EUROPEAN CENTRAL BANK

EUROSYSTEM

Annual Report

2020

Contents

The year at a glance

The euro area economy was struck by the extraordinary and severe coronavirus (COVID-19) pandemic shock in 2020. Economic activity contracted sharply during the first half of the year as a consequence of lockdown measures and heightened risk aversion. The strong and coordinated monetary and fiscal policy reaction, combined with positive news on vaccines, helped stabilise activity in the second half of the year. Overall, euro area GDP contracted by 6.6% in 2020. Annual headline inflation declined to 0.3%, from 1.2% in 2019, in large part as a result of falling energy prices, although there were also factors relating to the pandemic. For example, sectors that were hardest hit by the crisis, such as transport and hotels, contributed to the fall in inflation during the second half of the year.

The ECB substantially eased its monetary policy stance to counter the negative impact of the pandemic on the euro area economy, through a comprehensive set of measures that were recalibrated in the course of the year. This included: introducing a new, temporary, pandemic emergency purchase programme; relaxing eligibility and collateral criteria; and offering new longer-term refinancing operations. The monetary policy response was a crucial stabilising force for markets and helped to counter the serious risks posed by the pandemic to the monetary policy transmission mechanism, the outlook for the euro area economy and, ultimately, the ECB's price stability objective. In addition, macroprudential policies focused on maintaining the flow of credit to the economy, while ECB Banking Supervision introduced microprudential measures to moderate the impact of the crisis and promote the resilience of the European banking sector.

In January, the Governing Council launched a review of the ECB's monetary policy strategy, to ensure it remains fit for purpose. The review aims to thoroughly analyse the implications of the profound changes that have occurred since the previous review in 2003. These include the persistent decline in inflation and equilibrium interest rates, and the impacts of globalisation, digitalisation and climate change. The review will consider whether and how the ECB should adjust its monetary policy strategy in response, and is expected to be concluded in the second half of 2021.

The ECB is exploring all possible ways within its mandate in which it could contribute to limiting the potentially substantial economic and social consequences of climate change. This includes careful analysis across relevant policy areas, investing the ECB's pension fund and own funds portfolios in a sustainable and responsible fashion and focusing on the carbon footprint of the ECB itself. The ECB has recently created a climate change centre in order to shape and steer its climate agenda.

The Eurosystem has developed a comprehensive retail payments strategy to harness the innovative potential of digitalisation, focusing on enabling instant payments, developing a pan-European payment solution and investigating the possibility of a digital euro. A public consultation on a digital euro was launched in October 2020 to ensure that any new form of money and payments the Eurosystem may provide would retain the public's trust.

The ECB enhanced its communication and outreach in 2020 to meet the challenges posed by the pandemic and to better understand the economic concerns and imperatives of European citizens. It also introduced the ECB Blog. 19 posts were published in 2020, with many focusing on the ECB’s response to the crisis. The first ECB Listens event took place in October 2020, and the ECB Listens Portal received almost 4,000 comments on the monetary policy strategy.

2020 was a year of intense and urgent activity, which was conducted in close cooperation with European institutions but also with other central banks across the world to confront the immense exogenous shock faced by the global economy. The ECB played its part.

Frankfurt am Main, April 2021

Christine Lagarde

President

The year in figures

The economy shrank as a result of the COVID-19 pandemic

-6.6%

Euro area economic activity developed unevenly in 2020 as a consequence of the pandemic, contracting sharply in the first half of the year and recovering partly in the second half. Overall, GDP fell by 6.6% compared with 2019.

Inflation declined over the course of the year

0.3%

Average inflation in the euro area fell to 0.3% in 2020 from 1.2% in 2019, as price developments were also strongly affected by the pandemic.

Lending rates for firms stabilised at a historical low

1.46%

Lending rates for firms stabilised at a historical low of 1.46% following decisive policy action by the ECB.

Extra liquidity supported the funding of businesses and households

€2.2 trillion

Central bank liquidity in the banking system increased by €2.2 trillion on account of the ECB's measures to support funding conditions in the economy and safeguard medium-term price stability.

Macroprudential measures taken to address the impact of the COVID-19 pandemic

116 decisions assessed

The ECB encouraged and supported the policy actions of macroprudential authorities to reduce the impact of the pandemic on both the stability of the financial system and the economy.

Rapid rise in electronic payments, but cash remains dominant

10%

In parallel with a rapid rise in the use of electronic means of payment, the number and value of banknotes in circulation grew by around 10%, with cash remaining the dominant method for in-person retail payments in the euro area.

Reduction in ECB carbon emissions per workplace

-75%

The ECB has reduced its carbon emissions by 75% per workplace since the establishment of its environmental policy in 2008.

Active ECB outreach on a variety of social media platforms

2.8 million

People interacted 2.8 million times with ECB posts on social media.

1 The economy was hit by the extraordinary and severe pandemic shock

In 2020 the global economy underwent a deep recession amid unprecedented challenges. The COVID-19 shock was, however, of a more exogenous nature than the factors behind the previous crises in 2008 and 2011-12. While in previous crisis episodes specific problems in the financial sector had taken centre stage, the recession in 2020 had its root cause outside the economy. The spread of COVID-19 had a very severe impact on economic activity, initially in China and later at the global level. International trade contracted sharply, the functioning of global value chains was severely impaired and uncertainty in global financial markets soared.

The euro area economy also suffered the intense impact of the pandemic. The impact could be seen, for instance, in consumption, which contracted sharply in the first half of the year as a consequence of widespread lockdown measures and heightened risk aversion. Activity, especially in the services sector, also weakened markedly in view of a lack of demand and restrictions on activity. As a result, real GDP contracted at exceptionally fast rates in the second quarter of the year. At the same time, monetary and fiscal policymakers acted promptly and with determination to address the collapse in demand and the high levels of uncertainty, inter alia ensuring favourable and stable financing conditions and continued access to liquidity. From the onset of the COVID-19 crisis, expectations about the depth and duration of the recession were greatly affected by the prospects for medical solutions, especially a vaccine. Together with strong and coordinated policy action, positive news in the late autumn relating to progress in vaccine development led to a gradual rebuilding of confidence. While growth developments remained volatile in the second half of the year when a renewed wave of contagion hit, growth expectations firmed and stabilised. Price developments were also strongly affected by the pandemic. As a result of faltering demand, lower oil prices and weakened activity, HICP inflation declined over the course of the year and hovered in negative territory from August onwards. Other factors, such as the temporary reduction in the German VAT rate in the second half of the year, also pushed inflation down. At the same time, the expectation of a solid recovery in 2021 and a reversal of temporary factors such as the German VAT rate reduction underpinned the prospect of a pick-up in inflation. Decisive policy action kept credit and financing conditions supportive and largely offset the tightening impact on banks' credit standards stemming from the deterioration in the risk environment. Although the market dislocation induced by the pandemic shock led to a sharp tightening of financial conditions in March, swift policy action contributed to an overall decline of euro area government bond yields in 2020 and to the gradual recovery of euro area equity prices in the second half of the year from their pandemic lows. The period of high uncertainty also led to an acceleration in money and credit growth, reflecting a strong preference for and the build-up of liquidity by firms and households.

1.1 The pandemic caused a deep economic slump

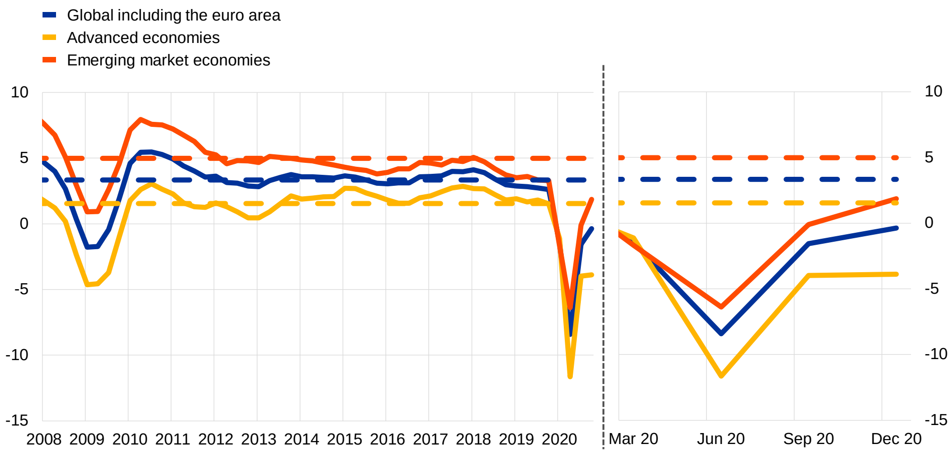
The coronavirus caused the largest contraction in the global economy since the Great Depression, but positive vaccine news led to a gradual rebuilding of confidence

The development of the COVID-19 pandemic, along with the accompanying virus containment measures and policy support to cushion the economic impact of the pandemic, were the key determinants of the growth trend at the global level. The global economy was hit by a sharp external shock and overall governments responded with strong policy support to cushion the pandemic's economic impact. After reaching a trough in the second quarter of 2020 due to the virus containment measures, the global economy started to recover in the third quarter as the pandemic and containment measures eased and news of effective vaccines emerged. However, the second wave of the pandemic and the reintroduction of strict containment measures in some advanced economies slowed down growth considerably in the last quarter of the year (see Chart 1). Across large emerging market economies, quarterly growth was negative in the first half of 2020, but recovered strongly in the second half.

Chart 1

Global GDP growth

(annual percentage changes; quarterly data)



Sources: Haver Analytics, national sources and ECB calculations.
Notes: Regional aggregates are computed using GDP adjusted with purchasing power parity weights. The solid lines indicate data and go up to the fourth quarter of 2020. The dashed lines indicate the long-term averages (between the first quarter of 1999 and the fourth quarter of 2020). The latest observations are for 25 February 2021.

The sharp global economic contraction was mainly driven by a substantial decline in services sector output, which was affected strongly by the pandemic containment measures, and a contraction in trade and investment. Manufacturing sector output growth recovered faster than services sector output growth, supported by government stimulus plans, increased demand for electronics, computers and medical products, and the quicker removal of pandemic containment measures compared with the more face-to-face services sector.

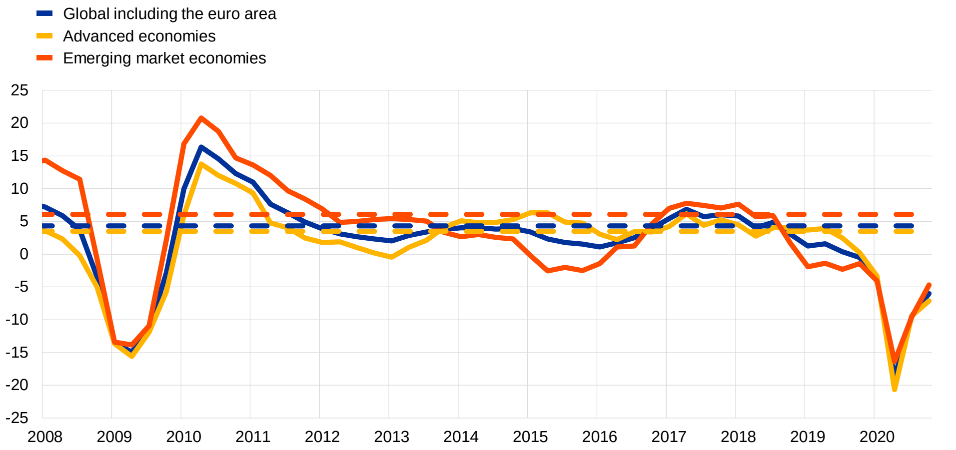
Trade and investment contracted considerably in 2020, driven by virus containment measures and trade disruptions

COVID-19-related disruptions and uncertainty rose sharply and remained elevated, weakening the global economy. The pandemic also disrupted international trade and global supply chains. These disruptions moderately eased in the second half of 2020 as virus containment measures were only partly lifted. Despite the US-China phase-one deal, trade tensions between the two countries remained elevated, as shown by a range of different indicators. Amid elevated trade tensions, the pandemic's hit to demand and earlier enacted tariffs drove the sharp decline in trade, while the increased uncertainty and deteriorating economic sentiment held back investment (see Chart 2).

Chart 2

Global trade growth (import volumes)

(annual percentage changes; quarterly data)



Sources: Haver Analytics, national sources and ECB calculations.
Notes: Global trade growth is defined as growth in global imports including the euro area. The solid lines indicate data and go up to the fourth quarter of 2020. The dashed lines indicate the long-term averages (between the fourth quarter of 1999 and the fourth quarter of 2020). The latest observations are for 25 February 2021.

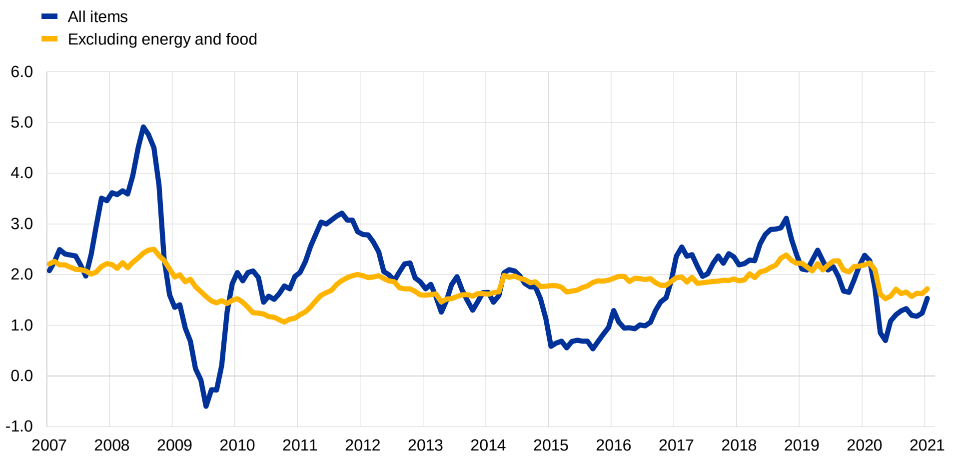
Headline inflation fell, but core inflation decreased less

Global inflation declined in 2020, reflecting weak global demand linked to the pandemic (see Chart 3) and the sharp decline in the prices of many commodities. In the OECD area, headline annual consumer price inflation fell from around 2% in the second half of 2019 to 1.2% in December 2020 on account of falling energy prices and slowing food price inflation. Underlying inflation (excluding energy and food) declined less than headline inflation to around 1.6% at the end of 2020.

Chart 3

OECD consumer price inflation rates

(annual percentage changes; monthly data)



Source: Organisation for Economic Co-operation and Development (OECD).
Note: The latest observations are for January 2021.

Oil prices fluctuated, driven by expectations of weak global demand

Oil prices declined sharply in the first half of the year, following the sharp fall in global demand, in particular as travel and work-from-home restrictions led to lower oil consumption. The price of the international benchmark Brent crude oil fluctuated widely between USD 20 (its lowest level in two decades) and USD 70 per barrel in 2020. The price of the US benchmark West Texas Intermediate oil fell below zero for a brief period in April.

The euro appreciated against currencies of euro area trading partners

The euro appreciated by around 7% in nominal effective terms over the course of 2020. In bilateral terms, this was driven by an appreciation of the euro mainly against the US dollar. The euro-pound sterling exchange rate rose, but exhibited significant volatility throughout 2020 mainly on account of changing expectations relating to Brexit.

The risks to global activity were tilted to the downside, but the prospect of a medical solution could boost the economic recovery

At the end of 2020, in the context of positive developments regarding COVID-19 vaccines, the outlook for global growth entailed a strong recovery in 2021. This outlook was highly uncertain however and, on balance, the risks to global activity were tilted to the downside, as the surge in new infections and further containment measures in major economies were affecting the pace of the recovery.[1]

1.2 The euro area economy co-moved closely with the global economy[2]

Unprecedented fall in euro area economic activity driven by COVID-19 and the associated containment measures

Following a moderation in economic activity in 2019, euro area real GDP contracted by 6.6% in 2020 (see Chart 4). The dramatic decline in economic activity and its unevenness throughout 2020 were the consequences of the impact of the COVID-19 pandemic shock and the associated lockdown measures implemented to contain the spread of the virus. The first wave of the pandemic hit euro area countries mainly between March and April, at a speed and with an intensity which were unprecedented, and was accompanied by strict economy-wide containment measures in most countries. As a result of these measures, euro area economic activity contracted by a cumulative 15.3% in the first half of 2020. The containment of the pandemic and the lifting of the containment measures, as of May 2020 in the majority of countries, led to a strong rebound in activity in the third quarter. However, by the autumn economic activity had started to decelerate again and the renewed spike in infections generated a further round of lockdowns in the final quarter of the year, which were however more targeted than those in place during the first wave. While the pandemic above all constituted a common shock hitting all economies, the economic impact of the pandemic was also heterogeneous to some degree across euro area countries, largely due to the different exposures to the sectors most affected by social distancing measures and also reflecting differences in the intensity of the health crisis itself and in the extent and character of the implemented stimulus measures. By the end of 2020 economic activity was 4.9% below pre-pandemic levels in the euro area, featuring

1 The outlook at the end of 2020 anticipated a medical solution to the pandemic and the widespread administration of vaccines starting in the middle of 2021.

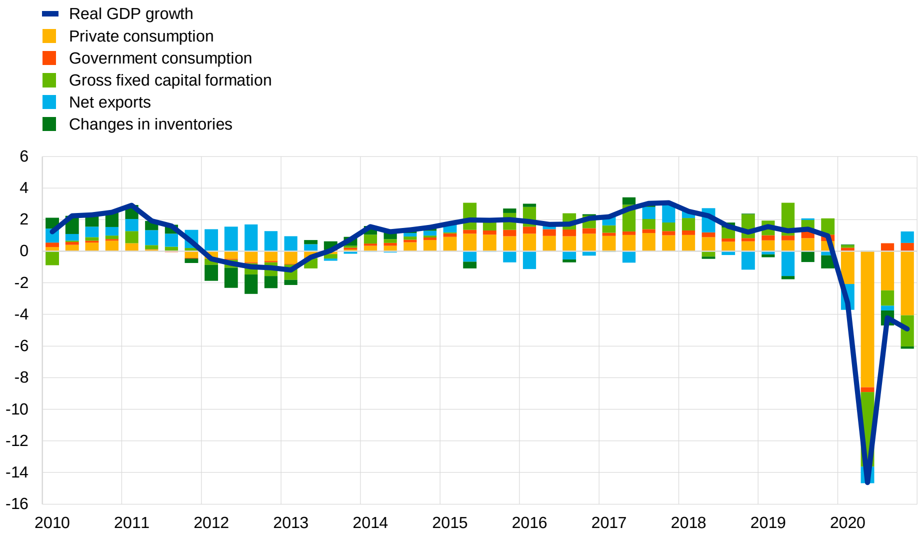
2 Section 1.2 reflects data from Eurostat's second estimate released on 9 March 2021.

considerable heterogeneity across countries, with Spain 9.1% below its pre-pandemic level and the Netherlands 3.0% below its pre-pandemic level.

Chart 4

Euro area real GDP

(annual percentage changes; percentage point contributions)



Source: Eurostat.
Note: The latest observations are for the fourth quarter of 2020.

Compared with recent long-lasting recessionary episodes, such as the 2008-09 global financial crisis or the 2011-12 euro area sovereign debt crisis, the recession accompanying the pandemic was more acute in the early phases. At the same time, strong signals and expectations of a recovery emerged much earlier than in other crises. This mainly reflected the exogenous nature of the COVID-19 shock, the role of timely and determined monetary and fiscal policy measures, and progress in developing vaccines, as well as the much more contained feedback loops with the financial sector compared with previous crisis episodes, the latter also helped by the targeted central bank measures.

Euro area private consumption decreased by 8.0% in 2020, declining particularly strongly in the first half of 2020 mainly on account of the lockdown measures. As losses in real disposable income caused by the lockdowns were buffered by substantial public transfers, the decline in consumption was also reflected in a sharp increase in the saving rate. As lockdown measures were eased significantly in the third quarter of 2020, private consumption showed a robust rebound, which was however interrupted in the final quarter of the year during the second wave of the pandemic. By the end of 2020 private consumption remained below pre-pandemic levels in the context of the hit to labour markets and the high degree of uncertainty.

Business investment also collapsed in the first half of 2020. As a result of the implemented lockdown measures and the ensuing severe falls in revenue, firms postponed investment decisions. Furthermore, impaired global and domestic demand continued to act as a drag on investment. In the second half of the year the business investment outlook was characterised by further heightened uncertainty amid a second wave of the pandemic and the expectation of lasting moderate developments in view of a weakened external environment, more moderate final demand and the observed deterioration in corporate balance sheets.

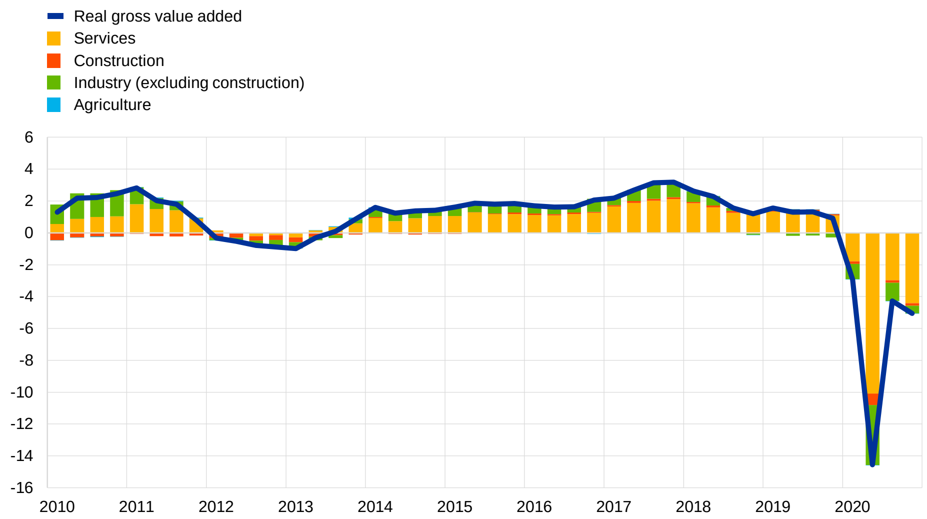
The net contribution by the external sector to euro area output was also negative in 2020. The lockdown in China, imposed to suppress COVID-19, dented euro area trade at the beginning of the year and the measures to contain the spread of the virus in Europe led to a slump in both imports and exports in the second quarter, with exports being hit the hardest by the temporary closure of business activities. Over the summer months the easing of restrictions paved the way for a rebound in trade flows, with improvements lagging behind in the hardest-hit travel, tourism and hospitality sectors. The renewed wave of the pandemic slowed down the recovery of euro area trade, which was incomplete at the end of the year.

The impact of COVID-19 on output growth was also uneven across sectors, with the services sector contributing the most to the fall in real gross value added, reflecting its particular exposure to social distancing measures as well as the sectoral composition of the euro area economy (see Chart 5).

Chart 5

Euro area real gross value added by economic activity

(annual percentage changes; percentage point contributions)



Source: Eurostat.
Note: The latest observations are for the fourth quarter of 2020.

Euro area labour markets weakened, although government policies helped to cushion the impact on unemployment

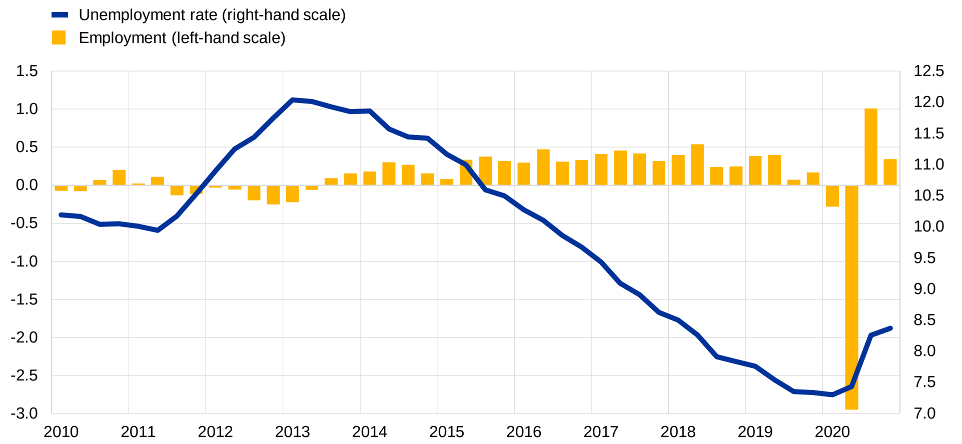
Employment losses in 2020 remained contained, reflecting the impact of job retention schemes

While employment growth was also significantly affected by the pandemic, labour market policies shaped the outcomes in euro area labour markets in 2020 (see Chart 6). Compared with the large and rapid contraction of economic activity by about 15% during the first half of 2020, the employment contraction was smaller, but still very significant. Total employment decreased by about 5 million people over the same period, which brought employment back to pre-2018 levels. Government support measures across euro area countries helped to limit job dismissals (see Box 1 for a discussion on job retention schemes). In comparison with previous economic and financial crises, euro area governments increased the number of workers covered by job retention schemes, which greatly limited job lay-offs, thereby helping to preserve firm and worker-specific human capital. Nevertheless, the labour force participation rate decreased significantly during the pandemic crisis and about 3 million people moved out of the labour force during the first half of 2020. The ongoing labour market adjustment has affected workers differently because of the relevance of the current crisis for the services sector and for the firms most affected by social distancing measures and mobility restrictions. In particular, the labour force contracted by almost 7% for people with low skills and 5.4% for those with medium skills, but it actually grew by 3.3% for those with high skills.

Chart 6

Labour market indicators

(percentage of the labour force; quarter-on-quarter growth rate; seasonally adjusted)



Source: Eurostat.
Note: The latest observations are for the fourth quarter of 2020.

The increase in the unemployment rate was smaller than in previous recessions

Employment contracted by 1.9% in 2020, while the unemployment rate rose to 8.4%. The increase in the unemployment rate was smaller than in previous recessions, such as the ones in 2008-09 and 2011-12, also thanks to the timely and extensive response of euro area governments. At the same time, hourly labour productivity growth averaged around 1% in 2020 and was buffered by the significant reduction in hours worked because of the use of job retention schemes.

Box 1
The medium and long-term economic impact of COVID-19

Euro area labour markets have reacted to the economic consequences of the COVID-19 pandemic in a rather resilient fashion, supported by economic policies – such as job retention schemes and loan guarantees – which have helped to limit employment losses and to avoid an abrupt surge in firm exits as a result of the pandemic. In order to prevent long-term scars from the crisis, and also to avoid impeding the necessary restructuring of the economy, the design and timing of the exit strategies for these policies will be as important as those of the support packages themselves. Looking ahead, the long-term consequences of the pandemic for labour mobility, as well as the increasing adoption of digitalisation, may call for significant job and firm reallocation.

In a recent survey of leading euro area companies, considerable emphasis was placed on how the pandemic has accelerated the take-up of digital technologies, raising productivity but reducing employment in the long term.[3] When asked to explain, in order of importance, up to three ways in which the pandemic would have a long-term impact on their businesses, the most frequently cited effects related to the increased use of the "home office" environment and the accelerated use of digital technologies. Other factors widely mentioned were a more permanent reduction in business travel and/or an increase in virtual meetings, as well as increased e-commerce (or – in business-to-business segments – "virtual selling"). A large majority of the respondents agreed that their business would be more efficient and/or more resilient as a consequence of what had been learned during the pandemic. Around three-quarters of respondents said that a significantly higher share of their workforce would work remotely in the long term. At the same time, they did not believe that remote working would reduce staff productivity. In this regard, while reduced informal personal interaction was seen as a downside, many advantages were also perceived, including the time gains due to diminished commuting needs, the possibility to better juggle home and work commitments, and increased connectivity. Consistent with this, more than half of the respondents said that productivity in their business or sector would increase, while hardly any saw productivity decreasing as a long-term consequence of the pandemic. Conversely, more than half anticipated a negative long-term impact on employment, compared with only around 10% who saw a positive long-term effect on employment. Views on the long-term impact on sales as well as prices, costs and wages were more mixed, but on balance negative.

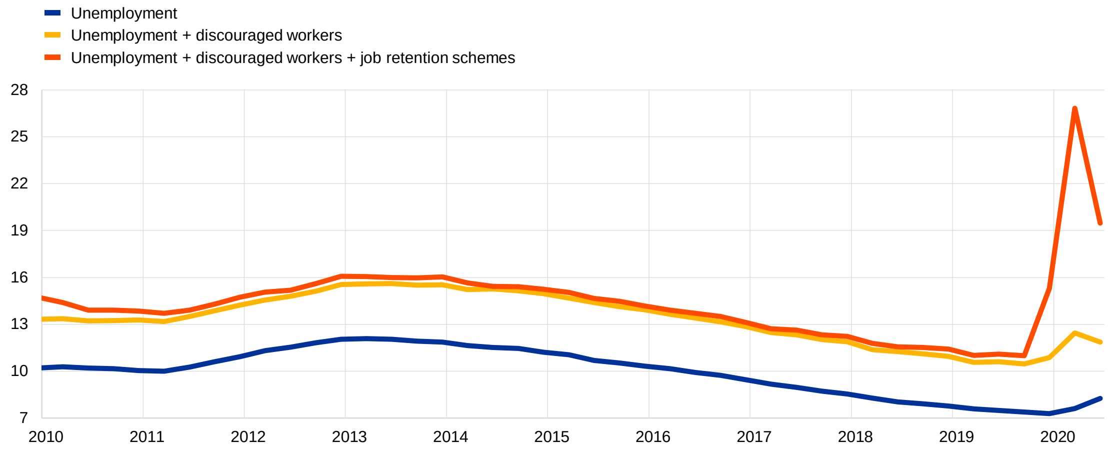
The pandemic crisis has had a significant impact on the euro area labour market. The euro area unemployment rate (see Chart A, blue line) has shown a muted response compared with the contraction in economic activity and does not fully reflect the impacts of COVID-19 on the labour market. To better measure the amount of labour underutilisation during the pandemic crisis, the standard unemployment rate can be adjusted to reflect the number of discouraged workers who are currently inactive (see Chart A, yellow line). In addition, a special feature of the pandemic crisis has been the widespread use of job retention schemes, which have helped to protect jobs while reducing working hours and supporting the income of workers. The number of workers in job retention schemes reached about 30 million (about 19% of the labour force) in April 2020. Combining the standard unemployment rate with discouraged workers and also with the number of workers in job retention schemes (see Chart A, red line) hence provides a more representative picture of the state of labour underutilisation.

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

Chart A

Standard and non-standard measures of unemployment

(percentages)



Sources: ECB calculations based on Eurostat data.[4]

Overall, the COVID-19 shock has increased the share of firms at risk, which could have a further long-term effect on employment losses. Following the strong decline in economic activity in the second quarter of 2020, the recovery seen during the third quarter suggested that the pandemic shock could be of a largely transitory nature. However, the second wave of lockdown measures intensified the risk of long-term scarring effects on economic growth and jobs. The COVID-19 shock has affected sectors heterogeneously, with weaker effects on firms featuring a higher adoption of digital technologies and a stronger impact on firms involved in face-to-face interactions. The latter firms might be at risk of exiting the market, depending on the length of the pandemic and whether national policy measures are successful in limiting and bridging liquidity shortfalls. The second distinct characteristic of the COVID-19 shock relates to its exogenous nature, implying that the shock has affected both productive and unproductive firms. Indeed, the cleansing effect resulting from the exit of less productive firms, typically more affected by a productivity shock, will be smaller than in previous crises because also more productive firms with temporary liquidity problems might be at risk.[5]

1.3 The fiscal policy response to the crisis

The COVID-19 pandemic posed unprecedented challenges to public finances

In 2020 public finances were deeply marked by the COVID-19 pandemic, which posed unprecedented challenges to governments, but also triggered a strong policy response. The fiscal position was significantly affected on both sides of government budgets, through the increase in expenditure needed to tackle the crisis and through lower fiscal revenues reflecting both the sharp recession and expenditure measures targeting firms and households. As a result, the general government deficit ratio for the

4 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.

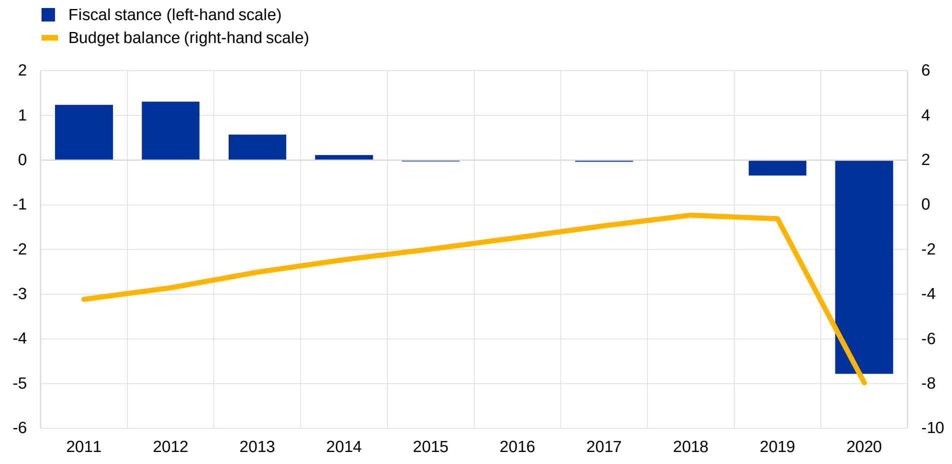
5 See Box 2 of the article entitled "The impact of COVID-19 on potential output in the euro area", *Economic Bulletin*, Issue 7, ECB, 2020.

euro area increased from 0.6% of GDP in 2019 to 8.0% of GDP in 2020, according to the December 2020 Eurosystem staff macroeconomic projections (see Chart 7). Reflecting the strong economic support from governments, the fiscal stance[6] thus went from mildly expansionary in 2019 to highly accommodative, at 4.8% of GDP, in 2020, although it should be noted that the size of the fiscal response and thereby the fiscal stance differed significantly across countries. Overall, however, the swiftness and scope of the support provided by euro area governments demonstrated a heightened capacity to react in times of crisis and to do so in a coordinated way. The latter was facilitated by the activation of the general escape clause foreseen in the Stability and Growth Pact.

Chart 7

General government balance and fiscal stance

(percentage of GDP)



Sources: Eurostat and ECB calculations.

The bulk of additional spending was related to either direct costs of addressing the health crisis or support to households and firms

According to estimates by the European Commission[7], the fiscal measures taken in response to the pandemic amounted to 4.2% of GDP in 2020 for the euro area as a whole. The bulk of this additional spending was related to either direct government costs of addressing the public health crisis or support measures targeted at households and firms (see Chart 8). A primary aim of these support measures was to preserve employment and production capacity so that the economy is well positioned to stage a rapid recovery once the pandemic abates. In line with this aim, the large majority of the support provided to households was through short-time work or furlough schemes designed to avoid mass unemployment, while only a smaller part took the form of direct fiscal transfers to households.[8] Towards the end of the first wave of the pandemic, some more limited measures aimed at supporting the economic recovery were introduced, such as cuts to indirect taxes or an increase in

[6] The fiscal stance reflects the direction and size of the stimulus from fiscal policies to the economy, beyond the automatic reaction of public finances to the business cycle. It is measured here as the change in the cyclically adjusted primary balance ratio net of government support to the financial sector. For more details on the concept of the euro area fiscal stance, see the article entitled "The euro area fiscal stance", *Economic Bulletin*, Issue 4, ECB, 2016.

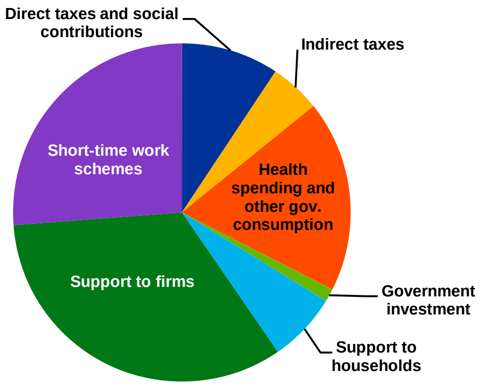
[7] See the European Commission's Autumn 2020 Economic Forecast.

[8] For further details, see the article entitled "The initial fiscal policy responses of euro area countries to the COVID-19 crisis", *Economic Bulletin*, Issue 1, ECB, 2021.

public investment projects. However, given that the pandemic was far from resolved in 2020, with the eruption of a second wave in the autumn, these measures are more likely to play a prominent role going forward.

Chart 8

Estimated composition of COVID-19-related measures in 2020



Sources: ECB calculations based on the 2021 draft budgetary plans.

Governments also provided sizeable liquidity support to the economy

In addition to the fiscal support for their economies, euro area countries provided a sizeable amount of loan guarantees to bolster the liquidity position of firms, particularly to small and medium-sized enterprises, which often do not have easy access to external financing. Such liquidity support was particularly prominent in the policy mix in the early phase of the crisis before other support programmes were put in place. In total, these guarantees amounted to around 17% of GDP for the euro area as a whole.[9] The loan guarantees are contingent liabilities for governments and the amount of guarantees called on will therefore constitute additional public spending. Moreover, many governments also granted tax deferrals and provided loans to and made equity injections into firms. Such cash injections and other liquidity support are generally not captured in the budget balance, but are partly reflected in government debt.

Debt levels of governments were adversely affected, but risks to debt sustainability continued to be well contained

The crisis has also led to a marked increase of debt levels of sovereigns across the euro area. This was reflected in the December 2020 Eurosystem staff macroeconomic projections, which showed that the aggregate debt-to-GDP ratio was estimated to have surged to 98.4% of GDP in 2020, which is an increase of 14.5 percentage points compared with 2019. Sovereigns additionally took on extensive contingent liabilities in the form of loan guarantees. Although it will take time to substantially reduce debt levels, there are no signs that public debt sustainability in the euro area would be questioned. This assessment rests on the improved expectations for a recovery in 2021, especially after positive developments on several COVID-19 vaccines, but importantly also on financing conditions which should continue to be supportive for the foreseeable future. Moreover, the coordinated fiscal action taken at the EU level should provide a stabilising effect (see Box 4 for a recent example). It is still important

[9] See the European Commission's Autumn 2020 Economic Forecast.

that Member States return to sound fiscal positions once economic activity has recovered.

1.4 Inflation declined markedly due to the drop in oil prices and the economic contraction[10]

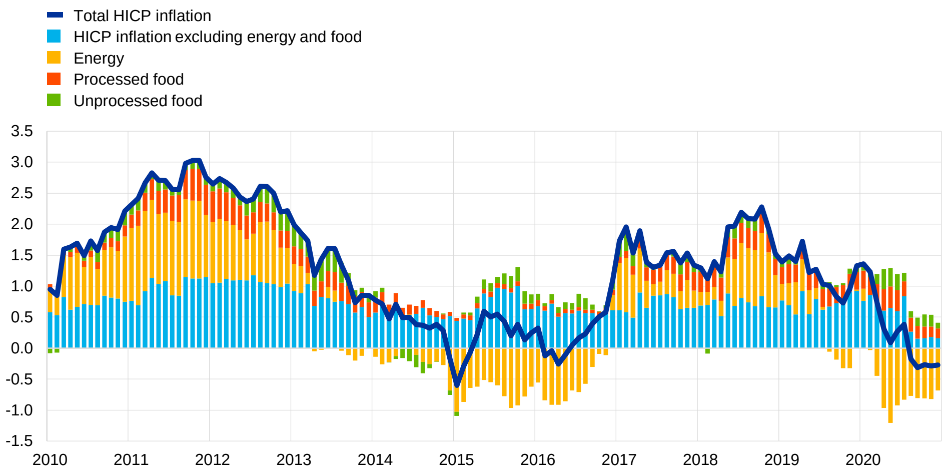
Headline inflation declined

Headline inflation in the euro area stood at 0.3% on average in 2020, down from 1.2% in 2019. In terms of the components of the Harmonised Index of Consumer Prices (HICP), this decline essentially reflected lower contributions from energy inflation, but in the second half of the year also from HICP inflation excluding energy and food (see Chart 9). In terms of its driving factors, the disinflationary process took place against the background of sharp contractions in economic activity, which significantly weakened consumer demand and posed severe downside risks to the economic outlook. Disinflationary pressures also reflected some factors specific to the economic implications of and responses to the COVID-19 pandemic. For instance, the further decline of inflation in the second half of the year was partly due to the drop in the prices of travel-related services (especially transport and hotels), hit hardest by the crisis, and to the impact of the temporary reduction in the VAT rate in Germany.

Chart 9

HICP inflation and contributions by components

(annual percentage changes; percentage point contributions)



Sources: Eurostat and ECB calculations.

Volatile components of the HICP partly developed in opposite directions

Developments in energy inflation contributed to a large extent to the decline in average headline inflation in 2020 compared with 2019, reflecting the drop in oil prices at the beginning of the pandemic. By contrast, the contribution of total food inflation to headline HICP inflation increased slightly to 0.4 percentage points in 2020, slightly above the level in 2019, largely reflecting the fact that in particular unprocessed food

[10] Section 1.4 reflects data from Eurostat's second estimate released on 9 March 2021.

inflation temporarily increased substantially amid the pandemic (with a spike of 7.6% in April 2020).[11]

Underlying inflation declined over the course of 2020

Measures of underlying inflation declined over the course of 2020. HICP inflation excluding energy and food was 0.7% on average after 1.0% in 2019, with a record low being recorded in the last four months of 2020. Weak developments in both non-energy industrial goods and services inflation contributed to subdued HICP inflation excluding energy and food. Non-energy industrial goods inflation turned negative in August 2020, reaching a record low in December 2020, and services inflation reached an all-time low of 0.4% in October 2020, although it increased slightly thereafter. Developments in these two components were affected by a common set of factors but to a somewhat different extent. The appreciation of the euro in the second half of the year affected non-energy industrial goods inflation somewhat more than services inflation. The same holds for the changes in indirect taxes as some components of services such as rents are exempted from VAT. The lockdowns and containment measures in the context of the pandemic had a larger impact on the level of services inflation, which was particularly visible in the drop in inflation for travel and leisure-related items. More generally, however, non-energy industrial goods inflation and services inflation were dominated by the plummeting demand that the pandemic triggered via increased uncertainty and risk aversion, containment measures, and income and job losses. This considerably outweighed some upward effects from supply disruptions in certain sectors. Furthermore, the pandemic hampered HICP price collection. As a result, the share of imputed prices in the HICP spiked in April and then declined, with imputed prices only being used for a few items from July to October. The share of imputed prices was again elevated in November and December, albeit below the level during the spring.[12] The demand and supply effects likely also implied that the shares of individual goods and services in consumption were different from those underlying the construction of the HICP in 2020.

Domestic cost pressures increased

Domestic cost pressures, as measured by the growth in the GDP deflator, increased on average in 2020, at a rate above the average level of 2019 (see Chart 10). By contrast, the annual growth in compensation per employee declined rapidly in 2020, standing at -0.6%, well below the 2019 value. At the same time, the even larger drop in productivity growth implied a substantial increase in unit labour cost growth, contributing to the observed growth in the GDP deflator. Unit labour cost growth stood at 4.6% in 2020, up from 1.9% in 2019. However, developments in unit labour cost growth, productivity growth and compensation per employee growth in 2020 were affected by the widespread application of short-time work schemes, which implied, for instance, that employment remained much more resilient than output or actual hours worked. There were also issues related to the statistical recording of these measures, which implied an unusually large contribution of subsidies to developments in domestic costs and hampered the comparability of recent developments with past

[11] The factors behind this temporary spike in food prices are discussed in detail in the box entitled "Recent developments in euro area food prices", *Economic Bulletin*, Issue 5, ECB, 2020.

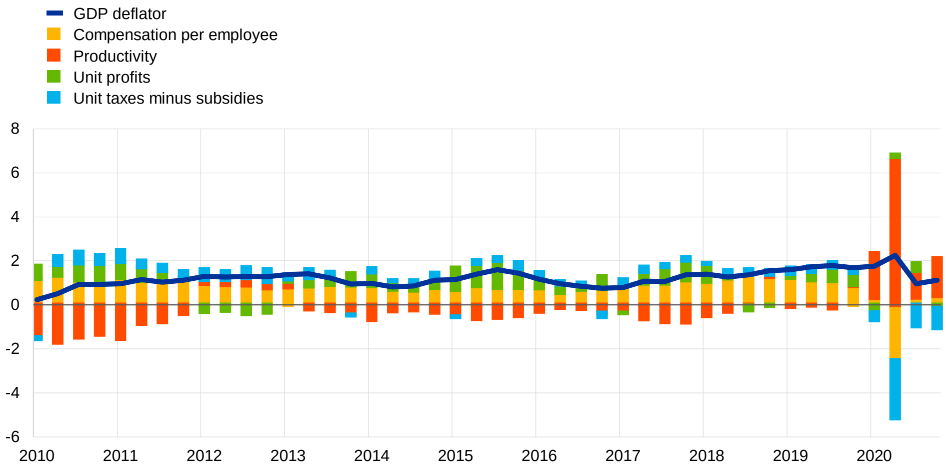
[12] For a discussion of the difficulties in measuring consumer prices during the pandemic, see the box entitled "Consumption patterns and inflation measurement issues during the COVID-19 pandemic", *Economic Bulletin*, Issue 7, ECB, 2020.

developments.[13] On the expenditure side, such statistical issues were, for example, visible in the sharp increase in the growth rate of the government consumption deflator in the second quarter.

Chart 10

Breakdown of the GDP deflator

(annual percentage changes; percentage point contributions)



Sources: Eurostat and ECB calculations.

Longer-term inflation expectations remained at historically low levels

Longer-term inflation expectations in the ECB Survey of Professional Forecasters (SPF) remained at historically low levels in 2020, hovering between 1.6% and 1.7%, having fallen to these levels in the previous year. Expectations for inflation five years ahead from the SPF stood at 1.7% in the fourth quarter of 2020, unchanged from the fourth quarter of 2019. Market-based measures of longer-term inflation expectations, in particular the five-year inflation-linked swap rate five years ahead, showed notable volatility throughout the year. The latter rate declined sharply at the beginning of the pandemic and reached its lowest level on record at the end of the first quarter of 2020 (standing at 0.7% on 23 March), before recovering and stabilising close to pre-pandemic levels towards the end of the year (standing at 1.3% on 31 December). That said, market-based indicators of longer-term inflation expectations remained very subdued.

1.5 Decisive policy action kept credit and financing conditions supportive

Euro area government bond yields declined in 2020 against the background of a resolute monetary and fiscal crisis response

The COVID-19 pandemic led to a swift deterioration in the global and domestic economic outlook, together with a sharp increase in sovereign spreads in an environment of generally tightening financial conditions. To counter the impact of the pandemic shock on the economy and inflation and faced by emerging risks for financial stability and the smooth functioning of monetary policy transmission,

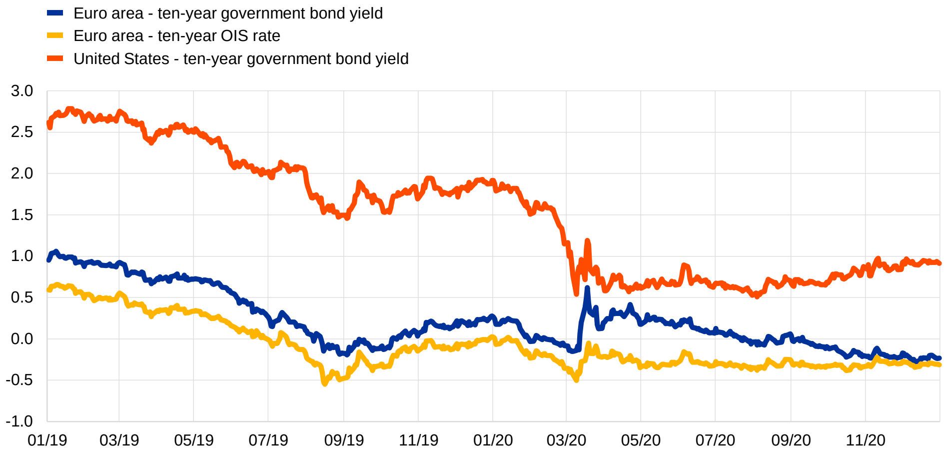
[13] For more details, see the box entitled "Short-time work schemes and their effects on wages and disposable income", *Economic Bulletin*, Issue 4, ECB, 2020, and the box entitled "Assessing wage dynamics during the COVID-19 pandemic: can data on negotiated wages help?", *Economic Bulletin*, Issue 8, ECB, 2020.

monetary and fiscal policy authorities responded promptly and resolutely (see Section 2.1). They thus effectively countered the shock-induced tightening of financial conditions and contributed, in particular, to a decline in long-term risk-free rates and a compression, from their pandemic highs, of the spreads of euro area countries' ten-year government bond yields vis-à-vis the ten-year overnight index swap rate. As a result, the euro area GDP-weighted average of ten-year government bond yields declined by 50 basis points between 1 January 2020 and 31 December 2020, when it stood at -0.23% (see Chart 11).

Chart 11

Long-term yields in the euro area and the United States

(percentages per annum; daily data)



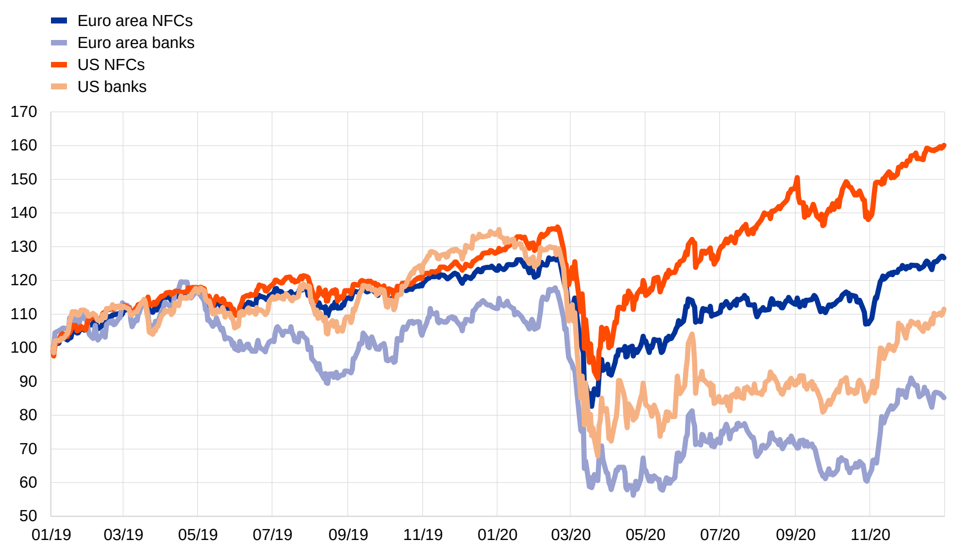
Sources: Bloomberg, Thomson Reuters Datastream and ECB calculations.
Notes: The euro area data refer to the GDP-weighted average of ten-year government bond yields and the ten-year overnight index swap (OIS) rate. The latest observations are for 31 December 2020.

Despite recovering from their pandemic lows, euro area equity prices remained below their early 2020 levels

After their collapse in mid-March, stock prices staged a gradual but consistent recovery on the back of the rebound in activity and firming growth expectations, supported by monetary and fiscal policies, and encouraging news concerning potential vaccines, which likely lowered the equity risk premium and supported market expectations of a recovery in earnings. As such, this development was quite different from the larger and especially more protracted stock market correction which occurred in the wake of the 2008-09 financial crisis. At the same time, euro area equity prices showed distinct sectoral divergence compared with the respective levels at the end of 2019. The broad index for euro area non-financial corporation (NFC) equity prices stood by the year-end marginally above end-2019 levels, while euro area bank equity prices declined more severely and remained around 24% lower (see Chart 12).

Chart 12

Equity market indices in the euro area and the United States



Sources: Bloomberg, Thomson Reuters Datastream and ECB calculations.
Notes: The EURO STOXX banks index and the Datastream market index for non-financial corporations (NFCs) are shown for the euro area; the S&P banks index and the Datastream market index for NFCs are shown for the United States. The latest observations are for 31 December 2020.

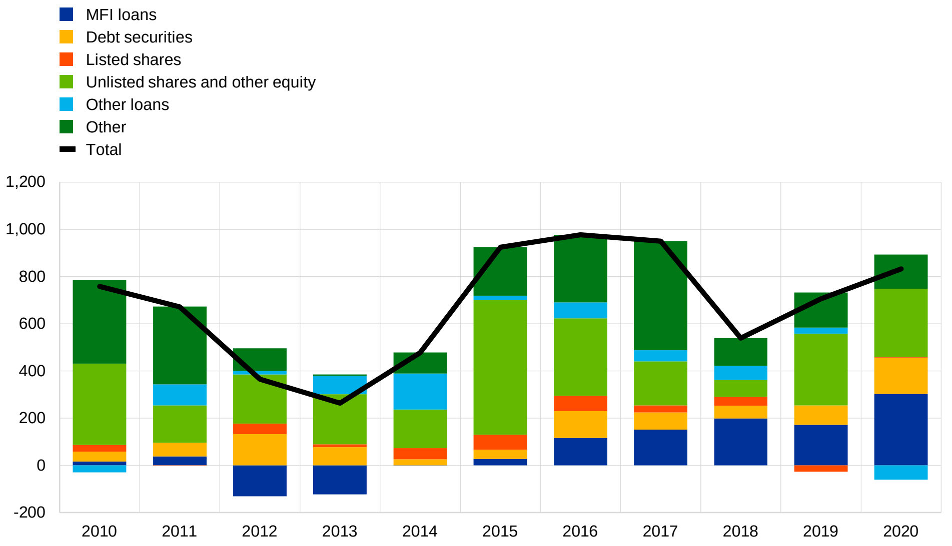
NFCs' borrowing from banks and issuance of debt securities increased

The external financing flows of non-financial corporations increased in 2020 compared with the previous year, but remained below their latest peak observed in 2017 (see Chart 13). During 2020 bank lending rates remained broadly stable around their historical lows, in line with the evolution of market rates. At the same time, strong growth in borrowing by NFCs from banks and their issuance of debt securities could be observed, reflecting the exceptionally high liquidity needs in the light of the substantial economic contraction and sharp declines in corporate sales and cash flows. Net issuance of listed shares was negative, which can mainly be explained by a delisting in the second quarter of 2020. By contrast, net issuance of unlisted shares and other equity was robust, also when correcting for the impact of the delisting, likely also reflecting capital injections in the face of losses. Finally, the use of other sources of financing, including inter-company loans and trade credit, was broadly stable.

Chart 13

Net flows of external financing to non-financial corporations in the euro area

(annual flows; EUR billions)



Sources: Eurostat and ECB.
Notes: “Other loans” include loans from non-MFIs (other financial intermediaries, pension funds and insurance corporations) and from the rest of the world. “MFI loans” and “other loans” are corrected for loan sales and securitisation. “Other” is the difference between the total and the instruments included in the chart and includes inter-company loans and trade credit. The latest observations are for the third quarter of 2020.

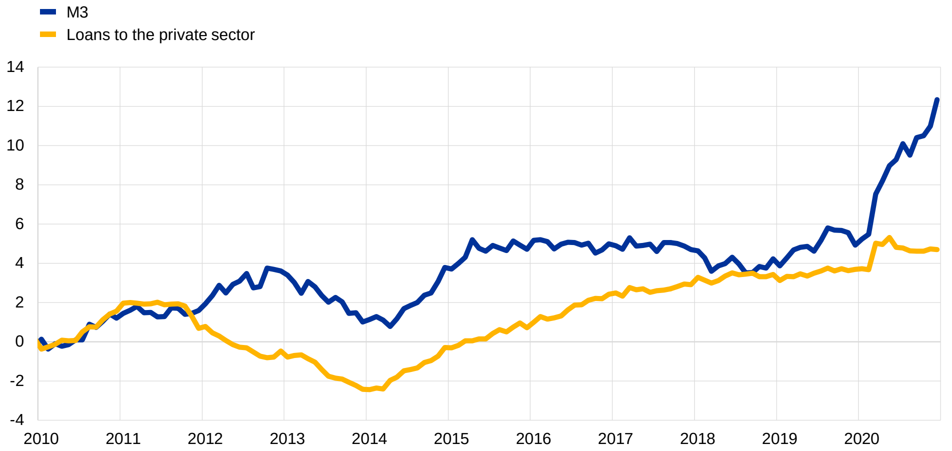
Money and loan growth accelerated in response to the COVID-19 crisis

Broad money growth sharply increased in response to the COVID-19 crisis (see Chart 14), mainly driven by the narrow aggregate M1. This acceleration reflected the build-up of liquidity buffers by firms and households amid increased uncertainty but also, in the case of households, some forced savings owing to reduced opportunities to consume. Money creation was driven by an expansion of domestic credit, both to the private sector and to governments, in the latter case mainly reflecting the asset purchases of the Eurosystem. The timely and sizeable measures taken by monetary, fiscal and supervisory authorities have ensured the flow of credit to the euro area economy at favourable terms.

Chart 14

M3 and loans to the private sector

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



Sources: Eurostat and ECB.
Note: The latest observations are for December 2020.

Banks' heightened risk perceptions exerted a tightening impact on credit standards

While bank lending conditions were overall supportive during the year, the euro area bank lending survey showed that banks' credit standards (i.e. approval criteria) for loans to firms tightened in the second half of 2020. This was mainly driven by banks' heightened risk perceptions associated with the impact of the pandemic on the outlook for borrower creditworthiness. At the same time, asset purchases under the asset purchase programme and the pandemic emergency purchase programme, as well as the third series of targeted longer-term refinancing operations, especially after the recalibrations in March and April, were reported by banks to have contributed to improvements in banks' liquidity position and market financing conditions. These measures, together with those introduced by governments such as loan guarantees and moratoria, prevented a more pronounced tightening of credit standards.

2 Monetary policy: preserving favourable financing conditions

The ECB substantially eased the monetary policy stance over the course of 2020 to counter the negative impact of the COVID-19 pandemic on the euro area economy. The comprehensive set of measures and their subsequent recalibrations mitigated the threat of a liquidity and credit crunch by preserving ample liquidity conditions in the banking system, protected the flow of credit to the real economy and safeguarded the accommodative monetary policy stance by averting a procyclical tightening of financing conditions. The monetary policy response in 2020 was a crucial stabilising force for markets and helped to counter the serious risks posed by the rapid spread of the virus to the monetary policy transmission mechanism, the outlook for the euro area economy and, ultimately, the ECB's price stability objective. The size of the Eurosystem's balance sheet reached a historical high of €7 trillion in 2020, an increase of €2.3 trillion compared with the end of the previous year. At the end of 2020 monetary policy-related assets accounted for 79% of the total assets on the Eurosystem's balance sheet. Risks related to the large balance sheet continued to be mitigated by the ECB's risk management framework.

2.1 The ECB's monetary policy response to the pandemic emergency provided crucial support to the economic recovery and the inflation outlook[14]

The ECB's initial response to the COVID-19 pandemic

The cautiously optimistic mood at the start of the year was forcefully interrupted by COVID-19

At the start of the year, incoming information signalled ongoing, but moderate, growth of the euro area economy. While the weakness of international trade in an environment of global uncertainty was still a drag on growth, employment gains in conjunction with rising wages, the mildly expansionary euro area fiscal stance and the ongoing – albeit somewhat slower – growth in global activity supported the euro area economy. Inflation developments remained subdued overall, but there were some signs of a moderate increase in underlying inflation in line with expectations. The monetary policy measures taken in the course of 2019 were underpinning favourable financing conditions, thereby supporting the euro area economic expansion, the build-up of domestic price pressures and the convergence of inflation towards the Governing Council's medium-term aim.

At its January 2020 meeting, the Governing Council decided to launch a review of the ECB's monetary policy strategy. Since its last strategy review, the euro area and world economies have been undergoing profound structural changes. Declining trend

[14] Details on supervisory measures taken to provide capital and operational relief to banks can be found in Section 3.3 and in the 2020 ECB Annual Report on supervisory activities.

growth, on the back of slowing productivity and an ageing population, as well as the legacy of the financial crisis, have driven interest rates down, reducing the scope for the ECB and other central banks to ease monetary policy with conventional instruments in the face of adverse cyclical developments. In addition, addressing low inflation is different from the historical challenge of addressing high inflation. The threat to environmental sustainability, rapid digitalisation, globalisation and evolving financial structures have further transformed the environment in which monetary policy operates, including the dynamics of inflation. In the light of these challenges, the Governing Council decided to launch a review of its monetary policy strategy, in full respect of the ECB's price stability mandate as enshrined in the Treaty (see Box 2).

The cautiously optimistic mood at the start of the year was forcefully interrupted in late February by the outbreak and global spread of COVID-19. Although the magnitude and duration of the downward revision to the growth outlook were uncertain, it became increasingly clear that the pandemic would have a major impact on the euro area economy. While disruptions to global supply chains were seen to potentially exert some upward pressure on euro area inflation, this was expected to be dominated by weaker demand holding inflation back. Moreover, the sharp deterioration in risk sentiment caused a severe tightening in financial and bank funding conditions, which – in combination with the moderate appreciation of the euro exchange rate – risked adding downward pressure on inflation.

A comprehensive package of monetary policy measures was necessary

Against this background, the Governing Council decided at its monetary policy meeting on 12 March 2020 that a comprehensive package of monetary policy measures was necessary. The package aimed, on the one hand, to mitigate the threat of a liquidity and credit crunch by preserving ample liquidity conditions in the banking system and protecting the flow of credit to the real economy, and, on the other hand, to safeguard the accommodative monetary policy stance by averting a procyclical tightening of financing conditions in the economy.

In particular, the Governing Council decided on additional longer-term refinancing operations (LTROs) at an interest rate equal to the deposit facility rate. It also decided to apply considerably more favourable terms to all operations under the third series of targeted longer-term refinancing operations (TLTRO III) during the period from June 2020 to June 2021. The interest rate on TLTRO III operations was reduced by 25 basis points and could be as low as 25 basis points below the average deposit facility rate during the period from June 2020 to June 2021 for all TLTRO III operations outstanding during that period. Moreover, the maximum total amount that counterparties were entitled to borrow in TLTRO III operations was raised to 50% of their stock of eligible loans. Accordingly, the additional LTROs would effectively allow banks to immediately benefit from very favourable borrowing conditions and would provide an effective bridge until the start of the recalibrated TLTRO III operations, which aimed to ease funding conditions for banks more sustainably in order to support credit flows to affected sectors and avoid a tightening in credit supply.

The Governing Council also decided to add a temporary envelope of additional net asset purchases of €120 billion to the asset purchase programme (APP) until the end of the year, ensuring a strong contribution from the private sector purchase programmes. Limiting the additional envelope to the current calendar year was deemed an appropriate response to a shock that was assessed as being temporary. In combination with the existing APP, this temporary envelope aimed to support favourable financing conditions for the real economy in times of heightened uncertainty.

In the week following the March 2020 Governing Council meeting, the situation deteriorated significantly owing to the rapid spread of COVID-19, with nearly all euro area countries enforcing far-reaching containment measures. Financial markets exhibited extreme volatility, with signs of severe dislocations due to illiquidity and market freezes and rising fragmentation. This led to a sharp tightening in financing conditions, which could have impaired the smooth transmission of the ECB's monetary policy across all euro area countries and put price stability at risk.

In view of this rapid deterioration, the Governing Council decided on 18 March 2020 that a further forceful monetary policy response was warranted in order to stabilise markets and counter the sharp tightening of financial conditions. The aim of this action was to counter the serious risks posed by the pandemic to the outlook for the euro area economy, the monetary policy transmission mechanism and, ultimately, the ECB's price stability objective. The Governing Council announced the following additional measures.

The Governing Council decided to launch a new temporary asset purchase programme: the pandemic emergency purchase programme

First, it decided to launch a new temporary asset purchase programme – the pandemic emergency purchase programme (PEPP). The PEPP, with an overall envelope of €750 billion, would include all the asset categories eligible under the APP. In addition, the Governing Council also expanded the range of eligible assets under the corporate sector purchase programme to include non-financial commercial paper, making marketable debt instruments with an initial maturity of below one year eligible if their remaining maturity was at least 28 days at the time of purchase. The expansion of eligible assets would support the funding situation of companies, thereby providing crucial assistance to a part of the economy that was being hit hard by the effects of the virus. For purchases under the PEPP, the Governing Council also decided to grant a waiver of the eligibility requirements for debt securities issued by the Hellenic Republic. In addition, the Governing Council decided that public sector securities with a remaining time to maturity of below one year, but at least 70 days, would be eligible for purchases under the PEPP, owing to its temporary nature.

The PEPP was designed to fulfil a dual role. First, together with the other components of the monetary policy framework, the PEPP aimed to deliver the monetary accommodation required to ensure that medium-term price stability was protected by supporting the economic recovery from the pandemic crisis. Second, purchases under the PEPP would be conducted in a flexible manner, allowing for fluctuations in the distribution of purchase flows over time, across asset classes and among jurisdictions. The flexibility embedded in the design of the programme ensured that the PEPP could fulfil a market stabilisation role in an efficient manner, especially in view of the high uncertainty associated with the effects of the pandemic across different asset markets and euro area countries.

In addition, the Governing Council announced at the same meeting that it would temporarily ease collateral standards by adjusting the main risk parameters of the collateral framework to ensure that counterparties could continue to make full use of the Eurosystem's credit operations. More specifically, the Governing Council subsequently adopted two packages of temporary collateral easing measures. The first set of measures announced on 7 April 2020 aimed to facilitate the availability of eligible collateral to Eurosystem counterparties so that they could make full use of liquidity-providing operations, such as the TLTRO III operations. On 22 April 2020 the Governing Council decided that marketable assets and the issuers of such assets that fulfilled minimum credit quality requirements on 7 April 2020 would continue to be eligible in the event of rating downgrades as long as the ratings remained above a certain credit quality level and all other eligibility requirements were still fulfilled. This measure aimed to mitigate the effect on collateral availability of possible rating downgrades and avoid potential procyclical dynamics.

At the time of the monetary policy meeting of the Governing Council in April 2020, the economic situation was still deteriorating rapidly as economic activity was contracting and labour market conditions were worsening visibly. Measures to contain the spread of the virus had largely halted economic activity across the euro area and the globe. While the full extent and duration of the consequences of the pandemic for the economy were still difficult to predict, it was now clear that the euro area economy was heading towards a decline in economic activity of a magnitude and at a speed that was unprecedented in recent history.

The worsening economic outlook, together with a sharp fall in oil prices and declining inflation expectations, introduced significant downside risks to the euro area inflation outlook. The Governing Council decided therefore in April 2020 to further strengthen its policy support to households and firms. In particular, the Governing Council further eased the conditions on the TLTRO III operations by reducing the interest rate on the operations during the period from June 2020 to June 2021 to 50 basis points below the average interest rate on the Eurosystem's main refinancing operations prevailing over the same period. Moreover, for counterparties whose eligible net lending reached the lending performance threshold, the interest rate over the period from June 2020 to June 2021 would be 50 basis points below the average deposit facility rate prevailing over the same period. In addition, the Governing Council decided on a new series of non-targeted pandemic emergency longer-term refinancing operations (PELTROs) to support liquidity conditions in the euro area financial system and contribute to preserving the smooth functioning of money markets by providing an effective liquidity backstop. Finally, over the course of March and April 2020, the ECB also set up temporary swap and repo lines with non-euro area central banks and established in June 2020 a temporary Eurosystem repo facility for central banks (EUREP) to enhance the provision of euro liquidity outside the euro area and prevent spillback effects on euro area financial markets.

The recalibration of the monetary policy stance in June

Incoming information confirmed that the euro area economy was experiencing an unprecedented contraction

In June, incoming information confirmed that the euro area economy was experiencing an unprecedented contraction as a result of the pandemic and the measures to contain it. Severe job and income losses and exceptionally elevated uncertainty about the economic outlook led to a significant fall in consumer spending and investment. While survey data and real-time indicators of economic activity had shown some signs of a bottoming-out alongside the gradual easing of the containment measures, the improvement had so far been tepid compared with the speed at which the indicators plummeted in the preceding two months. The June 2020 Eurosystem staff macroeconomic projections, although surrounded by an exceptional degree of uncertainty, foresaw economic activity contracting at a record pace in the second quarter of the year. Price pressures were expected to remain subdued on account of the sharp decline in real GDP and the associated significant increase in economic slack. The June 2020 projections entailed a substantial downward revision to both the level of economic activity and the inflation outlook over the whole projection horizon. In particular, inflation was revised downwards from 1.6% at the end of the projection horizon in the December 2019 Eurosystem staff macroeconomic projections to 1.3% in the June 2020 projections.

The Governing Council decided to increase the envelope for the PEPP by €600 billion to a total of €1,350 billion

Against this backdrop, the Governing Council decided on a set of further monetary policy measures to support the economy during its gradual reopening and to safeguard medium-term price stability. Specifically, it decided to increase the envelope for the PEPP by €600 billion to a total of €1,350 billion, to lengthen the horizon for net purchases under the PEPP until at least the end of June 2021 and to extend the reinvestment of principal payments from maturing securities purchased under the PEPP until at least the end of 2022.[15] The recalibration of the PEPP aimed to further ease the monetary policy stance, thereby supporting favourable financing conditions for all sectors and jurisdictions, and ultimately to ensure that inflation moves towards the Governing Council's aim in a sustained manner.

Over the course of the summer, incoming information signalled a strong rebound in economic activity, owing mainly to the relaxation of containment measures. However, the recovery was asymmetrical, being further advanced in the manufacturing sector than in the services sector, and activity remained well below pre-pandemic levels. Headline inflation continued to be dampened by low energy prices and weak price pressures in the context of subdued demand and significant labour market slack.

The recalibration of the monetary policy stance in December

After a strong – albeit partial and uneven – rebound in activity over the summer, the euro area economic recovery was losing momentum

In the autumn, it became increasingly clear that after a strong – albeit partial and uneven – rebound in economic activity over the summer months, the euro area economic recovery was losing momentum more rapidly than previously expected. The resurgence in COVID-19 infections and the associated containment measures presented renewed challenges to public health and the growth prospects of the euro area and global economies. Inflation remained very low in the context of weak demand and significant slack in labour and product markets. Overall, incoming data signalled a more pronounced near-term impact of the pandemic on the economy and a more protracted weakness in inflation than previously envisaged. The Governing Council

15 The Governing Council also announced that in any case the future roll-off of the PEPP portfolio would be managed to avoid interference with the appropriate monetary policy stance. This reinvestment strategy for the PEPP would mitigate the risk of an unwarranted tightening of financial conditions.

therefore signalled in October 2020 that it would recalibrate its instruments, as appropriate, at its next meeting in December 2020 to respond to the unfolding situation and to ensure that financing conditions would remain favourable to support the economic recovery and counteract the negative impact of the pandemic on the projected path of inflation.

At the time of the December 2020 Governing Council meeting, the incoming data and the Eurosystem staff macroeconomic projections suggested a more pronounced near-term impact of the pandemic on the economy and a more protracted weakness in inflation than previously envisaged. The renewed intensification of the pandemic was significantly restricting global and euro area economic activity, which was expected to contract in the fourth quarter of 2020. Headline inflation was expected to remain negative for longer than previously expected, and measures of underlying inflation were declining and inflation pressures were expected to remain subdued on account of weak demand, lower wage pressures and the appreciation of the euro over the spring and the summer of 2020.

In view of the economic fallout from the resurgence of the pandemic, the Governing Council recalibrated its monetary policy instruments.

The Governing Council decided to increase the envelope of the PEPP by €500 billion to a total of €1,850 billion

The Governing Council decided to increase the envelope of the PEPP by €500 billion to a total of €1,850 billion, to lengthen the horizon for net purchases under the PEPP until at least March 2022 and to extend the reinvestment of principal payments from maturing securities purchased under the PEPP until at least the end of 2023. Purchases would continue to be conducted flexibly according to market conditions and over time, across asset classes and among jurisdictions in order to prevent a tightening of financing conditions that would be inconsistent with countering the downward impact of the pandemic on the projected path of inflation and to support the smooth transmission of monetary policy. The Governing Council also announced that if favourable financing conditions could be maintained with asset purchase flows that did not exhaust the envelope over the net purchase horizon of the PEPP, the envelope need not be used in full. Equally, the envelope could also be increased if required to maintain favourable financing conditions to help counter the pandemic shock to the path of inflation.

Furthermore, the Governing Council decided to further recalibrate the conditions of the TLTRO III operations. Specifically, the Governing Council announced that it would extend by twelve months until June 2022 the period over which considerably more favourable terms would apply, conduct three additional operations during 2021 and raise the total amount that counterparties would be entitled to borrow from 50% to 55% of their stock of eligible loans.

Finally, the Governing Council decided to extend the duration of the set of collateral easing measures adopted in April 2020 until June 2022, to offer four additional PELTROs in 2021, to extend until March 2022 all temporary swap and repo lines with non-euro area central banks, as well as the EUREP repo facility for central banks, and to continue to conduct all regular lending operations as fixed rate tender procedures with full allotment at the prevailing conditions for as long as necessary.

The monetary policy measures taken aimed to contribute to preserving favourable financing conditions over the pandemic period

Together, the monetary policy measures taken aimed to further contribute to preserving favourable financing conditions over the pandemic period, thereby supporting the flow of credit to all sectors of the economy, underpinning economic activity and safeguarding medium-term price stability. At the same time, uncertainty remained high, including with regard to the dynamics of the pandemic and the timing of vaccine roll-outs as well as developments in the euro exchange rate. Hence, the Governing Council signalled its readiness to adjust all of its instruments, as appropriate, to ensure that inflation moved towards its aim in a sustained manner, in line with its commitment to symmetry.

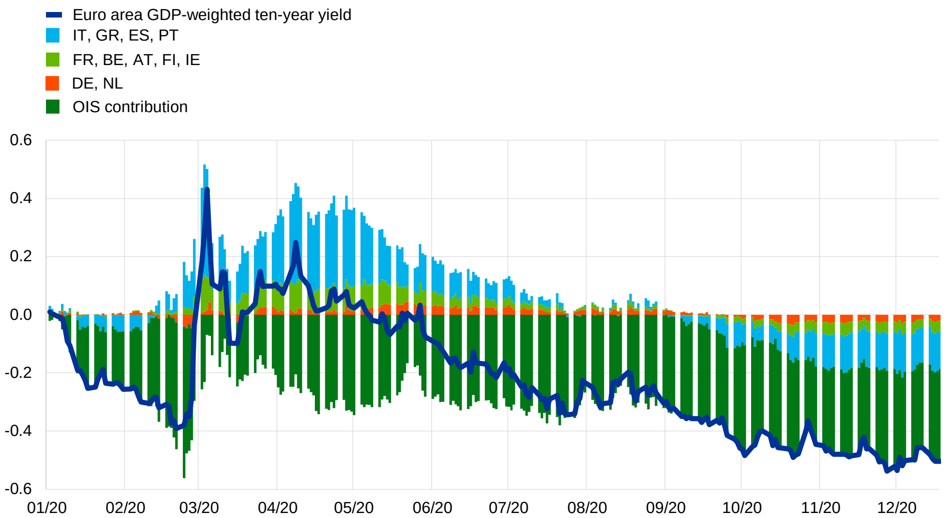
Lending rates for firms stabilised at a historical low

To sum up, to counter the negative impact of the pandemic, substantial monetary policy accommodation was implemented over the course of 2020. The comprehensive set of measures and their subsequent recalibrations were a crucial stabilising force for markets and helped to reverse the tightening in financial conditions observed earlier in the year. The measures were effective in containing government bond yields (see Chart 15), which are the basis for funding costs for households, firms and banks. They also kept bank funding costs very favourable throughout the pandemic (see Chart 16). In addition, they also ensured that households and firms benefited from these supportive financing conditions, with the respective lending rates reaching historical lows of 1.32% and 1.46% (see Chart 17). The monetary policy response in 2020 thus secured favourable financing conditions to support the economic recovery and counteract the negative impact of the pandemic on the projected path of inflation, thereby fostering the convergence of inflation towards the Governing Council's aim in a sustained manner.

Chart 15

Changes in the euro area GDP-weighted ten-year government bond yield

(percentage points)

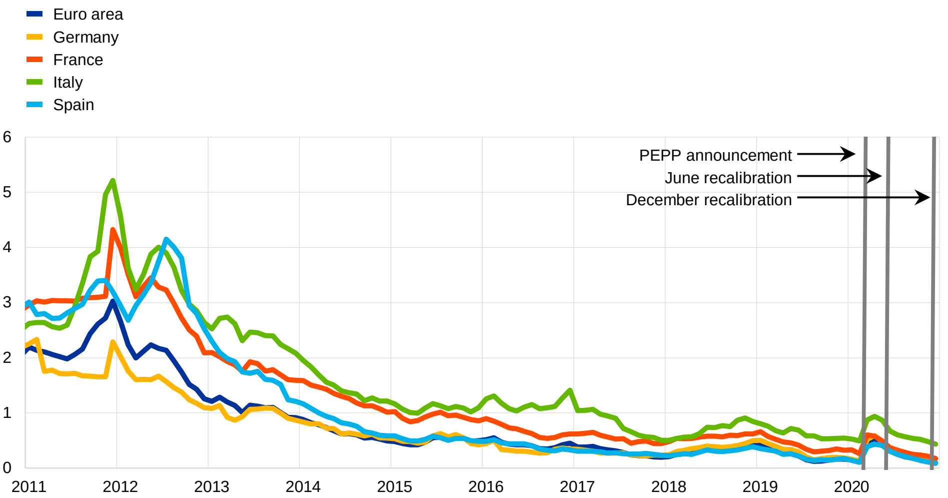


Source: ECB calculations.
Notes: The latest observations are for 31 December 2020. OIS: overnight index swap.

