EUROPEAN CENTRAL BANK
EUROSYSTEM

Economic Bulletin

Contents

Update on economic and monetary developments

Summary

Incoming information since the last Governing Council meeting in early September confirms the previous assessment of a protracted weakness in euro area growth dynamics, the persistence of prominent downside risks and muted inflation pressures. The risks surrounding the euro area growth outlook remain on the downside. In particular, these risks pertain to the prolonged presence of uncertainties, related to geopolitical factors, rising protectionism and vulnerabilities in emerging markets. At the same time, ongoing employment growth and increasing wages continue to underpin the resilience of the euro area economy. Against this overall background, the Governing Council at its October meeting kept its monetary policy stance unchanged, confirming the decisions taken at the previous meeting in September. The comprehensive package of policy measures that was decided at the September meeting provides substantial monetary stimulus, and thus will contribute to a further easing in borrowing conditions for firms and households. This will support the euro area expansion, the ongoing build-up of domestic price pressures and, thus, the sustained convergence of inflation to the Governing Council's medium-term inflation aim.

Survey indicators suggest subdued, but stabilising, global economic activity in the third quarter of 2019. Following a protracted period of weakness, the global manufacturing Purchasing Managers' Index (PMI) has improved over recent months and returned to expansionary territory. The global services PMI remained expansionary in the third quarter. Global trade (excluding the euro area) contracted in the first half of 2019 owing to weak intra-Asian trade, but short-term indicators of global trade signal low, but positive, growth in the third quarter. Global inflation declined to below 2% in August, driven in part by lower energy price inflation, while inflation excluding food and energy remained stable at 2.3%.

Since the Governing Council meeting in September 2019, euro area long-term risk-free rates have increased and the EONIA forward curve has shifted upwards, largely reflecting lower market expectations of another cut in the deposit facility rate before the end of the year. Sovereign spreads have remained broadly stable, with some countries seeing a slight increase during the review period. Equity prices have increased, despite higher discount rates, owing to a falling equity risk premium. In foreign exchange markets, the euro has broadly strengthened in trade-weighted terms.

Euro area real GDP growth was confirmed at 0.2%, quarter on quarter, in the second quarter of 2019, following a rise of 0.4% in the previous quarter. Incoming economic data and survey information continue to point to moderate but positive growth in the euro area in the second half of this year. This slowdown in growth mainly reflects the

ongoing weakness of international trade in an environment of persistent global uncertainties, which continue to weigh on the euro area manufacturing sector and are dampening investment growth. At the same time, the services and construction sectors remain resilient, despite some moderation. The euro area expansion is supported by favourable financing conditions, further employment gains in conjunction with rising wages, the mildly expansionary euro area fiscal stance and the ongoing – albeit somewhat slower – growth in global activity.

Euro area annual HICP inflation decreased from 1.0% in August 2019 to 0.8% in September, reflecting lower food and energy price inflation. On the basis of current futures prices for oil, headline inflation is likely to decline slightly further before rising again at the end of the year. Measures of underlying inflation remained generally muted and indicators of inflation expectations stand at low levels. While labour cost pressures have strengthened amid tighter labour markets, the weaker growth momentum is delaying their pass-through to inflation. Over the medium term inflation is expected to increase, supported by the ECB's monetary policy measures, the ongoing economic expansion and robust wage growth.

Regarding monetary developments, broad money (M3) growth increased to 5.7% in August 2019, after 5.1% in July. M3 growth continues to be backed by bank credit creation, and the narrow monetary aggregate M1 remained the main contributor to broad money growth. Furthermore, the annual growth of broad money and loans to the private sector remained robust as the mechanical contribution of net purchases under the asset purchase programme (APP) faded out and economic momentum weakened. The annual growth rate of loans to non-financial corporations increased to 4.3% in August, from 4.0% in July, while the annual growth rate of loans to households remained unchanged at 3.4%. At the same time, favourable bank funding and lending conditions continued to support loan flows and thereby economic growth. The ECB's accommodative monetary policy stance will help to safeguard favourable bank lending conditions and will continue to support access to financing, in particular for small and medium-sized enterprises.

Combining the outcome of the economic analysis with the signals coming from the monetary analysis, the Governing Council confirmed that an ample degree of monetary accommodation is still necessary for the continued sustained convergence of inflation to levels that are below, but close to, 2% over the medium term.

