announcement of such sizeable loan guarantees certainly helped to restore business confidence in the short run, the announced amounts are only loosely related to the actual take-up. In the four largest Member States, overall take-up up to October-November 2020 spanned from around 1.3% of GDP in Germany to 9.7% of GDP in Spain.¹⁰⁶ The effectiveness of the schemes depends on certain design features which determine whether borrowers can access the loans quickly, and which differ significantly across countries. In addition, loan guarantees were also provided by the European Investment Bank (EIB) (see Box 1).

Chart 4
Guarantees

(percentages of GDP in 2019)



Source: Own calculations based on DBPs for 2021 and the International Monetary Fund (IMF) Database of Fiscal Policy Responses to COVID-19.

Notes: Data are from the DBPs for 2021 posted on the European Commission's website. In some cases, the figures were provided as a percentage of GDP, while in others the amount was provided in € billions. In the latter case, the amounts were expressed as a percentage of GDP using the nominal growth projections for 2020 included in the DBPs. For AT, CY, EE, IT, LV, NL and SI, the size of the State guarantee envelopes was obtained from the IMF Database of Fiscal Policy Responses to COVID-19 with a cut-off date of 11 September 2020. The amounts were converted into euro using the EUR/USD exchange rate of 11 September 2020 and the GDP figures from the DBPs were used to calculate the ratios.

¹⁰⁶ Updated figures of information appearing in "Public loan guarantees and bank lending in the COVID-19 period", *Economic Bulletin*, Issue 6, ECB, 2020.

While guarantees to non-financial corporations were also used in previous downturns, their size is a particular feature of the policy response to the COVID-19 crisis.

The guarantees granted to the financial sector during the GFC mainly aimed at restoring confidence and ensuring the proper financing of the financial sector. Commitments for those guarantees amounted to about 18% of GDP in 2010,¹⁰⁷ a similar dimension as current guarantees to non-financial corporations. Moreover, as the financing conditions for SMEs worsened in the wake of the GFC owing to difficulties in the banking sector, most euro area countries extended the use of public guarantee schemes and public credit to ensure liquidity provision to firms. While the amounts announced for such programmes were sometimes very large (for example, Germany earmarked guarantees of about €100 billion in the context of its *Wirtschaftsfonds Deutschland* and France provided loans and guarantees to SMEs amounting to €22 billion), the actual amounts used were usually substantially lower,¹⁰⁸ in particular compared with commitments to the financial sector.

The empirical literature points to guarantees having had a positive effect on lending in previous crises, but also to some possible negative incentive effects, although these appear less likely under current circumstances.

Empirical analyses of schemes for SMEs in Italy¹⁰⁹ and the Netherlands¹¹⁰ found that they had positive effects on access to credit during the GFC, but they also provide some evidence of moral hazard by firms. Moral hazard arose as guarantees reduced banks' incentives to screen and monitor the quality of loans, leading to riskier loans as firms undertook riskier projects. In the COVID-19 crisis, the provision of loan guarantees appears to be a particularly efficient instrument for ensuring the liquidity of firms, as the crisis has mostly hit firms that would be viable and productive in a non-pandemic world. In principle, moral hazard concerns could arise if banks replace existing problematic loans from before the crisis with new ones guaranteed by the State. However, owing to the specific characteristics of the current crisis, the risks that moral hazard might lead to high costs from lending to non-viable firms are lower.¹¹¹ In contrast to previous financial crises, this time the economic shock was not caused by excessive risk-taking, therefore the liquidity problems of firms are assumed to be mostly of a temporary nature. Moreover, the extensive fiscal support to firms can partly compensate their losses during the pandemic.

¹⁰⁷ For a detailed overview of guarantees to the financial sector during the GFC, see "[Measures taken by euro area governments in support of the financial sector](#)", *Monthly Bulletin*, ECB, April 2010.

¹⁰⁸ For an overview, see "Assessment of government support programmes for SMEs' and entrepreneurs' access to finance in the global crisis", OECD Working Party on SMEs and Entrepreneurship, Paris, 2010.

¹⁰⁹ D'Ignazio, A. and Menon, C., "Causal Effect of Credit Guarantees for Small- and Medium-Sized Enterprises: Evidence from Italy", *Scandinavian Journal of Economics*, Vol. 122, 2020, pp. 191-218.

¹¹⁰ Ioannidou, V., Liberti, J.M., Mosk, T. and Sturgess, J., "Intended and Unintended Consequences of Government Credit Guarantee Programs" in Mayer, C., Onado, S. M., Pagano, M. and Polo, A. (eds), *Finance and Investment: The European Case*, 2018.

¹¹¹ For a discussion on the risks of zombification of the economy and policy actions to prevent it, see Laeven, L., Schepens, G. and Schnabel, I., "Zombification in Europe in times of pandemic", VoxEU, 11 October 2020.

5 Budgetary measures on the revenue side

Several euro area countries have introduced temporary VAT cuts to stimulate consumption following strict lockdowns. Most notably, Germany temporarily cut the standard VAT rate of 19% by 3 percentage points and the reduced VAT rate of 7% by 2 percentage points from July to December 2020, while Ireland cut its standard rate of 23% by 2 percentage points from September 2020 to February 2021. Under the assumption of full pass-through, the VAT cut in Germany would reduce euro area HICP inflation in July 2020 by around 0.6 percentage points.¹¹² However, the actual impact of this measure is uncertain, as it is temporary and taken in a situation of weak economic activity and high uncertainty. While there is little experience with such stimulus policies in the euro area, empirical evidence for the United Kingdom,¹¹³ which used a temporary VAT cut as a measure to stimulate consumer spending during the GFC, shows that firms initially passed through the lower VAT rate to a large extent, but after two months reversed some of the price cuts. Overall, in that specific case, a temporary VAT cut was successful in bringing forward consumption of durable goods. However, early evidence based on a consumer survey in Germany indicates that, while about half of consumers had perceived a drop in prices, only 11% of consumers planned to frontload purchases originally planned for 2021, which points to the temporary VAT cut having some, albeit limited, effectiveness in stimulating consumption.¹¹⁴

The continued health restrictions and behavioural changes posed some challenges to the operation of temporary VAT cuts as stimulus policy. Most notably, such cuts benefit less the sectors that were most affected by containment policies and often continued to face supply restrictions during the interim phase following the broad lockdowns and provide more support to consumption of durable goods. Therefore, a few countries (such as Belgium and Austria) restricted VAT cuts to more affected sectors, such as travel and hospitality. Finally, once the VAT cuts come to an end, in most cases at the beginning of 2021, a temporary drop in consumption can be expected in the event that the economy is still suffering from depressed demand.

In their budgets for 2021, some euro area countries plan to reduce direct taxes or social security contributions in response to the COVID-19 crisis. Most notably, France has announced a reduction in production taxes in 2021 in order to improve the competitiveness of firms. While several countries provided some tax incentives for firms, for example in the form of investment allowances, so far no major cuts have been made to corporate tax rates. While, in general, corporate tax cuts may have a positive effect on potential growth, as they improve the growth-friendliness of the tax systems,¹¹⁵ these are less likely to generate strong positive effects on growth in the short run. First, corporate tax cuts typically benefit profit-making firms and therefore do

¹¹² See “[The role of indirect taxes in euro area inflation and its outlook](#)”, *Economic Bulletin*, Issue 6, ECB, 2020.

¹¹³ Crossley, C, Low, H. and Sleeman, C., "Using a temporary indirect tax cut as a fiscal stimulus: evidence from the UK," *IFS Working Papers*, No W14/16, Institute for Fiscal Studies, 2014.

¹¹⁴ Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung, “Jahresgutachten 2020/21 - Corona-Krise gemeinsam bewältigen, Resilienz und Wachstum stärken”, Wiesbaden, 2020.

¹¹⁵ “[The composition of public finances in the euro area](#)”, *Economic Bulletin*, Issue 5, ECB, 2017

not support those firms which are making a loss as a result of the pandemic. Second, in times of high uncertainty, such as the current crisis, empirical research has found that firms do not react strongly to tax incentives in their investment decisions.¹¹⁶ With regard to labour taxes, subsidy programmes that temporarily exempt firms from social contributions or taxes for new hires have been introduced in a few countries, for example Greece. Such temporary and targeted measures can be efficient instruments to support labour reallocation in the recovery phase. Broad-based cuts to personal income taxes or social contributions implemented on a temporary basis (such as in Greece) or permanently (for example, in poorer regions in Italy) are typically much more costly, but are expected to support employment growth in the medium to long run.

6 Liquidity measures on the revenue side

During the lockdowns, the liquidity position of firms was further enhanced by various tax-related measures, in particular tax deferrals, which are not expected to have a substantial impact on the budget balance of 2020.

Very early on in the pandemic, all euro area countries took measures to relieve the immediate tax payments of firms severely affected by the lockdowns. Typically, such measures did not reduce the overall tax obligations of firms but shifted the payment dates from the time of the broad lockdowns in the first half of the year to later dates, thus providing additional liquidity to firms. These measures comprised tax deferrals (covering VAT, corporate and personal income taxes, and social contributions), reductions in corporate tax prepayments (as the calculation of the current year's corporate tax payments is mostly based on last year's outcome) and speeding up of tax refunds and arrears or the suspension of enforcement measures. In most countries, the amounts of deferred taxes amounted to between 0.5% and 2% of GDP and in several cases were very substantial, reaching close to 8% of GDP in the case of Luxembourg, according to the country's DBP for 2021. However, the overall effect of these measures on the budget balance in 2020 is relatively small for two reasons. First, in most countries the payment of the deferred taxes was due in the second half of that year. Second, even if payment is deferred to the following years, the expected revenue is accrued to the year in which the tax liability arose.

Tax-related liquidity measures were an efficient instrument to increase the liquidity of firms. As tax obligations typically only react with a delay to changes in revenues, such tax measures serve as a stabiliser for firms' earnings. While the widespread use of such measures is a new feature of the COVID-19 crisis, they were already applied to a limited extent during the GFC (for example in Italy and Spain). There is relatively limited evidence regarding their effectiveness, with the notable exception of one empirical analysis,¹¹⁷ which studies the deferral of labour-related taxes and fees in Sweden in 2009. This study points to tax deferrals having positive effects, as they alleviated short-term liquidity constraints, in particular for younger and

¹¹⁶ Guceri, I. and Albinowski, M., "Investment Responses to Tax Policy Under Uncertainty", *CESifo Working Paper*, No 7929, 2019.

¹¹⁷ Brown, J.R., Martinsson, G. and Thomann, C., "Government Lending in a Crisis", *Swedish House of Finance Research Paper*, No 20-28, October 2020.

more leveraged firms, and seemed to have made it less likely that they would encounter severe financial distress in the years after the crisis.

Box 2

EU reaction to the COVID-19 crisis

Prepared by Stephan Haroutunian

The response of the European Union (EU) to the coronavirus (COVID-19) crisis has been unprecedented and significantly complements the fiscal measures taken at the national level.

Although national fiscal measures are the first line of defence, the extent of the crisis and the fact that not all Member States have the same fiscal room for manoeuvre has meant that an EU response over and above the national responses can support the recovery and reduce the risk of fragmentation in the EU.

The EU's response has also been tailored to the challenges arising in the different phases of the crisis. Short-term initiatives were used to deal with the urgent need to combat the crisis during the initial lockdown phase, while the more medium to long-term initiatives are aimed at sustaining the required fiscal stimulus, most notably in the more vulnerable Member States, in a manner that paves the way for a more competitive EU in the long term.

The first set of measures included:

The activation of the **general escape clause of the Stability and Growth Pact (SGP)** was one of the key immediate initiatives. The general escape clause¹¹⁸ allows for a coordinated and temporary deviation from the usual fiscal requirements of the SGP for all Member States provided that this does not endanger fiscal sustainability in the medium term. It thus allows them to undertake the budgetary measures needed to achieve a counter-cyclical response in a situation of generalised crisis caused by a severe economic downturn in the euro area or the EU as a whole. The ECOFIN Council activated the clause for the first time since its inclusion in the rules in 2011. According to the Statement of the EU ministers of finance on the Stability and Growth Pact in light of the COVID-19 crisis of 23 March,¹¹⁹ the triggering of the general escape clause aims to ensure the needed flexibility for Member States to undertake both the measures required to contain the impact of the pandemic and potentially provide more general support beyond this through further discretionary stimulus and coordinated action. The measures should be designed, as appropriate, to be timely, temporary and targeted.

Measures are aimed at ensuring that the EU rules-based framework is supportive of the implementation of emergency measures. Most notably, the European Commission adopted a specific **temporary State aid framework** to expedite the provision of public support measures to companies, while also stressing the need to maintain a level playing field in the Single Market.

With regard to the EU budget, the European Commission set up the **Coronavirus Response Investment Initiative**, which allows the use of funds under the EU's cohesion policy to address the consequences of the COVID-19 crisis.

¹¹⁸ See the box entitled "[The COVID-19 crisis and its implications for fiscal policies](#)", *Economic Bulletin*, Issue 4, ECB, 2020.

¹¹⁹ See the [Statement of the EU ministers of finance on the Stability and Growth Pact in light of the COVID-19 crisis](#) of 23 March 2020.

As a second step, three safety nets were established to support Member States' measures for workers and businesses, and to safeguard countries' access to financing, amounting to a package worth €540 billion. These safety nets aim to provide liquidity support to businesses and help Member States fund their crisis-response policies.

1. **Support to mitigate Unemployment Risks in an Emergency (SURE):** The SURE scheme is a temporary, loan-based instrument providing financial assistance to sovereigns, which provides financing of the national funding for short-time employment schemes and some health-related costs for the duration of the emergency. Loans of up to €100 billion in total are granted on favourable terms by the EU to Member States, building on the EU budget as much as possible, and additionally secured by guarantees provided by Member States. The contributions from Member States will be provided in the form of irrevocable, unconditional and on-demand guarantees.

2. **Strengthening European Investment Bank (EIB) activities:** Based on the initiative of the EIB Group, a pan-European guarantee fund of €25 billion was established. In turn, this can support €200 billion of financing for companies with a focus on small and medium sized enterprises throughout the EU, including through national promotional institutions. The aim is to complement national guarantee systems and ensure that companies have sufficient short-term liquidity and are able to continue their growth and development in the medium to long term.

3. **Safety nets for sovereigns in the euro area:** To safeguard euro area countries' financing, the Pandemic Crisis Support tool was developed. This is based on the existing precautionary credit line of the European Stability Mechanism (ESM), the Enhanced Conditions Credit Line, and adjusted in the light of the current specific challenge. The aim of this tool is to ensure access to financing during the crisis. Requests for Pandemic Crisis Support may be made until 31 December 2022. The access granted will constitute 2% of the respective euro area country's GDP as of end-2019, as a benchmark, with an overall envelope worth €240 billion. The sole requirement to access the credit line is that the countries receiving support "commit to use this credit line to support domestic financing of direct and indirect healthcare, cure and prevention-related costs due to the COVID-19 crisis". The credit line was made operational by the ESM's Board of Governors on 15 May 2020, but as at the end of 2020 no country had expressed interest in using it.

To support the recovery further, the European Council adopted the ground-breaking recovery package entitled the "Next Generation EU" (NGEU).¹²⁰ The package is worth €750 billion in 2018 prices and is centred around a Recovery and Resilience Facility (RRF) with a €672 billion envelope consisting of €360 billion in loans and €312.5 billion in grants. The remainder of the NGEU funds are directed towards other initiatives, such as research and development (HorizonEurope), crisis cohesion funding (REACT-EU), climate change (Just Transition Fund), rural development and civil protection (RescEU), with REACT-EU being the largest of these items. All RRF funds should be committed by the end of 2023, and all payments should be executed by the end of 2026. The Commission will be empowered to borrow funds on the capital markets on behalf of the EU up to the amount of €750 billion in 2018 prices, with new net borrowing activity stopping at the latest by the end of 2026. The repayment schedule is until the end of 2058. Those EU countries identified as particularly vulnerable are expected to receive considerable net transfers from the RRF. To receive financial support under the RRF, EU Member States need to draw up national recovery and resilience plans in which they set out their reform and public investment agenda for the years 2021-23. These

¹²⁰ See the box entitled "The fiscal implications of the EU's recovery package", *Economic Bulletin*, Issue 6, ECB, 2020.

reforms and investments should address the challenges identified in the context of the European Semester and strengthen job creation, the growth potential, and economic and social resilience of the Member State concerned. On 9 November 2020 the European Parliament adopted the RRF, which also calls for each recovery and resilience plan to contribute at least 40% of its budget to climate and biodiversity and at least 20% to digital investments and reforms.

7 Implications for the fiscal stance

The interpretation of the fiscal stance for 2020 and 2021 is challenging owing to the one-off impact of the emergency measures.