Chart 16

Composite cost of debt financing for banks

(composite cost of deposit and unsecured market-based debt financing; percentages per annum)

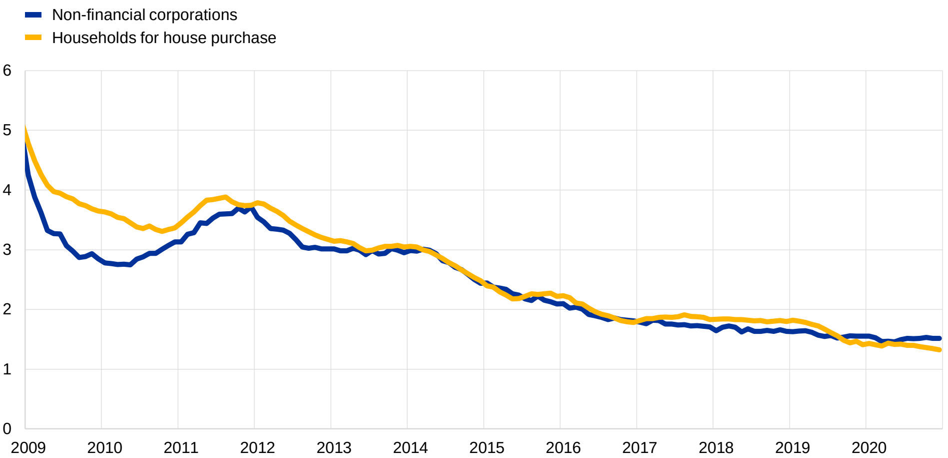


Sources: ECB, Markit iBoxx and ECB calculations.
Notes: The composite cost of deposits is calculated as an average of new business rates on overnight deposits, deposits with an agreed maturity and deposits redeemable at notice, weighted by their corresponding outstanding amounts. The latest observations are for December 2020.

Chart 17

Composite bank lending rates for non-financial corporations 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 observations are for December 2020.

2.2 Eurosystem balance sheet dynamics in challenging times

The size of the Eurosystem's balance sheet increased by 49% in 2020

Since the onset of the global financial crisis in 2007-08, the Eurosystem has taken a variety of standard as well as non-standard monetary policy measures, which have had a direct impact on the size and composition of the Eurosystem's balance sheet over time. The non-standard measures have included refinancing operations to provide funding to counterparties with an initial maturity of up to four years, as well as purchases of assets issued by private and public entities (under the APP). In 2020, in response to the outbreak of COVID-19 and in addition to the already existing non-standard measures, the ECB adopted a comprehensive package of complementary monetary policy measures, which had a significant impact on the Eurosystem's balance sheet. In March 2020 the ECB added a temporary additional envelope for 2020 to the APP and launched the PEPP, which both resulted in an increase in the holdings of assets purchased outright. In addition, between March and April 2020, the ECB eased its TLTRO III conditions (twice) and amended the collateral as well as the risk control frameworks. These complementary measures together resulted in a sizeable increase in Eurosystem intermediation.[16] Overall, during 2020 the Eurosystem's balance sheet continued to grow on account of these non-standard policy measures, which injected €2.2 trillion of additional liquidity into the banking system, and by the end of 2020 its size had reached a historical high of €7 trillion, an increase of 49% (€2.3 trillion) compared with the end of 2019.

At the end of 2020 monetary policy-related assets amounted to €5.5 trillion, accounting for 79% of the total assets on the Eurosystem's balance sheet (up from 70% at the end of 2019). These monetary policy-related assets include loans to euro area credit institutions, which accounted for 26% of total assets (up from 13% at the end of 2019), and assets purchased for monetary policy purposes, which represented around 53% of total assets (down from 56% at the end of 2019) (see Chart 18). Other financial assets on the balance sheet mainly consisted of foreign currency and gold held by the Eurosystem and euro-denominated non-monetary policy portfolios.

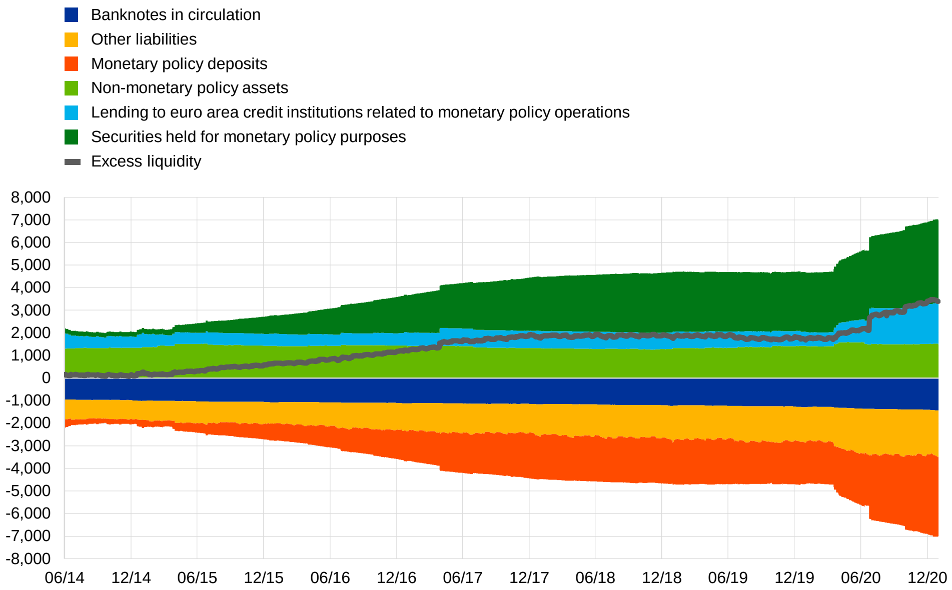
On the liabilities side, the overall amount of counterparties' reserve holdings and recourse to the deposit facility increased to €3.5 trillion (up from €2 trillion at the end of 2019) and represented 50% of the liabilities side at the end of 2020 (up from 39% at the end of 2019). Banknotes in circulation grew at a rate above the historical growth trend due to a strong increase in March 2020 and accounted for 21% of liabilities at the end of 2020 (down from 28% at the end of 2019). Other liabilities, including capital and revaluation accounts, increased to €2.1 trillion (up from €1.6 trillion at the end of 2019) and accounted for 30% (down from 34% at the end of 2019) (see Chart 18). The increase in other liabilities mainly came from an increase in government deposits from €0.2 trillion to €0.5 trillion, accounting for 25% of other liabilities (up from 11% at the end of 2019).

[16] The Eurosystem also provided backstop liquidity, first in March via additional LTROs and then in April by launching a series of seven pandemic emergency longer-term refinancing operations (PELTROs).

Chart 18

Evolution of the Eurosystem's consolidated balance sheet

(EUR billions)



Source: ECB.
Notes: Positive figures refer to assets and negative figures to liabilities. The line for excess liquidity is presented as a positive figure, although it refers to the sum of the following liability items: current account holdings in excess of reserve requirements and recourse to the deposit facility.

APP and PEPP portfolio maturity and distribution across asset classes and jurisdictions

The APP comprises four active asset purchase programmes: the third covered bond purchase programme (CBPP3), the asset-backed securities purchase programme (ABSPP), the public sector purchase programme (PSPP) and the corporate sector purchase programme (CSPP). The PEPP was introduced in 2020 and all asset categories that are eligible under the APP are also eligible under the PEPP. A waiver of eligibility requirements for purchases under the PEPP was granted for debt securities issued by the Hellenic Republic. In addition, in March 2020, the eligibility of non-financial commercial paper under the CSPP was expanded to include securities with a remaining maturity of at least 28 days.

At the end of 2020 APP holdings amounted to €2.9 trillion

At the end of 2020 APP holdings amounted to €2.9 trillion (at amortised cost). The ABSPP accounted for 1% (€29 billion), the CBPP3 for 10% (€288 billion) and the CSPP for 9% (€250 billion) of total APP holdings at the year-end. Out of the private sector purchase programmes, the CSPP contributed the most to the growth in APP holdings in 2020, with €66 billion of net purchases. CSPP purchases are made based on a benchmark which reflects the market capitalisation of all eligible outstanding corporate bonds.

The PSPP accounted for 80% of total APP holdings

The PSPP accounted for the bulk of the APP holdings, amounting to €2.3 trillion or 80% of total APP holdings at the end of 2020, down from 82% at the end of 2019. Under the PSPP, the allocation of purchases to jurisdictions was guided by the ECB's capital key on a stock basis. In addition, some national central banks (NCBs) purchased securities issued by EU supranational institutions. The weighted average maturity of the PSPP holdings stood at 7.3 years at the end of 2020, somewhat higher than the 7.12 years at the end of 2019, with some variation across jurisdictions.[17]

At the end of 2020 PEPP holdings amounted to €753.7 billion

At the end of 2020 PEPP holdings amounted to €753.7 billion (at amortised cost). The covered bond holdings accounted for less than 1% (€3.1 billion), the corporate sector holdings for 6% (€43.2 billion) and the public sector holdings for 94% (€707.4 billion) of total PEPP holdings at the year-end.

For the purchases of public sector securities under the PEPP, the benchmark, on a stock basis, for allocation across jurisdictions is the NCBs' contributions to the ECB's capital. At the same time, purchases were conducted in a flexible manner, which led to fluctuations in the distribution of purchase flows over time, across asset classes and among jurisdictions. The weighted average maturity of the PEPP public sector securities holdings stood at 7.0 years at the end of 2020, with some differences across jurisdictions.

The Eurosystem reinvested the principal payments from maturing securities held in the APP and PEPP portfolios. Redemptions under the private sector purchase programmes amounted to €80.2 billion in 2020, while redemptions under the public sector purchase programmes amounted to €229.4 billion. The assets purchased under the PSPP, CSPP and CBPP3 continued to be made available for securities lending[18] in order to support bond and repo market liquidity.[19] PEPP holdings are also available for securities lending under the same conditions as under the APP. In November 2020 the Eurosystem adjusted the pricing conditions of its securities lending facilities, making them more favourable for counterparties and ensuring that they remain an effective backstop.

Developments in Eurosystem refinancing operations

The outstanding amount of Eurosystem refinancing operations increased by €1.2 trillion since the end of 2019, standing at €1.8 trillion at the end of 2020. This can be largely attributed to the €1.75 trillion allotted in the TLTRO III series, in addition to the €26.6 billion allotted in the PELTROs. The voluntary repayments of €192 billion and the maturity of €303 billion of the TLTRO II series only to a small extent counterbalanced the increase in outstanding operations. Banks were given the opportunity to roll over previous TLTRO outstanding amounts in the June, September and December 2020 TLTRO III operations. The weighted average maturity of outstanding Eurosystem refinancing operations increased from around 1.2 years at the end of 2019 to around 2.4 years at the end of 2020.

[17] The Eurosystem aims for a market-neutral asset allocation, purchasing securities across all eligible maturities in all jurisdictions in a way that reflects the composition of the euro area government bond market.

[18] See "Securities lending of holdings under the asset purchase programme (APP) and the pandemic emergency purchase programme (PEPP)" on the ECB's website for more information on securities lending under the different asset purchase programmes.

[19] The ECB publishes on a monthly basis for the PSPP the aggregate monthly average on-loan balance for the Eurosystem and the aggregate monthly average amount of cash collateral received.

The ECB's collateral easing measures

The ECB's temporary collateral easing measures announced in April 2020 and extended in December 2020 were a core element of the ECB's monetary policy response to the pandemic. A central element of these measures was to temporarily expand the acceptance of credit claims as collateral, in particular through the potential expansion of the additional credit claim (ACC) frameworks. Under the revised temporary framework, NCBs are permitted to accept as collateral, among other things, loans to small and medium-sized enterprises or self-employed individuals that benefit from COVID-19-related government guarantee schemes.

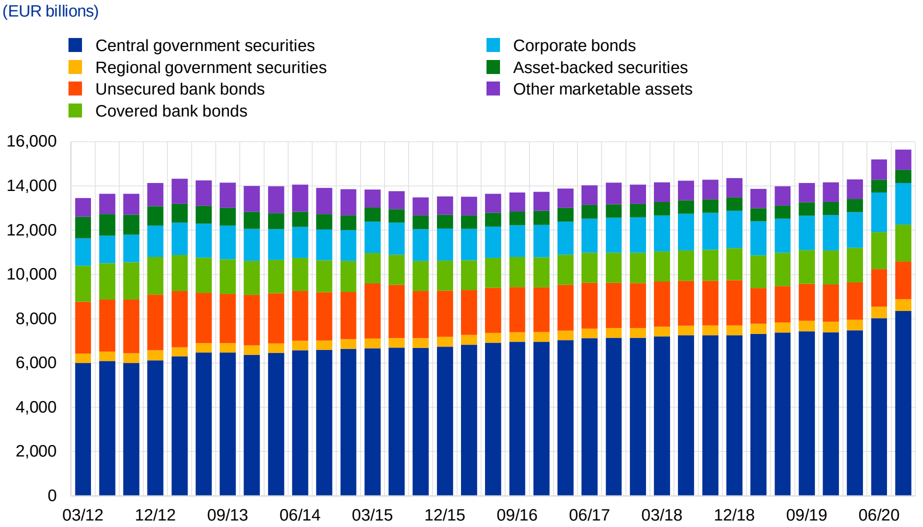
To avoid potential procyclical dynamics of rating downgrades, the Governing Council in addition decided to temporarily maintain the eligibility of marketable assets and the issuers of such assets that fulfilled minimum credit quality requirements on 7 April 2020. In particular, the Eurosystem continues to accept as collateral marketable assets that were eligible for liquidity operations on the reference day, provided that the rating remains above a certain credit quality level and all other eligibility requirements are still fulfilled.

Furthermore, the ECB decided on a temporary general reduction of collateral valuation haircuts by a fixed proportion of 20% across all eligible collateral asset categories, thereby temporarily tolerating more risk on the Eurosystem's balance sheet. In addition, the Governing Council decided to increase the concentration limit for unsecured bank bonds from 2.5% to 10% and lowered the level of the non-uniform minimum size threshold for domestic credit claims to €0 from €25,000 to facilitate the mobilisation as collateral of loans to small corporate entities. As part of its policy response to the economic shock from the pandemic, the Governing Council also decided to temporarily waive the minimum rating requirement for marketable debt securities issued by the Hellenic Republic.

The amount of marketable eligible assets increased by €1,493 billion, reaching a level of €15,657 billion at the end of 2020 (see Chart 19). Central government securities continued to be the largest asset class (€8,385 billion). Other asset classes encompass unsecured bank bonds (€1,667 billion), covered bonds (€1,640 billion) and corporate bonds (€1,872 billion). Regional government bonds (€552 billion), asset-backed securities (€584 billion) and other marketable assets (€958 billion) each accounted for a comparatively small fraction of the universe of eligible assets.

Chart 19

Developments in eligible collateral



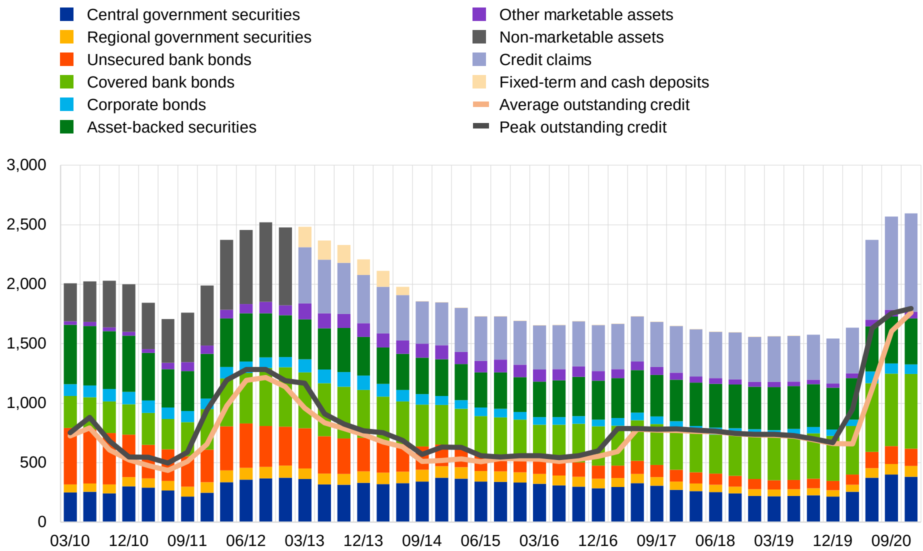
Source: ECB.
Notes: Collateral values are nominal amounts. The averages of end-of-month data for each time period are shown.

The amount of mobilised collateral increased considerably from €1,543 billion to €2,595 billion (see Chart 20). The increase can largely be attributed to credit claims (including additional credit claims), for which mobilised amounts more than doubled from €378 billion to €825 billion. Covered bank bonds represented the second most important asset class (€629 billion) with respect to their use as collateral. Central government bonds (€383 billion) and asset-backed securities (€387 billion) also represented important sources of mobilised collateral. Unsecured bank bonds, regional government bonds and corporate bonds were used to a lesser extent, i.e. €145 billion, €90 billion and €78 billion, respectively.

Chart 20

Developments in mobilised collateral

(EUR billions)



Source: ECB.
Notes: Since the first quarter of 2013 "non marketable-assets" have been split into "credit claims" and "fixed-term and cash deposits". For collateral, the averages of end-of-month data for each time period are shown, and values are after valuation and haircuts. For credit, daily data are used.

2.3 Financial risks associated with the PEPP and APP are mitigated through appropriate frameworks

The APP and PEPP are complementary tools with distinct policy objectives

The main objective of the net asset purchases under the APP is to support the robust convergence of inflation towards the Governing Council's medium-term aim. The APP was complemented by the PEPP, which aims to counter the serious risks to the monetary policy transmission mechanism and to the outlook for the euro area economy posed by the COVID-19 pandemic.

Risk efficiency is a key principle of the Eurosystem's risk management function

All monetary policy instruments, including outright asset purchases, inherently involve financial risks, which are managed and controlled by the Eurosystem. When there are several implementation options to fulfil the policy objectives, the option selected should be efficient both from an operational as well as from a risk perspective. In that context, the Eurosystem's risk management function endeavours to attain risk efficiency: achieving the policy objectives with the lowest amount of risk for the Eurosystem.[20]

Outright asset purchases require specific risk control frameworks

The outright asset purchases require specific financial risk control frameworks which depend on the policy objectives and on the features and risk profiles of the asset types involved. Each of these frameworks consists of eligibility criteria, credit risk assessments and due diligence procedures, pricing frameworks, benchmarks and limits. The APP and PEPP risk control frameworks apply to the purchase of additional

20 See "The financial risk management of the Eurosystem's monetary policy operations", ECB, July 2015.

assets, the reinvestment of principal payments from maturing holdings, and the holdings for as long as they remain on the Eurosystem's balance sheet.

The risk control frameworks not only serve the purpose of mitigating financial risks, but also contribute to the successful achievement of the policy objectives by steering, as much as possible within the given objective, the asset purchases towards a diversified market-neutral asset allocation. In addition, the design of the risk control frameworks also takes into consideration non-financial risks such as legal, operational and reputational risks.

In the following, the current financial risk control frameworks governing the implementation of the APP and PEPP are described.[21] Table 1 summarises the key elements of the applicable frameworks.

[21] See also the "Asset purchase programmes" page on the ECB's website.

Table 1

Key elements of the risk control frameworks for the APP and PEPP

	ABSPP	CBPP3	CSPP	PSPP	PEPP (ABSs, covered bonds and corporate bonds)	PEPP (public sector securities)
Main eligibility criteria	Asset-backed securities eligible as collateral for Eurosystem credit operations; additional location criteria	Covered bonds eligible as own-use collateral for Eurosystem credit operations	Corporate bonds and commercial paper eligible as collateral for Eurosystem credit operations; additional exclusion criteria	Central, regional and local government bonds, and bonds issued by recognised agencies and international or supranational institutions located in the euro area[2], eligible as collateral for Eurosystem credit operations	Same as ABSPP, CBPP3 and CSPP	Same as PSPP
Minimum credit quality	CQS 3[1]	CQS 3	CQS 3	CQS 3	CQS 3[1]	CQS 3 Waiver for debt securities issued by the Hellenic Republic
Minimum remaining maturity	None	None	6 months; 28 days for commercial paper	1 year	Same as ABSPP, CBPP3 and CSPP	70 days
Maximum remaining maturity	None	None	30 years and 364 days; 365/366 days for commercial paper	30 years and 364 days	Same as ABSPP, CBPP3 and CSPP	30 years and 364 days
Issue share limits	70%	70%	70%, for public undertakings 33%/25% (depending on CAC)	50% for supranational bonds, otherwise 33%/25% (depending on CAC)	Purchases as deemed necessary and proportionate	Purchases as deemed necessary and proportionate
Issuer limits	None	Yes	Yes	50% for supranational bonds, otherwise 33%	Purchases as deemed necessary and proportionate	Purchases as deemed necessary and proportionate
Credit risk assessments and due diligence procedures	Yes	Yes	Yes	None	Yes	None
Price review (ex post)	Yes	Yes	Yes	Yes	Yes	Yes

Source: ECB.
Notes: ABS: asset-backed security; CAC: collective action clause; CQS: credit quality step as per the Eurosystem's harmonised rating scale (see the Eurosystem credit assessment framework).
1) ABSs rated below credit quality step 2 have to satisfy additional requirements, which include: (i) no non-performing loans backing the ABS at issuance or added during the life of the ABS; (ii) the cash-flow-generating assets backing the ABSs must not be structured, syndicated or leveraged; and (iii) servicing continuity provisions must be in place.
2) See the "Implementation aspects of the public sector purchase programme (PSPP)" page on the ECB's website.

Eligibility requirements for outright asset purchases

Eligibility criteria apply to all asset classes

In principle, only marketable assets which are accepted as collateral for Eurosystem credit operations are potentially eligible for outright asset purchases. The collateral eligibility criteria for Eurosystem credit operations are stated in the general framework for monetary policy instruments. Among other things, eligible assets are required to meet high credit quality standards by having at least one credit rating[22] provided by an external credit assessment institution (ECAI) accepted within the Eurosystem credit assessment framework (ECAF) qualifying as credit quality step 3 (CQS 3) of the Eurosystem's harmonised rating scale or higher (CQS 1 and CQS 2). For marketable debt securities issued by the Hellenic Republic, this requirement is temporarily waived for purchases under the PEPP and the emergency collateral easing measures in response to the COVID-19 pandemic. Furthermore, assets must be euro-denominated and issued and settled in the euro area.

In addition to the eligibility criteria above, specific eligibility criteria apply depending on the purchase programme. For instance, for the PSPP, CSPP and PEPP, there are minimum and maximum maturity restrictions in place. For the CSPP, assets issued by credit institutions, or by issuers for which the parent undertaking is a credit institution, are not eligible for purchase. Moreover, for the CSPP, CBPP3 and ABSPP, assets issued or originated by wind-down entities and asset management vehicles are excluded from purchases. In the CBPP3, the assets must fulfil the necessary conditions for their acceptance as own-use collateral for Eurosystem credit operations, i.e. they can be used as collateral by the issuing credit institution.[23] In the case of asset-backed securities, the debtors underlying the respective claims must be predominantly located in the euro area.

Credit risk assessments and due diligence procedures

Credit risk assessments and due diligence procedures are conducted on an ongoing basis

For the private sector purchase programmes, the Eurosystem conducts appropriate credit risk assessments and due diligence procedures on the purchasable universe on an ongoing basis. Monitoring frameworks are maintained using certain risk indicators. These assessments and procedures follow the principle of proportionality, where riskier assets are subject to more in-depth analysis. If warranted, additional risk management measures may apply, also subject to the principle of proportionality. These include, in particular, limitations on or the suspension of purchases and, in extraordinary cases, even sales of assets, which require a case-by-case assessment by the Governing Council.

Pricing frameworks

The pricing frameworks ensure that purchases are made at market prices

The pricing frameworks for the APP and PEPP ensure that purchases are made at market prices in order to minimise market distortions and facilitate the achievement of risk efficiency. These frameworks take into account available market prices, the quality of such prices and fair values. Ex post price checks are also conducted in order to

[22] Asset-backed securities are required to have at least two credit ratings by an ECAI.

[23] See Article 138, paragraph 3(b), of Guideline (EU) 2015/510 of the European Central Bank of 19 December 2014 on the implementation of the Eurosystem monetary policy framework (ECB/2014/60) (OJ L 91, 2.4.2015, p. 3).

assess whether the transaction prices reflected market prices at the time of the transactions.

Purchases of eligible debt instruments with a negative yield to maturity are permissible in all asset purchase programmes including, to the extent necessary, those with a yield below the deposit facility rate.

Benchmarks

Benchmarks are used to ensure diversification

Benchmarks are used to ensure the build-up of a diversified portfolio and contribute to mitigating risks. The benchmarks for the private sector purchase programmes are guided by the market capitalisation of the purchasable universe, i.e. the nominal outstanding amounts of the eligible assets satisfying risk considerations. In the case of purchases of public sector securities under the PSPP and PEPP, the ECB's capital key guides the allocation of purchases per jurisdiction on a stock basis. That being said, purchases under the PEPP are carried out in a flexible manner allowing for fluctuations in the distribution of purchase flows over time, across asset classes and among jurisdictions.

Limits

Issue and issuer limits are an effective tool to limit risk concentration

Limit frameworks are in place for the APP. The calibration of issue share and issuer limits[24] takes into account policy, operational, legal and risk management considerations. The limits are fine-tuned according to the asset class, with a distinction being made between public sector assets and private sector assets. Upon the announcement of the PEPP, the Governing Council made clear that to the extent that some self-imposed limits might hamper action that the Eurosystem is required to take in order to fulfil its mandate, the Governing Council would consider revising them to the extent necessary to make its action proportionate to the risks faced.

PSPP issue share and issuer limits are applied to safeguard market functioning and price formation, to ensure proportionality, to limit risk concentration and to ensure that the Eurosystem does not become a dominant creditor of euro area governments. The issue share limit for PSPP-eligible supranational bonds is 50% of the outstanding amount of the asset issued. For all other PSPP-eligible bonds, the issue share limit is set at 33% of the outstanding amount of the issue, subject to a case-by-case verification that it would not lead to the Eurosystem having a blocking minority for the purpose of collective action clauses. Otherwise, the issue share limit is 25%. The issuer limit for supranational issuers is set at 50% of the outstanding amount of eligible assets issued by the respective institution; for other eligible issuers, it is 33%.

For the ABSPP, CBPP3 and CSPP, Eurosystem holdings per issue must not exceed 70%. In the CSPP, lower issue share limits apply in specific cases, for example for assets issued by public undertakings, which are dealt with in a manner consistent with

[24] The issuer limit refers to the maximum share of an issuer's outstanding securities that the Eurosystem could hold.

the treatment under the PSPP. In addition to these issue share limits, issuer limits are applied for the CBPP3 and CSPP. For the CSPP, the issuer limits are defined based on a benchmark allocation related to an issuer group's market capitalisation in order to ensure a diversified allocation of purchases. Moreover, lower limits may apply if warranted based on the outcome of the credit risk assessment and due diligence procedures, as explained above.

Box 2
The review of the ECB's monetary policy strategy

A monetary policy strategy starts from the policy objectives adopted by and/or assigned to monetary authorities, sets out how to achieve these objectives and refers to an appropriate set of monetary policy instruments, indicators and intermediate targets. A monetary policy strategy serves two basic purposes: first, it provides policymakers with a coherent analytical framework that maps actual or expected economic developments into policy decisions; second, it also serves as a vehicle for communicating with the public. When viewed over longer spans of time, monetary policy strategies have always evolved gradually in line with theoretical and empirical advancements and experience, but also reflecting the predominant policy challenges of the times.

The main guideposts of the ECB's current monetary policy strategy are built on the ECB's initial price stability-oriented strategy announced in 1998 and refined in the last strategy review of 2003.[25] This strategy is designed to maintain price stability in the euro area, thereby fulfilling the mandate given to the European System of Central Banks by the Treaty establishing the European Community. Assigning a primary objective of price stability to an independent central bank is rooted in the conviction that a monetary policy that maintains price stability in a credible and lasting way will make the best overall contribution to improving economic prospects and raising living standards.

Since 2003, when the ECB last conducted a strategy review, the euro area and world economies have undergone profound changes. The last decade has been characterised by a persistent decline in inflation and equilibrium interest rates, reflecting secular and still ongoing influences from globalisation, digitalisation and population ageing, reinforced by the legacy of the financial crisis. The existence of ultra-low interest rates has made it harder for central banks to ease monetary policy when inflation is below target and economic growth is weak. The implementation of negative policy interest rates has brought the ECB and other central banks closer to an effective lower bound on these rates, a limit beyond which further interest rate cuts are expected to lose their ability to provide additional economic stimulus. In this context, many central banks, like the ECB, have expanded their set of policy instruments, for instance by adopting asset purchase programmes and providing new forms of long-term financing of the banking sector. Last but not least, climate change has recently surfaced as an ominous and pervasive threat to future economic and societal well-being across the globe, and the likely implications for monetary policy still have to be worked out.

Against this background, the Governing Council launched a strategy review in January 2020. The aim of the review is to thoroughly analyse the forces that are driving all these structural developments, and to consider whether and how the ECB should adjust its monetary policy strategy in response, to make sure it remains fit for purpose. The review takes the mandate assigned by the Treaty as given.

[25] See the article entitled "The stability-oriented monetary policy strategy of the Eurosystem", *Monthly Bulletin*, ECB, January 1999, and the article entitled "The outcome of the ECB's evaluation of its monetary policy strategy", *Monthly Bulletin*, ECB, June 2003.

Due to the pandemic, the review has been somewhat delayed and is expected to be concluded in the second half of 2021.

Scope and process of the review

In principle, the strategy review covers all relevant aspects of the ECB's monetary policy within its mandate. The topics can be grouped according to the ECB's primary objective and other relevant considerations. In relation to the primary objective, elements to be studied and discussed are: How to best measure inflation? What drives inflation developments? How effective and efficient are the ECB's monetary policy instruments, both individually and in combination, in steering inflation? How to quantify the price stability objective? How to best communicate about monetary policy? Regarding other relevant considerations, the main issue is to what extent and under which conditions can monetary policy also take into account developments in the real economy (i.e. the business cycle and employment conditions), risks to financial stability and environmental sustainability (climate change) considerations when a price stability-oriented policy is pursued. In this context, the review also covers the interactions of monetary policy with fiscal and macroprudential policies. In order to deepen understanding of all these key issues, the ECB has set up 13 work streams (see Figure A). In these work streams, Eurosystem staff members from the ECB and national central banks (NCBs) are closely collaborating, with the aim of jointly preparing the analysis supporting the debates within the Governing Council.

Figure A

ECB strategy review work streams

Climate change

Examines the risks posed by climate change and how these risks feed into the monetary policy framework.

Digitalisation

Studies the implications of digitalisation for the functioning of the economy and for the conduct of monetary policy.

Employment

Studies how (un)employment affects the conduct and success of monetary policy.

Eurosystem modelling

Assesses knowledge gaps in the main models used for monetary policy decision-making.

Fiscal and monetary policy in a monetary union

Takes stock of the fiscal policy landscape in the euro area and assesses implications for monetary policy.

Globalisation

Assesses the impact of globalisation on the transmission of monetary policy decisions to the economy and to inflation.

Inflation expectations

Analyses how inflation expectations are formed and deepens the understanding of their main drivers.

Inflation measurement

Analyses the most accurate method of measuring inflation, and assesses potential measurement issues.

Macroprudential policy, monetary policy and financial stability

Contributes to the assessment of the interaction between macroprudential policies, financial stability and monetary policy.

Monetary policy communication

Assesses the ECB's communication strategy in relation to monetary policy decisions and to the general public's understanding of the ECB.

Non-bank financial intermediation

Examines how the changing structure of the financial sector, in particular the growing role of non-banks, affects the conduct of monetary policy.

Price stability objective

Provides analysis on the ECB's numerical formulation of price stability and alternative approaches to achieving price stability.

Productivity, innovation and technological progress

Assesses developments in productivity and technology, and analyses the implications of these developments for monetary policy.

Source: ECB.

Listening as a key element of the review process

To ensure a broad understanding of and support for its monetary policy strategy, the ECB invited a comprehensive range of stakeholders to provide their input into the strategy review process. For this purpose, the ECB organised a number of exchanges and listening activities. The strategy review featured prominently in regular and ad hoc exchanges with Members of the European Parliament. There were also dedicated sessions with the academic community, and the strategy review became a key theme of numerous conferences and seminars with academia, market participants, the central banking community and the media, including the flagship ECB Forum on Central Banking.

Citizens were offered the possibility to submit their views through the ECB Listens Portal. Over a period of eight months, some 4,000 citizens submitted their views, which were compiled in a report and submitted to the Governing Council for consideration. Issues that citizens touched upon included price stability and its meaning in daily life, a broad set of economic issues, ranging from inequality, savings and pensions, as well as unemployment and job precariousness, to the economic outlook, and climate change.

The strategy review also served as a trigger to further enhance the ECB's relations with non-governmental organisations. In this vein, the first "ECB Listens" event was hosted by the ECB President Christine Lagarde and Executive Board member Philip R. Lane on 21 October 2020. This virtual event brought together 22 representatives from 18 civil society organisations, active in nine different sectors. Several organisations noted that the current crisis presents an opportunity to overhaul the ECB's monetary policy strategy, taking into consideration public and civil society concerns. A summary of the input provided by civil society organisations is available on the ECB's website. The input received, together with contributions from other listening activities, is feeding into the ongoing deliberations of the Governing Council.

The ECB and NCBs will continue organising listening activities throughout the strategy review process, but also beyond, with the aim of engaging with all stakeholders to ensure a broad understanding of the new monetary policy strategy that will emerge from it.

3 European financial sector: facing increased risks due to the pandemic

The financial stability environment was significantly affected by the spread of the COVID-19 pandemic during 2020. Not only was the pandemic a public health crisis, it also led to a sharp increase in financial stability vulnerabilities across markets and sectors. Extensive policy support measures were adopted by central banks, governments and other authorities, which helped to contain immediate financial stability risks. Medium-term vulnerabilities nevertheless remained elevated, with a growing vulnerability to asset price corrections, rising debt servicing challenges for firms, households and sovereigns, a further weakening of bank profitability, as well as credit and liquidity risks for non-banks, being the main concerns. In this environment, the ECB took actions to mitigate the financial shocks arising from the pandemic. In particular, macroprudential policy measures focused on maintaining the flow of credit to the economy, while the ECB Banking Supervision microprudential measures focused on mitigating the impact of the crisis and promoting the resilience of the European banking sector. In 2020 the ECB continued to contribute to structural issues, including completing the capital markets union and addressing the increasing challenges that climate risk can pose to the euro area financial system.

3.1 The financial stability environment in 2020

Challenging financial stability environment for banks and non-banks

The coronavirus pandemic amplified existing financial stability vulnerabilities, which were identified by the ECB in previous years. The pandemic, the uncertainty surrounding its future path and its impact on economic prospects and the indebtedness of sovereigns, corporates and households were the key factors influencing financial stability risks in 2020. The economic impact of the crisis across the euro area countries has been very significant, with heterogeneous effects on value-added growth across countries and sectors, amid a pronounced increase in corporate and sovereign indebtedness, in particular in countries with pre-existing high debt levels. An uneven recovery across sectors and countries increased risks of fragmentation. Banks also faced higher risks, reflecting the prospect of deteriorating asset quality linked to the drop in economic activity. Outside the banking sector, investment funds, including money market funds, experienced in March outflows of a magnitude last seen during the global financial crisis, which amplified the market turmoil. Funds had become increasingly vulnerable to large-scale outflows, as they had turned to riskier and more illiquid assets over the last years, encouraged by the low-yield environment. Insurers too sought to boost their returns in a particularly challenging environment characterised by low interest rates and increasing claims stemming from the pandemic.

Four key financial stability vulnerabilities were identified

In the near term, financial stability risks resulting from the pandemic were contained by massive and timely policy support. The importance of policy measures in containing the economic and financial stability impact of the pandemic makes managing the exit from this support equally important. During 2020 four key financial stability vulnerabilities for the euro area over a two-year horizon were identified by the ECB and discussed in the ECB's semi-annual Financial Stability Review (see Figure 1):

Figure 1

Key financial stability vulnerabilities in the euro area

Source: ECB.
Notes: Financial stability assessment as at 25 November 2020. ROE: return on equity.

- First, strength in asset prices and renewed risk-taking made some markets increasingly susceptible to corrections. Following the March turmoil, a notable but uneven rebound in financial markets over the summer contrasted with weak economic fundamentals, with investors potentially giving more weight to the more contained downside economic risks as the year progressed and the deployment of economic policy support measures. In particular, the buoyancy of some equity markets led to some concern about a disconnection from underlying economic fundamentals. Credit spreads fell back to pre-pandemic levels across the rating spectrum and appeared tight in view of the economic outlook, particularly for the high-yield segment of the corporate bond market.

- Second, vulnerabilities increased in the non-financial private and public sectors. Governments across the euro area deployed a wide range of fiscal support measures in response to the pandemic, which entailed sizeable budget deficits in 2020. At the same time, firms drew down on credit lines and issued large amounts of bonds to meet liquidity needs. Higher sovereign and corporate debt levels could therefore give rise to renewed debt sustainability concerns in the future. Household balance sheets were affected modestly by the pandemic thanks to government income support schemes. However, an abrupt ending of measures could lead to a reduced debt servicing capacity of households and a further weakening of already fragile corporate fundamentals. The risk of a correction in residential and commercial property markets also rose during 2020, with increasingly visible signs of overvaluation for the euro area as a whole, and an abrupt and sustained drop in activity in the commercial property market.
- Third, euro area banks faced a combination of growing asset quality concerns, persistent structural problems and ongoing pressures on profitability. Bank profitability was expected to remain weak and to recover only very gradually to levels seen before the outbreak of the pandemic. Furthermore, initial signs of a deterioration in asset quality were observed during 2020, which will eventually translate into credit losses and non-performing loans.
- Fourth, vulnerabilities continued to build up in the non-bank financial sector as a result of renewed risk-taking. Following a return of inflows to euro area investment funds, they reduced the share of liquid asset holdings and increased their longer-duration and lower-rated non-financial corporate debt exposures. This left investment funds vulnerable to large outflows in the event of possible future turmoil. At the same time, insurers faced profitability challenges arising from lower underwriting volumes and higher claim provisions stemming from both the pandemic and a relatively high number of natural catastrophes in 2020.

The potential for these vulnerabilities to materialise simultaneously and possibly amplify each other further increases the risks to financial stability.

Longer-term risks should not be forgotten

Other vulnerabilities beyond the short-to-medium-term horizon with a potential negative impact on the financial sector were also highlighted by the ECB during 2020, notably the financial stability risks posed by climate change (see Box 3) and operational risks stemming from cyber vulnerabilities.

Box 3
The ECB and climate change

Addressing the challenges implied by the impact of climate change has become a central priority for policymakers around the world – including for central banks. The potential consequences of physical and transition risks stemming from climate change are broad, thus affecting a wide range of areas of work, also within the ECB and ECB Banking Supervision. The ECB is exploring all possible ways in which it could contribute to limiting risks from climate change within its mandate. In this context, the ECB has recently created a climate change centre in order to shape and steer the ECB's climate agenda, taking into consideration all perspectives relevant to central banking.

The ECB's contribution to policy discussions on climate change

The impact of climate change is closely monitored by ECB staff from multiple angles. Work has started to incorporate climate risks into the ECB's models and forecasting methods, and to assess their consequences for the conduct of monetary policy, for financial stability, as well as for the ECB's own investment portfolios. Green bonds have gained importance in the ECB's asset purchase programmes, and new types of climate-related financial instruments are being closely monitored. Supervisors are also actively engaging with banks to raise awareness of risks emerging from climate change to ensure that those risks are properly accounted for and managed in banks' strategies. Against this background, this box provides an overview of the main areas of work at the ECB on this cross-cutting topic, that is, in the core policy areas of financial stability and prudential policy, macroeconomic analysis and monetary policy, financial market operations and risk management, financial market infrastructures and payments, research and statistics, as well as EU policy and financial regulation. The main activities ongoing internally, within the Eurosystem and in international fora are described, also highlighting the work ahead and the main challenges that ECB staff will focus on over the coming years.

Regarding **financial stability**, the ECB is working with the Financial Stability Committee of the European System of Central Banks (ESCB), in close collaboration with the European Systemic Risk Board (ESRB), on state-of-the-art climate risk monitoring and assessment. This work builds on an initial first year of work, the results of which were published in an ESRB report in June 2020. In its second year of existence, the project team aims to develop a risk monitoring dashboard for financial intermediaries, as well as to explore new modelling approaches to capture the long-term trade-offs of climate risks. Financial intermediaries' exposures to climate-related risks continued to be analysed in dedicated boxes in the ECB's Financial Stability Review. The ECB is also developing a top-down, economy-wide climate stress test, based on extremely granular information on firms' vulnerability to climate risks and banks' exposures. This exercise will inform the public debate on the materiality of transition and physical risks over a 30-year horizon based on forward-looking scenarios, and will also lay the foundations for eventual macroprudential policy measures in this field.

ECB Banking Supervision published the ECB Guide on climate-related and environmental risks in November 2020, setting out its supervisory expectations under the current prudential framework. It describes how the ECB expects institutions to consider climate-related and environmental risks when formulating and implementing their business strategy and governance and risk management frameworks. It furthermore explains how the ECB expects institutions to become more transparent by enhancing their climate-related and environmental disclosures. Moreover, the ECB assessed the climate-related and environmental risk disclosures of all institutions under its direct supervision. While there has been some improvement since the previous year, the report finds that disclosure statements are only sparsely substantiated with relevant quantitative and qualitative information and that most institutions do not yet comprehensively disclose their risk profile.

The ECB is moreover working on the **macroeconomic impact** of climate risks. In particular, work is ongoing to investigate the macroeconomic risks stemming directly from climate change, and from policies aiming at climate risk mitigation and adaptation. ECB staff are also assessing the need for the adaptation of macroeconomic models and the macroeconomic projections supporting monetary policy decisions. The ECB has been analysing the macroeconomic implications of climate change for the conduct of **monetary policy**. The focus was on the implications of climate change and related transition policies for: (i) the transmission of monetary policy and credit provision; (ii) the natural rate of interest and the monetary policy space; and (iii) the conduct of monetary policy in a context of heightened intensity and volatility of macroeconomic shocks. In the context of the monetary policy strategy review, attention has also been devoted to how climate change might affect the conduct of monetary policy, taking into account the remit to maintain price stability and to support the general economic policies in the Union, with a view to contributing to the achievement of the Union's objectives foreseen in Article 3 of the Treaty on European Union. Moreover, Article 11 of the Treaty on the Functioning of the European Union provides that environmental protection requirements must be integrated into the definition and implementation of Union policies and activities, in particular with a view to promoting sustainable development.

The ECB is also reflecting on how to address climate change considerations within the Eurosystem **monetary policy implementation and risk management** frameworks. This analysis hinges on improving the available information on the exposure of economic agents to climate change-related risks and opportunities. The currently available data are however inconsistent, largely incomparable and at times unreliable. The ECB has therefore been calling for more standardised and widespread disclosures of climate-related information. In this context, the ECB, as a user of credit ratings, is also interested in understanding how climate change risks are incorporated into the respective rating processes. While acknowledging that credit rating agencies have taken some steps towards the incorporation of environmental risks into credit ratings, there is still significant room for improvement, especially related to the disclosure of the relevance and materiality of climate change risks in credit ratings.

In its **staff pension fund**, which is passively managed by two external asset managers, the ECB pursues a broad sustainable and responsible investment (SRI) policy based on selective exclusion and proxy voting guidelines that incorporate environmental, social and governance standards. In 2020 all conventional equity benchmark indices tracked by the staff pension fund were replaced with their low-carbon equivalents, which significantly reduced the carbon footprint of the equity portfolios. Going forward, the ECB aims to explore the possible expansion of low-carbon indices to fixed income asset classes. In its **own funds portfolio**, the ECB applies a thematic SRI strategy that targets an increase of the share of green securities. This strategy is being progressively implemented by means of direct purchases of green bonds in secondary markets, to be complemented by exposures obtained through other investment vehicles.

High-quality climate-related statistics and data are a necessary precondition to allow an informed analysis of climate change topics and the related risks relevant for central banking purposes. To address those needs, the ESCB Statistics Committee prepared a systematic overview of the existing data sources, user needs, methodological challenges, and data gaps that need to be filled. In an environment of evolving user needs, statistical work will first focus on developing a set of indicators, initially on an experimental basis, covering the amount of green financial instruments, the carbon footprint of financial institutions, as well as their exposures to climate-related physical risks.

ECB staff are increasingly pursuing **research projects** in the field of climate change. A number of research papers have already been published in the ECB Working Paper Series, including a study of the impact of natural disasters on inflation[26], an analysis of the role financial markets play in the green transition[27], a study of the optimal design of carbon taxes[28] and an analysis of the link between

[26] See Parker, M., "The impact of disasters on inflation", *Working Paper Series*, No 1982, ECB, November 2016.

[27] See De Haas, R. and Popov, A., "Finance and carbon emissions", *Working Paper Series*, No 2318, ECB, September 2019.

COVID-19 infections and local environmental features[29]. Research work in progress includes analyses of the risk exposures of large banks, the role banks play in fuelling climate change, the pricing of green bonds, the effect of the EU's Emissions Trading System on firms' pollution, the climate change insurance gap, the impact of climate change on equity pricing, and the effect of carbon taxes on decarbonisation, among others.

In relation to **financial market infrastructures (FMIs) and payments**, the ECB, in collaboration with other euro area national central banks (NCBs), launched two work streams: the first aims to understand how to best study the environmental footprint of non-cash payments and the second aims to understand the potential impact of climate risks on FMIs, initially focusing on central counterparties. In the area of **banknotes**, the ECB together with the Eurosystem NCBs as well as the accredited manufacturers continued their efforts to make euro banknotes greener. The next agreed targets include moving towards more environmentally friendly raw materials and conducting dedicated projects to reduce the environmental impact of banknotes during their production, during their use and at the end of their life.

The ECB continued to contribute to the development of the regulatory framework in **EU and international fora**. It provided impetus to the EU policy agenda by publishing a comprehensive Eurosystem reply to the European Commission's public consultations on the Renewed Sustainable Finance Strategy and the revision of the Non-Financial Reporting Directive. As a member of the technical expert group on sustainable finance and its successor – the Platform on sustainable finance – the ECB supported EU policy initiatives related to the taxonomy framework and the improvement of its usability for the banking sector. Recently, the ECB has been contributing to preparatory work on possible EU non-financial reporting standards. The ECB has also emphasised in international fora (including the G7, the G20 and the Basel Committee on Banking Supervision (BCBS)) the importance of developing internationally consistent regulatory frameworks and preventing regulatory fragmentation.

As a member of the **Network for Greening the Financial System (NGFS)**, the ECB has been actively involved to promote a smooth transition towards a low-carbon economy, providing important contributions to all of the five dedicated work streams into which the network has structured its work (microprudential and supervision; macro-financial; scaling up green finance; bridging data gaps; and research). In recognition of its active role and contribution, the ECB joined the network's executive body, the Steering Committee, in 2020. The ECB is also contributing to the **BCBS high-level Task Force on Climate-related Financial Risks (TFCR)**, which is working on two analytical reports, one on transmission channels of climate risks and the other on measurement methodologies.

The ECB's sustainability and environmental performance

In 2020 the ECB celebrated the 10th anniversary of its certified environmental management system, which is run in accordance with the EU Eco-Management and Audit Scheme (EMAS) and ISO 14001. During the past decade efforts aimed at improving the ECB's environmental performance have brought about visible results. Between 2008 and 2019 the ECB's carbon footprint decreased by 38%

[28] See Benmir, G., Jaccard, I. and Vermandel, G., "Green asset pricing", *Working Paper Series*, No 2477, ECB, October 2020.

[29] See Agnoletti, M., Manganelli, S. and Piras, F., "Covid-19 and rural landscape: the case of Italy", *Working Paper Series*, No 2478, ECB, October 2020.

despite a substantial increase in reporting scope and workplaces. In the same period emissions per workplace were reduced by 75%, mostly driven by a decrease in energy consumption, the purchase of renewable electricity, as well as an improvement in the emissions related to the commuting of staff to and from work (prior to the shift to a teleworking environment in 2020). Further details on the ECB's environmental performance are available in the 2020 update of the ECB's Environmental Statement.

In 2020 the ECB carried out several activities to improve the environmental performance of daily operations, despite the challenges posed by the COVID-19 pandemic. Beehives, insect hotels and bird and bat houses have been installed in order to further foster biodiversity on the ECB's premises and irrigation patterns were adjusted to further reduce the ECB's water consumption. Although hygiene requirements have affected the ECB's waste system, the efforts to reduce residual waste will continue, with a shift towards reusable solutions wherever possible and with improvements to the waste infrastructure on the office floors. Awareness-raising and staff engagement activities were carried out exclusively in online formats throughout 2020, with lectures and workshops on reducing the environmental impact of working from home. These activities included participation in the WWF Earth Hour, the Earth Overshoot Day, the European Mobility Week and the European Week for Waste Reduction.

As the pandemic resulted in reduced business travel and more online meetings, discussions are ongoing to sustain the reduction in business travel in the long run and to develop a systematic approach to sustainable meetings and events, both physically and online.

Looking ahead, the ECB will set even more ambitious environmental targets, in line with the leading international efforts to fight climate change, while continuing the refinement of its methods to account for carbon emissions, and the compensation of its residual carbon emissions jointly with a growing number of European institutions. Finally, from 2022 the ECB plans to report in a holistic manner on its overall sustainability, thus going beyond its environmental performance.

3.2 Macroprudential policy to mitigate banking sector procyclicality and support the economic recovery

Macroprudential policies are a key instrument to address financial stability vulnerabilities

Vulnerabilities in the financial system that have the potential to cause systemic risks can be addressed through macroprudential policies. The SSM Regulation assigns an important role and specific powers to the ECB in this field. The ECB has the task of assessing prospective macroprudential measures for banks provided for in EU legislation and adopted by national authorities in countries participating in the Single Supervisory Mechanism (SSM), and the power to apply more stringent measures than those adopted nationally. In response to the coronavirus outbreak in 2020, national authorities in the euro area, in consultation with the ECB, took important macroprudential policy actions to ensure financial stability and mitigate the economic impact of the pandemic shock.

Proactive macroprudential policy to support the economy and preserve financial stability

The ECB proactively supported the policy actions of macroprudential authorities across the euro area

The ECB took a proactive approach and acted swiftly in the field of macroprudential policy, thereby making an important contribution to supporting the real economy while ensuring financial stability. It encouraged and supported the policy actions of macroprudential authorities across the countries participating in the SSM, making banks' capital available to absorb losses and support lending to households and businesses. These national authorities released more than €20 billion of capital buffer requirements[30], mostly through the full or partial release of countercyclical capital buffers (CCyBs).

Ensuring that capital buffers are usable is crucial for the effectiveness of macroprudential policy. To this end, the ECB encouraged banks to use their capital and liquidity buffers for lending purposes and loss absorption, thus helping to stabilise the real economy. Buffer usability was further supported by the decision to allow banks to operate below the combined buffer requirement until at least end-2022, without automatically triggering supervisory actions. Additionally, the ECB emphasised that it would not require banks to start replenishing their capital buffers before the peak in capital depletion is reached, and in any case not before end-2022.

Creating macroprudential policy space through more releasable buffers is desirable

Going forward, there is increased awareness that in the medium term a rebalancing between structural and cyclical capital requirements seems desirable to create macroprudential policy space. Developments during 2020 demonstrated that, beyond the overall level of bank capital, releasable buffers that are accumulated in good times are important to support loss absorption and lending in a downturn. The macroprudential policy space was limited at the onset of the pandemic, with the CCyB, which is fully releasable, only accounting for a small fraction of bank capital in the euro area (0.11% against a Common Equity Tier 1 ratio of 14.9%).[31] This mainly reflected the slow recovery of the financial cycle in the aftermath of the financial and sovereign debt crises. Looking ahead, as conditions normalise, a review of the buffer framework may be warranted to assess whether a rebalancing between structural and cyclical buffers can contribute to ensuring that sufficient flexibility in the form of releasable buffers is available to respond to economic downturns.

Last but not least, the ECB continued to enhance its communication on macroprudential policy issues, raising awareness by making the ECB's ongoing work and thinking in this field more transparent.[32] The November 2020 Financial Stability Review contained a section providing a forward-thinking macroprudential perspective on replenishing capital buffers. Besides speeches, press releases and other publications such as occasional papers, the ECB continued publishing its biannual Macroprudential Bulletin, presenting analytical advances and assessments of topical macroprudential issues. Building on the experience gained in the crisis, the last issue of 2020 was dedicated to macroprudential capital buffers, offering insights into the

30 See "Financial Stability Review", ECB, November 2020.

31 See "Financial Stability Review", ECB, November 2020.

32 See, for example, "COVID-19 Vulnerability Analysis", ECB Banking Supervision, 28 July 2020, and Budnik, K. et al., "Banking euro area stress test model", *Working Paper Series*, No 2469, ECB, September 2020.

lending impact, possible impediments to buffer usability, and the relevance of macroprudential space. The ECB also continued to publish on its website an overview of currently active macroprudential measures in countries subject to ECB Banking Supervision.

Macroprudential policy decisions during 2020

The ECB assessed 116 macroprudential policy decisions in 2020

In line with its legal mandate, the ECB in 2020 assessed notifications by the national authorities in the euro area of 116 macroprudential policy decisions regarding instruments targeting cyclical and structural systemic risks, as well as other measures under Article 458 of the Capital Requirements Regulation (CRR). This also included notifications by Българска народна банка (Bulgarian National Bank) and Hrvatska narodna banka during the last quarter of the year, following the establishment of close cooperation from 1 October 2020. Most notifications were related to the setting of CCyBs or the identification of global and other systemically important institutions (G-SIIs and O-SIIs) and the calibration of the respective capital buffers. The Governing Council of the ECB did not object to any of the macroprudential policy decisions that national authorities notified during 2020.

Following the coronavirus outbreak, many of the measures notified to the ECB aimed to mitigate the impact of the pandemic shock on both the stability of the financial system and the real economy. Thus, several national authorities opted to release some of the capital buffers built up in the preceding years.

Among the seven euro area countries that had activated the CCyB, six of them decided to fully or partially release the CCyB and to revoke previously announced increases of the buffer. The aim was to enable banks to use the released capital to continue supporting the real economy through lending to households and firms, as well as to absorb potential credit losses. At the time of writing, the euro area countries that still maintained a positive CCyB were Luxembourg and Slovakia.

Regarding macroprudential instruments targeting other risks, the ECB assessed national authorities' decisions on O-SII buffers, systemic risk buffers (SyRBs), as well as macroprudential measures under Article 458 of the CRR. In response to the coronavirus pandemic shock, a few countries decided to fully or partially release the SyRB, and to adjust the O-SII buffers for banks that would otherwise be restricted in drawing down on the SyRB, given the interactions between the two requirements stipulated in Article 131 of the Capital Requirements Directive.

Finally, some countries opted to postpone the phasing-in or introduction of announced measures, for example the phasing-in of O-SII buffers and the introduction of an announced measure under Article 458 of the CRR.

Cooperation with the European Systemic Risk Board

The ECB continued to provide analytical, statistical, logistical and administrative support to the European Systemic Risk Board (ESRB) Secretariat, which is in charge of the day-to-day business of the ESRB. The ESRB is responsible for the macroprudential oversight of the EU financial system and the prevention and mitigation of systemic risk.

The year was marked by the COVID-19 pandemic. Responding to the shifting pattern of risks, the ESRB moved into crisis mode in April and May 2020 and increased the frequency of its policy meetings. The ESCB actively participated in and contributed to the ESRB's response to the pandemic and the ongoing identification and monitoring of potential systemic risks, and provided general support to work undertaken by the ESRB. For example, it actively participated in ESRB work which led to a number of measures in relation to: (i) the implications for the financial system of loan guarantee schemes and other fiscal measures aimed at protecting the real economy; (ii) market illiquidity and its implications for asset managers and insurers; (iii) the impact of procyclical bond downgrades on markets and entities across the financial system; (iv) system-wide restrictions on dividend payments, share buy-backs and other payouts; and (v) liquidity risks arising from margin calls. In addition, the ESCB contributed to the discussion within the ESRB on longer-term policy issues relating to the EU banking sector in the light of the COVID-19 pandemic. This work aimed to provide an overview of the various challenges that policymakers might face in the future.

After the gradual return to the regular policy cycle over the summer, the ECB continued cooperating with the ESRB Secretariat on the work related to monitoring the financial stability implications of the fiscal measures to protect the real economy in the context of the COVID-19 pandemic. An expert group was established in June 2020 under the auspices of the ESRB General Board. It is mandated to conduct regular EU-wide monitoring of the financial stability implications arising from temporary measures that governments have put into place in response to the COVID-19 pandemic, with a focus on cross-border and cross-sectoral implications.

The ECB also contributed to the continued development of risk metrics for non-banks. This work included the fifth issue of the EU Non-bank Financial Intermediation Risk Monitor, which presents an overview of developments in the non-bank financial sector, with a focus on assessing potential risks to financial stability.

Furthermore, the ECB worked together with the ESRB on developing and implementing methodologies for conducting an impact study of how different climate change scenarios could affect the EU financial sector. In June 2020 the ESRB published a report, which also provided a mapping of different methodologies, an assessment of data availability and an overview of the type of financial institution exposures to be analysed when conducting climate-related risk analysis.

In addition, the ECB actively participated in the European Systemic Cyber Group, which is developing an analytical framework for assessing cyber risks.

The ECB also chaired a task force mandated to prepare an ESRB Recommendation to further advance the adoption of the Legal Entity Identifier (LEI) in the EU. The work was successfully concluded in September 2020, with the adoption of the ESRB Recommendation on identifying legal entities.

Lastly, the ECB chaired the ESRB Task Force on Stress Testing, which prepared the adverse scenarios for the 2021 stress tests of the European Banking Authority and the European Insurance and Occupational Pensions Authority. To this end, several Directorates General of the ECB provided critical technical and modelling support to the ESRB's task force.

More detailed information on the ESRB can be found on its website and in its Annual Reports.

3.3 Microprudential activities to ensure the soundness of individual banks

Bulgaria and Croatia became the first Member States outside the euro area to join European banking supervision

In 2020 the Single Supervisory Mechanism welcomed two new members. Bulgaria and Croatia became the first countries outside the euro area to join European banking supervision in accordance with the close cooperation framework foreseen in the SSM Regulation for non-euro area Member States. Based on the Governing Council decisions to establish close cooperation[33] with the Bulgarian National Bank[34] and Hrvatska narodna banka[35], the number of significant institutions directly supervised by the ECB increased, with the addition of five banks in Bulgaria and eight banks in Croatia in October 2020.[36] The ECB is also responsible for the oversight of the less significant institutions and the common procedures for all supervised entities in the two countries. The Bulgarian National Bank and Hrvatska narodna banka each have a representative on the ECB's Supervisory Board with the same rights and obligations as all other members, including voting rights.

ECB Banking Supervision implemented a more efficient organisational structure and enhanced transparency

Within ECB Banking Supervision, the year saw its transformation into a more mature and transparent organisation. Bank-specific supervision was reorganised according to banks' business models and supported by teams of risk or subject matter experts. The second line of defence – the supervisory risk function – was introduced to conduct strategic planning, while the on-site supervision function became structurally independent. The new organisational set-up shifted towards more risk-focused supervision, while ensuring the consistency of supervisory outcomes. The reorganisation strengthened both the ECB's role as a prudent, efficient and transparent supervisor and the cooperation with the national competent authorities within the SSM.

In an effort to improve transparency, the ECB for the first time published aggregate data by business model and bank-by-bank information on Pillar 2 requirements (P2R), i.e. one year earlier than required by the revised Capital Requirements Regulation.

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33 Following the relevant requests for close cooperation with the ECB, the comprehensive assessment of Bulgarian banks was conducted in 2019 and the comprehensive assessment of Croatian banks was performed in 2020.

34 See "ECB establishes close cooperation with Bulgaria's central bank", *press release*, ECB Banking Supervision, 10 July 2020.

35 See "ECB establishes close cooperation with Croatia's central bank", *press release*, ECB Banking Supervision, 10 July 2020.

36 See "ECB lists Bulgarian and Croatian banks it will directly supervise as of October 2020", *press release*, ECB Banking Supervision, 11 September 2020.

The publication of individual P2R aimed to shed light on the state of European banks, while helping banks to compare their own position with that of their peers and providing more transparency to investors.

Furthermore, the ECB launched a public consultation on the draft Guide on the supervisory approach to consolidation in the banking sector. This Guide should enhance the transparency and predictability of supervisory actions and help credit institutions to design prudentially sustainable projects.

European banking supervision swiftly reacted to the outbreak of the COVID-19 crisis with a package of supervisory relief measures

The coronavirus turned out to be an unprecedented shock at the global level, but thanks to the active role of the SSM in recent years, European banks entered this crisis with much stronger capital and liquidity positions, and a much-improved asset quality. The ECB reacted swiftly by adopting several supervisory relief measures to enable banks to absorb losses and keep lending to the real economy. For example, the ECB encouraged supervised entities to fully use capital and liquidity buffers, including Pillar 2 guidance, while signalling to markets that they should not penalise banks for using the flexibility provided.[37] Supervisory flexibility regarding the treatment of non-performing loans was introduced, in particular to allow banks to fully benefit from guarantees and moratoria put in place by public authorities.[38] The ECB adopted a pragmatic (i.e. simplified) approach towards the 2020 Supervisory Review and Evaluation Process (SREP) cycle.[39] The new approach reduced the burden on supervised banks, while maintaining a clear and accurate view of their soundness. Furthermore, at that juncture, banks were encouraged to smooth the procyclicality embedded in their IFRS 9 loan loss provisioning models and – if not yet done – to start applying the IFRS 9 transitional calendar available under the Capital Requirements Regulation.[40] The ECB also extended the deadlines for certain non-critical supervisory measures and data requests, as well as for the implementation of remedial actions stemming from on-site inspections and internal model investigations.

After having analysed the vulnerability of European banks during the first weeks of the COVID-19 crisis, the ECB reviewed some of its decisions. For example, its initial recommendation to banks on dividend distributions and share buy-backs was extended until 1 January 2021. Later on, the ECB called on banks to refrain from or limit dividends until 30 September 2021. Furthermore, to ease the implementation of monetary policy, the ECB allowed banks to exclude certain central bank exposures from the leverage ratio.[41]

All the supervisory relief measures were communicated to banks and the public in an efficient and transparent manner via diverse channels, including letters, supervisory

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[37] See "ECB Banking Supervision provides temporary capital and operational relief in reaction to coronavirus", *press release*, ECB Banking Supervision, 12 March 2020.

[38] See "ECB Banking Supervision provides further flexibility to banks in reaction to coronavirus", *press release*, ECB Banking Supervision, 20 March 2020.

[39] See McCaul, E., "A pragmatic SREP delivers appropriate supervision for the crisis", *The Supervision Blog*, ECB Banking Supervision, 12 May 2020.

[40] See "ECB Banking Supervision provides further flexibility to banks in reaction to coronavirus", *press release*, ECB Banking Supervision, 20 March 2020.

[41] See "ECB allows temporary relief in banks' leverage ratio after declaring exceptional circumstances due to pandemic", *press release*, ECB Banking Supervision, 17 September 2020. The Capital Requirements Regulation, as amended by the CRR "quick fix", allows banking supervisors, after consulting the relevant central bank, to permit banks to exclude central bank exposures from their leverage ratio.

dialogue with Joint Supervisory Teams, FAQs, press releases, blog posts and speeches.

At the beginning of the COVID-19 crisis, the ECB extended some operational flexibility to the entities which were preparing for Brexit, but later on the supervisory dialogue resumed and intensified. Many banks either made considerable progress or were well on track towards achieving their post-Brexit target operating models, which will enable them to trade, book and manage risk in the EU in a way that ensures prudent risk management and effective supervision. The ECB kept signalling that banks needed to be prepared for all possible outcomes at the end of the transition period. Considerable supervisory attention was also paid to ensuring that supervised banks achieved their target operating models within the previously agreed timelines. This would ensure that any outstanding medium-term Brexit risks would be addressed consistently and effectively.

European banking supervision kept enhancing its tools

Lastly, following a public consultation, the ECB finalised the Guide that shows how the ECB assesses the compliance of banks' counterparty credit risk models with regulatory requirements. It is relevant for banks that apply to extend or make changes to their internal models, as well as for the ECB's ongoing monitoring of such models or internal model investigations. The ECB also adopted and published the Guideline on the materiality threshold for credit obligations past due for less significant institutions, which ensures consistency with the rules applying to significant institutions.[42]

More detailed information on ECB Banking Supervision can be found on its website and in the 2020 ECB Annual Report on supervisory activities.

3.4 The ECB's contribution to European policy initiatives

Regulatory reforms after the global financial crisis built a more resilient financial sector

Ten years of significant regulatory reforms after the global financial crisis contributed to ensuring that the financial system was well prepared for withstanding the shocks caused by the COVID-19 pandemic. Despite substantial progress, there are still important legal and institutional challenges that need to be overcome before European banks can operate within a truly integrated framework, also to the benefit of users of financial services. Further efforts are also needed to develop capital markets, while at the same time strengthening the regulatory and supervisory frameworks for the non-bank financial sector. 2020 was also a year of unprecedented action by the European Union in the area of economic policy. In July 2020 EU leaders agreed that, for the first time in its history, the Union would issue common debt in response to a common economic shock. Box 4 provides an overview of the wider EU crisis response and its implications for the real economy and the financial sector.

[42] Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012 (OJ L 176, 27.6.2013, p. 1), and in particular Article 178(2) thereof.

Completing the banking union

The ECB contributed to the banking union completion debate

Following the letter of the Chair of the High-Level Working Group on a European Deposit Insurance Scheme (EDIS) to the President of the Eurogroup in December 2019, the ECB continued to contribute to the debate on the completion of the banking union in European fora.

At its meeting at the end of November 2020, the Eurogroup reached a milestone agreement on the revised Treaty establishing the European Stability Mechanism and the early introduction of the common backstop to the Single Resolution Fund.

In this context, the ECB continued to contribute to the joint monitoring reports on risk reduction (see the June edition and the November edition), prepared together with the European Commission and the Single Resolution Board. The November 2020 report also provided additional analyses of non-performing loans (NPLs) and minimum requirements for own funds and eligible liabilities (MREL) positions. On the basis of the November 2020 report and following a positive assessment on risk reduction, the Eurogroup agreed on the early introduction of the common backstop.

In addition, the ECB supported the debate on cross-border integration of banking groups. In this context, in a joint blog post two ECB officials made concrete proposals to foster an efficient allocation of liquidity resources within banking groups, while at the same time providing safeguards to host authorities.[43]

Turning to the revision of the crisis management framework, the ECB supported efforts to ensure that the framework provides for best-practice tools to deal with smaller, deposit-taking banks. The ECB argued in favour of improving the framework for early intervention measures in order to ease its practical implementation.[44] The ECB also highlighted the importance of ensuring that banks which have been declared failing or likely to fail may exit the banking market within a reasonable time frame. Work on crisis management policy will continue. In this regard, it is important to note that the European Commission initiated the review of the bank crisis management and deposit insurance framework.

Advancing the capital markets union

The ECB called for renewed efforts to advance the capital markets union

In 2020 the ECB called for renewed efforts to advance the capital markets union (CMU), in view of the many challenges the EU is facing.[45] These include funding the post-COVID-19 recovery, ensuring the transition to a low-carbon economy, increasing the international role of the euro and addressing the consequences of Brexit for financial services, as underlined in the ECB's November 2020 Financial Stability Review.

43 See Enria, A. and Fernandez-Bollo, E., "Fostering the cross-border integration of banking groups in the banking union", *The Supervision Blog*, ECB Banking Supervision, 9 October 2020.

44 See Opinion of the European Central Bank of 8 November 2017 on revisions to the Union crisis management framework (CON/2017/47) (OJ C 34, 31.1.2018, p. 17).

45 See, for example, de Guindos, L., Panetta, F. and Schnabel, I., "Europe needs a fully fledged capital markets union – now more than ever", *The ECB Blog*, ECB, 2 September 2020.

The ECB welcomed the European Commission's new CMU Action Plan published in 2020 and stressed the need for concrete actions and true political will and ambition in order to achieve significant progress. The ECB highlighted a number of policy priorities to boost capital markets, including those aimed at increasing equity financing to support growth and innovation.[46] The priorities relate to harmonisation in targeted areas of corporate insolvency rules and of withholding tax and corporate action processing in the post-trade domain. Progress towards supervisory convergence, including proposing measures for stronger supervisory coordination or direct supervision by the European Supervisory Authorities, will be essential to ensure the consistent implementation of the single rulebook across the European Union. In addition, initiatives on financial education or pension saving options would help citizens to reap the benefits of the CMU.

The ECB continued to contribute significantly to the CMU by supporting the development and integration of pan-European financial market infrastructures (see Section 4.3).

Revision of the prudential framework for banks and non-banks

A sound prudential framework for non-bank financial institutions is indispensable

Parts of the non-bank financial sector, including money market funds and some investment funds, experienced significant stress during the March market turmoil. While a greater role for non-bank financial intermediation in financing the economy is one of the CMU objectives, it continues to be crucial to effectively monitor this sector.

Enhancing the resilience of the non-bank financial sector in a way that reflects macroprudential perspectives is indispensable to adequately address the systemic risks that could materialise in this sector. Thus, in 2020, the ECB continued to advocate macroprudential regulatory reforms for the non-bank financial sector and contributed extensively to the related technical discussions in EU and international fora.

The ECB supported initiatives to ensure the resilience of banks

Regarding the prudential framework for the banking sector, the ECB supported the European Commission's proposal for targeted amendments to the CRR in response to the COVID-19 pandemic. The ECB found it complementary to its mitigating supervisory measures and provided its views in its legal opinion. In particular, the ECB endorsed changes with regard to the transitional arrangements for mitigating the impact of IFRS 9 provisions on regulatory capital, the temporary extension of the preferential treatment of NPLs guaranteed by national governments or other public entities and the postponement of the application of the leverage ratio buffer for global systemically important banks.

In addition, the ECB suggested adjustments to the mechanism for the temporary exclusion of certain exposures to central banks from the calculation of the leverage ratio, with the aim of increasing the effectiveness of monetary policy measures employed to mitigate the economic impact of the COVID-19 pandemic and support bank lending to households and businesses. Furthermore, in line with the standard of

46 See "Financial Integration and Structure in the Euro Area", ECB, March 2020.

the Basel Committee on Banking Supervision, the ECB highlighted the need for more flexibility for competent authorities when assessing market risk internal models in order to maintain credit institutions' ability to provide market liquidity and to conduct market-making activities, thereby supporting the real economy.

Box 4
The EU fiscal response to the crisis and the impact on the banking sector and European integration

Crisis impact and why it required a European response

The coronavirus pandemic presented unprecedented challenges to Europe's economies during 2020. The scale and the common nature of the economic shock argued strongly in favour of a common response: while the coronavirus pandemic affected all EU Member States, the crisis threatened to trigger fragmentation and potentially costly divergences among countries in the longer term, which would undermine the Single Market with negative repercussions for all Member States.

This is why in April 2020 the Eurogroup agreed on a first set of measures – the so-called three safety nets – to help Member States address the immediate effects of the necessary containment measures on their economies. Jointly, Pandemic Crisis Support from the European Stability Mechanism, the Pan-European Guarantee Fund of the EIB Group and the European instrument for temporary support to mitigate unemployment risks in an emergency (SURE) make up to €540 billion in loans and guarantees available to support European sovereigns, firms and workers.

As the crisis continued to unfold, it became increasingly clear that the size and duration of the shock would require continued exceptional support. In late July 2020, along with the EU budget, the EU Heads of State or Government agreed on the one-off recovery fund "Next Generation EU" (NGEU) of €750 billion to be financed through common EU borrowing. The ECB advocated a common European economic response to the crisis early on and, in line with the competences bestowed upon it by the Treaty, contributed to the discussions in EU fora by providing timely information on the European economic outlook and expected financing needs.

Key features of the Recovery and Resilience Facility

The NGEU recovery instrument has been designed to predominantly target those countries most severely affected by the crisis. The largest programme under NGEU, the Recovery and Resilience Facility (RRF), will provide up to €312.5 billion in grants and up to €360 billion in loans to EU Member States to finance pre-agreed investments and reforms. Disbursements will take place upon the successful achievement of pre-agreed milestones and targets and the investments and reforms have to be implemented by end-2026 at the latest. The thus-financed investments and reforms should aim to enhance the resilience, growth and employment potential of economies by addressing the country-specific recommendations specified each year under the European Semester. The investments and reforms should also help to accelerate the green and digital transitions, with at least 37% of all RRF funding being earmarked for climate-related expenditure and 20% for digitalisation projects.

Supporting the recovery of the real economy and implications for government debt

Fiscal support both at the national and EU levels has been essential in mitigating the impact of the pandemic on the economy. While a temporary deep economic contraction was unavoidable due to lockdowns, it was important to minimise any permanent damage to the economy by protecting production capacities and jobs. The European fiscal response facilitates a level playing field in the support to businesses and households by supporting Member States which have been particularly hard hit by the crisis and went into it with already elevated public debt levels. Next Generation EU can provide significant macroeconomic support of almost 5% of euro area GDP, if fully used. Around two-thirds of the grants under NGEU allocated to euro area countries are expected to be directed towards six countries with debt-to-GDP ratios above 100%.

The European fiscal measures also alleviate the major burden that the crisis places on national public finances. The operation of automatic fiscal stabilisers, fiscal stimuli and liquidity support measures all contribute to a sharp increase in government debt and financing needs. The European safety nets and in particular the ambitious European recovery plan, together with supportive monetary policy measures, helped calm financial markets and maintain very favourable borrowing conditions for sovereigns despite the surge in government debt. The fiscal resources that the EU has made available could cover around one-third of the sovereign financing needs originating from the crisis in high-debt euro area countries and reduce their reported debt on average by around 6% of GDP by 2026.

Avoiding contagion to the banking sector

While the ultimate consequences of the COVID-19 crisis for the banking sector remain uncertain, euro area banks were in a very different situation at the COVID-19 outbreak than at the onset of the 2008 financial crisis. The capital resources and liquidity ratios of banks in the banking union have substantially increased, making the sector more resilient. In addition, the policy toolkit and governance framework of the banking union allowed ECB Banking Supervision to swiftly take crucial policy decisions, which had a major impact on banks' ability to withstand potential losses while continuing to serve the real economy. These measures included restrictions on distributing dividends and the possibility to use capital and liquidity buffers.

During 2020 fiscal support to the real economy largely shielded banks from having to realise losses. Ensuring the continued efficacy of this support will be crucial, as the measures put in place in response to the COVID-19 crisis do not foresee support to the financial sector. According to the ECB's COVID-19 Vulnerability Analysis, overall, the banking sector should be sufficiently capitalised to withstand the pandemic-induced stress. At the same time, authorities must stand ready to implement further measures if a very severe scenario were to materialise.

Importance for European integration

While Next Generation EU is designed as a temporary instrument, the potential to activate such tools in future crises is already a major change to the policy toolkit of the EU. For the first time Europe is temporarily providing funding financed through common borrowing to complement fiscal policies at the national level. This potentially opens up the possibility of recourse to similar measures in the future if similarly extreme circumstances arise.

The temporary common debt issuance under NGEU – together with the joint debt issuance already undertaken in the context of SURE – also marks a further step towards establishing a European safe asset, a crucial step towards strengthening the role of the euro in global financial markets that will help with progress towards the capital markets union. The successful implementation of Next Generation EU would moreover boost growth and convergence in a meaningful way and thereby facilitate further fiscal integration in the future.

4 Smooth functioning of market infrastructure and payments

One of the basic tasks of the Eurosystem is to ensure the smooth functioning of payment systems. This task is closely interlinked with the Eurosystem's responsibilities in the fields of monetary policy and financial stability. The Eurosystem plays a central role in developing, operating and overseeing market infrastructures and arrangements that facilitate the safe and efficient flow of payments, securities and collateral across the euro area. It also acts as a catalyst for integration and innovation in the payments and securities market.

4.1 TARGET Services

The Eurosystem's TARGET Services consist of three settlement services: TARGET2, a real-time gross settlement system (RTGS) for euro payment transactions related to the Eurosystem's monetary policy operations, bank-to-bank transactions and commercial transactions; TARGET2-Securities (T2S), a single platform for Europe-wide securities settlement; and TARGET Instant Payment Settlement (TIPS), which allows payment service providers to offer their customers the instant transfer of funds, around the clock, every day of the year.