On the basis of this assessment, the Governing Council decided to keep the key ECB interest rates unchanged and expects them to remain at their present or lower levels until it has seen the inflation outlook robustly converge to a level sufficiently close to, but below, 2% within its projection horizon, and such convergence has been consistently reflected in underlying inflation dynamics.

The Governing Council confirmed that it will restart net purchases under the ECB's APP at a monthly pace of €20 billion as from 1 November. It expects them to run for as long as necessary to reinforce the accommodative impact of the ECB's policy rates, and to end shortly before the Governing Council starts raising the key ECB interest rates.

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

The Governing Council reiterated the need for a highly accommodative stance of monetary policy for a prolonged period of time to support underlying inflation pressures and headline inflation developments over the medium term. In particular, the Governing Council's forward guidance will ensure that financial conditions adjust in accordance with changes to the inflation outlook. In any case, the Governing Council continues to stand ready to adjust all of its instruments, as appropriate, to ensure that inflation moves towards its aim in a sustained manner, in line with its commitment to symmetry.

1 External environment

Global survey indicators of economic growth suggest subdued, but stabilising, economic activity. The global composite output Purchasing Managers' Index (PMI) excluding the euro area remained in expansionary territory in the third quarter of 2019 and was broadly unchanged compared with the second quarter. Both the manufacturing components and the services components remained stable. Following a protracted period of weakness, the global manufacturing PMI has improved over recent months and returned to expansionary territory, while the global services PMI remained expansionary in the third quarter. Developments were mixed across and within regions. In the third quarter of 2019 the composite output PMI increased in the United States, but decreased in Japan and fell below the expansionary threshold in the United Kingdom. In emerging market economies, the composite output PMI increased in Brazil and India – despite India's index experiencing a sharp decline to below the neutral threshold in September – and decreased marginally in China and Russia (see Chart 1).

Chart 1
Global composite output PMI

(diffusion indices)
- Global composite output excluding the euro area
- Global composite output excluding the euro area – long-term average
- Advanced economies excluding the euro area
- Emerging market economies
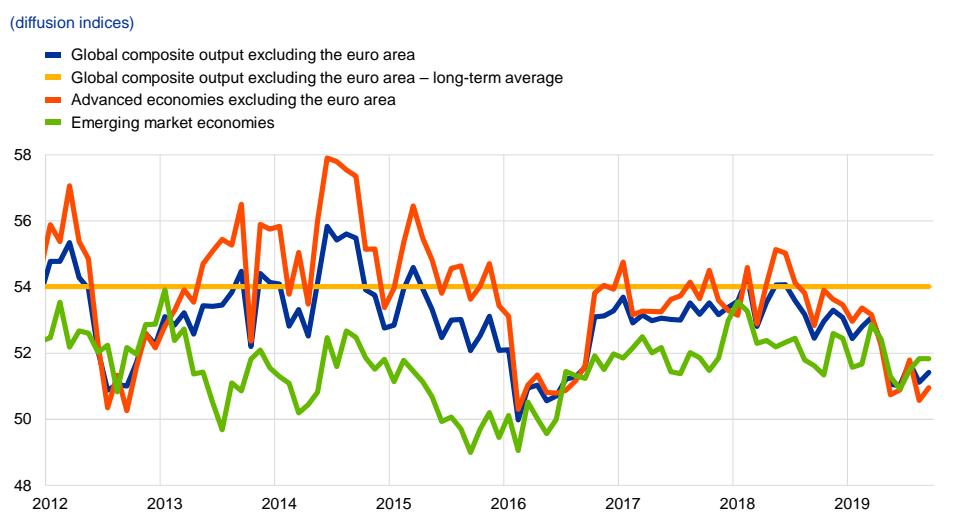
Sources: Haver Analytics, Markit and ECB calculations.
Notes: The latest observations are for September 2019. "Long-term average" refers to the period from January 1999 to September 2019.

Risks to the global economy remain to the downside amid a further escalation of trade disputes, high uncertainty related to Brexit and a potentially slower recovery in a number of emerging market economies. A continual escalation of trade disputes would likely imply higher adjustment costs in the transition to a new trading regime and possible further disruptions to global supply chains over time. This could, in turn, amplify the impact on economic activity of already-enacted tariffs. Risks related to Brexit remain high. The recovery in a number of emerging market economies that have experienced sharp recessions may be less vigorous than expected. The speed of recovery depends on the extent to which domestic policies address structural impediments to investment and potential growth. A slower recovery in these economies would ultimately translate into more sluggish global growth.