As shown above, the overall amount of fiscal measures specified in the DBPs for 2021 is substantially lower than that for 2020. This implies that a massive fiscal expansion in 2020 will be succeeded by some scaling down of fiscal support in the subsequent year in the absence of additional measures or an extension of existing ones in response to a resurgence of the crisis. However, this mainly results from the expiry of the fiscal emergency measures, which have different economic implications from standard stimulus measures, with a more durable positive effect on growth. The rationale for those measures was not to boost growth in the first half of the year when the bulk of the spending took place, but rather to preserve those firms and employment relationships that would not otherwise have survived the lockdown. The effect of such measures on economic activity will be felt more strongly during the recovery, as in the counterfactual situation of widespread firm collapses and dismissals, the catch-up would have been slowed down by time-consuming restructuring processes in otherwise healthy firms and distortions in the labour market.

The substantial fiscal measures taken in 2020 counteracted the output losses related to the crisis.

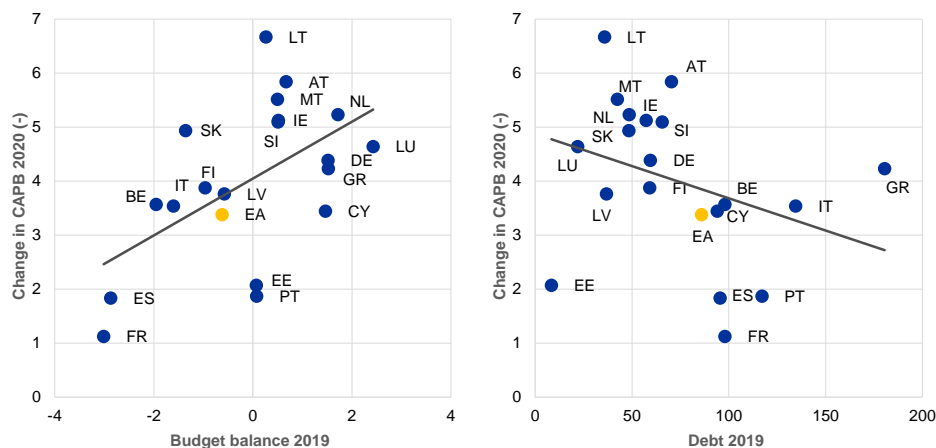
As shown above, the specific features of the COVID-19 crisis had an impact on the effectiveness of fiscal measures. Therefore, the estimation of their growth effects based on historical elasticities can be misleading, as any model should take into account the economic characteristics of the pandemic. Early model-based evidence¹²¹ suggests that the emergency measures implemented at the start of the COVID-19 crisis strongly counteracted the pandemic-related output loss and speeded up the recovery. It estimates that the stabilisation gains from short-time work schemes and guarantees reduced the pandemic-related macroeconomic loss by a quarter, in other words an improvement in real GDP by more than 4 percentage points. In the model context, short-time working schemes are assumed to stabilise investment by firms, as they reduce costs and therefore increase liquidity, and to reduce the persistency of the recession, as they help firms to avoid the costly and time-consuming hiring process during the recovery period. Moreover, the more generous nature of short-time work schemes compared with unemployment payments supports household demand. Liquidity support measures are assumed to stabilise investment and employment by firms that are liquidity-constrained during the crisis.

¹²¹ Pfeiffer, P., Roeger, W. and in 't Veld, J., "The COVID19-Pandemic in the EU: Macroeconomic Transmission and Economic Policy Response", *European Economy Discussion Paper*, No 127, 2020.

Chart 5

Fiscal loosening in 2020 and initial fiscal position

(percentages of GDP)



Source: European Commission's Autumn 2020 Economic Forecast.

Notes: The size of the fiscal loosening in 2020 is measured as a change in the cyclically adjusted primary balance (CAPB) of the European Commission's Autumn 2020 Economic Forecast (with the sign changed to make the interpretation of the chart easier).

The estimated size of the loosening of the fiscal stance in 2020 also reflected the initial fiscal positions of Member States. The favourable macroeconomic developments observed up to 2020 induced some euro area countries to reduce their budget deficits and build substantial fiscal buffers. In particular, countries with a favourable starting position in terms of a positive budget balance and lower debt level were able to provide considerable support to the economy in a timely manner (see Chart 5).

Looking forward, the NGEU package will provide additional stimulus in 2021-26 on top of national measures shown above. The additional investment spending of the NGEU is expected to provide additional stimulus for Member States in the years 2021 to 2026. However, it will not be reflected in their deficits but will lead to fiscal liabilities at the EU level. While these will be long-term liabilities, servicing this debt will place a burden on the EU economies in the long run. The European Council agreement of July 2020 calls for the steady and predictable reduction in those liabilities up to 31 December 2058. For the repayment of the grants, Member States agreed to work towards reforming the own resources system and ensuring that repayments will be covered by higher Member States' Gross National Income (GNI)-based contributions and by new genuine EU own resources. For this purpose, the amounts of the EU own resources ceilings will be temporarily increased by 0.6 percentage points.

For the NGEU to be effective it is crucial that Member States use the European aid at this unique juncture to channel funds into much needed productive spending, accompanied by productivity-enhancing reforms. This would allow the Next Generation EU programme to contribute to a faster, stronger and more uniform economic recovery and would increase economic resilience and the growth potential of Member States' economies. Structural policies are particularly important in addressing long-standing structural and institutional weaknesses and in accelerating

the green and digital transitions. In that respect, particular attention has to be paid to the preparation of the Member States' recovery and resilience plans to ensure that the funds are directed towards reforms that have been identified and are thus consistent with country-specific recommendations.

8 Conclusions and policy implications

Overall, the immediate response in the form of emergency measures has been strong and relatively homogenous across countries and has substantially helped to contain the effects of the pandemic on the euro area economy. Since all euro area countries were hit by the economic shock at the same time and to a similar extent, the fiscal responses in the form of emergency measures were relatively similar in terms of the size and scope of the instruments used. Given the specific nature of the crisis, it is assumed that those instruments were well targeted to the specific challenges of the first crisis phase of broad lockdowns. Moreover, the response to the crisis was supported by decisions at the EU level, such as the activation of the SGP's general escape clause and the adoption of a specific temporary State aid framework to expedite the provision of public support measures to companies.

The recovery needs to be supported by appropriate measures which take into account the future path of the pandemic and the effectiveness of policy instruments. For 2021, the amount of stimulus announced in the DBPs differs substantially across Member States. While the recovery would benefit from appropriate stimulus measures, the design of such measures needs to be contingent on restrictions and temporary local lockdowns which limit the effectiveness of many conventional stimulus measures. At the same time, the extension of emergency measures appears sensible for those sectors in which businesses are still affected by containment measures and have business models that are likely to be viable after the pandemic. While countries with fiscal space are less constrained in the pursuit of such measures, countries with limited fiscal space will benefit from prioritising and pursuing more targeted support measures, such as continuing to support the most vulnerable sections of society.

Longer-term recovery policies should aim to improve the growth-friendliness of public finances. Even though the economies are expected to rebound once the virus containment measures have ended, the recovery may be impaired by the legacy of the lockdown, such as a debt overhang among the worst hit firms or structural changes in the behaviour of firms and households, such as an increase in digitalisation. Consequently, additional stimulus measures could support the recovery in the medium run but should not hamper necessary structural changes to the economies. In fact, the impact of the funds on growth will be magnified if they are accompanied by appropriate structural policies. It is therefore essential for the funds available through the Next Generation EU fund to be absorbed quickly and channelled into growth-enhancing investment projects. Additional public expenditures should be targeted towards boosting potential growth, and, in particular, should support the long-term objectives of the EU in the areas of addressing climate change and promoting digitalisation.

Finally, once the economic recovery is firmly under way, it is crucial that medium-term fiscal policies are designed in a way that ensures public debt sustainability. Although countries should not withdraw fiscal support too fast, the fact that debt levels have risen dramatically means that it is crucial for euro area Member States to have credible fiscal consolidation strategies in the medium term. Furthermore, the COVID-19 crisis has demonstrated that the accumulation of comfortable fiscal buffers during times of economic growth is key to being able to address the consequences of a sudden downturn triggered by exogenous events.

Statistics

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Further information

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

Conventions used in the tables

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

1 External environment

1.1 Main trading partners, GDP and CPI

	GDP ¹⁾ (period-on-period percentage changes)						CPI (annual percentage changes)						
	G20	United States	United Kingdom	Japan	China	Memo item: euro area	OECD countries		United States	United Kingdom (HICP)	Japan	China	Memo item: euro area ²⁾ (HICP)
							Total	excluding food and energy					
	1	2	3	4	5	6	7	8	9	10	11	12	13
2017	3.8	2.3	1.7	1.7	6.8	2.6	2.3	1.9	2.1	2.7	0.5	1.6	1.5
2018	3.6	3.0	1.3	0.6	6.6	1.9	2.6	2.1	2.4	2.5	1.0	2.1	1.8
2019	2.8	2.2	1.4	0.3	6.1	1.3	2.1	2.2	1.8	1.8	0.5	2.9	1.2
2019 Q4	0.5	0.6	0.0	-1.9	1.6	0.1	1.9	2.1	2.0	1.4	0.5	4.3	1.0
2020 Q1	-3.4	-1.3	-3.0	-0.5	-10.0	-3.7	2.1	2.2	2.1	1.7	0.5	5.0	1.1
Q2	-6.6	-9.0	-18.8	-8.3	11.7	-11.7	0.9	1.6	0.4	0.6	0.1	2.7	0.2
Q3	8.1	7.5	16.0	5.3	2.7	12.4	1.3	1.7	1.2	0.6	0.2	2.3	0.0
2020 July	-	-	-	-	-	-	1.2	1.7	1.0	1.0	0.3	2.7	0.4
Aug.	-	-	-	-	-	-	1.3	1.6	1.3	0.2	0.2	2.4	-0.2
Sep.	-	-	-	-	-	-	1.3	1.7	1.4	0.5	0.0	1.7	-0.3
Oct.	-	-	-	-	-	-	1.2	1.6	1.2	0.7	-0.4	0.5	-0.3
Nov.	-	-	-	-	-	-	1.2	1.6	1.2	0.3	-0.9	-0.5	-0.3
Dec.	-	-	-	-	-	-	.	.	1.4	.	.	.	-0.3

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

1) Quarterly data seasonally adjusted; annual data unadjusted.

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

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

	Purchasing Managers' Surveys (diffusion indices; s.a.)									Merchandise imports ¹⁾		
	Composite Purchasing Managers' Index						Global Purchasing Managers' Index ²⁾			Global	Advanced economies	Emerging market economies
	Global ²⁾	United States	United Kingdom	Japan	China	Memo item: euro area	Manufacturing	Services	New export orders			
	1	2	3	4	5	6	7	8	9	10	11	12
2018	53.4	55.0	53.3	52.1	52.3	54.6	53.1	53.8	50.8	4.4	3.2	5.6
2019	51.7	52.5	50.2	50.5	51.8	51.3	50.3	52.2	48.8	-0.5	-0.3	-0.7
2020	47.5	48.8	46.5	42.4	51.4	44.0	48.5	46.3	45.3	.	.	.
2020 Q1	46.1	47.9	47.4	44.4	42.0	44.2	46.7	45.9	46.0	-2.6	-2.0	-3.3
Q2	37.9	37.3	30.5	31.5	52.6	31.3	40.6	36.9	35.0	-9.7	-9.2	-10.2
Q3	51.9	53.1	57.5	45.6	54.7	52.4	52.6	51.7	48.9	9.1	8.9	9.2
Q4	54.1	56.8	50.5	48.2	56.3	48.1	54.5	54.0	50.8	.	.	.
2020 July	50.2	50.3	57.0	44.9	54.5	54.9	51.4	49.8	46.3	-4.5	-4.7	-4.2
Aug.	52.6	54.6	59.1	45.2	55.1	51.9	53.3	52.4	49.5	3.6	2.4	4.9
Sep.	53.0	54.3	56.5	46.6	54.5	50.4	53.1	53.0	51.0	9.1	8.9	9.2
Oct.	54.2	56.3	52.1	48.0	55.7	50.0	53.6	54.4	50.3	8.5	8.3	8.7
Nov.	54.8	58.6	49.0	48.1	57.5	45.3	55.3	54.7	51.5	.	.	.
Dec.	53.5	55.3	50.5	48.5	55.8	49.1	54.6	53.1	50.5	.	.	.

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 ¹⁾						United States	Japan
	Euro short-term rate (€STR) ²⁾	Overnight deposits (EONIA)	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
2018	-0.45	-0.36	-0.37	-0.32	-0.27	-0.17	2.31	-0.05
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
2020 June	-0.55	-0.46	-0.49	-0.38	-0.22	-0.15	0.31	-0.05
July	-0.55	-0.46	-0.51	-0.44	-0.35	-0.28	0.27	-0.05
Aug.	-0.55	-0.47	-0.52	-0.48	-0.43	-0.36	0.25	-0.05
Sep.	-0.55	-0.47	-0.52	-0.49	-0.46	-0.41	0.24	-0.09
Oct.	-0.55	-0.47	-0.54	-0.51	-0.49	-0.47	0.22	-0.10
Nov.	-0.56	-0.47	-0.54	-0.52	-0.51	-0.48	0.22	-0.10
Dec.	-0.56	-0.47	-0.56	-0.54	-0.52	-0.50	0.23	-0.10

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.

2.2 Yield curves

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

	Spot rates					Spreads			Instantaneous forward rates			
	Euro area ^{1), 2)}					Euro area ^{1), 2)}	United States	United Kingdom	Euro area ^{1), 2)}			
	3 months	1 year	2 years	5 years	10 years	10 years - 1 year	10 years - 1 year	10 years - 1 year	1 year	2 years	5 years	10 years
1	2	3	4	5	6	7	8	9	10	11	12	
2018	-0.80	-0.75	-0.66	-0.26	0.32	1.07	0.08	0.51	-0.67	-0.45	0.44	1.17
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
2020 June	-0.57	-0.64	-0.69	-0.69	-0.45	0.19	0.50	0.14	-0.71	-0.77	-0.52	0.03
July	-0.58	-0.65	-0.71	-0.72	-0.49	0.16	0.42	0.07	-0.73	-0.80	-0.57	-0.04
Aug.	-0.58	-0.62	-0.66	-0.63	-0.37	0.25	0.58	0.30	-0.68	-0.71	-0.43	0.15
Sep.	-0.62	-0.64	-0.69	-0.71	-0.50	0.15	0.56	0.20	-0.69	-0.78	-0.58	-0.04
Oct.	-0.71	-0.75	-0.80	-0.81	-0.60	0.15	0.75	0.27	-0.81	-0.88	-0.68	-0.17
Nov.	-0.72	-0.72	-0.75	-0.75	-0.55	0.17	0.73	0.32	-0.75	-0.81	-0.62	-0.13
Dec.	-0.75	-0.76	-0.77	-0.72	-0.57	0.19	0.80	0.32	-0.77	-0.77	-0.60	-0.24

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
2020 June	353.9	3,237.4	733.8	202.8	160.9	82.7	124.7	604.7	637.2	341.5	264.2	866.9	3,104.7	22,486.9
July	362.0	3,316.3	773.2	206.2	161.6	79.3	125.9	617.5	681.3	358.0	262.7	877.5	3,207.6	22,529.5
Aug.	361.8	3,297.7	785.5	207.6	161.9	78.9	123.8	641.3	677.3	355.8	253.6	841.5	3,391.7	22,874.2
Sep.	359.2	3,260.7	800.6	215.7	162.0	75.4	119.0	638.1	669.1	347.2	245.9	822.8	3,365.5	23,306.9
Oct.	355.1	3,180.4	784.7	220.4	162.0	69.8	112.9	641.0	660.8	350.5	240.0	809.1	3,418.7	23,451.4
Nov.	377.7	3,391.8	824.1	238.4	167.0	80.5	130.3	692.7	653.1	364.4	249.2	820.1	3,549.0	25,384.9
Dec.	394.0	3,530.9	852.2	249.1	170.2	88.6	140.6	718.0	697.6	373.2	252.2	814.8	3,695.3	26,773.0

Source: Refinitiv.