More than 1,000 banks use TARGET2 to initiate transactions in euro, either on their own behalf or on behalf of their customers. Taking into account branches and subsidiaries, more than 44,000 banks worldwide can be reached via TARGET2. In 2020 TARGET2 processed on average 345,006 payments per day with an average daily value of €1.8 trillion.

TARGET2 is to be replaced by T2 in 2022

As the payments ecosystem has changed significantly over the last decade owing to technological developments, new regulatory requirements and changing user demands, the Eurosystem is planning to replace TARGET2 with T2, consisting of a new RTGS component and the Central Liquidity Management component that will optimise liquidity management across all TARGET Services. T2 will use the messaging standard ISO 20022 and will be able to facilitate payments in multiple currencies.

In the light of the challenges posed by the COVID-19 pandemic and the rescheduling of SWIFT's global migration of cross-border payments to ISO 20022, the timeline for the Eurosystem project has been extended from 2021 to 2022, following discussion with Europe's financial community. In 2020 the project entered an internal software testing phase known as "Eurosystem acceptance testing". At the end of 2020, the Real Time Gross Settlement User Handbook was published.

T2S is the result of an initiative to address a highly fragmented securities settlement landscape in Europe. It brought an end to complex cross-border settlement procedures and the difficulties caused by differences in settlement practices among countries.

Today, the T2S platform connects 21 central securities depositories (CSDs) from 20 European markets, allowing securities settlement in euro and Danish kroner. In 2020 it processed an average of 687,476 transactions per day with an average daily value of €672.53 billion.[47] From the beginning of March until the middle of April market uncertainty caused by the COVID-19 pandemic resulted in an extraordinary increase in the volumes processed, with a peak of 1,088,815 transactions settled on 16 March.

In November 2020 a penalty mechanism feature was introduced within T2S to support the CSDs in complying with their obligations under the CSD Regulation settlement discipline regime. Testing of this new, complex functionality will continue throughout 2021 in preparation for the entry into force of the relevant provisions of the Regulation in February 2022.

TIPS, launched in November 2018, had nine euro area markets connected to it as at end-2020, with more than 3,800 payment service providers reachable. In July 2020 the ECB announced significant steps to ensure pan-European reach of instant payments via TIPS by the end of 2021. In addition, leveraging the multi-currency capability of TIPS, Sveriges Riksbank and the Eurosystem signed a contract allowing the Swedish central bank to offer a new instant payment service in Swedish kronor (RIX-INST), based on the TIPS platform, to users in Sweden as of May 2022. In 2020 Danmarks Nationalbank applied to join T2, and expressed an interest in joining TIPS, by 2025 at the latest.

In 2020 the future pricing policy for T2 was approved and the pricing policy for TIPS was reviewed.

With regard to the performance of the Eurosystem's market infrastructures during the COVID-19 crisis, no major operational incidents related to the situation occurred. However, over the year there were operational incidents for other reasons, which have necessitated follow-up actions to avoid reoccurrence. After the incident in TARGET2 on 23 October 2020, the ECB announced an independent review that will also take into account other incidents that affected TARGET Services in 2020. The main findings of the review will be shared with market participants and made public by the second quarter of 2021.

In addition to the three settlement services, the Eurosystem is developing a new TARGET Service, namely the Eurosystem Collateral Management System (ECMS). The aim is to ensure a single collateral management system with a common functionality, capable of managing the assets used as collateral in Eurosystem credit operations for all euro area jurisdictions. In 2020 the project completed its specification phase. Its go-live date was rescheduled to November 2023 following the decision to extend the timeline of the T2 project by one year, addressing the concerns of market participants that the current adverse environment would hamper their preparations.

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[47] A new T2S statistical framework was adopted as of January 2020. See the box entitled "Changes in the T2S statistical framework" in the T2S Annual Report 2019 for an overview of the main changes and the impact on T2S indicators.

4.2 Oversight and the role of central bank of issue

To ensure the safety and efficiency of financial market infrastructures and payments, the Eurosystem sets out objectives in specific oversight regulations, standards, guidelines and recommendations, and conducts its oversight tasks by collecting information, assessing the information against the oversight objectives, and promoting change where necessary.

In 2020 the Eurosystem continued its oversight of systemically important payment systems (SIPSs) by assessing the ongoing performance of the systems and changes being introduced, as well as their level of cyber resilience. In addition to TARGET2, EURO1, STEP2-T and CORE(FR), Mastercard Clearing Management System was identified as a SIPS. A revision of the SIPS Regulation to clearly specify the criteria for determining which of the Eurosystem central banks should be designated the competent authority to conduct the oversight of a SIPS was launched with a public consultation.

New oversight framework for electronic payment instruments, schemes and arrangements (PISA)

The Eurosystem also continued its oversight of non-SIPS, including instant payment systems and payment schemes. With a view to setting out oversight principles for electronic payment instruments, schemes and arrangements in a more streamlined, future-proof and harmonised manner, the ECB published the proposed new Eurosystem oversight framework for electronic payment instruments, schemes and arrangements (PISA) for public consultation.

On the basis of its ongoing monitoring of card fraud, the Eurosystem published its sixth oversight report on card fraud. The report demonstrated that card fraud in the period from 2014 to 2018 continued to be dominated by remote transactions, i.e. online fraud and fraud by mail and phone.

The Eurosystem continued to promote the cyber resilience of financial market infrastructures, supporting the establishment of the Cyber Information and Intelligence Sharing Initiative (CIISI-EU) and the ongoing adoption and implementation of the TIBER-EU framework.

With regard to securities settlement, the first comprehensive oversight assessment of the T2S platform in operation was followed up with an assessment of the progress achieved by the system operator in addressing shortcomings identified in certain areas. Furthermore, the implementation of the penalty mechanism feature supporting T2S CSDs was assessed against the CSD Regulation settlement discipline regime (see also Section 4.1).

With regard to operational performance, Eurosystem oversight focused in particular on incidents that occurred in TARGET Services over 2020, engaging actively with the system operator to comprehensively assess the incidents and the measures being taken to avoid a reoccurrence. Focus on operational performance will remain a priority for Eurosystem oversight in the coming year.

With regard to performance during the COVID-19 crisis, financial market infrastructures recorded no major operational incidents related to the pandemic situation. However, issues with supply chains related to third parties located in heavily affected areas were occasionally noted in the first half of 2020, as well as slight delays in the provision of services and reduced settlement efficiency during the peak of the pandemic on account of higher than usual processing volumes.

The pandemic and the related market volatility also had an impact on payment and settlement patterns. Central counterparty (CCP) margin calls increased strongly in size. Market participants that were less prepared in terms of liquidity management for stressed conditions therefore suffered liquidity strains at times.

As the central bank of issue for the euro, the Eurosystem contributes to the authorisation and regular review and evaluation of CSDs under the CSD Regulation. In 2020 the Eurosystem contributed to six authorisation and 12 review and evaluation processes. It is the only authority involved in the authorisation and review of all euro area CSDs and as such helps to facilitate a consistent approach to these tasks, thereby playing a key role in safeguarding the safety and efficiency of securities settlement.

With regard to CCPs, the Eurosystem, in its role as central bank of issue for the euro, participated in supervisory colleges and crisis management groups. The ECB joined the new CCP Supervisory Committee and CCP Policy Committee set up by the European Securities and Markets Authority, and contributed to the development of the new CCP supervisory framework under the revised European Market Infrastructure Regulation (EMIR 2), in particular in the context of Brexit. The ECB also analysed the procyclical impact of market volatility on CCPs and their participants to inform ongoing policy discussions. In view of the adoption of the EU regulatory framework on CCP recovery and resolution, the Eurosystem started preparatory work for its role, as central bank of issue, in resolution colleges. The ECB will coordinate the Eurosystem approach, as any recovery and resolution planning for individual CCPs requires a coordinated systemic risk assessment.

4.3 Innovation and integration in market infrastructure and payments

The financial industry is undergoing considerable transformation driven by innovation and digitalisation. In the retail payments market, new market players, new channels for accessing payment services and new ways of initiating payments have been emerging. New entrants coming from outside the financial sector and/or from outside Europe are challenging the market incumbents. While openness to global competition is crucial to fostering innovation, excessive dependency on foreign payment solutions and technologies creates a risk of the European payments market becoming more susceptible to external disruptions such as cyber threats and less able to support the Single Market and the single currency. Furthermore, payment service providers with global market power may not necessarily act in the best interests of European stakeholders.

The Eurosystem retail payments strategy comprises instant payments, a pan-European payment solution and a possible digital euro

To deploy the innovative potential of digitalisation and meet the rising challenges to European sovereignty in the payments market, the Eurosystem has developed a comprehensive retail payments strategy. Its main elements are the roll-out of instant payments, the development of a pan-European payment solution and the investigation of the possibility of a digital euro (see Box 5).

To make instant payments available to all citizens and businesses not only at national level but throughout Europe, more payment service providers need to adhere to the SEPA Instant Credit Transfer scheme and full pan-European reach must be guaranteed (see Section 4.1 on the Eurosystem measures to ensure pan-European reach of instant payments).

The Eurosystem also supports measures to overcome the fragmentation of end-user solutions for payment initiation and point-of-interaction payments (i.e. point-of-sale and e-commerce payments). In particular, it fosters payment solutions that fulfil five key objectives formulated in 2019: pan-European reach and seamless customer experience, convenience and low cost, safety and security, European brand and governance, and global acceptance, with a focus on improving cross-border payments, especially those across EU borders.

In 2020 the ECB also continued its analysis of crypto-assets, focusing on the implications of stablecoins issued by the private sector for monetary policy, financial stability, market infrastructure and payments, and banking supervision. In the light of this analysis, the ECB aims to develop and implement a comprehensive policy response to mitigate the potential adverse impact of stablecoins on the EU payments and financial landscape while enabling sound initiatives to bring benefits to European consumers and businesses. The ECB supports the work of the international community, namely the G20 roadmap published by the Financial Stability Board, towards achieving faster, cheaper, more transparent and inclusive cross-border payments, which are often affected by inefficiency and opacity.

To support the further integration of financial markets in Europe, the Eurosystem continued to foster market-wide harmonisation in the post-trade area in 2020. As regards collateral management harmonisation, it had by mid-year received adaptation plans from all European markets covered by the Single Collateral Management Rulebook for Europe (SCoRE) standards. The Eurosystem also started monitoring and assessing the progress of compliance with the SCoRE standards. In line with the rescheduling of the ECMS project (see Section 4.1), the implementation date for SCoRE was changed from November 2022 to November 2023.

In 2020 the ECB's Advisory Group on Market Infrastructures for Securities and Collateral continued its support for the creation of a capital markets union. In particular it provided concrete suggestions to the High-Level Forum on capital markets union in relation to withholding tax and corporate action processes.

Box 5

A digital euro

The transformation of the financial industry through digitalisation (see Section 4.3) is also affecting the means of payment. With the advance of digitalisation, there are a number of scenarios in which central banks could decide to issue a digital currency accessible to all citizens and businesses for their payments.

The ECB and the national central banks of the euro area are carefully studying the economic, strategic, technological and societal implications of issuing a digital euro. A digital euro available to the general public could support the digitalisation of the European financial markets and the EU economy as a whole, and strengthen their strategic independence. It could complement cash as a means of payment, especially if the use of cash declines further. It could also meet the challenges that may emerge from the issuance of private sector forms of money and/or digital currencies issued by other central banks.

The Eurosystem is examining the opportunities, challenges and design features of a possible digital euro, although it has not yet made any commitment or decision on its issuance. A digital euro would complement cash, not replace it. Cash will remain available to anyone who wants to use it. A digital euro would provide citizens with access to a simple, risk-free and trusted digital means of payment which would be free of charge for basic use by payers and usable throughout the euro area.

A set of design features for a potential digital euro are being identified. Any type of design must fulfil a number of principles and requirements such as accessibility, robustness, safety, efficiency and privacy, while complying with the relevant regulatory framework. A digital euro has to be designed in such a way as to avoid potential undesirable consequences of its issuance. It should allow the euro area to benefit from efficiency gains while minimising adverse effects on monetary policy and financial stability or on the provision of services by the banking sector. Possible risks could be mitigated with tools such as a tiered remuneration system or limits on holdings of digital euro, and this needs to be investigated further.

In October 2020 a public consultation on a digital euro was launched to gather the views of the general public and professionals and ensure that any new form of money and payments the Eurosystem may provide would remain firmly anchored in public trust. In parallel, the Eurosystem is continuing its exploratory work, including experimenting with technical solutions. In 2021 it will decide whether to launch a digital euro project.

5 Efforts to support market functioning, and financial services provided to other institutions

In response to the emergency of the COVID-19 pandemic, the ECB set up several swap lines with other central banks in March and April 2020 for the provision of liquidity in major international currencies and introduced further swap and repo lines over the summer to enhance the provision of euro liquidity. It did not intervene in the foreign exchange markets, as also reported in the quarterly data on the ECB's foreign exchange interventions, which have been published since May 2020.

Publication of the euro short-term rate (€STR), a contribution of the ECB to benchmark interest rate reform, successfully completed its first year in October 2020. The €STR is progressively replacing the euro overnight index average (EONIA). The ECB continued to engage in a valuable dialogue with financial market participants via its market contact groups in 2020, and the market insights gained have helped efforts to make the implementation of the ECB's monetary policy more efficient and effective.

In 2020 the ECB continued to be responsible for the administration of various financial operations on behalf of the EU, and continued its overall coordinating role in relation to the Eurosystem reserve management services framework.

5.1 Developments in market operations

Euro and foreign currency liquidity lines

Liquidity lines help the ECB to fulfil its price stability objective, prevent euro liquidity shortages and support the euro's use in global transactions

By ensuring that euro funding is available to counterparties outside the euro area, the Eurosystem's swap and repo agreements[48] help the ECB to fulfil its price stability objective, prevent euro liquidity shortages outside the euro area from becoming financial stability risks, and support the use of the euro in global financial and commercial transactions.[49] They contribute to the smooth transmission of monetary policy in the euro area by preventing a possible tightening of credit provision in all, or part, of the euro area due to financial turmoil, which benefits the entire European economy and all European citizens. Providing foreign currency to euro area counterparties eases pressure in global funding markets, thereby helping to mitigate the effects of such strains on the supply of credit to households and businesses, both in the euro area and abroad.

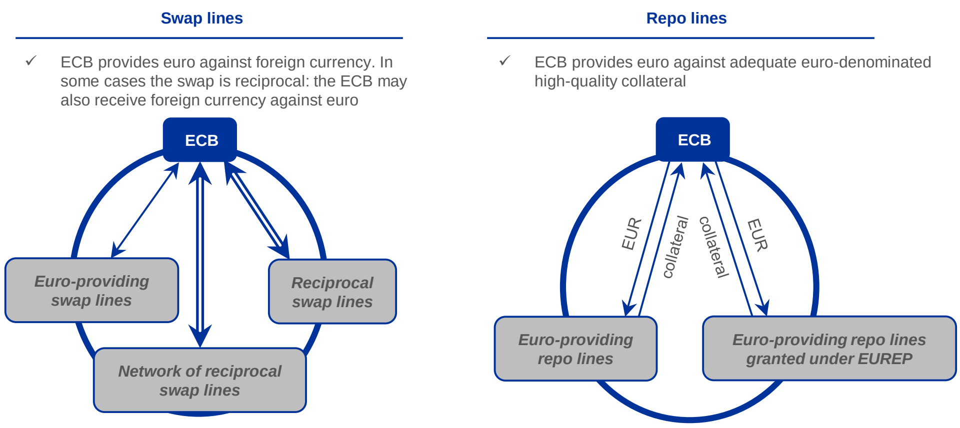
48 Repo agreements are arrangements in which the lending central bank provides access to funds in its currency to another central bank, accepting assets denominated in that currency as collateral to secure the repayment of the funds by the borrowing central bank.

49 See also Panetta, F. and Schnabel, I., "The provision of euro liquidity through the ECB's swap and repo operations", *The ECB Blog*, ECB, 19 August 2020.

It is important to recognise that swap and repo lines serve as a backstop that should not compete with, or replace, private funding markets in the provision of euro liquidity to non-euro area residents. However, the mere existence of precautionary liquidity arrangements may have a calming effect on markets and help to maintain orderly market conditions.

Figure 2

Overview of ECB liquidity lines



Source: ECB.

Swap line agreements among the group of major central banks ensure reciprocal access to each central bank's currency, although in practice most of these agreements are currently not in use or are used only in one direction. Bilateral swap lines between the ECB and non-euro area central banks enable the latter to provide euro to their domestic counterparties. The amounts involved are typically restricted, and the risks of swap lines are considered to be mitigated to some extent by the payments received. On 15 March 2020 the ECB, in a coordinated action with other major central banks (the Bank of Canada, the Bank of England, the Bank of Japan, the Federal Reserve System and the Swiss National Bank), announced that it would offer weekly US dollar liquidity-providing operations with a maturity of 84 days (in addition to one-week operations) and would lower the pricing of all US dollar operations. Following this announcement the ECB offered operations with maturities of seven days and 84 days and adjusted the frequency of these operations (daily, weekly or monthly) depending on the financial market environment.

On 20 March 2020 the ECB announced that it would reactivate the existing bilateral swap line with Danmarks Nationalbank and increase its size to €24 billion. In April it also arranged new bilateral swap lines with Hrvatska narodna banka and the Bulgarian National Bank which allow both central banks to provide euro to domestic counterparties up to a ceiling of €2 billion in each case.

In the course of 2020 the ECB established bilateral repo lines with several non-euro area central banks (see Table 2) and on 25 June established the Eurosystem repo facility (EUREP), which creates a general framework that is accessible to a broad set of non-euro area central banks. Under this facility the central banks can borrow euro liquidity against adequate collateral, consisting of euro-denominated marketable debt securities issued by euro area central governments and supranational institutions.

Table 2

Overview of bilateral repo lines established in 2020

Announcement	Central bank	Quantitative cap
5 June 2020	Banca Naţională a României	Up to €4.5 billion
17 July 2020	Banka e Shqipërisë (Bank of Albania)	Up to €0.4 billion
17 July 2020	Народна банка Србије (National Bank of Serbia)	Up to €1 billion
23 July 2020	Magyar Nemzeti Bank	Up to €4 billion
18 August 2020	Народна банка на Република Северна Македонија (National Bank of the Republic of North Macedonia)	Up to €0.4 billion
18 August 2020	Banca Centrale della Repubblica di San Marino (Central Bank of the Republic of San Marino)	Up to €0.1 billion

Source: ECB.

The ECB's contribution to benchmark interest rate reform

The ECB continued to play an important role in the reform of euro area benchmark interest rates in two main ways: first, by providing a robust and reliable benchmark, the euro short-term rate (€STR), and, second, by catalysing market initiative through the provision of the secretariat of a private sector working group on euro risk-free rates.

The €STR was launched on 2 October 2019. The rate measures the wholesale euro unsecured overnight borrowing costs of banks located in the euro area and is based entirely on daily confidential statistical information relating to money market transactions collected in compliance with the Money Market Statistical Reporting Regulation.

After the rate had been published for a year, the ECB conducted a review of the methodology for its calculation in accordance with Article 15(2) of the €STR Guideline, which requires it to review at least annually whether changes in the underlying market require changes to the rate and its methodology. The review considered whether the rate correctly reflects the underlying market dynamics, is built on a sufficient volume of data and is non-biased. It concluded that the methodology was able to measure correctly the defined underlying interest and that the basis for measuring unsecured market overnight borrowing costs remained adequate.

Given the robustness and representativeness of the €STR, market participants are encouraged to use the rate in both cash and derivatives products, as the EONIA will be discontinued on 3 January 2022. To encourage and support the wider use of the €STR, including in fallback provisions in contracts based on the euro interbank offered rate (EURIBOR), the ECB has decided to publish compounded €STR average rates and a compounded index.[50]

50 See "ECB starts publishing compounded euro short-term rate (€STR) average rates on 15 April 2021", *press release*, ECB, 18 March 2021.

Meanwhile, the working group on euro risk-free rates, which is tasked with (i) guiding market participants in their transition to the €STR from the widely used EONIA and (ii) recommending suitable fallback rates for the EURIBOR, has provided essential input into the contingency planning for a scenario in which the EURIBOR may permanently cease. Following two public consultations on EURIBOR fallback rates and on EURIBOR fallback trigger events, the working group is expected to publish, in the second quarter of 2021, its recommendations for the most suitable EURIBOR fallback rates for each asset class and a set of fallback trigger events to apply universally. Market participants are encouraged to take note of the recommendations and consider them in their fallback planning.

Market contact groups

The year 2020 saw particular challenges and unforeseen developments in financial markets. In these times of heightened uncertainty, the ECB greatly valued the structured interactions with financial market participants, which took place via its market contact groups. On a number of occasions the Bond Market Contact Group, the Foreign Exchange Contact Group, the Money Market Contact Group and the ECB Operations Managers Group were called for ad hoc meetings to exchange views on the ongoing financial market developments and on market functioning. Market participants were encouraged to express their views openly for discussion and raised their concerns, which helped the ECB to identify potential pressure points in the financial system and assess its resilience, in particular during the outbreak of the coronavirus in Europe in spring 2020. The insights gained were helpful in the efforts to increase the efficiency and effectiveness of the implementation of the ECB's monetary policy.

Reporting on foreign exchange interventions

In September 2019 the Governing Council of the ECB decided to publish additional data on the ECB's foreign exchange interventions. Since May 2020 these data have been published in a table on the ECB's website and in the Statistical Data Warehouse. They are updated on a quarterly basis with a delay of one quarter. The information published in the quarterly tables is also recapped on an annual basis in the ECB's Annual Report (see Table 3). Where there was no foreign exchange intervention in the relevant quarter, this is explicitly stated.

The ECB did not intervene in the foreign exchange market in 2020. Since the inception of the euro the ECB has intervened in the foreign exchange market twice – in 2000 and 2011.

Table 3

ECB foreign exchange interventions

Period	Date	Intervention type	Currency pair	Currency bought	Gross amount (EUR millions)	Net amount (EUR millions)
Q3 2000	22 September 2000	Coordinated	EUR/USD	EUR	1,640	1,640
	22 September 2000	Coordinated	EUR/JPY	EUR	1,500	1,500
Q4 2000	3 November 2000	Unilateral	EUR/USD	EUR	2,890	2,890
	3 November 2000	Unilateral	EUR/JPY	EUR	680	680
	6 November 2000	Unilateral	EUR/USD	EUR	1,000	1,000
	9 November 2000	Unilateral	EUR/USD	EUR	1,700	1,700
	9 November 2000	Unilateral	EUR/JPY	EUR	800	800
Q1 2011	18 March 2011	Coordinated	EUR/JPY	EUR	700	700
Q1 to Q4 2020	-	-	-	-	-	-

Source: ECB.

The reporting framework covers foreign exchange interventions carried out by the ECB unilaterally and in coordination with other authorities, as well as interventions “at the margins” within the exchange rate mechanism (ERM II).

5.2 Administration of EU borrowing and lending operations

The ECB processes payments for various EU loan programmes

The ECB is responsible for the administration of the borrowing and lending operations of the EU under the medium-term financial assistance (MTFA) facility,[51] the European Financial Stabilisation Mechanism (EFSM)[52] and the European instrument for temporary support to mitigate unemployment risks in an emergency (SURE).[53]

In 2020 the ECB processed interest payments in relation to the loans under the MTFA. As at 31 December 2020 the total outstanding amount under this facility was €200 million. In 2020 the ECB also processed various payments and interest payments in relation to the loans under the EFSM. As at 31 December 2020 the total outstanding amount under this mechanism was €46.8 billion. The ECB also processed the disbursements of SURE loans to Member States in 2020. At 31 December 2020 the outstanding amount under this facility was €39.5 billion.

Similarly, the ECB is responsible for the administration of payments arising in connection with operations under the European Financial Stability Facility (EFSF)[54]

[51] In accordance with Article 141(2) of the Treaty on the Functioning of the European Union, Articles 17, 21.2, 43 and 46.1 of the Statute of the ESCB, and Article 9 of Council Regulation (EC) No 332/2002 of 18 February 2002.

[52] In accordance with Articles 122(2) and 132(1) of the Treaty on the Functioning of the European Union, Articles 17 and 21 of the Statute of the ESCB, and Article 8 of Council Regulation (EU) No 407/2010 of 11 May 2010.

[53] In accordance with Articles 17 and 21 of the Statute of the ESCB (in conjunction with Article 10 of Council Regulation (EU) 2020/672 of 19 May 2020 on the establishment of a European instrument for temporary support to mitigate unemployment risks in an emergency (SURE) following the COVID-19 outbreak).

[54] In accordance with Articles 17 and 21 of the Statute of the ESCB (in conjunction with Article 3(5) of the EFSF Framework Agreement).

and the European Stability Mechanism (ESM).[55] In 2020 the ECB processed various interest and fee payments in relation to two loans under the EFSF.

Finally, the ECB is responsible for processing all payments in relation to the loan facility agreement for Greece.[56] As at 31 December 2020 the total outstanding amount under this agreement was €52,193.75 million.

5.3 Eurosystem reserve management services

A number of Eurosystem central banks provide services under the ERMS framework

In 2020 a comprehensive set of financial services continued to be offered within the Eurosystem reserve management services (ERMS) framework established in 2005 for the management of customers' euro-denominated reserve assets. Some of the Eurosystem national central banks provide financial services within this framework, under harmonised terms and conditions and in line with market standards, to central banks, monetary authorities and government agencies located outside the euro area, and to international organisations. The ECB performs an overall coordinating role, monitors the smooth functioning of the services, promotes changes to improve the framework and prepares related reports for the ECB Governing Council.

The number of customer accounts in the ERMS was 260 at the end of 2020, compared with 273 at the end of 2019. The total aggregated holdings (including cash assets and securities holdings) managed within the ERMS framework increased by approximately 1.7% in 2020 compared with 2019.

The ERMS legal framework was updated in 2020 to strengthen incentives for transparency in reporting and for information sharing within the Eurosystem in the context of the provision of the ERMS services.

55 In accordance with Articles 17 and 21 of the Statute of the ESCB (in conjunction with Article 5.12.1 of the General Terms for ESM Financial Assistance Facility Agreements).

56 In the context of the loan facility agreement between the Member States whose currency is the euro (other than Greece and Germany) and Kreditanstalt für Wiederaufbau (acting in the public interest, subject to the instructions of and with the benefit of the guarantee of the Federal Republic of Germany) as lenders and the Hellenic Republic as borrower and the Bank of Greece as agent to the borrower, and pursuant to Articles 17 and 21.2 of the Statute of the ESCB and Article 2 of Decision ECB/2010/4 of 10 May 2010.

6 More banknotes and historically low levels of counterfeiting

The ECB and euro area national central banks (NCBs) are responsible for issuing euro banknotes within the euro area, for guaranteeing the availability of cash and for maintaining confidence in the currency. Despite the impact of the pandemic on consumption and payment behaviour, the number of euro banknotes in circulation continued to grow strongly, while the number of counterfeit banknotes removed from circulation dropped to a historically low level.

6.1 Continued high demand for euro banknotes

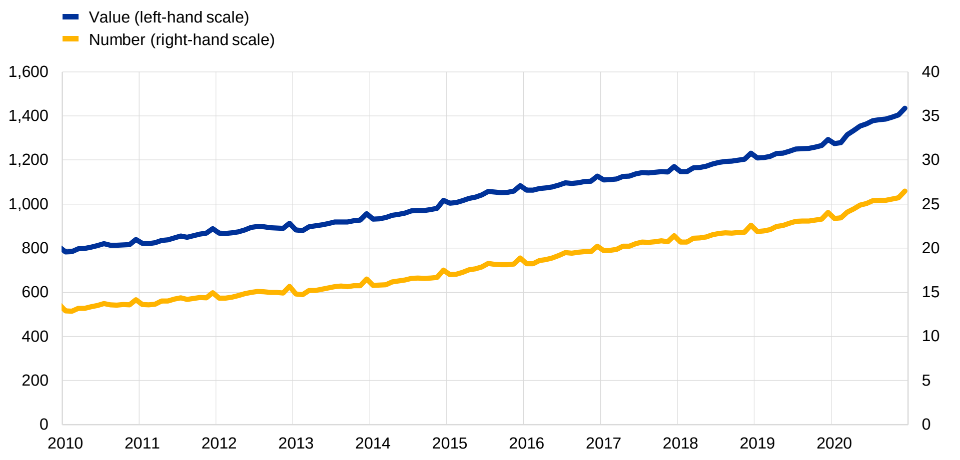
The number and value of euro banknotes in circulation have been rising, generally at a faster pace than economic growth, since 2002

In 2020 the number and value of euro banknotes in circulation grew by around 10%. At the end of the year there were 26.5 billion euro banknotes in circulation, with a total value of €1,435 billion (see Charts 21 and 22). The €50 banknote accounted for nearly half of both the number and value of banknotes in circulation. In mid-March 2020, after COVID-19 was declared a pandemic, a very strong increase in demand for cash was observed for a few weeks, especially for the denominations €200 and €100 as demand for precautionary cash holdings rose. This was followed in the subsequent months by a decline in credit institutions' regular withdrawals of cash and their lodgements of cash at NCBs as a consequence of the lockdown measures and changes in the pattern of payments, resulting in a reduction in the volume of the cash cycle by up to 20% in the further course of 2020 compared with 2019. Nonetheless, banknotes in circulation continued to grow throughout 2020, mainly owing to higher uncertainty and a general impulse to hoard banknotes in crisis situations.

Chart 21

Number and value of euro banknotes in circulation

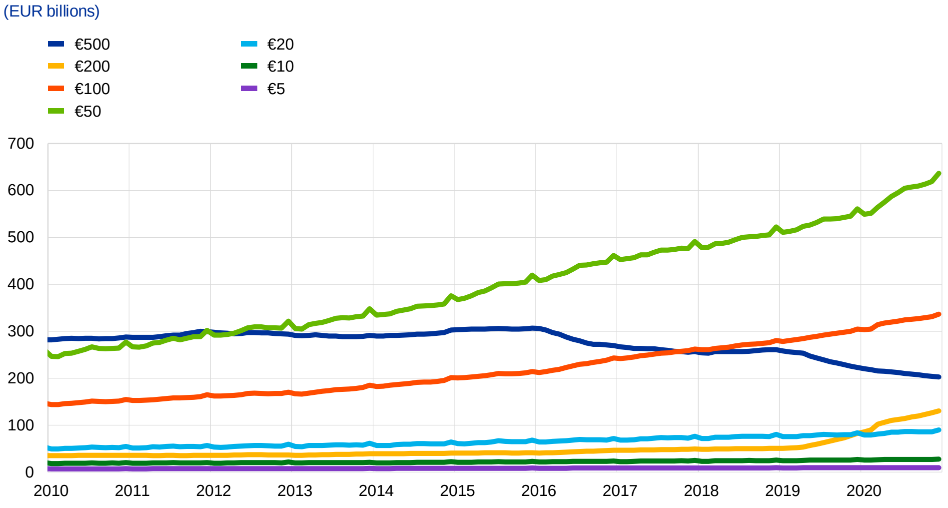
(left-hand scale: EUR billions; right-hand scale: billions)



Source: ECB.

Chart 22

Value of euro banknotes in circulation by denomination



Source: ECB.

In terms of value, a significant share of euro banknotes is held outside the euro area

A recent study suggested that the share of euro banknotes in circulation outside the euro area is between 30% and 50% of the total value of euro banknote circulation. The study presents evidence that these notes are used for both store-of-value and transaction purposes.

The production of euro banknotes is shared among euro area NCBs, which were together allocated the production of around 5.7 billion banknotes in 2020.

The total number of euro coins in circulation increased by 2% in 2020, to 138 billion at the end of the year. The value of coins in circulation rose to €30 billion, 1.4% higher than at the end of 2019.

In 2020 25.0 billion banknotes with a total value of around €800 billion were deposited by credit institutions at euro area NCBs. 12.0% of these banknotes (i.e. 3.0 billion) were replaced by new banknotes to maintain the high quality of banknotes in circulation.

6.2 The use of cash by citizens

Study on the use of cash in the euro area

Nearly three out of four retail payments are made using cash

In 2019 the ECB launched its second study on the payment attitudes of consumers in the euro area (SPACE) to assess the use of cash and non-cash payment instruments. The study showed that 73% of all payments by consumers at the point of sale and in reported person-to-person transactions were settled in cash. In value terms, cash payments represented 48% of the total value of transactions, followed by card payments, which accounted for 41%.

Cash will remain important in the future

The study also found that for 55% of the respondents it was important or very important to have the option to pay with cash in the future. The results also revealed that 34% of respondents keep cash reserves, either for transactional purposes or as savings.

A euro area-wide survey in July 2020 found that the COVID-19 pandemic had had a strong impact on consumers' payment behaviour, as 40% of respondents reported paying less with cash. Measures to increase the convenience of cashless means of payment were the main reason given for the shift in payment behaviour induced by the pandemic.

Maintaining the availability and acceptance of euro cash

The Eurosystem's Cash 2030 strategy aims to ensure good access to cash and its acceptance as a means of payment

To maintain trust in euro banknotes and coins and consumers' freedom of choice in how to pay, the ECB's Governing Council adopted a new strategy for cash in 2020. The Eurosystem's Cash 2030 strategy published in December 2020 defines the priorities and strategic objectives to be pursued in the coming years and aims to ensure that all euro area citizens and firms will continue to have good access to cash services and that cash will remain a generally accepted means of payment. A reduction of the ecological footprint of euro banknotes and the continued development of innovative and secure banknotes are also important elements that will be addressed.

To achieve these goals, the Eurosystem has started to analyse the geographic coverage of credit institutions' cash service points and the evolution of the standard fees charged by credit institutions to their customers for depositing and withdrawing banknotes and coins. Furthermore, the ECB and the NCBs have entered into a close dialogue with the banking community and other stakeholders in the cash cycle about adequate cash services, as credit institutions will continue to be the key actors in the retail cash distribution system and in checking the authenticity and quality of banknotes in circulation. Following the outbreak of the pandemic, particular efforts were made by the ECB and the NCBs in close cooperation with all cash stakeholders to tackle the challenges of the lockdowns and to mitigate the disruptive impact on national cash cycles.

Low transferability of the coronavirus via banknotes

The risk of catching COVID-19 by using cash for payments is insignificant

Since the emergence of COVID-19 the ECB has been working closely with several laboratories to determine what contribution the use of cash may be making to the spread of the virus. Two related but different aspects have been assessed: first, the length of time the virus can survive on the surface of banknotes and coins (survivability); second, the amount of virus that can be transferred from cash to a person's hand (transferability). The results of these tests support the views previously expressed by many eminent organisations that the risk of transmission via the use of cash is low. The tests showed that the amount of virus potentially transferred by using cash for payments is so low that the risk of infection is insignificant.

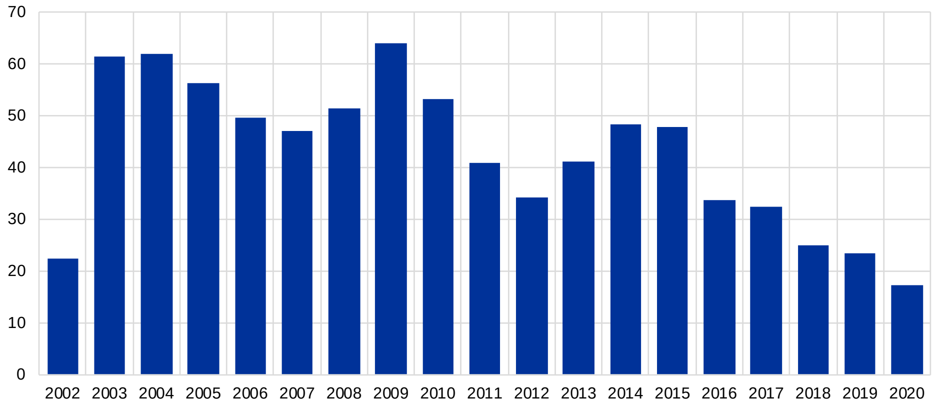
6.3 Euro banknote counterfeiting at a historically low level

In 2020 the number of counterfeit euro banknotes decreased to its lowest level since 2003. Around 460,000 counterfeits were withdrawn from circulation. Relative to the number of genuine euro banknotes in circulation, the proportion of counterfeits reached a historical low at 17 parts per million (see Chart 23).

Chart 23

Number of counterfeit banknotes per million genuine euro banknotes in circulation

(parts per million)



Source: ECB.

Counterfeiters mainly produce counterfeit €20 and €50 banknotes, which together accounted for two-thirds of the total number of counterfeits withdrawn from circulation in 2020. The €20 has replaced the €50 as the most counterfeited denomination. There has also been an increase in the proportion of low-quality counterfeits. These are easy to detect as they have no, or only very poor imitations of, banknote security features.

The ECB advises the public to remain vigilant when receiving banknotes and to remember the “feel-look-tilt” test

In spite of the decline in the quality of counterfeits, the ECB continues to advise the public to remain vigilant when receiving banknotes, to remember the “feel-look-tilt” test, and not to rely on just one security feature. In addition, training is offered to professional cash handlers on a continuous basis, both in Europe and beyond, and up-to-date information material is made available to the public to support the Eurosystem’s fight against counterfeiting. The ECB also cooperates with Europol, Interpol and the European Commission in pursuit of this goal.

7 Statistics

The ECB – assisted by the national central banks (NCBs) – develops, collects, compiles and disseminates a wide range of statistics and data needed to support the ECB's monetary policy as well as financial stability-related and other tasks of the European System of Central Banks (ESCB) and the European Systemic Risk Board (ESRB). These statistics are also used by public authorities, international organisations, financial market participants, the media and the general public, and help the ECB to increase the transparency of its work.

This chapter focuses on how to contain the reporting burden for banks while maintaining the quality of statistics, on new euro area statistics and on the provision of data and statistics during the COVID-19 pandemic. Two boxes focus on the compliance of the euro short-term rate (€STR) with principles developed by the International Organization of Securities Commissions (IOSCO) and on a review of international statistical standards addressing developments with significant implications for central banking policies and functions.

7.1 Strategy for reporting – reducing costs and enhancing quality

The ESCB made proposals aimed at reducing reporting burdens and enhancing data quality as well as synchronisation with work on the IReF

In its input into the forthcoming European Banking Authority (EBA) feasibility report on an integrated reporting system for banks, the ESCB explained its strategy for collecting data from banks (see Figure 3) and made proposals to reduce the reporting burden on banks in the fields of statistical, resolution and prudential reporting without losing the information content that is indispensable to monetary policy, resolution and supervisory tasks.[57]

This can be achieved through:

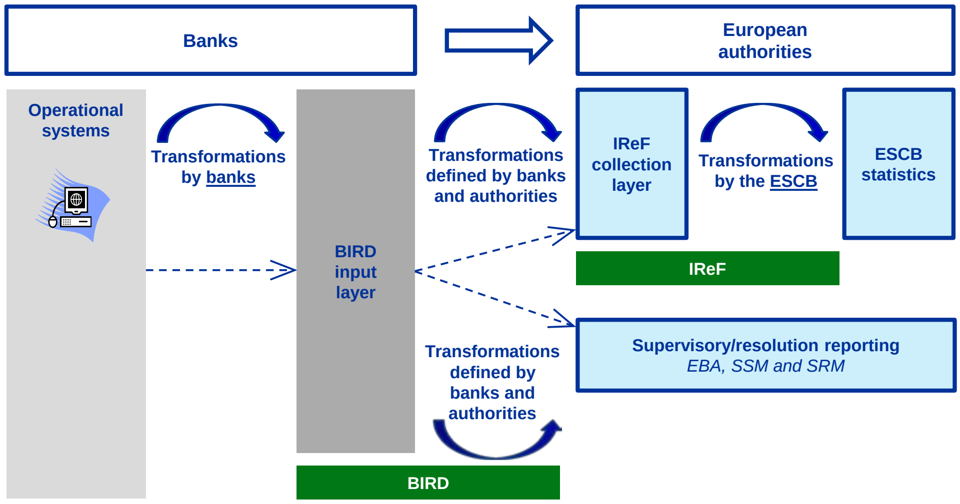
- a common standard data dictionary and common data model for statistical, resolution and prudential information requirements;
- procedural improvements, such as the removal of duplicated data requests and improved data sharing between authorities;
- increased cooperation between European authorities, and between authorities and the banking industry, to achieve a common data model and smarter procedures.

The ESCB also proposed synchronisation with work on the ESCB's Integrated Reporting Framework (IReF).

[57] Under Article 430c of the Capital Requirements Regulation, the European Parliament and the Council of the European Union mandated the EBA to carry out a feasibility study and requested that input from the ESCB be taken into account.

Figure 3

ESCB strategy for collecting data from banks



Source: ECB.
Note: BIRD: Banks' Integrated Reporting Dictionary; SSM: Single Supervisory Mechanism; SRM: Single Resolution Mechanism.

7.2 New and enhanced euro area statistics

Despite the COVID-19 pandemic, the ECB implemented its plans to provide new statistics

On 7 April 2020 the ECB for the first time published consistent euro area balance of payments statistics and euro area sector accounts, thereby facilitating the combined use of these two datasets for analytical purposes.

The euro effective exchange rates and harmonised competitiveness indicators, as well as the underlying trade weights, were updated on 1 July 2020.

In 2020 the ECB developed new communication tools to make access to its data and statistical products easier for the general public. It released the ECB's first interactive digital publication, "Statistics insights: Money, credit and central bank interest rates", a combination of visuals, texts and interactive graphs written in plain language in 23 EU languages. Euro area and national statistics contained in the publication are updated in real time with each new data release. A blog post by Isabel Schnabel, member of the Executive Board of the ECB, which was released on World Statistics Day, explains the strategic value of high-quality data and statistics for ECB policymaking.

7.3 Provision of data and statistics during the pandemic

The ECB had to adapt to provide the statistics needed to face the COVID-19 crisis

The COVID-19 pandemic has created unprecedented challenges for policymakers, requiring the monitoring of high-frequency proxies for economic activity as well as standard statistical indicators to calibrate the ECB's monetary policy response in real time at a time of great uncertainty. The pandemic has also posed considerable and diverse challenges for both reporting agents and statistical compilers.

In a joint effort, the ECB and Eurostat identified the main issues facing the production of balance of payments statistics, such as the suspension of border surveys, lower response rates and delays on the part of direct reporters, in particular non-financial corporations, as well as lower quality of and delays in obtaining access to administrative data (e.g. VAT returns) and annual financial statements. A list of alternative sources that could be used to reduce gaps was discussed and the basis created for greater collaboration and partnering between compilers.

In this context, maintaining business continuity in ESCB and European Statistical System (ESS) statistics and supervisory data was essential.

Cooperation with reporting agents, the NCBs, the ESS and Eurostat proved crucial

In April the ECB adjusted some reporting requirements and invited NCBs and reporting agents to find pragmatic solutions within the existing legal framework in order to keep data reporting within limits that are manageable for reporting agents, while maintaining the quality of statistical information at a level that is fit for purpose.[58] The ECB also cooperated closely with the NCBs, Eurostat and national statistical institutes to develop common mitigation approaches with respect to data sources and estimation methods in order to minimise quality loss and potential country and regional comparability issues.

Granular data collected by the ECB allowed detailed and timely analysis

The development of several policy measures adopted by the ECB's Governing Council to counter the effects of the pandemic also benefited from the flexibility provided through granular data collected by the ECB and NCBs. The ECB also adapted its data production in order to be able to appropriately calibrate its policy response, including, for example:

- processing lending data collected from banks participating in targeted longer-term refinancing operations;
- generating daily data on gross issuances, redemptions and outstanding amounts of government bonds of euro area countries to calibrate the ECB's asset purchase programmes.

Box 6
€STR compliance with IOSCO principles

Compliance with the Principles for Financial Benchmarks developed by the International Organization of Securities Commissions (IOSCO) ensures that the control framework for the euro short-term rate (€STR) follows international best practice.

On 30 September 2020 the ECB published its statement of compliance of the €STR with the IOSCO Principles. The statement has been independently assured as part of an external audit by the auditing firm PricewaterhouseCoopers.

The ECB's governance, quality and accountability processes for the €STR apply the IOSCO Principles – where relevant and appropriate – to ensure that an effective and transparent control

[58] See "ECB communication to reporting agents on the collection of statistical information in the context of COVID-19", ECB, 15 April 2020, and "ECB communication to reporting agents on the extension of deadlines for the reporting of statistical information in the context of COVID-19", ECB, 29 April 2020.

framework in line with international best practice is in place in order to protect the integrity and independence of the process used to determine the €STR. The statement provides an overview of how the ECB administers the €STR, presents a self-assessment of its compliance with each IOSCO Principle, and describes the relevant frameworks and procedures.

Box 7
Review of international statistical standards

ECB and NCB staff are contributing to the process of updating two international handbooks on the methodological framework for national accounts and balance of payments statistics, which are important for central banking policies and functions.

The international statistical standards are a harmonised set of concepts, definitions, classifications, accounting rules and other related guidelines that inform the compilation of official economic statistics with the aim of making them suitable for policymaking, analysis and research purposes. They determine which economic flows and positions are captured in macroeconomic measures such as GDP, debt or the current account, and how they are recorded.

Since they encompass all areas of economic statistics and are available to all data compilers worldwide, the standards facilitate comparability across statistical domains and across national and international economic areas. The economic data and statistics used by the ECB are all based on the standards.

In March 2020 the competent international bodies – the United Nations Statistical Commission and the IMF Committee on Balance of Payments Statistics – decided to launch a review of two handbooks of the system of standards: the System of National Accounts and the Balance of Payments and International Investment Position Manual. The review will address phenomena such as globalisation, digitalisation, new forms of financial intermediation and climate change, and establish appropriate statistical treatments to cover them. These developments have significant implications for central banking policies and functions, and their effects are being considered for instance in the context of the ECB's ongoing monetary policy strategy review.

In view of the importance of the standards for the ESCB, staff from the ECB and NCBs are contributing to the updating process, together with experts from international organisations, statistical offices and other national authorities. The new standards are scheduled to be ready by 2025, and will subsequently be incorporated into European statistical legislation, including that of the ECB.

8 ECB research priorities

The COVID-19 pandemic also affected research activities during 2020, with a boost to research devoted to the refinement of tools for the real-time assessment of economic conditions and the assessment of policy options. At the same time, regular research networks and task forces continued their work. Cooperation with the academic world was initially constrained by the pandemic, but activities resumed in the second half of the year.

8.1 Activities related to COVID-19

Efforts were made to refine tools for the real-time assessment of economic and financial conditions

The COVID-19 pandemic boosted efforts to refine tools to monitor economic and financial conditions in order to better capture the rapidly changing conditions in real time.

One example involves the development of monthly and weekly indicators of economic activity. While monthly indicators have become a standard tool in economic forecasting over the last decade, the analysis has now been enhanced to weekly frequency through the use of a variety of new data, partly from web-based sources (see Box 8).

Similarly, indicators of financial stress have been refined to assess risks of financial fragmentation in the euro area on a weekly basis. These indicators show that the COVID-19 pandemic initially caused sharp fragmentation, close to levels seen during the global financial crisis of 2008 and the euro area sovereign debt crisis of 2012.[59] However, euro area financial fragmentation broadly returned to pre-crisis levels by mid-September 2020, thanks to the rapid economic policy responses and the resilience created by the financial backstops and reforms implemented over the last ten years.

A new online survey of consumer expectations provided information on household sentiment and labour market conditions

Another important source of information was the ECB's Consumer Expectations Survey (CES), a new online survey launched in early 2020 and still in its pilot stage. The survey provides regular information on household sentiment and expectations, consumption and savings plans and on labour market conditions. It is characterised by a high degree of timeliness and harmonisation across euro area countries, especially the four largest countries.[60]

The survey revealed differences in financial concerns of households across countries…

The new survey proved very valuable in monitoring the household sector during the COVID-19 outbreak. For example, households were asked about the severity of the financial consequences arising from the pandemic. The replies reveal differences in the financial concerns of households across countries (see Chart 24). For instance,

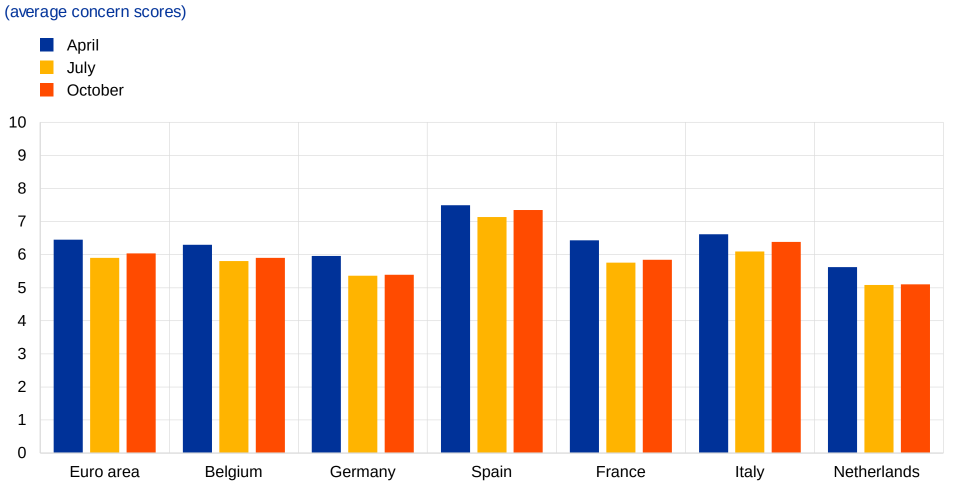
[59] See the article entitled "European financial integration during the COVID-19 crisis", *Economic Bulletin*, Issue 7, ECB, 2020.

[60] The survey is conducted at monthly frequency and currently covers the six largest euro area countries with sample sizes of approximately 2,000 respondents in Germany, Spain, France and Italy and 1,000 in Belgium and the Netherlands.

households in Spain and, to a lesser extent, in Italy reported more severe financial consequences than those in Germany and the Netherlands.

Chart 24

Household concerns about the financial consequences of COVID-19



Source: ECB.
Notes: The chart shows the average score of household replies to the question "How concerned are you about the impact of the coronavirus (COVID-19) with respect to the financial situation of your household?" and is based on an 11-step response scale ranging from 0 ("Not at all concerned") to 10 ("Extremely concerned"). Results are shown for April, July, and October 2020.

… and a dependence on demographic and economic household characteristics

Moreover, the survey suggests that households in which the members are young, have low incomes, have temporary working arrangements or have limited access to credit are more vulnerable to the COVID-19 shock. Households with greater financial concerns tend to reduce their spending proportionately more. They would also tend to consume less out of future transfers that they might receive as part of government support programmes. These findings may suggest an important role for very targeted and specific fiscal policy measures to stabilise macroeconomic conditions during the pandemic.

8.2 Research networks

Research clusters continued their regular activities

Regular research networks continued coordinating research efforts within the European System of Central Banks (ESCB) and maintaining relations with academic researchers. In particular, the three ESCB research clusters on monetary policy, financial stability and structural issues of euro area economies organised workshops on the most pressing issues in their fields. For the future, the clusters plan to prioritise research on addressing challenges arising from an environment of low growth, low inflation, climate change and financial technology innovation.

The research task force on monetary policy, macroprudential regulation and financial stability made significant progress

In 2020 the task force on monetary policy, macroprudential regulation and financial stability carried out numerous projects looking into the effects of macroprudential policies. One line of research was the effect of borrower-based macroprudential measures on inequality.[61] While such measures can potentially raise inequality by

[61] Borrower-based measures include, for instance, limits on loan-to-value and debt-to-income ratios.

making it harder for those on low incomes to borrow, they can also reduce it during times of crisis by mitigating the impact of the crisis on vulnerable groups. Another group of projects studied how macroprudential policies, through their effect on financial stability and on the equilibrium interest rate, influence the transmission of monetary policy and how monetary policy, through its effect on risk-taking by financial intermediaries, influences the need for macroprudential policies. A third line of research focused on the benefits of coordinating monetary and macroprudential policies.

The PRISMA research network investigated the frequency of individual price changes and issues with the measurement of consumer prices

The Price-setting Microdata Analysis Network (PRISMA) studies the price-setting behaviour of individual firms and retail traders using micro price datasets. In 2020 the group analysed the frequency of individual price changes in order to better understand the inflation process, updating evidence provided by the Inflation Persistence Network (IPN) in the early 2000s. It also looked at data underlying the calculation of official consumer price indices.

The Household Finance and Consumption Network released its survey for 2017

The Household Finance and Consumption Network released the results of the third (2017) wave of the Household Finance and Consumption Survey (HFCS) in March 2020. While the median net wealth of euro area households remained broadly stable between 2014 and 2017, households recorded broad-based gains in income, with median incomes rising by 4.1%. Moreover, the concentration of net wealth among the wealthiest households in the euro area remained unchanged in this period, while the most heavily indebted euro area households may have seen an easing of financing pressures. The data will also contribute to understanding heterogeneities in monetary policy transmission and in financial pressures across households.

CompNet studied how European companies compete in a global environment replete with COVID-19 challenges

The ESCB also maintains links with independent research networks, such as the Competitiveness Research Network (CompNet) – a hub for research and policy analysis on competitiveness and productivity. In 2020 CompNet organised two virtual conferences, with Národná banka Slovenska and the ECB respectively. The first conference examined sustainable development, firm performance and competitiveness policies in small open economies. The second discussed the effects of the COVID-19 pandemic on international trade and capital flows and the implications of these developments for European firms. CompNet also published new research on productivity-related matters in the Firm Productivity Report 2020.

8.3 Conferences and publications

Conference activity stalled in the first half of 2020, but resumed in a new form thereafter

Cooperation with the academic world was constrained by the pandemic in the first half of the year and many regular conferences were cancelled or postponed, including the ECB Forum on Central Banking, which was due to take place in Sintra in June/July, but was instead held as an online event in November. Conference activity resumed in the second half of the year by means of virtual events, notably the ECB's Annual Research Conference and the Monetary Policy Conference. Both conferences discussed options for the policy response to COVID-19, but also featured innovative research related to monetary policy transmission and financial market structures.

Publication of research papers remained unaffected by COVID-19

161 papers prepared by ECB staff were published in the ECB's Working Paper Series in 2020. In addition, a number of more policy-oriented or methodological studies were published in the ECB's Occasional Paper Series, Statistics Paper Series and Discussion Paper Series. Many of the ECB's research activities also resulted in the publication of papers in academic journals, while some material is aimed at a more general audience, including 13 articles published in the ECB's Research Bulletin.

Box 8

Monitoring the economy in real time

The "nowcasting" of the economy has been a long-standing task in economic analysis. In the euro area, the first official release of quarterly GDP is published about four weeks after the end of the quarter. In the meantime, economists must assess economic activity using various monthly indicators, such as industrial production or business and consumer surveys. The use of statistical methods to condense the information in these indicators plays an important role in this assessment.

The COVID-19 pandemic increased the need to assess economic activity in real time. Researchers at the ECB and national central banks have intensified their efforts to exploit high-frequency data in order to create more timely estimates of economic activity. While traditional indicators are available at monthly frequency, the big data revolution now offers indicators of economic activity that are available at weekly or even daily frequency, such as online payment data, traffic data (truck road tolls), electricity consumption, air pollution, Google search data and many more.[62]

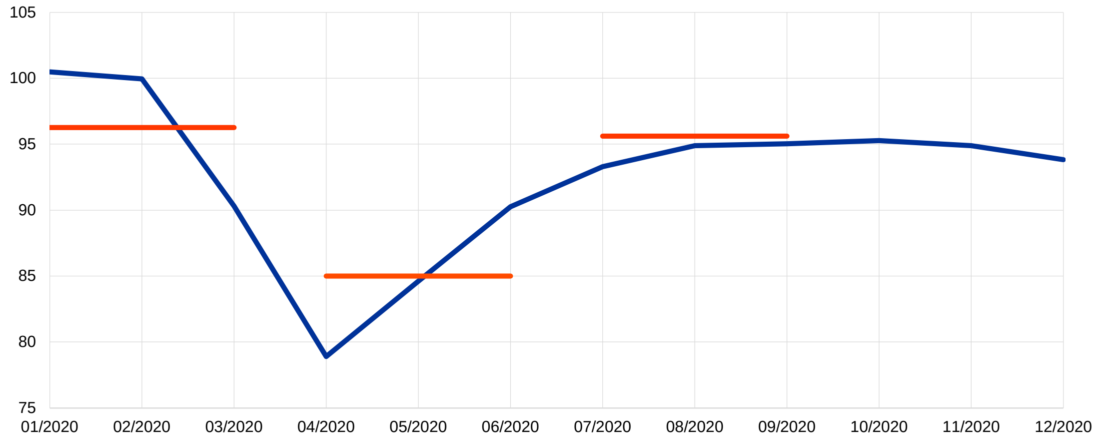
These indicators have proven highly valuable in assessing the economy during the pandemic. The index in Chart A, for example, shows, together with the levels of quarterly GDP, a weekly real-time assessment of euro area economic activity, combining a set of weekly data with the traditional monthly indicators. The index is normalised to a level of 100 in December 2019. The weekly index shows that the euro area economy went into a sharp recession in the first week of March 2020 when lockdown measures were imposed and reached a trough in the last week of April, before recovering gradually when the measures were lifted. Economic activity then remained stable over the year.

[62] See, for instance, the ECB online workshop entitled "Tracking the economy with high frequency data", 16 October 2020; Eraslan, S. and Götz, T., "An unconventional weekly economic activity index for Germany", *Technical Paper Series*, No 2, Deutsche Bundesbank, 2020 and Delle Monache, D., Emiliozzi, S. and Nobili, A., "Tracking economic growth during the Covid-19: a weekly indicator for Italy", *Note Covid-19*, Banca d'Italia, 27 January 2021.

Chart A

Weekly euro area activity-level tracker and quarterly GDP

(index: December 2019 = 100)



Sources: ECB, Google, Eurostat, Markit and national statistical institutes.
Notes: The blue line represents the level of the tracker at weekly frequency. The red line shows the level of quarterly GDP. The activity tracker is standardised to December 2019 = 100, while GDP is standardised to the fourth quarter of 2019 = 100.

9 Legal activities and duties

This chapter deals with the jurisdiction of the Court of Justice of the European Union (CJEU) concerning the ECB; provides information on ECB opinions and cases of non-compliance with the obligation to consult the ECB on draft legislation falling within its fields of competence; and reports on the ECB's monitoring of compliance with the prohibition of monetary financing and privileged access.

9.1 Jurisdiction of the Court of Justice of the European Union concerning the ECB

The CJEU agreed with the ECB that the Governing Council has broad discretion when it comes to keeping the outcome of its deliberations confidential

On 19 December 2019 and on 21 October 2020 the Court of Justice delivered on appeal two judgments related to the confidentiality of the outcome of the deliberations of the Governing Council (cases C-442/18 P and C-396/19 P respectively). The cases originate in two requests for public access to the decision of the Governing Council to suspend access by a credit institution (Banco Espírito Santo) to monetary policy credit instruments. The ECB had refused access to the part of the minutes of the Governing Council recording the amount of credit that had been granted to Banco Espírito Santo through monetary policy operations, on the basis of, among others, Article 10.4 of the Statute of the European System of Central Banks (ESCB) and of the European Central Bank and the first indent of Article 4(1)(a) of Decision ECB/2004/3. On appeal, the Court of Justice accepted the arguments of the ECB and quashed the contested part of the General Court judgments. The two judgments set important precedents regarding public access to the outcome of the Governing Council's deliberations. According to the Court of Justice, the outcome of the deliberations, like the deliberations themselves, is confidential and remains confidential unless the Governing Council has decided to make that outcome public in whole or in part. The disclosure of the outcome of its deliberations is an "exclusive competence conferred on the Governing Council". When refusing to disclose documents recording the outcome of the proceedings, the ECB's statement of reasons, invoking the fact that the requested document is part of the minutes, is adequate. The refusal to disclose the outcome of the deliberations is not subject to the additional condition that the ECB prove how the disclosure would "undermine the protection of the public interest."

The SSM Framework Regulation establishes, in principle, non-anonymised publication of sanctioning decisions

On 8 July 2020 the General Court delivered its first four judgments concerning ECB sanctioning decisions. In Case T-203/18 (VQ v ECB), the Court rejected all pleas in law submitted by the applicant. In particular, it ruled that the ECB did not fail to comply with the principle of proportionality in imposing the sanction and publishing the penalty. The Court also clarified that the legal framework establishes the principle of non-anonymised publication of sanctioning decisions, also before the expiry of the period for bringing an action for annulment. In three other cases (T-576/18, T-577/18 and T-578/18), the Court partially annulled three ECB sanctioning decisions regarding Crédit Agricole S.A. and two of its subsidiaries. The Court found that the applicants breached Article 26(3) of Regulation (EU) No 575/2013, which must be interpreted as requiring a credit institution to obtain the permission of the competent authorities before classifying its capital instruments as Common Equity Tier 1 instruments. Nevertheless, it annulled the sanctions on the basis that the contested decisions did not provide enough details of the methodology applied by the ECB in determining the amount of the penalties imposed. The applicants have appealed against these rulings before the CJEU (cases C-456/20 P, C-457/20 P and C-458/20 P).

The CJEU confirmed the broad scope of the "space to think" exception of the ECB's public access regime

On 17 December 2020 the CJEU dismissed in its entirety an appeal by Fabio De Masi and Yanis Varoufakis against a judgment of the General Court (C-342/19 P). The latter judgment, of 12 March 2019, confirmed that the ECB was entitled to base its decision not to grant public access to an external legal opinion obtained in 2015 on the "space to think" exception under Article 4(3), first subparagraph, of Decision ECB/2004/3 (2004/258/EC). The CJEU ruled that the "space to think" exception is not limited to documents relating to a specific decision-making process but linked it to the principle of central bank independence set out in Article 130 of the Treaty on the Functioning of the European Union. The Court recalled that the ECB must be able to effectively pursue the objectives of its tasks, through the independent exercise of the specific powers conferred on it for that purpose by the Treaty and the Statute of the ESCB. Moreover, it confirmed that a document can be covered by several of the exceptions set out in Decision ECB/2004/3, and that the legal advice exception under Article 4(2), second indent, of Decision ECB/2004/3 is not lex specialis to the relatively broad "space to think" exception. Finally, the CJEU clarified that the "space to think" exception does not require the ECB to establish that disclosure of the document at stake would seriously undermine its decision-making process.

The CJEU declared that Slovenia infringed the inviolability of the archives of the ECB by seizing documents at the premises of Banka Slovenije

On 17 December 2020 the Court of Justice, sitting in Grand Chamber, declared in an infringement procedure, lodged by the European Commission against Slovenia (C-316/19), that by unilaterally seizing documents connected to the performance of the tasks of the ESCB and the Eurosystem at the premises of Banka Slovenije in July 2016, Slovenia failed to fulfil its obligation to respect the inviolability of the archives of the European Union under Articles 2 and 22 of the Protocol on the Privileges and Immunities of the Union. In view of the highly integrated system in which the ECB was operating, the Court of Justice interpreted the scope of the archives of the European Union as including all documents created, processed and transmitted by the ECB or the national central banks (NCBs) in connection with the performance of the tasks of the ESCB and the Eurosystem irrespective of whether they are held by the ECB or the NCBs. Hence, national authorities may not, without coordinating with the ECB in advance, seize such documents at the premises of the NCBs. In addition, the Court of Justice declared that, by failing to cooperate properly with the ECB to eliminate the unlawful consequences of that infringement, Slovenia also failed to fulfil its obligation of sincere cooperation.

9.2 ECB opinions and cases of non-compliance

Articles 127(4) and 282(5) of the Treaty on the Functioning of the European Union require that the ECB be consulted on any proposed EU or draft national legislation falling within its fields of competence. All ECB opinions are published on EUR-Lex.

ECB opinions on proposed EU legislation are also published in the Official Journal of the European Union. In 2020 the ECB adopted six opinions on proposed European Union acts and 31 opinions on draft national legislation falling within its fields of competence.

Clear and important cases of non-consultation

Five cases of non-compliance with the obligation to consult the ECB on draft legislation[63] were recorded, four in respect of national law and one in respect of European Union law. Four cases are considered to be clear and important. Two of these cases relate to Slovenian legislation on deferred payments on loans and on liquidity measures for the Slovenian economy arising out of COVID-19. These cases were considered to be clear and important owing to their potential impact on the national central bank, on the capital and liquidity positions of Slovenian credit institutions, on Eurosystem monetary policy operations, and on compliance with the prohibition of monetary financing under Article 123 of the Treaty on the Functioning of the European Union. Another case related to an Italian draft law for a reimbursement mechanism for purchases made via electronic means of payment and was considered clear and important owing to its effect on means of payment, in particular cash. The European Union law case related to the Regulation on the establishment of a European instrument for temporary support to mitigate unemployment risks in an emergency (SURE) following the COVID-19 outbreak and was considered a clear and important case because of its potential impact on the ECB and on the NCBs in connection with the administration of the SURE loans. The ECB fully appreciates the acute urgency with which the legislative process had to be concluded in the two Slovenian cases and the EU SURE case given the emergency situation resulting from the pandemic, including in the SURE case the need to operationalise SURE rapidly as part of the three short-term safety nets agreed by the Eurogroup.

The ECB adopted opinions on proposed EU legislation

The ECB adopted opinions on EU proposals concerning amendments to the prudential and securitisation frameworks in response to the COVID-19 pandemic, and an own initiative opinion concerning the administration by the ECB and the NCBs of loans pursuant to SURE. The ECB adopted an opinion on an EU proposal concerning the exemption of certain third country foreign exchange benchmarks and the designation of replacement benchmarks for certain benchmarks in cessation. It also adopted opinions on an EU proposal concerning exchange rate matters relating to the CFA and Comorian francs and on the appointment of a new member of the ECB Executive Board.

The ECB adopted opinions on draft national legislation

The ECB adopted opinions on draft national legislation concerning national central banks, including: on a proposed comprehensive reform of Sveriges Riksbank; on the institutional and financial independence of Hrvatska narodna banka; on changes in the appointment criteria for the Banco de Portugal's Governor and Management Board members and the appointment procedure for the members of De Nederlandsche Bank's decision-making bodies; on reforms of the Supervisory Board of Eesti Pank and the General Council of Sveriges Riksbank; on the close cooperation between the ECB and, respectively, Hrvatska narodna banka and the Bulgarian National Bank

[63] Cases of non-compliance include: (i) cases where a national authority has failed to submit draft legislative provisions within the ECB's fields of competence for consultation to the ECB; and (ii) cases where a national authority has formally consulted the ECB but not afforded it sufficient time to examine the draft legislative provisions and to adopt its opinion prior to adoption of these provisions.

within the Single Supervisory Mechanism; on the role of Eesti Pank in defence situations and the exemption of the members of Latvijas Banka's Council from military conscription; on the role of Hrvatska narodna banka in the calculation of the national reference rate of the average cost of financing the Croatian banking sector; on the role of the Central Bank of Ireland as registrar for beneficial ownership registers for certain financial entities; on the role of the Banco de España in supervising compliance by virtual currency service providers with anti-money laundering and terrorist financing registration requirements; on the role of the Bank of Greece in ensuring compliance with certain requirements arising out of the Single Euro Payments Area (SEPA); on the role of De Nederlandsche Bank in the Netherlands' Financial Stability Committee; on the provision of emergency liquidity assistance to non-bank entities by Lietuvos bankas; on the provision of short-term liquidity by Banca Naţională a României to the Bank Deposit Guarantee Fund; on the collection and sharing of data by Danmarks Nationalbank; on the right of insolvency administrators and liquidators of credit institutions to hold funds on accounts at Latvijas Banka; and on the financing by the Bank of Greece, the Banca d'Italia, the Central Bank of Malta and the Oesterreichische Nationalbank of their respective Member States' obligations vis-à-vis the International Monetary Fund.

The ECB adopted opinions on draft national legislation concerning the prudential supervision of credit institutions, including: one opinion on the close cooperation within the Single Supervisory Mechanism between the ECB and Hrvatska narodna banka; two opinions on the close cooperation with the Bulgarian National Bank; and an opinion on the capital treatment of participation certificates issued by a credit institution in Luxembourg.

The ECB adopted opinions on draft national legislation concerning means of payment, including: on cash limitations concerning postal payments in Belgium; on ensuring a minimum level of cash services in Hungary and Sweden; and on limitations on cash payments to professionals in Denmark.

The ECB adopted opinions on draft national legislation concerning banking and financial regulation and financial stability, including: on the state's support for the deposit guarantee scheme in Luxembourg; on the abolition of the special levy on selected financial institutions in Slovakia; on the identification and reporting by financial institutions of the allocation of sums deposited in savings accounts in Belgium; and on measures limiting macroprudential risks in residential property loans in Germany.

The ECB adopted an opinion on draft Bulgarian legislation concerning the official exchange rate of the Bulgarian lev within the exchange rate mechanism (ERM II).

The ECB adopted an opinion on draft Austrian legislation concerning balance of payments statistical reporting.

9.3 Compliance with the prohibition of monetary financing and privileged access

Pursuant to Article 271(d) of the Treaty on the Functioning of the European Union, the ECB is entrusted with the task of monitoring the compliance of the EU national central banks (NCBs) with the prohibitions implied by Articles 123 and 124 of the Treaty and Council Regulations (EC) Nos 3603/93 and 3604/93. Article 123 prohibits the ECB and the NCBs from providing overdraft facilities or any other type of credit facility to governments and EU institutions or bodies, as well as from purchasing in the primary market debt instruments issued by these institutions. Article 124 prohibits any measure, not based on prudential considerations, which establishes privileged access by governments and EU institutions or bodies to financial institutions. In parallel with the Governing Council of the ECB, the European Commission monitors Member States' compliance with the above provisions.

The ECB also monitors the EU central banks' secondary market purchases of debt instruments issued by the domestic public sector, the public sector of other Member States and EU institutions and bodies. According to the recitals of Council Regulation (EC) No 3603/93, the acquisition of public sector debt instruments in the secondary market must not be used to circumvent the objective of Article 123 of the Treaty. Such purchases should not become a form of indirect monetary financing of the public sector.

The prohibitions laid down in Articles 123 and 124 of the Treaty were in general respected

The ECB's monitoring exercise conducted for 2020 confirmed that Articles 123 and 124 of the Treaty were in general respected.

The monitoring exercise revealed that most NCBs in 2020 had remuneration policies for public sector deposits in place that fully complied with the remuneration ceilings. However, a few NCBs need to ensure that the remuneration rate for public sector deposits is not above the ceiling.

The ECB will continue monitoring the involvement of the Magyar Nemzeti Bank in the Budapest Stock Exchange as the purchase of the majority ownership of the Budapest Stock Exchange by the Magyar Nemzeti Bank in November 2015 may still be seen as giving rise to monetary financing concerns.

The Central Bank of Ireland's reduction of assets related to the Irish Bank Resolution Corporation during 2020 through sales of long-duration floating rate notes is a step in the direction of the necessary full disposal of these assets. Continued sales at an appropriate pace would further mitigate the persisting serious monetary financing concerns.

10 The ECB in an EU and international context

The ECB maintained its close dialogue with European and international partners in 2020. It placed a strong focus on communication in the context of its accountability to the European Parliament, in order to explain the unprecedented measures taken in the context of the COVID-19 pandemic. The ECB engaged constructively in G20 dialogues and actively contributed to discussions at the International Monetary Fund (IMF), particularly on the impact of the pandemic. It also continued to cooperate with central banks of emerging market economies.

10.1 The ECB's accountability

Independence and accountability are two sides of the same coin

The ECB has been able to deliver a strong policy response during the COVID-19 pandemic thanks in part to its ability to act in full independence. This was granted to the ECB through a democratic process and enables it to carry out its tasks free from short-term political pressures.[64] Independence, in turn, relies on effective accountability mechanisms to ensure that the ECB is pursuing its mandate. The ECB has constantly strived to ensure effective accountability practices and to explain its actions to people across Europe and their representatives in the European Parliament. These practices have thus evolved beyond the requirements set out in Article 284(3) of the Treaty on the Functioning of the European Union. They are also complemented by judicial review by the Court of Justice of the European Union.

When the ECB took unprecedented action at the outbreak of the pandemic, the President of the ECB held an ad hoc exchange of views with representatives of the Committee on Economic and Monetary Affairs of the European Parliament (ECON). This was in addition to the four regular hearings before the same committee that occurred in 2020, during which the President also explicitly discussed the key criteria for ensuring effective accountability practices. The ECB and the European Parliament agreed to interact more closely in the context of the ECB's strategy review.

The President of the ECB also participated in the plenary debate on the ECB's 2018 Annual Report in February 2020 and the Vice-President presented the ECB's 2019 Annual Report to ECON in May 2020. In relation to this event, the ECB published its feedback on the input provided by the European Parliament as part of the latter's resolution on the 2018 Annual Report. Beyond the regular hearings, ECB Executive Board member Fabio Panetta participated in the European Parliamentary Week in February 2020 to discuss the deepening and widening of Economic and Monetary Union and in exchanges of views with ECON on the international role of the euro in July 2020 and on a digital euro in October 2020. The ECB also replied to 48 written

64 See Dall'Orto Mas, R., Vonessen, B., Fehlker, C. and Arnold, K., "The case for central bank independence: a review of key issues in the international debate", *Occasional Paper Series*, No 248, October 2020.

questions from Members of the European Parliament in 2020, a significant increase as compared with the previous year.

The latest Eurobarometer surveys indicate that 75% of euro area respondents support the euro and 40% tend to trust the ECB.[65] These results show that trust in the ECB is still vulnerable to economic outcomes – potentially including those beyond its control – and also the need for the ECB to further engage in constructive dialogue with the European Parliament and citizens to explain its decisions and listen to their concerns.

10.2 International relations

G20

The ECB engaged constructively with the G20 initiatives focused on providing an adequate response to the COVID-19 crisis

With the advent of the COVID-19 pandemic, the G20 endorsed a comprehensive Action Plan focused on emergency policies to attenuate the economic fallout of the crisis, safeguard the global financial system and support poor economies. Together with the Paris Club, it also agreed on a temporary Debt Service Suspension Initiative (DSSI) for the poorest countries, and endorsed a Common Framework for Debt Treatments beyond the DSSI. Work was also intensified in the fields of infrastructure and financial inclusion, in view of the new challenges brought by the crisis. With respect to financial sector issues and in collaboration with the Financial Stability Board, the G20 produced a report on financial stability implications of procyclicality of credit rating agencies as well as a roadmap to enhance global cross-border payment arrangements. The G20 also held discussions on global stablecoins, on which more work is foreseen in 2021. Dialogues on digital taxation will carry over into 2021.

Policy issues related to the IMF and the international financial architecture

The IMF reacted promptly to the crisis through its analysis and emergency lending

The ECB continued to play an active role in discussions on the international monetary and financial system at the IMF and in other fora, contributing its perspective to common positions taken by European Union or euro area countries. These discussions were heavily centred on the impact of the COVID-19 pandemic.

The IMF played a central role in the international community's response to the crisis, not least in terms of its analysis of the economic and financial situation. It also promptly deployed a number of measures, including the provision of emergency financing to an unprecedented number of countries, the granting of new Flexible Credit Lines, debt relief for its poorest members, and the introduction of a new lending tool, the Short-term Liquidity Line. The crisis lending proceeded within the existing IMF lending capacity of around USD 1 trillion. This lending capacity has been maintained

[65] For a discussion of the state, evolution and socio-demographic breakdown of citizens' trust in the ECB and support for the euro, see "Citizens' attitudes towards the ECB, the euro, and Economic and Monetary Union", *Economic Bulletin*, Issue 4, ECB, 2020.

for the coming years thanks to the doubling of the IMF's New Arrangements to Borrow, which took effect on 1 January 2021, and a new round of bilateral borrowing agreements. However, demand for IMF resources needs to be kept under close review. The ECB supports an adequately resourced IMF at the centre of the global financial safety net.

In view of the impact of the pandemic on the debt situation in many countries, the IMF significantly intensified its debt-related work agenda. It initiated a discussion on improving the international architecture for resolving debt crises and announced plans to further review its own policies related to sovereign debt. The IMF also continued with its quinquennial comprehensive surveillance review, a process that will set surveillance priorities for 2020-25, as well as with the review of the Financial Sector Assessment Program (FSAP). Regarding the latter, a report by the International Relations Committee of the European System of Central Banks contributed to the international debate and provided recommendations to enhance the traction of FSAP exercises.

International central bank cooperation with emerging market economies

The ECB continued to cooperate with central banks in emerging market economies

Despite the unprecedented situation, the ECB continued its cooperation with non-EU central banks, in particular through the existing bilateral Memoranda of Understanding with key African, Asian and Latin American central banks and via its structured cooperation with regional central bank organisations and the IMF. This collaboration reflects the global interest in the ECB's policies, views, analytical frameworks and working processes. Discussions at both staff and policymaker level covered policies and core tasks of the ECB as well as technical and governance issues. Specifically, topics related to COVID-19, climate change and digitalisation from a central banking perspective received considerable interest. In addition, the ECB continued to contribute to the EU enlargement process as an EU institution through targeted discussions with the central banks of the countries in the Western Balkans that have a prospect of joining the EU.