**Global financial conditions have remained broadly stable in both advanced and emerging market economies.** In September risk sentiment had improved somewhat against the backdrop of renewed expectations of a trade deal between the United States and China, subsiding risks of a disorderly Brexit and strong economic data in the United States. However, risk appetite has since faded again and global equity prices have reversed some of their previous gains. While the Federal Open Market Committee cut interest rates further at its September meeting, weaker than expected economic data has led financial markets to price in further monetary accommodation.

Global trade momentum is expected to remain muted, as higher tariffs are set to come fully into effect at the end of the year. Global trade (excluding the euro area) contracted in the first half of 2019 owing to weak intra-Asia trade, reflecting a slowing down of the Chinese economy and of technology-related trade. Developments in the first half of the year were also influenced by the high volatility in UK imports linked to Brexit-related stockpiling efforts. Short-term indicators of global trade signal low, but positive, growth. Global merchandise imports continued to expand in August in monthly terms, pointing to positive world trade growth in the third quarter. The global PMI for new export orders, while remaining below the neutral threshold, edged up slightly in September following five consecutive months of decline (Chart 2).

Chart 2

Surveys and global trade in goods

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

- Global merchandise imports excluding the euro area (left-hand scale)
- Average global merchandise imports excluding the euro area, 1991-2018 (left-hand scale)
- Global PMI, manufacturing output excluding the euro area (right-hand scale)
- Global PMI, new export orders excluding the euro area (right-hand scale)
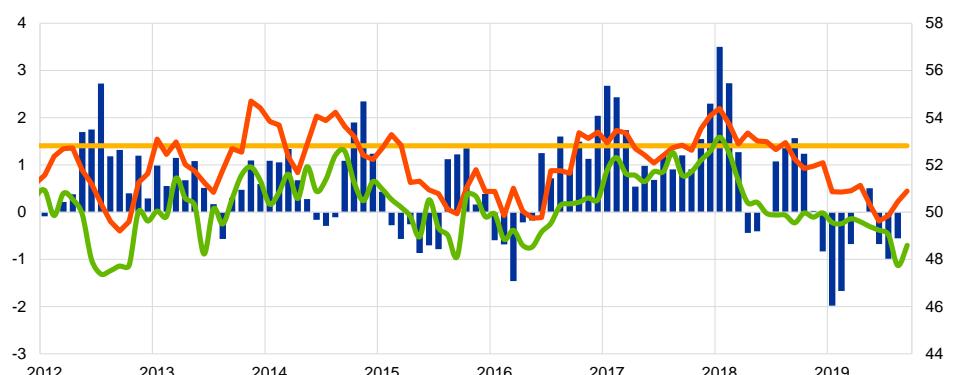
Sources: Markit, CPB Netherlands Bureau for Economic Policy Analysis and ECB calculations.
Note: The latest observations are for August 2019 for global merchandise imports and September 2019 for the PMIs.

Global inflation remains subdued, in spite of tight labour market conditions in major advanced economies. Annual consumer price inflation in the countries of the Organisation for Economic Co-operation and Development (OECD) declined to below 2% in August, driven in part by lower energy price inflation, while inflation excluding food and energy remained stable at 2.3%. Inflationary pressures across major advanced economies remain muted despite the tight labour market conditions, which have so far translated into only moderate wage increases. Overall, underlying inflation pressures are expected to remain subdued over the short and medium term.

Oil prices have remained broadly unchanged amid short-term volatility. On 14 September 2019 a drone attack on Saudi Arabian oil facilities reduced the global oil supply by approximately 6%. The price of oil increased sharply in the aftermath of the attack, but had moved back to the levels seen before the attack by 30 September as Saudi Arabia used spare capacity and inventories to stabilise oil supply amid concerns about global oil demand. Non-oil commodity prices remained mixed, with metal prices having declined and food prices having increased.

In the United States, economic activity remains resilient on the whole. Real GDP expanded at an annualised rate of 2.0% in the second quarter of 2019, following 3.1% in the previous quarter. The deceleration mainly reflects the reversal of temporary factors – related to net exports and private inventories – that supported GDP growth in the first quarter. Overall, a strong labour market, sustained consumer spending and the fiscal impulse from the lifting of spending caps in the fiscal year 2020/21 are expected to support the economy in the near term, more than offsetting the signs of weakness in the manufacturing sector. Financial conditions remain supportive owing to the Federal Open Market Committee's monetary easing. At the same time, the ongoing trade tensions and a less favourable external environment increase uncertainty about the economic outlook.