2 Financial developments

2.4 MFI interest rates on loans to and deposits from households (new business) ^{1), 2)}

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

	Deposits				Revolving loans and overdrafts	Extended credit card credit	Loans for consumption			Loans to sole proprietors and unincorporated partnerships	Loans for house purchase				Composite cost-of-borrowing indicator	
	Over-night	Redeemable at notice of up to 3 months	With an agreed maturity of:				By initial period of rate fixation	APRC ³⁾	By initial period of rate fixation				APRC ³⁾			
			Up to 2 years	Over 2 years					Floating rate and up to 1 year		Over 1 year	Floating rate and up to 1 year		Over 1 and up to 5 years		Over 5 and up to 10 years	Over 10 years
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
2019 Dec.	0.03	0.42	0.22	0.78	5.58	16.55	5.36	5.28	5.87	2.09	1.46	1.58	1.43	1.39	1.75	1.41
2020 Jan.	0.02	0.42	0.27	0.73	5.62	16.55	5.56	5.69	6.23	2.21	1.46	1.52	1.43	1.40	1.73	1.43
Feb.	0.02	0.36	0.32	0.70	5.63	16.60	5.48	5.58	6.13	2.20	1.43	1.54	1.38	1.36	1.71	1.41
Mar.	0.02	0.36	0.30	0.64	5.61	16.19	5.49	5.45	5.89	2.06	1.39	1.54	1.34	1.35	1.64	1.39
Apr.	0.02	0.36	0.22	0.73	5.39	16.06	3.61	5.50	5.54	1.99	1.30	1.54	1.35	1.43	1.67	1.43
May	0.02	0.36	0.23	0.70	5.27	16.06	4.14	5.30	5.64	1.83	1.47	1.58	1.40	1.41	1.70	1.42
June	0.02	0.35	0.23	0.71	5.29	16.01	4.43	5.14	5.57	1.87	1.44	1.64	1.38	1.39	1.68	1.42
July	0.02	0.35	0.22	0.74	5.17	15.92	4.75	5.27	5.71	2.00	1.43	1.59	1.34	1.38	1.67	1.40
Aug.	0.02	0.35	0.19	0.71	5.21	15.88	5.35	5.35	5.89	1.91	1.42	1.61	1.31	1.40	1.67	1.40
Sep.	0.02	0.35	0.18	0.70	5.24	15.86	5.07	5.25	5.75	1.94	1.39	1.61	1.31	1.37	1.66	1.38
Oct.	0.02	0.35	0.20	0.69	5.19	15.83	5.14	5.26	5.80	2.03	1.37	1.56	1.27	1.36	1.64	1.36
Nov. ^(p)	0.02	0.35	0.20	0.72	5.13	15.75	5.00	5.25	5.90	2.04	1.37	1.54	1.28	1.35	1.63	1.35

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) ^{1), 2)}

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

	Deposits			Revolving loans and overdrafts	Other loans by size and initial period of rate fixation									Composite cost-of-borrowing indicator
	Over-night	With an agreed maturity of:			up to EUR 0.25 million			over EUR 0.25 and up to 1 million			over EUR 1 million			
		Up to 2 years	Over 2 years		Floating rate and up to 3 months	Over 3 months and up to 1 year	Over 1 year	Floating rate and up to 3 months	Over 3 months and up to 1 year	Over 1 year	Floating rate and up to 3 months	Over 3 months and up to 1 year	Over 1 year	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
2019 Dec.	0.01	0.00	0.42	2.09	2.01	2.28	2.08	1.58	1.53	1.39	1.26	1.21	1.37	1.56
2020 Jan.	0.01	-0.06	0.34	2.09	2.17	2.31	2.10	1.63	1.57	1.44	1.11	1.25	1.28	1.55
Feb.	0.00	-0.12	0.32	2.07	1.99	2.29	2.11	1.57	1.54	1.41	1.11	1.22	1.25	1.52
Mar.	0.00	-0.08	0.25	2.00	1.90	2.17	1.97	1.57	1.51	1.47	1.15	1.09	1.18	1.46
Apr.	0.00	-0.06	0.31	1.99	2.00	1.17	1.70	1.61	0.93	1.48	1.22	1.12	1.25	1.47
May	0.00	-0.10	0.39	1.91	1.87	1.22	1.62	1.54	0.87	1.56	1.23	1.07	1.31	1.46
June	0.00	-0.12	0.32	1.96	1.89	1.51	1.79	1.55	1.15	1.50	1.23	1.17	1.42	1.49
July	0.00	-0.18	0.27	1.87	1.98	1.86	1.86	1.60	1.31	1.51	1.23	1.17	1.38	1.51
Aug.	0.00	-0.20	0.39	1.85	1.88	1.90	1.94	1.57	1.40	1.49	1.29	1.31	1.20	1.51
Sep.	0.00	-0.20	0.26	1.90	1.95	2.11	1.94	1.54	1.44	1.49	1.22	1.32	1.31	1.51
Oct.	0.00	-0.21	0.26	1.84	1.94	2.20	1.96	1.56	1.47	1.50	1.22	1.42	1.40	1.53
Nov. ^(p)	-0.01	-0.20	0.42	1.84	2.01	2.00	1.98	1.58	1.43	1.46	1.22	1.29	1.22	1.50

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 ¹⁾						
	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	3	4	5	6	7	8	9	10	11	12	13	14	
Short-term														
2017	1,240	519	155	.	70	438	57	367	167	54	.	37	79	31
2018	1,217	504	170	.	72	424	47	389	171	66	.	41	76	35
2019	1,283	550	181	.	84	406	61	415	177	80	.	47	73	38
2020 June	1,671	536	190	.	119	673	153	517	199	82	.	46	139	50
July	1,670	514	160	.	122	728	146	478	181	61	.	41	156	39
Aug.	1,668	505	156	.	121	744	142	384	153	56	.	29	112	34
Sep.	1,690	511	165	.	113	754	146	453	181	63	.	43	126	40
Oct.	1,658	504	158	.	114	742	141	392	181	43	.	36	93	40
Nov.	1,625	492	153	.	116	731	132	393	193	39	.	37	83	41
Long-term														
2017	15,353	3,560	3,059	.	1,223	6,866	643	247	66	73	.	18	83	7
2018	15,746	3,688	3,162	.	1,247	7,022	627	228	64	68	.	15	75	6
2019	16,313	3,818	3,398	.	1,321	7,151	626	247	69	74	.	20	78	7
2020 June	17,106	3,973	3,453	.	1,433	7,569	678	424	100	94	.	38	172	20
July	17,108	3,936	3,162	.	1,445	7,890	675	304	55	66	.	32	140	12
Aug.	17,194	3,930	3,172	.	1,442	7,969	680	161	21	45	.	3	85	8
Sep.	17,288	3,949	3,179	.	1,460	8,006	694	315	65	80	.	27	124	19
Oct.	17,300	3,939	3,215	.	1,456	7,978	713	286	47	89	.	27	91	32
Nov.	17,277	3,918	3,196	.	1,455	7,987	722	212	42	58	.	17	78	17

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 government	Other general government				
1	2	3	4	5	6	7	8	9	10	11	
Outstanding amount											
2017	16,593.2	4,079.8	3,214.5	.	1,293.4	7,304.7	700.9	7,950.7	612.5	1,245.6	6,092.6
2018	16,962.8	4,192.8	3,332.0	.	1,318.6	7,445.8	673.5	7,023.5	465.0	1,099.2	5,459.2
2019	17,596.3	4,368.2	3,578.6	.	1,405.7	7,557.2	686.5	8,587.9	538.4	1,410.7	6,638.8
2020 June	18,777.5	4,509.0	3,642.6	.	1,552.0	8,242.3	831.6	7,510.3	388.4	1,171.0	5,950.8
July	18,777.6	4,450.3	3,321.8	.	1,566.3	8,618.4	820.9	7,436.1	376.7	1,149.4	5,910.1
Aug.	18,862.1	4,435.2	3,328.3	.	1,563.4	8,713.2	822.0	7,723.5	395.0	1,191.3	6,137.2
Sep.	18,977.9	4,460.1	3,344.1	.	1,573.2	8,760.5	840.0	7,537.2	364.9	1,127.8	6,044.6
Oct.	18,958.6	4,442.5	3,372.5	.	1,569.3	8,720.1	854.2	7,230.6	348.2	1,102.8	5,779.6
Nov.	18,901.9	4,410.0	3,349.2	.	1,570.7	8,717.7	854.3	8,235.9	448.5	1,313.1	6,474.3
Growth rate											
2017	1.3	-0.5	0.1	.	6.0	2.2	0.4	1.0	6.1	2.8	0.2
2018	1.9	1.7	3.0	.	3.3	1.9	-4.3	0.7	0.3	2.4	0.4
2019	3.1	3.8	5.0	.	5.6	1.5	1.8	0.0	0.5	0.0	0.0
2020 June	7.3	4.5	4.6	.	11.6	8.2	20.6	0.0	-0.2	0.1	0.0
July	7.3	3.2	4.1	.	12.0	9.2	19.5	0.1	-0.3	0.3	0.1
Aug.	7.7	2.8	4.6	.	12.1	10.2	18.2	0.3	-0.1	0.5	0.3
Sep.	7.9	2.7	4.3	.	11.7	10.6	21.2	0.6	-0.1	0.5	0.7
Oct.	8.2	2.5	4.7	.	12.0	11.0	24.2	1.0	0.1	2.2	0.8
Nov.	7.5	1.7	2.7	.	11.6	10.7	24.4	1.2	0.0	2.1	1.1

Source: ECB.

2 Financial developments

2.8 Effective exchange rates ¹⁾

(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
2018	100.0	95.7	94.0	90.5	80.2	95.8	117.3	95.1
2019	98.2	93.3	92.9	88.7	78.6	93.1	115.5	92.4
2020	99.7	93.7	94.0	.	.	.	119.4	94.0
2020 Q1	97.5	91.8	92.3	88.0	77.9	92.9	115.2	91.2
Q2	98.8	93.1	93.2	88.6	81.3	93.9	118.1	93.4
Q3	101.2	94.9	95.3	90.0	78.5	94.0	121.7	95.6
Q4	101.3	94.9	95.3	.	.	.	122.3	95.7
2020 July	100.5	94.6	94.7	-	-	-	120.3	94.9
Aug.	101.6	95.1	95.7	-	-	-	122.4	96.0
Sep.	101.6	95.0	95.5	-	-	-	122.5	95.9
Oct.	101.4	94.9	95.3	-	-	-	122.4	95.8
Nov.	100.7	94.4	94.7	-	-	-	121.6	95.2
Dec.	101.9	95.5	95.8	-	-	-	123.0	96.1
	<i>Percentage change versus previous month</i>							
2020 Dec.	1.2	1.2	1.2	-	-	-	1.1	1.0
	<i>Percentage change versus previous year</i>							
2020 Dec.	4.6	3.7	3.5	-	-	-	7.2	5.5

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
2018	7.808	7.418	25.647	7.453	318.890	130.396	4.261	0.885	4.6540	10.258	1.155	1.181
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
2020 Q1	7.696	7.490	25.631	7.472	339.137	120.097	4.324	0.862	4.7973	10.669	1.067	1.103
Q2	7.808	7.578	27.058	7.458	351.582	118.410	4.503	0.887	4.8378	10.651	1.061	1.101
Q3	8.086	7.527	26.479	7.445	353.600	124.049	4.441	0.905	4.8454	10.364	1.075	1.169
Q4	7.901	7.559	26.667	7.443	360.472	124.607	4.505	0.903	4.8718	10.268	1.078	1.193
2020 July	8.035	7.530	26.514	7.447	351.163	122.380	4.449	0.905	4.8383	10.354	1.071	1.146
Aug.	8.195	7.508	26.167	7.446	348.928	125.404	4.400	0.901	4.8376	10.309	1.077	1.183
Sep.	8.033	7.542	26.741	7.442	360.605	124.501	4.473	0.909	4.8602	10.428	1.079	1.179
Oct.	7.923	7.575	27.213	7.442	362.529	123.889	4.541	0.907	4.8747	10.397	1.074	1.178
Nov.	7.815	7.562	26.466	7.446	359.842	123.610	4.495	0.896	4.8704	10.231	1.079	1.184
Dec.	7.960	7.542	26.311	7.441	359.016	126.278	4.479	0.906	4.8703	10.174	1.081	1.217
	<i>Percentage change versus previous month</i>											
2020 Dec.	1.9	-0.3	-0.6	-0.1	-0.2	2.2	-0.4	1.1	0.0	-0.6	0.3	2.8
	<i>Percentage change versus previous year</i>											
2020 Dec.	2.1	1.3	3.2	-0.4	8.6	4.2	4.8	7.0	1.9	-2.9	-1.0	9.5

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 ¹⁾			Direct investment		Portfolio investment		Net financial derivatives	Other investment		Reserve assets	Memo: Gross external debt
	Assets	Liabilities	Net	Assets	Liabilities	Assets	Liabilities		Assets	Liabilities		
	1	2	3	4	5	6	7	8	9	10	11	12
<i>Outstanding amounts (international investment position)</i>												
2019 Q4	27,829.5	27,882.0	-52.5	11,517.1	9,375.3	9,891.3	12,093.9	-85.5	5,693.1	6,412.8	813.6	14,759.7
2020 Q1	27,462.6	27,541.7	-79.1	11,265.3	9,318.6	8,883.9	11,121.5	-99.0	6,546.2	7,101.6	866.3	15,525.9
Q2	28,140.0	28,240.0	-100.0	11,316.2	9,503.7	9,854.1	11,939.3	-70.7	6,135.5	6,797.0	905.0	15,283.6
Q3	28,088.2	28,098.3	-10.1	11,165.5	9,335.2	9,972.6	12,062.8	-97.6	6,138.1	6,700.3	909.6	15,138.5
<i>Outstanding amounts as a percentage of GDP</i>												
2020 Q3	246.0	246.1	-0.1	97.8	81.8	87.3	105.6	-0.9	53.8	58.7	8.0	132.6
<i>Transactions</i>												
2019 Q4	-361.2	-424.2	63.0	-166.0	-66.3	157.2	13.2	-5.3	-344.7	-371.1	-2.5	-
2020 Q1	608.6	594.5	14.1	-33.0	-59.8	-129.0	59.6	12.3	754.8	594.7	3.4	-
Q2	153.0	111.7	41.4	81.7	173.6	383.2	201.2	38.0	-353.1	-263.1	3.2	-
Q3	195.6	101.1	94.5	39.3	-15.8	86.8	113.7	-31.0	97.1	3.2	3.4	-
2020 June	-86.9	-144.2	57.3	-43.9	-20.8	115.0	134.5	18.4	-176.2	-257.9	-0.2	-
July	205.6	206.3	-0.7	64.1	39.9	9.5	59.0	5.1	127.4	107.5	-0.6	-
Aug.	48.9	-2.5	51.4	16.4	-7.5	57.8	33.4	-14.4	-12.2	-28.5	1.3	-
Sep.	-58.9	-102.8	43.8	-41.3	-48.3	19.5	21.3	-21.6	-18.2	-75.8	2.6	-
Oct.	168.0	135.6	32.5	13.5	-3.4	65.8	-19.7	-0.2	86.1	158.6	2.9	-
Nov.	219.6	182.9	36.7	36.4	100.4	84.5	-91.9	12.6	88.7	174.3	-2.6	-
<i>12-month cumulated transactions</i>												
2020 Nov.	893.4	672.3	221.2	-22.7	100.5	526.4	231.5	19.8	359.2	340.3	10.8	-
<i>12-month cumulated transactions as a percentage of GDP</i>												
2020 Nov.	7.8	5.9	1.9	-0.2	0.9	4.6	2.0	0.2	3.1	3.0	0.1	-