Box 9
ERM II developments

On 10 July 2020 the Bulgarian lev and the Croatian kuna were included in the exchange rate mechanism (ERM II) at their then exchange rate levels. The inclusion of the currencies followed the procedure outlined in the Resolution of the European Council of 16 June 1997, also taking into consideration fundamental factors such as the establishment of the banking union. Before applying for ERM II participation, the Bulgarian and Croatian authorities had implemented a number of prior policy commitments. Their fulfilment was monitored and assessed by the ECB and the European Commission, each in their respective fields of competence, namely banking supervision and macroprudential policy for the ECB and structural policies for the European Commission. In line with past practices, Bulgaria and Croatia made additional policy commitments upon entering ERM II, with a view to ensuring a sustainable convergence path to the euro area.[66] In parallel to joining ERM II, the two central banks have entered into close supervisory cooperation with the ECB.[67] Joining ERM II is one of the preconditions for a country to adopt the euro. The currency must participate in ERM II without severe tensions, in particular with no devaluation against the euro, for at least two years. Following an assessment of the fulfilment of all convergence criteria, euro area entry must be confirmed by a decision of the Council of the European Union in line with the relevant Treaty provisions.[68]

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66 See the ECB's website for the ERM II communiqués (Bulgaria and Croatia) and the countries' application letters with the lists of prior and post-entry commitments (Bulgaria and Croatia).

67 For more information see Section 4.1 in the 2020 ECB Annual Report on supervisory activities.

68 For more information see "The European exchange rate mechanism (ERM II) as a preparatory phase on the path towards euro adoption – the cases of Bulgaria and Croatia", *Economic Bulletin*, Issue 8, ECB, 2020.

11 Enhancing communication and outreach

"Good communication forms the bedrock of the ECB's credibility and underpins our legitimacy in the eyes of the people we serve."
ECB President Christine Lagarde

Among the many effects of the coronavirus pandemic, one of the most pervasive has been the unprecedented level of uncertainty, not only for the economy and society as a whole, but also for each individual, causing anxiety and often confusion. In such circumstances, reliable, fact-based, timely and clear communication from public authorities is essential to provide vital information and generate trust. Accordingly, the ECB adjusted and stepped up its communication and outreach in 2020. It gave markets and the wider public timely and easily accessible information on its assessment of the economic outlook and the policy measures agreed. Most importantly, the ECB invested in explaining the rationale behind its actions, their intended impact and the concrete benefits for people, businesses, banks and governments in the euro area.

11.1 Communication under the pandemic

The ECB adapted its communications strategy to the constraints of the pandemic and moved most communication online

The pandemic has challenged the ECB to adapt to new ways of reaching out to different audiences. Through innovative forms of communication it has maintained a strong focus on communication and kept its audiences well informed. The ECB has made sure that technical details of its measures are well understood by financial markets and experts and provided swift responses to any queries. Easily accessible information about the ECB's actions has been published on the dedicated corona hub webpage.

One major part of the new communication approach was the move from in-person gatherings to online events, seminars and talks. With Executive Board members giving fewer speeches and interviews at the onset of the pandemic, the ECB expanded its communication toolbox by introducing the ECB Blog. The blog offers insights into recent policy decisions and trends related to the euro area economy and beyond. All articles are authored by ECB policymakers. 19 blog posts were published in 2020, with many focusing on the ECB's response to the crisis. The ECB Podcast, introduced in 2019, is another important channel used to reach the wider public. It offered nine episodes in 2020, with topics ranging from the pandemic's effects on the ECB and its policies and operations to the role of central banks in fighting climate change and the possibility of a digital euro.

The 2020 ECB Forum on Central Banking, dedicated to the role of "Central banks in a shifting world", also moved online. The new format, featuring a studio set-up, interactive elements and a live stream, attracted more viewers and led to increased engagement on social media channels, with the President's speech on monetary policy in a pandemic emergency attracting particular attention. As in the years before, the Young economists' competition broadened access to the Forum and raised interest among younger audiences.

The ECB Visitor Centre, normally a much frequented destination for schoolchildren and university students to learn more about the ECB and its policies, had to suspend in-person visits. In the meantime the ECB made the Visitor Centre accessible online, offering a virtual tour. Accessing the tour with a virtual reality headset provides an even more special and immersive experience.

"Prepare yourself for change" – advice from ECB President Christine Lagarde to young Europeans at the online European Youth Event in May 2020

Digital channels have been central to communication during the pandemic. The extension of the ECB's online offer, as well as substantially stepped-up activities on the social media channels of the ECB, those of the President and of other Executive Board members, have helped to increase the ECB's reach and sustain greater online engagement by the ECB's followers, with 2.8 million interactions on social media. Dedicated online formats such as a dialogue at the European Youth Event proved attractive especially for younger audiences. At this event in May 2020, organised jointly with the European Parliament, President Christine Lagarde answered the questions of young Europeans about their concerns for their careers, the future of Europe, digitalisation and climate change. Similarly, the ECB's efforts to partner up with experienced outreach organisations or influencers, such as Finanzfluss, a YouTube channel on financial literacy, have helped the ECB to further engage with younger audiences and address their concerns.

11.2 Communication as a two-way process: the ECB listens

The ECB is listening to ensure that what we do corresponds to what is understood and expected by European citizens

As part of its strategy review, the ECB is also evaluating its communication practices. The ECB's objectives, strategy and policy decisions need to be widely understood and supported by stakeholders. Therefore, the ECB decided to reach out not only to technical experts and analysts, but also to the broader public. It has committed to listening to the expectations of European citizens, to better understand their economic concerns and imperatives, and how the ECB can deliver on them.

The first ever ECB Listens event was hosted by President Christine Lagarde and Chief Economist Philip R. Lane in October 2020. This virtual event brought together 22 representatives from 18 civil society organisations, active in nine different sectors including environmental issues, sustainability, social welfare, business, religion, culture and transparency.

The participants joined the conversation remotely from locations in seven different countries. The event was structured around two sessions: one on the impact of the ECB's monetary policy and communication, and the other on the global challenges ahead. The discussions were open and frank.

Similar events organised by national central banks across euro area countries offered further insights into the concerns and expectations of people from all corners of the euro area.

To seek ideas and opinions from a wide range of interested parties, the ECB also opened an online ECB Listens Portal to better understand people's perspectives on the euro area economy and what they expect from the ECB. Almost 4,000 comments on the ECB's monetary policy strategy were submitted via the portal in 2020.

The comments and input from the ECB Listens Portal, the ECB Listens event and the events organised by national central banks will feed into the deliberations of the strategy review in 2021.

In addition, the ECB launched a series of webinars with civil society organisations, holding its first in September 2020 on the impact of COVID-19 on the euro area economy and the ECB's policy response.

12 Organisational resilience and governance

The ECB is committed to inspiring, developing and engaging its people. Despite the additional challenges created by the COVID-19 pandemic, the ECB continued to attract and retain talented people and support their continuous growth in 2020, and achieved further progress in its work on several people initiatives and processes. ECB colleagues share their experiences of the special circumstances and challenges they faced in 2020 in the section entitled "Meet our people".

The ECB is fully committed to the highest level of integrity and governance standards. The establishment of an enhanced whistleblowing framework in 2020 reinforces its dedication to its shared values and encourages staff to speak up in full confidence.

12.1 Unlocking people excellence in extraordinary circumstances

People are at the heart of how the ECB performs

The COVID-19 pandemic brought new challenges for the ECB. In 2020 its top priority was to ensure the health and safety of its staff, while supporting them in balancing their professional and personal responsibilities and enabling them to do their best work.

The ECB took several precautionary measures to protect its employees and make sure it continued to deliver on its mandate. At the onset of the pandemic, the ECB asked its staff, with the exception of those needing to perform critical tasks in the ECB's buildings, to work remotely. It also redeployed some staff to areas with critical functions that needed additional support.

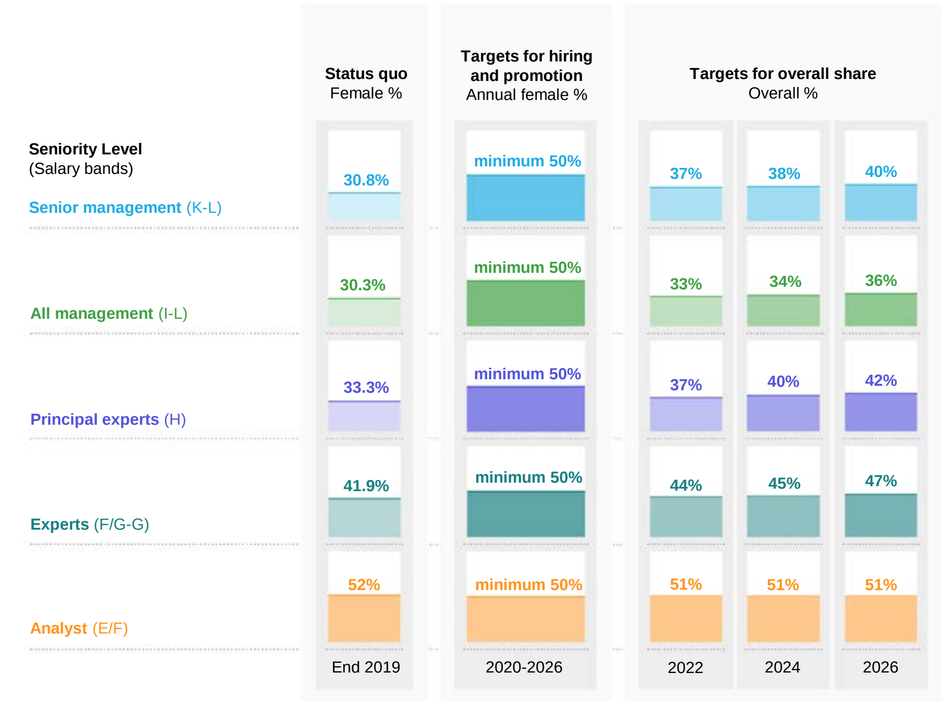
The ECB continuously adapted its work environment, rules and policies to support the wellbeing of its staff, foster their professional growth and promote an inclusive environment, particularly in such exceptional circumstances as the COVID-19 crisis. Examples include regular communication and awareness raising within the organisation, the provision of increased emotional support through medical and psychological counselling, as well as flexible working hours and childcare support. The ECB also temporarily extended certain contracts reaching their limit. New employees joining the ECB were for the most part onboarded remotely.

Throughout 2020 the ECB continued its efforts to support career development. A new career framework was implemented in January 2020, which made it easier for staff to switch roles within the organisation, either horizontally or through promotion to higher levels. The ECB also provided staff with remote professional development opportunities, such as training sessions and courses conducted via video link. To develop leadership capabilities, which play a key role in people management at the ECB, it therefore invested in remote coaching and guidance for managers and team coordinators on how to cope with the COVID-19 crisis and lead virtual or hybrid (virtual and on-site) teams. Tips and best practices from other organisations were also shared with staff, and a dedicated space created on the ECB's internal platforms where staff and managers could exchange views and ask questions.

The ECB is committed to being a workplace that fosters openness, respect, diversity and inclusion and continued its work in these areas in 2020. It promoted inclusive behaviour among staff, which was crucial in a working environment that became predominantly virtual. As regards gender balance, in 2020 the ECB adopted a new strategy consisting of new gender targets and a set of accompanying measures to support gender diversity. For the first time, these targets cover both hiring and promotion decisions and the overall share of female staff at the ECB.

Figure 4

Targets for hiring, promotion and overall share of female staff at the ECB



Source: ECB.
Note: The share of female staff is measured on the basis of staff holding permanent and fixed-term positions.

Despite the COVID-19 pandemic, the ECB continued its awareness-raising activities on diversity and inclusion. With the support of its employee networks, it marked several important events in this field, such as International Holocaust Remembrance Day, International Women's Day, International Day against Homophobia, Biphobia, Interphobia and Transphobia (IDAHOBIT), International Day for the Elimination of Racial Discrimination, and International Day of Persons with Disabilities. In 2020 the ECB also welcomed a new employee network called the Parents Network, whose mission is to ensure an increased organisational awareness on parent-related topics and inspire an organisational culture, policies and services that best serve the interests and needs of parents and parents to be.

To monitor staff wellbeing and understand their needs and concerns in the current extraordinary environment, the ECB decided to run regular organisational pulse checks. These pulse checks will continue for the duration of the COVID-19 pandemic and will allow the ECB to take appropriate measures to support its staff, maintain their wellbeing and engagement and promote an inclusive working culture.

12.2 Meet our people

Massimo Antolini, Adviser, Directorate General Information Systems

I work in the End User Services Section, where we provide and manage laptops and phones, and supply messaging, collaboration tools and videoconferencing services for the whole ECB, thus ensuring that colleagues can work and remain in contact, wherever they are physically located. We also assist Executive Board members and their offices on any IT-related matter.

Together with other teams across the Infrastructure and Operations Services Division, we provide remote access to all ECB IT services. Remote access has made it possible for ECB colleagues to adapt to working from home since the start of the COVID-19 pandemic, thereby reducing the risk of contagion on our premises. While technology cannot completely replace the benefits of physical presence and face-to-face contacts, it has helped to ensure business continuity and sustain organisational resilience since the start of the coronavirus-related restrictions.

For those colleagues that have still been working on-site, we also equipped several meeting rooms with enhanced videoconferencing equipment and we have always been there to provide our users with continuous support. These efforts have already brought their results: both staff and Executive Board members have learned new skills and now confidently use this modern infrastructure for virtual meetings and for a variety of press and interinstitutional video events. Less travel has unlocked schedules for even more events, and arguably the ECB has never been as approachable and available to the public as during this period.

Shani Kopolo, Trainee, Directorate General Human Resources

I am a recent masters graduate, having studied international human resource management at the University of Edinburgh. I am from Finland and Zambia and grew up in Vienna, attending an international school. Being exposed to so many different cultures, I was very excited to join the ECB. As a trainee in the Working Culture team of the Talent Management Division, I work on projects related to, among other things, diversity and inclusion. Our initiatives aim to ensure that the ECB is a workplace where each colleague feels valued, respected, included and empowered to bring their full selves to work. This is always an important condition, but the COVID-19 pandemic gave it even more prominence, which I experienced personally. Joining the ECB in the middle of the pandemic has posed some challenges in terms of integrating into my team, asking for guidance and learning how things work, as traditional forms of in-person interaction were simply not possible. However, having the possibility to talk to my colleagues on video calls, rather than emailing, was hugely helpful in onboarding. My team also made every effort to involve me, which has shown me that our work on inclusiveness in remote conditions is vital to employee wellbeing during such exceptional times as the COVID-19 pandemic.

Julia Körding, Lead Financial Risk Expert, Directorate Risk Management

I joined the ECB in 2006 after a PhD and postdoc in pure mathematics, as I wanted to connect to the real world and improve people's lives. My daily motivation comes from the ECB's aim of working for the benefit of all people in Europe. At the beginning of 2020 I was working in the Directorate General Secretariat, where I coordinated meetings of the Governing Council and the preparation of the ECB's Annual Report 2019. When resources were needed to support the ECB's reaction to the COVID-19 pandemic, I moved to the Directorate Risk Management at short notice in April 2020. With my mathematical background, I helped the team assess new credit assessment sources and devise appropriate risk mitigation measures. The aim of this is to allow banks to submit more loans as collateral for monetary policy operations and thereby safeguard the financing of the real economy. For many months I only met my new colleagues virtually. Discussing complex technical issues from the home office via laptop was not always easy, but being surrounded by a great team made it a very rewarding experience. I am proud to have played a small part in easing the impact of the pandemic on people across the euro area.

Belén Pérez Esteve, Senior Public Outreach Expert, Directorate General Communications

In order to deliver on its mandate of price stability, the ECB needs to be understood by market players, but also by European citizens. This is particularly true in times of extreme circumstances like that of the coronavirus pandemic. As part of the External Engagement team, I contribute to explaining what the ECB does to the wider public by organising initiatives for young Europeans. As young people have been among those worst hit by the economic effects of the pandemic, we worked hard in 2020 to offer impactful online alternatives for the physical events that were planned, as well as innovative formats suited to this audience. One such event ultimately held virtually due to the pandemic was an online dialogue for the European Youth Event with President Christine Lagarde, where participants could directly submit their questions to her. Our team also organised several interviews for Finanzfluss, a YouTube channel on financial literacy, as well as a social media campaign with the European Youth Forum to get the voices of young Europeans heard within the ECB's strategy review. Keeping up with communication trends and audience preferences in the digital age and amidst a pandemic is challenging, but extremely rewarding when you meet the objective of increasing awareness of what we do and reaching new audiences.

Olivier Strube, Principal Banknote Issuance Expert, Directorate Banknotes

I am in charge of scheduling the delivery of euro banknotes, above all from the nine printing works where they are produced, to the 19 national central banks (NCBs), which make them accessible to citizens. I usually create the monthly delivery schedule for a specific year for all NCBs several months beforehand based on the forecast cash demand by using an optimisation software for matching supply and demand efficiently. We experienced unforeseen high demand for banknotes in March 2020, before the first pandemic lockdown, and then partial and/or full closures of printing works and cash centres in charge of selecting banknotes suitable for reissuing, which resulted in an unexpected reduction in the banknote supply. This rare combination of a demand and supply shock required me to completely redesign the delivery schedule and to initiate more than 20 ad hoc shipments of banknotes across Europe from our strategic banknote reserves. I had to closely monitor banknote stocks and supply and to liaise with NCBs to ensure that no banknote shortages materialised in any euro area country. An internally developed application also helped us to face this challenge by facilitating projections of different supply/demand scenarios. I experienced a truly European spirit as all 19 NCBs assisted each other pragmatically during this difficult period to ensure that every citizen was able to access cash when and where needed.

Anne van der Graaf, Graduate Programme participant, Directorate General Market Operations

In my second year as a Graduate Programme participant I joined the Euro Area Bond Markets Section and my main task is to help NCBs with implementing corporate sector purchases as part of the asset purchase programme (APP) and the pandemic emergency purchase programme (PEPP). I contribute directly to ensuring that, even though the coronavirus pandemic has created extreme circumstances, corporates can still find favourable funding conditions. I am lucky that I was able to gain in-person experience in the trading room at the ECB. As restrictions on how many people could be in the office have increased, the coronavirus pandemic has significantly transformed my working day and I have had to monitor euro area bond markets from home. My apartment's otherwise cosy guestroom has turned into my office, where my flatmate's drums next to my desk make for some refreshing "office furniture".

Stefan Wredenborg, Senior Team Lead and Secretary of the Financial Stability Committee, Directorate General Macroprudential Policy and Financial Stability

An important form of cooperation between the ECB and national central banks and supervisory authorities is through committee structures. One of them is the Financial Stability Committee, which, due to the pandemic, worked more intensely during 2020. There were more frequent virtual meetings to discuss financial stability developments and macroprudential policy decisions. I took over as secretary of the committee in 2020 and had to "hit the ground running" in my new role; a smooth handover arranged by my predecessor, excellent colleagues in the secretariat team, and guidance from the committee Chair made this all possible.

It was a challenging year, also for the members, as we all had to get used to new ways of working together, while managing an increased workload. I believe we accomplished this, thanks to a very cooperative spirit, excellent analysis by experts at national authorities and at the ECB, and support from our IT services, which helped us to cope with the new virtual reality. Somewhat paradoxically, I feel that we, as a committee, became closer during this year, even though we did not meet physically. Seeing members across all EU countries in video meetings from home offices, rather than around a big table, gave a sense that we are indeed all in this challenging period together. That said, we all missed meeting in person from time to time and the opportunity to catch up informally during meeting breaks!

12.3 Strengthening integrity and governance standards

An enhanced whistleblowing framework and policy protects the ECB's integrity, promotes good corporate governance and enables staff to speak up in confidence

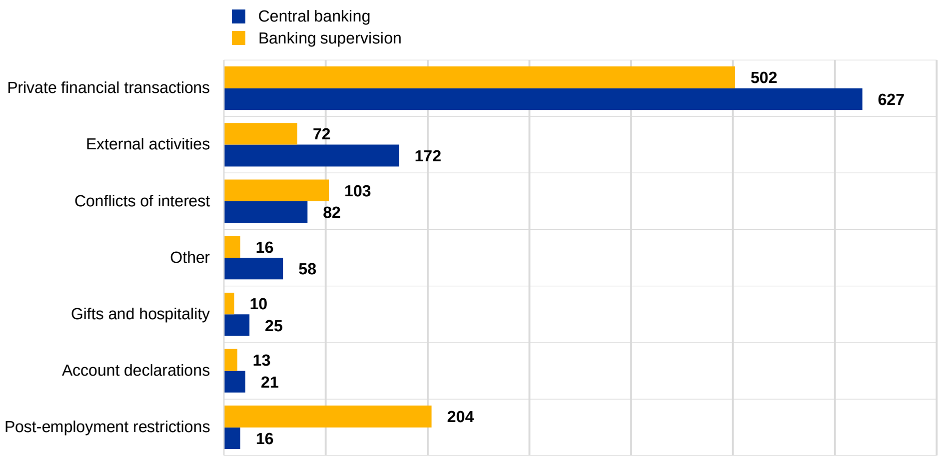
To protect the ECB's integrity and promote good corporate governance an enhanced internal whistleblowing framework and policy was put in place in 2020. The new framework encompasses an internal tool for simple and secure anonymous reporting of potential breaches of professional duties, inappropriate behaviour or other irregularities, and the possibility for whistleblowers and witnesses to request protection from retaliation, in line with state-of-the-art standards. Moreover, the scope of the policy has been extended to cover all high-level ECB officials. The whistleblowing framework complements the ECB's existing breach reporting mechanism, which is primarily used for external reporting on issues in the field of banking supervision.

Within the ECB, new initiatives and communication campaigns were developed to keep staff informed of the ethics rules and provisions, with all newly recruited staff members undergoing a mandatory "Being ethical" e-learning programme. The Compliance and Governance Office responded to over 1,900 requests on a wide range of topics in 2020, with requests equally split between central banking and banking supervision staff. Almost 60% of the requests concerned staff members' private financial transactions, followed by requests on external activities and conflicts of interest issues (see Chart 25). The compliance checks conducted with the support of an external service provider confirmed the overall adherence of ECB staff members and the ECB members of the high-level bodies with the rules on private financial transactions.

Chart 25

Overview of requests from ECB staff received in 2020

(number of requests)



Source: ECB.

At the level of the Eurosystem and the Single Supervisory Mechanism, cooperation with the national central banks and the national competent authorities continued through the Ethics and Compliance Officers' Task Force (ECTF) and focused on the alignment and coherence of the ethics guidelines in force at the various institutions.

At international level, the ECB was admitted to the Ethics Network of Multilateral Organizations (ENMO), a forum created to exchange information and experience, facilitate collaboration on integrity issues of common interest and promote standards of practice. Membership of ENMO demonstrates the ECB's commitment to matters of ethics and good governance.

The ECB's Ethics Committee, in accordance with the single Code of Conduct for high-level European Central Bank Officials, assessed the Declarations of Interests submitted by the members of the Executive Board, Governing Council and Supervisory Board for publication on the ECB websites. In the course of 2020 the Ethics Committee issued an increased number of opinions, the majority of which related to activities undertaken in a personal capacity and to post-employment activities.

To further increase transparency the Governing Council decided to publish on the ECB's website the opinions issued by the Ethics Committee and addressed to current and future members of the ECB Executive Board, Governing Council and Supervisory Board with regard to cases of conflict of interest and post-mandate gainful employment.

In 2020 the ECB responded to 67 requests from EU citizens for access to ECB documents and released over 190 documents (some of which were partially disclosed).

The ECB's Audit Committee[69] conducted the triennial review of its mandate and introduced additional provisions to address calls from the European Parliament and non-governmental organisations to further strengthen and safeguard the independence of its members. The Audit Committee advises the Governing Council on key aspects of corporate governance at the ECB, covering both the central banking and banking supervision arms, and in the Eurosystem. It was regularly informed of the measures and initiatives taken by the ECB to address the financial and operational risks created by the COVID-19 pandemic and continued to encourage the timely implementation of open audit recommendations.

[69] In February 2020 Yannis Stournaras assumed the responsibilities of Chairperson of the Audit Committee.

Annual Accounts

Contents

Key figures

€569 billion
Total assets

The Balance Sheet increased by €112 billion in 2020, mainly due to the acquisition of monetary policy securities.

€349 billion
Monetary policy securities

Securities held for monetary policy purposes increased by €99 billion, mainly owing to purchases of securities under the PEPP and the APP.

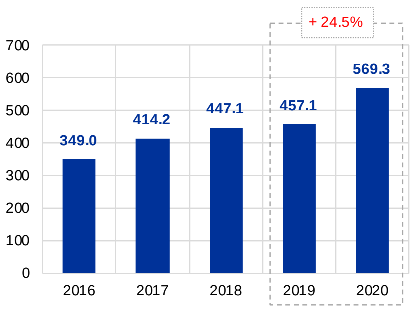
€1,643 million
Profit

The decrease of €722 million compared with 2019 was mainly due to lower net interest income.

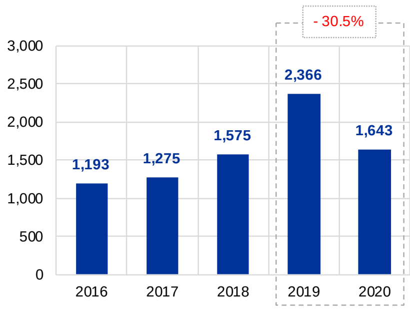
€2,017 million
Net interest income

Net interest income decreased by €669 million, mainly as a result of lower interest income earned on securities denominated in US dollars.

Total assets
(EUR billions)



Total profit
(EUR millions)



1 Management report

1.1 Purpose of the ECB's management report

The management report[1] is an integral part of the ECB's Annual Accounts and is designed to provide readers with contextual information related to the financial statements.[2] Given that the ECB's activities and operations are undertaken in support of its policy objectives, the ECB's financial position and result should be viewed in conjunction with its policy actions.

To this end, the management report presents the ECB's main tasks and activities, as well as their impact on its financial statements. Furthermore, it analyses the main developments in the Balance Sheet and the Profit and Loss Account during the year and includes information on the ECB's financial resources. Finally, it describes the risk environment in which the ECB operates, providing information on the specific risks to which the ECB is exposed, and the risk management policies used to mitigate risks.

1.2 Main tasks and activities

The ECB is part of the Eurosystem, which has the primary objective of maintaining price stability. The ECB performs its tasks as described in the Treaty on the Functioning of the European Union[3] and in the Statute of the European System of Central Banks and of the European Central Bank (Statute of the ESCB)[4] (Figure 1). The ECB conducts its activities in order to fulfil its mandate and not with the intention of generating profit.

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1 Throughout this document, the numbers presented may not add up precisely to the totals and percentages may not precisely reflect the absolute figures owing to rounding.

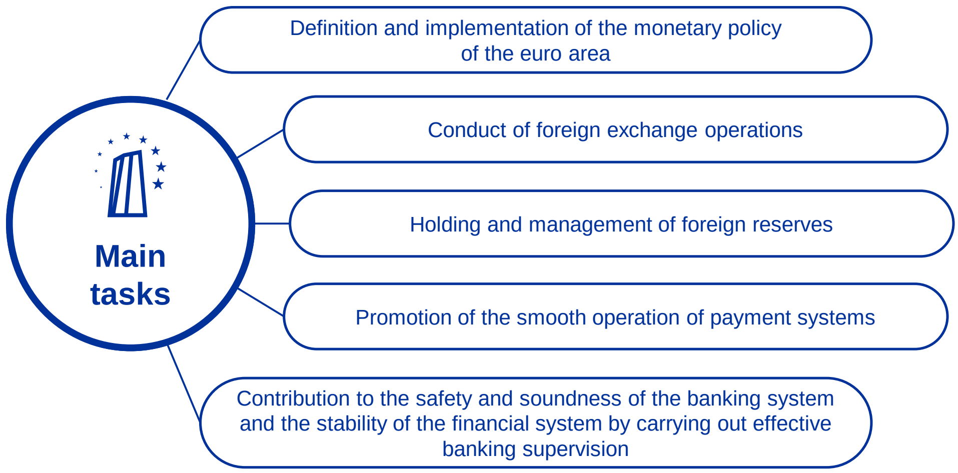
2 The "financial statements" comprise the Balance Sheet, the Profit and Loss Account and the related notes. The "Annual Accounts" comprise the financial statements, the management report, the auditor's report and the note on profit distribution/allocation of losses. Further details on the related preparation and approval process can be found on the ECB's website.

3 Consolidated version of the Treaty on the Functioning of the European Union (OJ C 202, 7.6.2016, p.1), as amended. The unofficial consolidated text with the list of amendments can be found here.

4 Protocol (No 4) on the Statute of the European System of Central Banks and of the European Central Bank (OJ C 202, 7.6.2016, p. 230).

Figure 1

The ECB's main tasks



The Eurosystem's monetary policy operations are recorded in the financial statements of the ECB and of the euro area national central banks (NCBs), reflecting the principle of decentralised implementation of monetary policy in the Eurosystem. Table 1 below provides an overview of the main operations and functions of the ECB in pursuit of its mandate, and their impact on the ECB's financial statements.

Table 1

The ECB's key activities and their impact on its financial statements

Implementation of monetary policy

Standard monetary policy operations in euro	Securities held for monetary policy purposes	Securities lending
Monetary policy operations conducted with the standard set of instruments (i.e. open market operations, standing facilities and minimum reserve requirements for credit institutions) are implemented in a decentralised manner by the NCBs of the Eurosystem. Accordingly, these operations are not reflected in the ECB's financial statements.	Purchases of these securities are conducted by the ECB and the NCBs of the Eurosystem and are recorded under the balance sheet item "Securities held for monetary policy purposes". The securities currently held are accounted for at amortised cost subject to impairment. Coupon accruals and amortised premiums and discounts are included in the Profit and Loss Account on a net basis under either "Other interest income" or "Other interest expense", depending on whether the net amount is positive or negative.	Securities held for monetary policy purposes are available for lending by the Eurosystem.[1] For the ECB, these operations are conducted via specialised institutions. These operations are recorded in the balance sheet items "Other liabilities to euro area credit institutions denominated in euro" and "Liabilities to non-euro area residents denominated in euro" if collateral is provided in the form of cash and this cash remains uninvested. Otherwise, the related securities lending operations are recorded in off-balance-sheet accounts.

Liquidity-providing operations in foreign currency	Liquidity-providing operations in euro
The ECB acts as an intermediary between non-euro area central banks and the Eurosystem NCBs by means of swap transactions aimed at offering short-term foreign currency funding to Eurosystem counterparties.[2] These operations are recorded in the balance sheet items "Liabilities to non-euro area residents denominated in euro" and "Other claims within the Eurosystem" / "Other liabilities within the Eurosystem", as well as in off-balance-sheet accounts. Interest accruals are included in the ECB's Profit and Loss Account as "Other interest income" or "Other interest expense".	The Eurosystem may provide euro liquidity to non-euro area central banks by means of swap and repo transactions in exchange for eligible collateral.[3] For the ECB, the swap operations are recorded in the balance sheet items "Claims on non-euro area residents denominated in foreign currency" and "Liabilities to non-euro area residents denominated in euro" or "Other claims within the Eurosystem" / "Other liabilities within the Eurosystem", as well as in off-balance-sheet accounts. The related repo claims are recorded in the balance sheet item "Claims on non-euro area residents denominated in euro". Interest accruals are included in the ECB's Profit and Loss Account as "Other interest income" or "Other interest expense".

Conduct of foreign exchange operations and management of foreign reserves

Foreign exchange operations and management of foreign reserves
The ECB's foreign reserves are presented on the Balance Sheet, mainly under "Gold and gold receivables", "Claims on non-euro area residents denominated in foreign currency", "Claims on euro area residents denominated in foreign currency", "Liabilities to euro area residents denominated in foreign currency" and "Liabilities to non-euro area residents denominated in foreign currency". Foreign exchange transactions are reflected in off-balance-sheet accounts until the settlement date. Net interest income, including coupon accruals and amortised premiums and discounts, is included in the Profit and Loss Account under the item "Interest income on foreign reserve assets". Unrealised price and exchange rate losses exceeding previously recorded unrealised gains on the same items, and realised gains and losses arising from the sale of foreign reserves, are also included in the Profit and Loss Account under the items "Write-downs on financial assets and positions" and "Realised gains/losses arising from financial operations" respectively. Unrealised gains are recorded on the Balance Sheet under the item "Revaluation accounts".

Promotion of the smooth operation of payment systems

Payment systems (TARGET2)
Intra-Eurosystem balances of euro area NCBs vis-à-vis the ECB arising from TARGET2[4] are presented together on the Balance Sheet of the ECB as a single net asset or liability position. These balances are remunerated at the latest available rate on the main refinancing operations and the related interest is included in the Profit and Loss Account under the items "Other interest income" and "Other interest expense".

Contributing to the safety and soundness of the banking system and the stability of the financial system

Banking supervision – the Single Supervisory Mechanism
The annual expenses of the ECB in relation to its supervisory tasks are recovered via annual supervisory fees levied on the supervised entities. The supervisory fees are included in the Profit and Loss Account under the heading "Net income from fees and commissions". Furthermore, the ECB is entitled to impose administrative penalties on supervised entities for failure to comply with obligations under EU banking prudential regulation (including ECB supervisory decisions). The related income is recorded in the Profit and Loss Account under the heading "Net income from fees and commissions".

Other

Banknotes in circulation	Own funds portfolio
The ECB has been allocated a share of 8% of the total value of euro banknotes in circulation. This share is backed by claims on the NCBs, which bear interest at the rate on the main refinancing operations. This interest is included in the Profit and Loss Account under the item "Interest income arising from the allocation of euro banknotes within the Eurosystem". Expenses arising from the cross-border transportation of euro banknotes between banknote printing works and NCBs, for the delivery of new banknotes, and between NCBs, for the compensation of shortages with surplus stocks, are borne centrally by the ECB. These expenses are presented in the Profit and Loss Account under the heading "Banknote production services".	The own funds portfolio of the ECB is presented on the Balance Sheet, mainly under the item "Other financial assets". Net interest income, including coupon accruals and amortised premiums and discounts, is included in the Profit and Loss Account under "Other interest income" and "Other interest expense". Unrealised price losses exceeding previously recorded unrealised price gains on the same items, and realised gains and losses arising from the sale of securities, are also included in the Profit and Loss Account under the items "Write-downs on financial assets and positions" and "Realised gains/losses arising from financial operations" respectively. Unrealised price gains are recorded on the Balance Sheet under the item "Revaluation accounts".

1) Further details on securities lending can be found on the ECB's website.
2) Further details on the currency swap lines can be found on the ECB's website.
3) Further details on the Eurosystem's euro liquidity operations against eligible collateral can be found on the ECB's website.
4) Further details on TARGET2 can be found on the ECB's website.

1.3 Financial developments

1.3.1 Balance Sheet

The ECB's Balance Sheet expanded in the period 2016-2018, mainly owing to the net acquisition of securities under the asset purchase programme (APP).[5] Net purchases under this programme ceased in December 2018 and resumed again in November 2019. In the intervening period the ECB fully reinvested the principal payments from maturing securities held in its APP portfolios. As a result, the ECB's balance sheet growth slowed down in 2019 and was driven mainly by rises in the market value of the ECB's foreign reserve assets and in the value of euro banknotes in circulation. In 2020, in order to address the impact of the coronavirus (COVID-19) pandemic, the Governing Council decided on a comprehensive package of monetary policy measures, which also affected the size of the ECB's Balance Sheet.

€112.2 billion
Increase in total assets in 2020

In 2020 the **ECB's total assets** increased by €112.2 billion to €569.3 billion, mainly owing to its share of securities purchases under the new pandemic emergency purchase programme (PEPP)[6] and the APP. These purchases resulted in an increase in "Securities held for monetary policy purposes", while the cash settlement of these purchases via TARGET2 accounts led to a corresponding increase in "Intra-Eurosystem liabilities". The rise in the value of euro banknotes in circulation also contributed to this increase.

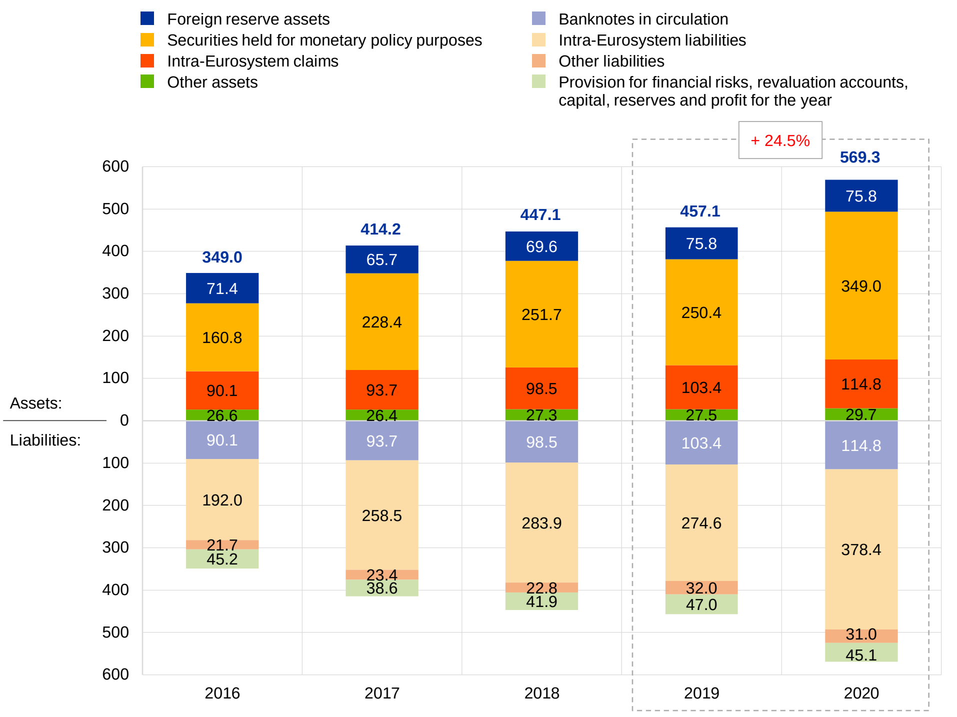
[5] The APP consists of the third covered bond purchase programme (CBPP3), the asset-backed securities purchase programme (ABSPP), the public sector purchase programme (PSPP) and the corporate sector purchase programme (CSPP). The ECB does not acquire securities under the CSPP. Further details on the APP can be found on the ECB's website.

[6] More information on the PEPP can be found on the ECB's website.

Chart 1

Main components of the ECB's Balance Sheet

(EUR billions)



Source: ECB.

61%

of total assets are securities held for monetary policy purposes

Euro-denominated securities held for monetary policy purposes constituted 61% of the ECB's total assets at the end of 2020. Under this balance sheet position, the ECB holds securities acquired in the context of the Securities Markets Programme (SMP), the three covered bond purchase programmes (CBPP1, CBPP2 and CBPP3), the ABSPP, the PSPP and the PEPP.

In 2020 the Governing Council took several decisions regarding purchases of securities held for monetary policy purposes to counter the serious risks to the transmission of monetary policy and the outlook for the euro area posed by the COVID-19 pandemic. In particular, in March 2020 the Governing Council decided to add to the existing monthly purchases pace of €20 billion under the APP a temporary envelope of additional net asset purchases of €120 billion until the end of the year.[7] Later that month the Governing Council decided to launch the PEPP with an initial envelope of €750 billion until the end of the year.[8] In response to the development of the pandemic, the Governing Council decided to increase the initial envelope of the PEPP by €600 billion in June 2020[9] and by an additional €500 billion in December 2020[10], increasing the total envelope to €1,850 billion. It also decided to extend net asset purchases under the PEPP until at least the end of March 2022 and, in any case, until it judges that the COVID-19 crisis phase is over.

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7 See the press release of 12 March 2020 on the Governing Council's decisions.

8 See the press release of 18 March 2020 on the Governing Council's decisions.

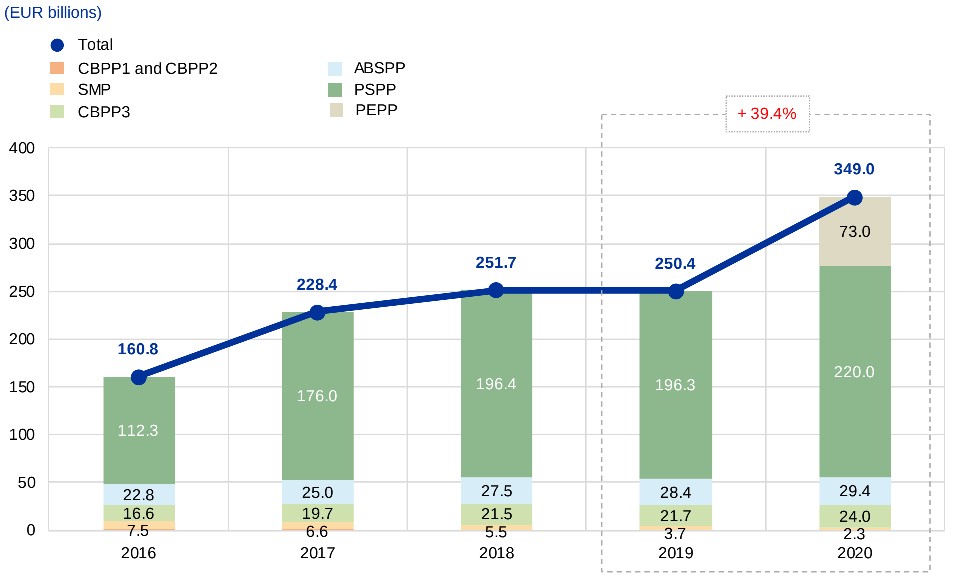
9 See the press release of 4 June 2020 on the Governing Council's decisions.

10 See the press release of 10 December 2020 on the Governing Council's decisions.

€98.6 billion
Increase in securities held for monetary policy purposes

As a result of the purchases, the portfolio of securities held by the ECB for monetary policy purposes increased by €98.6 billion to €349.0 billion in 2020 (Chart 2), with PEPP purchases accounting for most of this increase. The decrease in holdings under the SMP, CBPP1 and CBPP2 was due to redemptions and amounted to €1.4 billion.

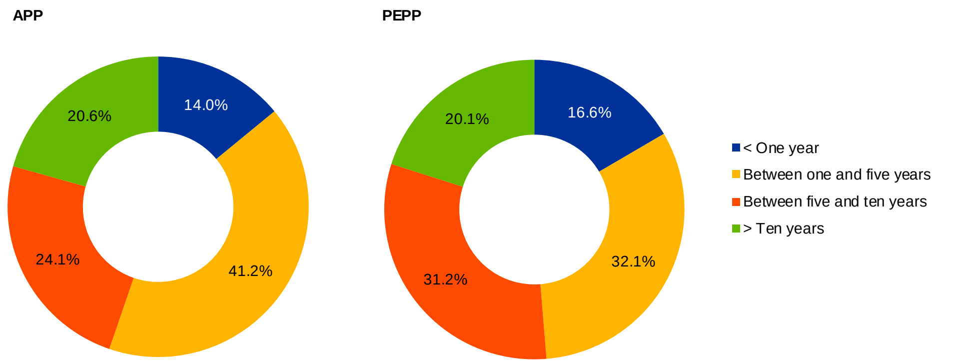
Chart 2
Securities held for monetary policy purposes



Source: ECB.

For the active programmes of securities held for monetary policy purposes, namely the APP and the PEPP, securities held by the ECB at the end of December 2020 had a diversified maturity profile[11] (Chart 3).

Chart 3
Maturity profile of the APP and the PEPP



Source: ECB.
Note: For asset-backed securities the maturity profile is based on the weighted average life of the securities rather than the legal maturity date.

11 More information about maturity restrictions for both the APP and the PEPP can be found on the ECB's website.

In 2020 the total euro equivalent value of the **ECB's foreign reserve assets**, which consist of gold, special drawing rights, US dollars, Japanese yen and Chinese renminbi, remained virtually unchanged at €75.8 billion.

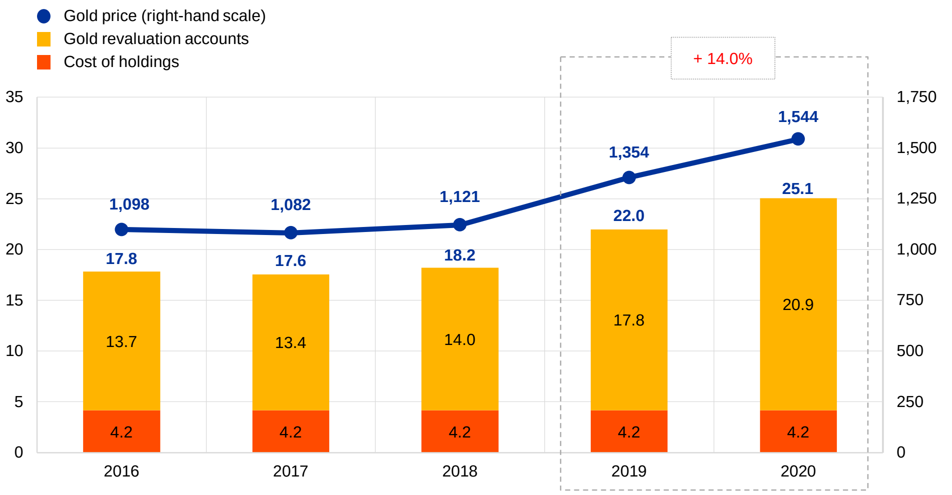
The value of the ECB's holdings of gold and gold receivables increased owing to the increase in the market price of gold in euro terms

The euro equivalent value of the ECB's holdings of gold and gold receivables increased by €3.1 billion to €25.1 billion in 2020 (Chart 4) owing to an increase in the market price of gold in euro terms, while the size of these holdings in fine ounces remained unchanged. This increase also led to an equivalent rise in the ECB's gold revaluation accounts (see Section 1.3.2 "Financial resources").

Chart 4

Gold holdings and gold prices

(left-hand scale: EUR billions; right-hand scale: euro per fine ounce of gold)



Source: ECB.
Note: "Gold revaluation accounts" does not include the contributions of the central banks of the Members States that joined the euro area after 1 January 1999 to the accumulated gold revaluation accounts of the ECB as at the day prior to their entry into the Eurosystem.

Decrease in the ECB's net foreign currency holdings, mainly owing to the depreciation of the US dollar against the euro

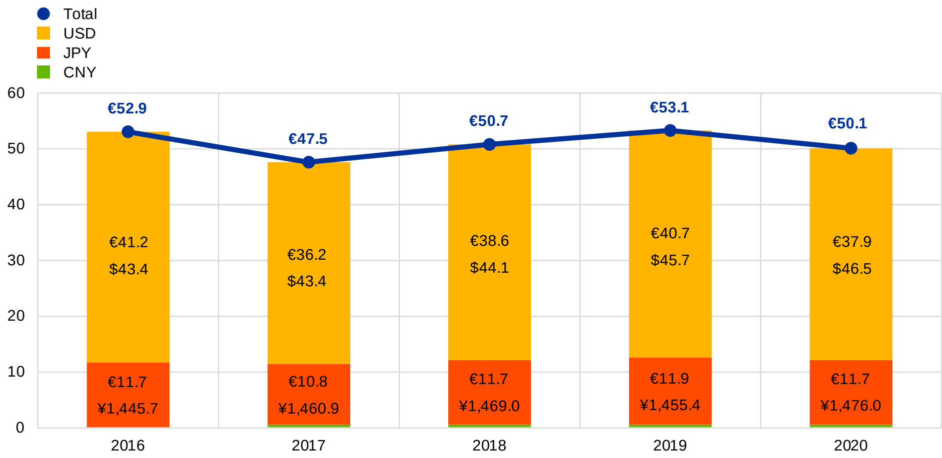
The ECB's net foreign currency holdings[12] of US dollars, Japanese yen and Chinese renminbi decreased in euro terms by €3.0 billion to €50.1 billion (Chart 5), mainly owing to the depreciation of the US dollar against the euro. The depreciation of the US dollar is also reflected in the lower balances in the ECB's revaluation accounts (see Section 1.3.2 "Financial resources").

12 These holdings comprise assets included under the balance sheet positions "Claims on non-euro area residents denominated in foreign currency – Balances with banks and security investments, external loans and other external assets" and "Claims on euro area residents denominated in foreign currency".

Chart 5

Foreign currency holdings

(EUR billions)



Source: ECB.

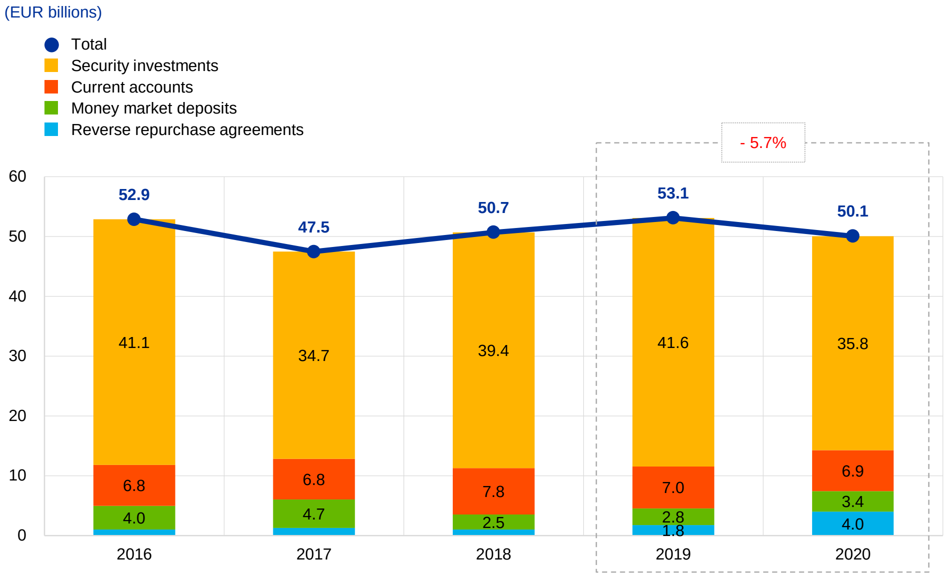
The US dollar continued to be the main component of the ECB's foreign currency holdings, accounting for approximately 76% of the total at the end of 2020.

The ECB manages the investment of its foreign currency reserves using a three-step approach. First, a strategic benchmark portfolio is designed by the ECB's risk managers and approved by the Governing Council. Second, the ECB's portfolio managers design the tactical benchmark portfolio, which is approved by the Executive Board. Third, investment operations are conducted in a decentralised manner by the NCBs on a day-to-day basis.

The ECB's foreign currency reserves are mainly invested in securities and money market deposits or are held in current accounts (Chart 6). Securities in this portfolio are valued at year-end market prices.

Chart 6

Composition of foreign currency investments



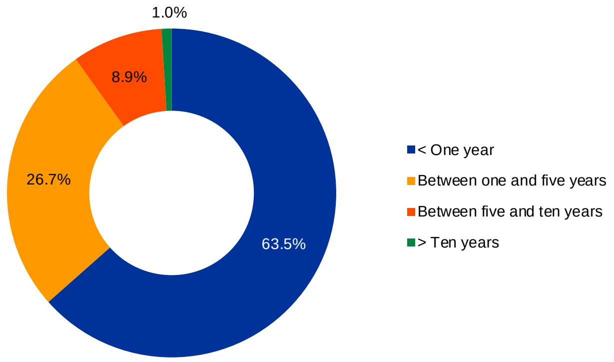
Source: ECB.

63%
Foreign currency-denominated securities with a maturity of less than one year

The purpose of the ECB's foreign currency reserves is to finance potential interventions in the foreign exchange market. For this reason, the ECB's foreign currency reserves are managed in accordance with three objectives: (in order of priority) liquidity, safety and return. Therefore, this portfolio mainly comprises securities with short maturities (Chart 7).

Chart 7

Maturity profile of foreign currency-denominated securities

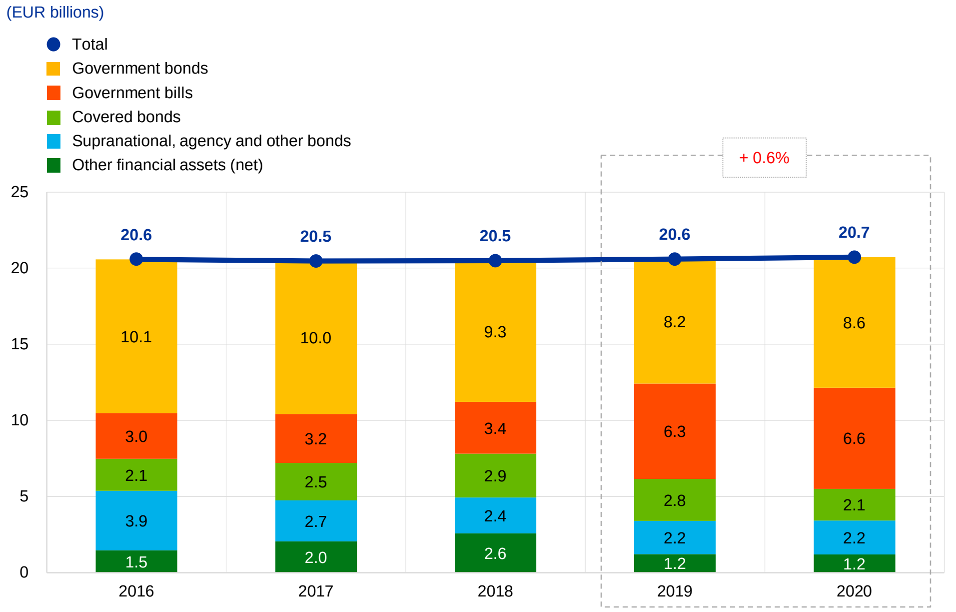


Source: ECB.

In 2020 the value of the **own funds portfolio** increased by €0.1 billion to €20.7 billion (Chart 8), mainly owing to the reinvestment of the interest income generated and the increase in the market value of the securities held in the portfolio. The portfolio mainly consists of euro-denominated securities which are valued at year-end market prices. In 2020 government debt securities accounted for 73% of the total portfolio.

Chart 8

The ECB's own funds portfolio



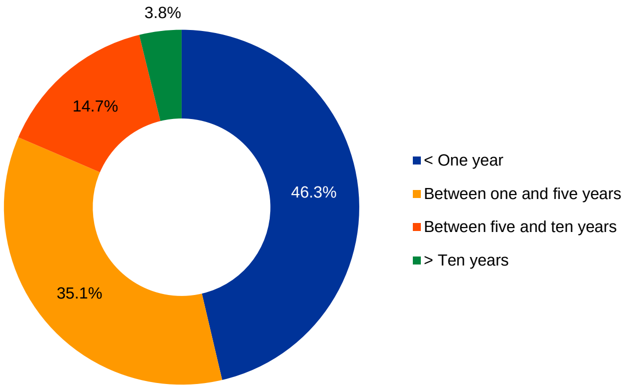
Source: ECB.

The ECB's own funds portfolio predominantly consists of investments of the ECB's financial resources, namely its paid-up capital and amounts held in the general reserve fund and the provision for financial risks. Owing to the reinvestment of income proceeds and the valuation of securities at market prices, the own funds portfolio and the aforementioned financial resources do not necessarily correspond in size. The purpose of this portfolio is to provide income to help fund the ECB's operating expenses which are not related to the delivery of its supervisory tasks.[13] It is invested in euro-denominated assets, subject to the limits imposed by its risk control framework. This results in a more diversified maturity structure (Chart 9) than in the foreign currency reserves portfolio.

13 The expenses incurred by the ECB in the performance of its supervisory tasks are recovered via annual fees levied on supervised entities. Further details can be found on the ECB's website.

Chart 9

Maturity profile of the ECB's own funds securities



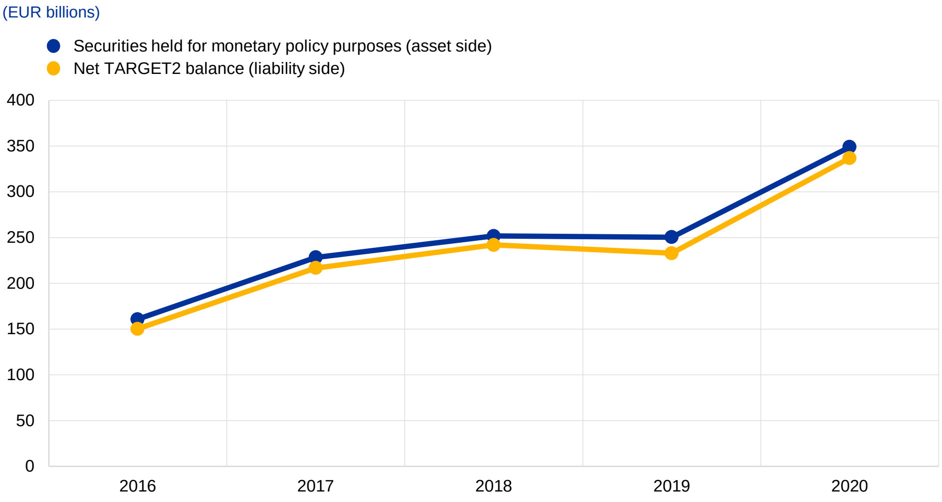
Source: ECB.

At the end of 2020, the total value of euro **banknotes in circulation** was €1,434.5 billion, an increase of 11% compared to the end of 2019. The ECB has been allocated a share of 8% of the total value of euro banknotes in circulation, which amounted to €114.8 billion at the end of the year. Since the ECB does not issue banknotes itself, it holds **intra-Eurosystem claims** vis-à-vis the euro area NCBs for a value equivalent to the value of the banknotes in circulation.

The ECB's **intra-Eurosystem liabilities**, which mainly comprise the net TARGET2 balance of euro area NCBs vis-à-vis the ECB and the ECB's liabilities with regard to the foreign reserve assets transferred to it by the euro area NCBs when they joined the Eurosystem, increased by €103.8 billion to €378.4 billion in 2020. The increase in intra-Eurosystem liabilities in 2020, as well as their development over the period 2016-2019, was mostly driven by the evolution of the net TARGET2 liability as a result of the ECB's net purchases of securities held for monetary policy purposes, which are settled via TARGET2 accounts (Chart 10).

Chart 10

Net TARGET2 balance and securities held for monetary policy purposes



Source: ECB.

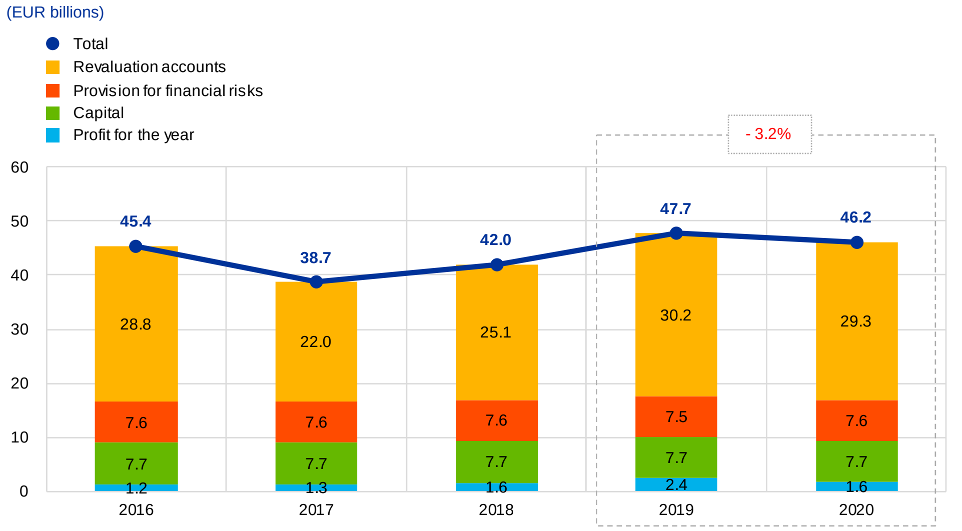
1.3.2 Financial resources

€46.2 billion
The ECB's financial resources

The ECB's financial resources consist of its capital, the provision for financial risks, the revaluation accounts and the profit for the year. These financial resources are (i) invested in assets that generate income and/or (ii) used to directly offset losses materialising from financial risks. As at 31 December 2020, the **ECB's financial resources** totalled €46.2 billion (Chart 11). This was €1.5 billion lower than in 2019, mainly owing to (i) the decrease in the revaluation accounts following the appreciation of the euro against the US dollar and (ii) the lower profit in 2020.

Chart 11

The ECB's financial resources



Source: ECB.
Note: "Revaluation accounts" includes total revaluation gains on gold, foreign currency and securities holdings, but excludes the revaluation account for post-employment benefits.

9%
Appreciation of the euro against the US dollar in 2020

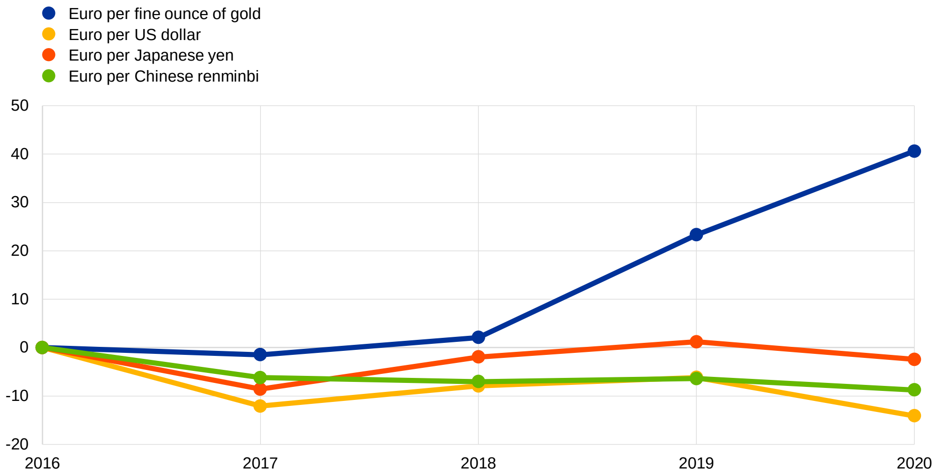
Unrealised gains on gold, foreign currencies and securities that are subject to price revaluation are not recognised as income in the Profit and Loss Account but are recorded directly in **revaluation accounts** shown on the liability side of the ECB's Balance Sheet. The balances in these accounts can be used to absorb the impact of any future unfavourable movement in the respective prices and/or exchange rates, and thus strengthen the ECB's resilience against the underlying risks. In 2020 the revaluation accounts for gold, foreign currencies and securities[14] decreased by €0.9 billion to €29.3 billion, owing to the lower revaluation balances in foreign currencies as a result of the appreciation of the euro against the US dollar and Japanese yen (Chart 12). This decrease was partially offset by the increase in the gold revaluation balances as a result of the rise in the market price of gold.

[14] The balance sheet item "Revaluation accounts" also includes remeasurements in respect of post-employment benefits.

Chart 12

The main foreign exchange rates and gold price over the period 2016-20

(percentage changes vis-à-vis 2016; year-end data)



Source: ECB.

Notwithstanding the Bank of England's departure from the European System of Central Banks (ESCB), the **ECB's capital** paid up by euro area and non-euro area NCBs remained unchanged in 2020 at €7.7 billion, as the remaining NCBs covered the Bank of England's withdrawn paid-up capital of €58 million. The ECB's total paid-up capital will increase from €7.7 billion in 2020 to €8.9 billion in 2022, since the shares of the euro area NCBs in the subscribed capital of the ECB increased following the withdrawal of the Bank of England from the ESCB and will be paid up in full in two annual instalments of around €0.6 billion each in 2021 and 2022.[15]

€48 million
Transfer to the provision for financial risks, which stands at its upper limit

In view of its exposure to financial risks (see Section 1.4.1 "Financial risks"), the ECB maintains a **provision for financial risks.** The size of this provision is reviewed annually, taking a range of factors into account, including the level of holdings of risk-bearing assets, the projected results for the coming year and a risk assessment. The provision for financial risks, together with any amount held in the ECB's general reserve fund, may not exceed the value of the capital paid up by the euro area NCBs.

In 2020, as a result of the adjustment of the NCBs' capital key shares following the Bank of England's withdrawal from the ESCB and the related decisions of the Governing Council on the ECB's capital, the euro area NCBs paid €48 million into the ECB's paid-up capital, thereby increasing the upper limit of the provision for financial risks by an equal amount. Taking into account the results of the assessment of the ECB's exposures to financial risks, the Governing Council decided to transfer €48 million to the ECB's provision for financial risks, increasing it to its maximum permitted level of €7.6 billion.

The profit resulting from the ECB's assets and liabilities in a given financial year can be used to absorb potential losses incurred in the same year. In 2020 the **ECB's profit** was €1.6 billion (see Section 1.3.3 "Profit and Loss Account").

15 See the press release of 30 January 2020 on the ECB's subscribed capital following the Bank of England's withdrawal from the ESCB.

1.3.3 Profit and Loss Account

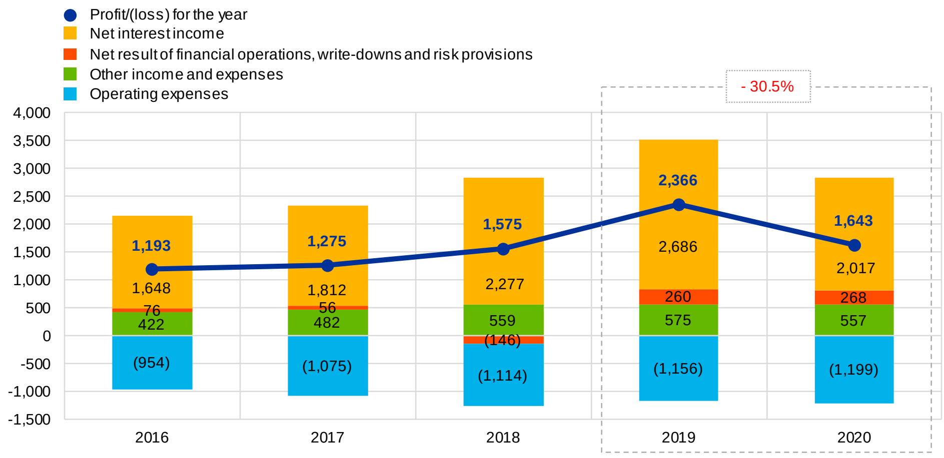
After several years of increases in the ECB's annual profit, mainly owing to rising interest income generated on foreign reserve assets and on securities held for monetary policy purposes, this trend reversed in 2020 (Chart 13).

€1,643 million
The ECB's profit in 2020

In 2020 the **ECB's profit** was €1,643 million (2019: €2,366 million). The decrease of €722 million compared with 2019 was mainly due to lower net interest income.

Chart 13
Main components of the ECB's Profit and Loss Account

(EUR millions)

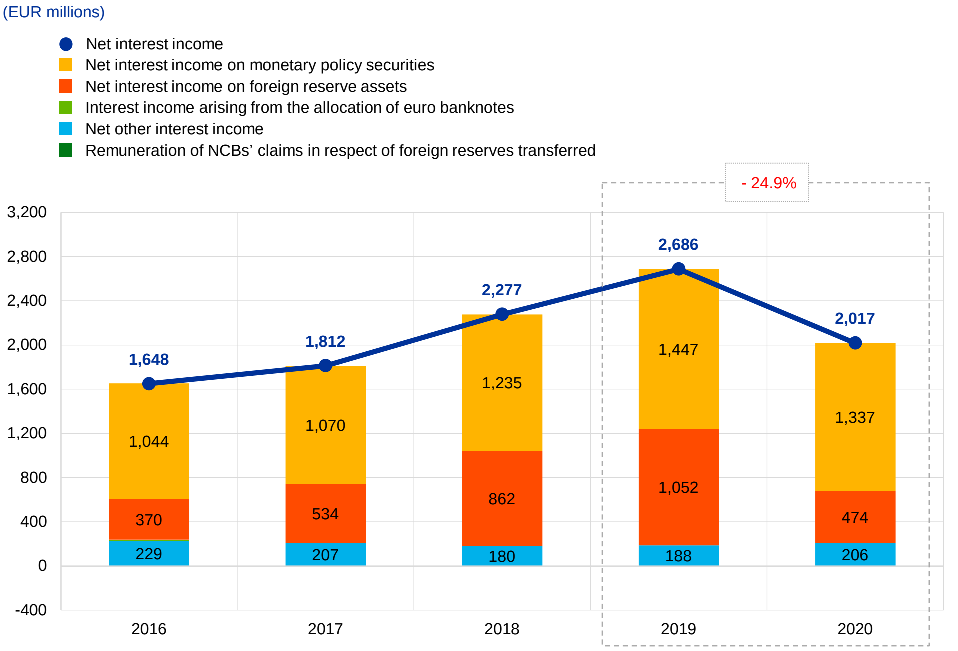


Source: ECB.
Note: "Other income and expenses" consists of "Net income/expense from fees and commissions", "Income from equity shares and participating interests", "Other income" and "Other expenses".

Decrease in foreign reserve and monetary policy interest income

The **net interest income** of the ECB decreased by €669 million to €2,017 million (Chart 14), mainly owing to lower interest income earned on foreign reserve assets. Interest income earned on securities held for monetary policy purposes also declined.

Chart 14
Net interest income

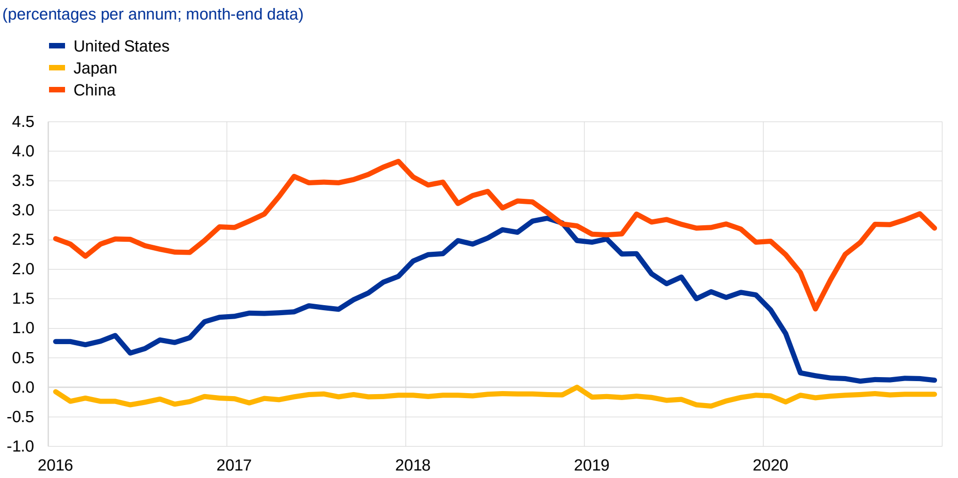


Source: ECB.

Decrease in interest income on the US dollar portfolio, mainly owing to the decrease in US dollar bond yields observed in 2019 and 2020

Net interest income on foreign reserve assets decreased by €577 million to €474 million, mainly as a result of the lower interest income earned on securities denominated in US dollars. Owing to the decreasing trend in US dollar bond yields throughout most of 2019 and 2020 (Chart 15), in particular for short maturities, the ECB acquired securities with lower yields, thereby decreasing the average yield of its US dollar portfolio compared to the previous year. This had a negative impact on the interest income earned on this portfolio during 2020.

Chart 15
Two-year sovereign bond yields in the United States, Japan and China



Source: ECB.

Higher APP income only partially offset the reduction in income from ceased programmes and the negative income from the PEPP

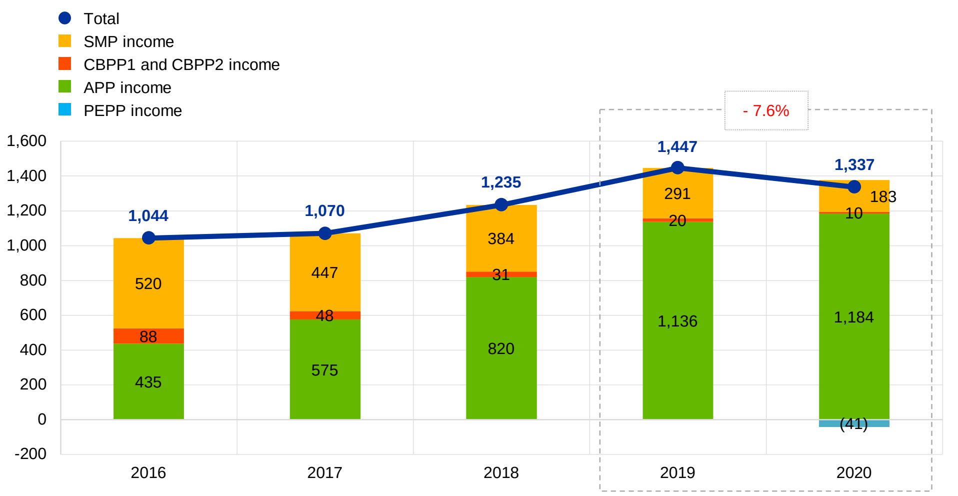
Net interest income generated on securities held for monetary policy purposes in 2020 amounted to €1,337 million, which was €110 million lower than in 2019 (Chart 16). The main driver of the decrease was the reduction in net interest income on the SMP, CBPP1 and CBPP2 portfolios by €118 million to €193 million, owing to the decline in the size of these portfolios as a result of the maturing securities. In addition, the negative net interest income on the PEPP portfolio of €41 million also contributed to the overall decrease in the interest income from monetary policy-related securities. The negative net interest income on the PEPP portfolio was due to the negative average yield on the purchased public sector securities as a result of low euro area sovereign bond yields in 2020 (Chart 17). At the same time, net interest income arising from the APP securities increased by only €48 million to €1,184 million. The increase stemmed mainly from the PSPP portfolio, owing to the lower premium amortisation on the PSPP holdings acquired in previous years.[16]

In 2020 securities held for monetary policy purposes generated around 66% of the ECB's net interest income.

Chart 16

Net interest income on securities held for monetary policy purposes

(EUR millions)



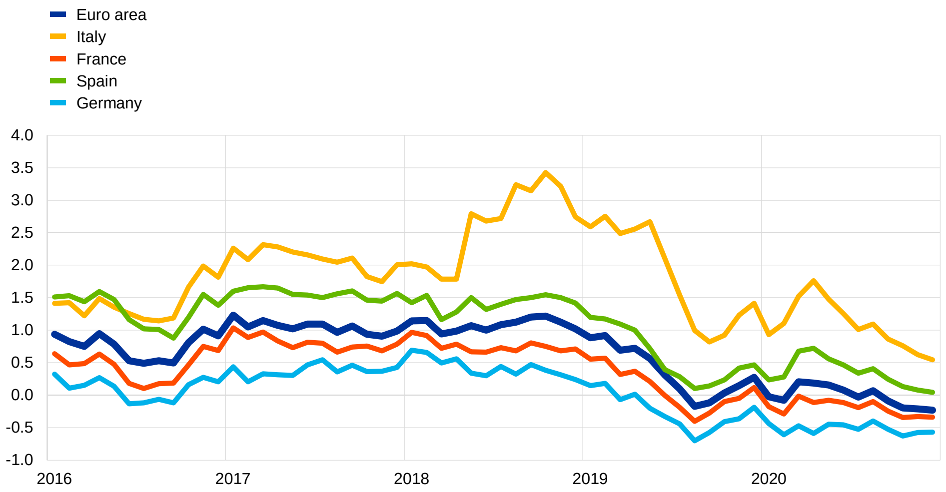
Source: ECB.

16 The amortisation emerges from the accounting principle that requires securities to be revalued upwards or downwards over time towards their maturity, depending on whether they were purchased at a discount (below face value) or a premium (above face value). The APP securities were bought, on average, at a premium and, consequently, all other things being equal, the book value of such securities decreases over time.

Chart 17

Ten-year sovereign bond yields in the euro area

(percentages per annum; month-end data)



Source: ECB.

0.0%
MRO rate in 2020

Both the **interest income on the ECB's share of total euro banknotes in circulation** and the **interest expense related to the remuneration of NCBs' claims in respect of foreign reserves transferred** were zero as a result of the 0% interest rate used by the Eurosystem in its main refinancing operations (MROs) in 2020.

Net other interest income increased, mainly owing to higher interest income on the deposits accepted by the ECB, which was largely a result of the higher average balances during 2020. This increase more than compensated for the lower interest income earned on the own funds portfolio as a result of the low-yield environment in the euro area (Chart 17).