In Japan, economic activity remains subdued as weak exports offset robust domestic consumption. Real GDP grew at a quarterly rate of 0.3% in the second quarter, reflecting the rather weak underlying growth momentum. The global economic slowdown had a negative impact on Japan's export-oriented economy, which dampened business sentiment among large manufacturers. Consumption supported growth, partly owing to frontloading ahead of the increase in the value added tax from 8% to 10% in October 2019. However, the overall personal consumption momentum remains limited amid the adverse impact of bad weather conditions, eroding consumer confidence and muted wage increases. The Bank of Japan kept monetary policy on hold in September and mentioned the need to "re-examine" economic and price developments at the October meeting. Meanwhile, inflation remained subdued, despite a tight labour market. Annual headline CPI inflation eased further to 0.2% in September, while core inflation excluding food and energy slowed to 0.3%.

In the United Kingdom, Brexit uncertainty continues to weigh on the economic outlook. Real GDP declined by 0.2% in quarter-on-quarter terms in the second quarter. This reflected, in large part, an offset to the stronger growth seen in the first quarter, which was mainly supported by stockbuilding in the run-up to the initial Brexit deadline at the end of March. Looking ahead, survey indicators suggest further weakening of consumption, business investment and export growth in the final quarters of 2019, as Brexit-related uncertainty continues to weigh on sentiment. At the same time, further fiscal spending, announced by the Government in September, is expected to put GDP growth in positive territory for the remainder of the year.

In China, GDP growth remains subdued as cyclical headwinds add to the structural slowdown. Real GDP slowed to 6.0% in year-on-year terms in the third quarter of 2019 owing to a decelerating net export contribution. Industrial production and investment softened further in August, highlighting the growing toll on Chinese manufacturers from the trade tensions with the United States. On the upside, the

manufacturing PMI returned to above the neutral threshold in September, possibly signalling a bottoming-out of the manufacturing sector. In addition, car sales recovered somewhat in August from the lows in early 2019, but their annual growth remains in negative territory. Overall, China's growth slowdown is due to both cyclical and structural factors. The structural slowdown is driven by a rebalancing of the economy away from investment, and implies a slowdown of potential growth that mainly reflects a slower pace of capital accumulation and unfavourable demographics. At the same time, cyclical headwinds, reflecting weaker manufacturing activity amid uncertainty relating to the trade tensions, add downward pressure on growth. Fiscal and monetary policy measures remain supportive, with the aim of stabilising growth.

2   Financial developments

Long-term sovereign yields in the euro area have increased somewhat, albeit with some fluctuations, halting the downward trend that started in late 2018.
During the period under review (12 September to 23 October 2019), the GDP-weighted euro area ten-year sovereign bond yield increased by 11 basis points to 0.06% (see Chart 3), on the back of higher risk-free rates amid receding global political tensions. Ten-year sovereign bond yields in the United Kingdom also increased over the review period, to around 0.69%, while the equivalent yields in the United States decreased slightly, to 1.77%.

Chart 3

Ten-year sovereign bond yields

(percentages per annum)

- GDP-weighted euro area average
- United Kingdom
- United States
- Germany

Sources: Thomson Reuters and ECB calculations.
Notes: Daily data. The vertical grey line denotes the start of the review period on 12 September 2019. The latest observations are for 23 October 2019.

Euro area sovereign bond spreads relative to the risk-free overnight index swap (OIS) rate remained broadly stable during the review period. The spreads on German, French and Italian ten-year sovereign bonds rose by 3, 5 and 7 basis points respectively to reach -0.24%, 0.07% and 1.23%. By contrast, Spanish, Portuguese and Greek spreads declined by 9, 15 and 34 basis points respectively to 0.43%, 0.35% and 1.47%, leaving the GDP-weighted spread for the euro area unchanged at 0.21%.

Broad indices of euro area equity prices rose on the back of a decrease in the equity risk premium. Over the review period equity prices of euro area financials and non-financial corporations (NFCs) increased by 5.2% and 0.2% respectively. The negative effect on equity prices stemming from higher risk-free rates and somewhat lower longer-term earnings expectations was more than offset by a reduction in the equity risk premium, which may partly reflect some relaxation of global trade tensions and of imminent Brexit-related risks.