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 ¹⁾			
		Total	Private consumption	Government consumption	Gross fixed capital formation			Changes in inventories ²⁾	Total	Exports ¹⁾	Imports ¹⁾	
	Total construction				Total machinery	Intellectual property products						
1	2	3	4	5	6	7	8	9	10	11	12	
<i>Current prices (EUR billions)</i>												
2017	11,217.1	10,731.7	6,041.3	2,301.2	2,312.0	1,099.5	714.9	491.2	77.2	485.4	5,305.5	4,820.2
2018	11,587.6	11,119.9	6,222.8	2,368.7	2,431.3	1,178.5	745.7	500.6	97.1	467.7	5,576.0	5,108.3
2019	11,935.5	11,492.0	6,377.9	2,454.3	2,624.2	1,258.9	771.9	586.7	35.6	443.5	5,755.7	5,312.2
2019 Q4	3,015.4	2,907.6	1,606.3	621.8	679.5	317.4	192.8	167.7	0.1	107.8	1,449.6	1,341.8
2020 Q1	2,918.0	2,824.6	1,539.0	625.8	647.9	311.6	175.0	159.6	11.9	93.3	1,389.0	1,295.7
Q2	2,598.7	2,518.4	1,346.4	627.4	544.6	273.6	143.6	125.7	0.0	80.3	1,106.9	1,026.7
Q3	2,897.3	2,762.4	1,529.2	640.6	618.5	308.9	180.8	127.0	-25.9	134.9	1,297.4	1,162.5
<i>as a percentage of GDP</i>												
2019	100.0	96.3	53.4	20.6	22.0	10.5	6.5	4.9	0.3	3.7	-	-
<i>Chain-linked volumes (prices for the previous year)</i>												
<i>quarter-on-quarter percentage changes</i>												
2019 Q4	0.1	1.2	0.1	0.3	6.2	-0.4	-0.5	32.6	-	-	0.1	2.2
2020 Q1	-3.7	-3.3	-4.5	-0.6	-5.8	-2.5	-9.7	-7.2	-	-	-3.8	-2.9
Q2	-11.7	-11.1	-12.4	-2.2	-15.9	-12.4	-18.0	-20.7	-	-	-18.9	-18.2
Q3	12.4	10.4	13.9	4.8	13.6	13.3	25.4	1.2	-	-	16.8	12.2
<i>annual percentage changes</i>												
2017	2.6	2.3	1.8	1.1	3.8	3.4	5.4	2.8	-	-	5.5	5.2
2018	1.9	1.9	1.5	1.2	3.2	3.8	3.7	1.2	-	-	3.6	3.7
2019	1.3	1.9	1.3	1.9	5.8	3.5	2.3	16.4	-	-	2.5	3.9
2019 Q4	1.0	1.3	1.2	2.0	5.0	1.9	0.6	17.3	-	-	1.8	2.5
2020 Q1	-3.2	-1.7	-3.9	0.8	1.1	-2.5	-10.0	27.1	-	-	-3.1	0.3
Q2	-14.7	-14.1	-16.0	-1.9	-20.4	-14.2	-26.6	-24.9	-	-	-21.5	-20.6
Q3	-4.3	-4.1	-4.6	2.2	-4.3	-3.7	-7.6	-1.2	-	-	-8.9	-8.9
<i>contributions to quarter-on-quarter percentage changes in GDP; percentage points</i>												
2019 Q4	0.1	1.1	0.0	0.1	1.3	0.0	0.0	1.4	-0.3	-1.0	-	-
2020 Q1	-3.7	-3.2	-2.4	-0.1	-1.3	-0.3	-0.6	-0.4	0.6	-0.5	-	-
Q2	-11.7	-10.8	-6.6	-0.5	-3.5	-1.3	-1.1	-1.1	-0.2	-0.9	-	-
Q3	12.4	10.1	7.3	1.1	2.9	1.4	1.4	0.1	-1.2	2.3	-	-
<i>contributions to annual percentage changes in GDP; percentage points</i>												
2017	2.6	2.2	1.0	0.2	0.8	0.3	0.3	0.1	0.2	0.4	-	-
2018	1.9	1.8	0.8	0.2	0.6	0.4	0.2	0.0	0.1	0.1	-	-
2019	1.3	1.8	0.7	0.4	1.2	0.4	0.1	0.7	-0.5	-0.5	-	-
2019 Q4	1.0	1.3	0.7	0.4	1.1	0.2	0.0	0.8	-0.9	-0.3	-	-
2020 Q1	-3.2	-1.6	-2.1	0.2	0.2	-0.3	-0.6	1.1	0.1	-1.6	-	-
Q2	-14.7	-13.7	-8.5	-0.4	-4.6	-1.5	-1.7	-1.4	-0.1	-1.0	-	-
Q3	-4.3	-3.9	-2.5	0.5	-0.9	-0.4	-0.5	-0.1	-1.0	-0.4	-	-

Sources: Eurostat and ECB calculations.

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

2) Including acquisitions less disposals of valuables.

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
Current prices (EUR billions)												
2017	10,056.2	176.2	2,002.0	498.9	1,909.4	469.6	468.2	1,134.6	1,146.7	1,900.0	350.7	1,160.9
2018	10,383.7	174.5	2,052.2	528.2	1,963.8	500.3	476.9	1,167.2	1,206.6	1,957.9	356.1	1,203.8
2019	10,693.2	178.5	2,064.5	570.1	2,026.8	530.6	481.3	1,204.8	1,251.4	2,020.4	364.7	1,242.3
2019 Q4	2,701.7	45.3	520.7	145.6	512.2	134.9	119.7	304.4	316.5	510.9	91.4	313.8
2020 Q1	2,624.7	44.9	500.3	142.0	480.2	133.2	121.1	302.6	306.2	508.0	86.3	293.3
Q2	2,339.3	45.0	427.7	125.8	379.4	127.5	115.5	297.1	259.7	491.9	69.7	259.5
Q3	2,604.4	44.0	494.6	144.0	469.8	136.5	118.9	304.8	290.6	519.1	82.2	292.8
<i>as a percentage of value added</i>												
2019	100.0	1.7	19.3	5.3	19.0	5.0	4.5	11.3	11.7	18.9	3.4	-
Chain-linked volumes (prices for the previous year)												
<i>quarter-on-quarter percentage changes</i>												
2019 Q4	0.1	1.0	-0.7	0.2	0.2	0.9	-0.3	0.6	0.2	0.4	0.0	0.1
2020 Q1	-3.4	-1.6	-3.9	-3.2	-6.2	-1.3	-0.9	-0.8	-3.3	-2.1	-6.8	-6.9
Q2	-12.0	-0.2	-15.0	-12.6	-21.3	-4.4	-2.5	-2.4	-15.8	-6.9	-23.0	-9.3
Q3	12.2	0.4	15.9	14.0	23.1	7.0	3.3	2.2	12.0	9.6	21.6	14.4
<i>annual percentage changes</i>												
2017	2.6	0.5	3.4	1.9	2.8	6.5	1.6	0.9	5.0	1.2	2.1	2.3
2018	1.9	-0.2	1.6	2.4	1.8	6.4	0.9	1.3	3.7	1.0	0.9	1.6
2019	1.3	0.7	-0.9	3.0	1.9	4.7	1.3	1.5	1.6	1.1	1.3	1.6
2019 Q4	0.9	0.8	-1.4	1.8	1.8	4.4	0.8	1.7	0.7	1.1	1.1	1.7
2020 Q1	-2.9	-1.0	-4.9	-2.7	-5.7	2.0	-0.4	0.4	-2.7	-1.3	-6.4	-6.1
Q2	-14.7	-0.8	-19.0	-14.7	-25.8	-4.8	-3.4	-2.4	-18.3	-8.3	-28.2	-14.9
Q3	-4.4	-0.3	-5.9	-3.4	-8.9	1.9	-0.4	-0.5	-8.6	0.3	-12.7	-3.3
<i>contributions to quarter-on-quarter percentage changes in value added; percentage points</i>												
2019 Q4	0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	-
2020 Q1	-3.4	0.0	-0.8	-0.2	-1.2	-0.1	0.0	-0.1	-0.4	-0.4	-0.2	-
Q2	-12.0	0.0	-2.9	-0.7	-3.9	-0.2	-0.1	-0.3	-1.9	-1.3	-0.8	-
Q3	12.2	0.0	2.9	0.7	3.8	0.4	0.2	0.3	1.3	1.9	0.6	-
<i>contributions to annual percentage changes in value added; percentage points</i>												
2017	2.6	0.0	0.7	0.1	0.5	0.3	0.1	0.1	0.6	0.2	0.1	-
2018	1.9	0.0	0.3	0.1	0.3	0.3	0.0	0.1	0.4	0.2	0.0	-
2019	1.3	0.0	-0.2	0.2	0.4	0.2	0.1	0.2	0.2	0.2	0.0	-
2019 Q4	0.9	0.0	-0.3	0.1	0.3	0.2	0.0	0.2	0.1	0.2	0.0	-
2020 Q1	-2.9	0.0	-1.0	-0.1	-1.1	0.1	0.0	0.0	-0.3	-0.3	-0.2	-
Q2	-14.7	0.0	-3.7	-0.8	-4.9	-0.2	-0.2	-0.3	-2.1	-1.6	-1.0	-
Q3	-4.4	0.0	-1.2	-0.2	-1.7	0.1	0.0	-0.1	-1.0	0.0	-0.4	-

Sources: Eurostat and ECB calculations.

3 Economic activity

3.3 Employment ¹⁾

(quarterly data seasonally adjusted; annual data unadjusted)

	Total	By employment status		By economic activity									
		Employ-ees	Self-employed	Agricul-ture, forestry and fishing	Manufac-turing, energy and utilities	Con-struction	Trade, transport, accom-odation and food services	Infor-mation and com-munica-tion	Finance and insur-ance	Real estate	Professional, business and support services	Public adminis-tration, edu-cation, health and social work	Arts, entertainment and other services
	1	2	3	4	5	6	7	8	9	10	11	12	13
Persons employed													
<i>as a percentage of total persons employed</i>													
2017	100.0	85.6	14.4	3.2	14.6	5.9	25.0	2.8	2.5	1.0	13.8	24.3	6.9
2018	100.0	85.8	14.2	3.1	14.6	6.0	25.0	2.9	2.4	1.0	14.0	24.2	6.8
2019	100.0	86.0	14.0	3.0	14.5	6.0	25.0	2.9	2.4	1.0	14.0	24.3	6.7
<i>annual percentage changes</i>													
2017	1.6	2.0	-0.7	-0.5	0.9	1.2	1.8	3.2	-1.6	2.5	3.6	1.2	1.1
2018	1.6	1.8	0.1	-0.4	1.5	2.7	1.6	3.9	-1.1	2.0	2.8	1.2	0.2
2019	1.2	1.4	0.0	-1.9	0.8	2.0	1.3	3.6	-0.4	1.5	1.3	1.5	0.6
2019 Q4	1.0	1.3	-0.3	-1.6	0.2	1.2	1.2	2.8	0.2	-0.1	1.1	1.5	0.9
2020 Q1	0.4	0.6	-1.4	-3.2	-0.4	1.1	0.3	2.3	0.1	-1.1	0.3	1.2	-0.1
Q2	-3.0	-3.1	-2.6	-3.8	-2.2	-1.0	-5.7	0.5	-1.0	-2.0	-4.8	0.2	-5.9
Q3	-2.1	-2.0	-2.3	-3.0	-2.7	0.8	-4.2	0.9	-0.9	0.1	-3.6	0.6	-3.7
Hours worked													
<i>as a percentage of total hours worked</i>													
2017	100.0	80.7	19.3	4.3	15.0	6.7	25.9	3.0	2.5	1.0	13.6	21.8	6.2
2018	100.0	81.1	18.9	4.3	15.0	6.8	25.8	3.0	2.5	1.0	13.8	21.7	6.1
2019	100.0	81.3	18.7	4.1	14.9	6.8	25.8	3.1	2.4	1.0	13.9	21.8	6.1
<i>annual percentage changes</i>													
2017	1.1	1.6	-1.1	-0.8	0.6	1.1	1.1	3.1	-2.3	2.4	3.4	0.5	0.6
2018	1.7	2.1	0.0	0.1	1.4	3.3	1.5	4.1	-0.9	2.7	3.2	1.3	0.5
2019	0.9	1.2	-0.4	-2.6	0.3	1.8	0.9	3.6	-0.2	1.4	1.1	1.3	0.4
2019 Q4	0.5	0.9	-0.9	-1.9	-0.6	0.4	0.8	2.8	0.1	1.3	0.7	1.2	0.1
2020 Q1	-3.8	-2.9	-7.3	-3.8	-4.2	-4.4	-5.7	0.8	-2.5	-5.3	-2.6	-1.2	-8.1
Q2	-16.8	-15.4	-22.9	-6.9	-15.8	-17.9	-27.7	-5.9	-6.0	-16.9	-16.6	-5.8	-28.6
Q3	-4.6	-4.3	-5.9	-2.0	-5.6	-0.8	-8.6	-1.5	-2.4	-3.3	-6.3	0.0	-7.3
Hours worked per person employed													
<i>annual percentage changes</i>													
2017	-0.5	-0.3	-0.4	-0.3	-0.3	-0.1	-0.7	-0.1	-0.6	-0.1	-0.2	-0.7	-0.4
2018	0.1	0.3	-0.1	0.6	-0.1	0.6	-0.1	0.2	0.2	0.7	0.4	0.1	0.3
2019	-0.3	-0.2	-0.4	-0.7	-0.5	-0.2	-0.4	0.0	0.2	-0.1	-0.2	-0.2	-0.2
2019 Q4	-0.5	-0.4	-0.6	-0.3	-0.8	-0.8	-0.4	0.0	-0.1	1.4	-0.4	-0.3	-0.7
2020 Q1	-4.1	-3.6	-6.0	-0.6	-3.8	-5.4	-6.0	-1.5	-2.6	-4.3	-2.9	-2.4	-8.0
Q2	-14.3	-12.8	-20.9	-3.2	-13.9	-17.0	-23.3	-6.4	-5.0	-15.3	-12.4	-6.0	-24.1
Q3	-2.6	-2.3	-3.7	1.0	-3.0	-1.6	-4.6	-2.4	-1.5	-3.4	-2.8	-0.5	-3.8

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 ¹⁾											Job vacancy rate ³⁾
			Total		Long-term unemployment, % of labour force ²⁾	By age				By gender				
			Millions	% of labour force		Adult		Youth		Male		Female		
						Millions	% of labour force	Millions	% of labour force	Millions	% of labour force	Millions	% of labour force	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
% of total in 2019			100.0		82.0	18.3		51.3	48.7					
2017	161.861	4.1	14.589	9.0	4.4	11.949	8.1	2.640	18.6	7.558	8.7	7.031	9.4	1.9
2018	162.486	3.7	13.203	8.1	3.8	10.814	7.3	2.390	16.8	6.803	7.8	6.400	8.5	2.1
2019	163.200	3.5	12.233	7.5	3.3	9.999	6.7	2.234	15.6	6.269	7.2	5.963	7.9	2.3
2019 Q4	163.311	3.4	11.977	7.3	3.2	9.757	6.5	2.220	15.6	6.107	7.0	5.870	7.7	2.2
2020 Q1	162.385	3.4	11.852	7.3	3.1	9.617	6.5	2.235	15.8	6.028	6.9	5.824	7.7	1.9
Q2	159.969	3.5	11.886	7.4	2.5	9.589	6.6	2.297	16.8	6.258	7.3	5.629	7.6	1.6
Q3	162.001	3.6	13.373	8.3	3.1	10.769	7.3	2.604	18.5	6.832	7.9	6.540	8.7	.
2020 June	-	-	12.751	7.9	-	10.378	7.0	2.373	17.7	6.611	7.6	6.141	8.2	-
July	-	-	14.133	8.7	-	11.502	7.7	2.631	18.9	7.180	8.2	6.952	9.2	-
Aug.	-	-	14.049	8.6	-	11.431	7.6	2.618	18.6	7.140	8.1	6.910	9.1	-
Sep.	-	-	13.910	8.5	-	11.377	7.6	2.533	17.9	7.035	8.0	6.875	9.0	-
Oct.	-	-	13.781	8.4	-	11.216	7.5	2.565	18.0	6.997	8.0	6.783	8.9	-
Nov.	-	-	13.609	8.3	-	10.980	7.3	2.629	18.4	6.931	7.9	6.677	8.8	-

Sources: Eurostat and ECB calculations.

1) Where annual and quarterly Labour Force Survey data have not yet been published, annual and quarterly data are derived as simple averages of the monthly data. 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 Q1 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	ECB indicator on industrial new orders	Retail sales				New passenger car registrations	
	Total (excluding construction)		Main Industrial Groupings					Total	Food, beverages, tobacco	Non-food	Fuel		
	Manufacturing	Intermediate goods	Capital goods	Consumer goods	Energy								
1	2	3	4	5	6	7	8	9	10	11	12	13	
% of total in 2015	100.0	88.7	32.1	34.5	21.8	11.6	100.0	100.0	100.0	40.4	52.5	7.1	100.0
annual percentage changes													
2018	0.7	1.0	0.6	1.1	1.4	-1.5	1.7	2.8	1.6	1.3	1.9	0.6	0.9
2019	-1.3	-1.2	-2.3	-1.8	1.4	-2.0	2.0	-4.3	2.4	0.9	3.7	0.7	1.8
2020	.	.	.	.	.	.	.	.	.	.	.	.	-25.0
2020 Q1	-6.0	-6.1	-5.4	-10.2	-0.7	-5.4	-3.9	-6.5	-1.4	4.8	-4.7	-10.1	-27.4
Q2	-20.1	-21.1	-19.5	-28.0	-13.2	-10.4	-15.3	-26.4	-6.7	3.0	-11.1	-29.3	-50.8
Q3	-6.6	-7.1	-5.7	-11.5	-1.6	-4.2	-2.1	-7.8	2.4	2.6	3.2	-5.1	-6.9
Q4	.	.	.	.	.	.	.	.	.	.	.	.	-9.2
2020 July	-6.9	-7.1	-8.7	-9.2	-1.5	-5.6	-3.3	-10.4	0.2	1.1	0.0	-5.9	-3.8
Aug.	-6.7	-7.3	-5.0	-12.5	-2.2	-4.4	0.4	-7.1	4.4	3.9	6.2	-3.7	-15.7
Sep.	-6.3	-6.9	-3.4	-13.0	-1.2	-2.7	-2.3	-6.0	2.6	2.9	3.4	-5.6	-1.8
Oct.	-3.5	-4.0	-0.9	-8.0	-1.6	0.2	-1.9	-3.3	4.2	5.0	5.3	-9.2	-4.8
Nov.	-0.6	-0.3	1.1	0.1	-2.2	-5.0	-1.3	.	-2.9	2.7	-5.2	-18.0	-14.9
Dec.	.	.	.	.	.	.	.	.	.	.	.	.	-8.0
month-on-month percentage changes (s.a.)													
2020 July	5.6	6.1	5.1	6.8	4.9	1.6	0.0	2.2	-1.5	-0.2	-4.3	9.2	29.3
Aug.	0.4	0.1	3.3	-1.4	-0.6	1.3	4.1	4.0	4.1	2.1	5.5	2.2	-0.6
Sep.	0.2	0.2	0.7	0.9	1.4	0.3	-2.7	1.1	-1.5	-1.2	-1.7	-1.5	0.9
Oct.	2.3	2.1	2.3	2.9	0.3	2.1	0.0	2.4	1.4	2.0	1.6	-4.1	3.0
Nov.	2.5	3.3	1.5	7.0	-1.4	-3.9	1.4	.	-6.1	-1.7	-8.9	-10.6	-7.2
Dec.	.	.	.	.	.	.	.	.	.	.	.	.	10.4

Sources: Eurostat, ECB calculations, ECB experimental statistics (col. 8) and European Automobile Manufacturers Association (col. 13).