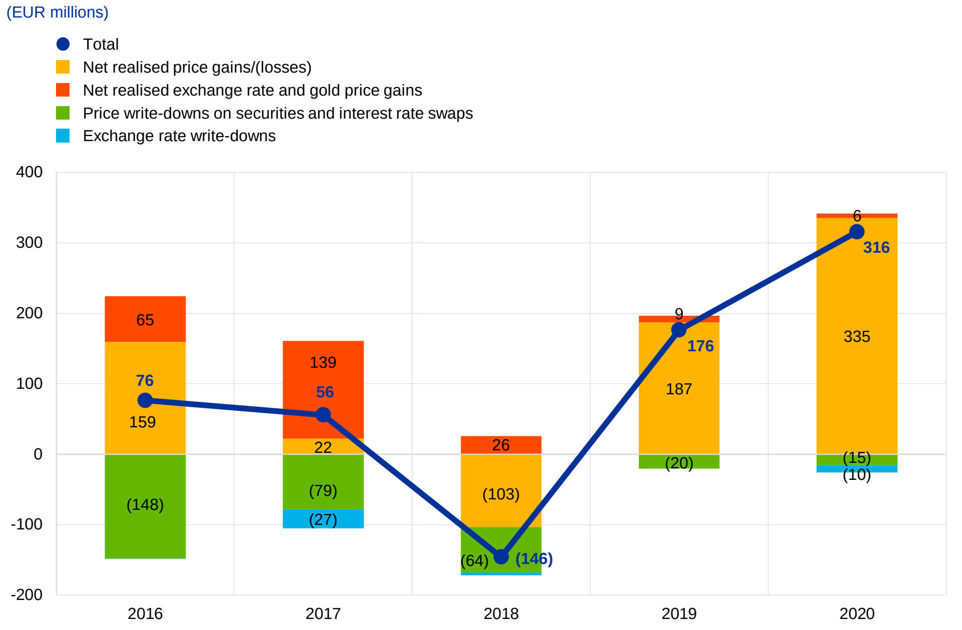
Net result of financial operations and write-downs was driven mainly by the change in US dollar bond yields

The **net result of financial operations and write-downs** on financial assets amounted to a gain of €316 million (Chart 18). This result was €139 million higher than in 2019, mainly owing to higher net realised price gains.

The increase in net realised price gains was mainly due to higher price gains on sales of US dollar-denominated securities, as their market value was positively affected by the decrease in US dollar bond yields during the year.

Chart 18

Realised results and write-downs



Source: ECB.

In addition, as at 31 December 2020, an amount of €48 million was **transferred to the ECB's provision for financial risks**. After taking the results of its risk assessment into account, the Governing Council decided to increase the size of the provision for financial risks to €7,584 million, increasing it to its upper limit as determined by the paid-up capital of the euro area NCBs. By contrast, in 2019 an amount of €84 million was released in order to comply with the upper limit (see Section 1.3.2 "Financial resources").

€535 million
Supervisory fee income in 2020

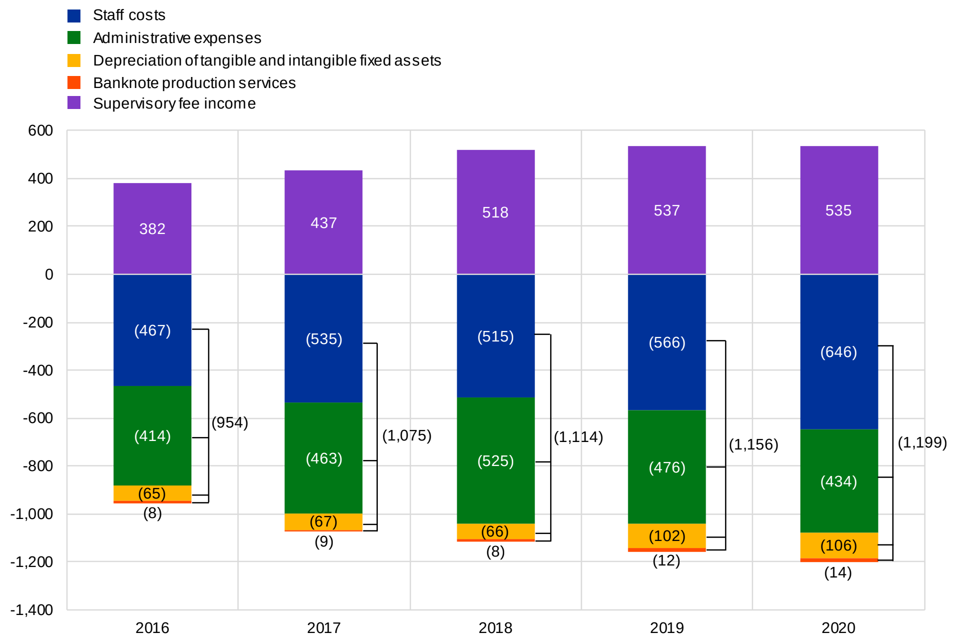
The **total operating expenses** of the ECB, including depreciation and banknote production services, increased by €43 million to €1,199 million (Chart 19). The increase compared to 2019 was mainly due to higher staff costs as a result of (i) the higher average number of staff in 2020, predominately in banking supervision, and (ii) the higher expense in relation to post-employment benefits, resulting from the use of a lower discount rate for the actuarial valuation at the end of 2020. Administrative expenses decreased, primarily in relation to supervisory tasks, mainly owing to reduced external consultancy support following the finalisation of the Targeted Review of Internal Models (TRIM) and reduced business travel owing to a substantial streamlining of onsite supervisory activities in view of the COVID-19 pandemic. This decrease was partially offset by higher information technology (IT) expenses owing to the significant demand for IT services in connection with remote working in 2020.

Banking supervision-related expenses are fully covered by fees levied on the supervised entities. Based on the actual expenses incurred by the ECB in the performance of its banking supervisory tasks, supervisory fee income for 2020 stood at €535 million.[17]

Chart 19

Operating expenses and supervisory fee income

(EUR millions)



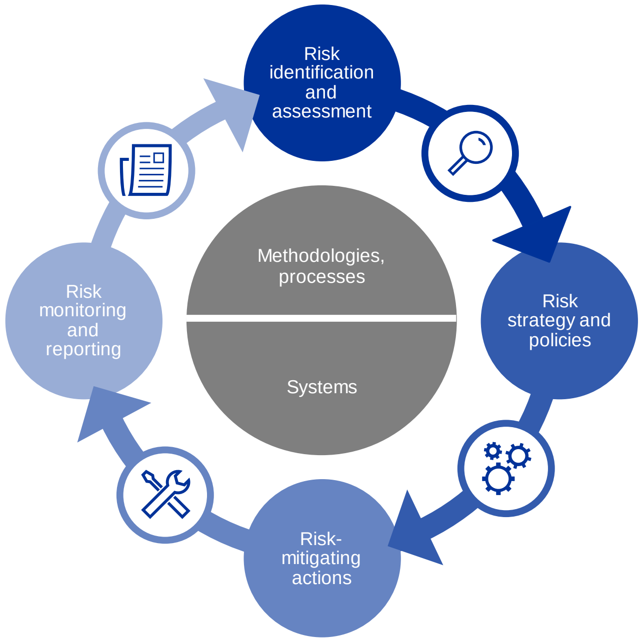
Source: ECB.

1.4 Risk management

Risk management is a critical part of the ECB's activities and is conducted through a continuous process of (i) risk identification and assessment, (ii) review of the risk strategy and policies, (iii) implementation of risk mitigating actions, and (iv) risk monitoring and reporting, all of which are supported by effective methodologies, processes and systems.

[17] Supervisory fee income is included under "Other income and expenses" (Chart 13).

Figure 2
Risk management cycle



The following sections focus on the risks, their sources and the applicable risk control frameworks.

1.4.1 Financial risks

The Executive Board proposes policies and procedures that ensure an appropriate level of protection against the financial risks to which the ECB is exposed. The Risk Management Committee (RMC), which comprises experts from Eurosystem central banks, contributes to the monitoring, measuring and reporting of financial risks related to the balance sheet of the Eurosystem, and it defines and reviews the associated methodologies and frameworks. In this way, the RMC helps the decision-making bodies to ensure an appropriate level of protection for the Eurosystem.

Financial risks arise from the ECB's core activities and associated exposures. The risk control frameworks and limits that the ECB uses to manage its risk profile differ across types of operation, reflecting the policy or investment objectives of the different portfolios and the risk characteristics of the underlying assets.

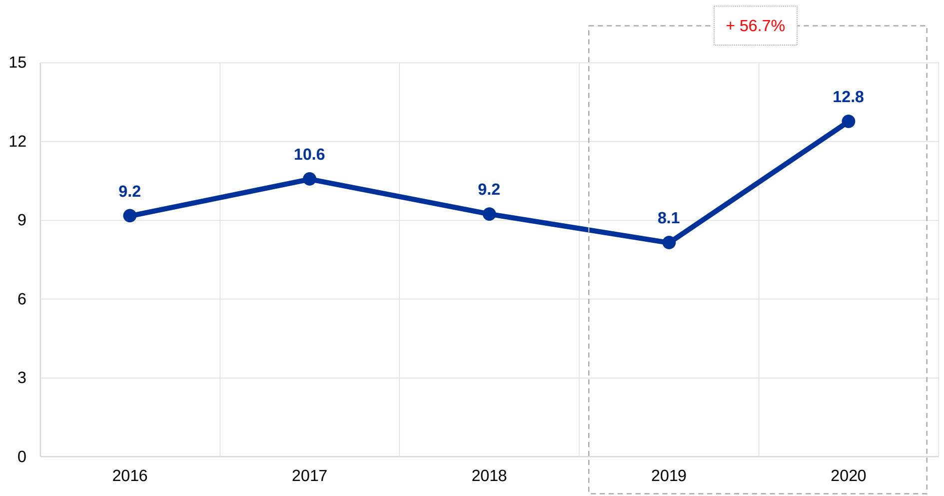
To monitor and assess the risks, the ECB relies on a number of risk estimation techniques developed by its experts. These techniques are based on a joint market and credit risk simulation framework. The core modelling concepts, techniques and assumptions underlying the risk measures draw on industry standards and available market data. The risks are typically quantified as the expected shortfall (ES),[18] estimated at the 99% confidence level over a one-year horizon. Two approaches are used to calculate risks: (i) the accounting approach, under which the ECB's revaluation accounts are considered as a buffer in the calculation of risk estimates in line with all applicable accounting rules; and (ii) the financial approach, under which the revaluation accounts are not considered as a buffer in the risk calculation. The ECB also calculates other risk measures at different confidence levels, performs sensitivity and stress scenario analyses, and assesses longer-term projections of exposures and income to maintain a comprehensive picture of the risks.[19]

€12.8 billion
Total risk in 2020
(ES 99% accounting approach)

The total risks of the ECB increased during the year. At the end of 2020 the total financial risks for all the ECB's portfolios combined, as measured by the ES at the 99% confidence level over a one-year horizon under the accounting approach, stood at €12.8 billion, which was €4.6 billion higher than the risks estimated as at the end of 2019 (Chart 20). The increase in estimated risks is mainly attributable to the net asset purchases under both the PEPP and the APP.

Chart 20
Total financial risks (ES 99% accounting approach)

(EUR billions)



Source: ECB.

Credit risk

Credit risk arises from the ECB's monetary policy portfolios, its euro-denominated own funds portfolio and its foreign reserve holdings. While securities held for monetary policy purposes are valued at amortised cost subject to impairment and are therefore, in the absence of sales, not subject to price changes associated with credit migrations, they are still subject to credit default risk. Euro-denominated own funds and foreign reserves are valued at market prices and, as such, are subject to credit migration and default risk. Credit risk increased compared with the previous year owing to the expansion of the ECB's Balance Sheet through purchases of securities under the APP and the PEPP.

[18] The ES is defined as a probability-weighted average loss that occurs in the worst (1-p)% of scenarios, where p denotes the confidence level.
[19] Further details on the risk modelling approach can be found in "The financial risk management of the Eurosystem's monetary policy operations", ECB, July 2015.

Credit risk is mitigated mainly through the application of eligibility criteria, due diligence procedures and limits that differ across portfolios.

Currency and commodity risks

Currency and commodity risks arise from the ECB's foreign currency and gold holdings. The currency risk increased compared to the previous year owing to lower currency revaluation accounts, which act as buffers against adverse exchange rate movements.

In view of the policy role of these assets, the ECB does not hedge the related currency and commodity risks. Instead, these risks are mitigated through the existence of revaluation accounts and the diversification of the holdings across different currencies and gold.

Interest rate risk

The ECB's foreign reserves and euro-denominated own funds are mainly invested in fixed income securities and are subject to mark-to-market interest rate risk, given that they are valued at market prices. The ECB's foreign reserves are mainly invested in assets with relatively short maturities (see Chart 7 in Section 1.3.1 "Balance Sheet"), while the assets in the own funds portfolio generally have longer maturities (see Chart 9 in Section 1.3.1 "Balance Sheet"). This risk component, as measured under the accounting approach, increased slightly compared to 2019, reflecting developments in market conditions.

The mark-to-market interest rate risk of the ECB is mitigated through asset allocation policies and the revaluation accounts.

The ECB is also subject to interest rate risk arising from mismatches between the interest rate earned on its assets and the interest rate paid on its liabilities, which has an impact on its net interest income. This risk is not directly linked to any particular portfolio but rather to the structure of the ECB's Balance Sheet as a whole and, in particular, the existence of maturity and yield mismatches between assets and liabilities. It is monitored by means of projections of the ECB's profitability, which indicate that the ECB is expected to continue to earn net interest income in the coming years.

This type of risk is managed through asset allocation policies and is further mitigated by the existence of unremunerated liabilities on the ECB's Balance Sheet.

1.4.2 Operational risk

The Executive Board is responsible for and approves the ECB's operational risk[20] management (ORM) policy and framework. The Operational Risk Committee (ORC) supports the Executive Board in the performance of its role in overseeing the

[20] Operational risk is defined as the risk of a negative financial, business or reputational impact resulting from people, the inadequate implementation or failure of internal governance and business processes, the failure of systems on which processes rely, or external events (e.g. natural disasters or external attacks).

management of operational risks. **ORM is an integral part of the ECB's governance structure**[21] **and management processes.**

The main objective of the ECB's ORM framework is to **contribute to ensuring that the ECB achieves its mission and objectives, while protecting its reputation and assets against loss, misuse and damage**. Under the ORM framework, each business area is responsible for identifying, assessing, responding to, reporting on and monitoring its operational risks, incidents and controls. In this context, the ECB's risk tolerance policy provides guidance with regard to risk response strategies and risk acceptance procedures. It is linked to a five-by-five risk matrix based on impact and likelihood grading scales using quantitative and qualitative criteria.

The environment in which the ECB operates is exposed to increasingly complex threats and there are a wide range of operational risks associated with the ECB's day-to-day activities. The main areas of concern for the ECB include a wide spectrum of non-financial risks resulting from people, information, systems, processes and external third-party providers. Consequently, the ECB has put in place processes to facilitate ongoing and effective management of its operational risks and to integrate risk information into the decision-making process. Moreover, the ECB focuses on enhancing its resilience. As such, response structures and contingency plans have been established to ensure the continuity of critical business functions in the event of any disruption or crisis (e.g. the COVID-19 pandemic).

1.4.3 Conduct risk

The ECB has a dedicated **Compliance and Governance Office as a key risk management control function to strengthen the ECB's governance framework** in order to address conduct risk[22] at the ECB. Its purpose is to support the Executive Board in protecting the integrity and reputation of the ECB, to promote ethical standards of behaviour and to strengthen the ECB's accountability and transparency. A high-level ECB Ethics Committee provides advice and guidance to high-level ECB officials on integrity and conduct matters and supports the Governing Council in managing related risks at executive level appropriately and coherently.

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[21] Further information about the ECB's governance structure can be found on the ECB's website.

[22] Conduct risk management has gained increasing attention in the corporate and public sector. It complements financial and operational risk management and for the ECB can be defined as the risk of suffering reputational or other harm caused by high-level ECB officials or staff not acting in conformity with the ECB's ethics and integrity rules and/or good governance and good administration standards.

2 Financial statements of the ECB

2.1 Balance Sheet as at 31 December 2020

ASSETS	Note number	2020 € millions	2019 € millions
Gold and gold receivables	1	**25,056**	**21,976**
Claims on non-euro area residents denominated in foreign currency	2		
Receivables from the IMF	2.1	680	710
Balances with banks and security investments, external loans and other external assets	2.2	45,291	50,478
		45,971	**51,188**
Claims on euro area residents denominated in foreign currency	2.2	**4,788**	**2,637**
Claims on non-euro area residents denominated in euro	3		
Balances with banks, security investments and loans	3.1	**1,830**	**-**
Other claims on euro area credit institutions denominated in euro	4	**81**	**109**
Securities of euro area residents denominated in euro	5		
Securities held for monetary policy purposes	5.1	**349,008**	**250,377**
Intra-Eurosystem claims	6		
Claims related to the allocation of euro banknotes within the Eurosystem	6.1	**114,761**	**103,420**
Other assets	7		
Tangible and intangible fixed assets	7.1	1,262	1,330
Other financial assets	7.2	20,785	20,633
Off-balance-sheet instruments revaluation differences	7.3	388	619
Accruals and prepaid expenses	7.4	3,390	2,572
Sundry	7.5	1,970	2,221
		27,797	**27,375**
Total assets		**569,292**	**457,082**

Notes: Totals in the financial statements and in the tables included in the notes may not add up due to rounding. The figures 0 and (0) indicate positive or negative amounts rounded to zero, while a dash (-) indicates zero.

LIABILITIES	Note number	2020 € millions	2019 € millions
Banknotes in circulation	8	**114,761**	**103,420**
Other liabilities to euro area credit institutions denominated in euro	9	**2,559**	**1,325**
Liabilities to other euro area residents denominated in euro	10		
General government	10.1	10,012	18,198
Other liabilities	10.2	3,688	2,268
		13,700	**20,466**
Liabilities to non-euro area residents denominated in euro	11	**11,567**	**7,245**
Intra-Eurosystem liabilities	12		
Liabilities equivalent to the transfer of foreign reserves	12.1	40,344	40,344
Other liabilities within the Eurosystem (net)	12.2	338,088	234,288
		378,432	**274,632**
Other liabilities	13		
Off-balance-sheet instruments revaluation differences	13.1	636	709
Accruals and income collected in advance	13.2	40	66
Sundry	13.3	2,419	2,188
		3,095	**2,962**
Provisions	14	**7,641**	**7,586**
Revaluation accounts	15	**28,235**	**29,420**
Capital and reserves	16		
Capital	16.1	**7,659**	**7,659**
Profit for the year		**1,643**	**2,366**
Total liabilities		**569,292**	**457,082**

2.2 Profit and Loss Account for the year ending 31 December 2020

	Note number	2020 € millions	2019 € millions
Interest income on foreign reserve assets	23.1	474	1,052
Interest income arising from the allocation of euro banknotes within the Eurosystem	23.2	-	-
Other interest income	23.4	1,844	1,828
Interest income		2,318	2,879
Remuneration of NCBs' claims in respect of foreign reserves transferred	23.3	-	-
Other interest expense	23.4	(301)	(193)
Interest expense		(301)	(193)
Net interest income	23	**2,017**	**2,686**
Realised gains/losses arising from financial operations	24	342	197
Write-downs on financial assets and positions	25	(26)	(20)
Transfer to/from provisions for financial risks		(48)	84
Net result of financial operations, write-downs and risk provisions		**268**	**260**
Net income/expense from fees and commissions	26	**520**	**531**
Income from equity shares and participating interests	27	**-**	**1**
Other income	28	**37**	**43**
Total net income		**2,842**	**3,522**
Staff costs	29	(646)	(566)
Administrative expenses	30	(434)	(476)
Depreciation of tangible and intangible fixed assets		(106)	(102)
Banknote production services	31	(14)	(12)
Profit for the year		**1,643**	**2,366**

Frankfurt am Main, 9 February 2021
European Central Bank

Christine Lagarde
President

2.3 Accounting policies

Form and presentation of the financial statements

The financial statements of the ECB have been drawn up in accordance with the following accounting policies,[23] which the Governing Council of the ECB considers to achieve a fair presentation of the financial statements, reflecting at the same time the nature of central bank activities.

Accounting principles

The following accounting principles have been applied: economic reality and transparency, prudence, recognition of post-balance sheet events, materiality, going concern, the accruals principle, consistency and comparability.

Recognition of assets and liabilities

An asset or liability is only recognised in the Balance Sheet when it is probable that any associated future economic benefit will flow to or from the ECB, substantially all of the associated risks and rewards have been transferred to the ECB, and the cost or value of the asset or the amount of the obligation can be measured reliably.

Basis of accounting

The accounts have been prepared on a historical cost basis, modified to include the market valuation of marketable securities (other than securities currently held for monetary policy purposes), gold and all other on-balance-sheet and off-balance-sheet assets and liabilities denominated in foreign currency.

Transactions in financial assets and liabilities are reflected in the accounts on the basis of the date on which they were settled.

With the exception of spot transactions in securities, transactions in financial instruments denominated in foreign currency are recorded in off-balance-sheet accounts on the trade date. At the settlement date the off-balance-sheet entries are reversed, and transactions are booked on-balance-sheet. Purchases and sales of

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23 The detailed accounting policies of the ECB are laid down in Decision (EU) 2016/2247 of the ECB of 3 November 2016 on the annual accounts of the ECB (ECB/2016/35) (OJ L 347, 20.12.2016, p. 1), as amended. The unofficial consolidated text with the list of amendments can be found here.
In order to ensure the harmonised accounting and financial reporting of Eurosystem operations, the above-mentioned Decision is based on Guideline (EU) 2016/2249 of the ECB of 3 November 2016 on the legal framework for accounting and financial reporting in the European System of Central Banks (ECB/2016/34) (OJ L 347, 20.12.2016, p. 37), as amended. The unofficial consolidated text with the list of amendments can be found here.
These policies, which are reviewed and updated regularly as deemed appropriate, are consistent with the provisions of Article 26.4 of the Statute of the ESCB, which require a harmonised approach to the rules governing the accounting and financial reporting of Eurosystem operations.

foreign currency affect the net foreign currency position on the trade date, and realised results arising from sales are also calculated on that date. Accrued interest, premiums and discounts related to financial instruments denominated in foreign currency are calculated and recorded daily, and the foreign currency position is also affected daily by these accruals.

Gold and foreign currency assets and liabilities

Assets and liabilities denominated in foreign currency are converted into euro at the exchange rate prevailing on the balance sheet date. Income and expenses are converted at the exchange rate prevailing on the recording date. The revaluation of foreign exchange assets and liabilities, including on-balance-sheet and off-balance-sheet instruments, is performed on a currency-by-currency basis.

Revaluation to the market price for assets and liabilities denominated in foreign currency is treated separately from the exchange rate revaluation.

Gold is valued at the market price prevailing at the balance sheet date. No distinction is made between the price and currency revaluation differences for gold. Instead, a single gold valuation is accounted for on the basis of the price in euro per fine ounce of gold, which, for the year ending 31 December 2020, was derived from the exchange rate of the euro against the US dollar on 31 December 2020.

The special drawing right (SDR) is defined in terms of a basket of currencies and its value is determined by the weighted sum of the exchange rates of five major currencies (the US dollar, euro, Chinese renminbi, Japanese yen and pound sterling). The ECB's holdings of SDRs were converted into euro using the exchange rate of the euro against the SDR as at 31 December 2020.

Securities

Securities held for monetary policy purposes

Securities currently held for monetary policy purposes are accounted for at amortised cost subject to impairment.

Other securities

Marketable securities (other than securities currently held for monetary policy purposes) and similar assets are valued either at the mid-market prices or on the basis of the relevant yield curve prevailing on the balance sheet date, on a security-by-security basis. Options embedded in securities are not separated for valuation purposes. For the year ending 31 December 2020, mid-market prices on 30 December 2020 were used. Illiquid equity shares and any other equity instruments held as permanent investments are valued at cost subject to impairment.

Income recognition

Income and expenses are recognised in the period in which they are earned or incurred.[24] Realised gains and losses resulting from the sale of foreign currency, gold and securities are recorded in the Profit and Loss Account. Such realised gains and losses are calculated by reference to the average cost of the respective asset.

Unrealised gains are not recognised as income and are transferred directly to a revaluation account.

Unrealised losses are recorded in the Profit and Loss Account if, at the year-end, they exceed previous revaluation gains accumulated in the corresponding revaluation account. Such unrealised losses on any one security or currency or on gold are not netted against unrealised gains on other securities or currencies or gold. In the event of such unrealised losses on any item recorded in the Profit and Loss Account, the average cost of that item is reduced to the year-end exchange rate or market price. Unrealised losses on interest rate swaps that are not cleared through a central clearing counterparty are recorded in the Profit and Loss Account at the year-end and amortised in subsequent years.

Impairment losses are recorded in the Profit and Loss Account and are not reversed in subsequent years unless the impairment decreases and the decrease can be related to an observable event that occurred after the impairment was first recorded.

Premiums or discounts arising on securities are amortised over the securities' remaining contractual life.

Reverse transactions

Reverse transactions are operations whereby the ECB buys or sells assets under a repurchase agreement or conducts credit operations against collateral.

Under a repurchase agreement, securities are sold for cash with a simultaneous agreement to repurchase them from the counterparty at an agreed price on a set future date. Repurchase agreements are recorded as collateralised deposits on the liability side of the Balance Sheet. Securities sold under such an agreement remain on the Balance Sheet of the ECB.

Under a reverse repurchase agreement, securities are bought for cash with a simultaneous agreement to sell them back to the counterparty at an agreed price on a set future date. Reverse repurchase agreements are recorded as collateralised loans on the asset side of the Balance Sheet, but are not included in the ECB's security holdings.

Reverse transactions (including securities lending transactions) conducted under a programme offered by a specialised institution are recorded on the Balance Sheet only

24 A minimum threshold of €100,000 applies for administrative accruals and provisions.

where collateral has been provided in the form of cash and this cash remains uninvested.

Off-balance-sheet instruments

Currency instruments, namely foreign exchange forward transactions, forward legs of foreign exchange swaps and other currency instruments involving an exchange of one currency for another at a future date, are included in the net foreign currency position for the purpose of calculating foreign exchange gains and losses.

Interest rate instruments are revalued on an item-by-item basis. Daily changes in the variation margin of open interest rate futures contracts, as well as interest rate swaps that are cleared via a central counterparty, are recorded in the Profit and Loss Account. The valuation of forward transactions in securities and of interest rate swaps that are not cleared via a central counterparty is carried out by the ECB based on generally accepted valuation methods using observable market prices and rates, as well as discount factors from the settlement dates to the valuation date.

Post-balance sheet events

The values of assets and liabilities are adjusted for events that occur between the annual balance sheet date and the date on which the Executive Board authorises the submission of the ECB's Annual Accounts to the Governing Council for approval, if such events materially affect the condition of assets and liabilities at the balance sheet date.

Important post-balance sheet events that do not affect the condition of assets and liabilities at the balance sheet date are disclosed in the notes.

Intra-ESCB balances/intra-Eurosystem balances

Intra-ESCB balances result primarily from cross-border payments in the European Union (EU) that are settled in central bank money in euro. These transactions are for the most part initiated by private entities (i.e. credit institutions, corporations and individuals). They are settled in TARGET2 – the Trans-European Automated Real-time Gross settlement Express Transfer system – and give rise to bilateral balances in the TARGET2 accounts of EU central banks. These bilateral balances are netted and then assigned to the ECB on a daily basis, leaving each national central bank (NCB) with a single net bilateral position vis-à-vis the ECB only. Payments conducted by the ECB and settled in TARGET2 also affect the single net bilateral positions. These positions in the books of the ECB represent the net claim or liability of each NCB against the rest of the European System of Central Banks (ESCB). Intra-Eurosystem balances of euro area NCBs vis-à-vis the ECB arising from TARGET2, as well as other intra-Eurosystem balances denominated in euro (e.g. the ECB's interim profit distribution to NCBs), are presented on the Balance Sheet of the

ECB as a single net asset or liability position under either “Other claims within the Eurosystem (net)” or “Other liabilities within the Eurosystem (net)”. Intra-ESCB balances of non-euro area NCBs vis-à-vis the ECB, arising from their participation in TARGET2,[25] are disclosed under “Liabilities to non-euro area residents denominated in euro”.

Intra-Eurosystem balances arising from the allocation of euro banknotes within the Eurosystem are included as a single net asset under “Claims related to the allocation of euro banknotes within the Eurosystem” (see “Banknotes in circulation” below).

Intra-Eurosystem balances arising from the transfer of foreign reserve assets to the ECB by NCBs joining the Eurosystem are denominated in euro and reported under “Liabilities equivalent to the transfer of foreign reserves”.

Fixed assets

Fixed assets, including intangible assets, but excluding land and works of art, are valued at cost less depreciation. Land and works of art are valued at cost. The ECB’s main building is valued at cost less depreciation subject to impairment. For the depreciation of the ECB’s main building, costs are assigned to the appropriate asset components, which are depreciated in accordance with their estimated useful lives. Depreciation is calculated on a straight-line basis over the expected useful life of the asset, beginning in the quarter after the asset is available for use. The useful lives applied for the main asset classes are as follows:

Buildings	20, 25 or 50 years
Plant in building	10 or 15 years
Technical equipment	4, 10 or 15 years
Computers, related hardware and software, and motor vehicles	4 years
Furniture	10 years

The depreciation period for capitalised refurbishment expenditure relating to the ECB’s existing rented premises is adjusted to take account of any events that have an impact on the expected useful life of the affected asset.

The ECB performs an annual impairment test of its main building and right-of-use assets relating to office buildings (see “Leases” below). If an impairment indicator is identified, and it is assessed that the asset may be impaired, the recoverable amount is estimated. An impairment loss is recorded in the Profit and Loss Account if the recoverable amount is less than the net book value.

Fixed assets costing less than €10,000 are written off in the year of acquisition.

Fixed assets that comply with the capitalisation criteria, but are still under construction or development, are recorded under the heading “Assets under construction”. The

25 As at 31 December 2020 the non-euro area NCBs participating in TARGET2 were Българска народна банка (Bulgarian National Bank), Danmarks Nationalbank, Hrvatska narodna banka, Narodowy Bank Polski and Banca Naţională a României.

related costs are transferred to the relevant fixed asset headings once the assets are available for use.

Leases

For all leases involving a tangible asset, the related right-of-use asset and lease liability are recognised on the Balance Sheet at the lease commencement date and included under "Tangible and intangible fixed assets" and "Sundry" (liabilities), respectively. Where leases comply with the capitalisation criteria, but the asset involved is still under construction or adaptation, the incurred costs before the lease commencement date are recorded under the heading "Assets under construction". The related right-of-use asset and lease liability are recognised under the relevant fixed asset headings once the asset is available for use (lease commencement date).

Right-of-use assets are valued at cost less depreciation. In addition, right-of-use assets relating to office buildings are subject to impairment (regarding annual impairment test, see "Fixed assets" above). Depreciation is calculated on a straight-line basis from the commencement date to either the end of the useful life of the right-of-use asset or the end of the lease term, whichever is earlier.

The lease liability is initially measured at the present value of the future lease payments (comprising only lease components), discounted using the ECB's incremental borrowing rate. Subsequently, the lease liability is measured at amortised cost using the effective interest method. The related interest expense is recorded in the Profit and Loss Account under "Other interest expense". When there is a change in future lease payments arising from a change in an index or other reassessment of the existing contract, the lease liability is remeasured. Any such remeasurement results in a corresponding adjustment to the carrying amount of the right-of-use asset.

Short-term leases with a duration of 12 months or less and leases of low-value assets below €10,000 (consistent with the threshold used for the recognition of fixed assets) are recorded as an expense in the Profit and Loss Account.

The ECB's post-employment benefits, other long-term benefits and termination benefits

The ECB operates defined benefit plans for its staff and the members of the Executive Board, as well as for the members of the Supervisory Board employed by the ECB.

The staff pension plan is funded by assets held in a long-term employee benefit fund. The compulsory contributions made by the ECB and the staff are reflected in the defined benefit pillar of the plan. Staff can make additional contributions on a voluntary basis in a defined contribution pillar that can be used to provide additional benefits.[26]

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26 The funds accumulated by a staff member through voluntary contributions can be used at retirement to purchase an additional pension. This pension is included in the defined benefit obligation from that point on.

These additional benefits are determined by the amount of voluntary contributions together with the investment returns arising from those contributions.

Unfunded arrangements are in place for the post-employment and other long-term benefits of members of the Executive Board and members of the Supervisory Board employed by the ECB. For staff, unfunded arrangements are in place for post-employment benefits other than pensions and for other long-term benefits and termination benefits.

Net defined benefit liability

The liability recognised in the Balance Sheet under "Sundry" (liabilities) in respect of the defined benefit plans, including other long-term benefits and termination benefits, is the present value of the defined benefit obligation at the balance sheet date, less the fair value of plan assets used to fund the related obligation.

The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is calculated by discounting the estimated future cash flows using a rate which is determined by reference to market yields at the balance sheet date on high-quality euro-denominated corporate bonds that have similar terms to maturity to the related obligation.

Actuarial gains and losses can arise from experience adjustments (where actual outcomes are different from the actuarial assumptions previously made) and changes in actuarial assumptions.

Net defined benefit cost

The net defined benefit cost is split into components reported in the Profit and Loss Account and remeasurements in respect of post-employment benefits shown in the Balance Sheet under "Revaluation accounts".

The net amount charged to the Profit and Loss Account comprises:

1. the current service cost of the defined benefits accruing for the year;
2. the past service cost of the defined benefits resulting from a plan amendment;
3. net interest at the discount rate on the net defined benefit liability;
4. remeasurements in respect of other long-term benefits and termination benefits of a long-term nature, if any, in their entirety.

The net amount shown under "Revaluation accounts" comprises the following items:

1. actuarial gains and losses on the defined benefit obligation;
2. the actual return on plan assets, excluding amounts included in the net interest on the net defined benefit liability;
3. any change in the effect of the asset ceiling, excluding amounts included in the net interest on the net defined benefit liability.

These amounts are valued annually by independent actuaries to establish the appropriate liability in the financial statements.

Banknotes in circulation

The ECB and the euro area NCBs, which together comprise the Eurosystem, issue euro banknotes.[27] The total value of euro banknotes in circulation is allocated to the Eurosystem central banks on the last working day of each month in accordance with the banknote allocation key.[28]

The ECB has been allocated a share of 8% of the total value of euro banknotes in circulation, which is disclosed in the Balance Sheet under the liability item "Banknotes in circulation". The ECB's share of the total euro banknote issue is backed by claims on the NCBs. These claims, which bear interest,[29] are disclosed under the sub-item "Intra-Eurosystem claims: claims related to the allocation of euro banknotes within the Eurosystem" (see "Intra-ESCB balances/intra-Eurosystem balances" above). Interest income on these claims is included in the Profit and Loss Account under the item "Interest income arising from the allocation of euro banknotes within the Eurosystem".

Interim profit distribution

An amount that is equal to the sum of the ECB's income on euro banknotes in circulation and income arising from the securities held for monetary policy purposes purchased under (a) the Securities Markets Programme, (b) the third covered bond purchase programme, (c) the asset-backed securities purchase programme, (d) the public sector purchase programme, and (e) the pandemic emergency purchase programme is distributed in January of the following year by means of an interim profit distribution, unless otherwise decided by the Governing Council.[30] It is distributed in full unless it is higher than the ECB's net profit for the year and subject to any decisions by the Governing Council to make transfers to the provision for financial risks. The Governing Council may also decide to reduce the amount of the income on euro banknotes in circulation to be distributed in January by the amount of the costs incurred by the ECB in connection with the issue and handling of euro banknotes.

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27 Decision of the ECB of 13 December 2010 on the issue of euro banknotes (ECB/2010/29) (2011/67/EU) (OJ L 35, 9.2.2011, p. 26), as amended. The unofficial consolidated text with the list of amendments can be found here.

28 "Banknote allocation key" means the percentages that result from taking into account the ECB's share in the total euro banknote issue and applying the subscribed capital key to the NCBs' share in that total.

29 Decision (EU) 2016/2248 of the ECB of 3 November 2016 on the allocation of monetary income of the national central banks of Member States whose currency is the euro (ECB/2016/36) (OJ L 347, 20.12.2016, p. 26), as amended. The unofficial consolidated text with the list of amendments can be found here.

30 Decision (EU) 2015/298 of the ECB of 15 December 2014 on the interim distribution of the income of the ECB (ECB/2014/57) (OJ L 53, 25.2.2015, p. 24), as amended. The unofficial consolidated text with the list of amendments can be found here.

Reclassifications

In accordance with Article 21 of the Statute of the ESCB, the ECB may act as fiscal agent for Union institutions, bodies, offices or agencies, central governments, regional, local or other public authorities, other bodies governed by public law, or public undertakings of Member States. In this context the ECB accepts deposits from the European Financial Stability Facility (EFSF) and the European Stability Mechanism (ESM), which in the 2019 Annual Accounts were presented under the heading "Other liabilities". With effect from 1 July 2020 Eurostat revised the statistical classification of these institutions from "other financial intermediaries" to the "general government" sector.[31] As a result, as of that date the related amounts are presented under the heading "General government".

The 2019 comparative amounts have been adjusted as follows:

	Published in 2019 € millions	Adjustment due to reclassification € millions	Restated amount € millions
Liabilities to other euro area residents denominated in euro	**20,466**	**-**	**20,466**
General government	-	18,198	18,198
Other liabilities	20,466	(18,198)	2,268

Changes to accounting policies

In 2020 there were no changes to the accounting policies applied by the ECB.

Other issues

In accordance with Article 27 of the Statute of the ESCB, and on the basis of a recommendation of the Governing Council, the EU Council has approved the appointment of Baker Tilly GmbH & Co. KG Wirtschaftsprüfungsgesellschaft, Düsseldorf (Federal Republic of Germany) as the external auditors of the ECB for a five-year period up to the end of the financial year 2022. This five-year period can be extended for up to two additional financial years.

31 See Manual on Government Deficit and Debt, Eurostat, 2019.

2.4 Notes on the Balance Sheet

Note 1 - Gold and gold receivables

As at 31 December 2020 the ECB held 16,229,522 ounces[32] of fine gold, the market value of which amounted to €25,056 million (2019: €21,976 million). No gold operations took place in 2020 and the ECB's holdings therefore remained unchanged compared with their level as at 31 December 2019. The increase in the euro equivalent value of these holdings was due to the rise in the market price of gold in euro terms (see "Gold and foreign currency assets and liabilities" in Section 2.3 "Accounting policies" and note 15 "Revaluation accounts").

Note 2 - Claims on non-euro area and euro area residents denominated in foreign currency

Note 2.1 - Receivables from the IMF

This asset represents the ECB's holdings of SDRs and amounted to €680 million as at 31 December 2020 (2019: €710 million). It arises as the result of a two-way SDR buying and selling arrangement with the International Monetary Fund (IMF), whereby the IMF is authorised to arrange sales or purchases of SDRs against euro, on behalf of the ECB, within minimum and maximum holding levels. For accounting purposes, SDRs are treated as a foreign currency (see "Gold and foreign currency assets and liabilities" in Section 2.3 "Accounting policies"). The decrease in the euro equivalent value of the ECB's holdings of SDRs was due to the depreciation of the SDR against the euro during 2020.

Note 2.2 - Balances with banks and security investments, external loans and other external assets; and claims on euro area residents denominated in foreign currency

These two items consist of balances with banks and loans denominated in foreign currency, and investments in securities denominated in US dollars, Japanese yen and Chinese renminbi.

32 This corresponds to 504.8 tonnes.

	2020 € millions	2019 € millions	Change € millions
Claims on non-euro area residents			
Current accounts	6,835	6,947	(112)
Money market deposits	2,015	1,650	364
Reverse repurchase agreements	645	296	349
Security investments	35,796	41,585	(5,788)
Total claims on non-euro area residents	**45,291**	**50,478**	**(5,187)**
Claims on euro area residents			
Current accounts	20	19	1
Money market deposits	1,400	1,128	273
Reverse repurchase agreements	3,367	1,490	1,877
Total claims on euro area residents	**4,788**	**2,637**	**2,151**
Total	**50,079**	**53,115**	**(3,036)**

The total value of these items decreased in 2020, mainly owing to the depreciation of the US dollar against the euro.

The ECB's net foreign currency holdings[33] as at 31 December 2020 were as follows:

	2020 Foreign currency in millions	2019 Foreign currency in millions
US dollars	49,773	48,879
Japanese yen	1,093,702	1,093,739
Chinese renminbi	4,166	4,043

No foreign exchange interventions took place during 2020.

Note 3 - Claims on non-euro area residents denominated in euro

Note 3.1 - Balances with banks, security investments and loans

As at 31 December 2020 this item consisted of a claim amounting to €1,830 million in relation to liquidity facility arrangements between the Eurosystem and non-euro area central banks. Under these arrangements, the Eurosystem provides euro liquidity to non-euro area central banks in exchange for eligible collateral[34] to address euro

[33] These holdings comprise assets minus liabilities denominated in the given foreign currency that are subject to foreign currency revaluation. They are included under the headings "Claims on non-euro area residents denominated in foreign currency", "Claims on euro area residents denominated in foreign currency", "Accruals and prepaid expenses" and "Accruals and income collected in advance" and take into account foreign exchange forward and swap transactions included in off-balance-sheet items. Price gains on financial instruments denominated in foreign currency arising as a result of revaluations are not included.

[34] Further details on the Eurosystem's euro liquidity operations against eligible collateral can be found on the ECB's website.

liquidity needs in their jurisdictions in case of market dysfunction and thereby minimise the risk of adverse spillover effects on euro area financial markets and economies.

Note 4 - Other claims on euro area credit institutions denominated in euro

As at 31 December 2020 this item consisted of current account balances with euro area residents amounting to €81 million (2019: €109 million).

Note 5 - Securities of euro area residents denominated in euro

Note 5.1 - Securities held for monetary policy purposes

As at 31 December 2020 this item consisted of securities acquired by the ECB within the scope of the three covered bond purchase programmes (CBPPs), the Securities Markets Programme (SMP), the asset-backed securities purchase programme (ABSPP), the public sector purchase programme (PSPP) and the pandemic emergency purchase programme (PEPP).

	Start date	End date	Decision	Universe of eligible securities[1]
Completed / Terminated programmes				
CBPP1	July 2009	June 2010	ECB/2009/16	Covered bonds of euro area residents
CBPP2	November 2011	October 2012	ECB/2011/17	Covered bonds of euro area residents
SMP	May 2010	September 2012	ECB/2010/5	Public and private debt securities issued in the euro area[2]
Asset purchase programme (APP)				
CBPP3	October 2014	active	ECB/2020/8, as amended	Covered bonds of euro area residents
ABSPP	November 2014	active	ECB/2014/45, as amended	Senior and guaranteed mezzanine tranches of asset-backed securities of euro area residents
PSPP	March 2015	active	ECB/2020/9	Bonds issued by euro-area central, regional or local government or recognised agencies as well as by international organisations and multilateral development banks located in the euro area
CSPP[3]	June 2016	active	ECB/2016/16, as amended	Bonds and commercial paper issued by non-bank corporations established in the euro area
Pandemic emergency purchase programme (PEPP)				
PEPP	March 2020	active	ECB/2020/17, as amended	All asset categories eligible under the APP[4]

1) Further eligibility criteria for the specific programmes can be found in the Governing Council's decisions.
2) Only public debt securities issued by five euro area treasuries were purchased under the SMP.
3) The ECB does not acquire securities under the corporate sector purchase programme (CSPP).
4) A waiver of the eligibility requirements was granted for securities issued by the Greek Government.

In 2020 the Eurosystem continued its net purchases under the asset purchase programme (APP)[35] at a monthly pace of €20 billion on average. In March 2020 the Governing Council decided to add a temporary envelope of additional net asset purchases of €120 billion until the end of the year. The Governing Council expects net purchases 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 the reinvestments for an extended period of time past the date when the Governing Council 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.

In addition, in March 2020 the Eurosystem launched a temporary pandemic emergency purchase programme (PEPP)[36], with an initial envelope of €750 billion, to ease the overall monetary policy stance and to counter the severe risks to the monetary policy transmission mechanism and the outlook for the euro area posed by the coronavirus (COVID-19) pandemic. Purchases include all the asset categories eligible under the APP[37] and were initially envisaged to continue until the end of 2020. The Governing Council increased the envelope for the PEPP by €600 billion in June 2020 and by an additional €500 billion in December 2020, increasing it to a total of €1,850 billion. The horizon for net purchases was also extended to at least the end of March 2022 and, in any case, until the Governing Council judges that the coronavirus crisis phase is over. Furthermore, the Governing Council intends to reinvest the principal payments from maturing securities purchased under the PEPP until at least the end of 2023. The future roll-off of the PEPP portfolio will be managed to avoid interference with the appropriate monetary policy stance.

The securities purchased under these programmes are valued on an amortised cost basis subject to impairment (see “Securities” in Section 2.3 “Accounting policies”).

The amortised cost of the securities held by the ECB and their market value[38] (which is not recorded on the Balance Sheet or in the Profit and Loss Account and is provided for comparison purposes only) are as follows:

35 Further details on the APP can be found on the ECB’s website.

36 Further details on the PEPP can be found on the ECB’s website.

37 Further details on the asset categories eligible under PEPP can be found in Decision (EU) 2020/440 of the ECB of 24 March 2020 on a temporary pandemic emergency purchase programme (ECB/2020/17) (OJ L 91, 25.03.2020, p. 1), as amended. The unofficial consolidated text with the list of amendments can be found here.

38 Market values are indicative and are derived on the basis of market quotes. When market quotes are not available, market prices are estimated using internal Eurosystem models.

	2020 € millions		2019 € millions		Change € millions	
	Amortised cost	Market value	Amortised cost	Market value	Amortised cost	Market value
Completed / Terminated programmes						
CBPP1	37	38	79	83	(42)	(45)
CBPP2	202	211	218	235	(16)	(24)
SMP	2,328	2,591	3,692	4,121	(1,364)	(1,530)
APP						
CBPP3	24,009	24,975	21,678	22,347	2,331	2,628
ABSPP	29,352	29,239	28,403	28,362	949	877
PSPP	220,046	235,865	196,308	205,782	23,739	30,083
Total APP	**273,408**	**290,079**	**246,388**	**256,490**	**27,020**	**33,589**
PEPP						
PEPP – covered bonds	303	310	-	-	303	310
PEPP – public sector securities	72,730	74,027	-	-	72,730	74,027
Total PEPP	**73,033**	**74,338**	**-**	**-**	**73,033**	**74,338**
Total	**349,008**	**367,257**	**250,377**	**260,929**	**98,631**	**106,328**

Securities redemptions led to a decrease in the amortised cost value of the portfolios held under the first and second CBPPs, as well as under the SMP.

The Governing Council assesses on a regular basis the financial risks associated with the securities held under these programmes.

Impairment tests are conducted on an annual basis, using data as at the year-end, and are approved by the Governing Council. In these tests, impairment indicators are assessed separately for each programme. In cases where impairment indicators are observed, further analysis is performed to confirm that the cash flows of the underlying securities have not been affected by an impairment event. Based on the results of this year’s impairment tests, no losses have been recorded by the ECB for the securities held in its monetary policy portfolios in 2020.

Note 6 - Intra-Eurosystem claims

Note 6.1 - Claims related to the allocation of euro banknotes within the Eurosystem

This item consists of the claims of the ECB vis-à-vis the euro area NCBs relating to the allocation of euro banknotes within the Eurosystem (see “Banknotes in circulation” in Section 2.3 “Accounting policies”) and as at 31 December 2020 amounted to €114,761 million (2019: €103,420 million). The remuneration of these claims is calculated daily at the latest available marginal interest rate used by the Eurosystem in its tenders for main refinancing operations[39] (see note 23.2 “Interest income arising from the allocation of euro banknotes within the Eurosystem”).

Note 7 - Other assets

Note 7.1 - Tangible and intangible fixed assets

These assets comprised the following items on 31 December 2020:

	2020 € millions	2019 € millions	Change € millions
Cost			
Land and buildings	1,011	1,009	2
Right-of-use buildings	276	268	8
Plant in building	221	221	-
Computer hardware and software	139	133	6
Equipment, furniture and motor vehicles	104	98	6
Right-of-use equipment	5	3	2
Assets under construction	4	0	4
Other fixed assets	11	11	0
Total cost	**1,771**	**1,744**	**27**
Accumulated depreciation			
Land and buildings	(164)	(141)	(23)
Right-of-use buildings	(79)	(39)	(40)
Plant in building	(96)	(80)	(16)
Computer hardware and software	(106)	(103)	(4)
Equipment, furniture and motor vehicles	(60)	(50)	(11)
Right-of-use equipment	(2)	(1)	(1)
Other fixed assets	(2)	(2)	(0)
Total accumulated depreciation	**(509)**	**(414)**	**(95)**
Net book value	**1,262**	**1,330**	**(67)**

In respect of the ECB’s main building and right-of-use office buildings, an impairment test was conducted at the end of the year and no impairment loss has been recorded.

Note 7.2 - Other financial assets

This item consists mainly of the ECB’s own funds portfolio, which predominantly consists of investments of the ECB’s financial resources, namely the paid-up capital and amounts held in the reserves and the provision for financial risks. It also includes

[39] Since 16 March 2016 the interest rate used by the Eurosystem in its tenders for main refinancing operations has been 0.00%.

3,211 shares in the Bank for International Settlements (BIS) at the acquisition cost of €42 million and other current accounts denominated in euro.

The components of this item are as follows:

	2020 € millions	2019 € millions	Change € millions
Current accounts in euro	25	0	25
Securities denominated in euro	19,517	19,372	146
Reverse repurchase agreements in euro	1,201	1,219	(18)
Other financial assets	42	42	(0)
Total	**20,785**	**20,633**	**153**

The net increase in this item in 2020 was mainly due to (a) the reinvestment of interest income generated on the ECB's own funds portfolio and (b) the increase in the market value of the securities held in this portfolio.

Note 7.3 - Off-balance-sheet instruments revaluation differences

This item is composed of valuation changes in swap and forward transactions in foreign currency that were outstanding on 31 December 2020 (see note 20 "Foreign exchange swap and forward transactions"). These valuation changes amounted to €388 million (2019: €619 million) and are the result of the conversion of such transactions into their euro equivalents at the exchange rates prevailing on the balance sheet date, compared with the euro values resulting from the conversion of the transactions at the average cost of the respective foreign currency on that date (see "Off-balance-sheet instruments" and "Gold and foreign currency assets and liabilities" in Section 2.3 "Accounting policies").

Note 7.4 - Accruals and prepaid expenses

On 31 December 2020 this item stood at €3,390 million (2019: €2,572 million). It comprised mainly accrued coupon interest on securities, including outstanding interest paid at acquisition, amounting to €2,757 million (2019: €2,431 million) (see note 2.2 "Balances with banks and security investments, external loans and other external assets; and claims on euro area residents denominated in foreign currency", note 5 "Securities of euro area residents denominated in euro" and note 7.2 "Other financial assets").

This item also included an amount of €514 million corresponding to the supervisory fees to be received for the fee period 2020. This amount will be collected in the second quarter of 2021. From 2020 onwards, fees will be levied ex post on the basis of actual costs.[40] However, in 2020, for the last time, the amount of supervisory fees was adjusted for a surplus carried forward from the previous fee period (see note 26 "Net income/expense from fees and commissions").

40 Further details can be found on the ECB's website.

This item also includes (a) accrued income from common Eurosystem projects (see note 28 "Other income"); (b) miscellaneous prepayments; and (c) accrued interest income on other financial assets and liabilities.

Note 7.5 - Sundry

On 31 December 2020 this item amounted to €1,970 million (2019: €2,221 million) and mainly comprised the accrued amount of the ECB's interim profit distribution of €1,260 million (2019: €1,431 million) (see "Interim profit distribution" in Section 2.3 "Accounting policies" and note 12.2 "Other liabilities within the Eurosystem (net)").

It also included balances with a value of €692 million (2019: €757 million) related to swap and forward transactions in foreign currency outstanding on 31 December 2020 that arose from the conversion of such transactions into their euro equivalents at the respective currency's average cost on the balance sheet date, compared with the euro values at which the transactions were initially recorded (see "Off-balance-sheet instruments" in Section 2.3 "Accounting policies").

Note 8 - Banknotes in circulation

This item consists of the ECB's share (8%) of total euro banknotes in circulation (see "Banknotes in circulation" in Section 2.3 "Accounting policies") and as at 31 December 2020 amounted to €114,761 million (2019: €103,420 million).

Note 9 - Other liabilities to euro area credit institutions denominated in euro

The Eurosystem central banks have the possibility of accepting cash as collateral in their PSPP securities lending facilities without having to reinvest it. In the case of the ECB, these operations are conducted via a specialised institution. The same conditions apply to the public sector PEPP holdings.

As at 31 December 2020 the outstanding value of such lending transactions against cash collateral conducted with euro area credit institutions was €2,559 million (2019: €1,325 million). Cash received as collateral was transferred to TARGET2 accounts. As the cash remained uninvested at the year-end, these transactions were recorded on the Balance Sheet (see "Reverse transactions" in Section 2.3 "Accounting policies").[41]

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[41] Securities lending transactions that do not result in uninvested cash collateral at the year-end are recorded in off-balance-sheet accounts (see note 17 "Securities lending programmes").

Note 10 - Liabilities to other euro area residents denominated in euro

Note 10.1 - General government

As at 31 December 2020 this item amounted to €10,012 million (2019: €18,198 million) and included deposits of the European Stability Mechanism (ESM) and the European Financial Stability Facility (EFSF) (see "Reclassifications" in Section 2.3 "Accounting policies").

Note 10.2 – Other liabilities

As at 31 December 2020 this item amounted to €3,688 million (2019: €2,268 million). This item includes deposits or payments of funds accepted by the ECB and made by or on behalf of the participants in EURO1 and RT1[42] which are used as a guarantee fund for EURO1 or to support settlement in RT1.

Note 11 - Liabilities to non-euro area residents denominated in euro

As at 31 December 2020 this item amounted to €11,567 million (2019: €7,245 million). The largest component was an amount of €4,685 million (2019: €3,271 million) consisting of TARGET2 balances of non-euro area NCBs vis-à-vis the ECB (see "Intra-ESCB balances/intra-Eurosystem balances" in Section 2.3 "Accounting policies"). The increase in these balances in 2020 corresponds to the net payments flow from account holders in euro area countries to account holders in non-euro area countries which are settled via TARGET2.

This item also includes an amount of €3,457 million (2019: €3,350 million) arising from the standing reciprocal currency arrangement with the Federal Reserve Bank of New York. Under this arrangement, US dollars are provided by the Federal Reserve System to the ECB by means of swap transactions, with the aim of offering short-term US dollar funding to Eurosystem counterparties. The ECB simultaneously enters into back-to-back swap transactions with euro area NCBs, which use the resulting funds to conduct US dollar liquidity-providing operations with Eurosystem counterparties in the form of reverse transactions. The back-to-back swap transactions result in intra-Eurosystem balances between the ECB and the NCBs. Furthermore, the swap transactions conducted with the Federal Reserve System and the euro area NCBs result in forward claims and liabilities that are recorded in off-balance-sheet accounts (see note 20 "Foreign exchange swap and forward transactions").

The remainder of this item consists of an amount of €3,425 million (2019: €625 million) arising from outstanding PSPP and public sector PEPP securities lending transactions

[42] EURO1 and RT1 are payment systems operated by ABE CLEARING S.A.S à capital variable (EBA Clearing).

conducted with non-euro area residents in which cash was received as collateral and transferred to TARGET2 accounts (see note 9 “Other liabilities to euro area credit institutions denominated in euro”).

Note 12 - Intra-Eurosystem liabilities

Note 12.1 - Liabilities equivalent to the transfer of foreign reserves

These represent the liabilities to euro area NCBs that arose from the transfer of foreign reserve assets to the ECB when they joined the Eurosystem. Pursuant to Article 30.2 of the Statute of the ESCB, these contributions are fixed in proportion to the NCBs’ shares in the subscribed capital of the ECB. Following (a) the increase in the weighting of the euro area NCBs (which have transferred foreign reserve assets to the ECB) in the ECB’s subscribed capital resulting from Bank of England’s withdrawal from the ESCB and (b) a decision of the Governing Council to reduce the proportion of the euro area NCBs’ contributions, so that the total amount of foreign reserve assets already transferred by the euro area NCBs will remain at the current level, the liability equivalent to this transfer was marginally adjusted. This resulted in a small decrease of €0.2 million on 1 February 2020, which was repaid to the euro area NCBs.

	Since 1 February 2020 € millions	As at 31 January 2020 € millions
Nationale Bank van België/Banque Nationale de Belgique (Belgium)	1,470	1,465
Deutsche Bundesbank (Germany)	10,635	10,644
Eesti Pank (Estonia)	114	114
Central Bank of Ireland (Ireland)	683	681
Bank of Greece (Greece)	998	1,002
Banco de España (Spain)	4,811	4,833
Banque de France (France)	8,240	8,233
Banca d’Italia (Italy)	6,854	6,840
Central Bank of Cyprus (Cyprus)	87	87
Latvijas Banka (Latvia)	157	158
Lietuvos bankas (Lithuania)	233	235
Banque centrale du Luxembourg (Luxembourg)	133	132
Central Bank of Malta (Malta)	42	42
De Nederlandsche Bank (The Netherlands)	2,364	2,357
Oesterreichische Nationalbank (Austria)	1,181	1,178
Banco de Portugal (Portugal)	944	948
Banka Slovenije (Slovenia)	194	195
Národná banka Slovenska (Slovakia)	462	464
Suomen Pankki – Finlands Bank (Finland)	741	736
Total	**40,344**	**40,344**

The remuneration of these liabilities is calculated daily at the latest available marginal interest rate used by the Eurosystem in its tenders for main refinancing operations, adjusted to reflect a zero return on the gold component (see note 23.3 “Remuneration of NCBs’ claims in respect of foreign reserves transferred”).

Note 12.2 - Other liabilities within the Eurosystem (net)

In 2020 this item consisted predominantly of the TARGET2 balances of euro area NCBs vis-à-vis the ECB and the amount due to euro area NCBs in respect of the ECB’s interim profit distribution (see “Intra-ESCB balances/intra-Eurosystem balances” and “Interim profit distribution”, respectively, in Section 2.3 “Accounting policies”).

	2020 € millions	2019 € millions
Net TARGET2 liability	336,828	232,857
Due to euro area NCBs in respect of TARGET2	*1,622,395*	*1,282,370*
Due from euro area NCBs in respect of TARGET2	*(1,285,567)*	*(1,049,513)*
Due to euro area NCBs in respect of the ECB’s interim profit distribution	1,260	1,431
Other liabilities within the Eurosystem	0	0
Total other liabilities within the Eurosystem (net)	**338,088**	**234,288**

The increase in the net TARGET2 liability resulted mainly from the net purchases of securities under the PEPP and the APP, which were settled via TARGET2 accounts (see note 5 “Securities of euro area residents denominated in euro”). In addition, the decrease in the deposits accepted by the ECB in its role as fiscal agent (see note 10.1 “General government”) and the payment of the ECB’s profit distribution for 2019 also contributed to the increase in the liability in 2020. This increase was partially offset by the interest income received from securities held for monetary policy purposes and the increase in cash received as collateral against the lending of PSPP and public sector PEPP securities (see note 9 “Other liabilities to euro area credit institutions denominated in euro” and note 11 “Liabilities to non-euro area residents denominated in euro”).

The remuneration of TARGET2 positions, with the exception of balances arising from back-to-back swap transactions in connection with US dollar liquidity-providing operations, is calculated daily at the latest available marginal interest rate used by the Eurosystem in its tenders for main refinancing operations.

Note 13 - Other liabilities

Note 13.1 - Off-balance-sheet instruments revaluation differences

This item is composed of valuation changes in swap and forward transactions in foreign currency that were outstanding on 31 December 2020 (see note 20 “Foreign exchange swap and forward transactions”). These valuation changes amounted to €636 million (2019: €709 million) and are the result of the conversion of such transactions into their euro equivalents at the exchange rates prevailing on the balance sheet date, compared with the euro values resulting from the conversion of the transactions at the average cost of the respective foreign currency on that date (see "Off-balance-sheet instruments" and "Gold and foreign currency assets and liabilities" in Section 2.3 "Accounting policies").

Note 13.2 - Accruals and income collected in advance

This item comprised the following components on 31 December 2020:

	2020 € millions	2019 € millions	Change € millions
Administrative accruals	39	41	(2)
Financial instruments	1	2	(2)
Income collected in advance	-	22	(22)
Total	**40**	**66**	**(26)**

Note 13.3 - Sundry

On 31 December 2020 this item stood at €2,419 million (2019: €2,188 million). It included balances amounting to €507 million (2019: €662 million) related to swap and forward transactions in foreign currency that were outstanding on 31 December 2020 (see note 20 "Foreign exchange swap and forward transactions"). These balances arose from the conversion of such transactions into their euro equivalents at the respective currency's average cost on the balance sheet date, compared with the euro values at which the transactions were initially recorded (see "Off-balance-sheet instruments" in Section 2.3 "Accounting policies").

The item also includes a lease liability of €199 million (2019: €232 million) (see "Leases" in Section 2.3 "Accounting policies").

In addition, this item includes the ECB's net defined benefit liability in respect of the post-employment and other long-term benefits of its staff[43] and the members of the Executive Board, as well as the members of the Supervisory Board employed by the ECB. The termination benefits of ECB staff are also included.

43 The defined benefit pillar of the plan reflects only the compulsory contributions made by the ECB and staff. Voluntary contributions made by staff in a defined contribution pillar in 2020 amounted to €186 million (2019: €171 million). These contributions are invested in the plan assets and give rise to a corresponding obligation of equal value.

The ECB's post-employment benefits, other long-term benefits and termination benefits

Balance Sheet

The amounts recognised in the Balance Sheet under the item "Sundry" (liabilities) in respect of post-employment, other long-term and staff termination benefits were as follows:

	2020 € millions			2019 € millions		
	Staff	Boards	Total	Staff	Boards	Total
Defined benefit obligation	3,034	44	3,079	2,497	39	2,537
Fair value of plan assets	(1,447)	-	(1,447)	(1,307)	-	(1,307)
Net defined benefit liability included under "Sundry" (liabilities)	**1,588**	**44**	**1,632**	**1,191**	**39**	**1,230**

Note: The columns labelled "Boards" report amounts in respect of both the Executive Board and the Supervisory Board.

In 2020 the present value of the defined benefit obligation vis-à-vis staff of €3,034 million (2019: €2,497 million) included unfunded benefits amounting to €364 million (2019: €323 million) relating to post-employment benefits other than pensions, to other long-term benefits and to staff termination benefits. The present value of the defined benefit obligation vis-à-vis the members of the Executive Board and the members of the Supervisory Board of €44 million (2019: €39 million) relates solely to unfunded arrangements in place for post-employment and other long-term benefits.

Remeasurements of the ECB's net defined benefit liability in respect of post-employment benefits are recognised in the Balance Sheet under liability item "Revaluation accounts". In 2020 remeasurement losses under that liability item amounted to €1,067 million (2019: €749 million) (see note 15 "Revaluation accounts").

Changes in the defined benefit obligation, plan assets and remeasurement results

Changes in the present value of the defined benefit obligation were as follows:

	2020 € millions			2019 € millions		
	Staff	Boards	Total	Staff	Boards	Total
Opening defined benefit obligation	2,497	39	2,537	1,608	29	1,637
Current service cost	139	3	142	90	2	92
Past service cost	-	1	1	-	-	-
Interest cost on the obligation	30	0	31	37	1	38
Contributions paid by plan participants[1]	31	0	31	31	(1)	30
Benefits paid	(22)	(2)	(25)	(22)	(2)	(24)
Remeasurement losses	359	3	363	754	9	763
Closing defined benefit obligation	**3,034**	**44**	**3,079**	**2,497**	**39**	**2,537**

Note: The columns labelled “Boards” report amounts in respect of both the Executive Board and the Supervisory Board.
1) Net figure including compulsory contributions and transfers into/out of the plans. The compulsory contributions paid by staff are 7.4%, whilst those paid by the ECB are 20.7% of the basic salary.

The total remeasurement losses of €363 million on the defined benefit obligation in 2020 arose primarily as a result of the rise in the future pension increase rate from 1.0% in 2019 to 1.7% in 2020. In addition, the discount rate used for the valuation further decreased from 1.2% in 2019 to 1.1% in 2020.

Changes in 2020 in the fair value of plan assets in the defined benefit pillar relating to staff were as follows:

	2020 € millions	2019 € millions
Opening fair value of plan assets	1,307	1,080
Interest income on plan assets	16	26
Remeasurement gains	43	125
Contributions paid by employer	64	59
Contributions paid by plan participants	31	31
Benefits paid	(13)	(14)
Closing fair value of plan assets	**1,447**	**1,307**

The remeasurement gain on plan assets in 2020 reflected the fact that the actual return on the fund units was higher than the assumed interest income on plan assets, which was based on the discount rate assumption.

Changes in 2020 in the remeasurement results were as follows:

	2020 € millions	2019 € millions
Opening remeasurement losses	(749)	(129)
Gains on plan assets	43	125
Losses on obligation	(363)	(763)
Losses recognised in the Profit and Loss Account	2	18
Closing remeasurement losses included under “Revaluation accounts”	**(1,067)**	**(749)**

Profit and Loss Account

The amounts recognised in the Profit and Loss Account in 2020 were as follows:

	2020 € millions			2019 € millions		
	Staff	Boards	Total	Staff	Boards	Total
Current service cost	139	3	142	90	2	92
Past service cost	-	1	1	-	-	-
Net interest on the net defined benefit liability	14	0	15	12	1	13
Interest cost on the obligation	*30*	*1*	*31*	*37*	*1*	*38*
Interest income on plan assets	*(16)*	*-*	*(16)*	*(26)*	*-*	*(26)*
Remeasurement losses on other long-term and termination benefits	2	0	2	18	0	18
Total included in "Staff costs"	**155**	**4**	**159**	**119**	**3**	**123**

Note: The columns labelled "Boards" report amounts in respect of both the Executive Board and the Supervisory Board.

The current service cost increased in 2020 to €142 million (2019: €92 million), mainly owing to a decline in the discount rate from 2.3% in 2018 to 1.2% in 2019.[44]

Key assumptions

In preparing the valuations referred to in this note, the independent actuaries have used assumptions which the Executive Board has accepted for the purposes of accounting and disclosure. The principal assumptions used for the purposes of calculating the liability for post-employment benefits and other long-term benefits are as follows:

	2020 %	2019 %
Discount rate	1.10	1.20
Expected return on plan assets[1]	2.10	2.20
General future salary increases[2]	2.00	2.00
Future pension increases[3]	1.70	1.00

1) These assumptions were used for calculating the part of the ECB's defined benefit obligation which is funded by assets with an underlying capital guarantee.
2) In addition, allowance is made for prospective individual salary increases of up to 1.8% per annum, depending on the age of the plan participants.
3) In accordance with the ECB's pension plan rules, pensions will be increased annually. If general salary adjustments for ECB employees are below price inflation, any increase in pensions will be in line with the general salary adjustments. If the general salary adjustments exceed price inflation, they will be applied to determine the increase in pensions, provided that the financial position of the ECB's pension plans permits such an increase.

Note 14 - Provisions

This item consists mainly of a provision for financial risks, which will be used to the extent deemed necessary by the Governing Council to offset future realised and unrealised losses. The size of and continuing requirement for this provision is reviewed annually, based on the ECB's assessment of its exposure to these risks and taking a range of factors into account. Its size, together with any amount held in the general reserve fund, may not exceed the value of the ECB's capital paid up by the euro area NCBs.

44 The current service cost is estimated using the discount rate that applied in the previous year.

Taking into account the results of the assessment of the ECB's exposures to financial risks and the maximum allowed ceiling of the ECB's provision for financial risks, the Governing Council decided to transfer, as at 31 December 2020, an amount of €48 million to this provision. This transfer reduced the ECB's net profit for 2020 to €1,643 million and increased the size of the provision to €7,584 million, which corresponds to the value of the ECB's capital paid up by the euro area NCBs as at that date.

This item also includes administrative provisions amounting to €57 million (2019: €50 million).

Note 15 - Revaluation accounts

This item consists mainly of revaluation balances arising from unrealised gains on assets, liabilities and off-balance-sheet instruments (see "Income recognition", "Gold and foreign currency assets and liabilities", "Securities" and "Off-balance-sheet instruments" in Section 2.3 "Accounting policies"). It also includes remeasurements of the ECB's net defined benefit liability in respect of post-employment benefits (see "The ECB's post-employment benefits, other long-term benefits and termination benefits" in Section 2.3 "Accounting policies" and note 13.3 "Sundry").

	2020 € millions	2019 € millions	Change € millions
Gold	21,162	18,082	3,080
Foreign currency	7,269	11,377	(4,108)
US dollars	*5,391*	*9,138*	*(3,747)*
Japanese yen	*1,854*	*2,180*	*(326)*
Chinese renminbi	-	*3*	*(3)*
SDR	*23*	*55*	*(32)*
Others	-	*0*	*(0)*
Securities and other instruments	870	710	160
Net defined benefit liability in respect of post-employment benefits	(1,067)	(749)	(318)
Total	**28,235**	**29,420**	**(1,186)**

The decrease in the size of the revaluation accounts is predominately due to the depreciation of the US dollar and Japanese yen against the euro in 2020. This decline was partially offset by an increase in the size of the gold revaluation accounts owing to the rise in the market price of gold in 2020.

The foreign exchange rates used for the year-end revaluation were as follows:

Exchange rates	2020	2019
US dollar per euro	1.2271	1.1234
Japanese yen per euro	126.49	121.94
Chinese renminbi per euro	8.0225	7.8205
Euro per SDR	1.1786	1.2339
Euro per fine ounce of gold	1,543.884	1,354.104

Note 16 - Capital and reserves

Note 16.1 - Capital

Change to the ECB's capital key

Pursuant to Article 29 of the Statute of the ESCB, the shares of the NCBs in the key for subscription to the ECB's capital are weighted according to the shares of the respective Member States in the total population and gross domestic product of the EU, in equal measure.[45] These weights are adjusted every five years and whenever there is a change in the composition of the NCBs that contribute to the ECB's capital, i.e. the NCBs of EU Member States. As a result of the departure of the United Kingdom from the European Union on 31 January 2020 and the consequent withdrawal of the Bank of England from the ESCB, the weightings assigned to the remaining NCBs in the key for subscription to the ECB's capital were adjusted with effect from 1 February 2020, as follows:

45 The statistical data used for this adjustment were notified to the ECB by the European Commission in accordance with the rules laid down in Council Decision of 15 July 2003 on the statistical data to be used for the adjustment of the key for subscription to the capital of the ECB (2003/517/EC) (OJ L 181, 19.7.2003, p. 43).

	Capital key since 1 February 2020 %	Capital key as at 31 January 2020 %
Nationale Bank van België/Banque Nationale de Belgique (Belgium)	2.9630	2.5280
Deutsche Bundesbank (Germany)	21.4394	18.3670
Eesti Pank (Estonia)	0.2291	0.1968
Central Bank of Ireland (Ireland)	1.3772	1.1754
Bank of Greece (Greece)	2.0117	1.7292
Banco de España (Spain)	9.6981	8.3391
Banque de France (France)	16.6108	14.2061
Banca d'Italia (Italy)	13.8165	11.8023
Central Bank of Cyprus (Cyprus)	0.1750	0.1503
Latvijas Banka (Latvia)	0.3169	0.2731
Lietuvos bankas (Lithuania)	0.4707	0.4059
Banque centrale du Luxembourg (Luxembourg)	0.2679	0.2270
Central Bank of Malta (Malta)	0.0853	0.0732
De Nederlandsche Bank (The Netherlands)	4.7662	4.0677
Oesterreichische Nationalbank (Austria)	2.3804	2.0325
Banco de Portugal (Portugal)	1.9035	1.6367
Banka Slovenije (Slovenia)	0.3916	0.3361
Národná banka Slovenska (Slovakia)	0.9314	0.8004
Suomen Pankki – Finlands Bank (Finland)	1.4939	1.2708
Subtotal for euro area NCBs	**81.3286**	**69.6176**
Българска народна банка (Bulgarian National Bank) (Bulgaria)	0.9832	0.8511
Česká národní banka (Czech Republic)	1.8794	1.6172
Danmarks Nationalbank (Denmark)	1.7591	1.4986
Hrvatska narodna banka (Croatia)	0.6595	0.5673
Magyar Nemzeti Bank (Hungary)	1.5488	1.3348
Narodowy Bank Polski (Poland)	6.0335	5.2068
Banca Naţională a României (Romania)	2.8289	2.4470
Sveriges Riksbank (Sweden)	2.9790	2.5222
Bank of England (United Kingdom)	-	14.3374
Subtotal for non-euro area NCBs	**18.6714**	**30.3824**
Total	**100.0000**	**100.0000**

Capital of the ECB

The subscribed capital of the ECB is €10,825 million. The ECB kept its subscribed capital unchanged after the Bank of England's withdrawal from the ESCB. The share of the Bank of England in the ECB's subscribed capital, which stood at 14.3%, was reallocated among both the euro area NCBs and the remaining non-euro area NCBs.

The ECB's paid-up capital also remained unchanged at €7,659 million in 2020, as the remaining NCBs covered the withdrawn Bank of England's paid-up capital of €58 million. Over the next two years, in two annual instalments, euro area NCBs will pay up in full their increased subscriptions to the ECB's capital following the Bank of England's withdrawal from the ESCB. This will increase the ECB's paid-up capital from €7,659 million in 2020 to €8,270 million in 2021 and €8,880 million in 2022.

	Since 1 February 2020 € millions		As at 31 January 2020 € millions	
	Subscribed capital	Paid-up capital	Subscribed capital	Paid-up capital
Nationale Bank van België/ Banque Nationale de Belgique (Belgium)	321	276	274	274
Deutsche Bundesbank (Germany)	2,321	1,999	1,988	1,988
Eesti Pank (Estonia)	25	21	21	21
Central Bank of Ireland (Ireland)	149	128	127	127
Bank of Greece (Greece)	218	188	187	187
Banco de España (Spain)	1,050	904	903	903
Banque de France (France)	1,798	1,549	1,538	1,538
Banca d'Italia (Italy)	1,496	1,288	1,278	1,278
Central Bank of Cyprus (Cyprus)	19	16	16	16
Latvijas Banka (Latvia)	34	30	30	30
Lietuvos bankas (Lithuania)	51	44	44	44
Banque centrale du Luxembourg (Luxembourg)	29	25	25	25
Central Bank of Malta (Malta)	9	8	8	8
De Nederlandsche Bank (The Netherlands)	516	444	440	440
Oesterreichische Nationalbank (Austria)	258	222	220	220
Banco de Portugal (Portugal)	206	177	177	177
Banka Slovenije (Slovenia)	42	37	36	36
Národná banka Slovenska (Slovakia)	101	87	87	87
Suomen Pankki – Finlands Bank (Finland)	162	139	138	138
Subtotal for euro area NCBs	**8,804**	**7,584**	**7,536**	**7,536**
Българска народна банка (Bulgarian National Bank) (Bulgaria)	106	4	92	3
Česká národní banka (Czech Republic)	203	8	175	7
Danmarks Nationalbank (Denmark)	190	7	162	6
Hrvatska narodna banka (Croatia)	71	3	61	2
Magyar Nemzeti Bank (Hungary)	168	6	144	5
Narodowy Bank Polski (Poland)	653	24	564	21
Banca Naţională a României (Romania)	306	11	265	10
Sveriges Riksbank (Sweden)	322	12	273	10
Bank of England (United Kingdom)	-	-	1,552	58
Subtotal for non-euro area NCBs	**2,021**	**76**	**3,289**	**123**
Total	**10,825**	**7,659**	**10,825**	**7,659**

2.5 Off-balance-sheet instruments

Note 17 - Securities lending programmes

As part of the management of the ECB's own funds, the ECB has a securities lending programme agreement in place under which a specialised institution enters into securities lending transactions on behalf of the ECB.

In addition, in accordance with the Governing Council's decisions, the ECB has made available for lending its holdings of securities purchased under the first, second and third CBPPs, the PSPP and the PEPP, as well as its holdings of securities purchased under the SMP that are also eligible for purchase under the PSPP.[46]

Unless these securities lending operations are conducted against cash collateral that remains uninvested at the end of the year, they are recorded in off-balance-sheet accounts.[47] Such securities lending operations with a value of €17,214 million (2019: €10,076 million) were outstanding as at 31 December 2020. Of this amount, €12,615 million (2019: €5,502 million) related to the lending of securities held for monetary policy purposes.

Note 18 - Interest rate futures

As at 31 December 2020 the following foreign currency transactions, presented at year-end market rates, were outstanding:

Foreign currency interest rate futures	2020 Contract value € millions	2019 Contract value € millions	Change € millions
Purchases	1,822	6,103	(4,281)
Sales	880	20	859

These transactions were conducted in the context of the management of the ECB's foreign reserves.

Note 19 - Interest rate swaps

There were no outstanding interest rate swap transactions as at 31 December 2020, while at the end of 2019 transactions with a notional value of €703 million, presented at year-end market rates, were outstanding. Such transactions are conducted in the context of the management of the ECB's foreign reserves.

46 The ECB does not purchase securities under the CSPP and consequently has no related holdings available for lending.

47 If cash collateral remains uninvested at the year-end, these transactions are recorded in on-balance-sheet accounts (see note 9 "Other liabilities to euro area credit institutions denominated in euro" and note 11 "Liabilities to non-euro area residents denominated in euro").