Euro area corporate bond spreads remained stable over the review period. The gains in equity prices mentioned above were not reflected in movements in corporate

bond spreads. Spreads on both investment-grade NFC bonds and financial sector bonds relative to the risk-free rate remain virtually unchanged from the beginning of the review period and stand at 67 and 146 basis points respectively. Overall, although corporate bond spreads are currently higher than the lows reached in early 2018, they remain some 25 basis points below the levels observed in March 2016, prior to the announcement and subsequent launch of the corporate sector purchase programme.

The euro overnight index average (EONIA) and the new benchmark euro short-term rate (€STR) averaged -45 basis points and -54 basis points respectively over the review period. Both rates are around 10 basis points down on the average levels recorded in August 2019, reflecting the cut in the deposit facility rate (DFR) which took effect on 18 September 2019. The methodology for computing EONIA changed on 2 October 2019; it is now calculated as the €STR plus a fixed spread of 8.5 basis points (see Box 1). Excess liquidity decreased by approximately €74 billion to around €1,687 billion. This decline mainly reflects voluntary repayments in the second series of targeted longer-term refinancing operations (TLTRO II) and, to a lesser extent, an increase in liquidity-absorbing autonomous factors.

The EONIA forward curve shifted upwards over the review period, indicating lower market expectations of another DFR cut. The curve reaches a low of around -0.53% in early 2021, which means that a further cut of 10 basis points in the DFR is not fully priced in anymore. Overall, the curve remains below zero for horizons up to 2026, reflecting continued market expectations of a prolonged period of negative interest rates.

In foreign exchange markets, the euro broadly strengthened in trade-weighted terms over the review period (see Chart 4), supported by an increase in interest rate differentials. The nominal effective exchange rate of the euro, as measured against the currencies of 38 of the euro area's most important trading partners, appreciated by 0.6%. This reflects a strengthening of the euro against major currencies, including the US dollar (by 1.5%), the Chinese renminbi (by 1.3%), the Japanese yen (by 2.1%) and the Swiss franc (by 1.0%). The euro also appreciated vis-à-vis the currencies of most emerging market economies. Over the same period, the euro weakened against the pound sterling (by 2.8%) amid news pointing towards an increased likelihood of a smooth Brexit, and also depreciated slightly against the Polish zloty (by 1.2%), the Czech koruna (by 0.7%) and the Hungarian forint (by 0.5%).

Chart 4

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

(percentage changes)

■ Since 12 September 2019
■ Since 23 October 2018
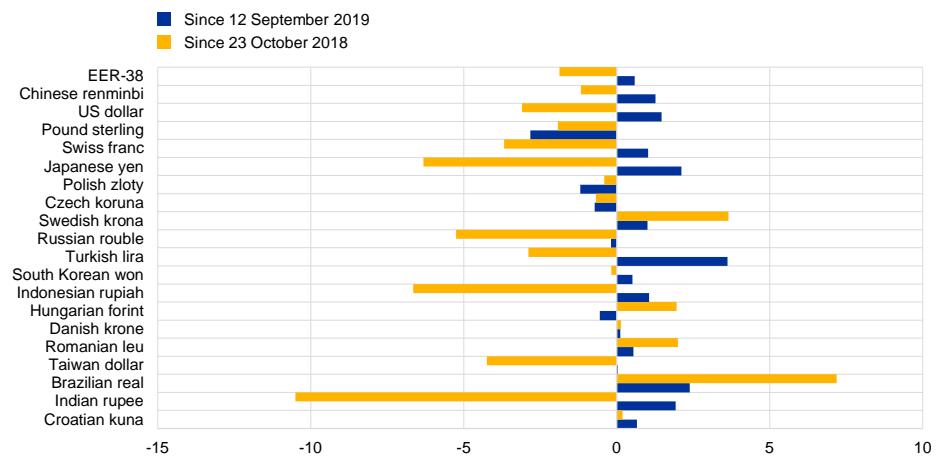
Source: ECB.
Notes: "EER-38" is the nominal effective exchange rate of the euro against the currencies of 38 of the euro area's most important trading partners. A positive (negative) change corresponds to an appreciation (depreciation) of the euro. All changes have been calculated using the foreign exchange rates prevailing on 23 October 2019.