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	98.7	-5.2	80.6	-11.7	-15.4	-8.6	7.3	-	51.2	52.5	53.0	52.8
2018	111.5	6.7	83.7	-4.9	7.0	1.3	15.2	90.4	54.9	54.7	54.5	54.6
2019	103.1	-5.1	81.9	-7.1	6.4	-0.4	10.7	90.5	47.4	47.8	52.7	51.3
2020	86.5	-14.4	.	-14.4	-7.7	-12.9	-16.6	.	48.6	48.0	42.5	44.0
2020 Q1	100.0	-8.1	74.6	-8.8	3.4	-3.0	6.6	88.0	47.2	45.1	43.9	44.2
Q2	69.4	-27.2	70.2	-18.5	-14.9	-26.4	-39.2	85.6	40.1	34.2	30.3	31.3
Q3	86.9	-13.5	74.2	-14.5	-10.9	-11.4	-18.2	85.9	52.4	56.0	51.1	52.4
Q4	89.7	-8.8	.	-15.7	-8.5	-10.9	-15.6	.	54.6	56.7	45.0	48.1
2020 July	82.4	-16.2	72.1	-15.0	-11.4	-15.1	-26.2	85.5	51.8	55.3	54.7	54.9
Aug.	87.5	-12.8	-	-14.7	-11.8	-10.5	-17.2	-	51.7	55.6	50.5	51.9
Sep.	90.9	-11.4	-	-13.9	-9.5	-8.6	-11.2	-	53.7	57.1	48.0	50.4
Oct.	91.1	-9.2	76.3	-15.5	-8.3	-6.9	-12.1	86.2	54.8	58.4	46.9	50.0
Nov.	87.7	-10.1	-	-17.6	-9.3	-12.7	-17.1	-	53.8	55.3	41.7	45.3
Dec.	90.4	-7.2	-	-13.9	-7.9	-13.1	-17.4	-	55.2	56.3	46.4	49.1

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 ²⁾	Housing wealth	Profit share ³⁾	Saving ratio (net)	Debt ratio ⁴⁾	Financial investment	Non-financial investment (gross)	Financing
	Percentage of gross disposable income (adjusted) ¹⁾	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
2017	12.2	93.7	1.6	2.2	5.4	4.2	4.1	35.0	6.9	77.3	4.2	9.6	2.7
2018	12.4	93.4	1.8	2.0	6.4	2.7	4.7	35.4	5.9	77.9	1.9	7.0	1.5
2019	12.9	93.8	1.8	2.5	4.8	5.7	3.9	34.6	5.7	77.7	2.5	3.4	1.9
2019 Q4	12.9	93.8	1.0	2.5	2.5	5.7	3.9	34.6	5.7	77.7	2.5	-8.1	1.9
2020 Q1	13.8	93.6	0.8	2.6	-0.9	2.9	4.2	33.7	4.6	78.9	2.5	1.4	2.1
Q2	16.5	95.0	-3.6	3.2	-14.8	4.0	4.4	31.2	4.1	83.6	2.8	-28.8	1.9
Q3	17.6	95.6	1.0	3.5	-2.2	3.9	4.6	30.5	3.3	84.3	3.2	-14.2	2.1

Sources: ECB and Eurostat.

1) Based on four-quarter cumulated sums of saving, debt and gross disposable income (adjusted for the change in pension entitlements).

2) Financial assets (net of financial liabilities) and non-financial assets. Non-financial assets consist mainly of housing wealth (residential structures and land). They also include non-financial assets of unincorporated enterprises classified within the household sector.

3) The profit 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 ¹⁾	
	Total			Goods		Services		Primary income		Secondary income		Credit	Debit
	Credit	Debit	Balance	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit		
1	2	3	4	5	6	7	8	9	10	11	12	13	
2019 Q4	1,099.5	1,035.1	64.5	610.4	519.8	254.0	247.4	205.9	205.5	29.2	62.3	16.4	19.0
2020 Q1	1,058.4	1,007.7	50.7	586.9	497.5	242.1	251.8	200.1	192.5	29.4	65.9	10.8	10.8
Q2	860.0	817.9	42.1	467.0	413.2	190.7	182.9	176.0	152.2	26.4	69.6	10.6	15.6
Q3	948.7	881.0	67.7	548.3	455.0	193.0	184.8	179.0	179.2	28.4	62.0	11.1	10.2
2020 June	301.5	283.2	18.3	169.3	145.3	65.4	62.1	57.3	55.0	9.3	20.8	3.3	5.1
July	310.6	293.5	17.1	178.7	149.5	63.3	60.8	59.0	62.0	9.6	21.1	3.4	3.8
Aug.	314.3	290.9	23.4	182.5	151.2	62.4	60.8	60.0	59.2	9.4	19.8	4.2	2.6
Sep.	323.7	296.6	27.1	187.0	154.3	67.4	63.2	59.9	58.0	9.4	21.2	3.5	3.8
Oct.	330.2	304.5	25.6	191.5	157.2	71.2	62.7	57.4	62.5	10.0	22.2	4.3	3.5
Nov.	336.8	312.3	24.6	197.8	163.7	71.1	61.6	58.7	58.2	9.3	28.8	4.5	3.3
<i>12-month cumulated transactions</i>													
2020 Nov.	3,895.6	3,664.9	230.7	2,195.0	1,859.6	852.0	825.9	735.5	711.7	113.0	267.6	50.5	52.4
<i>12-month cumulated transactions as a percentage of GDP</i>													
2020 Nov.	34.1	32.1	2.0	19.2	16.3	7.5	7.2	6.4	6.2	1.0	2.3	0.4	0.5

1) The capital account is not seasonally adjusted.

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

(seasonally adjusted, unless otherwise indicated)

	Total (n.s.a.)		Exports (f.o.b.)					Imports (c.i.f.)					
	Exports	Imports	Total			Memo item: Manu- facturing	Total			Memo items:			
			Intermediate goods	Capital goods	Consumption goods		Intermediate goods	Capital goods	Consumption goods	Manu- facturing	Oil		
1	2	3	4	5	6	7	8	9	10	11	12	13	
<i>Values (EUR billions; annual percentage changes for columns 1 and 2)</i>													
2019 Q4	2.3	-1.8	592.8	275.9	125.7	179.9	497.2	526.2	290.2	87.2	139.5	386.3	61.4
2020 Q1	-1.6	-4.1	578.5	274.9	116.0	176.3	480.9	507.6	283.1	83.1	134.0	370.6	56.4
Q2	-23.6	-21.6	447.0	218.0	87.5	132.9	369.1	422.9	220.8	77.4	119.3	319.7	26.1
Q3	-8.7	-11.6	531.6	248.1	108.0	164.5	447.9	468.9	242.7	83.2	133.9	358.9	34.1
2020 June	-10.4	-12.2	163.7	76.8	32.1	51.0	136.1	147.9	76.0	27.0	42.7	113.0	10.4
July	-10.6	-14.3	173.0	80.3	35.0	54.5	145.4	154.5	80.1	28.0	43.7	117.0	11.4
Aug.	-12.5	-13.4	176.0	82.1	35.9	54.2	147.6	155.2	79.8	27.6	44.6	119.7	11.8
Sep.	-3.4	-7.2	182.5	85.7	37.1	55.8	154.8	159.2	82.7	27.6	45.6	122.2	10.9
Oct.	-9.0	-11.6	186.1	86.1	37.4	58.8	158.1	160.9	85.5	26.7	44.8	122.6	10.9
Nov.	-0.9	-4.2	189.8	.	.	.	161.3	164.7	.	.	.	126.4	.
<i>Volume indices (2000 = 100; annual percentage changes for columns 1 and 2)</i>													
2019 Q4	0.0	-1.8	107.3	108.0	108.8	106.3	107.1	107.2	104.8	106.5	113.7	110.3	97.2
2020 Q1	-4.0	-4.7	103.8	106.6	100.4	102.8	102.3	104.0	103.6	100.8	108.8	105.0	98.5
Q2	-23.6	-16.3	81.6	86.5	76.0	78.9	79.1	92.2	90.2	94.6	97.2	91.1	81.2
Q3	-7.2	-7.1	98.5	99.9	95.2	99.1	97.8	101.7	97.0	104.0	110.3	103.9	80.4
2020 May	-29.7	-20.9	81.0	85.4	76.0	78.6	79.1	92.0	89.5	93.6	98.2	91.7	79.7
June	-10.6	-7.7	89.8	91.8	83.8	90.7	87.7	95.9	91.4	101.0	104.2	97.0	81.2
July	-9.8	-10.2	95.5	95.9	92.4	98.0	94.5	100.2	95.8	104.1	107.9	101.4	79.8
Aug.	-10.8	-9.7	98.1	99.4	95.1	98.0	96.9	100.6	95.6	102.7	110.0	103.6	80.8
Sep.	-1.1	-1.4	102.0	104.4	98.0	101.2	102.1	104.1	99.5	105.1	113.1	106.8	80.7
Oct.	-7.6	-6.7	103.2	103.3	99.0	106.3	103.4	104.6	101.6	101.7	110.7	106.8	81.8

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 ¹⁾

(annual percentage changes, unless otherwise indicated)

	Total					Total (s.a.; percentage change vis-à-vis previous period) ²⁾						Administered prices	
	Index: 2015 = 100	Total		Goods	Services	Total	Processed food	Unprocessed food	Non-energy industrial goods	Energy (n.s.a.)	Services	Total HICP excluding administered prices	Administered prices
		Total excluding food and energy											
	1	2	3	4	5	6	7	8	9	10	11	12	13
% of total in 2020	100.0	100.0	71.1	55.1	44.9	100.0	14.6	4.4	26.2	9.8	44.9	87.6	12.4
2018	103.6	1.8	1.0	2.0	1.5	-	-	-	-	-	-	1.7	2.1
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
2020 Q1	104.7	1.1	1.1	0.8	1.5	0.1	0.6	1.4	0.1	-1.3	0.1	1.2	0.8
Q2	105.5	0.2	0.9	-0.6	1.2	-0.4	0.7	3.5	-0.1	-7.9	0.3	0.2	0.5
Q3	105.1	0.0	0.6	-0.7	0.7	0.0	-0.2	-1.9	0.4	0.9	-0.1	-0.1	0.4
Q4	105.0	-0.3	0.2	-0.9	0.5	0.0	0.1	0.5	-0.6	0.5	0.3	-0.4	0.6
2020 July	105.3	0.4	1.2	-0.1	0.9	0.2	-0.4	-1.9	1.5	0.5	-0.2	0.4	0.4
Aug.	104.9	-0.2	0.4	-0.9	0.7	-0.5	0.0	0.3	-1.7	0.0	0.0	-0.2	0.3
Sep.	105.0	-0.3	0.2	-1.0	0.5	-0.1	0.0	0.1	-0.1	-0.4	0.0	-0.4	0.4
Oct.	105.2	-0.3	0.2	-0.8	0.4	0.1	0.0	0.4	0.1	0.4	0.1	-0.4	0.6
Nov.	104.8	-0.3	0.2	-1.0	0.6	0.1	0.1	0.7	-0.1	-0.1	0.2	-0.4	0.5
Dec.	105.2	-0.3	0.2	-1.0	0.7	0.1	0.0	-1.6	-0.1	1.6	0.2	-0.4	0.6

	Goods						Services					
	Food (including alcoholic beverages and tobacco)			Industrial goods			Housing	Transport	Communi-cation	Recreation and personal care	Miscel-laneous	
	Total	Processed food	Unpro-cessed food	Total	Non-energy industrial goods	Energy	Rents					
	14	15	16	17	18	19	20	21	22	23	24	25
% of total in 2020	19.1	14.6	4.4	36.1	26.2	9.8	10.9	6.6	7.4	2.6	15.4	8.5
2018	2.2	2.1	2.3	1.9	0.3	6.4	1.2	1.2	1.5	-0.1	2.0	1.4
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
2020 Q1	2.2	2.0	2.8	0.0	0.5	-1.0	1.6	1.4	1.7	0.0	1.6	1.5
Q2	3.4	2.3	6.7	-2.7	0.2	-10.3	1.4	1.3	1.1	0.1	1.2	1.5
Q3	1.8	1.5	2.8	-2.0	0.4	-8.1	1.3	1.2	-0.4	-0.7	0.6	1.4
Q4	1.7	1.2	3.5	-2.4	-0.3	-7.8	1.2	1.2	-0.6	-1.5	0.6	1.3
2020 July	2.0	1.6	3.1	-1.2	1.6	-8.4	1.3	1.2	0.2	-0.6	0.9	1.5
Aug.	1.7	1.5	2.3	-2.3	-0.1	-7.8	1.3	1.2	-0.8	-0.8	0.7	1.4
Sep.	1.8	1.4	3.1	-2.5	-0.3	-8.2	1.3	1.2	-0.6	-0.8	0.3	1.3
Oct.	2.0	1.3	4.3	-2.3	-0.1	-8.2	1.2	1.2	-0.9	-1.8	0.4	1.2
Nov.	1.9	1.2	4.2	-2.5	-0.3	-8.3	1.2	1.2	-0.6	-1.3	0.5	1.3
Dec.	1.3	1.1	2.1	-2.3	-0.5	-6.9	1.2	1.2	-0.3	-1.4	0.7	1.3

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>).

4 Prices and costs

4.2 Industry, construction and property prices

(annual percentage changes, unless otherwise indicated)

	Industrial producer prices excluding construction ¹⁾										Con- struction ²⁾	Residential property prices ³⁾	Experimental indicator of commercial property prices ³⁾
	Total (index: 2015 = 100)	Total	Industry excluding construction and energy							Energy			
			Manu- facturing	Total	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			
2017	100.8	3.0	3.0	2.1	3.1	0.9	1.9	2.8	0.2	5.7	2.0	4.4	4.7
2018	104.1	3.3	2.4	1.5	2.7	1.0	0.4	0.1	0.6	8.4	2.4	4.8	4.1
2019	104.7	0.6	0.6	0.8	0.1	1.5	1.0	1.1	0.9	-0.1	2.0	4.2	4.6
2019 Q4	104.4	-1.4	0.0	0.4	-1.2	1.4	1.7	2.4	0.7	-6.0	1.9	4.3	4.3
2020 Q1	103.7	-1.7	0.0	0.4	-1.4	1.1	2.3	3.3	0.6	-7.4	1.5	5.0	3.9
Q2	100.2	-4.5	-3.0	-0.5	-2.7	1.0	1.1	1.5	0.6	-15.5	0.9	5.0	5.8
Q3	101.4	-2.7	-2.0	-0.3	-1.8	0.8	0.5	0.3	0.6	-9.3	0.7	5.1	.
2020 June	100.5	-3.7	-2.3	-0.6	-2.5	1.1	0.7	0.8	0.5	-12.8	-	-	-
July	101.2	-3.2	-2.0	-0.4	-2.0	0.9	0.6	0.5	0.6	-10.9	-	-	-
Aug.	101.3	-2.6	-1.8	-0.3	-1.8	0.8	0.5	0.3	0.5	-8.7	-	-	-
Sep.	101.7	-2.3	-2.1	-0.3	-1.6	0.8	0.4	0.1	0.6	-8.3	-	-	-
Oct.	102.1	-2.0	-1.9	-0.2	-1.3	0.8	0.3	0.0	0.7	-7.7	-	-	-
Nov.	102.5	-1.9	-1.7	0.0	-0.6	0.8	0.1	-0.5	0.7	-7.5	-	-	-

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

1) Domestic sales only.