Note 20 - Foreign exchange swap and forward transactions

Management of foreign reserves

Foreign exchange swap and forward transactions were conducted in 2020 in the context of the management of the ECB's foreign reserves. Claims and liabilities resulting from these transactions that were outstanding as at 31 December 2020 are presented at year-end market rates as follows:

Foreign exchange swap and forward transactions	2020 € millions	2019 € millions	Change € millions
Claims	2,961	2,972	(11)
Liabilities	3,024	2,967	57

Liquidity-providing swap arrangements

The ECB has in place reciprocal swap arrangements with the Bank of Canada, the Bank of England, the Bank of Japan, the Federal Reserve Bank of New York, the Swiss National Bank and the People's Bank of China. These swap arrangements allow for the provision of (a) liquidity in any of the respective currencies of the above-mentioned central banks to euro area banks or (b) euro liquidity to financial institutions in the jurisdictions of the above central banks. Furthermore, swap agreements are also in place with the Bulgarian National Bank, Hrvatska narodna banka, Danmarks Nationalbank and Sveriges Riksbank for the provision of euro liquidity to financial institutions in their jurisdictions. The above arrangements are aimed at addressing possible liquidity needs to counter potential market dysfunction.

US dollar-denominated claims and liabilities with a maturity date in 2021 arose in connection with the provision of US dollar liquidity to Eurosystem counterparties (see note 11 "Liabilities to non-euro area residents denominated in euro").

Note 21 - Administration of borrowing and lending operations

In 2020 the ECB continued to be responsible for the administration of the borrowing and lending operations of the EU under the medium-term financial assistance facility and the European Financial Stabilisation Mechanism, for the loan facility agreement for Greece, and for the administration of payments relating to two EFSF loans.

In addition, in 2020, in response to the COVID-19 pandemic, the EU granted loans to the Member States under its new instrument for temporary Support to mitigate Unemployment Risks in an Emergency (SURE). The ECB and the NCBs of the borrowing EU Member States supported the European Commission in the administration of these loans.

In 2020 the ECB processed payments related to all the above-mentioned operations.

Note 22 - Contingent liabilities from pending lawsuits

Several lawsuits have been filed against the ECB and other EU institutions by a number of depositors, shareholders and bondholders of Cypriot credit institutions. The applicants allege that they have suffered financial losses as a result of acts that they deem to have led to the restructuring of these credit institutions in the context of the financial assistance programme for Cyprus in 2013. Two of these cases, designated as test cases, were dismissed on substance by the General Court of the EU in 2018, and appeals against these judgments were lodged by the applicants and the Council. By its judgment of 16 December 2020, the Court of Justice of the EU dismissed the appeals lodged by the applicants at first instance against these two test cases and thereby upheld the General Court's judgments (of 2018) dismissing the actions for damages directed against the ECB. All other similar cases, which had been suspended, are expected to be decided in accordance with the final outcome of the test cases, and thus the ECB should also win these cases. This follows orders of the General Court in 2014 which found twelve similar cases inadmissible in their entirety and, following appeals, judgments of the Court of Justice in 2016 which either confirmed the inadmissibility or ruled in favour of the ECB. The ECB's involvement in the process leading up to the conclusion of the financial assistance programme was limited to the provision of technical advice, pursuant to the ESM Treaty, acting in liaison with the European Commission, as well as the issuance of a non-binding opinion on the Cypriot draft resolution law. It is therefore considered that no losses will be incurred by the ECB as a result of these cases, particularly in view of the Court of Justice's judgment in the above-mentioned test cases.

2.6 Notes on the Profit and Loss Account

Note 23 - Net interest income

Note 23.1 - Interest income on foreign reserve assets

This item includes interest income, net of interest expense, in respect of the ECB's net foreign reserve assets, as follows:

	2020 € millions	2019 € millions	Change € millions
Interest income on current accounts	3	22	(18)
Interest income on money market deposits	20	69	(48)
Interest income/(expense) on repurchase agreements	0	(1)	1
Interest income on reverse repurchase agreements	21	71	(50)
Interest income on securities	396	812	(416)
Interest income/(expense) on interest rate swaps	(1)	1	(2)
Interest income on forward and swap transactions in foreign currencies	35	77	(42)
Net interest income on foreign reserve assets	**474**	**1,052**	**(577)**

The overall decrease in net interest income in 2020 was mainly due to lower interest income generated on the US dollar portfolio.

Note 23.2 - Interest income arising from the allocation of euro banknotes within the Eurosystem

This item consists of the interest income relating to the ECB's 8% share of the total euro banknote issue (see "Banknotes in circulation" in Section 2.3 "Accounting policies" and note 6.1 "Claims related to the allocation of euro banknotes within the Eurosystem"). For 2020 this interest income was zero, owing to the fact that the rate on the main refinancing operations remained at 0% during the entire year.

Note 23.3 - Remuneration of NCBs' claims in respect of foreign reserves transferred

Remuneration paid to euro area NCBs on their claims in respect of the foreign reserve assets transferred to the ECB (see note 12.1 "Liabilities equivalent to the transfer of foreign reserves") is disclosed under this heading. The remuneration in 2020 was zero, reflecting the fact that the rate on the main refinancing operations was 0% during the entire year.

Note 23.4 - Other interest income; and other interest expense

Other interest income and other interest expense in 2020 were as follows:

	2020 € millions	2019 € millions	Change € millions
Net interest income on monetary policy securities	1,337	1,447	(110)
CBPP1 and CBPP2	*10*	*20*	*(10)*
SMP[1]	*183*	*291*	*(108)*
APP	*1,184*	*1,136*	*48*
PEPP	*(41)*	*-*	*(41)*
Net interest income on monetary policy security lending	17	16	1
Net interest income on own funds	70	95	(25)
Net interest income on other assets/liabilities	119	76	43
Net other interest income	**1,543**	**1,635**	**(92)**

1) The ECB's net interest income on SMP holdings of Greek government bonds amounted to €50 million (2019: €94 million).

Note 24 - Realised gains/losses arising from financial operations

Net realised gains arising from financial operations in 2020 were as follows:

	2020 € millions	2019 € millions	Change € millions
Net realised price gains	335	187	148
Net realised exchange rate and gold price gains	6	9	(3)
Net realised gains arising from financial operations	**342**	**197**	**145**

Net realised price gains include realised gains and losses on securities, interest rate futures and interest rate swaps. The increase in net realised price gains in 2020 was mainly due to higher realised price gains generated in the US dollar portfolio as a result of the lower US dollar securities yields compared to 2019.

Note 25 - Write-downs on financial assets and positions

Write-downs on financial assets and positions in 2020 were as follows:

	2020 € millions	2019 € millions	Change € millions
Unrealised price losses on securities	(15)	(20)	5
Unrealised exchange rate losses	(10)	-	(10)
Total write-downs	**(26)**	**(20)**	**(6)**

The higher write-downs compared to 2019 were due to the unrealised exchange rate losses arising from the Chinese renminbi holding. The average acquisition cost of this holding was written down to its 2020 year-end exchange rate owing to the depreciation of this currency against the euro to a level lower than its average cost.

Note 26 - Net income/expense from fees and commissions

	2020 € millions	2019 € millions	Change € millions
Income from fees and commissions	535	544	(9)
Expenses relating to fees and commissions	(15)	(13)	(2)
Net income from fees and commissions	**520**	**531**	**(11)**

In 2020 income under this heading consisted mainly of supervisory fees. Expenses arose predominantly from custody fees.

Income and expenses related to supervisory tasks

The ECB levies annual fees on supervised entities in order to recover expenditure incurred in the performance of its supervisory tasks. Following this year's implementation of ex post invoicing under the revised fee framework,[48] the fees are based on the actual annual expenses for supervisory tasks incurred in the respective fee period adjusted for amounts reimbursed to/received from individual banks for previous fee periods and other adjustments, including interest received on late payments.[49] In 2020, for the last time, the amount levied will be affected by the surplus carried forward from the previous fee period. The individual supervisory fees are invoiced in the second quarter following the respective year-end.

Based on the actual expenses incurred by the ECB in the performance of its banking supervision tasks, the supervisory fee income for 2020 stood at €535 million. However, the annual supervisory fees to be levied on the supervised entities for 2020 amount to €514 million (see note 7.4 "Accruals and prepaid expenses")[50] following adjustments for (a) the surplus of €22 million carried forward from the 2019 fee period and (b) an amount of €1 million corresponding to net reimbursements to individual banks for previous fee periods and other adjustments, including interest received on late payments.

The ECB is also entitled to impose administrative penalties on supervised entities for failure to comply with EU banking regulations on prudential requirements (including ECB supervisory decisions). The related income is not considered in the calculation of the annual supervisory fees. Instead, it is recorded as income in the ECB's Profit and Loss Account and is distributed to euro area NCBs as part of the ECB's profit distribution regime. In 2020 no income arose from penalties on supervised entities.

Thus, the income of the ECB for supervisory tasks in 2020 was as follows:

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48 As of the fee period 2020, the ECB's supervisory fees will be calculated after the closure of the fee period in accordance with Regulation (EU) 2019/2155 of the ECB of 5 December 2019 amending Regulation (EU) 1163/2014 of the ECB of 22 October 2014 on supervisory fees (ECB/2019/37) (OJ L 327, 17.12.2019, p. 70).

49 See Article 5(3) of Regulation (EU) No 1163/2014 of the ECB of 22 October 2014 on supervisory fees (ECB/2014/41) (OJ L 311, 31.10.2014, p. 23), as amended. The unofficial consolidated text with the list of amendments can be found here.

50 By the end of April 2021 the Governing Council will adopt the ECB decision on the total amount of annual supervisory fees for 2020.

	2020 € millions	2019 € millions	Change € millions
Supervisory fees	535	537	(2)
Fees relating to significant entities or significant groups	*499*	*485*	*14*
Fees relating to less significant entities or less significant groups	*36*	*52*	*(16)*
Imposed administrative penalties	-	7	(7)
Total income related to banking supervision tasks	**535**	**544**	**(9)**

Banking supervision-related expenses result from the direct supervision of significant entities, the oversight of the supervision of less significant entities and the performance of horizontal tasks and specialised services. They consist of the direct expenses of the ECB Banking Supervision Directorates General and of the relevant expenses arising from support areas needed to fulfil the ECB's supervisory responsibilities, including premises and facilities, human resources management, administrative services, budgeting and controlling, accounting, legal, communication and translation services, internal audit, and statistical and information technology (IT) services.

For 2020 the total actual expenses related to the ECB's supervisory tasks, which are recovered via the annual supervisory fees, amounted to €535 million (2019: €537 million). The slight overall decrease was driven by lower expenses in relation to external consultancy support, resulting mainly from the finalisation of the Targeted Review of Internal Models (TRIM), and business travel, owing to a substantial streamlining of onsite supervisory activities in view of the COVID-19 pandemic. These lower expenses were largely offset by higher staff costs following the growth in the average number of staff working for ECB Banking Supervision.

Note 27 - Income from equity shares and participating interests

Dividends received on shares which the ECB holds in the BIS (see note 7.2 "Other financial assets") are shown under this heading. No dividend was received in 2020 (2019: €1 million), as the BIS Annual General Meeting approved the proposal of the Board of Directors to retain all BIS profit for the period 2019/2020.[51]

Note 28 - Other income

Other miscellaneous income during 2020 arose mainly from contributions of euro area NCBs to costs incurred by the ECB in connection with joint Eurosystem projects.

Note 29 - Staff costs

Staff costs in 2020 were as follows:

51 See Annual Report 2019/20, BIS.

	2020 € millions	2019 € millions	Change € millions
Salaries and allowances[1]	465	423	42
Staff insurance	21	20	1
Post-employment, other long-term and termination benefits	159	123	36
Other staff costs	0	0	(0)
Total	**646**	**566**	**79**

1) Salaries and allowances are, in essence, modelled on, and comparable with, the remuneration scheme of the EU.

The average number of employees, expressed in full-time equivalents (FTEs)[52], amounted to 3,923 (2019: 3,770), of which 356 were managerial staff (2019: 349).

Staff costs increased in 2020, mainly owing to the higher average number of staff employed by the ECB and higher costs, particularly in relation to post-employment benefits, resulting from the use of a lower discount rate for the actuarial valuation at the end of 2020 (see note 13.3 "Sundry").

Remuneration of the Executive and Supervisory Boards

Members of the Executive Board and the members of the Supervisory Board employed by the ECB receive a basic salary and a residence allowance. In the case of the President, a residence is provided in lieu of a residence allowance. Members of the Executive Board and the Chair of the Supervisory Board also receive a representation allowance. Subject to the Conditions of Employment for Staff of the European Central Bank, members of both boards may be entitled to household, child and education allowances, depending on their individual circumstances. Salaries are subject to a tax for the benefit of the EU, as well as to deductions in respect of contributions to the pension, medical, long-term care and accident insurance schemes. Allowances are non-taxable and non-pensionable.

In 2020 the basic salaries of the members of the Executive Board and members of the Supervisory Board employed by the ECB (i.e. excluding representatives of national supervisors) were as follows:[53]

52 A full-time equivalent (FTE) is a unit equivalent to one employee working full-time for one year. Staff with permanent, fixed or short-term contracts and participants in the ECB's Graduate Programme are included in proportion to their hours worked. Staff on maternity or long-term leave are also included, while staff on unpaid leave are excluded.

53 Amounts are presented gross, i.e. before any tax deductions for the benefit of the EU.

	2020 €	2019 €
Christine Lagarde (President since November 2019)	416,016	67,990
Mario Draghi (President until October 2019)	-	339,950
Luis de Guindos Jurado (Vice-President)	356,604	349,680
Philip R. Lane (Board Member since June 2019)	297,156	169,974
Fabio Panetta (Board Member since January 2020)	297,156	-
Isabel Schnabel (Board Member since January 2020)	297,156	-
Yves Mersch (Board Member until 14 December 2020)	283,160	291,384
Benoît Cœuré (Board Member until December 2019)	-	291,384
Sabine Lautenschläger (Board Member until October 2019)	-	242,820
Peter Praet (Board Member until May 2019)	-	121,410
Total Executive Board[1]	**1,947,248**	**1,874,592**
Total Supervisory Board (members employed by the ECB)[2]	**1,290,036**	**769,189**
of which:		
Andrea Enria (Chair of the Supervisory Board)	*297,156*	*291,384*
Total	**3,237,284**	**2,643,781**

1) Frank Elderson took office as a member of the Executive Board on 15 December 2020; his remuneration for the remainder of December will be included in the costs for 2021.
2) This total excludes the salary of the Vice-Chair of the Supervisory Board (Sabine Lautenschläger until February 2019 and Yves Mersch from October 2019 until 14 December 2020), which is reported with those of the other members of the Executive Board.

Total allowances paid to members of both boards and the ECB's contributions to medical, long-term care and accident insurance schemes on their behalf amounted to €1,201,810 (2019: €1,182,767).

Transitional payments may be made to former members of both boards for a limited period after the end of their terms of office. In 2020 these payments, the related family allowances and the ECB's contributions to the medical, long-term care and accident insurance schemes of former members of both boards amounted to €1,555,042 (2019: €864,287). The increase in these payments is mainly due to the number of board members leaving the ECB in 2019 and 2020.

Pension payments, including post-employment allowances, and contributions to the medical, long-term care and accident insurance schemes for former board members and their dependants amounted to €928,149 (2019: €1,848,157).[54]

Note 30 - Administrative expenses

Administrative expenses in 2020 were as follows:

54 For the net amount charged to the Profit and Loss Account in relation to the pension arrangements for current members of the Executive Board and current members of the Supervisory Board employed by the ECB, see note 13.3 "Sundry".

	2020 € millions	2019 € millions	Change € millions
Rent, property maintenance and utilities	50	50	0
Staff-related expenses	61	63	(3)
IT-related expenses	115	97	18
External services	164	194	(31)
Other expenses	44	71	(26)
Total administrative expenses	**434**	**476**	**(42)**

The overall decrease in administrative expenses in 2020 was mainly due to lower expenses for external consultancy support ("External services") and business travel ("Other expenses"), mainly related to supervisory tasks (see note 26 "Net income/expense from fees and commissions"). This decrease was partially offset by higher IT-related expenses owing to the significant demand for IT services related to remote working in 2020 in connection with the COVID-19 pandemic.

Note 31 - Banknote production services

This expense arises predominantly from the cross-border transportation of euro banknotes between banknote printing works and NCBs, for the delivery of new banknotes, and between NCBs, for the compensation of shortages with surplus stocks. These costs are borne centrally by the ECB.

3 Independent auditor’s report

To the President and Governing Council
of the European Central Bank
Frankfurt am Main

Report on the Audit of the ECB’s Financial Statements 2020

Opinion

We have audited the Financial Statements of the European Central Bank (ECB) for the year ended 31 December 2020 – included in the ECB’s Annual Accounts – which comprise the balance sheet, the profit and loss account, and a summary of significant accounting policies and other explanatory notes.

In our opinion, the accompanying Financial Statements give a true and fair view of the financial position of the ECB as at 31 December 2020 and of the results of its financial operations for the year then ended in accordance with the principles established by the Governing Council, which are laid down in Decision (EU) 2016/2247 of the ECB of 3 November 2016 on the annual accounts of the ECB (ECB/2016/35), as amended, which is based on Guideline (EU) 2016/2249 of the ECB of 3 November 2016 on the legal framework for accounting and financial reporting in the European System of Central Banks (ECB/2016/34), as amended.

Basis for Opinion

We conducted our audit in accordance with International Standards on Auditing (“ISAs”). Our responsibilities under those standards are further described in the Auditor’s Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the ECB in accordance with the German ethical requirements that are relevant to our audit of the Financial Statements, which are consistent with the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants (“IESBA Code”) and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other Information

The ECB's Executive Board ("Executive Board") is responsible for the other information included in the ECB's Annual Accounts. The other information comprises all the information included in the ECB's Annual Accounts except the Financial Statements of the ECB and our auditor's report.

Our opinion on the Financial Statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the Financial Statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the Financial Statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

Responsibilities of the Executive Board and those charged with Governance for the Financial Statements

The Executive Board is responsible for the preparation and fair presentation of the Financial Statements in accordance with the principles established by the Governing Council, which are laid down in Decision (EU) 2016/2247 of the ECB of 3 November 2016 on the annual accounts of the ECB (ECB/2016/35), as amended, which is based on Guideline (EU) 2016/2249 of the ECB of 3 November 2016 on the legal framework for accounting and financial reporting in the European System of Central Banks (ECB/2016/34), as amended, and for such internal control as the Executive Board determines is necessary to enable the preparation of Financial Statements that are free from material misstatement, whether due to fraud or error.

In preparing the Financial Statements, the Executive Board is responsible for assessing the ECB's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting.

Those charged with governance are responsible for overseeing the ECB's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the Financial Statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these Financial Statements.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional scepticism throughout the planning and performance of the audit. We also:

- Identify and assess the risks of material misstatement of the Financial Statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the ECB's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the ECB's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the Financial Statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report.

- Evaluate the overall presentation, structure and content of the Financial Statements, including the disclosures, and whether the Financial Statements represent the underlying transactions and events in a manner that achieves fair presentation.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Frankfurt am Main, 10 February 2021

Baker Tilly GmbH & Co. KG
Wirtschaftsprüfungsgesellschaft
(Düsseldorf)

Ralph Hüsemann	Dr. Stefan Wolfgang Fischer
Wirtschaftsprüfer	Wirtschaftsprüfer

4 Note on profit distribution/allocation of losses

This note is not part of the financial statements of the ECB for the year 2020.

Pursuant to Article 33 of the Statute of the ESCB, the net profit of the ECB shall be transferred in the following order:

1. an amount to be determined by the Governing Council, which may not exceed 20% of the net profit, shall be transferred to the general reserve fund, subject to a limit equal to 100% of the capital; and

2. the remaining net profit shall be distributed to the shareholders of the ECB in proportion to their paid-up shares.[55]

In the event of a loss incurred by the ECB, the shortfall may be offset against the general reserve fund of the ECB and, if necessary, following a decision by the Governing Council, against the monetary income of the relevant financial year in proportion and up to the amounts allocated to the NCBs in accordance with Article 32.5 of the Statute of the ESCB.[56]

The ECB's net profit for 2020 was €1,643 million. Following a decision by the Governing Council, an interim profit distribution, amounting to €1,260 million, was paid out to the euro area NCBs on 29 January 2021. Furthermore, the Governing Council decided to distribute the remaining profit of €383 million to the euro area NCBs.

	2020 € millions	2019 € millions
Profit for the year	1,643	2,366
Interim profit distribution	(1,260)	(1,431)
Profit after the interim profit distribution	383	935
Distribution of the remaining profit	(383)	(935)
Total	**0**	**0**

55 Non-euro area NCBs are not entitled to receive any share of the ECB's distributable profits, nor are they liable to cover any loss of the ECB.

56 Under Article 32.5 of the Statute of the ESCB, the sum of the NCBs' monetary income shall be allocated to the NCBs in proportion to their paid-up shares in the capital of the ECB.

Consolidated balance sheet of the Eurosystem as at 31 December 2020

Assets

(EUR millions)

		31 December 2020	31 December 2019
1	**Gold and gold receivables**	**536,542**	**470,742**
2	**Claims on non-euro area residents denominated in foreign currency**	**347,179**	**349,656**
2.1	Receivables from the IMF	85,379	80,524
2.2	Balances with banks and security investments, external loans and other external assets	261,800	269,132
3	**Claims on euro area residents denominated in foreign currency**	**23,437**	**22,074**
4	**Claims on non-euro area residents denominated in euro**	**14,337**	**17,491**
4.1	Balances with banks, security investments and loans	14,337	17,491
4.2	Claims arising from the credit facility under ERM II	0	0
5	**Lending to euro area credit institutions related to monetary policy operations denominated in euro**	**1,793,194**	**624,232**
5.1	Main refinancing operations	468	7,904
5.2	Longer-term refinancing operations	1,792,574	616,188
5.3	Fine-tuning reverse operations	0	0
5.4	Structural reverse operations	0	0
5.5	Marginal lending facility	152	140
5.6	Credits related to margin calls	0	0
6	**Other claims on euro area credit institutions denominated in euro**	**25,328**	**18,849**
7	**Securities of euro area residents denominated in euro**	**3,890,916**	**2,847,102**
7.1	Securities held for monetary policy purposes	3,694,642	2,632,025
7.2	Other securities	196,274	215,077
8	**General government debt denominated in euro**	**22,676**	**23,380**
9	**Other assets**	**325,715**	**297,899**
Total assets		**6,979,324**	**4,671,425**

Liabilities

(EUR millions)

		31 December 2020	31 December 2019
1	**Banknotes in circulation**	**1,434,512**	**1,292,742**
2	**Liabilities to euro area credit institutions related to monetary policy operations denominated in euro**	**3,489,194**	**1,813,377**
2.1	Current accounts (covering the minimum reserve system)	2,805,331	1,537,667
2.2	Deposit facility	683,863	275,710
2.3	Fixed-term deposits	0	0
2.4	Fine-tuning reverse operations	0	0
2.5	Deposits related to margin calls	0	0
3	**Other liabilities to euro area credit institutions denominated in euro**	**23,563**	**9,869**
4	**Debt certificates issued**	**0**	**0**
5	**Liabilities to other euro area residents denominated in euro**	**611,304**	**311,769**
5.1	General government	516,173	178,894
5.2	Other liabilities	95,131	132,875
6	**Liabilities to non-euro area residents denominated in euro**	**431,145**	**321,429**
7	**Liabilities to euro area residents denominated in foreign currency**	**7,816**	**7,934**
8	**Liabilities to non-euro area residents denominated in foreign currency**	**3,895**	**7,408**
8.1	Deposits, balances and other liabilities	3,895	7,408
8.2	Liabilities arising from the credit facility under ERM II	0	0
9	**Counterpart of special drawing rights allocated by the IMF**	**54,799**	**57,371**
10	**Other liabilities**	**301,414**	**275,376**
11	**Revaluation accounts**	**512,884**	**466,595**
12	**Capital and reserves**	**108,797**	**107,555**
Total liabilities		**6,979,324**	**4,671,425**

Notes: Based on provisional unaudited data. The annual accounts of all the Eurosystem national central banks will be finalised by the end of May 2021, and the final annual consolidated balance sheet of the Eurosystem will be published thereafter.
Totals/sub-totals may not add up due to rounding.

Statistical section

Further information

ECB statistics:	http://sdw.ecb.europa.eu/
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:	https://www.ecb.europa.eu/home/glossary/html/act8a.en.html

Specific methodological note

Multi-annual averages of growth rates are calculated using the geometric mean. For all the other indicators included in this section, the multi-annual averages are computed using the arithmetic mean.

Cut-off date for the Statistical section

The cut-off date for the statistics included in the Statistical section was 11 March 2021.

Brexit

On 31 January 2020 the United Kingdom left the European Union, taking the number of EU countries to 27. Unless otherwise indicated, EU aggregates time series relate to the EU excluding the United Kingdom for the whole time series.

Conventions used in the tables

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

1 Financial and monetary developments

1.1 Key ECB interest rates

(levels in percentages per annum; changes in percentage points)

With effect from: [1]	Deposit facility		Main refinancing operations			Marginal lending facility	
			Fixed rate tenders	Variable rate tenders			
			Fixed rate	Minimum bid rate			
	Level	Change	Level	Level	Change	Level	Change
	1	2	3	4	5	6	7
1999 1 Jan.	2.00	-	3.00	-	-	4.50	-
4 Jan. [2]	2.75	0.75	3.00	-	...	3.25	-1.25
22 Jan.	2.00	-0.75	3.00	-	...	4.50	1.25
9 Apr.	1.50	-0.50	2.50	-	-0.50	3.50	-1.00
5 Nov.	2.00	0.50	3.00	-	0.50	4.00	0.50
2000 4 Feb.	2.25	0.25	3.25	-	0.25	4.25	0.25
17 Mar.	2.50	0.25	3.50	-	0.25	4.50	0.25
28 Apr.	2.75	0.25	3.75	-	0.25	4.75	0.25
9 June	3.25	0.50	4.25	-	0.50	5.25	0.50
28 June [3]	3.25	...	-	4.25	...	5.25	...
1 Sep.	3.50	0.25	-	4.50	0.25	5.50	0.25
6 Oct.	3.75	0.25	-	4.75	0.25	5.75	0.25
2001 11 May	3.50	-0.25	-	4.50	-0.25	5.50	-0.25
31 Aug.	3.25	-0.25	-	4.25	-0.25	5.25	-0.25
18 Sep.	2.75	-0.50	-	3.75	-0.50	4.75	-0.50
9 Nov.	2.25	-0.50	-	3.25	-0.50	4.25	-0.50
2002 6 Dec.	1.75	-0.50	-	2.75	-0.50	3.75	-0.50
2003 7 Mar.	1.50	-0.25	-	2.50	-0.25	3.50	-0.25
6 June	1.00	-0.50	-	2.00	-0.50	3.00	-0.50
2005 6 Dec.	1.25	0.25	-	2.25	0.25	3.25	0.25
2006 8 Mar.	1.50	0.25	-	2.50	0.25	3.50	0.25
15 June	1.75	0.25	-	2.75	0.25	3.75	0.25
9 Aug.	2.00	0.25	-	3.00	0.25	4.00	0.25
11 Oct.	2.25	0.25	-	3.25	0.25	4.25	0.25
13 Dec.	2.50	0.25	-	3.50	0.25	4.50	0.25
2007 14 Mar.	2.75	0.25	-	3.75	0.25	4.75	0.25
13 June	3.00	0.25	-	4.00	0.25	5.00	0.25
2008 9 July	3.25	0.25	-	4.25	0.25	5.25	0.25
8 Oct.	2.75	-0.50	-	-	-	4.75	-0.50
9 Oct. [4]	3.25	0.50	-	-	-	4.25	-0.50
15 Oct. [5]	3.25	...	3.75	-	-0.50	4.25	...
12 Nov.	2.75	-0.50	3.25	-	-0.50	3.75	-0.50
10 Dec.	2.00	-0.75	2.50	-	-0.75	3.00	-0.75
2009 21 Jan.	1.00	-1.00	2.00	-	-0.50	3.00	...
11 Mar.	0.50	-0.50	1.50	-	-0.50	2.50	-0.50
8 Apr.	0.25	-0.25	1.25	-	-0.25	2.25	-0.25
13 May	0.25	...	1.00	-	-0.25	1.75	-0.50
2011 13 Apr.	0.50	0.25	1.25	-	0.25	2.00	0.25
13 July	0.75	0.25	1.50	-	0.25	2.25	0.25
9 Nov.	0.50	-0.25	1.25	-	-0.25	2.00	-0.25
14 Dec.	0.25	-0.25	1.00	-	-0.25	1.75	-0.25
2012 11 July	0.00	-0.25	0.75	-	-0.25	1.50	-0.25
2013 8 May	0.00	...	0.50	-	-0.25	1.00	-0.50
13 Nov.	0.00	...	0.25	-	-0.25	0.75	-0.25
2014 11 June	-0.10	-0.10	0.15	-	-0.10	0.40	-0.35
10 Sep.	-0.20	-0.10	0.05	-	-0.10	0.30	-0.10
2015 9 Dec.	-0.30	-0.10	0.05	-	...	0.30	...
2016 16 Mar.	-0.40	-0.10	0.00	-	-0.05	0.25	-0.05
2019 18 Sep.	-0.50	-0.10	0.00	-	0.00	0.25	0.00

Source: ECB.

1) From 1 January 1999 to 9 March 2004, the date refers to the deposit and marginal lending facilities. For main refinancing operations, changes in the rate are effective from the first operation following the date indicated. The change on 18 September 2001 was effective on that same day. From 10 March 2004 the date refers both to the deposit and marginal lending facilities, and to the main refinancing operations (with changes effective from the first main refinancing operation following the Governing Council decision), unless otherwise indicated.

2) On 22 December 1998 the ECB announced that, as an exceptional measure between 4 and 21 January 1999, a narrow corridor of 50 basis points would be applied between the interest rates for the marginal lending facility and the deposit facility, aimed at facilitating the transition to the new monetary regime by market participants.

3) On 8 June 2000 the ECB announced that, starting from the operation to be settled on 28 June 2000, the main refinancing operations of the Eurosystem would be conducted as variable rate tenders. The minimum bid rate refers to the minimum interest rate at which counterparties may place their bids.

4) As of 9 October 2008 the ECB reduced the standing facilities corridor from 200 basis points to 100 basis points around the interest rate on the main refinancing operations. The standing facilities corridor was restored to 200 basis points as of 21 January 2009.

5) On 8 October 2008 the ECB announced that, starting from the operation to be settled on 15 October, the weekly main refinancing operations would be carried out through a fixed rate tender procedure with full allotment at the interest rate on the main refinancing operations. This change overrode the previous decision (made on the same day) to cut by 50 basis points the minimum bid rate on the main refinancing operations conducted as variable rate tenders.

1 Financial and monetary developments

1.2 Eurosystem monetary policy operations allotted through tender procedures

(EUR millions; interest rates in percentages per annum)

1.2.1 Main and longer-term refinancing operations [1), 2), 3)]

Date of settlement	Bids (amount)	Number of participants	Allotment (amount)	Fixed rate tender procedures	Variable rate tender procedures			Running for (...) days
				Fixed rate	Minimum bid rate	Marginal rate [4)]	Weighted average rate	
	1	2	3	4	5	6	7	8
Main refinancing operations								
2020 21 Oct.	1,007	13	1,007	0.00	-	-	-	7
28 Oct.	1,036	12	1,036	0.00	-	-	-	7
4 Nov.	925	8	925	0.00	-	-	-	7
11 Nov.	583	15	583	0.00	-	-	-	7
18 Nov.	470	14	470	0.00	-	-	-	7
25 Nov.	593	14	593	0.00	-	-	-	7
2 Dec.	256	12	256	0.00	-	-	-	7
16 Dec.	344	18	344	0.00	-	-	-	7
23 Dec.	262	11	262	0.00	-	-	-	7
30 Dec.	468	12	468	0.00	-	-	-	7
Longer-term refinancing operations [5)]								
2020 3 Sep.	794	13	794	.	-	-	-	357
30 Sep.	174,464	388	174,464	.	-	-	-	1,092
1 Oct.	510	7	510	0.00	-	-	-	77
8 Oct.	1,008	13	1,008	.	-	-	-	322
29 Oct.	92	4	92	0.00	-	-	-	91
5 Nov.	747	12	747	.	-	-	-	266
26 Nov.	293	5	293	0.00	-	-	-	91
3 Dec.	1,881	14	1,881	.	-	-	-	238
16 Dec.	50,414	156	50,414	.	-	-	-	1,099
17 Dec.	478	6	478	.	-	-	-	105

Source: ECB.

1) Only the last ten operations of 2020 are displayed in each category.

2) With effect from April 2002, split tender operations (i.e. operations with a one-week maturity conducted as standard tender procedures in parallel with a main refinancing operation) are classified as main refinancing operations.

3) On 8 June 2000 the ECB announced that, starting from the operation to be settled on 28 June 2000, the main refinancing operations of the Eurosystem would be conducted as variable rate tender procedures. The minimum bid rate refers to the minimum interest rate at which counterparties may place their bids. On 8 October 2008 the ECB announced that, starting from the operation to be settled on 15 October 2008, the weekly main refinancing operations would be carried out through a fixed rate tender procedure with full allotment at the interest rate on the main refinancing operations. On 4 March 2010 the ECB decided to return to variable rate tender procedures in the regular three-month longer-term refinancing operations, starting with the operation to be allotted on 28 April 2010 and settled on 29 April 2010.

4) In liquidity-providing (absorbing) operations, the marginal rate refers to the lowest (highest) rate at which bids were accepted.

5) Targeted longer-term refinancing operations. Further information can be found on the ECB's website (https://www.ecb.europa.eu/mopo/implement/omo/html/index.en.html).

1.2.2 Other tender operations [1)]

Date of settlement	Type of operation	Bids (amount)	Number of participants	Allotment (amount)	Fixed rate tender procedures	Variable rate tender procedures				Running for (...) days
					Fixed rate	Minimum bid rate	Maximum bid rate	Marginal rate [2)]	Weighted average rate	
	1	2	3	4	5	6	7	8	9	10
2014 9 Apr.	Collection of fixed-term deposits	192,515	156	172,500	-	-	0.25	0.24	0.22	7
16 Apr.	Collection of fixed-term deposits	153,364	139	153,364	-	-	0.25	0.25	0.23	7
23 Apr.	Collection of fixed-term deposits	166,780	139	166,780	-	-	0.25	0.25	0.23	7
30 Apr.	Collection of fixed-term deposits	103,946	121	103,946	-	-	0.25	0.25	0.24	7
7 May	Collection of fixed-term deposits	165,533	158	165,533	-	-	0.25	0.25	0.23	7
14 May	Collection of fixed-term deposits	144,281	141	144,281	-	-	0.25	0.25	0.24	7
21 May	Collection of fixed-term deposits	137,465	148	137,465	-	-	0.25	0.25	0.24	7
28 May	Collection of fixed-term deposits	102,878	119	102,878	-	-	0.25	0.25	0.25	7
4 June	Collection of fixed-term deposits	119,200	140	119,200	-	-	0.25	0.25	0.24	7
11 June	Collection of fixed-term deposits	108,650	122	108,650	-	-	0.15	0.15	0.13	7

Source: ECB.

1) Only the last ten operations are displayed.

2) In liquidity-providing (absorbing) operations, the marginal rate refers to the lowest (highest) rate at which bids were accepted.

1 Financial and monetary developments

1.3 Long-term government bond yields 1)

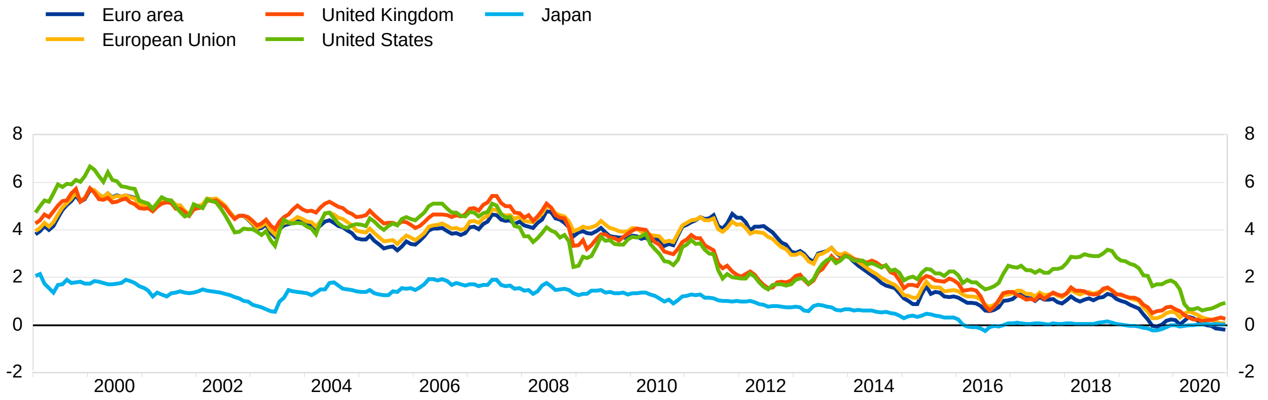
(percentages per annum; period averages)

	1999-2020 2)	1999-2008 2)	2009-2020	2017	2018	2019	2020
Belgium	3.0	4.5	1.8	0.7	0.8	0.2	-0.1
Germany	2.5	4.3	1.1	0.3	0.4	-0.3	-0.5
Estonia 3)	0.0	-	0.0	.	.	.	0.0
Ireland	3.7	4.4	3.1	0.8	1.0	0.3	-0.1
Greece	6.8	4.8	8.5	6.0	4.2	2.6	1.3
Spain	3.6	4.4	2.8	1.6	1.4	0.7	0.4
France	2.9	4.4	1.6	0.8	0.8	0.1	-0.1
Italy	3.8	4.6	3.1	2.1	2.6	2.0	1.2
Cyprus	4.6	5.3	4.1	2.6	2.2	1.1	0.9
Latvia	4.2	5.3	3.5	0.8	0.9	0.3	-0.1
Lithuania	4.1	5.2	3.3	0.3	0.3	0.3	0.2
Luxembourg	2.6	4.1	1.4	0.5	0.6	-0.1	-0.4
Malta	3.5	5.0	2.5	1.3	1.4	0.7	0.5
Netherlands	2.7	4.4	1.4	0.5	0.6	-0.1	-0.4
Austria	2.9	4.4	1.5	0.6	0.7	0.1	-0.2
Portugal	4.4	4.5	4.3	3.1	1.8	0.8	0.4
Slovenia	3.6	5.1	2.8	1.0	0.9	0.3	0.1
Slovakia	3.4	5.3	2.2	0.9	0.9	0.2	0.0
Finland	2.8	4.4	1.4	0.5	0.7	0.1	-0.2
Euro area	3.2	4.4	2.1	1.1	1.1	0.4	0.1
Bulgaria	3.8	5.0	3.2	1.6	0.9	0.4	0.3
Czech Republic	3.1	4.6	2.1	1.0	2.0	1.5	1.1
Denmark	2.7	4.5	1.3	0.5	0.5	-0.2	-0.4
Croatia	4.3	5.1	4.1	2.8	2.2	1.3	0.8
Hungary	5.9	7.3	5.0	3.0	3.1	2.5	2.2
Poland	5.0	6.6	3.9	3.4	3.2	2.3	1.5
Romania	5.8	7.3	5.4	4.0	4.7	4.5	3.9
Sweden	2.8	4.5	1.4	0.7	0.7	0.0	0.0
European Union	3.3	4.6	2.3	1.3	1.4	0.7	0.3
United Kingdom	3.2	4.8	1.9	1.2	1.4	0.9	0.3
United States	3.4	4.7	2.3	2.3	2.9	2.1	0.9
Japan	1.0	1.5	0.5	0.1	0.1	-0.1	0.0

Sources: ECB calculations based on daily data from national central banks. Refinitiv data for the United States and Japan.
1) Further information can be found on the ECB's website (https://www.ecb.europa.eu/stats/financial_markets_and_interest_rates/long_term_interest_rates/html/index.en.html).
2) Data for Cyprus, Latvia, Lithuania, Malta, Slovenia, Slovakia, the Czech Republic, Hungary and Poland available since January 2001. Data for Bulgaria available since January 2003; for Romania since April 2005; and for Croatia since December 2005.
3) Estonia issued a ten-year government bond in June 2020. Data are not available for previous years as there were no Estonian sovereign debt securities that complied with the definition of long-term interest rates for convergence purposes and no suitable proxy indicator was identified.

Chart 1.3 Long-term government bond yields 1), 2)

(percentages per annum; monthly averages)



Sources: ECB calculations based on daily data from national central banks. Refinitiv data for the United States and Japan.
1) Further information can be found on the ECB's website (https://www.ecb.europa.eu/stats/financial_markets_and_interest_rates/long_term_interest_rates/html/index.en.html).
2) Data for Cyprus, Latvia, Lithuania, Malta, Slovenia, Slovakia, the Czech Republic, Hungary and Poland available since January 2001. Data for Bulgaria available since January 2003; for Romania since April 2005; and for Croatia since December 2005.

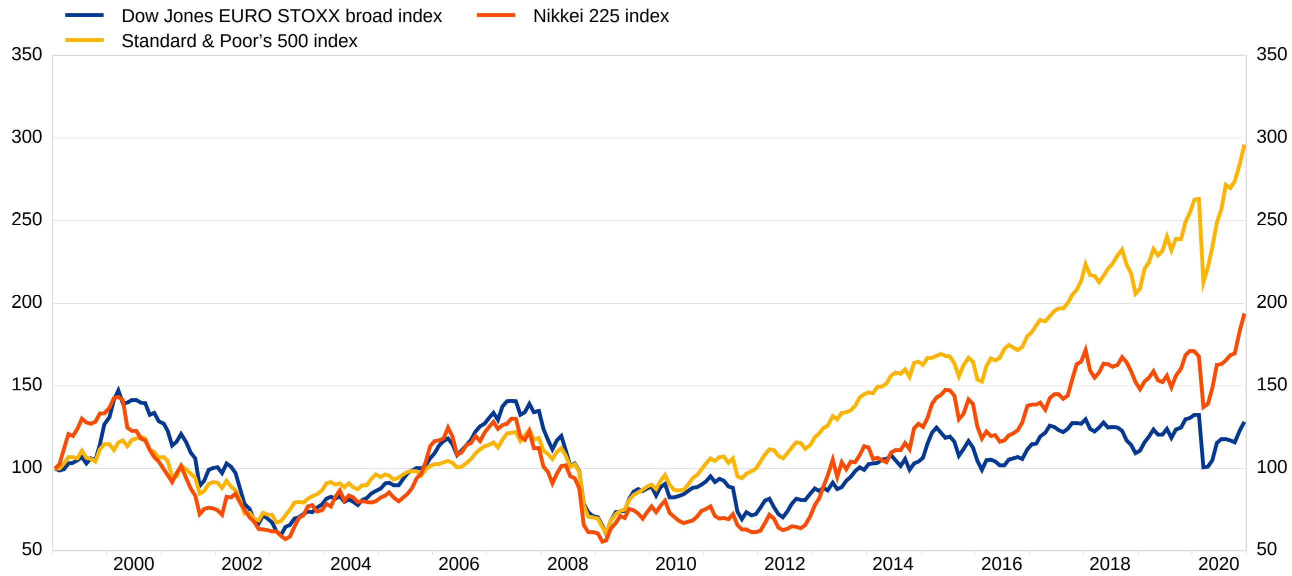
1 Financial and monetary developments

1.4 Selected stock market indices
(percentage changes)

	1999-2020 1)	1999-2008 1)	2009-2020	2017	2018	2019	2020
Belgium -- BEL 20 index	8.4	-42.9	44.2	10.3	-18.5	22.0	-8.5
Germany -- DAX 30 index	97.2	-30.9	130.3	12.5	-18.3	25.5	3.5
Estonia - OMXT index	970.6	119.0	232.1	15.5	-6.4	10.0	5.0
Ireland -- ISEQ index	47.0	-53.3	147.9	8.0	-22.1	31.1	2.7
Greece -- ASE index	-85.8	-68.7	-63.2	24.7	-23.6	49.5	-11.7
Spain -- IBEX 35 index	-30.6	-21.0	-32.4	7.4	-15.0	11.8	-15.5
France -- CAC 40 index	-6.8	-46.0	41.0	9.3	-11.0	26.4	-7.1
Italy -- FTSEMIB index	-47.8	-54.3	-4.4	13.6	-16.1	28.3	-5.4
Cyprus -- CSE index	-94.4	9.4	-96.5	4.7	-3.9	-2.6	-13.0
Latvia -- OMXR index	629.5	74.1	307.4	35.8	-6.7	11.5	9.7
Lithuania -- OMXV index	716.6	79.3	212.0	17.0	-5.6	15.4	14.7
Luxembourg -- LuxX index	-3.7	-29.8	-1.9	-1.8	-19.6	4.7	-2.4
Malta -- MSE index	20.0	-6.8	19.4	-2.6	0.1	4.4	-12.4
Netherlands -- AEX index	-7.0	-63.4	86.3	12.7	-10.4	23.9	3.3
Austria -- ATX index	132.1	46.2	11.4	30.6	-19.7	16.1	-12.8
Portugal -- PSI 20 index	-59.0	-47.0	-42.1	15.2	-12.2	10.2	-6.1
Slovenia -- SBITOP index	-38.8	-42.0	-8.3	12.4	-0.3	15.1	-2.7
Slovakia -- SAX index	347.8	366.0	29.3	2.2	2.1	5.6	-1.7
Finland -- OMXH index	-25.4	-62.9	68.4	6.4	-8.0	13.4	10.1
Euro area -- Dow Jones EURO STOXX broad index	-4.5	-46.5	44.7	10.1	-14.8	23.0	-1.6
Bulgaria -- SOFIX index	319.3	236.0	4.7	15.5	-12.3	-4.4	-21.2
Czech Republic -- PX 50 index	109.7	75.3	-8.1	17.0	-8.5	13.1	-7.9
Denmark -- OMXC 20 index	473.0	-3.1	335.2	15.9	-13.0	27.4	29.0
Croatia -- CROBEX index	48.3	46.9	-13.2	-7.6	-5.1	15.4	-13.8
Hungary -- BUX index	377.4	38.8	98.4	23.0	-0.6	17.7	-8.6
Poland -- WIG index	215.3	50.6	42.6	23.2	-9.5	0.2	-1.4
Romania -- BET index	2,071.2	546.8	107.6	9.4	-4.8	35.1	-2.4
Sweden -- OMXS 30 index	56.4	-44.8	97.0	3.9	-10.7	25.8	5.8
United Kingdom -- FTSE 100 index	-6.8	-36.0	19.4	7.6	-12.5	12.1	-14.3
United States -- S&P 500 index	155.6	-38.5	236.8	19.4	-6.2	28.9	16.3
Japan -- Nikkei 225 index	44.9	-53.2	160.2	19.1	-12.1	18.2	16.0

Sources: ECB calculations based on Refinitiv and Bloomberg Finance L.P. daily data.
1) Data for Latvia and Bulgaria available since 2000; for Croatia since 2002; for Cyprus since 2004; and for Slovenia since 2007.

Chart 1.4 Dow Jones EURO STOXX broad index, Standard & Poor's 500 index and Nikkei 225 index
(index: January 1999 = 100; monthly averages)



Sources: ECB calculations based on Refinitiv and Bloomberg Finance L.P. daily data.

1 Financial and monetary developments

1.5 Money markets: three-month interbank offered rates 1)

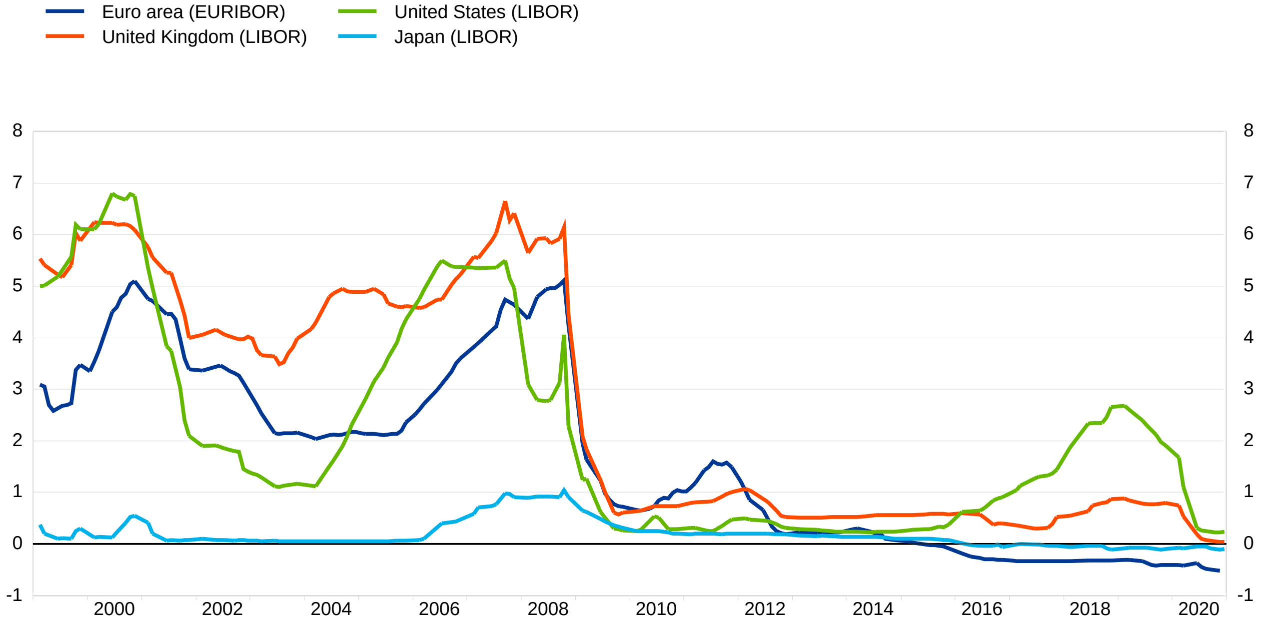
(percentages per annum; period averages)

	1999-2020 2)	1999-2008 2)	2009-2020	2017	2018	2019	2020
Euro area - EURIBOR	1.65	3.35	0.23	-0.33	-0.32	-0.36	-0.43
Bulgaria - SOFIBOR 3)	2.87	4.57	1.95	0.09	-0.01	.	.
Czech Republic - PRIBOR	2.34	3.70	0.84	0.41	0.76	2.12	.
Denmark - CIBOR	1.92	3.64	0.43	-0.26	-0.30	-0.37	-0.19
Croatia - ZIBOR 4)	4.74	7.54	2.18	0.60	0.50	0.46	0.35
Hungary - BUBOR	6.13	9.70	3.16	0.15	0.12	0.19	0.70
Poland - WIBOR	5.62	9.11	2.72	1.73	1.71	1.72	0.66
Romania - ROBOR	13.02	24.65	4.01	1.15	2.79	3.13	2.38
Sweden - STIBOR	1.87	3.44	0.55	-0.50	-0.40	-0.03	0.08
United Kingdom - LIBOR	1.63	3.35	0.19	-0.37	-0.36	-0.39	-0.44
United States - LIBOR	2.14	3.73	0.82	1.26	2.31	2.33	0.64
Japan - LIBOR	0.19	0.29	0.10	-0.02	-0.05	-0.08	-0.07

Sources: ECB calculations based on Refinitiv daily data.
1) Interbank offered rates for the currency of each reference area.
2) Data for Bulgaria available since 2003.
3) Data up to June 2018 are for the SOFIBOR reference rate. As of 1 July 2018, activities related to the calculation and publication of the SOFIBOR reference rate were discontinued.
4) Production of the ZIBOR reference rate was discontinued as of 1 January 2020; a comparable rate is not currently available.

Chart 1.5 Money markets: three-month interbank offered rates

(percentages per annum; monthly averages)



Sources: ECB calculations based on Refinitiv daily data.

1 Financial and monetary developments

1.6 Composite cost of borrowing
(percentages per annum; new business; period averages)

1.6.1 Non-financial corporations 1)

	2003-2020 3)	2003-2008 3)	2009-2020 3)	2017	2018	2019	2020
Belgium	2.79	4.24	2.06	1.67	1.60	1.54	1.57
Germany	3.18	4.75	2.39	1.74	1.63	1.54	1.59
Estonia	3.86	5.44	3.34	2.57	2.62	3.08	2.89
Ireland	3.88	5.10	3.26	2.82	2.81	3.06	2.84
Greece	5.32	5.78	5.10	4.51	4.11	3.96	3.29
Spain	3.17	4.21	2.64	1.89	1.77	1.67	1.61
France	2.72	4.11	2.02	1.52	1.48	1.45	1.18
Italy	3.49	4.90	2.79	1.87	1.78	1.68	1.48
Cyprus	5.23	6.76	5.10	3.89	3.52	3.27	3.13
Latvia	3.18	-	3.18	2.85	3.01	3.28	3.39
Lithuania	2.56	-	2.56	2.30	2.59	2.81	2.82
Luxembourg	2.53	4.03	1.78	1.35	1.37	1.28	1.20
Malta	4.31	6.12	4.16	3.66	3.78	3.75	3.59
Netherlands	2.78	4.30	2.02	1.47	1.32	1.18	1.10
Austria	2.73	4.26	1.96	1.56	1.50	1.45	1.42
Portugal	4.51	5.34	4.10	2.81	2.48	2.34	2.05
Slovenia	3.89	4.36	3.66	2.36	2.19	1.86	1.97
Slovakia	2.86	5.60	2.63	2.15	2.24	2.11	2.05
Finland	2.70	4.05	2.02	1.71	1.79	1.87	1.70
Euro area 2)	3.13	4.51	2.44	1.76	1.66	1.58	1.50

Source: ECB MFI interest rate statistics.
1) The composite cost of borrowing indicator for non-financial corporations combines interest rates on all loans to corporations, including overdrafts.
2) Data refer to the changing composition of the euro area.
3) Data for Estonia available since 2005; for Cyprus, Malta and Slovakia since 2008; for Latvia since 2014; and for Lithuania since 2015.

1.6.2 Households for house purchase 1)

	2003-2020 3)	2003-2008 3)	2009-2020 3)	2017	2018	2019	2020
Belgium	3.34	4.38	2.82	2.09	1.92	1.79	1.58
Germany	3.29	4.81	2.53	1.83	1.87	1.52	1.25
Estonia	3.28	4.72	2.80	2.38	2.50	2.59	2.54
Ireland	3.52	4.13	3.21	3.18	3.01	2.96	2.83
Greece	3.65	4.53	3.20	2.78	2.99	3.11	2.72
Spain	3.05	4.16	2.50	1.90	1.94	1.98	1.73
France	3.17	4.25	2.64	1.60	1.55	1.36	1.26
Italy	3.33	4.49	2.75	2.05	1.86	1.69	1.32
Cyprus	3.96	5.79	3.81	2.77	2.39	2.11	2.08
Latvia	2.86	-	2.86	2.68	2.75	2.73	2.58
Lithuania	2.17	-	2.17	2.09	2.38	2.44	2.30
Luxembourg	2.64	4.02	1.94	1.74	1.75	1.52	1.34
Malta	3.15	4.98	3.00	2.82	2.68	2.64	2.49
Netherlands	3.73	4.54	3.33	2.41	2.41	2.28	1.88
Austria	2.94	4.28	2.26	1.85	1.79	1.62	1.32
Portugal	3.00	4.17	2.42	1.64	1.41	1.24	1.00
Slovenia	3.81	5.55	2.94	2.34	2.42	2.38	2.11
Slovakia	3.46	6.12	3.23	1.82	1.55	1.37	1.12
Finland	2.32	3.85	1.56	1.03	0.90	0.80	0.79
Euro area 2)	3.22	4.42	2.62	1.86	1.82	1.63	1.39

Source: ECB MFI interest rate statistics.
1) The cost of borrowing indicator for new loans to households combines interest rates on all loans to households for house purchase.
2) Data refer to the changing composition of the euro area.
3) Data for Estonia available since 2005; for Cyprus, Malta and Slovakia since 2008; for Latvia since 2014; and for Lithuania since 2015.

1 Financial and monetary developments

1.7 Aggregated deposit rate
(percentages per annum; period averages)

1.7.1 Non-financial corporations [1)]

	2003-2020 [3)]	2003-2008 [3)]	2009-2020 [3)]	2017	2018	2019	2020
Belgium	1.07	2.79	0.22	-0.12	-0.17	-0.09	-0.18
Germany	1.14	2.86	0.28	-0.04	-0.04	-0.07	-0.28
Estonia	1.30	2.75	0.58	0.13	0.43	0.63	0.53
Ireland	1.29	2.75	0.57	0.01	0.00	-0.02	-0.12
Greece	-	-	-	-	0.90	0.69	0.22
Spain	1.57	2.90	0.90	0.21	0.27	-0.06	-0.16
France	1.39	2.89	0.65	0.13	0.13	0.11	0.05
Italy	1.67	2.88	1.06	0.64	0.46	0.60	0.42
Cyprus	2.26	4.83	2.05	1.38	0.76	0.42	0.08
Latvia	-	-	-	-	0.14	0.04	0.01
Lithuania	1.12	2.70	0.46	0.16	0.17	0.14	0.12
Luxembourg	-	-	-	-	-0.14	-0.14	-0.12
Malta	-	-	-	-	0.57	0.52	0.83
Netherlands	0.18	-	0.18	-0.20	-0.20	-0.02	-0.22
Austria	1.31	2.92	0.51	0.14	0.16	0.02	-0.10
Portugal	1.67	2.97	1.01	0.23	0.13	0.10	0.06
Slovenia	1.41	2.75	0.88	0.08	0.06	0.04	0.03
Slovakia	1.00	4.63	0.40	0.12	0.12	0.08	0.01
Finland	1.19	2.80	0.39	0.23	0.22	0.16	0.07
Euro area [2)]	1.35	2.86	0.59	0.11	0.10	0.04	-0.13

Source: ECB MFI interest rate statistics.
Note: Data on deposit interest rates for Greece, Latvia, Luxembourg and Malta are available, but are treated as confidential under ECB rules.
1) New deposits with agreed maturity excluding overnight deposits and deposits redeemable at notice.
2) Data refer to the changing composition of the euro area.
3) Data for Estonia and Slovenia available since 2005; for Cyprus and Slovakia since 2008; for the Netherlands since 2010; and for Lithuania since 2015.

1.7.2 Households [1)]

	2003-2020 [3)]	2003-2008 [3)]	2009-2020 [3)]	2017	2018	2019	2020
Belgium	1.51	2.75	0.89	0.42	0.37	0.34	0.26
Germany	1.46	2.80	0.79	0.28	0.34	0.30	0.27
Estonia	1.49	2.75	0.86	0.63	0.68	0.83	0.80
Ireland	1.41	2.64	0.79	0.09	0.05	0.04	0.02
Greece	-	-	-	-	0.59	-	0.26
Spain	1.74	2.89	1.17	0.10	0.06	0.04	0.04
France	2.05	2.89	1.62	0.96	0.88	0.91	0.64
Italy	1.64	2.07	1.43	0.86	0.71	0.88	0.88
Cyprus	2.64	6.01	2.35	1.33	0.87	0.27	0.12
Latvia	1.63	3.03	1.05	0.61	0.82	0.81	0.57
Lithuania	1.44	3.07	0.76	0.29	0.31	0.26	0.18
Luxembourg	-	-	-	-	0.19	0.20	0.06
Malta	1.77	3.92	1.59	0.82	0.83	0.66	0.61
Netherlands	2.06	2.50	1.98	1.42	1.41	1.27	1.05
Austria	1.52	2.89	0.83	0.31	0.29	0.28	0.20
Portugal	1.79	2.67	1.35	0.28	0.17	0.11	0.09
Slovenia	1.68	2.90	1.28	0.24	0.27	0.26	0.19
Slovakia	1.81	3.69	1.50	0.70	0.88	1.00	0.76
Finland	1.64	2.97	0.97	0.40	0.28	0.24	0.15
Euro area [2)]	1.82	2.81	1.32	0.40	0.35	0.34	0.28

Source: ECB MFI interest rate statistics.
Note: Data on deposit interest rates for Greece and Luxembourg are available, but are treated as confidential under ECB rules.
1) New deposits with agreed maturity excluding overnight deposits and deposits redeemable at notice.
2) Data refer to the changing composition of the euro area.
3) Data for Estonia and Slovenia available since 2005; for Cyprus and Slovakia since 2008; for the Netherlands since 2010; and for Lithuania since 2015.

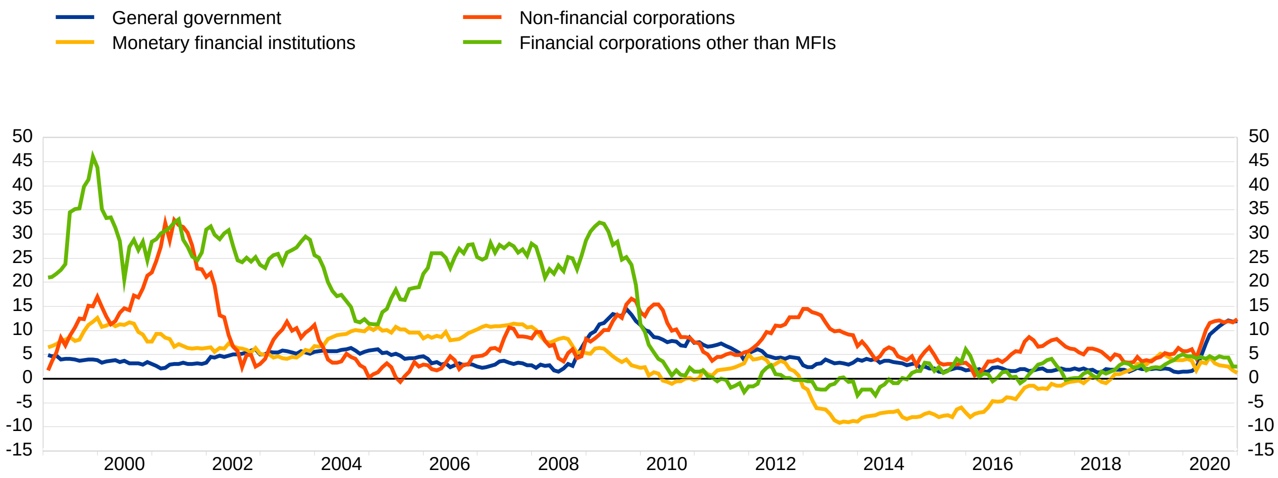
1 Financial and monetary developments

1.8 Debt securities issued by euro area residents in all currencies
(annual percentage changes; period averages)

	1999-2020	1999-2008	2009-2020	2017	2018	2019	2020
Belgium	3.4	2.6	3.0	4.7	-1.1	3.0	4.9
Germany	2.3	4.8	0.5	0.3	-0.1	1.6	7.4
Estonia	-	-	15.5	4.6	14.8	16.8	81.4
Ireland	5.1	9.9	0.3	2.7	0.4	1.3	6.0
Greece	2.4	12.6	-6.2	-20.3	5.6	7.3	3.8
Spain	7.5	15.6	0.8	0.7	2.4	2.5	6.0
France	6.0	8.4	3.9	3.2	3.5	4.2	7.3
Italy	3.7	6.4	1.1	0.1	0.3	2.1	3.6
Cyprus	-	-	7.4	35.6	27.7	17.3	10.5
Latvia	-	-	15.9	9.7	0.6	13.3	9.6
Lithuania	-	-	5.1	8.7	1.2	10.5	16.0
Luxembourg	5.1	0.2	8.4	2.2	1.3	7.1	1.2
Malta	-	-	8.2	4.7	3.5	5.3	8.5
Netherlands	6.0	12.5	1.1	0.4	1.8	0.0	5.3
Austria	4.2	9.6	0.1	-2.4	-0.9	1.3	6.0
Portugal	6.0	10.4	1.1	1.7	2.0	0.3	5.7
Slovenia	-	-	7.4	2.1	-1.1	-2.5	14.0
Slovakia	10.9	13.7	8.6	4.5	7.0	2.7	11.6
Finland	5.1	3.6	5.8	2.6	4.9	9.5	6.2
Euro area	4.6	7.7	1.9	1.3	1.5	2.7	5.9

Source: ECB.

Chart 1.8 Debt securities issued by euro area residents, by sector
(annual percentage changes)



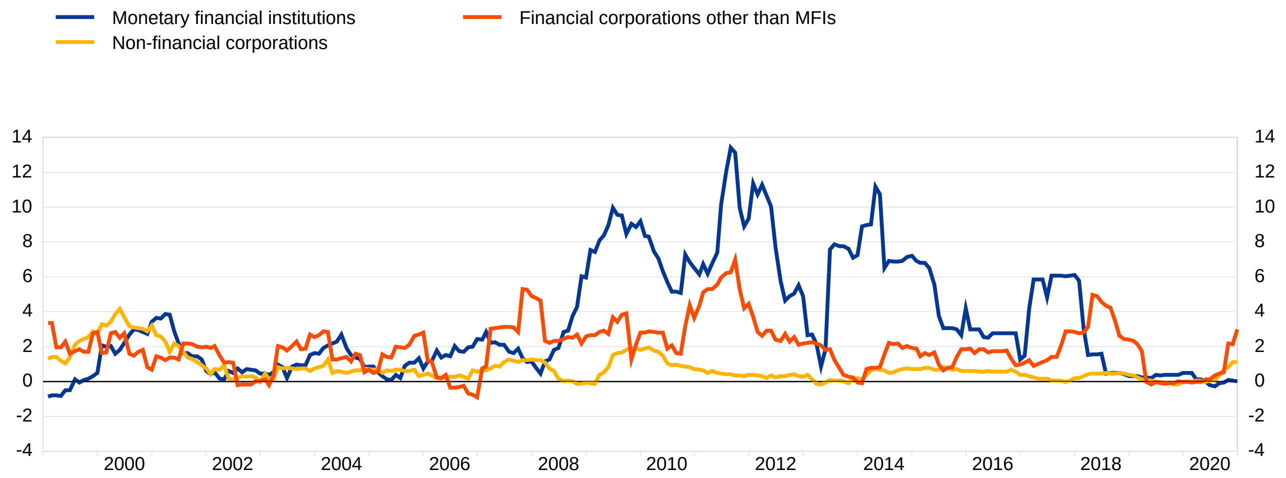
Source: ECB.

1.9 Listed shares issued by euro area residents
(annual percentage changes; period averages)

	1999-2020	1999-2008	2009-2020	2017	2018	2019	2020
Belgium	0.4	0.1	0.6	0.6	0.8	1.0	1.2
Germany	1.2	1.4	0.9	0.5	1.0	0.5	0.9
Estonia	-	-	-3.9	-2.2	3.3	2.9	2.3
Ireland	1.8	1.0	-0.1	-2.3	-0.1	-1.8	-1.7
Greece	6.9	1.5	11.8	0.3	0.5	0.0	1.4
Spain	1.1	1.1	1.0	1.0	0.8	-0.1	0.5
France	0.8	0.7	0.6	0.7	0.7	0.2	0.2
Italy	1.5	1.1	1.6	3.1	0.9	0.7	0.7
Cyprus	-	-	13.1	23.3	15.1	5.3	1.2
Latvia	-	-	2.8	2.5	29.4	0.0	0.0
Lithuania	-	-	1.2	-0.2	1.0	1.5	3.1
Luxembourg	8.3	5.7	11.2	5.5	23.5	10.3	11.4
Malta	-	-	9.1	38.5	11.4	8.0	13.1
Netherlands	0.1	0.3	0.0	0.5	-0.5	-1.4	-0.9
Austria	4.8	8.7	1.8	1.7	3.2	0.3	0.2
Portugal	2.1	2.3	1.9	2.7	0.8	0.0	0.8
Slovenia	-	-	0.3	0.0	0.0	-0.1	-1.1
Slovakia	-	-	0.3	0.0	0.0	0.3	0.0
Finland	0.1	-0.5	0.7	0.6	-0.1	0.2	0.1
Euro area	1.1	1.1	1.0	0.7	1.0	0.1	0.3

Source: ECB.

Chart 1.9 Listed shares issued by euro area residents, by sector
(annual percentage changes)



Source: ECB.

1 Financial and monetary developments

1.10 Monetary aggregates, components and counterparts 1)

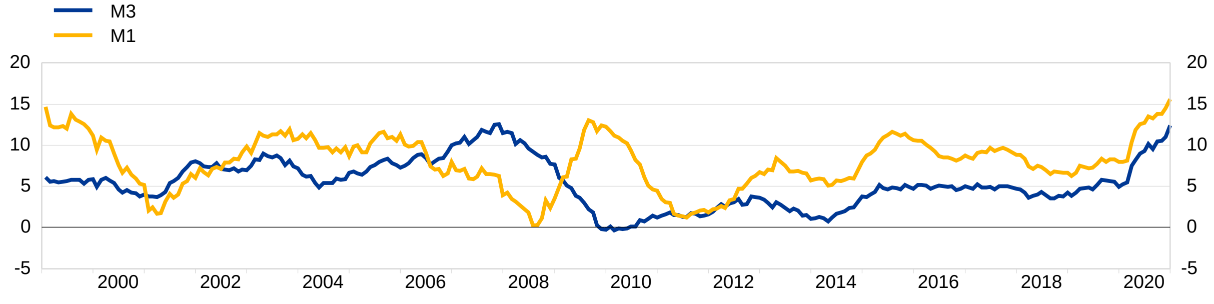
(annual percentage changes at the end of each year; period averages; seasonally adjusted)

	1999-2020	1999-2008	2009-2020	2017	2018	2019	2020
Components of M3							
M3	5.5	7.5	3.9	4.7	4.2	4.9	12.4
M2	5.7	7.3	4.4	5.2	4.4	5.7	11.7
M1	7.9	7.8	8.1	8.8	6.7	8.0	15.6
Currency in circulation	7.1	8.9	5.5	3.4	4.5	4.9	11.3
Overnight deposits	8.1	7.6	8.5	9.8	7.0	8.5	16.3
M2-M1 (other short-term deposits)	2.4	7.0	-1.4	-2.1	-0.8	0.1	1.7
Deposits with an agreed maturity of up to two years	0.5	10.2	-6.9	-8.2	-6.1	-5.3	-2.5
Deposits redeemable at notice of up to three months	3.4	3.3	3.5	1.5	2.0	2.7	3.6
M3-M2 (marketable instruments)	2.7	8.7	-2.1	-3.0	1.6	-8.0	25.0
Repurchase agreements	1.2	6.3	-3.0	9.5	-1.3	5.4	24.2
Money market fund shares	4.3	9.4	0.2	-2.2	2.5	-0.4	23.5
Debt securities issued with a maturity of up to two years	-3.8	11.6	-15.0	-17.3	-1.6	-71.4	75.4
Counterparts of M3 2)							
MFI liabilities:							
Central government holdings	7.0	7.4	6.7	13.4	13.0	-6.3	88.5
Longer-term financial liabilities vis-à-vis other euro area residents	3.1	6.6	0.3	-1.1	0.8	1.6	-0.5
Deposits with an agreed maturity of over two years	2.0	5.8	-1.0	-4.0	-1.9	-0.3	-0.8
Deposits redeemable at notice of over three months	-4.5	-0.9	-7.3	-9.6	-8.0	-5.9	-15.9
Debt securities issued with a maturity of over two years	1.8	7.3	-2.5	-3.4	0.8	1.3	-4.6
Capital and reserves	5.8	7.2	4.6	3.4	2.9	3.2	3.0
MFI assets:							
Credit to euro area residents	4.5	6.9	2.5	3.8	2.6	2.0	9.6
Credit to general government	3.9	0.6	6.8	6.6	2.0	-1.9	22.2
of which: loans	-0.1	-0.1	-0.1	-4.0	-2.7	-2.3	1.3
Credit to the private sector 3)	4.6	8.7	1.3	2.8	2.9	3.4	5.4
of which: loans 4)	4.5	8.3	1.4	2.9	3.4	3.7	4.7

Source: ECB.
1) Data refer to the changing composition of the euro area.
2) The table presents only selected counterparts of M3, i.e. net external assets and "other counterparts" (residual) are not included.
3) Private sector refers to euro area non-MFIs excluding general government.
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.

Chart 1.10 Monetary aggregates 1)

(annual percentage changes at the end of each month; seasonally adjusted)



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

1 Financial and monetary developments

1.11 MFI loans to non-financial corporations 1)

(annual percentage changes at the end of each year; period averages; not seasonally adjusted)

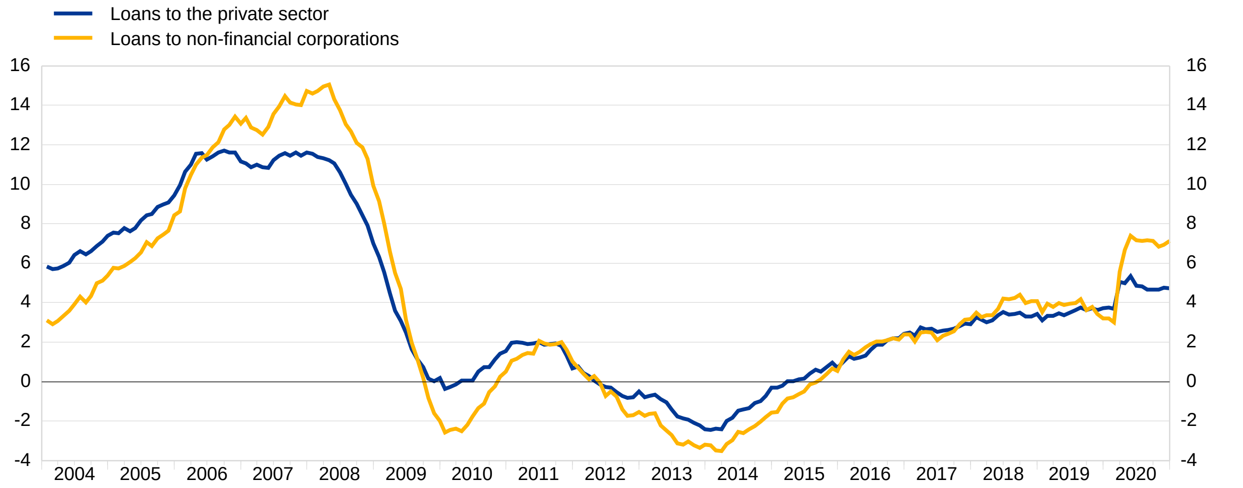
	2004-2008	2009-2020	2015	2016	2017	2018	2019	2020
Belgium	9.5	3.4	3.8	6.9	6.4	9.5	7.5	2.1
Germany	3.6	1.6	0.8	3.5	4.2	6.5	5.8	4.2
Estonia	39.2	1.9	6.2	6.6	5.5	4.0	2.9	2.9
Ireland	24.2	-1.3	-5.2	0.2	1.2	3.9	3.2	8.4
Greece	13.6	-0.1	-1.2	-0.2	0.0	0.2	1.8	10.2
Spain	19.3	-2.4	-1.2	-0.8	0.2	-1.9	0.0	7.9
France	10.2	3.9	3.3	5.3	6.6	6.4	5.6	12.2
Italy	9.2	0.0	-0.5	0.3	0.4	1.5	-1.8	8.2
Cyprus	26.1	1.5	0.8	-8.0	0.3	3.5	2.2	1.8
Latvia	-	0.1	1.1	5.9	2.1	3.6	-0.6	-1.0
Lithuania	33.6	-1.2	3.3	9.8	5.4	5.1	-0.7	-14.2
Luxembourg	12.3	-0.1	7.5	12.0	3.2	4.4	4.9	-1.6
Malta	11.0	1.3	-10.9	7.3	14.8	3.6	4.3	2.0
Netherlands	9.7	0.3	-3.4	-0.1	-0.7	-0.3	-1.0	1.6
Austria	6.9	3.1	0.7	2.5	6.9	9.3	7.0	5.1
Portugal	7.8	-0.5	-1.2	-1.4	-0.3	1.8	0.9	9.6
Slovenia	24.0	-2.6	-7.6	0.4	1.9	1.5	2.7	-0.3
Slovakia	20.3	3.6	7.3	4.2	7.8	8.2	4.4	5.1
Finland	11.7	4.7	5.2	4.5	4.2	8.4	7.2	4.4
Euro area	10.2	1.1	0.6	2.4	3.2	4.1	3.2	7.1
Bulgaria	-	4.1	-0.1	2.2	4.8	8.6	7.6	4.0
Czech Republic	-	4.2	6.4	8.0	6.1	6.3	3.9	-0.6
Denmark	-	0.6	-0.1	3.1	1.1	4.1	3.2	2.1
Croatia	-	1.0	-3.2	1.5	5.0	2.2	4.4	5.6
Hungary	-	2.7	-7.1	4.9	10.2	13.6	14.1	9.0
Poland	-	4.3	7.9	5.1	8.6	6.6	2.9	-6.3
Romania	-	4.1	-1.6	2.9	7.9	7.7	4.1	7.5
Sweden	-	4.0	3.7	4.6	5.7	6.1	3.6	4.1

Source: ECB.

1) Data for euro area countries refer to loans granted by MFIs (excluding ESCB) to euro area non-financial corporations, while data for non-euro area EU countries refer to loans granted to domestic non-financial corporations. Data are adjusted for loan sales and securitisations (resulting in derecognition from the MFI statistical balance sheet) as well as for positions arising from notional cash pooling services provided by MFIs. Data for euro area countries are available for the years since 2004, with the exception of Estonia, Lithuania and Slovenia (from 2005), Cyprus and Malta (from 2006), Slovakia (from 2007) and Latvia (from 2011). Data for non-euro area EU countries are available for the years since 2010, with the exception of Croatia (from 2011).

Chart 1.11 MFI loans to the private sector and to non-financial corporations 1)

(annual percentage changes at the end of each month; seasonally adjusted)



Source: ECB.