3   Economic activity

Real GDP growth slowed in the second quarter of 2019 on the back of weak trade. Output in the euro area rose by 0.2%, quarter on quarter, in the second quarter of 2019, following growth of 0.4% in the first quarter (see Chart 5). Domestic demand continued to contribute positively to GDP growth, whereas net trade made a negative contribution. Changes in inventories provided a neutral contribution (close to zero). Economic indicators point to ongoing, but slow, growth in the second half of 2019.

Chart 5
Euro area real GDP, Economic Sentiment Indicator and composite output Purchasing Managers' Index

(left-hand scale: diffusion index; right-hand scale: quarter-on-quarter percentage changes)
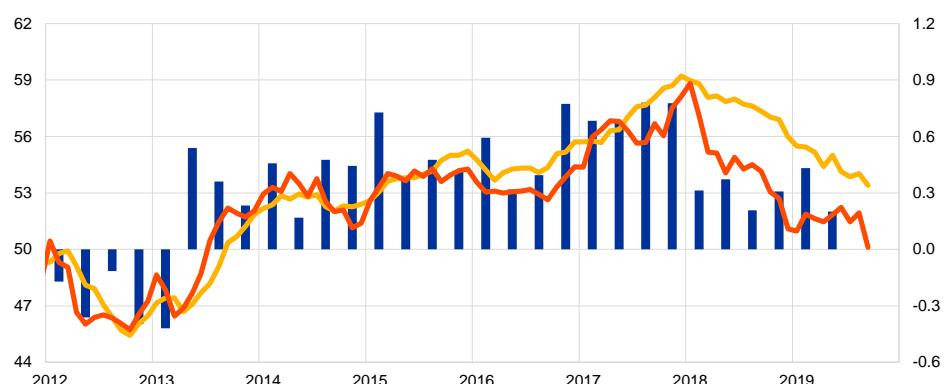
Sources: Eurostat, European Commission, Markit and ECB calculations.
Notes: The Economic Sentiment Indicator (ESI) is standardised and rescaled to have the same mean and standard deviation as the Purchasing Managers' Index (PMI). The latest observations are for the second quarter of 2019 for real GDP and September 2019 for the ESI and the PMI.

Euro area labour markets remained resilient. Employment increased by 0.2% in the second quarter of 2019, down from 0.4% in the first quarter, and in line with the moderation in output growth. Employment growth was broad-based across countries and sectors. Employment has risen for 24 consecutive quarters since mid-2013, with the number of people employed increasing by about 11.2 million. Hourly productivity growth was zero in quarter-on-quarter terms in the second quarter of 2019, after a small increase in the first quarter.

Looking ahead, recent data and survey indicators continue to point to positive but moderate employment growth. The euro area unemployment rate stood at 7.4% in August, down from 7.5% in July. Short-term survey indicators, despite declining from the high levels recorded in 2018, suggest that near-term employment growth will continue to be positive, supported by the services sector.

Chart 6

Euro area employment, PMI assessment of employment and unemployment

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

■ Employment (left-hand scale)
— PMI assessment of employment (left-hand scale)
— Unemployment rate (right-hand scale)
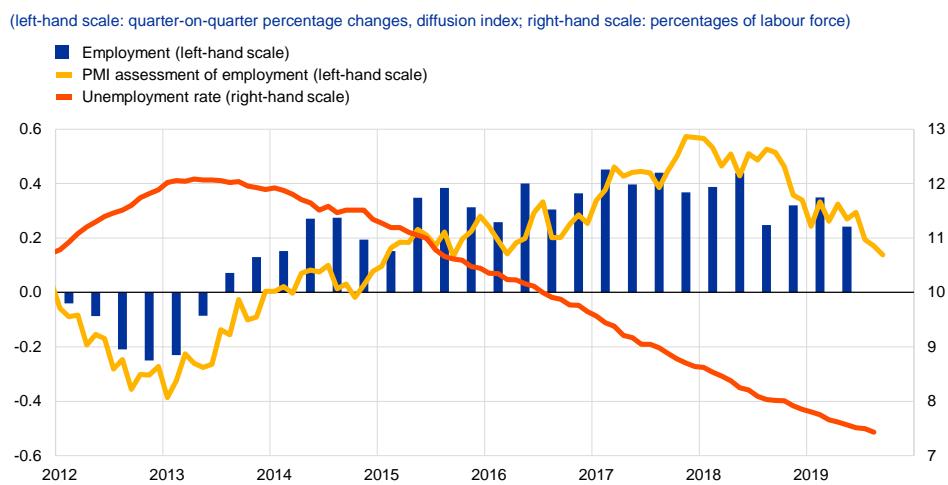
Sources: Eurostat, Markit and ECB calculations.
Notes: The Purchasing Managers' Index (PMI) is expressed as a deviation from 50 divided by 10. The latest observations are for the second quarter of 2019 for employment, September 2019 for the PMI and August 2019 for the unemployment rate.