2) Input prices for residential buildings.

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

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 ¹⁾	Imports ¹⁾	Import-weighted ²⁾			Use-weighted ²⁾		
			Total	Private consump- tion	Govern- ment consump- tion	Gross fixed capital formation				Total	Food	Non-food	Total	Food	Non-food
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
% of total								100.0	45.4	54.6	100.0	50.4	49.6		
2018	103.4	1.4	1.7	1.5	1.7	1.9	1.5	2.2	60.4	-0.7	-5.9	4.3	-0.3	-5.7	5.7
2019	105.2	1.7	1.4	1.1	1.7	2.1	0.7	0.1	57.2	1.6	3.7	-0.1	2.6	7.4	-2.3
2020	.	.	.	.	.	.	.	.	37.0	1.5	3.5	-0.3	-0.9	0.0	-1.8
2020 Q1	106.5	1.9	1.4	1.2	2.6	1.8	-0.1	-1.2	45.9	1.8	7.4	-3.1	1.2	7.1	-4.9
Q2	107.4	2.4	1.4	0.7	4.8	1.4	-2.0	-4.4	28.5	-2.4	4.0	-8.1	-4.3	0.1	-9.2
Q3	106.5	1.1	0.7	0.1	1.6	0.8	-1.7	-2.9	36.5	2.1	1.9	2.4	-0.4	-1.6	1.0
Q4	.	.	.	.	.	.	.	.	37.4	4.4	0.8	7.9	0.0	-5.2	6.2
2020 July	.	.	.	.	.	.	.	.	37.3	-1.9	-0.5	-3.2	-3.9	-3.7	-4.2
Aug.	.	.	.	.	.	.	.	.	37.4	4.9	2.2	7.3	1.9	-1.4	5.6
Sep.	.	.	.	.	.	.	.	.	34.9	3.6	4.0	3.2	1.0	0.2	1.9
Oct.	.	.	.	.	.	.	.	.	34.4	2.7	2.6	2.9	0.0	-1.3	1.4
Nov.	.	.	.	.	.	.	.	.	36.5	3.8	1.0	6.6	-1.5	-6.9	5.0
Dec.	.	.	.	.	.	.	.	.	41.0	6.6	-1.1	14.0	1.5	-7.2	12.0

Sources: Eurostat, ECB calculations and Bloomberg (col. 9).

1) Deflators for exports and imports refer to goods and services and include cross-border trade within the euro area.

2) Import-weighted: weighted according to 2009-11 average import structure; use-weighted: weighted according to 2009-11 average domestic demand structure.

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	-	-	-4.5	32.3	56.7	56.3	-	49.7
2018	11.6	7.5	9.5	12.5	20.6	65.4	57.9	56.1	52.7
2019	4.3	7.2	9.0	7.4	18.3	48.8	57.1	50.4	52.4
2020	-1.1	1.6	-0.9	-5.8	11.0	49.0	52.1	48.7	47.2
2020 Q1	2.0	6.6	7.4	3.9	13.3	45.6	54.7	48.0	49.7
Q2	-6.8	-3.7	-7.5	-11.7	11.0	44.2	48.1	46.1	43.3
Q3	-1.5	0.9	-0.7	-7.8	12.5	49.4	52.9	49.3	47.7
Q4	1.7	2.5	-2.8	-7.6	7.1	56.7	52.6	51.6	48.3
2020 July	-1.1	-0.6	-0.1	-9.9	12.7	47.5	52.5	49.0	47.8
Aug.	-2.1	0.7	-1.1	-7.5	13.9	50.1	53.4	49.4	48.2
Sep.	-1.3	2.6	-1.0	-6.0	11.0	50.6	53.0	49.6	47.1
Oct.	0.7	3.1	-2.3	-7.0	9.3	52.9	53.1	50.5	48.7
Nov.	0.2	1.2	-4.2	-8.3	7.0	55.9	51.5	51.6	47.7
Dec.	4.1	3.3	-2.1	-7.4	4.9	61.4	53.1	52.6	48.4

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 ¹⁾
			Wages and salaries	Employers' social contributions	Business economy	Mainly non-business economy	
	1	2	3	4	5	6	7
% of total in 2018	100.0	100.0	75.3	24.7	69.0	31.0	
2017	101.8	1.8	1.8	1.9	1.9	1.7	1.5
2018	104.2	2.4	2.3	2.7	2.5	2.1	2.0
2019	106.8	2.5	2.7	1.9	2.3	2.7	2.2
2019 Q4	113.2	2.4	2.4	1.9	2.2	2.8	2.0
2020 Q1	103.1	3.5	3.6	3.0	3.1	4.4	1.9
Q2	115.0	3.6	4.5	0.6	3.5	3.7	1.7
Q3	105.0	1.5	2.1	-0.4	1.5	1.8	1.6

Sources: Eurostat and ECB calculations.

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

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
Unit labour costs												
2017	106.3	0.7	0.8	-0.6	1.3	0.4	-0.8	-2.0	4.2	1.3	1.8	1.0
2018	108.4	1.9	1.0	1.8	2.2	1.9	-0.1	0.3	4.4	1.9	2.3	2.5
2019	110.4	1.9	-0.9	3.3	1.0	1.4	0.8	0.4	2.6	1.1	2.6	2.0
2019 Q4	111.0	1.7	-0.1	2.6	0.9	1.1	0.0	1.0	-0.5	1.7	2.7	2.4
2020 Q1	114.0	4.3	-1.4	4.3	2.3	5.1	2.5	-0.3	1.1	4.4	4.9	7.1
Q2	119.3	8.4	-2.5	11.5	7.2	12.0	3.1	1.0	-4.9	9.4	10.8	21.7
Q3	113.9	2.9	-0.2	1.8	5.5	4.2	-0.8	-0.6	3.3	6.2	2.4	12.3
Compensation per employee												
2017	111.2	1.7	1.7	1.8	2.0	1.4	2.3	1.2	2.5	2.6	1.8	2.0
2018	113.6	2.2	1.2	1.9	1.9	2.1	2.3	2.4	3.7	2.8	2.1	3.2
2019	115.8	1.9	1.8	1.5	2.0	2.1	1.9	2.1	2.6	1.4	2.1	2.7
2019 Q4	116.7	1.7	2.4	1.0	1.4	1.6	1.6	1.6	1.4	1.3	2.3	2.6
2020 Q1	115.8	0.6	1.0	-0.4	-1.5	-1.1	2.2	-0.8	2.5	1.3	2.2	0.4
Q2	110.2	-4.7	0.6	-7.7	-7.7	-11.8	-2.4	-1.4	-5.2	-6.0	1.4	-7.1
Q3	117.2	0.6	2.6	-1.6	1.0	-1.0	0.2	-0.1	2.6	0.6	2.1	1.8
Labour productivity per person employed												
2017	104.5	1.0	0.9	2.5	0.7	1.0	3.2	3.3	-1.6	1.3	0.0	1.0
2018	104.9	0.3	0.2	0.2	-0.3	0.3	2.4	2.1	-0.7	0.8	-0.2	0.7
2019	105.0	0.1	2.7	-1.7	1.0	0.7	1.0	1.7	0.0	0.3	-0.5	0.7
2019 Q4	105.2	0.0	2.5	-1.6	0.5	0.5	1.6	0.7	1.9	-0.4	-0.4	0.2
2020 Q1	101.5	-3.5	2.3	-4.5	-3.7	-5.9	-0.3	-0.5	1.4	-3.0	-2.5	-6.2
Q2	92.4	-12.1	3.1	-17.1	-13.8	-21.3	-5.3	-2.5	-0.4	-14.1	-8.5	-23.7
Q3	102.8	-2.3	2.8	-3.4	-4.2	-5.0	0.9	0.5	-0.7	-5.2	-0.3	-9.4
Compensation per hour worked												
2017	113.0	2.1	2.1	2.0	2.0	1.8	2.3	1.9	2.3	2.5	2.5	2.4
2018	115.2	1.9	0.8	2.0	0.9	1.9	2.0	2.3	2.8	2.1	2.1	2.7
2019	117.7	2.2	2.0	2.1	2.2	2.3	1.8	1.7	2.9	1.6	2.3	3.1
2019 Q4	118.3	2.0	2.3	1.7	2.0	1.8	2.0	1.5	1.1	1.6	2.6	3.5
2020 Q1	121.2	4.3	3.7	3.3	3.4	4.0	3.4	1.5	6.0	3.7	4.7	8.3
Q2	128.1	9.3	4.7	6.5	8.4	12.6	3.9	3.0	6.3	5.9	7.0	16.5
Q3	121.4	3.0	2.2	1.3	1.8	3.8	2.6	1.1	5.3	3.3	2.3	5.2
Hourly labour productivity												
2017	106.8	1.5	1.3	2.8	0.8	1.7	3.3	3.9	-1.5	1.5	0.6	1.4
2018	107.0	0.2	-0.4	0.3	-0.9	0.3	2.2	1.9	-1.3	0.5	-0.3	0.4
2019	107.5	0.4	3.4	-1.1	1.2	1.0	1.0	1.5	0.1	0.5	-0.2	0.9
2019 Q4	107.6	0.5	2.8	-0.8	1.4	1.0	1.6	0.7	0.5	0.0	-0.1	1.0
2020 Q1	107.7	0.6	3.0	-0.7	1.8	0.1	1.1	2.2	6.0	-0.1	-0.1	1.9
Q2	110.1	2.6	6.6	-3.7	3.9	2.7	1.1	2.7	17.5	-2.0	-2.7	0.5
Q3	107.8	0.4	1.8	-0.4	-2.7	-0.4	3.4	2.0	2.8	-2.5	0.2	-5.8

Sources: Eurostat and ECB calculations.

5 Money and credit

5.1 Monetary aggregates ¹⁾

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

	M3											
	M2						M3-M2					
	M1		M2-M1				Repos	Money market fund shares	Debt securities with a maturity of up to 2 years			
	Currency in circulation	Overnight deposits	Deposits with an agreed maturity of up to 2 years	Deposits redeemable at notice of up to 3 months								
1	2	3	4	5	6	7	8	9	10	11	12	
Outstanding amounts												
2017	1,112.6	6,636.4	7,749.0	1,198.7	2,261.3	3,460.0	11,209.0	74.6	509.6	80.7	664.8	11,873.9
2018	1,164.2	7,114.7	8,278.9	1,128.3	2,298.9	3,427.2	11,706.1	74.4	521.8	82.0	678.2	12,384.3
2019	1,221.5	7,726.9	8,948.4	1,073.2	2,362.4	3,435.7	12,384.1	78.7	529.1	19.4	627.1	13,011.3
2019 Q4	1,221.5	7,726.9	8,948.4	1,073.2	2,362.4	3,435.7	12,384.1	78.7	529.1	19.4	627.1	13,011.3
2020 Q1	1,265.3	8,079.2	9,344.5	1,075.3	2,368.6	3,443.9	12,788.3	109.9	537.2	48.1	695.2	13,483.6
Q2	1,302.8	8,425.2	9,728.0	1,075.5	2,400.8	3,476.2	13,204.3	95.2	582.2	16.1	693.6	13,897.9
Q3	1,330.5	8,617.0	9,947.5	1,077.0	2,423.4	3,500.4	13,447.9	100.3	612.8	1.6	714.8	14,162.7
2020 June	1,302.8	8,425.2	9,728.0	1,075.5	2,400.8	3,476.2	13,204.3	95.2	582.2	16.1	693.6	13,897.9
July	1,310.7	8,464.9	9,775.6	1,080.2	2,406.9	3,487.1	13,262.7	106.2	595.8	6.0	707.9	13,970.6
Aug.	1,321.7	8,528.8	9,850.5	1,047.6	2,414.7	3,462.4	13,312.8	91.7	593.7	5.8	691.2	14,004.0
Sep.	1,330.5	8,617.0	9,947.5	1,077.0	2,423.4	3,500.4	13,447.9	100.3	612.8	1.6	714.8	14,162.7
Oct.	1,338.2	8,683.3	10,021.5	1,060.7	2,431.8	3,492.5	13,514.0	96.3	613.7	14.2	724.2	14,238.2
Nov. ^(p)	1,351.2	8,780.1	10,131.3	1,030.6	2,446.2	3,476.9	13,608.2	101.2	612.9	12.1	726.2	14,334.4
Transactions												
2017	36.5	592.2	628.7	-108.7	34.2	-74.5	554.3	6.5	-11.3	-15.8	-20.6	533.7
2018	50.6	468.0	518.6	-73.2	44.8	-28.5	490.1	-0.9	12.6	-0.9	10.8	500.9
2019	57.3	605.9	663.2	-59.7	61.5	1.8	665.0	4.1	-2.1	-56.6	-54.6	610.3
2019 Q4	17.8	130.5	148.3	-31.4	9.6	-21.8	126.5	4.6	-14.5	-1.0	-10.9	115.6
2020 Q1	43.8	347.7	391.4	0.0	6.1	6.1	397.5	30.9	8.2	26.8	65.9	463.4
Q2	37.5	343.0	380.5	2.1	32.6	34.7	415.3	-14.1	45.1	-32.8	-1.8	413.5
Q3	27.7	269.0	296.7	5.7	23.0	28.6	325.4	5.9	29.8	-13.2	22.6	348.0
2020 June	9.3	87.5	96.8	-19.5	11.4	-8.1	88.7	-0.2	22.2	-7.6	14.4	103.1
July	7.9	118.7	126.6	9.4	6.3	15.7	142.3	12.0	13.6	-8.3	17.3	159.6
Aug.	11.0	65.9	76.8	-31.7	8.0	-23.7	53.1	-14.3	-2.8	-0.1	-17.3	35.8
Sep.	8.9	84.4	93.2	28.0	8.7	36.7	129.9	8.3	19.1	-4.9	22.5	152.5
Oct.	7.6	65.2	72.8	-17.7	8.4	-9.2	63.6	-4.1	0.9	12.9	9.7	73.3
Nov. ^(p)	13.1	102.4	115.5	-28.3	14.5	-13.8	101.7	5.3	-0.8	-1.9	2.6	104.3
Growth rates												
2017	3.4	9.8	8.8	-8.2	1.5	-2.1	5.2	9.5	-2.2	-17.3	-3.0	4.7
2018	4.5	7.0	6.7	-6.1	2.0	-0.8	4.4	-1.3	2.5	-1.6	1.6	4.2
2019	4.9	8.5	8.0	-5.3	2.7	0.1	5.7	5.4	-0.4	-71.4	-8.0	4.9
2019 Q4	4.9	8.5	8.0	-5.3	2.7	0.1	5.7	5.4	-0.4	-71.4	-8.0	4.9
2020 Q1	7.1	11.0	10.4	-3.8	1.8	0.0	7.4	47.4	2.1	52.0	9.6	7.5
Q2	9.7	13.2	12.7	-3.3	2.6	0.7	9.3	28.2	11.0	-56.6	8.8	9.3
Q3	10.5	14.4	13.8	-2.1	3.0	1.4	10.3	36.7	12.6	-95.9	11.9	10.4
2020 June	9.7	13.2	12.7	-3.3	2.6	0.7	9.3	28.2	11.0	-56.6	8.8	9.3
July	9.8	14.1	13.5	-1.5	2.6	1.3	10.0	42.8	12.1	-77.5	10.9	10.1
Aug.	10.4	13.7	13.3	-5.1	2.9	0.3	9.6	28.3	8.5	-69.0	7.9	9.5
Sep.	10.5	14.4	13.8	-2.1	3.0	1.4	10.3	36.7	12.6	-95.9	11.9	10.4
Oct.	10.7	14.3	13.8	-2.7	3.2	1.4	10.3	23.4	15.2	-69.5	13.8	10.5
Nov. ^(p)	11.1	15.0	14.5	-4.3	3.8	1.2	10.8	38.0	14.5	-72.4	14.7	11.0