1) Private sector refers to euro area non-MFIs excluding general government. Data are 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.

1 Financial and monetary developments

1.12 MFI loans to households 1)

(annual percentage changes at the end of each year; period averages; not seasonally adjusted)

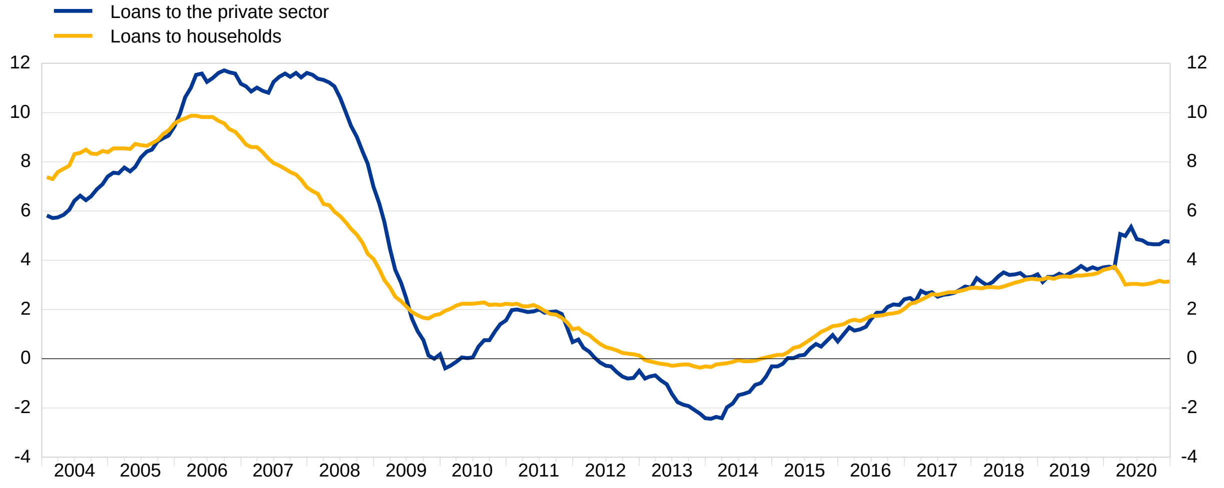
	2004-2008	2009-2020	2015	2016	2017	2018	2019	2020
Belgium	10.2	4.9	4.3	5.3	5.2	5.7	7.0	4.7
Germany	0.0	2.3	2.8	2.8	3.2	3.9	4.4	4.8
Estonia	42.3	2.2	3.9	5.3	7.0	6.6	6.4	5.1
Ireland	18.7	-2.7	-3.6	-2.6	-1.5	-0.8	0.1	-1.5
Greece	24.3	-2.2	-2.9	-2.8	-2.0	-2.2	-2.8	-2.0
Spain	15.3	-1.7	-2.2	-1.2	-0.5	0.4	0.2	-0.6
France	10.4	4.4	3.5	4.4	6.0	5.6	6.4	4.9
Italy	11.1	1.9	0.7	1.9	2.8	2.8	2.6	2.4
Cyprus	15.9	1.4	-1.0	-0.9	0.0	-0.2	-0.2	3.0
Latvia	-	-2.0	-2.5	0.6	0.6	0.7	0.9	0.5
Lithuania	56.9	2.5	4.9	8.2	7.6	8.6	7.0	6.1
Luxembourg	4.4	5.2	4.8	4.1	7.8	7.3	2.5	7.7
Malta	11.1	6.3	6.5	5.0	6.5	7.5	8.3	5.8
Netherlands	7.2	0.0	-1.0	-0.6	0.0	0.2	0.2	-0.8
Austria	5.9	2.1	1.9	3.1	3.0	3.6	4.3	4.4
Portugal	8.2	-0.9	-2.6	-1.6	-0.2	0.9	1.2	1.6
Slovenia	22.7	3.1	0.6	4.9	7.2	6.8	6.1	0.6
Slovakia	26.9	11.1	13.1	13.3	12.4	10.7	8.5	6.7
Finland	12.1	3.5	2.6	2.5	2.7	2.2	2.9	3.3
Euro area	7.6	1.8	1.3	2.0	2.9	3.2	3.6	3.1
Bulgaria	-	3.5	-0.1	4.2	8.9	9.1	10.6	7.6
Czech Republic	-	6.7	6.9	8.3	8.4	7.9	6.6	6.8
Denmark	-	0.7	0.8	1.0	0.4	1.3	1.7	1.2
Croatia	-	1.3	-1.8	0.6	4.8	5.8	7.5	2.0
Hungary	-	-1.5	-11.5	-0.1	2.6	7.3	16.6	14.4
Poland	-	5.3	5.2	3.9	6.4	5.6	6.5	1.5
Romania	-	4.8	1.3	7.7	10.5	9.6	5.4	5.1
Sweden	-	6.1	7.7	7.1	7.0	5.5	5.1	5.6

Source: ECB.

1) Data for euro area countries refer to loans granted by MFIs (excluding ESCB) to euro area households, while data for non-euro area EU countries refer to loans granted to domestic households. Data are adjusted for loan sales and securitisations (resulting in derecognition from the MFI statistical balance sheet) as well as for positions arising from notional cash pooling services provided by MFIs. Data for euro area countries are available for the years since 2004, with the exception of Estonia, Lithuania and Slovenia (from 2005), Cyprus and Malta (from 2006), Slovakia (from 2007) and Latvia (from 2011). Data for non-euro area EU countries are available for the years since 2010, with the exception of Croatia (from 2011).

Chart 1.12 MFI loans to the private sector and to households 1)

(annual percentage changes at the end of each month; seasonally adjusted)



Source: ECB.

1) Private sector refers to euro area non-MFIs excluding general government. Data are 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.

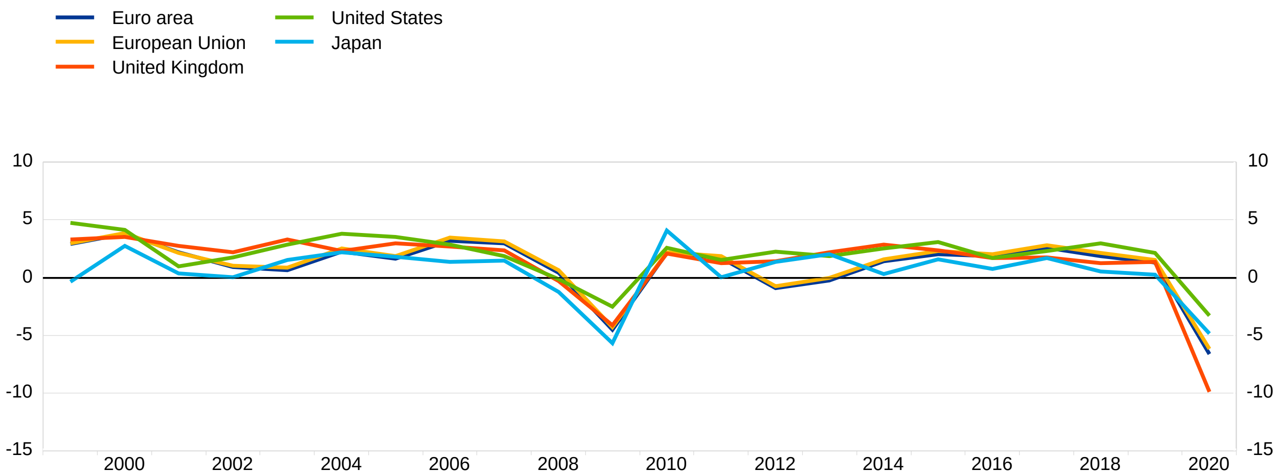
2 Economic activity

2.1 GDP
(chain-linked volumes; annual percentage changes)

	1999-2020 1)	1999-2008 1)	2009-2020	2017	2018	2019	2020
Belgium	1.4	2.4	0.6	1.6	1.8	1.7	-6.4
Germany	1.1	1.5	0.7	2.6	1.3	0.6	-4.9
Estonia	3.4	5.7	1.5	5.5	4.4	5.0	-2.9
Ireland	5.0	5.2	4.9	9.1	8.5	5.6	3.4
Greece	0.0	3.5	-2.9	1.3	1.6	1.9	-8.2
Spain	1.3	3.5	-0.4	3.0	2.4	2.0	-11.0
France	1.0	2.1	0.2	2.3	1.8	1.5	-8.1
Italy	0.0	1.2	-1.0	1.7	0.9	0.3	-8.9
Cyprus	2.3	4.5	0.5	5.2	5.2	3.1	-5.1
Latvia	3.3	6.7	0.5	3.3	4.0	2.0	-3.6
Lithuania	3.6	6.1	1.5	4.3	3.9	4.3	-0.8
Luxembourg	3.1	4.3	2.1	1.8	3.1	2.3	-1.3
Malta	3.3	2.5	3.9	8.1	5.2	5.5	-7.0
Netherlands	1.4	2.5	0.5	2.9	2.4	1.7	-3.8
Austria	1.3	2.4	0.4	2.4	2.6	1.4	-6.6
Portugal	0.6	1.6	-0.2	3.5	2.8	2.5	-7.6
Slovenia	2.2	4.3	0.4	4.8	4.4	3.2	-5.5
Slovakia	3.1	5.1	1.6	3.0	3.8	2.3	-5.2
Finland	1.5	3.3	0.1	3.2	1.3	1.3	-2.9
Euro area	1.0	2.1	0.2	2.6	1.9	1.3	-6.6
Bulgaria	2.7	4.3	1.3	3.5	3.1	3.7	-4.2
Czech Republic	2.4	4.0	1.1	5.2	3.2	2.3	-5.6
Denmark	1.3	1.8	0.9	2.8	2.2	2.8	-3.3
Croatia	1.4	3.6	-0.5	3.4	2.8	2.9	-8.4
Hungary	2.3	3.5	1.3	4.3	5.4	4.6	-5.0
Poland	3.5	4.2	3.0	4.8	5.4	4.5	-2.7
Romania	3.4	5.5	1.7	7.3	4.5	4.1	-3.9
Sweden	2.1	3.0	1.4	2.6	2.0	1.4	-2.8
European Union	1.2	2.2	0.4	2.8	2.1	1.6	-6.2
United Kingdom	1.3	2.5	0.3	1.7	1.3	1.4	-9.9
United States	2.0	2.6	1.4	2.3	3.0	2.2	-3.3
Japan	0.5	1.0	0.1	1.7	0.6	0.3	-4.8

Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.
1) Data for Malta available since 2000.

Chart 2.1 GDP
(chain-linked volumes; annual percentage changes)



Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.

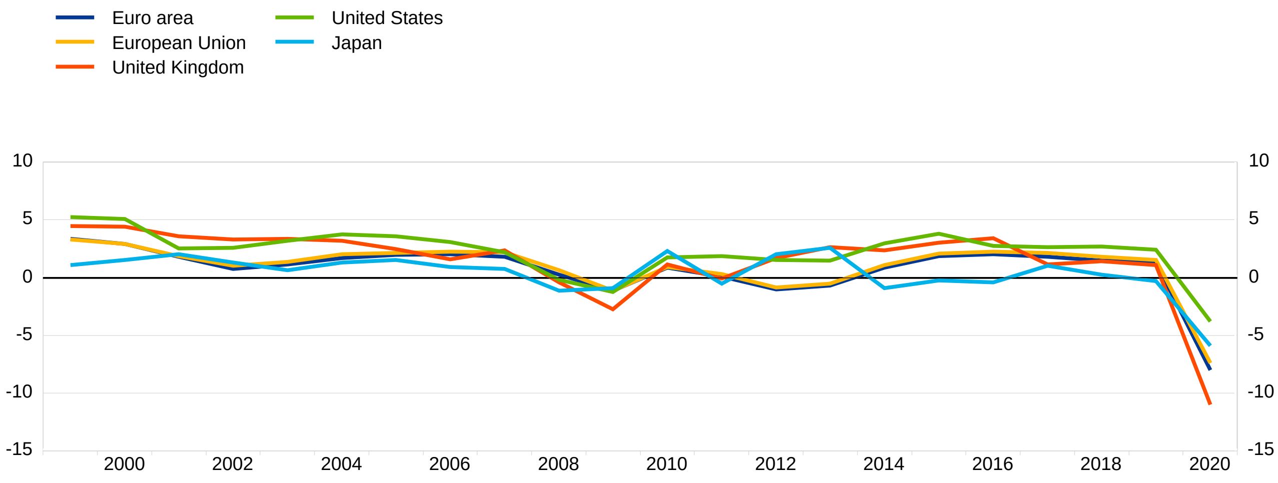
2 Economic activity

2.2 Private consumption
(chain-linked volumes; annual percentage changes)

	1999-2020 1)	1999-2008 1)	2009-2020	2017	2018	2019	2020
Belgium	1.0	1.5	0.6	1.9	1.9	1.5	-8.8
Germany	0.7	0.7	0.7	1.5	1.5	1.6	-6.1
Estonia	3.8	6.7	1.4	2.9	4.6	3.3	-2.3
Ireland	2.5	5.5	0.2	2.2	2.6	3.2	-9.0
Greece	0.3	3.7	-2.4	1.9	2.3	1.9	-5.2
Spain	0.9	3.3	-1.0	3.0	1.8	0.9	-12.4
France	1.2	2.3	0.3	1.5	0.9	1.5	-7.2
Italy	-0.1	1.0	-1.0	1.5	0.9	0.3	-10.7
Cyprus	2.7	5.8	0.2	4.9	4.7	1.8	-3.9
Latvia	2.9	6.4	0.1	3.0	2.6	2.2	-10.0
Lithuania	4.1	8.1	0.8	3.5	3.7	3.4	-1.5
Luxembourg	2.1	2.8	1.6	2.2	3.3	2.8	-6.9
Malta	2.1	2.0	2.2	3.4	8.4	4.5	-7.6
Netherlands	0.7	1.7	-0.1	2.1	2.2	1.5	-6.6
Austria	0.8	1.8	0.0	1.9	1.1	0.8	-9.6
Portugal	0.8	2.0	-0.2	2.1	2.6	2.6	-5.9
Slovenia	1.6	3.0	0.5	1.9	3.6	4.8	-9.7
Slovakia	2.8	4.6	1.3	4.5	4.1	2.3	-1.1
Finland	1.7	3.1	0.5	0.8	1.8	0.7	-4.9
Euro area	0.8	1.8	-0.1	1.8	1.5	1.3	-8.0
Bulgaria	4.5	7.6	1.9	3.8	4.4	5.5	0.2
Czech Republic	2.2	3.3	1.3	4.0	3.5	3.0	-5.2
Denmark	1.1	1.7	0.6	2.3	2.7	1.4	-3.1
Croatia	1.3	3.9	-0.8	3.1	3.3	3.5	-6.2
Hungary	2.2	3.6	1.1	5.0	5.1	4.5	-2.3
Poland	3.1	3.9	2.5	4.7	4.5	3.9	-3.1
Romania	4.8	8.0	2.2	10.8	7.7	4.1	-5.0
Sweden	2.1	2.8	1.6	2.6	1.8	1.2	-4.7
European Union	1.0	2.0	0.2	2.2	1.8	1.5	-7.4
United Kingdom	1.4	2.8	0.3	1.1	1.4	1.1	-11.0
United States	2.2	3.1	1.5	2.6	2.7	2.4	-3.8
Japan	0.4	1.0	-0.1	1.1	0.3	-0.3	-5.9

Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.
1) Data for Malta available since 2000.

Chart 2.2 Private consumption
(chain-linked volumes; annual percentage changes)



Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.

2.3 Government consumption

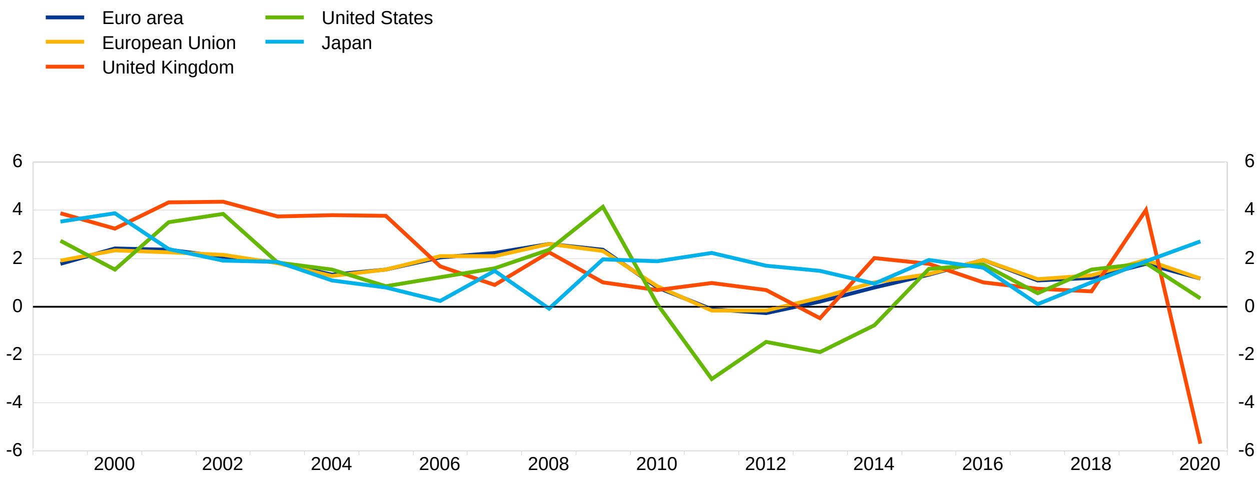
(chain-linked volumes; annual percentage changes)

	1999-2020 1)	1999-2008 1)	2009-2020	2017	2018	2019	2020
Belgium	1.3	2.1	0.7	0.1	1.2	1.7	-1.0
Germany	1.7	1.2	2.1	1.6	1.2	2.7	3.3
Estonia	2.1	2.8	1.6	1.1	0.7	3.0	3.6
Ireland	3.3	5.3	1.6	3.9	5.7	5.8	6.6
Greece	0.6	3.5	-1.8	-0.1	-4.2	1.2	2.7
Spain	2.8	5.0	1.0	1.0	2.6	2.3	4.5
France	1.3	1.6	1.0	1.4	0.9	1.7	-3.0
Italy	0.5	1.5	-0.3	-0.1	0.1	-0.8	1.6
Cyprus	2.8	3.8	2.1	2.1	3.5	15.1	13.0
Latvia	1.4	2.7	0.4	3.4	1.6	2.6	2.6
Lithuania	0.5	1.4	-0.2	-0.3	0.2	0.1	0.2
Luxembourg	3.6	4.1	3.2	4.7	4.1	4.8	6.9
Malta	3.7	2.8	4.3	1.6	12.1	13.8	16.1
Netherlands	1.9	3.2	0.8	0.9	1.7	1.6	0.2
Austria	1.3	1.7	1.0	0.9	1.2	1.5	1.6
Portugal	0.8	2.2	-0.4	0.2	0.6	0.7	0.5
Slovenia	1.9	3.3	0.7	0.4	3.0	1.7	1.8
Slovakia	1.9	2.2	1.6	1.0	0.2	4.7	-2.3
Finland	1.2	1.7	0.7	0.2	1.8	2.0	0.3
Euro area	1.5	2.0	1.0	1.1	1.2	1.8	1.2
Bulgaria	1.7	1.7	1.6	4.3	5.3	2.0	7.5
Czech Republic	1.7	2.1	1.4	1.8	3.8	2.2	2.9
Denmark	1.4	2.0	0.9	0.9	0.3	1.2	-0.1
Croatia	1.5	2.1	0.9	2.2	2.3	3.4	2.0
Hungary	1.8	2.4	1.4	2.5	1.7	3.5	-1.2
Poland	3.2	4.1	2.6	2.7	3.5	6.2	3.2
Romania	1.2	0.9	1.4	4.4	3.3	6.9	2.3
Sweden	1.0	0.7	1.2	0.1	0.8	0.3	-0.5
European Union	1.5	2.0	1.1	1.1	1.3	1.9	1.2
United Kingdom	1.8	3.2	0.6	0.7	0.6	4.0	-5.7
United States	1.2	2.1	0.4	0.6	1.5	1.8	0.3
Japan	1.7	1.7	1.6	0.1	1.0	1.9	2.7

Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.
1) Data for Malta available since 2000.

Chart 2.3 Government consumption

(chain-linked volumes; annual percentage changes)



Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.

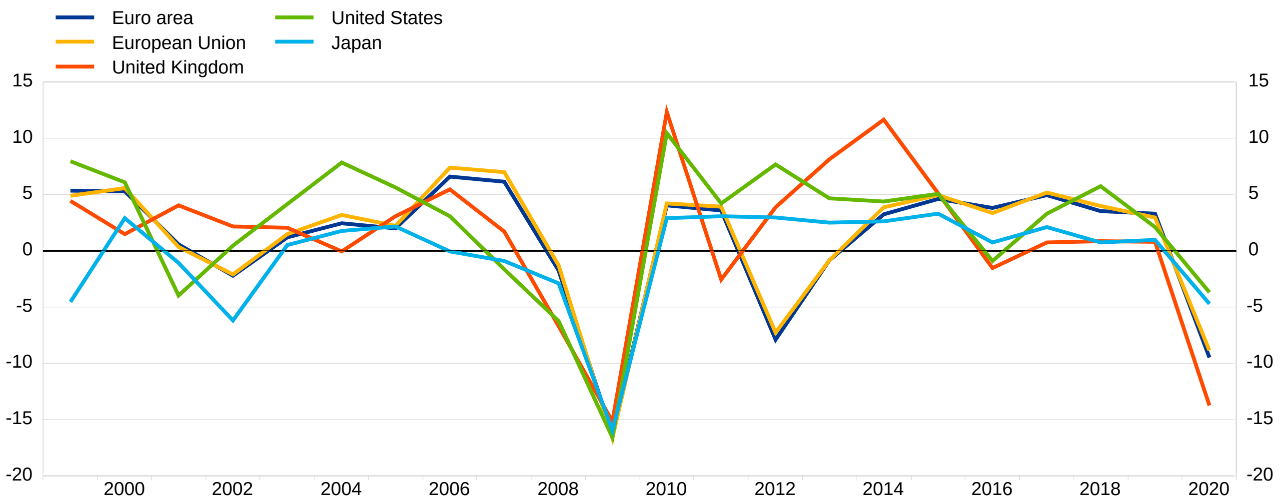
2 Economic activity

2.4 Gross capital formation
(chain-linked volumes; annual percentage changes)

	1999-2020 [1]	1999-2008 [1]	2009-2020	2017	2018	2019	2020
Belgium	2.2	3.6	1.1	1.4	4.5	1.5	-4.5
Germany	0.5	0.8	0.2	6.7	2.9	-0.9	-6.9
Estonia	5.3	8.8	2.5	12.9	5.6	8.1	9.9
Ireland	6.7	5.1	7.9	-0.6	-8.7	74.1	-29.9
Greece	-2.0	4.4	-7.1	-1.9	4.7	-2.7	4.9
Spain	0.8	4.9	-2.5	6.3	7.4	2.0	-13.5
France	1.5	3.4	0.1	5.4	3.0	2.2	-8.7
Italy	-0.5	2.2	-2.6	4.2	3.6	-2.3	-10.8
Cyprus	3.3	8.4	-0.8	20.4	-4.5	7.7	17.6
Latvia	4.7	11.7	-0.9	9.9	15.8	3.4	6.5
Lithuania	2.4	9.0	-2.7	2.2	4.7	-1.2	-18.7
Luxembourg	2.6	4.9	0.8	-0.2	-1.0	2.8	-11.0
Malta	3.7	1.0	5.6	-0.6	3.3	9.4	-1.7
Netherlands	1.4	2.5	0.5	4.2	3.9	3.6	-3.1
Austria	1.2	1.8	0.7	4.4	5.3	0.8	-5.9
Portugal	-0.7	0.3	-1.4	11.9	7.8	5.4	-4.9
Slovenia	1.1	6.8	-3.4	13.6	10.3	1.5	-5.8
Slovakia	0.9	3.6	-1.3	2.4	4.9	5.9	-22.4
Finland	1.5	3.3	0.0	5.2	5.6	-4.2	-2.4
Euro area	0.9	2.5	-0.5	4.9	3.5	3.3	-9.5
Bulgaria	4.2	14.2	-3.4	6.5	10.4	3.9	-11.0
Czech Republic	2.1	5.3	-0.4	6.5	7.7	1.6	-12.7
Denmark	1.8	2.5	1.3	4.2	6.0	1.3	1.2
Croatia	2.7	7.5	-1.1	8.7	10.3	0.0	2.6
Hungary	1.5	2.4	0.7	10.8	16.2	10.4	-4.4
Poland	3.0	5.0	1.4	7.6	10.5	0.1	-12.8
Romania	5.2	12.2	-0.3	6.8	3.0	6.8	1.0
Sweden	2.7	4.1	1.5	5.9	2.4	-3.4	-2.5
European Union	1.1	2.8	-0.3	5.2	4.0	3.0	-8.8
United Kingdom	1.1	1.7	0.5	0.8	0.9	0.8	-13.7
United States	2.1	2.2	2.0	3.3	5.8	2.1	-3.7
Japan	-0.4	-0.9	0.0	2.1	0.8	1.0	-4.7

Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.
1) Data for Malta available since 2000.

Chart 2.4 Gross capital formation
(chain-linked volumes; annual percentage changes)



Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.

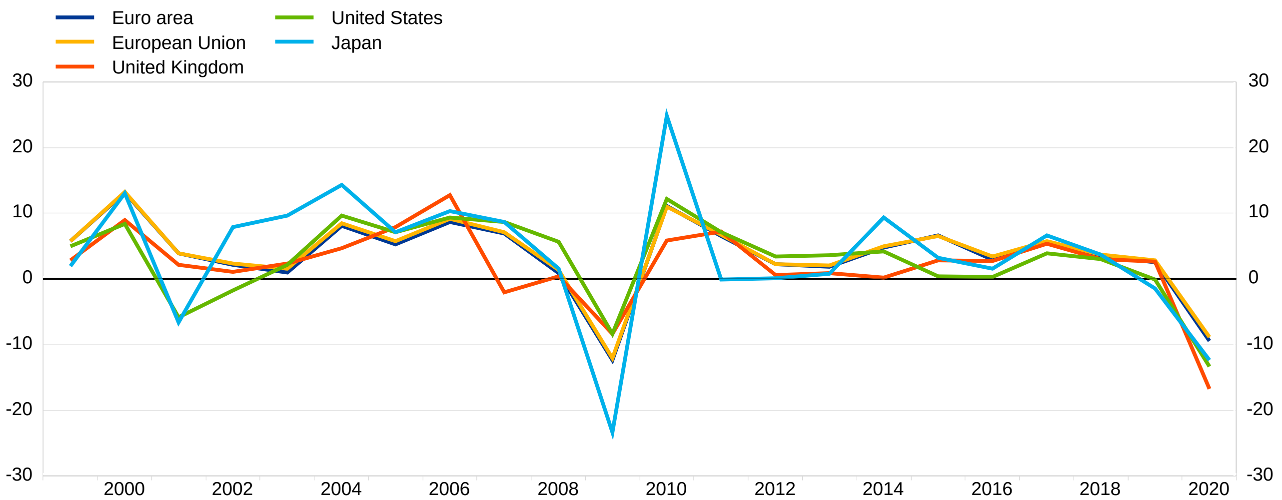
2 Economic activity

2.5 Exports of goods and services
(chain-linked volumes; annual percentage changes)

	1999-2020 [1]	1999-2008 [1]	2009-2020	2017	2018	2019	2020
Belgium	2.9	4.7	1.5	5.5	0.6	1.0	-5.8
Germany	4.1	7.1	1.7	4.7	2.3	1.0	-9.4
Estonia	5.1	7.0	3.6	4.1	4.0	6.2	-5.5
Ireland	8.3	7.6	8.9	9.2	11.1	10.5	6.2
Greece	3.3	7.5	-0.1	8.5	9.1	4.8	-21.7
Spain	2.5	4.5	0.9	5.5	2.3	2.3	-20.9
France	2.3	4.0	0.9	4.4	4.4	1.9	-16.0
Italy	1.4	2.9	0.2	5.4	2.1	1.6	-13.8
Cyprus	2.2	1.9	2.4	9.9	8.0	-0.4	-17.4
Latvia	5.8	8.4	3.7	6.4	4.3	2.1	-2.7
Lithuania	7.3	9.7	5.5	13.5	6.8	9.5	-1.3
Luxembourg	5.3	8.1	3.1	0.7	0.5	0.8	2.5
Malta	4.5	5.7	3.7	8.4	-0.4	6.4	-7.8
Netherlands	3.9	5.3	2.8	6.5	4.3	2.7	-4.3
Austria	3.5	6.3	1.3	4.9	5.5	2.9	-10.4
Portugal	3.1	4.4	2.1	8.4	4.1	3.9	-18.6
Slovenia	5.3	8.8	2.5	11.1	6.3	4.1	-8.7
Slovakia	7.6	12.9	3.4	3.6	5.2	0.8	-7.2
Finland	3.2	7.2	-0.1	8.8	1.4	6.7	-6.3
Euro area	3.6	5.5	2.0	5.5	3.6	2.5	-9.4
Bulgaria	3.4	3.7	3.2	5.8	1.7	3.9	-11.3
Czech Republic	7.0	11.4	3.5	7.2	3.7	1.3	-5.9
Denmark	3.4	5.8	1.5	4.8	3.2	5.0	-8.5
Croatia	3.0	5.9	0.7	6.8	3.7	6.8	-25.0
Hungary	7.5	12.9	3.2	6.5	5.0	5.8	-6.7
Poland	7.1	8.8	5.7	9.6	6.9	5.1	-0.5
Romania	7.7	9.3	6.4	7.8	5.3	4.6	-10.0
Sweden	3.6	5.8	1.8	4.1	4.2	4.8	-5.2
European Union	3.8	5.8	2.2	5.7	3.8	2.8	-8.8
United Kingdom	2.0	4.0	0.3	5.4	3.0	2.7	-16.7
United States	2.8	4.7	1.1	3.9	3.0	-0.1	-13.3
Japan	3.2	6.6	0.5	6.6	3.8	-1.4	-12.3

Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.
1) Data for Malta available since 2000.

Chart 2.5 Exports of goods and services
(chain-linked volumes; annual percentage changes)



Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.

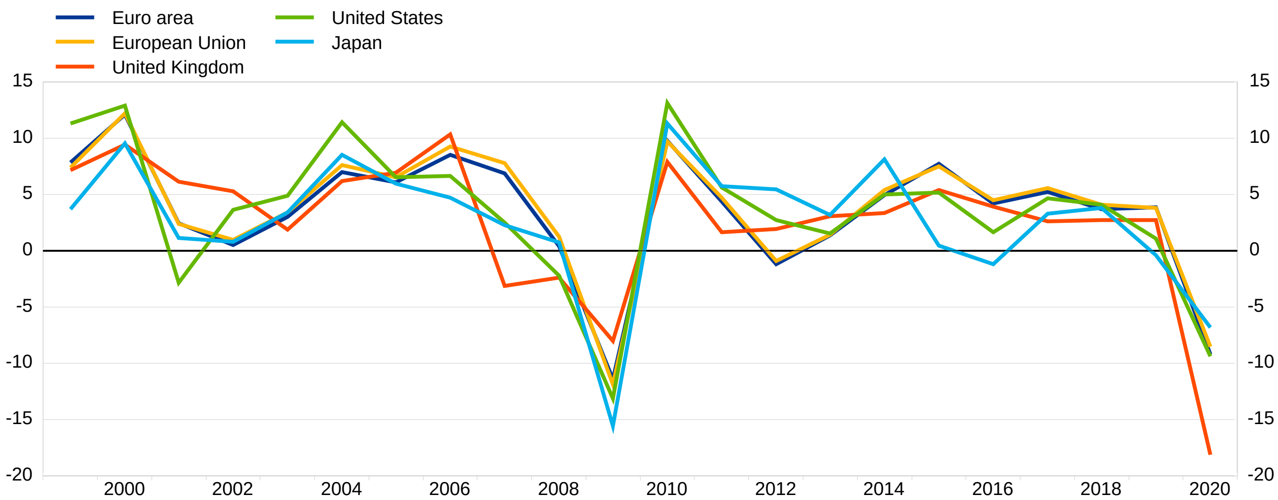
2 Economic activity

2.6 Imports of goods and services
(chain-linked volumes; annual percentage changes)

	1999-2020 1)	1999-2008 1)	2009-2020	2017	2018	2019	2020
Belgium	3.0	4.5	1.7	5.2	1.3	0.8	-5.2
Germany	3.8	5.6	2.4	5.3	3.6	2.6	-8.5
Estonia	5.6	8.4	3.3	3.0	5.7	3.7	0.7
Ireland	7.4	7.8	7.0	1.1	4.0	32.4	-11.3
Greece	2.4	7.2	-1.5	7.4	8.0	3.0	-6.8
Spain	2.2	6.3	-1.2	6.8	4.2	0.7	-16.8
France	3.2	5.2	1.6	4.5	3.1	2.5	-11.1
Italy	1.4	3.6	-0.4	6.1	3.4	-0.7	-12.6
Cyprus	3.1	4.7	1.7	12.9	4.5	2.0	-5.8
Latvia	5.0	8.8	1.9	8.6	6.4	3.0	-3.3
Lithuania	6.5	11.0	2.8	11.1	6.0	6.3	-6.0
Luxembourg	5.5	8.4	3.2	0.6	-0.3	0.9	2.1
Malta	4.1	5.2	3.5	4.5	0.4	7.9	-4.1
Netherlands	3.8	5.2	2.7	6.2	4.7	3.2	-4.5
Austria	3.0	4.9	1.5	5.3	5.0	2.4	-10.2
Portugal	2.4	4.0	1.2	8.1	5.0	4.7	-12.0
Slovenia	4.5	8.5	1.2	10.7	7.2	4.4	-10.2
Slovakia	5.9	10.3	2.4	3.9	4.9	2.1	-8.5
Finland	3.4	7.0	0.5	4.3	5.6	2.2	-6.6
Euro area	3.4	5.4	1.8	5.2	3.7	3.9	-9.2
Bulgaria	6.3	12.0	1.7	7.4	5.7	5.2	-6.6
Czech Republic	6.6	10.9	3.1	6.3	5.8	1.4	-6.1
Denmark	3.7	6.6	1.4	4.2	4.8	2.4	-5.6
Croatia	3.4	7.3	0.2	8.4	7.5	6.3	-13.8
Hungary	7.0	12.0	3.1	8.5	7.0	7.5	-3.9
Poland	5.8	7.9	4.1	10.2	7.4	3.3	-2.6
Romania	9.6	15.6	4.8	11.5	8.6	6.8	-6.0
Sweden	3.3	5.1	1.9	4.7	3.8	1.3	-5.8
European Union	3.7	5.8	1.9	5.6	4.1	3.8	-8.5
United Kingdom	2.4	4.7	0.5	2.6	2.7	2.7	-18.1
United States	3.3	5.3	1.6	4.7	4.1	1.1	-9.4
Japan	2.5	4.0	1.2	3.3	3.8	-0.4	-6.8

Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.
1) Data for Malta available since 2000.

Chart 2.6 Imports of goods and services
(chain-linked volumes; annual percentage changes)



Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.

2 Economic activity

2.7 Nominal GDP
(current prices; EUR billions)

	1999-2020	1999-2008	2009-2020	2017	2018	2019	2020
Belgium	358.7	294.5	412.1	445.0	460.4	476.2	449.6
Germany	2,658.1	2,273.3	2,978.9	3,259.9	3,356.4	3,449.1	3,332.2
Estonia	16.1	10.3	20.9	23.9	25.9	28.1	27.2
Ireland	201.9	150.1	245.2	300.4	327.0	356.1	366.5
Greece	187.7	186.3	188.9	177.2	179.7	183.4	165.8
Spain	985.6	847.2	1,101.0	1,161.9	1,204.2	1,244.8	1,120.0
France	1,955.9	1,688.8	2,178.4	2,297.2	2,360.7	2,425.7	2,278.9
Italy	1,555.5	1,421.7	1,667.0	1,736.6	1,771.6	1,790.9	1,651.6
Cyprus	17.0	13.9	19.5	20.1	21.4	22.3	21.0
Latvia	19.4	13.6	24.3	27.0	29.1	30.4	29.3
Lithuania	29.4	19.3	37.7	42.3	45.5	48.8	48.8
Luxembourg	40.8	28.6	51.0	56.8	60.1	63.5	64.1
Malta	7.5	5.0	9.6	11.7	12.6	13.6	12.8
Netherlands	623.4	529.8	701.4	738.1	774.0	810.2	796.9
Austria	297.2	243.9	341.6	369.3	385.4	397.6	375.6
Portugal	169.6	150.4	185.6	195.9	205.2	213.9	202.7
Slovenia	34.6	27.9	40.2	43.0	45.9	48.4	46.3
Slovakia	59.6	36.4	79.0	84.5	89.5	93.9	91.1
Finland	187.8	158.6	212.2	226.3	233.7	240.3	237.1
Euro area	9,404.1	8,096.2	10,494.0	11,217.1	11,588.3	11,937.2	11,317.6
Bulgaria	35.9	22.2	47.4	52.3	56.1	61.2	60.6
Czech Republic	143.4	101.2	178.5	194.1	210.9	224.0	213.6
Denmark	241.1	202.8	273.0	294.8	302.4	312.7	309.1
Croatia	40.7	33.2	46.8	49.2	52.0	54.2	49.1
Hungary	98.1	78.2	114.8	126.9	135.9	146.1	135.5
Poland	340.6	236.9	427.1	467.4	497.8	532.3	521.5
Romania	122.9	73.0	164.4	187.8	204.5	223.0	217.8
Sweden	377.4	307.0	436.0	480.0	470.7	474.6	472.3
European Union	10,804.2	9,150.7	12,182.1	13,069.7	13,518.6	13,965.3	13,297.2
United Kingdom	2,095.7	1,930.2	2,233.6	2,359.8	2,420.9	2,526.6	2,375.0
United States	12,835.7	10,549.6	14,740.7	17,299.6	17,453.6	19,145.8	18,345.2
Japan	4,213.4	4,137.1	4,276.9	4,364.8	4,265.4	4,600.3	4,424.2

Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.

2 Economic activity

2.8 GDP per capita

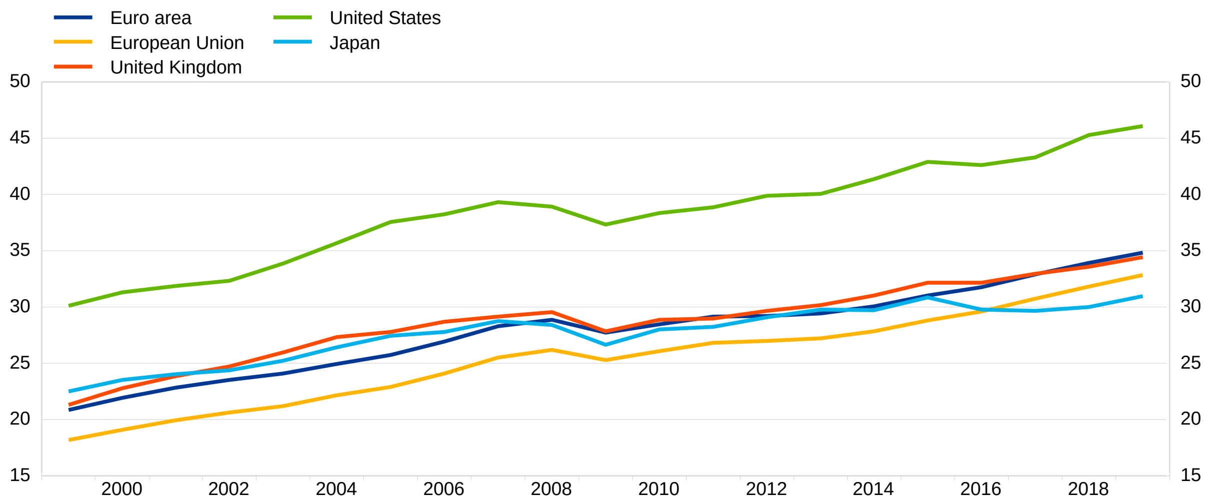
(current prices; purchasing power parities [1] in EUR thousands)

	1999-2019	1999-2008	2009-2019	2016	2017	2018	2019
Belgium	30.7	26.9	34.2	35.5	36.3	37.5	38.8
Germany	31.2	26.7	35.2	36.9	38.2	39.1	39.8
Estonia	17.3	12.5	21.7	23.0	24.4	26.0	27.5
Ireland	38.9	31.7	45.4	52.4	56.8	61.1	64.1
Greece	20.8	20.8	20.8	20.0	20.5	21.1	21.7
Spain	24.5	22.3	26.4	27.2	28.4	29.1	29.8
France	27.9	25.0	30.6	31.3	32.1	33.2	34.7
Italy	27.0	25.3	28.6	29.1	30.0	30.7	31.2
Cyprus	24.3	22.4	26.0	26.1	27.3	28.9	29.6
Latvia	14.8	11.3	18.0	19.5	20.6	22.0	22.7
Lithuania	16.2	10.9	20.9	22.6	24.3	25.8	27.1
Luxembourg	66.2	55.7	75.6	80.5	80.9	83.5	85.4
Malta	22.7	18.3	26.7	29.1	31.0	31.8	33.0
Netherlands	34.7	31.0	37.9	38.2	39.7	41.2	42.0
Austria	32.9	28.5	37.0	38.4	39.1	40.7	41.6
Portugal	20.5	18.5	22.4	23.1	23.7	24.7	25.9
Slovenia	22.2	19.9	24.2	24.8	26.3	27.8	28.9
Slovakia	16.2	10.5	21.5	21.6	22.2	23.3	24.1
Finland	29.6	26.4	32.5	32.8	34.1	35.3	36.3
Euro area	27.9	24.8	30.8	31.8	32.9	33.9	34.8
Bulgaria	10.9	7.8	13.7	14.6	15.4	16.2	17.5
Czech Republic	21.5	17.5	25.2	26.3	28.0	29.4	30.6
Denmark	32.6	27.9	36.8	37.9	39.8	41.1	42.5
Croatia	15.1	12.3	17.6	18.2	19.2	20.2	21.3
Hungary	16.6	13.3	19.7	20.4	21.4	23.0	24.4
Poland	15.5	11.3	19.4	20.4	21.4	22.5	24.1
Romania	12.4	7.8	16.6	17.7	19.6	21.0	22.8
Sweden	32.5	28.6	36.0	36.8	37.9	38.5	39.5
European Union	25.4	22.0	28.6	29.6	30.8	31.8	32.9
United Kingdom	28.7	26.1	31.1	32.2	33.0	33.6	34.5
United States	38.4	34.9	41.5	42.6	43.3	45.3	46.1
Japan	27.7	25.9	29.4	29.8	29.7	30.0	31.0

Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.
1) GDP in purchasing power standards in euro, calculated on the basis of purchasing power parity rates relative to the euro area (euro area = 1).

Chart 2.8 GDP per capita

(current prices; purchasing power parities [1] in EUR thousands)



Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.
1) GDP in purchasing power standards in euro, calculated on the basis of purchasing power parity rates relative to the euro area (euro area = 1).

2 Economic activity

2.9 Employment

(persons employed; annual percentage changes)

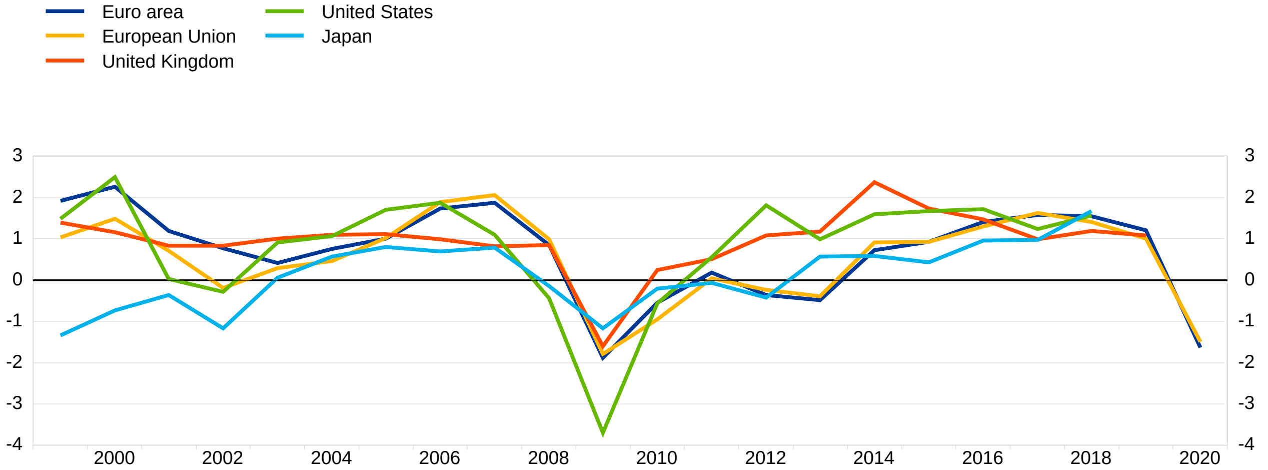
	1999-2020 [1]	1999-2008	2009-2020 [1]	2017	2018	2019	2020
Belgium	0.9	1.2	0.8	1.6	1.5	1.6	-0.1
Germany	0.7	0.6	0.8	1.4	1.4	0.9	-1.1
Estonia	0.2	0.6	0.0	2.7	1.2	1.3	-2.7
Ireland	1.8	3.4	0.4	3.0	3.2	2.9	-1.5
Greece	0.2	1.2	-0.6	-0.5	1.4	1.2	-1.3
Spain	1.1	3.4	-0.7	2.6	2.3	2.2	-4.2
France	0.7	1.1	0.3	1.1	1.0	1.1	-1.1
Italy	0.5	1.3	-0.1	1.2	0.9	0.5	-2.1
Cyprus	1.7	2.9	0.7	5.4	5.3	3.1	-0.6
Latvia	-0.5	0.8	-1.5	0.0	1.5	-0.1	-2.3
Lithuania	-0.4	-0.5	-0.4	-0.7	1.4	0.5	-1.5
Luxembourg	3.2	3.9	2.6	3.4	3.7	3.6	2.0
Malta	2.6	0.9	4.0	8.1	6.0	6.6	2.6
Netherlands	0.9	1.3	0.5	2.4	2.6	1.9	-0.7
Austria	0.9	1.1	0.7	1.6	1.7	1.1	-1.7
Portugal	0.0	0.4	-0.4	3.3	2.3	0.8	-1.7
Slovenia	0.7	1.2	0.3	3.0	3.2	2.5	-1.0
Slovakia	0.6	0.6	0.5	2.2	2.0	1.0	-1.9
Finland	0.8	1.6	0.2	1.0	2.5	1.8	-1.5
Euro area	0.7	1.3	0.2	1.6	1.6	1.2	-1.6
Bulgaria	0.0	1.0	-0.8	1.8	-0.1	0.3	-2.3
Czech Republic	0.3	0.4	0.2	1.5	1.3	0.3	-1.5
Denmark	0.4	0.8	0.1	1.5	1.6	1.2	-0.7
Croatia	0.4	1.2	-0.4	2.4	2.6	3.1	-1.2
Hungary	0.6	0.1	1.1	1.9	2.3	1.3	-2.2
Poland	0.3	0.2	0.3	1.3	0.5	-0.2	0.1
Romania	-1.2	-1.6	-0.8	2.4	0.1	0.0	-1.8
Sweden	0.9	1.0	0.9	2.5	1.6	0.6	-1.3
European Union	0.5	1.0	0.2	1.6	1.4	1.0	-1.5
United Kingdom	1.0	1.0	0.9	1.0	1.2	1.1	.
United States	0.8	1.0	0.7	1.2	1.6	.	.
Japan	0.1	-0.1	0.3	1.0	1.7	.	.

Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.

1) Where data are not available for 2020, the averages indicated are for the periods 1999-2019 and 2009-2019. However, for the United States and Japan the averages refer to the periods 1999-2018 and 2009-2018.

Chart 2.9 Employment

(persons employed; annual percentage changes)



Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.

2 Economic activity

2.10 Labour productivity

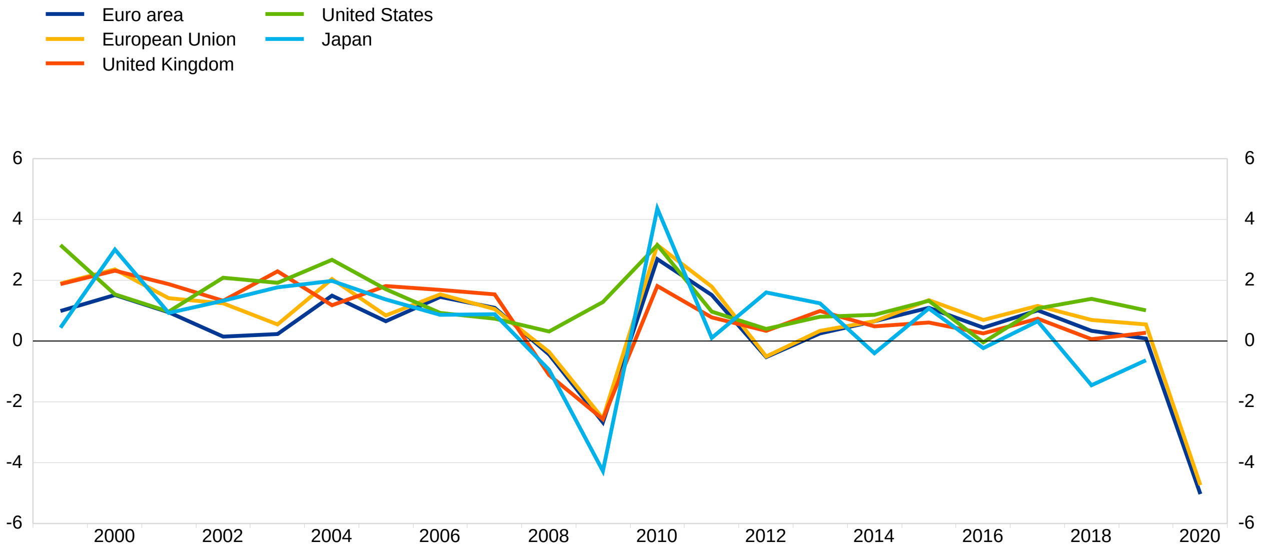
(per person employed; annual percentage changes)

	1999-2020 1),2)	1999-2008 1)	2009-2020 2)	2017	2018	2019	2020
Belgium	0.4	1.2	-0.2	0.0	0.3	0.2	-6.4
Germany	0.4	0.9	-0.1	1.2	-0.1	-0.3	-3.9
Estonia	3.2	5.2	1.5	2.8	3.0	3.6	-0.2
Ireland	3.2	1.7	4.4	5.9	5.2	2.6	5.0
Greece	-0.2	2.2	-2.3	1.8	0.2	0.6	-7.0
Spain	0.2	0.1	0.3	0.3	0.1	-0.3	-7.1
France	0.4	1.0	-0.1	1.1	0.8	0.3	-7.1
Italy	-0.5	-0.1	-0.9	0.5	0.0	-0.2	-7.0
Cyprus	0.6	1.5	-0.3	-0.2	-0.1	0.0	-4.6
Latvia	3.8	5.9	2.0	3.3	2.5	2.1	-1.3
Lithuania	4.0	6.6	1.9	5.0	2.5	3.9	0.7
Luxembourg	-0.1	0.5	-0.5	-1.6	-0.6	-1.3	-3.2
Malta	0.4	1.3	-0.1	0.0	-0.8	-1.0	-9.4
Netherlands	0.5	1.2	0.0	0.5	-0.2	-0.2	-3.1
Austria	0.4	1.3	-0.3	0.7	0.9	0.3	-5.0
Portugal	0.6	1.2	0.1	0.2	0.5	1.7	-5.9
Slovenia	1.4	3.0	0.1	1.8	1.1	0.7	-4.6
Slovakia	2.6	4.5	1.0	0.8	1.7	1.3	-3.4
Finland	0.7	1.7	-0.1	2.1	-1.2	-0.5	-1.4
Euro area	0.3	0.8	0.0	1.0	0.3	0.1	-5.0
Bulgaria	2.7	3.4	2.2	1.7	3.2	3.3	-1.9
Czech Republic	2.1	3.6	0.9	3.6	1.8	2.1	-4.1
Denmark	0.9	0.9	0.8	1.3	0.6	1.6	-2.6
Croatia	1.0	2.4	-0.2	1.0	0.2	-0.2	-7.3
Hungary	1.6	3.4	0.2	2.3	3.1	3.3	-2.8
Poland	3.2	3.9	2.7	3.4	5.0	4.6	-2.8
Romania	4.6	7.1	2.6	4.8	4.4	4.2	-2.1
Sweden	1.2	1.9	0.6	0.1	0.3	0.8	-1.5
European Union	0.7	1.3	0.2	1.2	0.7	0.5	-4.7
United Kingdom	0.9	1.5	0.3	0.7	0.1	0.3	.
United States	1.3	1.6	1.1	1.1	1.4	1.0	.
Japan	0.6	1.2	0.2	0.7	-1.4	-0.6	.

Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.
1) Data for Malta available since 2000.
2) Where data are not available for 2020, the averages indicated are for the periods 1999-2019 and 2009-2019.

Chart 2.10 Labour productivity

(per person employed; annual percentage changes)



Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.

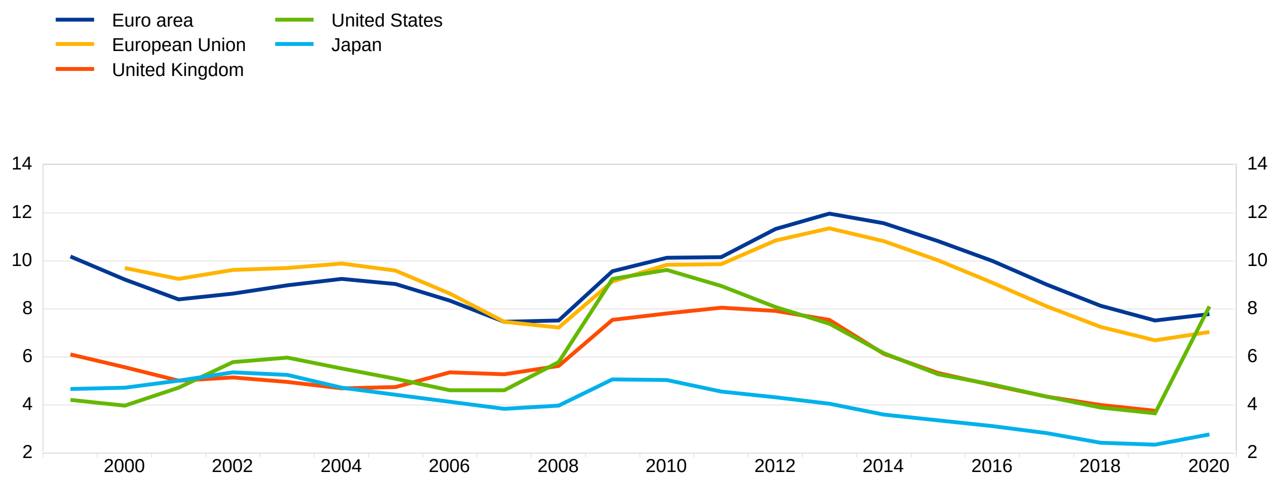
2 Economic activity

2.11 Unemployment
(percentages of the labour force)

	1999-2020 1), 2)	1999-2008 1)	2009-2020 2)	2017	2018	2019	2020
Belgium	7.5	7.7	7.4	7.1	6.0	5.4	5.6
Germany	6.9	9.2	4.9	3.8	3.4	3.1	3.8
Estonia	9.1	9.6	8.7	5.8	5.4	4.4	6.8
Ireland	8.0	5.0	10.4	6.7	5.8	5.0	5.6
Greece	15.5	10.0	20.5	21.5	19.3	17.3	.
Spain	15.9	11.1	19.9	17.2	15.3	14.1	15.5
France	8.8	8.5	9.1	9.1	8.7	8.2	7.9
Italy	9.5	8.5	10.4	11.2	10.6	10.0	9.1
Cyprus	7.7	4.4	10.5	11.1	8.4	7.1	7.6
Latvia	11.4	10.9	11.8	8.7	7.4	6.3	8.0
Lithuania	10.8	10.9	10.7	7.1	6.2	6.3	8.5
Luxembourg	4.8	3.7	5.6	5.5	5.6	5.6	6.8
Malta	6.0	6.8	5.3	4.0	3.7	3.6	4.3
Netherlands	4.6	3.9	5.3	4.9	3.8	3.4	3.8
Austria	4.9	4.5	5.2	5.5	4.9	4.5	5.4
Portugal	8.9	6.2	11.1	9.0	7.1	6.5	6.9
Slovenia	6.8	6.2	7.4	6.6	5.1	4.5	4.9
Slovakia	13.1	15.9	10.8	8.1	6.5	5.8	6.7
Finland	8.3	8.5	8.1	8.6	7.4	6.7	7.8
Euro area	9.3	8.7	9.8	9.0	8.1	7.5	7.8
Bulgaria	10.3	12.5	8.5	6.2	5.2	4.2	5.1
Czech Republic	6.1	7.4	5.0	2.9	2.2	2.0	2.6
Denmark	5.7	4.7	6.5	5.8	5.1	5.0	5.7
Croatia	12.6	13.0	12.3	11.2	8.5	6.6	7.2
Hungary	7.1	6.7	7.4	4.2	3.7	3.4	4.2
Poland	10.9	15.5	7.2	4.9	3.9	3.3	3.2
Romania	6.5	7.2	6.0	4.9	4.2	3.9	5.0
Sweden	7.0	6.2	7.6	6.7	6.4	6.8	8.3
European Union	9.1	9.0	9.2	8.1	7.2	6.7	7.0
United Kingdom	5.7	5.3	6.1	4.3	4.0	3.8	.
United States	5.9	5.0	6.6	4.4	3.9	3.7	8.1
Japan	4.1	4.6	3.6	2.8	2.4	2.3	2.8

Source: Eurostat.
1) Data for Bulgaria, Croatia and the European Union available since 2000.
2) Where data are not available for 2020, the averages indicated are for the periods 1999-2019 and 2009-2019.

Chart 2.11 Unemployment
(percentages of the labour force)



Source: Eurostat.

2 Economic activity

2.12 Household debt [1)]

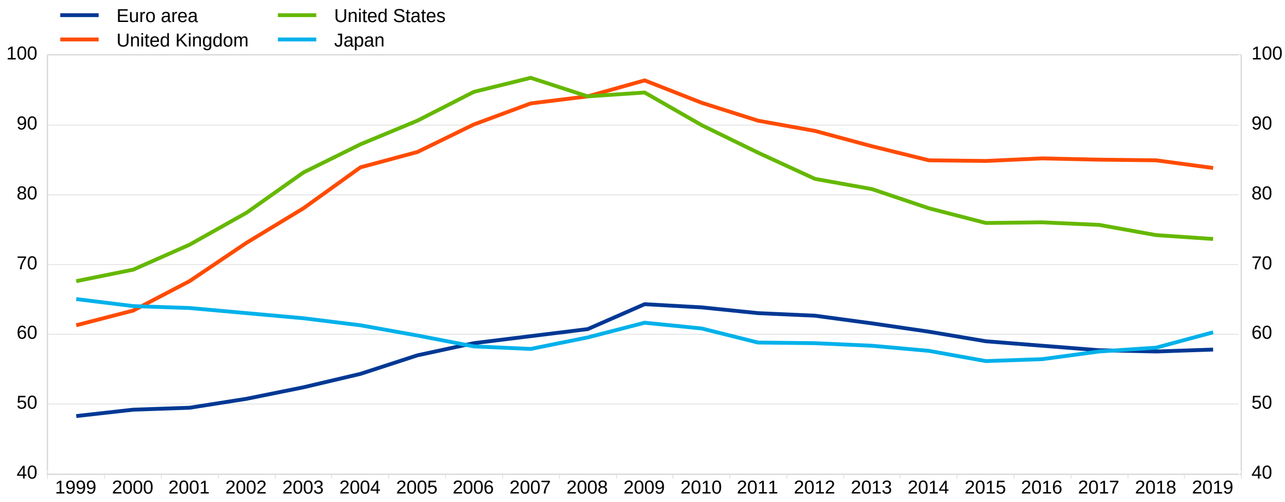
(percentages of GDP)

	1999-2019 [2)]	1999-2008 [2)]	2009-2019	2016	2017	2018	2019
Belgium	50.3	42.7	57.2	58.7	59.3	60.0	61.8
Germany	61.3	67.5	55.7	53.3	53.0	53.4	54.4
Estonia	34.4	25.4	42.7	39.7	39.2	38.3	37.6
Ireland	76.6	76.4	76.7	52.6	46.0	41.8	37.5
Greece	45.9	29.0	61.3	61.3	58.2	58.7	56.0
Spain	67.3	61.9	72.2	64.5	61.2	58.9	56.9
France	48.4	39.6	56.4	57.1	58.4	59.8	61.7
Italy	36.2	29.6	42.2	41.2	40.8	40.8	41.2
Cyprus	100.4	83.1	116.2	116.2	106.0	97.2	89.5
Latvia	25.6	20.3	30.5	23.4	22.3	21.0	20.4
Lithuania	18.1	11.1	24.4	22.8	22.4	22.6	23.0
Luxembourg	53.7	44.2	62.2	62.8	65.3	67.1	66.8
Malta	46.5	37.9	54.2	51.0	48.7	48.3	49.0
Netherlands	107.7	101.3	113.5	111.3	108.3	104.8	101.3
Austria	50.0	48.3	51.5	51.1	50.4	49.7	49.5
Portugal	76.6	72.9	80.0	72.6	69.2	66.0	63.4
Slovenia	23.6	18.4	28.5	27.3	27.1	26.9	26.9
Slovakia	22.4	10.5	33.3	38.3	41.0	42.5	43.7
Finland	51.6	40.0	62.1	64.1	64.4	65.2	66.0
Euro area	57.5	54.1	60.6	58.4	57.8	57.6	57.8
Bulgaria	18.9	12.2	25.1	23.0	22.6	23.0	23.1
Czech Republic	22.6	14.2	30.3	31.0	31.2	31.7	31.6
Denmark	115.8	105.9	124.8	118.1	113.6	111.7	109.3
Croatia	32.2	25.7	38.2	35.1	34.0	33.9	34.6
Hungary	22.9	18.5	26.9	20.1	18.7	17.7	18.4
Poland	25.3	14.7	34.8	36.6	34.9	35.0	34.4
Romania	13.5	7.9	18.7	16.7	16.1	15.8	15.5
Sweden	69.7	56.1	82.0	85.7	87.2	87.9	88.6
European Union	-	-	-	-	-	-	-
United Kingdom	83.6	79.1	87.7	85.2	85.1	84.9	83.8
United States	82.0	83.4	80.7	76.1	75.7	74.2	73.7
Japan	60.0	61.5	58.6	56.5	57.6	58.1	60.3

Sources: ECB, Eurostat and OECD (for the United States and Japan).
1) Defined as outstanding amounts of loans received by households and non-profit institutions serving households.
2) Data for the European Union are not available. Data for Ireland since 2001.

Chart 2.12 Household debt

(percentages of GDP)



Sources: ECB, Eurostat and OECD (for the United States and Japan).

2 Economic activity

2.13 Household saving ratio

(percentages of adjusted disposable income [1])

	1999-2019 [2),3)]	1999-2008 [2)]	2009-2019 [3)]	2016	2017	2018	2019
Belgium	15.5	17.3	13.8	12.3	12.2	11.6	13.0
Germany	17.1	16.6	17.5	17.5	17.9	18.3	18.4
Estonia	5.6	1.3	9.6	7.3	10.1	10.4	13.5
Ireland	9.6	8.2	10.9	7.9	11.5	11.6	12.2
Greece [4)]	2.1	6.7	-2.0	-3.6	-4.4	-5.2	-3.4
Spain	8.2	8.9	7.6	7.1	5.8	5.6	6.3
France	14.3	14.1	14.5	13.6	13.8	14.1	14.6
Italy	12.4	14.3	10.8	10.6	10.2	10.1	10.1
Cyprus	3.3	4.1	2.6	1.5	3.0	3.1	3.1
Latvia	2.9	1.6	4.0	6.0	5.8	7.5	6.0
Lithuania	2.8	2.9	2.8	2.8	0.1	0.2	4.1
Luxembourg	18.4	16.6	20.3	19.4	21.5	21.4	.
Malta	-	-	-	-	-	-	-
Netherlands	12.9	10.3	15.3	16.6	15.3	15.6	16.6
Austria	14.6	15.8	13.6	13.3	12.9	13.2	13.7
Portugal	9.4	10.8	8.2	7.0	6.6	6.8	7.0
Slovenia	13.5	15.1	12.0	11.8	13.1	13.5	13.3
Slovakia	8.2	7.9	8.4	9.2	8.9	10.7	10.2
Finland	8.0	8.1	8.0	6.3	6.9	7.3	8.4
Euro area	12.9	13.2	12.6	12.2	12.2	12.4	12.9
Bulgaria	-3.2	-6.2	0.1	-0.3	0.6	.	.
Czech Republic	11.9	11.6	12.1	11.3	11.8	12.2	12.4
Denmark	7.3	5.5	9.0	11.5	11.8	11.9	9.7
Croatia	7.3	6.2	7.9	9.2	9.4	9.9	10.0
Hungary	10.9	10.1	11.6	11.7	11.1	12.7	11.1
Poland	5.8	8.5	3.3	4.4	2.9	1.6	3.6
Romania	-	-	-	-	-	-	-
Sweden	11.3	7.1	15.0	15.9	14.9	16.0	18.3
European Union	12.2	12.5	11.9	11.6	11.4	11.4	12.0
United Kingdom	8.4	8.1	8.7	7.6	5.7	6.1	6.5
United States [4)]	11.6	10.3	12.7	12.3	12.5	13.3	13.1
Japan	10.2	11.6	8.8	8.9	8.2	9.7	.

Sources: ECB, Eurostat and OECD (for the United States and Japan).

1) Disposable income adjusted for the change in pension entitlements.

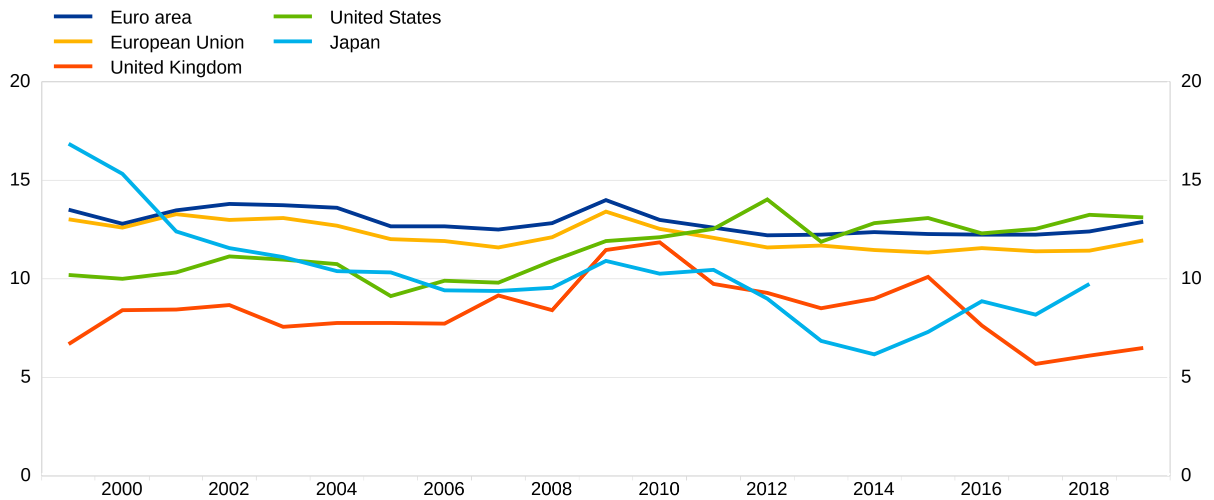
2) Data for Malta and Romania are not available. Data for Croatia since 2002 and for Lithuania since 2004.

3) Where data are not available for 2019, the averages indicated are for the periods 1999-2018 and 2009-2018. However, for Bulgaria the averages refer to the periods 1999-2017 and 2009-2017.

4) Disposable income for Greece and the United States is not adjusted for the change in pension entitlements.

Chart 2.13 Household saving ratio

(percentages of adjusted disposable income)



Sources: ECB, Eurostat and OECD (for the United States and Japan).

2 Economic activity

2.14 Non-financial corporations' debt 1)

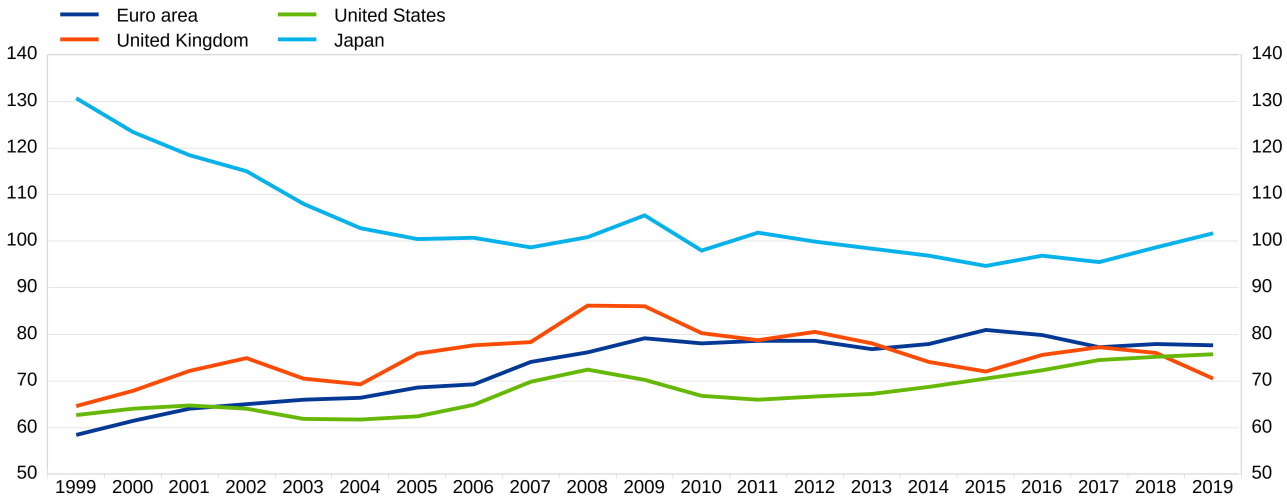
(percentages of GDP)

	1999-2019 2)	1999-2008 2)	2009-2019	2016	2017	2018	2019
Belgium	102.4	81.2	121.8	136.6	128.9	126.2	118.7
Germany	48.9	51.1	47.0	45.6	47.2	49.0	50.9
Estonia	67.4	60.6	73.5	71.2	66.8	62.8	60.2
Ireland	147.2	93.8	186.0	233.1	201.5	189.7	165.0
Greece	56.5	47.3	64.8	66.0	62.2	60.3	54.4
Spain	88.0	79.6	95.6	83.2	78.6	74.3	72.5
France	76.4	67.6	84.3	86.1	86.6	88.6	91.6
Italy	68.4	61.4	74.7	70.9	68.7	67.1	65.2
Cyprus	192.9	185.0	200.0	212.1	201.3	189.2	169.8
Latvia	55.9	50.0	61.2	55.1	53.4	48.7	46.9
Lithuania	36.1	35.3	36.8	33.8	33.8	33.6	32.1
Luxembourg	197.0	143.4	245.7	248.6	249.0	249.0	252.7
Malta	93.2	97.5	89.4	83.0	76.0	73.9	72.9
Netherlands	131.4	122.3	139.6	150.1	143.2	140.5	133.7
Austria	74.5	74.6	74.4	72.2	72.0	72.1	70.6
Portugal	97.3	89.6	104.3	96.7	93.3	88.7	85.4
Slovenia	59.9	52.7	66.5	53.7	49.0	45.6	41.9
Slovakia	42.7	37.9	47.0	51.0	53.2	48.8	48.7
Finland	76.0	66.5	84.6	84.0	83.3	79.4	81.6
Euro area 3)	72.9	66.9	78.4	79.8	77.3	77.9	77.7
Bulgaria	72.4	50.6	92.2	81.4	76.4	72.2	68.7
Czech Republic	47.1	43.2	50.6	49.5	48.9	51.1	49.2
Denmark	83.6	73.7	92.6	83.9	106.3	106.3	112.7
Croatia 3)	60.2	47.1	72.1	69.0	63.5	59.5	56.4
Hungary	59.2	53.9	64.1	56.8	51.5	51.1	48.1
Poland	35.5	30.2	40.4	45.3	42.0	41.8	39.6
Romania	37.0	30.7	42.8	37.1	34.8	31.6	31.3
Sweden	103.8	94.4	112.3	106.7	111.3	112.9	115.2
European Union	-	-	-	-	-	-	-
United Kingdom 3)	75.5	73.7	77.2	75.6	77.2	76.0	70.6
United States 4)	67.7	64.9	70.4	72.3	74.4	75.1	75.7
Japan 4)	104.1	109.9	98.9	96.9	95.5	98.7	101.6

Sources: ECB, Eurostat and OECD (for the United States and Japan).
1) Defined as consolidated loans and debt securities liabilities.
2) Data for the European Union are not available. Data for Ireland since 2001.
3) Figures for the euro area for 1999-2012, for Croatia and for the United Kingdom are consolidated for loans, but not for debt securities (debt securities positions between non-financial corporations are not excluded).
4) Figures for the United States and Japan are non-consolidated (positions between non-financial corporations are not excluded).

Chart 2.14 Non-financial corporations' debt

(percentages of GDP)



Sources: ECB, Eurostat and OECD (for the United States and Japan).

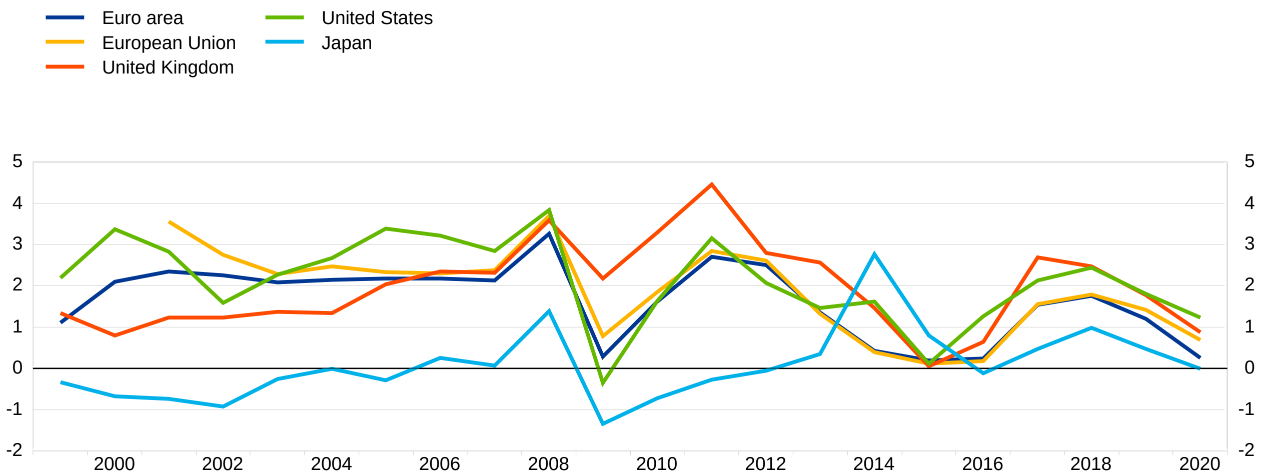
3 Prices and costs

3.1 Inflation as measured by the HICP
(annual percentage changes)

	1999-2020	1999-2008	2009-2020	2017	2018	2019	2020
Belgium	1.9	2.2	1.5	2.2	2.3	1.2	0.4
Germany	1.4	1.7	1.2	1.7	1.9	1.4	0.4
Estonia	3.2	4.6	2.1	3.7	3.4	2.3	-0.6
Ireland	1.6	3.4	0.1	0.3	0.7	0.9	-0.5
Greece	1.9	3.3	0.7	1.1	0.8	0.5	-1.3
Spain	2.0	3.2	1.0	2.0	1.7	0.8	-0.3
France	1.5	1.9	1.1	1.2	2.1	1.3	0.5
Italy	1.7	2.4	1.1	1.3	1.2	0.6	-0.1
Cyprus	1.6	2.7	0.6	0.7	0.8	0.5	-1.1
Latvia	3.3	5.6	1.5	2.9	2.6	2.7	0.1
Lithuania	2.3	2.7	2.0	3.7	2.5	2.2	1.1
Luxembourg	2.1	2.8	1.5	2.1	2.0	1.6	0.0
Malta	2.0	2.6	1.6	1.3	1.7	1.5	0.8
Netherlands	1.9	2.4	1.4	1.3	1.6	2.7	1.1
Austria	1.8	1.9	1.7	2.2	2.1	1.5	1.4
Portugal	1.8	2.9	0.9	1.6	1.2	0.3	-0.1
Slovenia	3.1	5.5	1.2	1.6	1.9	1.7	-0.3
Slovakia	3.6	6.2	1.5	1.4	2.5	2.8	2.0
Finland	1.6	1.8	1.4	0.8	1.2	1.1	0.4
Euro area	1.6	2.2	1.2	1.5	1.8	1.2	0.3
Bulgaria	3.7	6.7	1.3	1.2	2.6	2.5	1.2
Czech Republic	2.2	2.7	1.7	2.4	2.0	2.6	3.3
Denmark	1.5	2.1	1.0	1.1	0.7	0.7	0.3
Croatia	2.2	3.4	1.2	1.3	1.6	0.8	0.0
Hungary	4.5	6.7	2.7	2.4	2.9	3.4	3.4
Poland	2.8	3.9	1.9	1.6	1.2	2.1	3.7
Romania	10.2	19.5	2.9	1.1	4.1	3.9	2.3
Sweden	1.5	1.7	1.2	1.9	2.0	1.7	0.7
European Union	1.9	2.7	1.3	1.6	1.8	1.4	0.7
United Kingdom	1.9	1.8	2.1	2.7	2.5	1.8	0.9
United States[1)]	2.1	2.8	1.5	2.1	2.4	1.8	1.2
Japan[1)]	0.1	-0.2	0.3	0.5	1.0	0.5	0.0

Sources: Eurostat, national data from the BIS databank (for the United Kingdom, United States and Japan) and ECB calculations.
1) Data refer to the consumer price index.