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
Outstanding amounts													
2017	2,241.5	1,798.6	285.0	149.1	8.8	6,317.9	3,703.1	561.9	2,052.2	0.8	987.7	208.2	415.8
2018	2,334.2	1,901.4	277.3	147.9	7.6	6,645.3	4,035.6	517.8	2,090.6	1.3	996.0	204.8	436.2
2019	2,482.3	2,068.7	256.9	150.2	6.5	7,041.2	4,397.1	492.3	2,151.0	0.8	1,032.7	217.1	468.0
2019 Q4	2,482.3	2,068.7	256.9	150.2	6.5	7,041.2	4,397.1	492.3	2,151.0	0.8	1,032.7	217.1	468.0
2020 Q1	2,610.8	2,191.4	264.0	147.9	7.6	7,173.7	4,535.9	472.2	2,165.0	0.6	1,151.5	224.3	472.6
Q2	2,869.9	2,396.8	318.6	148.3	6.2	7,349.4	4,683.8	462.7	2,202.0	0.9	1,084.9	226.5	466.0
Q3	2,958.3	2,481.2	323.3	146.9	6.9	7,491.0	4,816.7	446.5	2,226.9	1.0	1,058.3	240.4	469.6
2020 June	2,869.9	2,396.8	318.6	148.3	6.2	7,349.4	4,683.8	462.7	2,202.0	0.9	1,084.9	226.5	466.0
July	2,918.6	2,434.2	331.8	147.2	5.3	7,395.6	4,728.0	456.2	2,210.3	1.1	1,028.2	241.4	474.4
Aug.	2,937.5	2,462.5	323.7	146.9	4.3	7,437.8	4,768.3	450.7	2,217.7	1.1	1,005.9	233.7	467.9
Sep.	2,958.3	2,481.2	323.3	146.9	6.9	7,491.0	4,816.7	446.5	2,226.9	1.0	1,058.3	240.4	469.6
Oct.	2,969.1	2,488.2	328.8	147.0	5.1	7,534.5	4,856.7	443.3	2,233.5	1.1	1,052.1	236.9	479.5
Nov. (p)	2,969.1	2,503.8	313.4	146.4	5.5	7,594.6	4,903.4	441.0	2,249.2	1.1	1,073.3	239.2	482.1
Transactions													
2017	182.3	184.0	-1.8	-0.8	1.0	255.0	305.2	-82.1	33.4	-1.5	51.6	8.0	27.3
2018	94.6	106.8	-9.7	-1.0	-1.4	326.6	325.4	-45.0	45.6	0.5	1.7	-3.6	19.2
2019	149.6	167.1	-18.9	1.7	-0.4	394.6	360.3	-26.2	61.0	-0.5	26.9	11.0	29.7
2019 Q4	34.4	38.7	-3.2	-1.9	0.8	85.7	84.2	-11.9	13.4	-0.2	-6.7	-2.4	2.5
2020 Q1	125.9	120.8	6.4	-2.2	1.0	131.3	138.1	-20.6	14.0	-0.2	116.1	6.8	4.5
Q2	261.2	206.7	55.4	0.4	-1.3	177.6	149.1	-9.2	37.4	0.3	-71.4	2.7	-6.5
Q3	94.7	88.6	6.6	-1.3	0.9	144.3	134.7	-15.6	25.0	0.1	46.1	14.6	3.9
2020 June	48.8	44.6	2.0	0.9	1.3	49.5	40.5	-2.2	11.2	0.0	-18.2	-5.6	4.7
July	56.3	42.7	15.4	-1.1	-0.7	48.9	46.0	-5.7	8.4	0.2	17.1	15.7	8.5
Aug.	18.5	27.5	-7.8	-0.3	-1.0	44.4	42.3	-5.4	7.5	-0.1	-21.0	-7.6	-6.5
Sep.	20.0	18.5	-1.0	0.1	2.5	51.0	46.4	-4.5	9.1	-0.1	50.0	6.6	1.8
Oct.	9.4	6.8	4.2	0.1	-1.8	43.3	39.8	-3.2	6.6	0.1	-7.1	-3.5	9.8
Nov. (p)	3.3	18.0	-14.6	-0.5	0.5	61.1	47.4	-2.1	15.7	0.1	24.4	2.5	2.6
Growth rates													
2017	8.7	11.3	-0.7	-0.5	12.3	4.2	9.0	-12.7	1.7	-65.3	5.4	4.0	7.1
2018	4.2	5.9	-3.4	-0.7	-16.2	5.2	8.8	-8.0	2.2	66.7	0.2	-1.7	4.6
2019	6.4	8.8	-6.8	1.2	-6.8	5.9	8.9	-5.1	2.9	-36.8	2.7	5.3	6.8
2019 Q4	6.4	8.8	-6.8	1.2	-6.8	5.9	8.9	-5.1	2.9	-36.8	2.7	5.3	6.8
2020 Q1	9.7	12.1	-2.2	-1.0	24.5	6.1	9.8	-8.5	2.4	-56.9	16.9	5.7	2.7
Q2	19.2	20.7	21.1	-1.8	-13.8	7.4	11.3	-9.4	3.6	-48.0	5.0	3.7	0.6
Q3	21.1	22.4	24.9	-3.3	23.4	7.7	11.7	-11.3	4.2	-0.2	8.2	9.9	0.9
2020 June	19.2	20.7	21.1	-1.8	-13.8	7.4	11.3	-9.4	3.6	-48.0	5.0	3.7	0.6
July	20.5	21.5	27.2	-2.8	-15.6	7.4	11.3	-10.2	3.8	-39.9	8.7	10.2	3.5
Aug.	19.9	21.3	24.6	-3.4	-31.4	7.5	11.5	-11.0	4.0	-40.8	4.8	0.8	1.1
Sep.	21.1	22.4	24.9	-3.3	23.4	7.7	11.7	-11.3	4.2	-0.2	8.2	9.9	0.9
Oct.	20.5	21.6	27.0	-3.0	-28.5	7.9	11.9	-11.4	4.4	-34.0	7.4	7.0	2.7
Nov. (p)	20.3	21.6	24.9	-3.1	2.4	8.3	12.2	-11.1	4.9	-32.9	10.9	6.8	2.8

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 ³⁾	To households ⁴⁾	To financial corporations other than MFIs and ICPFs ³⁾	To insurance corporations and pension funds			
					Adjusted loans ²⁾							
1	2	3	4	5	6	7	8	9	10	11	12	
Outstanding amounts												
2017	4,623.3	1,034.2	3,575.2	13,114.4	10,870.9	11,166.3	4,325.7	5,600.3	836.5	108.5	1,442.0	801.5
2018	4,684.1	1,008.4	3,664.3	13,416.5	11,123.0	11,483.4	4,405.0	5,741.9	849.8	126.4	1,519.9	773.6
2019	4,660.7	986.8	3,662.2	13,865.5	11,452.5	11,839.8	4,475.8	5,931.2	893.5	152.0	1,562.5	850.5
2019 Q4	4,660.7	986.8	3,662.2	13,865.5	11,452.5	11,839.8	4,475.8	5,931.2	893.5	152.0	1,562.5	850.5
2020 Q1	4,794.5	1,007.2	3,775.6	14,056.5	11,692.2	12,068.1	4,604.9	5,965.5	960.9	160.9	1,565.4	798.9
Q2	5,279.2	1,005.9	4,261.5	14,242.4	11,780.7	12,163.2	4,718.2	5,995.6	912.7	154.2	1,645.0	816.6
Q3	5,737.1	1,003.0	4,722.3	14,197.5	11,867.0	12,224.9	4,731.7	6,066.1	912.2	156.9	1,516.3	814.3
2020 June	5,279.2	1,005.9	4,261.5	14,242.4	11,780.7	12,163.2	4,718.2	5,995.6	912.7	154.2	1,645.0	816.6
July	5,563.8	1,004.6	4,547.4	14,114.6	11,808.6	12,179.6	4,727.6	6,016.4	910.0	154.5	1,489.2	816.9
Aug.	5,622.8	1,000.7	4,610.3	14,170.4	11,841.5	12,205.3	4,750.4	6,031.4	904.3	155.4	1,512.1	816.9
Sep.	5,737.1	1,003.0	4,722.3	14,197.5	11,867.0	12,224.9	4,731.7	6,066.1	912.2	156.9	1,516.3	814.3
Oct.	5,803.7	1,003.7	4,788.2	14,230.4	11,899.4	12,259.2	4,738.1	6,092.5	909.9	158.9	1,527.2	803.8
Nov. ^(p)	5,859.0	1,006.5	4,840.5	14,248.9	11,924.6	12,283.6	4,734.8	6,106.6	926.3	156.9	1,488.2	836.2
Transactions												
2017	289.1	-43.6	332.0	363.1	274.4	316.6	85.4	173.3	19.3	-3.6	63.8	24.9
2018	91.5	-28.2	119.7	375.0	307.5	382.2	124.1	166.1	-0.3	17.7	88.5	-21.1
2019	-87.2	-23.3	-64.3	452.3	378.4	422.5	115.6	200.5	41.3	21.1	30.5	43.4
2019 Q4	13.0	-14.6	27.5	94.0	78.8	103.4	6.2	59.0	7.7	5.9	-0.7	15.8
2020 Q1	145.4	19.7	125.7	242.5	253.3	247.1	135.5	40.5	68.6	8.8	20.2	-31.0
Q2	465.3	-1.8	467.1	182.2	96.5	103.5	120.7	35.8	-53.4	-6.7	74.6	11.1
Q3	258.8	-2.8	261.6	153.8	104.6	86.8	29.1	71.9	0.5	3.0	44.2	5.0
2020 June	144.4	-6.1	150.5	16.6	-17.5	-7.7	3.6	17.9	-38.8	-0.2	17.0	17.1
July	97.0	-1.4	98.3	63.4	43.2	37.0	19.0	23.4	0.4	0.5	17.8	2.4
Aug.	65.7	-3.7	69.5	60.5	36.0	28.7	21.8	18.7	-5.5	0.9	21.1	3.4
Sep.	96.1	2.3	93.8	29.8	25.3	21.2	-11.7	29.8	5.6	1.6	5.3	-0.8
Oct.	55.1	1.0	54.1	37.2	33.0	37.5	7.4	26.5	-2.6	1.7	11.7	-7.5
Nov. ^(p)	51.1	2.8	47.9	18.0	33.1	40.6	1.2	15.1	18.8	-2.0	-38.9	23.8
Growth rates												
2017	6.6	-4.0	10.2	2.8	2.6	2.9	2.0	3.2	2.3	-3.2	4.6	3.2
2018	2.0	-2.7	3.4	2.9	2.8	3.4	2.9	3.0	0.0	16.3	6.1	-2.6
2019	-1.9	-2.3	-1.8	3.4	3.4	3.7	2.6	3.5	4.8	16.1	2.0	5.5
2019 Q4	-1.9	-2.3	-1.8	3.4	3.4	3.7	2.6	3.5	4.8	16.1	2.0	5.5
2020 Q1	1.6	0.4	2.0	4.3	4.8	5.0	5.0	3.3	11.4	20.7	3.0	-0.6
Q2	13.5	0.4	17.2	4.7	4.7	4.8	6.5	3.2	3.9	16.3	7.1	0.7
Q3	18.9	0.0	24.1	4.9	4.7	4.6	6.5	3.5	2.6	7.5	9.1	0.1
2020 June	13.5	0.4	17.2	4.7	4.7	4.8	6.5	3.2	3.9	16.3	7.1	0.7
July	15.5	0.2	19.8	5.0	4.7	4.8	6.5	3.3	3.5	14.8	9.2	0.4
Aug.	16.6	-0.7	21.4	5.0	4.6	4.6	6.5	3.3	2.2	10.7	10.7	1.0
Sep.	18.9	0.0	24.1	4.9	4.7	4.6	6.5	3.5	2.6	7.5	9.1	0.1
Oct.	20.3	0.0	25.9	4.9	4.6	4.6	6.3	3.6	1.7	14.0	10.3	-1.4
Nov. ^(p)	21.4	0.3	27.2	4.8	4.8	4.7	6.3	3.6	4.2	7.4	6.9	0.8

Source: ECB.

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

2) Adjusted for loan sales and securitisation (resulting in derecognition from the MFI statistical balance sheet) as well as for positions arising from notional cash pooling services provided by MFIs.

3) In accordance with the ESA 2010, in December 2014 holding companies of non-financial groups were reclassified from the non-financial corporations sector to the financial corporations sector. These entities are included in MFI balance sheet statistics with financial corporations other than MFIs and insurance corporations and pension funds (ICPFs).

4) Including non-profit institutions serving households.

5 Money and credit

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

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

	Non-financial corporations ²⁾					Households ³⁾				
	Total		Up to 1 year	Over 1 and up to 5 years	Over 5 years	Total		Loans for consumption	Loans for house purchase	Other loans
		Adjusted loans ⁴⁾					Adjusted loans ⁴⁾			
	1	2	3	4	5	6	7	8	9	10
Outstanding amounts										
2017	4,325.7	4,360.0	985.1	821.6	2,518.9	5,600.3	5,867.2	655.0	4,216.1	729.2
2018	4,405.0	4,489.1	991.4	844.2	2,569.4	5,741.9	6,024.9	682.6	4,356.4	702.9
2019	4,475.8	4,578.4	967.5	877.9	2,630.3	5,931.2	6,223.7	720.2	4,523.7	687.4
2019 Q4	4,475.8	4,578.4	967.5	877.9	2,630.3	5,931.2	6,223.7	720.2	4,523.7	687.4
2020 Q1	4,604.9	4,706.4	1,003.0	917.4	2,684.4	5,965.5	6,254.1	715.2	4,564.7	685.6
Q2	4,718.2	4,830.2	958.0	993.2	2,767.0	5,995.6	6,276.7	701.1	4,603.7	690.7
Q3	4,731.7	4,845.3	930.7	1,014.4	2,786.6	6,066.1	6,334.1	702.6	4,667.5	696.0
2020 June	4,718.2	4,830.2	958.0	993.2	2,767.0	5,995.6	6,276.7	701.1	4,603.7	690.7
July	4,727.6	4,835.3	949.9	997.2	2,780.5	6,016.4	6,291.3	704.4	4,621.5	690.5
Aug.	4,750.4	4,858.8	943.4	1,015.5	2,791.5	6,031.4	6,307.2	702.6	4,632.7	696.1
Sep.	4,731.7	4,845.3	930.7	1,014.4	2,786.6	6,066.1	6,334.1	702.6	4,667.5	696.0
Oct.	4,738.1	4,845.2	916.5	1,011.2	2,810.4	6,092.5	6,359.4	704.7	4,690.1	697.7
Nov. ^(p)	4,734.8	4,841.1	911.4	1,004.1	2,819.3	6,106.6	6,376.3	701.9	4,708.5	696.3
Transactions										
2017	85.4	135.2	0.2	39.2	46.1	173.3	165.5	45.2	133.9	-5.8
2018	124.1	175.9	18.0	32.8	73.3	166.1	188.4	41.2	134.2	-9.3
2019	115.6	143.3	-13.1	43.5	85.3	200.5	215.5	41.0	168.6	-9.1
2019 Q4	6.2	21.7	-9.2	8.8	6.7	59.0	61.6	9.5	51.7	-2.2
2020 Q1	135.5	136.7	33.1	44.1	58.3	40.5	38.1	-3.7	45.0	-0.8
Q2	120.7	131.0	-38.8	80.9	78.6	35.8	29.1	-12.3	39.4	8.8
Q3	29.1	34.2	-22.0	15.8	35.3	71.9	59.9	5.8	65.0	1.1
2020 June	3.6	14.2	-1.2	-4.7	9.5	17.9	16.6	3.4	11.8	2.7
July	19.0	16.9	-6.8	6.7	19.2	23.4	18.3	3.8	18.9	0.7
Aug.	21.8	22.8	-2.4	8.4	15.8	18.7	19.3	2.5	16.0	0.2
Sep.	-11.7	-5.5	-12.8	0.8	0.3	29.8	22.3	-0.5	30.1	0.2
Oct.	7.4	1.6	-13.8	-2.8	24.0	26.5	26.3	2.3	22.6	1.6
Nov. ^(p)	1.2	6.2	-3.2	-5.9	10.3	15.1	19.9	-3.6	19.1	-0.5
Growth rates										
2017	2.0	3.2	0.0	5.0	1.8	3.2	2.9	7.4	3.3	-0.8
2018	2.9	4.1	1.8	4.0	2.9	3.0	3.2	6.3	3.2	-1.3
2019	2.6	3.2	-1.3	5.2	3.3	3.5	3.6	6.0	3.9	-1.3
2019 Q4	2.6	3.2	-1.3	5.2	3.3	3.5	3.6	6.0	3.9	-1.3
2020 Q1	5.0	5.5	2.9	9.1	4.4	3.3	3.4	3.8	4.0	-1.2
Q2	6.5	7.1	-1.1	16.1	6.2	3.2	3.0	0.3	4.1	0.4
Q3	6.5	7.1	-3.8	17.3	6.8	3.5	3.1	-0.1	4.5	1.0
2020 June	6.5	7.1	-1.1	16.1	6.2	3.2	3.0	0.3	4.1	0.4
July	6.5	7.1	-2.2	16.3	6.5	3.3	3.0	0.4	4.2	0.7
Aug.	6.5	7.1	-3.3	17.0	6.8	3.3	3.0	0.3	4.1	0.8
Sep.	6.5	7.1	-3.8	17.3	6.8	3.5	3.1	-0.1	4.5	1.0
Oct.	6.3	6.8	-5.2	16.4	7.2	3.6	3.2	-0.1	4.6	1.5
Nov. ^(p)	6.3	6.9	-4.6	15.1	7.4	3.6	3.1	-1.1	4.7	1.3

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 ¹⁾

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

	MFI liabilities						MFI assets			
	Central government holdings ²⁾	Longer-term financial liabilities vis-à-vis other euro area residents					Net external assets	Other		
		Total	Deposits with an agreed maturity of over 2 years	Deposits redeemable at notice of over 3 months	Debt securities with a maturity of over 2 years	Capital and reserves		Total		
								Repos with central counterparties ³⁾	Reverse repos to central counterparties ³⁾	
1	2	3	4	5	6	7	8	9	10	
Outstanding amounts										
2017	347.6	6,769.9	1,966.9	59.8	2,017.9	2,725.3	930.7	323.0	143.5	92.5
2018	389.2	6,817.4	1,940.0	56.1	2,099.7	2,721.6	1,030.0	460.2	187.0	194.9
2019	364.1	7,059.7	1,945.9	50.1	2,156.5	2,907.2	1,455.7	453.2	178.9	187.2
2019 Q4	364.1	7,059.7	1,945.9	50.1	2,156.5	2,907.2	1,455.7	453.2	178.9	187.2
2020 Q1	409.5	7,036.3	1,936.9	47.2	2,119.9	2,932.4	1,561.0	517.4	183.7	196.5
Q2	673.3	7,041.2	1,932.7	44.1	2,080.0	2,984.4	1,558.6	532.3	159.2	174.3
Q3	806.2	7,038.1	1,932.7	43.0	2,059.2	3,003.2	1,568.8	503.4	139.9	147.3
2020 June	673.3	7,041.2	1,932.7	44.1	2,080.0	2,984.4	1,558.6	532.3	159.2	174.3
July	756.1	7,043.9	1,933.7	43.6	2,047.0	3,019.6	1,536.6	555.7	162.3	174.1
Aug.	819.5	7,025.4	1,937.4	43.1	2,033.3	3,011.7	1,552.2	503.6	170.4	177.6
Sep.	806.2	7,038.1	1,932.7	43.0	2,059.2	3,003.2	1,568.8	503.4	139.9	147.3
Oct.	864.3	7,036.3	1,931.9	42.7	2,036.0	3,025.8	1,574.7	530.0	148.7	154.3
Nov. ^(p)	753.6	6,941.1	1,923.8	42.4	2,006.3	2,968.6	1,459.6	461.6	148.2	147.6
Transactions										
2017	41.8	-73.6	-83.5	-6.6	-71.1	87.5	-96.7	-53.5	-61.2	-28.5
2018	45.5	51.0	-37.8	-4.9	16.1	77.6	88.4	42.6	16.2	23.6
2019	-24.4	105.7	-5.3	-3.3	27.4	87.0	309.4	17.2	-2.7	-2.5
2019 Q4	-21.1	3.8	-1.5	-3.4	-11.9	20.6	-3.9	-4.8	-5.3	-10.9
2020 Q1	45.7	-46.2	-6.7	-2.9	-47.5	10.9	66.1	8.8	4.7	9.3
Q2	264.0	-1.7	-2.4	-3.1	-14.3	18.0	-31.9	60.2	-24.5	-22.2
Q3	69.2	5.2	-3.1	-1.1	0.6	8.8	29.1	-19.5	-19.3	-27.1
2020 June	73.0	0.0	-0.9	-1.1	-6.6	8.6	7.8	7.4	-37.3	-37.0
July	19.3	-8.9	-1.4	-0.5	-8.1	1.2	-25.8	35.5	3.2	-0.2
Aug.	63.3	3.4	4.3	-0.5	-10.9	10.5	33.2	-56.9	8.1	3.5
Sep.	-13.5	10.7	-6.0	-0.1	19.6	-2.8	21.8	2.0	-30.5	-30.3
Oct.	58.2	-11.6	0.1	-0.3	-24.4	13.0	2.7	24.9	8.8	7.1
Nov. ^(p)	-110.7	-31.6	0.7	-0.3	-19.4	-12.6	-62.1	-45.0	-0.5	-6.7
Growth rates										
2017	13.4	-1.1	-4.0	-9.6	-3.4	3.4	-	-	-29.8	-23.5
2018	13.0	0.8	-1.9	-8.0	0.8	2.9	-	-	8.1	7.7
2019	-6.3	1.5	-0.3	-5.9	1.3	3.1	-	-	-1.5	-1.5
2019 Q4	-6.3	1.5	-0.3	-5.9	1.3	3.1	-	-	-1.5	-1.5
2020 Q1	11.7	0.2	-0.1	-11.1	-2.6	2.8	-	-	-0.3	0.6
Q2	81.0	-0.5	-1.3	-19.5	-3.3	2.5	-	-	-10.5	-8.8
Q3	91.8	-0.5	-0.7	-19.4	-3.4	2.0	-	-	-24.1	-25.6
2020 June	81.0	-0.5	-1.3	-19.5	-3.3	2.5	-	-	-10.5	-8.8
July	85.5	-0.6	-0.1	-20.3	-4.1	2.1	-	-	-15.3	-15.6
Aug.	89.8	-0.2	1.2	-20.6	-4.3	2.4	-	-	-13.6	-16.6
Sep.	91.8	-0.5	-0.7	-19.4	-3.4	2.0	-	-	-24.1	-25.6
Oct.	108.5	-0.6	-0.8	-17.5	-3.8	2.1	-	-	-32.8	-34.6
Nov. ^(p)	85.3	-1.2	-0.8	-17.1	-4.8	1.3	-	-	-30.0	-34.3

Source: ECB.

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

2) Comprises central government holdings of deposits with the MFI sector and of securities issued by the MFI sector.

3) Not adjusted for seasonal effects.

6 Fiscal developments

6.1 Deficit/surplus

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

	Deficit (-)/surplus (+)					Memo item: Primary deficit (-)/surplus (+)
	Total	Central government	State government	Local government	Social security funds	
	1	2	3	4	5	6
2016	-1.5	-1.7	0.0	0.2	0.1	0.6
2017	-0.9	-1.4	0.1	0.2	0.1	1.0
2018	-0.5	-1.0	0.1	0.2	0.3	1.4
2019	-0.6	-1.0	0.1	0.0	0.2	1.0
2019 Q3	-0.8	.	.	.	.	0.9
Q4	-0.6	.	.	.	.	1.0
2020 Q1	-1.1	.	.	.	.	0.5
Q2	-3.7	.	.	.	.	-2.1

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

6.2 Revenue and expenditure

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

	Revenue						Expenditure						
	Total	Current revenue				Capital revenue	Total	Current expenditure				Capital expenditure	
		Direct taxes	Indirect taxes	Net social contributions	Compensation of employees			Intermediate consumption	Interest	Social benefits			
	1	2	3	4	5	6	7	8	9	10	11	12	13
2016	46.3	45.8	12.6	13.0	15.3	0.5	47.7	44.2	10.0	5.4	2.1	22.7	3.6
2017	46.2	45.8	12.8	13.0	15.2	0.4	47.2	43.3	9.9	5.3	1.9	22.4	3.8
2018	46.5	46.0	13.0	13.0	15.2	0.5	46.9	43.2	9.9	5.3	1.8	22.3	3.7
2019	46.4	46.0	12.9	13.1	15.1	0.5	47.1	43.3	9.9	5.3	1.6	22.5	3.8
2019 Q3	46.4	45.9	12.8	13.1	15.1	0.5	47.1	43.3	9.9	5.3	1.7	22.4	3.8
Q4	46.4	46.0	12.9	13.1	15.1	0.5	47.1	43.3	9.9	5.3	1.6	22.5	3.8
2020 Q1	46.5	46.1	13.0	13.0	15.1	0.5	47.6	43.8	10.0	5.4	1.6	22.8	3.8
Q2	46.7	46.2	13.0	12.9	15.4	0.5	50.4	46.5	10.4	5.7	1.6	24.0	3.9

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

6.3 Government debt-to-GDP ratio

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

	Total	Financial instrument			Holder			Original maturity		Residual maturity			Currency	
		Currency and deposits	Loans	Debt securities	Resident creditors	Non-resident creditors	Up to 1 year	Over 1 year	Up to 1 year	Over 1 and up to 5 years	Over 5 years	Euro or participating currencies	Other currencies	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
2016	90.1	3.3	15.7	71.0	47.5	30.8	42.6	9.4	80.7	17.9	29.9	42.3	87.9	2.2
2017	87.7	3.2	14.6	70.0	48.2	32.1	39.5	8.6	79.0	16.5	29.0	42.3	85.8	1.9
2018	85.8	3.1	13.8	68.8	48.0	32.4	37.8	8.1	77.7	16.1	28.4	41.3	84.2	1.6
2019	84.0	3.0	13.1	67.9	45.4	30.6	38.6	7.7	76.3	15.7	27.9	40.4	82.6	1.4
2019 Q3	85.8	3.2	13.3	69.2	.	.	.	.	.	.	.	.	.	.
Q4	84.0	3.0	13.1	67.9	.	.	.	.	.	.	.	.	.	.
2020 Q1	86.3	3.1	13.4	69.8	.	.	.	.	.	.	.	.	.	.
Q2	95.1	3.2	14.4	77.6	.	.	.	.	.	.	.	.	.	.

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

6 Fiscal developments

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

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

	Change in debt-to-GDP ratio ²⁾	Primary deficit (+)/surplus (-)	Deficit-debt adjustment							Interest-growth differential	Memo item: Borrowing requirement	
			Total	Transactions in main financial assets				Revaluation effects and other changes in volume	Other			
				Total	Currency and deposits	Loans	Debt securities					Equity and investment fund shares
	1	2	3	4	5	6	7	8	9	10	11	12
2016	-0.8	-0.6	0.2	0.3	0.3	-0.1	0.0	0.1	0.0	-0.1	-0.4	1.6
2017	-2.4	-1.0	-0.1	0.4	0.5	0.0	-0.2	0.1	-0.1	-0.4	-1.3	0.9
2018	-1.9	-1.4	0.4	0.5	0.4	-0.1	0.0	0.2	0.0	-0.1	-1.0	0.8
2019	-1.7	-1.0	0.1	0.3	0.0	0.0	0.1	0.2	-0.2	0.0	-0.9	0.9
2019 Q3	-1.2	-0.9	0.6	0.3	0.2	-0.1	0.0	0.2	-0.1	0.3	-0.9	1.4
Q4	-1.7	-1.0	0.1	0.3	0.0	0.0	0.1	0.2	-0.2	0.0	-0.9	0.9
2020 Q1	-0.1	-0.5	0.5	0.7	0.5	0.0	0.0	0.1	-0.2	0.0	0.0	1.8
Q2	8.9	2.1	3.5	3.0	2.8	0.2	-0.1	0.2	-0.2	0.7	3.4	7.4

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

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

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

6.5 Government debt securities ¹⁾

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

	Debt service due within 1 year ²⁾					Average residual maturity in years ³⁾	Average nominal yields ⁴⁾						
	Total	Principal		Interest			Outstanding amounts				Transactions		
		Maturities of up to 3 months	Maturities of up to 3 months	Total	Floating rate		Zero coupon	Fixed rate	Maturities of up to 1 year	Issuance	Redemption		
												7	8	9	10	11	12	13
1	2	3	4	5	6	7	8	9	10	11	12	13	
2017	12.9	11.2	4.2	1.7	0.4	7.1	2.4	1.1	-0.2	2.8	2.3	0.3	1.1
2018	12.6	11.1	3.7	1.5	0.4	7.3	2.3	1.1	-0.1	2.7	2.5	0.4	0.9
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
2019 Q3	12.7	11.2	3.8	1.4	0.4	7.4	2.2	1.3	-0.1	2.6	2.3	0.3	1.0
Q4	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 Q1	12.3	10.9	4.1	1.4	0.4	7.5	2.1	1.2	-0.2	2.4	2.0	0.1	1.0
Q2	14.7	13.3	4.7	1.4	0.4	7.5	2.0	1.1	-0.2	2.3	2.0	0.1	0.9
2020 July	14.5	13.1	4.6	1.4	0.4	7.5	1.9	1.1	-0.2	2.3	2.1	0.1	1.0
Aug.	14.8	13.4	5.1	1.4	0.3	7.4	1.9	1.1	-0.2	2.3	2.2	0.1	0.9
Sep.	15.2	13.8	4.4	1.4	0.3	7.5	1.9	1.1	-0.2	2.3	2.2	0.1	0.8
Oct.	15.0	13.6	3.9	1.4	0.3	7.6	1.9	1.1	-0.2	2.2	2.2	0.0	0.8
Nov.	14.6	13.3	3.7	1.4	0.3	7.7	1.9	1.1	-0.2	2.2	2.1	0.0	0.8
Dec.	14.2	12.9	4.0	1.4	0.3	7.7	1.8	1.1	-0.2	2.2	2.1	0.0	.

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 (+)										
2016	-2.4	1.2	-0.4	-0.7	0.5	-4.3	-3.6	-2.4	0.3	
2017	-0.7	1.4	-0.7	-0.3	0.7	-3.0	-3.0	-2.4	1.9	
2018	-0.8	1.8	-0.5	0.1	1.0	-2.5	-2.3	-2.2	-3.5	
2019	-1.9	1.5	0.1	0.5	1.5	-2.9	-3.0	-1.6	1.5	
2019 Q3	-1.8	1.5	-0.7	0.6	0.6	-2.7	-3.2	-2.0	2.0	
Q4	-2.0	1.5	0.1	0.5	1.5	-2.9	-3.0	-1.6	1.5	
2020 Q1	-2.6	1.2	-0.9	0.0	1.1	-3.4	-3.6	-2.3	2.0	
Q2	-5.7	-1.4	-2.9	-2.1	-1.7	-6.9	-5.8	-4.7	-2.3	
Government debt										
2016	105.0	69.3	9.9	74.1	180.8	99.2	98.0	134.8	103.1	
2017	102.0	65.1	9.1	67.0	179.2	98.6	98.3	134.1	93.5	
2018	99.8	61.8	8.2	63.0	186.2	97.4	98.1	134.4	99.2	
2019	98.1	59.6	8.4	57.4	180.5	95.5	98.1	134.7	94.0	
2019 Q3	102.2	61.0	9.0	61.3	178.1	97.5	100.1	136.8	96.5	
Q4	98.7	59.6	8.4	57.4	176.6	95.5	98.1	134.7	94.0	
2020 Q1	104.3	61.1	8.9	59.0	176.9	99.0	101.3	137.6	96.1	
Q2	115.3	67.4	18.5	62.7	187.4	110.1	114.1	149.4	113.2	
	Latvia 10	Lithuania 11	Luxembourg 12	Malta 13	Netherlands 14	Austria 15	Portugal 16	Slovenia 17	Slovakia 18	Finland 19
Government deficit (-)/surplus (+)										
2016	0.2	0.2	1.9	0.9	0.0	-1.5	-1.9	-1.9	-2.6	-1.7
2017	-0.8	0.5	1.3	3.2	1.3	-0.8	-3.0	-0.1	-0.9	-0.7
2018	-0.8	0.6	3.1	2.0	1.4	0.2	-0.3	0.7	-1.0	-0.9
2019	-0.6	0.3	2.4	0.5	1.7	0.7	0.1	0.5	-1.4	-1.0
2019 Q3	-1.4	-0.3	3.8	0.5	1.3	0.2	-0.2	0.7	-1.1	-1.9
Q4	-0.6	0.3	2.4	0.5	1.7	0.7	0.1	0.5	-1.3	-1.0
2020 Q1	-0.7	-0.2	1.4	-1.7	1.5	0.4	-0.1	-0.8	-1.9	-1.1
Q2	-1.7	-2.4	-1.8	-5.1	-1.5	-3.8	-1.9	-4.7	-3.6	-3.4
Government debt										
2016	40.4	39.7	20.1	54.5	61.9	82.8	131.5	78.5	52.4	63.2
2017	39.0	39.1	22.3	48.8	56.9	78.5	126.1	74.1	51.7	61.3
2018	37.1	33.7	21.0	45.2	52.4	74.0	121.5	70.3	49.9	59.6
2019	36.9	35.9	22.0	42.6	48.7	70.5	117.2	65.6	48.5	59.3
2019 Q3	37.1	35.4	20.0	42.9	49.3	71.1	119.6	67.7	48.8	60.1
Q4	36.9	35.9	22.0	42.6	48.7	70.5	117.2	65.6	48.3	59.3
2020 Q1	37.1	33.0	22.2	44.0	49.5	73.1	119.5	69.0	49.6	64.3
Q2	42.9	41.4	23.8	51.1	55.2	82.6	126.1	78.2	60.2	68.7

Source: Eurostat.

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