Chart 3.1 Inflation as measured by the HICP 1)
(annual percentage changes)



Sources: Eurostat, national data from the BIS databank (for the United Kingdom, United States and Japan) and ECB calculations.
1) Data for the United States and Japan refer to the consumer price index.

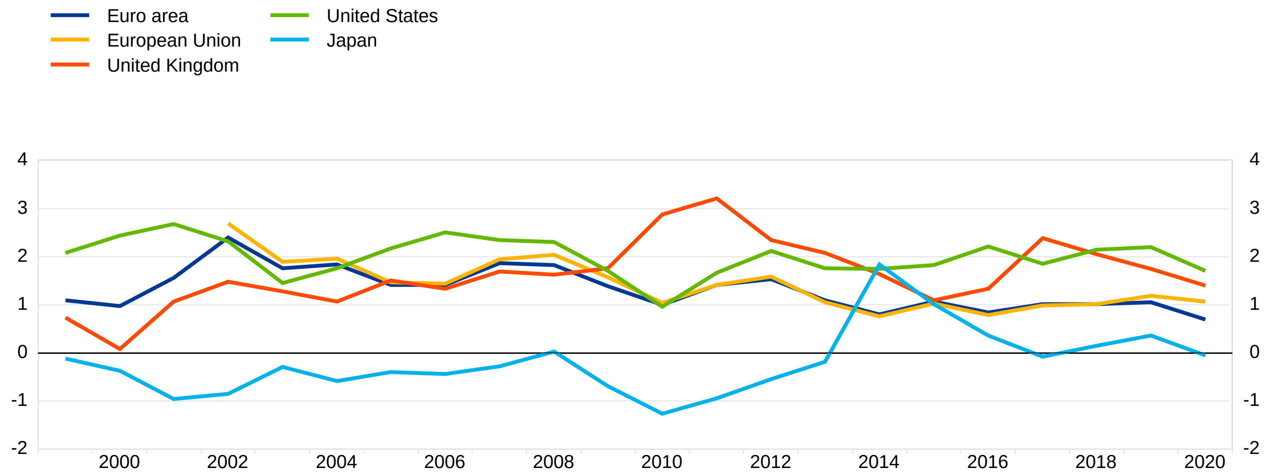
3 Prices and costs

3.2 Inflation as measured by the HICP excluding energy and food
(annual percentage changes)

	1999-2020 1)	1999-2008 1)	2009-2020	2017	2018	2019	2020
Belgium	1.5	1.5	1.6	1.5	1.3	1.5	1.4
Germany	1.1	1.0	1.2	1.3	1.3	1.3	0.7
Estonia	2.6	3.8	1.5	2.0	1.7	2.4	0.0
Ireland	1.4	3.0	0.1	0.2	0.3	0.9	-0.1
Greece	1.4	2.9	0.2	0.3	0.3	0.8	-1.2
Spain	1.7	2.7	0.8	1.2	1.0	1.1	0.5
France	1.1	1.4	0.9	0.5	0.9	0.6	0.6
Italy	1.5	2.1	1.1	0.8	0.6	0.5	0.5
Cyprus	0.8	1.3	0.4	0.4	0.1	0.9	-0.8
Latvia	2.4	4.3	0.8	1.7	1.9	2.2	0.9
Lithuania	1.6	1.7	1.5	2.6	1.9	2.3	2.6
Luxembourg	1.7	1.9	1.6	1.4	0.9	1.8	1.2
Malta	1.6	2.1	1.1	0.9	1.7	1.1	0.6
Netherlands	1.6	1.9	1.4	0.8	1.0	1.9	1.9
Austria	1.7	1.5	1.9	2.1	1.8	1.7	2.0
Portugal	1.6	2.7	0.7	1.2	0.8	0.4	-0.2
Slovenia	1.8	3.8	0.7	0.7	1.0	1.9	0.8
Slovakia	3.1	5.1	1.5	1.4	2.0	2.0	2.4
Finland	1.4	1.5	1.2	0.6	0.3	0.7	0.5
Euro area	1.3	1.6	1.1	1.0	1.0	1.0	0.7
Bulgaria	3.3	6.5	0.7	-0.5	2.1	1.8	1.2
Czech Republic	1.5	2.0	1.1	1.9	1.8	2.2	3.1
Denmark	1.3	1.8	1.0	0.7	0.5	0.7	0.7
Croatia	1.8	3.0	0.8	1.0	1.0	0.8	0.4
Hungary	3.0	4.3	2.3	1.4	1.6	2.9	2.8
Poland	2.3	3.5	1.4	0.7	0.2	1.9	4.3
Romania	5.0	9.3	2.5	0.2	2.2	2.9	2.5
Sweden	1.1	1.1	1.1	1.4	1.0	1.3	1.4
European Union	1.4	1.9	1.1	1.0	1.0	1.2	1.1
United Kingdom	1.6	1.2	2.0	2.4	2.0	1.7	1.4
United States 2)	2.0	2.2	1.8	1.8	2.1	2.2	1.7
Japan 2)	-0.2	-0.4	0.0	-0.1	0.1	0.4	-0.1

Sources: Eurostat, national data from the BIS databank (for the United Kingdom, the United States and Japan) and ECB calculations.
1) Data for the Czech Republic available since 2001; for Slovenia, Hungary and Romania since 2002.
2) Data refer to the consumer price index.

Chart 3.2 Inflation as measured by the HICP excluding energy and food 1)
(annual percentage changes)



Sources: Eurostat, national data from the BIS databank (for the United Kingdom, the United States and Japan) and ECB calculations.
1) Data for the United States and Japan refer to the consumer price index.

3 Prices and costs

3.3 GDP deflator

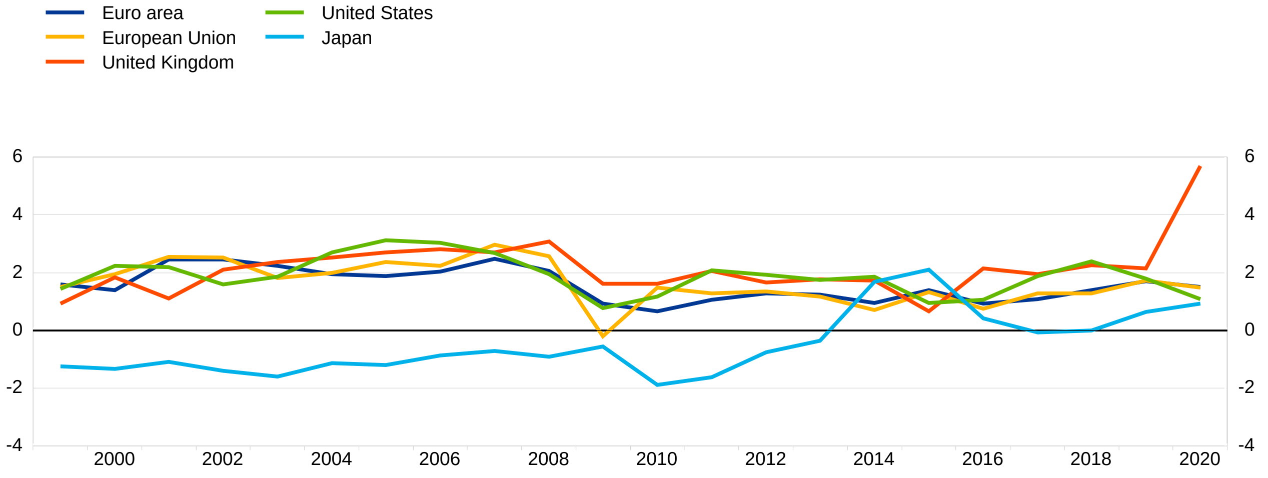
(annual percentage changes)

	1999-2020 [1]	1999-2008 [1]	2009-2020	2017	2018	2019	2020
Belgium	1.6	1.8	1.5	1.8	1.6	1.7	0.9
Germany	1.2	0.8	1.6	1.4	1.7	2.2	1.6
Estonia	4.3	6.5	2.6	3.1	4.2	3.2	-0.4
Ireland	2.0	3.5	0.8	1.6	0.3	3.1	-0.5
Greece	1.3	3.2	-0.2	0.4	-0.1	0.2	-1.5
Spain	1.9	3.6	0.5	1.3	1.2	1.4	1.1
France	1.3	1.8	0.9	0.5	1.0	1.2	2.2
Italy	1.7	2.4	1.1	0.7	1.1	0.8	1.2
Cyprus	1.6	3.1	0.4	1.1	1.2	0.9	-0.7
Latvia	4.1	7.8	1.1	3.0	3.9	2.3	0.1
Lithuania	2.5	3.3	1.9	4.2	3.5	2.8	0.8
Luxembourg	2.7	3.2	2.3	1.7	2.5	3.4	2.3
Malta	2.4	2.6	2.3	2.2	2.3	2.3	1.4
Netherlands	1.8	2.5	1.2	1.3	2.4	3.0	2.2
Austria	1.7	1.6	1.7	0.9	1.7	1.7	1.1
Portugal	2.1	3.2	1.3	1.5	1.8	1.7	2.5
Slovenia	2.9	5.0	1.2	1.5	2.2	2.3	1.3
Slovakia	2.5	4.6	0.8	1.2	2.0	2.5	2.4
Finland	1.6	1.5	1.6	0.8	1.9	1.5	1.6
Euro area	1.6	2.1	1.2	1.1	1.4	1.7	1.5
Bulgaria	4.3	6.0	2.8	3.9	4.0	5.3	3.3
Czech Republic	2.0	2.4	1.7	1.3	2.6	3.9	4.1
Denmark	1.8	2.5	1.2	1.2	0.6	0.7	2.0
Croatia	2.4	4.1	1.1	1.2	2.0	1.5	0.4
Hungary	4.8	6.4	3.4	4.0	4.8	4.8	5.4
Poland	2.6	3.5	1.9	1.9	1.2	3.1	4.1
Romania	12.6	24.0	3.9	4.7	6.2	6.8	3.6
Sweden	1.7	1.7	1.7	2.1	2.4	2.7	1.4
European Union	1.6	2.2	1.1	1.3	1.3	1.7	1.5
United Kingdom	2.2	2.2	2.1	1.9	2.2	2.1	5.7
United States	1.9	2.3	1.6	1.9	2.4	1.8	1.1
Japan	-0.5	-1.1	0.0	-0.1	0.0	0.6	0.9

Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.
1) Data for Malta available since 2000.

Chart 3.3 GDP deflator

(annual percentage changes)



Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.

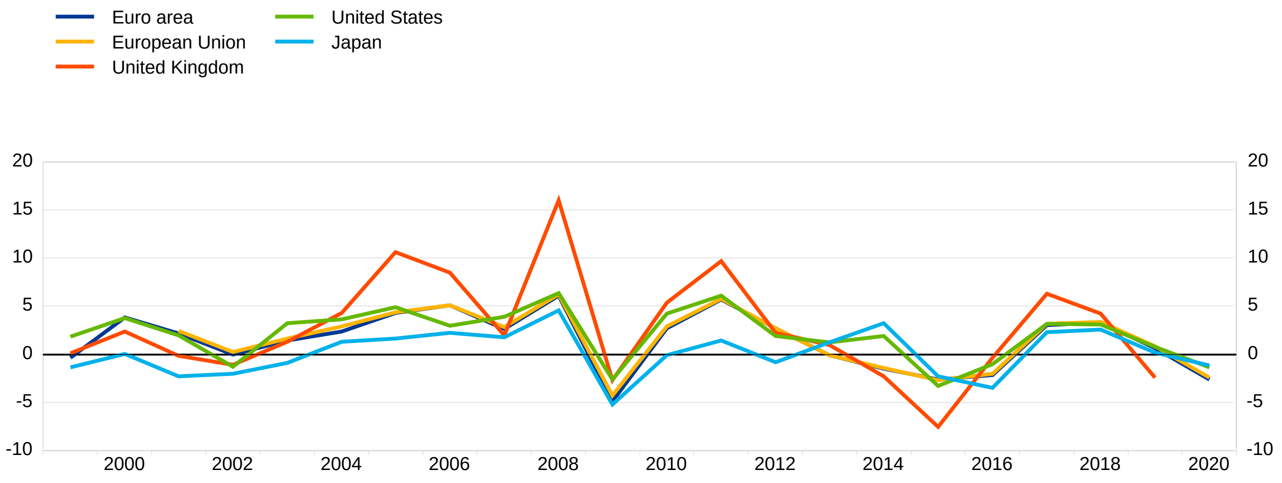
3 Prices and costs

3.4 Industrial producer prices
(annual percentage changes; domestic sales only)

	1999-2020 1)	1999-2008 1)	2009-2020	2017	2018	2019	2020
Belgium	2.1	3.8	1.0	8.9	7.1	1.3	-3.8
Germany	1.3	2.4	0.4	2.4	2.6	1.3	-0.8
Estonia	2.7	4.7	1.6	3.3	7.1	1.5	-3.5
Ireland	0.4	4.0	-0.4	1.3	7.7	-4.9	-7.6
Greece	2.0	4.9	0.2	4.2	3.3	0.6	-4.6
Spain	1.8	3.3	0.6	4.4	3.0	-0.4	-4.3
France	1.2	2.4	0.2	2.4	2.7	0.4	-2.2
Italy	1.2	3.1	0.0	2.6	3.9	0.0	-4.4
Cyprus	2.2	4.8	0.5	3.7	3.0	2.9	-3.0
Latvia	3.9	8.4	1.3	2.2	5.5	3.6	-3.2
Lithuania	2.0	4.8	-0.4	4.0	4.2	0.7	-6.6
Luxembourg	2.2	6.4	-0.6	-1.9	0.5	2.4	-0.8
Malta	3.3	5.2	2.1	0.5	0.7	1.1	1.5
Netherlands	1.6	4.5	-0.2	4.4	3.1	1.7	-2.7
Austria	0.9	1.9	0.3	1.9	3.0	0.1	-2.1
Portugal	1.4	3.5	0.0	3.6	2.4	-0.3	-3.4
Slovenia	2.3	4.6	0.8	1.3	1.9	1.8	0.7
Slovakia	1.9	5.0	-0.1	2.0	5.0	2.6	0.8
Finland	1.5	2.6	0.6	2.7	3.9	0.9	-4.3
Euro area	1.4	2.7	0.3	3.0	3.3	0.6	-2.6
Bulgaria	3.6	6.3	1.8	4.2	4.1	3.8	-0.2
Czech Republic	1.4	2.6	0.5	1.8	2.0	2.6	0.1
Denmark	2.4	5.6	0.4	3.3	6.4	-0.6	-4.8
Croatia	1.7	3.0	0.8	2.1	2.4	0.8	-2.0
Hungary	4.2	7.4	2.2	4.6	6.2	3.9	0.8
Poland	2.4	3.4	1.7	4.8	2.8	1.6	-0.9
Romania	8.4	18.0	2.5	3.1	5.2	5.1	0.2
Sweden	1.9	3.1	0.9	4.1	5.5	2.7	-2.2
European Union	1.5	3.2	0.4	3.1	3.4	0.8	-2.4
United Kingdom	2.6	4.3	1.1	6.3	4.2	-2.4	.
United States 2)	2.0	3.1	1.1	3.2	3.1	0.8	-1.4
Japan 3)	0.1	0.5	-0.2	2.3	2.6	0.2	-1.1

Sources: Eurostat, national data from the BIS databank (for the United States and Japan) and ECB calculations.
1) Data for Belgium, Greece, Italy, Cyprus, Luxembourg, Malta, the Netherlands, Austria, Portugal, Slovenia, Slovakia, Bulgaria, Denmark, Croatia, Hungary, Poland and Romania available since 2001; for Latvia since 2002; for Estonia since 2003; and for Ireland since 2006.
2) Data refer to finished goods.
3) Data refer to the output price index in the manufacturing sector.

Chart 3.4 Industrial producer prices 1)
(annual percentage changes; domestic sales only)



Sources: Eurostat, national data from the BIS databank (for the United States and Japan) and ECB calculations.
1) Data for the United States refer to finished goods; data for Japan refer to the output price index in the manufacturing sector.

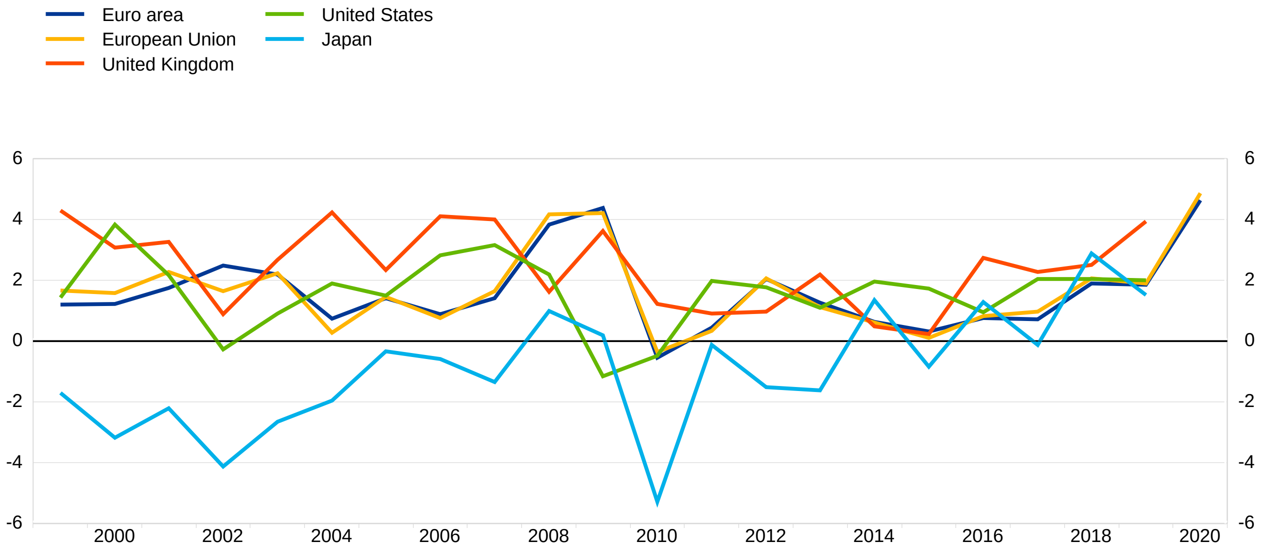
3 Prices and costs

3.5 Unit labour costs
(annual percentage changes)

	1999-2020 1),2)	1999-2008 1)	2009-2020 2)	2017	2018	2019	2020
Belgium	1.7	1.8	1.6	1.9	1.4	1.9	5.0
Germany	1.4	0.4	2.4	1.4	3.0	3.3	4.5
Estonia	4.8	7.0	3.1	7.6	5.7	5.4	2.8
Ireland	-0.1	3.9	-3.3	-2.8	-2.4	0.9	-3.2
Greece	1.9	3.6	0.5	-0.3	1.6	0.4	7.6
Spain	1.6	3.2	0.4	0.4	1.1	2.4	6.8
France	1.6	1.8	1.4	0.8	1.0	-0.5	4.8
Italy	1.8	2.7	1.1	-0.1	2.0	1.3	1.9
Cyprus	1.5	2.9	0.3	1.9	1.4	1.9	1.5
Latvia	5.0	8.7	2.0	4.2	5.4	6.6	6.7
Lithuania	2.8	2.8	2.8	4.3	5.2	6.1	7.2
Luxembourg	2.8	3.3	2.4	4.6	3.9	3.0	2.6
Malta	2.9	2.6	3.0	0.5	4.4	3.5	10.4
Netherlands	1.6	2.0	1.3	0.5	2.2	3.1	.
Austria	1.7	1.0	2.3	0.9	2.0	2.5	5.5
Portugal	1.8	2.6	1.1	2.1	3.4	1.8	9.2
Slovenia	3.3	4.7	2.1	1.2	2.7	4.2	7.2
Slovakia	3.0	3.6	2.5	4.5	4.0	5.3	5.5
Finland	1.5	1.4	1.6	-3.2	2.5	1.8	2.4
Euro area	1.6	1.7	1.5	0.7	1.9	1.9	4.6
Bulgaria	5.4	5.5	5.3	8.7	6.3	3.5	7.9
Czech Republic	2.7	2.9	2.6	3.5	6.1	4.2	7.0
Denmark	1.8	2.7	1.0	0.3	1.2	-0.1	4.2
Croatia	2.0	3.4	0.9	-0.7	3.6	1.7	10.1
Hungary	4.4	6.5	2.6	4.5	3.3	1.9	8.3
Poland	2.0	1.9	2.1	2.3	3.2	3.5	7.5
Romania	11.4	21.1	3.9	9.5	8.2	6.3	9.0
Sweden	2.2	2.2	2.1	1.9	3.5	2.4	3.9
European Union	1.6	1.8	1.5	1.0	2.1	1.9	4.9
United Kingdom	2.5	3.0	1.9	2.3	2.5	4.0	.
United States	1.6	2.0	1.3	2.1	2.0	2.0	.
Japan	-0.9	-1.7	-0.2	-0.1	2.9	1.5	.

Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.
1) Data for Malta available since 2000.
2) Where data are not available for 2020, the averages indicated are for the periods 1999-2019 and 2009-2019.

Chart 3.5 Unit labour costs
(annual percentage changes)



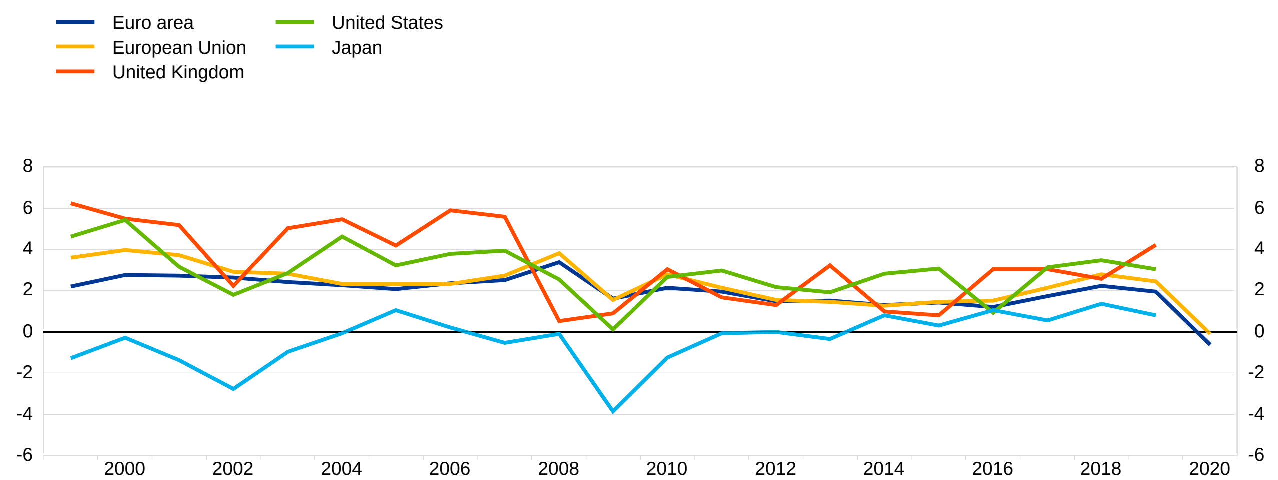
Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.

3.6 Compensation per employee
(annual percentage changes)

	1999-2020 1)	1999-2008	2009-2020 1)	2017	2018	2019	2020
Belgium	2.1	3.0	1.4	1.9	1.8	2.1	-1.7
Germany	1.8	1.3	2.3	2.6	2.9	3.0	0.5
Estonia	8.1	12.5	4.7	10.6	8.9	9.3	2.5
Ireland	3.1	5.7	1.0	2.9	2.6	3.5	1.6
Greece	1.7	6.0	-1.8	1.5	1.8	1.0	0.0
Spain	1.8	3.3	0.7	0.7	1.3	2.1	-0.7
France	2.0	2.8	1.3	2.0	1.8	-0.2	-2.6
Italy	1.3	2.6	0.2	0.4	2.0	1.1	-5.2
Cyprus	2.0	4.5	0.0	1.7	1.3	1.9	-3.2
Latvia	9.0	15.1	4.1	7.6	8.1	8.8	5.3
Lithuania	6.9	9.6	4.7	9.5	7.9	10.2	7.9
Luxembourg	2.7	3.7	1.9	3.0	3.3	1.7	-0.7
Malta	3.5	4.1	2.9	0.6	3.6	2.5	0.1
Netherlands	2.3	3.2	1.6	1.0	2.0	2.8	.
Austria	2.1	2.3	1.9	1.6	2.9	2.8	0.2
Portugal	2.4	3.8	1.2	2.3	3.9	3.5	2.7
Slovenia	4.7	7.9	2.2	3.0	3.9	4.9	2.3
Slovakia	5.6	8.2	3.5	5.4	5.8	6.6	1.9
Finland	2.2	3.2	1.4	-1.1	1.3	1.3	0.9
Euro area	2.0	2.5	1.5	1.7	2.2	1.9	-0.6
Bulgaria	8.3	9.1	7.6	10.5	9.7	6.9	5.9
Czech Republic	4.9	6.6	3.5	7.2	8.1	6.3	2.6
Denmark	2.6	3.6	1.8	1.7	1.8	1.5	1.5
Croatia	3.0	5.9	0.7	0.2	3.8	1.5	2.1
Hungary	6.1	10.1	2.8	7.0	6.5	5.2	5.2
Poland	5.3	5.8	4.9	5.8	8.4	8.2	4.6
Romania	16.5	29.8	6.6	14.8	12.9	10.8	6.7
Sweden	3.4	4.2	2.7	2.1	3.8	3.2	2.4
European Union	2.3	3.1	1.8	2.1	2.8	2.5	-0.1
United Kingdom	3.4	4.6	2.3	3.0	2.6	4.2	.
United States	3.0	3.6	2.4	3.1	3.5	3.0	.
Japan	-0.3	-0.6	-0.1	0.6	1.4	0.8	.

Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.
1) Where data are not available for 2020, the averages indicated are for the periods 1999-2019 and 2009-2019.

Chart 3.6 Compensation per employee
(annual percentage changes)



Sources: Eurostat, OECD (for the United Kingdom, the United States and Japan) and ECB calculations.

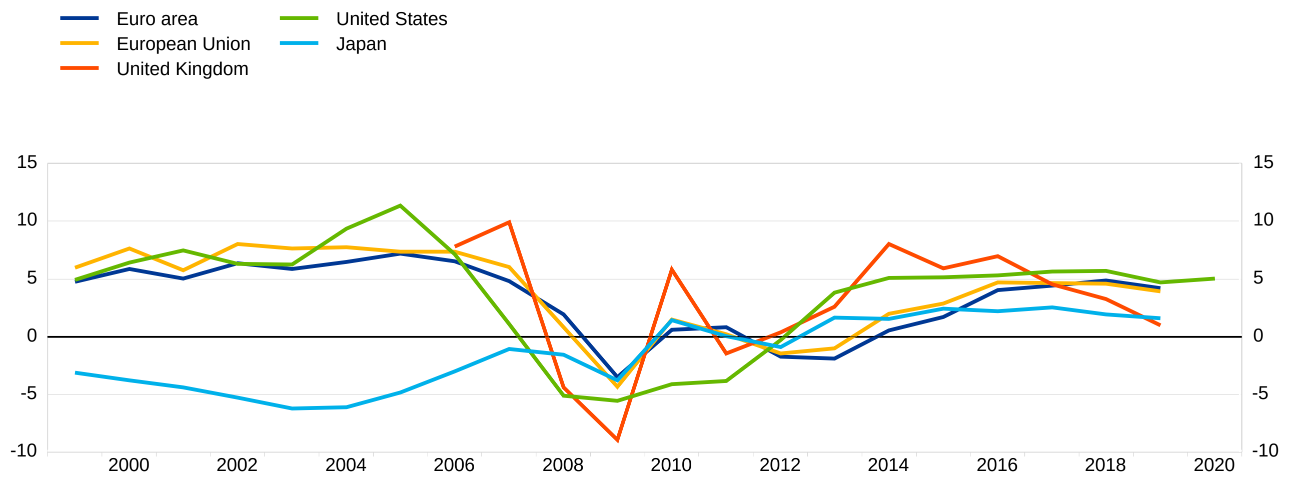
3 Prices and costs

3.7 Residential property prices
(annual percentage changes)

	1999-2020 1),2)	1999-2008 1)	2009-2020 2)	2017	2018	2019	2020
Belgium	5.0	7.8	2.5	3.7	3.6	3.7	.
Germany	3.3	1.5	4.1	5.8	7.7	6.8	7.4
Estonia	5.5	17.7	2.4	5.5	5.9	7.0	.
Ireland	0.1	4.7	-1.1	10.9	10.2	2.3	.
Greece	1.8	8.6	-4.1	-1.0	1.8	7.2	.
Spain	4.3	11.1	-1.5	6.2	6.7	5.2	.
France	4.6	9.0	0.8	3.1	3.0	3.3	.
Italy	1.7	5.6	-1.8	-1.1	-0.6	-0.1	.
Cyprus	3.3	15.3	-2.8	1.2	2.1	2.6	.
Latvia	2.3	17.4	-0.2	8.8	9.6	9.0	.
Lithuania	2.6	17.3	0.1	8.9	7.3	6.8	.
Luxembourg	4.9	3.3	5.0	5.6	7.1	10.1	.
Malta	5.6	17.2	2.6	5.3	5.8	6.1	.
Netherlands	4.0	7.4	1.0	7.5	9.5	7.3	.
Austria	3.5	1.0	5.6	3.8	6.9	3.9	7.0
Portugal	2.5	-	2.5	9.2	10.3	9.6	.
Slovenia	0.6	7.0	0.0	8.3	8.7	6.7	.
Slovakia	4.9	20.8	1.3	6.7	5.5	7.5	11.9
Finland	3.5	5.4	1.7	1.6	1.0	1.0	.
Euro area	3.2	5.5	1.3	4.4	4.9	4.2	.
Bulgaria	3.6	22.7	-1.1	8.7	6.6	6.0	.
Czech Republic	3.2	-	3.2	11.7	8.6	9.2	.
Denmark	4.3	7.5	1.5	4.5	4.1	2.6	.
Croatia	4.0	-	-0.2	3.8	6.1	9.0	.
Hungary	4.6	2.4	4.8	12.2	14.3	17.0	.
Poland	1.7	-	1.7	3.9	6.6	8.7	.
Romania	-0.5	-	-0.5	5.6	5.8	3.4	.
Sweden	6.8	8.5	5.3	6.6	-0.9	2.5	.
European Union	3.8	6.4	1.6	4.6	4.6	3.9	.
United Kingdom	5.6	9.5	2.5	4.6	3.1	1.0	3.3
United States	3.6	5.4	2.1	5.6	5.7	4.7	5.1
Japan	-1.4	-	1.0	2.5	1.9	1.6	.

Sources: National sources and ECB.
1) Data for Cyprus and Denmark available since 2002; for Germany since 2003; for Estonia, Ireland, Spain, Malta, Slovakia, Finland and Bulgaria since 2005; for Latvia and Lithuania since 2006; for Luxembourg, Slovenia and Hungary since 2007; for Portugal, the Czech Republic, Croatia and Japan since 2008; for Romania since 2009; and for Poland since 2010.
2) Where data are not available for 2020, the averages indicated are for the periods 1999-2019 and 2009-2019.

Chart 3.7 Residential property prices
(annual percentage changes)



Sources: National sources and ECB.

4 Exchange rates and balance of payments

4.1 Effective exchange rates of the euro

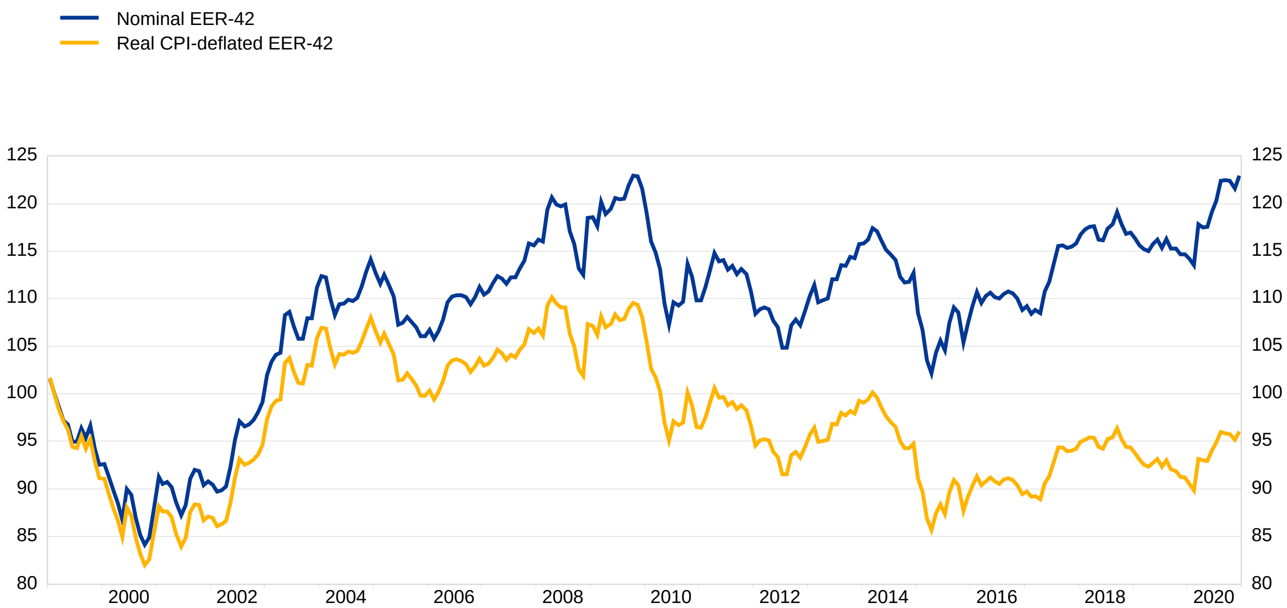
(period averages; index: Q1 1999 = 100)

	1999-2020 1)	1999-2008	2009-2020 1)	2017	2018	2019	2020
EER-19							
Nominal	99.8	98.8	100.6	97.5	100.0	98.2	99.7
Real CPI	98.2	99.1	97.4	93.5	95.7	93.3	93.7
Real PPI	97.0	98.9	95.5	92.4	94.0	92.9	94.1
Real GDP deflator	95.3	97.6	93.1	89.1	90.5	88.7	.
Real ULCM	95.7	97.5	94.1	80.0	80.6	78.9	.
Real ULCT	99.2	98.4	99.9	94.3	95.8	93.1	.
EER-42							
Nominal	108.9	103.5	113.4	112.4	117.3	115.5	119.4
Real CPI	96.8	98.3	95.5	91.9	95.1	92.4	94.0
Real GDP deflator	92.3	95.7	89.3	86.0	88.2	86.4	.

Source: ECB.
1) Where data are not available for 2020, the averages indicated are for the periods 1999-2019 and 2009-2019.
Note: The effective exchange rates (EERs) of the euro are either nominal or deflated by the consumer price index (CPI), the producer price index (PPI), the gross domestic product (GDP) deflator, unit labour costs in manufacturing (ULCM) or unit labour costs in the total economy (ULCT).

Chart 4.1 Effective exchange rates of the euro

(monthly averages; index: Q1 1999 = 100)



Source: ECB.

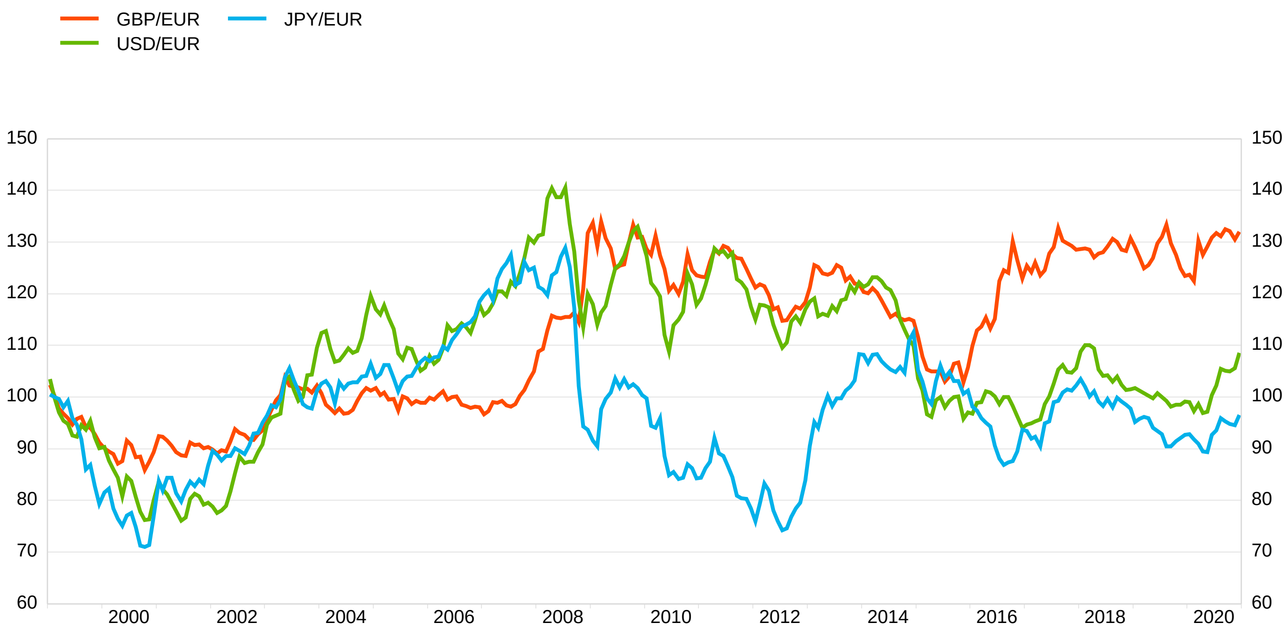
4 Exchange rates and balance of payments

4.2 Bilateral exchange rates of the euro
(units of national currency per euro; period averages)

	1999-2020 1)	1999-2008 1)	2009-2020	2017	2018	2019	2020
Chinese renminbi	8.653	9.468	8.110	7.629	7.808	7.735	7.875
Croatian kuna	7.452	7.406	7.482	7.464	7.418	7.418	7.538
Czech koruna	28.423	31.193	26.115	26.326	25.647	25.670	26.455
Danish krone	7.449	7.446	7.451	7.439	7.453	7.466	7.454
Hungarian forint	281.313	253.282	304.673	309.193	318.890	325.297	351.249
Japanese yen	127.045	130.952	123.789	126.711	130.396	122.006	121.846
Polish zloty	4.124	3.991	4.235	4.257	4.261	4.298	4.443
Pound sterling	0.768	0.674	0.846	0.877	0.885	0.878	0.890
Romanian leu	3.867	3.132	4.480	4.569	4.654	4.745	4.838
Swedish krona	9.398	9.132	9.619	9.635	10.258	10.589	10.485
Swiss franc	1.361	1.555	1.198	1.112	1.155	1.112	1.071
US dollar	1.200	1.155	1.237	1.130	1.181	1.119	1.142

Source: ECB.
1) Data for Chinese renminbi and Croatian kuna available since 2001.

Chart 4.2 Bilateral exchange rates
(monthly averages; index: Q1 1999 = 100)



Source: ECB.

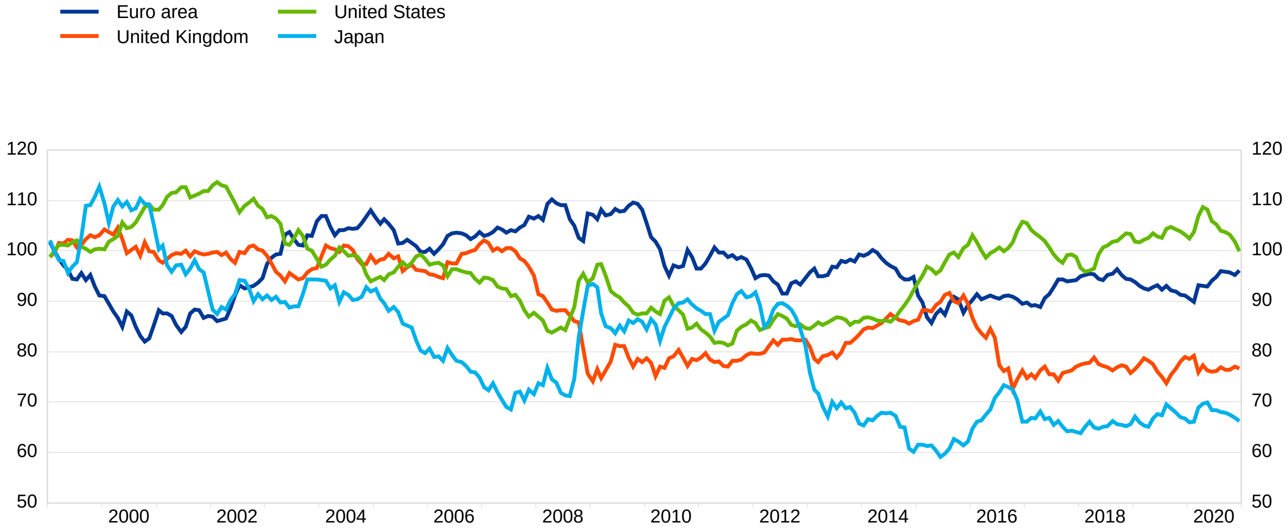
4 Exchange rates and balance of payments

4.3 Real effective exchange rates 1)
(deflated by consumer price indices; period averages; index: Q1 1999 = 100)

	1999-2020	1999-2008	2009-2020	2017	2018	2019	2020
Belgium	100.0	99.3	100.6	100.0	102.3	100.7	101.6
Germany	92.9	95.5	95.5	89.1	91.0	89.5	90.4
Estonia	116.5	105.8	125.4	127.2	131.8	131.8	131.7
Ireland	106.6	108.7	104.9	99.7	100.8	98.0	98.2
Greece	100.4	98.8	101.8	97.7	99.0	96.9	96.7
Spain	107.2	105.3	108.7	106.5	108.3	106.5	106.9
France	95.9	97.7	94.3	91.7	93.7	92.3	93.3
Italy	99.5	100.2	98.9	96.8	98.2	96.0	96.5
Cyprus	99.9	101.2	98.9	96.0	98.3	95.6	96.7
Latvia	108.5	102.9	113.1	111.6	114.5	114.7	115.7
Lithuania	122.3	114.3	128.9	128.8	132.1	131.6	134.2
Luxembourg	106.5	104.2	108.5	107.0	109.0	107.8	108.3
Malta	103.9	103.6	104.2	102.0	104.1	102.9	104.5
Netherlands	100.9	102.4	99.6	97.0	98.6	98.5	100.2
Austria	96.6	96.8	96.4	96.8	98.3	97.5	99.1
Portugal	102.3	103.1	101.6	100.5	101.4	99.4	100.1
Slovenia	99.8	99.4	100.2	98.1	99.8	99.2	99.5
Slovakia	164.7	137.3	187.6	183.1	186.1	187.1	191.4
Finland	95.6	96.8	94.5	93.2	94.8	93.6	94.6
Euro area	96.8	98.3	95.5	91.9	95.1	92.4	94.0
Bulgaria	134.3	119.7	146.4	140.7	145.2	145.0	148.6
Czech Republic	135.0	121.8	145.9	143.3	149.4	149.6	150.7
Denmark	99.0	100.0	98.1	96.0	97.0	95.2	96.5
Croatia	105.4	103.6	106.8	104.9	106.8	105.3	104.2
Hungary	128.6	125.4	131.3	128.1	127.3	125.9	121.0
Poland	116.2	117.0	115.4	112.5	113.3	112.0	112.9
Romania	133.6	127.4	138.7	133.8	136.5	136.0	137.4
Sweden	91.5	95.4	88.3	86.1	82.5	79.3	81.4
European Union	-	-	-	-	-	-	-
United Kingdom	88.0	97.9	79.8	75.7	77.2	76.8	76.9
United States	96.8	100.0	94.1	100.9	100.0	103.1	104.5
Japan	80.7	89.5	73.5	65.9	65.3	67.2	67.8

Source: ECB.
1) For the euro area as a whole, the real effective exchange rate of the euro vis-à-vis 42 trading partners is displayed.
For individual euro area countries, harmonised competitiveness indicators are calculated vis-à-vis these same trading partners plus the other euro area countries.
For non-euro area countries, the real effective exchange rate of the national currency is calculated vis-à-vis 42 trading partners (including the euro area).

Chart 4.3 Real effective exchange rates
(vis-à-vis 42 trading partners; deflated by consumer price indices; monthly averages; index: Q1 1999 = 100)



Source: ECB.

4 Exchange rates and balance of payments

4.4 Balance of payments: net current account

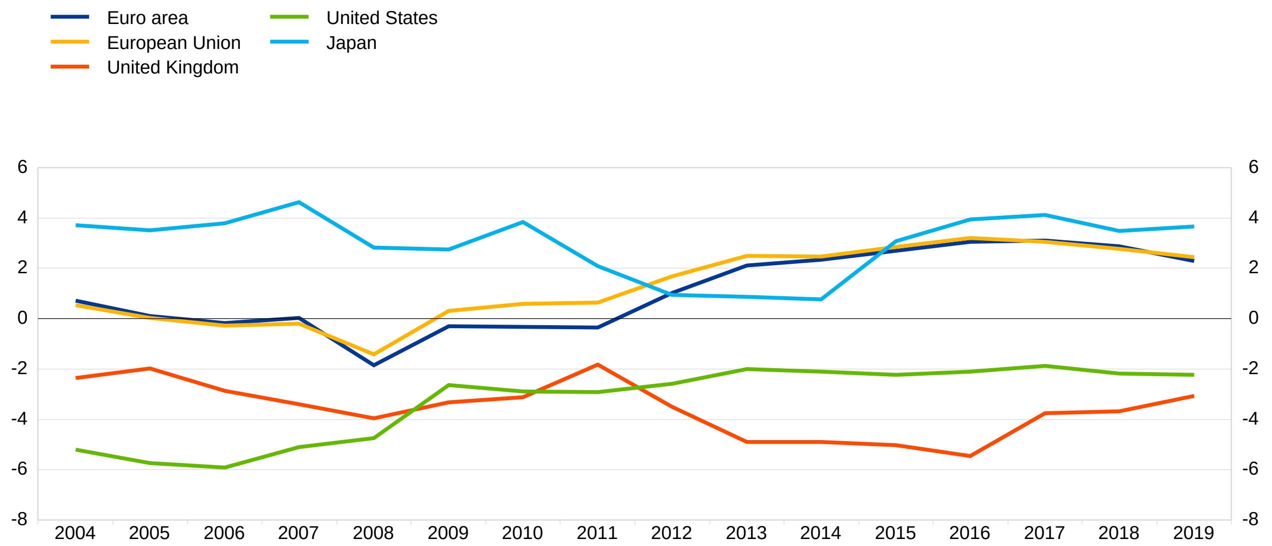
(percentage of nominal GDP; period averages; non-working day and non-seasonally adjusted)

	2004-2019 1)	2004-2011 1)	2012-2019	2016	2017	2018	2019
Belgium	0.8	1.2	0.5	0.6	0.7	-0.8	0.3
Germany	6.6	5.7	7.5	8.5	7.8	7.4	7.1
Estonia	-2.9	-6.7	0.9	1.2	2.3	0.9	2.0
Ireland	-2.2	-3.7	-0.7	-4.2	0.5	6.0	-11.3
Greece	-6.5	-11.2	-1.8	-1.7	-1.9	-2.9	-1.5
Spain	-2.2	-6.3	2.0	3.2	2.8	1.9	2.1
France	-0.5	-0.2	-0.7	-0.5	-0.8	-0.6	-0.7
Italy	0.0	-1.9	1.9	2.6	2.6	2.5	3.0
Cyprus	-5.5	-7.4	-3.7	-4.2	-5.3	-3.9	-6.3
Latvia	-4.8	-8.8	-0.8	1.6	1.3	-0.3	-0.6
Lithuania	-3.2	-7.0	0.5	-1.1	0.5	0.3	3.3
Luxembourg	5.8	6.5	5.1	4.9	4.9	4.8	4.6
Malta	-1.3	-5.4	2.8	-0.6	4.8	5.6	4.6
Netherlands	8.2	7.1	9.3	8.1	10.8	10.8	9.9
Austria	2.4	2.9	2.0	2.7	1.4	1.3	2.8
Portugal	-4.5	-9.5	0.4	1.2	1.3	0.4	-0.1
Slovenia	1.1	-2.3	4.5	4.8	6.2	5.8	5.6
Slovakia	-4.0	-6.9	-1.0	-2.7	-1.9	-2.2	-2.7
Finland	0.7	2.7	-1.4	-2.0	-0.8	-1.9	-0.2
Euro area	1.1	-0.3	2.4	3.0	3.1	2.9	2.3
Bulgaria	-4.9	-11.3	1.6	3.2	3.5	1.0	3.0
Czech Republic	-1.3	-2.9	0.2	1.8	1.5	0.5	-0.3
Denmark	6.1	4.1	7.9	7.8	8.0	7.0	8.9
Croatia	-2.5	-6.3	1.3	2.1	3.4	1.8	2.7
Hungary	-1.4	-4.7	1.9	4.5	2.0	0.3	-0.2
Poland	-3.3	-5.2	-1.4	-0.8	-0.3	-1.3	0.5
Romania	-5.5	-8.5	-2.4	-1.4	-2.8	-4.4	-4.7
Sweden	5.3	6.7	3.8	2.4	2.9	2.6	4.6
European Union	1.3	0.0	2.6	3.2	3.0	2.8	2.4
United Kingdom	-3.6	-2.8	-4.3	-5.5	-3.8	-3.7	-3.1
United States	-3.3	-4.4	-2.2	-2.1	-1.9	-2.2	-2.2
Japan	3.0	3.4	2.6	3.9	4.1	3.5	3.7

Sources: ECB, national data from the BIS databank (for the United States and Japan) and Eurostat.
1) Data for Denmark available since 2005.

Chart 4.4 Balance of payments: net current account

(percentage of nominal GDP; non-working day and non-seasonally adjusted)



Sources: ECB, national data from the BIS databank (for the United States and Japan) and Eurostat.

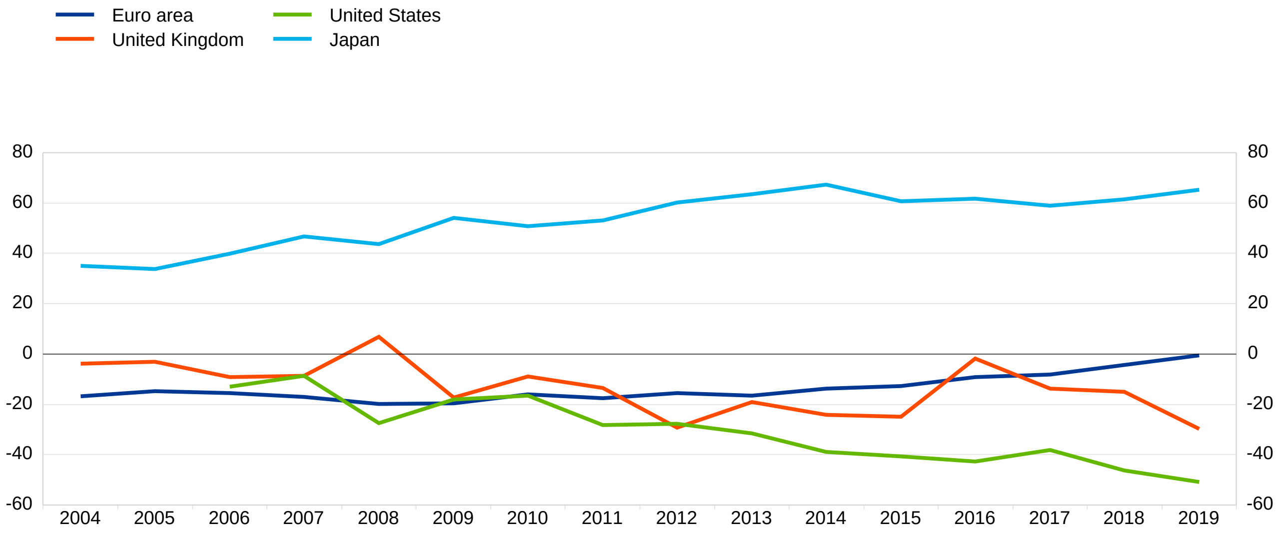
4 Exchange rates and balance of payments

4.5 Net international investment position
(percentage of nominal GDP; end-of-period averages)

	2004-2019 [1]	2004-2011 [1]	2012-2019	2016	2017	2018	2019
Belgium	45.8	45.1	46.4	54.5	56.0	35.7	50.6
Germany	33.9	18.6	49.2	51.4	56.4	63.4	71.7
Estonia	-56.3	-73.7	-38.8	-39.1	-33.1	-29.6	-21.4
Ireland	-119.8	-73.7	-165.8	-172.2	-165.4	-180.9	-174.0
Greece	-111.1	-84.0	-138.1	-139.3	-143.2	-148.5	-155.8
Spain	-83.7	-81.2	-86.3	-85.5	-84.9	-79.2	-73.9
France	-12.4	-8.2	-16.6	-13.0	-20.1	-18.8	-22.9
Italy	-16.6	-19.2	-14.1	-11.9	-7.7	-4.8	-1.5
Cyprus	-117.7	-93.4	-142.0	-133.8	-133.2	-125.8	-122.3
Latvia	-63.2	-68.9	-57.4	-55.8	-53.1	-46.5	-41.7
Lithuania	-46.6	-52.0	-41.2	-42.8	-36.5	-30.4	-24.1
Luxembourg	32.2	4.6	59.7	57.7	70.4	55.2	56.2
Malta	31.0	19.6	42.5	47.6	58.3	57.1	53.8
Netherlands	27.5	0.3	54.7	61.2	59.8	71.9	90.0
Austria	-2.7	-9.2	3.7	4.1	4.3	5.3	12.1
Portugal	-102.3	-91.0	-113.6	-110.5	-110.4	-105.6	-100.0
Slovenia	-29.0	-28.0	-30.0	-28.8	-24.2	-19.0	-15.4
Slovakia	-62.7	-60.4	-65.1	-66.8	-68.3	-69.5	-66.3
Finland	-2.9	-8.7	2.9	5.5	1.2	-4.3	5.2
Euro area	-13.6	-17.2	-10.1	-9.2	-8.2	-4.4	-0.4
Bulgaria	-63.5	-71.4	-55.6	-47.9	-43.3	-37.4	-31.2
Czech Republic	-33.4	-35.3	-31.4	-27.2	-25.7	-24.3	-20.5
Denmark	28.8	4.9	49.7	52.6	55.4	65.5	76.8
Croatia	-76.1	-78.5	-73.8	-72.2	-65.6	-57.7	-50.2
Hungary	-81.7	-97.8	-65.6	-59.4	-54.3	-50.0	-43.0
Poland	-57.0	-52.1	-61.9	-60.8	-62.3	-55.4	-49.9
Romania	-51.2	-49.2	-52.9	-48.7	-46.5	-43.7	-43.3
Sweden	-6.0	-9.5	-2.4	-3.4	-0.5	8.6	18.7
European Union	-	-	-	-	-	-	-
United Kingdom	-13.5	-7.2	-19.7	-1.8	-13.8	-14.9	-29.7
United States	-30.6	-18.6	-39.6	-42.7	-38.2	-46.3	-50.8
Japan	53.5	44.6	62.4	61.7	59.0	61.5	64.9

Sources: ECB and national data from the BIS databank (for the United States and Japan).
1) Data for Belgium, Denmark and Romania available since 2005.

Chart 4.5 Net international investment position
(percentage of nominal GDP)



Sources: ECB and national data from the BIS databank (for the United States and Japan).

5 Fiscal developments

5.1 General government balance

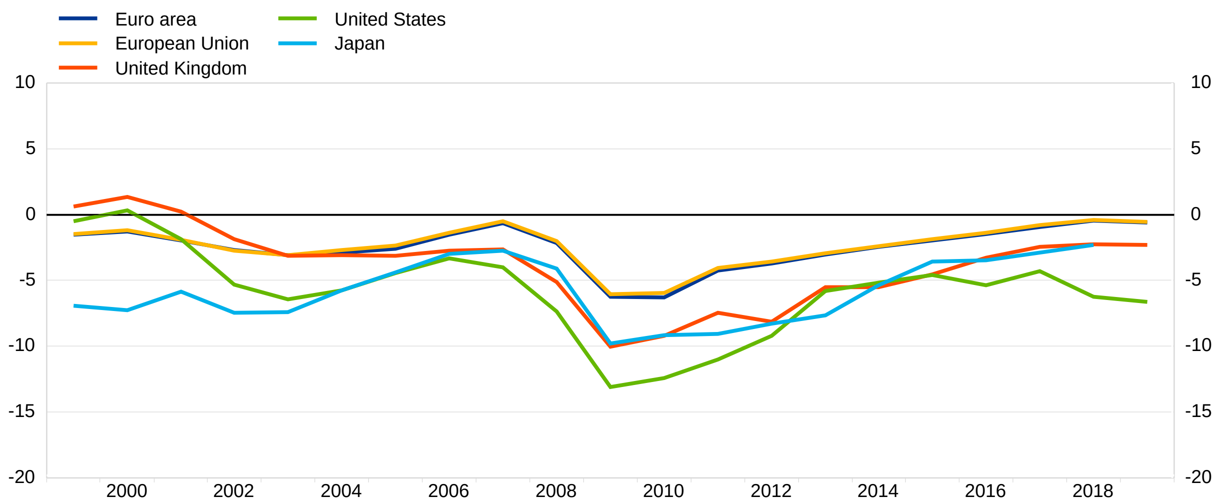
(percentage of GDP)

	1999-2019	1999-2008	2009-2019	2016	2017	2018	2019
Belgium	-1.8	-0.6	-3.0	-2.4	-0.7	-0.8	-1.9
Germany	-1.1	-2.2	-0.1	1.2	1.4	1.8	1.5
Estonia	0.2	0.6	-0.2	-0.4	-0.7	-0.5	0.1
Ireland	-3.4	0.8	-7.2	-0.7	-0.3	0.1	0.5
Greece	-6.3	-6.7	-5.9	0.5	0.7	1.0	1.5
Spain	-3.6	-0.3	-6.6	-4.3	-3.0	-2.5	-2.9
France	-3.5	-2.7	-4.3	-3.6	-3.0	-2.3	-3.0
Italy	-2.9	-2.9	-3.0	-2.4	-2.4	-2.2	-1.6
Cyprus	-2.7	-2.1	-3.3	0.3	1.9	-3.5	1.5
Latvia	-2.3	-1.9	-2.7	0.2	-0.8	-0.8	-0.6
Lithuania	-2.3	-1.9	-2.7	0.2	0.5	0.6	0.3
Luxembourg	1.8	2.5	1.2	1.9	1.3	3.1	2.4
Malta	-2.8	-4.8	-0.9	0.9	3.2	2.0	0.5
Netherlands	-1.3	-0.6	-1.9	0.0	1.3	1.4	1.7
Austria	-2.1	-2.2	-2.0	-1.5	-0.8	0.2	0.7
Portugal	-4.8	-4.3	-5.2	-1.9	-3.0	-0.3	0.1
Slovenia	-3.2	-2.2	-4.2	-1.9	-0.1	0.7	0.5
Slovakia	-4.3	-5.2	-3.5	-2.6	-0.9	-1.0	-1.4
Finland	0.8	3.8	-1.8	-1.7	-0.7	-0.9	-1.0
Euro area	-2.5	-2.0	-2.9	-1.5	-0.9	-0.5	-0.6
Bulgaria	-0.3	0.6	-1.1	0.1	1.1	2.0	1.9
Czech Republic	-2.5	-3.6	-1.5	0.7	1.5	0.9	0.3
Denmark	0.8	2.4	-0.6	0.1	1.8	0.7	3.8
Croatia	-3.4	-3.1	-3.7	-0.9	0.8	0.2	0.4
Hungary	-4.4	-6.1	-3.0	-1.8	-2.4	-2.1	-2.1
Poland	-3.7	-4.0	-3.5	-2.4	-1.5	-0.2	-0.7
Romania	-3.3	-2.8	-3.8	-2.6	-2.6	-2.9	-4.4
Sweden	0.5	1.2	-0.1	1.0	1.4	0.8	0.6
European Union	-2.3	-1.9	-2.7	-1.4	-0.8	-0.4	-0.5
United Kingdom	-3.8	-1.9	-5.5	-3.3	-2.4	-2.2	-2.3
United States	-5.8	-3.9	-7.6	-5.4	-4.3	-6.2	-6.6
Japan	-5.8	-5.5	-6.2	-3.5	-2.9	-2.3	.

Sources: Eurostat, ESCB and OECD.

Chart 5.1 General government balance

(percentage of GDP)



Sources: ESCB and OECD.

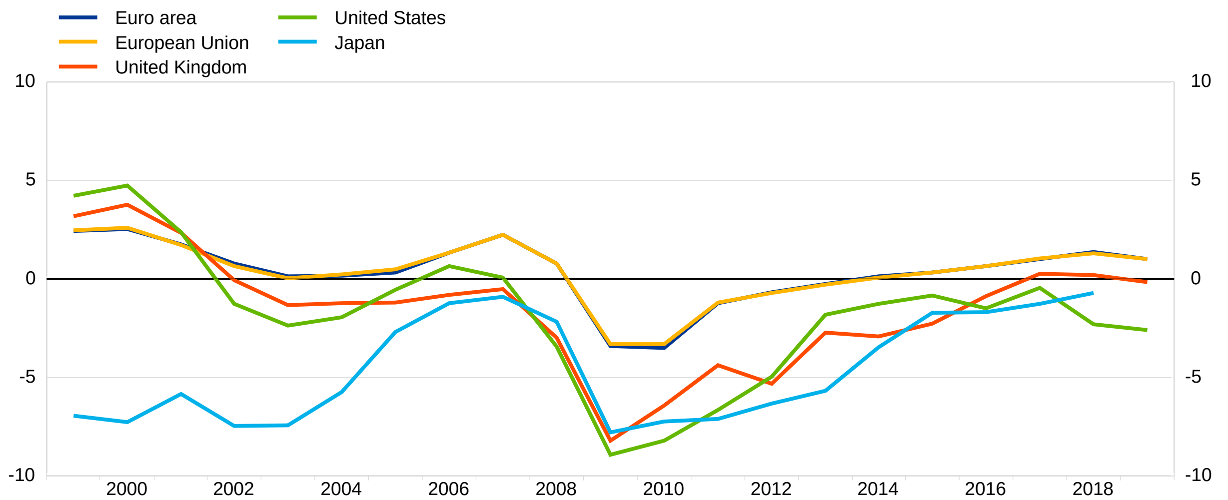
5 Fiscal developments

5.2 Primary general government balance [1)]
(percentage of GDP)

	1999-2019	1999-2008	2009-2019	2016	2017	2018	2019
Belgium	2.2	4.7	0.0	0.3	1.7	1.3	0.0
Germany	1.2	0.7	1.6	2.3	2.4	2.8	2.3
Estonia	0.3	0.8	-0.1	-0.4	-0.7	-0.5	0.1
Ireland	-1.3	2.2	-4.4	1.6	1.7	1.7	1.8
Greece	-1.4	-1.3	-1.5	3.8	3.9	4.4	4.5
Spain	-1.1	2.0	-3.9	-1.6	-0.5	-0.1	-0.6
France	-1.1	0.2	-2.2	-1.8	-1.2	-0.6	-1.6
Italy	1.8	2.4	1.3	1.5	1.3	1.4	1.8
Cyprus	0.1	0.9	-0.7	2.9	4.4	-1.1	3.8
Latvia	-1.4	-1.3	-1.4	1.2	0.2	-0.1	0.1
Lithuania	-1.0	-0.8	-1.3	1.6	1.6	1.5	1.1
Luxembourg	2.1	2.7	1.6	2.2	1.6	3.4	2.7
Malta	0.3	-1.1	1.6	3.0	5.0	3.5	1.9
Netherlands	0.6	1.9	-0.5	1.2	2.3	2.3	2.5
Austria	0.7	1.1	0.4	0.5	1.0	1.8	2.1
Portugal	-1.3	-1.5	-1.2	2.2	0.8	3.0	3.1
Slovenia	-1.2	-0.4	-1.9	1.1	2.4	2.7	2.2
Slovakia	-2.3	-2.6	-2.0	-0.9	0.5	0.4	-0.1
Finland	2.4	5.8	-0.7	-0.6	0.4	0.0	-0.2
Euro area	0.4	1.2	-0.4	0.6	1.0	1.4	1.0
Bulgaria	1.2	2.9	-0.3	1.0	1.9	2.6	2.5
Czech Republic	-1.5	-2.6	-0.4	1.6	2.2	1.7	1.0
Denmark	2.9	5.0	0.9	1.2	2.6	1.5	4.5
Croatia	-1.1	-1.3	-0.9	2.1	3.4	2.5	2.6
Hungary	-0.4	-1.6	0.6	1.3	0.2	0.2	0.2
Poland	-1.4	-1.3	-1.5	-0.7	0.1	1.2	0.7
Romania	-1.5	-0.7	-2.3	-1.1	-1.4	-1.8	-3.2
Sweden	2.0	3.6	0.6	1.5	1.9	1.3	1.0
European Union	0.4	1.3	-0.4	0.6	1.0	1.3	1.0
United Kingdom	-1.5	0.1	-3.0	-0.9	0.3	0.2	-0.2
United States	-1.8	0.3	-3.6	-1.5	-0.5	-2.3	-2.6
Japan	-4.5	-4.8	-4.3	-1.7	-1.2	-0.7	.

Sources: Eurostat, ESCB and OECD.
1) General government balance excluding interest expenditure.

Chart 5.2 Primary general government balance
(percentage of GDP)



Sources: ESCB and OECD.

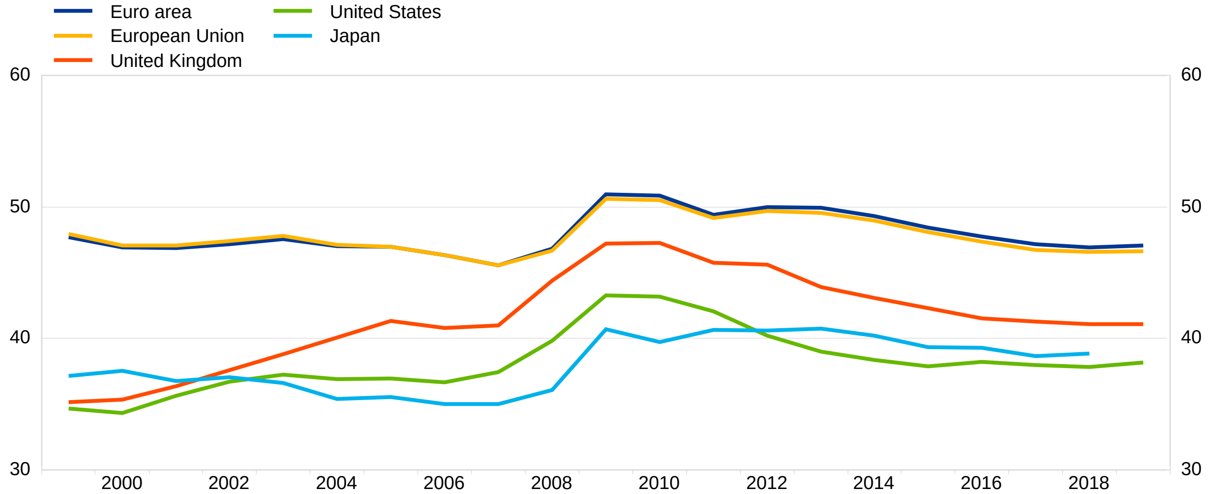
5 Fiscal developments

5.3 General government expenditure
(percentage of GDP)

	1999-2019	1999-2008	2009-2019	2016	2017	2018	2019
Belgium	52.1	50.0	54.1	53.1	52.0	52.2	52.1
Germany	45.9	46.6	45.3	44.4	44.2	44.5	45.2
Estonia	37.6	35.7	39.4	39.1	39.2	39.2	38.9
Ireland	36.0	34.1	37.7	28.2	26.3	25.6	24.5
Greece	49.7	46.5	52.7	49.7	48.4	48.4	47.5
Spain	41.9	39.1	44.5	42.4	41.2	41.7	42.1
France	54.8	52.7	56.6	56.7	56.5	55.7	55.6
Italy	48.5	47.1	49.8	49.1	48.8	48.4	48.6
Cyprus	39.6	37.4	41.7	37.5	36.8	43.0	40.1
Latvia	38.2	36.1	40.0	37.4	38.7	39.4	38.4
Lithuania	36.6	36.2	37.0	34.2	33.2	33.8	34.6
Luxembourg	41.8	40.7	42.8	40.9	42.1	42.2	42.2
Malta	40.3	41.9	38.8	36.0	35.0	36.6	37.2
Netherlands	44.1	43.1	45.1	43.6	42.4	42.3	42.0
Austria	51.0	51.1	51.0	50.1	49.3	48.7	48.4
Portugal	46.4	44.7	47.9	44.8	45.4	43.2	42.7
Slovenia	47.7	46.5	48.8	46.2	44.1	43.5	43.3
Slovakia	42.5	42.2	42.7	42.7	41.4	41.7	42.7
Finland	51.8	48.5	54.9	55.6	53.7	53.4	53.3
Euro area	47.9	46.9	48.9	47.7	47.2	46.9	47.1
Bulgaria	37.7	38.4	37.1	35.0	34.9	36.6	36.3
Czech Republic	42.4	42.7	42.2	39.8	39.0	40.6	41.3
Denmark	53.2	52.1	54.2	52.5	50.5	50.5	49.2
Croatia	48.4	48.7	48.1	47.5	45.3	46.0	47.0
Hungary	48.8	49.2	48.5	46.8	46.5	45.9	45.6
Poland	43.5	44.2	42.8	41.1	41.3	41.5	41.8
Romania	36.4	36.1	36.6	34.6	33.5	34.9	36.1
Sweden	51.3	52.4	50.3	49.7	49.2	49.8	49.3
European Union	47.8	47.0	48.5	47.3	46.7	46.6	46.6
United Kingdom	41.5	39.1	43.6	41.5	41.3	41.1	41.1
United States	38.2	36.6	39.6	38.2	38.0	37.8	38.1
Japan	38.0	36.2	39.9	39.3	38.6	38.8	.

Sources: Eurostat, ESCB and OECD.

Chart 5.3 General government expenditure
(percentage of GDP)



Sources: ESCB and OECD.

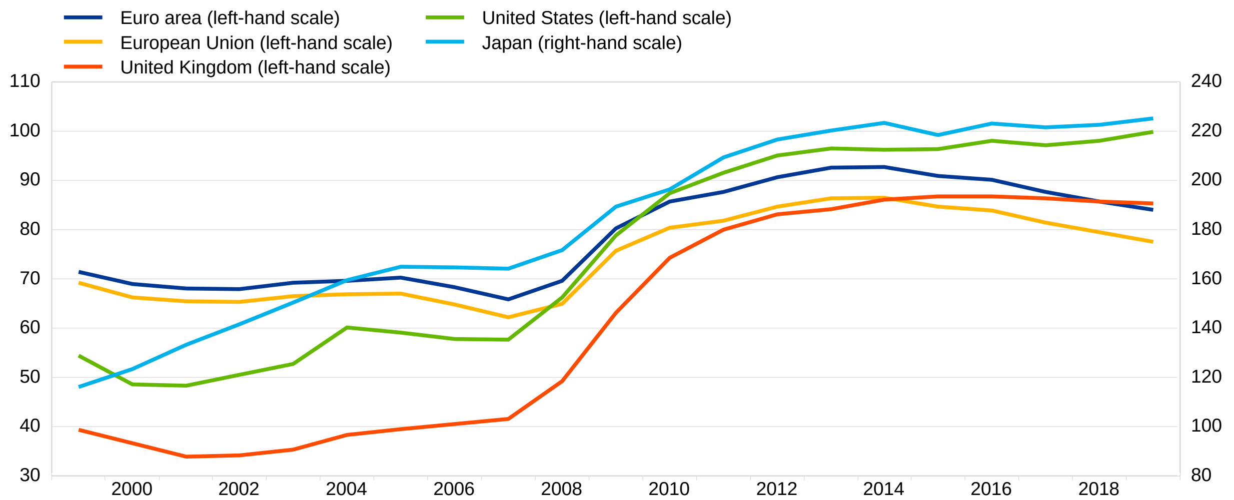
5 Fiscal developments

5.4 General government debt 1)
(percentage of GDP)

	1999-2019	1999-2008	2009-2019	2016	2017	2018	2019
Belgium	101.7	100.5	102.9	105.0	102.0	99.8	98.1
Germany	68.0	62.9	72.6	69.3	65.1	61.8	59.6
Estonia	7.0	5.0	8.7	9.9	9.1	8.2	8.4
Ireland	60.1	32.2	85.5	74.1	67.0	63.0	57.4
Greece	138.7	103.8	170.3	180.8	179.2	186.2	180.5
Spain	68.1	47.4	86.9	99.2	98.6	97.4	95.5
France	78.9	63.4	93.0	98.0	98.3	98.1	98.1
Italy	118.8	107.2	129.4	134.8	134.1	134.4	134.7
Cyprus	73.7	58.0	87.9	103.1	93.5	99.2	94.0
Latvia	27.2	12.9	40.3	40.4	39.0	37.1	36.9
Lithuania	28.9	19.6	37.4	39.7	39.1	33.7	35.9
Luxembourg	15.1	8.6	21.0	20.1	22.3	21.0	22.0
Malta	61.4	64.8	58.3	54.5	48.8	45.2	42.6
Netherlands	55.5	50.2	60.4	61.9	56.9	52.4	48.7
Austria	73.8	66.7	80.3	82.8	78.5	74.0	70.5
Portugal	94.1	65.2	120.3	131.5	126.1	121.5	117.2
Slovenia	45.1	25.4	63.1	78.5	74.1	70.3	65.6
Slovakia	44.7	40.4	48.7	52.4	51.7	49.9	48.5
Finland	48.1	39.8	55.8	63.2	61.3	59.6	59.3
Euro area	78.9	68.9	88.0	90.1	87.7	85.8	84.0
Bulgaria	30.8	41.8	20.7	29.3	25.3	22.3	20.2
Czech Republic	31.5	24.8	37.6	36.6	34.2	32.1	30.2
Denmark	41.4	42.7	40.2	37.2	35.9	34.0	33.3
Croatia	55.7	37.4	72.4	80.8	77.5	74.3	72.8
Hungary	68.2	60.4	75.3	74.9	72.2	69.1	65.4
Poland	47.7	43.1	51.9	54.2	50.6	48.8	45.7
Romania	27.1	18.9	34.5	37.4	35.1	34.7	35.3
Sweden	43.7	47.9	40.0	42.3	40.7	38.9	35.1
European Union	74.4	65.9	82.1	84.0	81.5	79.5	77.6
United Kingdom	61.5	38.9	82.0	86.8	86.3	85.8	85.4
United States	75.8	55.6	94.1	98.1	97.2	98.1	99.8
Japan	183.7	149.0	215.2	223.2	221.6	222.6	225.3

Sources: ESCB and OECD.
1) Gross debt (includes currency, deposits, debt securities and loans). Other than for Japan, the data are consolidated between the sub-sectors of general government.

Chart 5.4 General government debt
(percentage of GDP)



Sources: ESCB and OECD.

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The cut-off date for the data included in this report was 25 February 2021 (exceptions are explicitly indicated).

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PDF ISBN 978-92-899-4649-0, ISSN 1725-2865, doi:10.2866/203523, QB-AA-21-001-EN-N
HTML ISBN 978-92-899-4629-2, ISSN 1725-2865, doi:10.2866/42153, QB-AA-21-001-EN-Q