Rising employment continues to support household income and consumer spending. Private consumption rose by 0.2%, quarter on quarter, in the second quarter of 2019, following somewhat stronger growth in the previous quarter. Household real disposable income has been largely insulated from the recent economic slowdown. Annual growth of real gross disposable income rose from 2.1% in the first quarter to 2.2% in the second quarter. Overall, employment growth has remained resilient during the slowdown, supporting labour income. In addition, lower direct taxes and social security contributions, reflecting fiscal measures in a number of euro area countries, have contributed positively to households' purchasing power. The saving ratio increased further in the second quarter of 2019, as income growth outpaced consumption growth.

Looking ahead, private consumption should continue to grow steadily. Recent data on the volume of retail sales and new passenger car registrations point to somewhat lower consumption growth in the third quarter of 2019 compared with the second quarter. However, other indicators support the picture of steady consumption dynamics. Consumer confidence, which started to decline at the end of 2017, has stabilised in the course of 2019 and stood in October close to the level recorded at the beginning of the year. The latest survey results also signal favourable labour market conditions, which should continue to support household income and consumer spending.

Business investment is expected to remain subdued in a context of elevated uncertainty and low profit margins, while nevertheless supported by favourable financing conditions. Non-construction investment rose by 11%, quarter on quarter, in the second quarter of 2019. This was largely due to a strong increase in Ireland, reflecting the openness and volatile capital flows of the Irish economy. Incoming data suggest ongoing but moderate business investment growth in the euro area in the near term. Industrial production of capital goods stood on average in July and August

0.5% above its average level in the previous quarter. However, industrial confidence in the capital goods producing sector declined in September, in the context of intensifying trade disputes and geopolitical risks. Weak firm profit margins, on a downward trend since mid-2017, also suggest a drag on business investment growth. Moreover, the level of capacity utilisation in manufacturing, in continuous decline since the first quarter of 2018, reached almost its historical average in the third quarter of this year after more than two years above it. On a more positive note, favourable financing conditions, reflected in the access to credit for non-financial corporations, will continue to support business investment.

Housing investment growth is expected to remain weak in the near term.
Quarterly growth in housing investment came to a halt in the second quarter of 2019, after 1.4% in the previous quarter, posting the lowest outcome in four years. Recent short-term indicators and survey results suggest weak momentum in the third quarter, although they remain above historical averages. The European Commission's construction confidence indicator for the third quarter points to positive, albeit decelerating, momentum. Similarly, the Purchasing Managers' Index (PMI) for construction output in the third quarter stood below the average level recorded in the previous quarter and indicated broadly flat growth in the construction sector.

Extra-euro area exports of goods and services stagnated and imports rose in the second quarter, while intra-euro area trade weakened further. After a short recovery in the first quarter, extra-euro area goods and services exports stagnated in the second quarter of 2019, with a reversal of stockbuilding in the United Kingdom. Developments in intermediate and capital goods in particular weighed on extra-euro area exports. Extra-euro area imports of goods and services increased on account of strong growth in Irish imports. Intra-euro area exports and imports both weakened in the second quarter after a soft rebound in the first quarter. Looking at monthly figures, euro area goods trade was broadly stable at weak levels in August in nominal terms, with extra-euro area and intra-euro area trade following divergent paths. While extra-euro area goods exports recovered somewhat in August (increasing by 0.4% month on month, after 0.2% in July), extra-euro area goods imports contracted by 1.2%. Intra-euro area goods exports continued to weaken (by 1.6% month on month), while imports also fell, by 0.4%. Leading indicators point to continued anaemic growth of extra-euro area exports. The PMI for new manufacturing export orders and the European Commission's indicator on the assessment of export order books fell again in September. At the same time, shipping indicators show signs of bottoming out at very low levels.

Incoming data and survey results point to moderate but positive economic growth in the second half of 2019. This growth pattern can be primarily attributed to weak global trade and prolonged uncertainties. For instance, industrial production stood on average in July and August below its average level in the second quarter, thus pointing to a further quarter-on-quarter fall in production in the third quarter. As regards more timely survey data, in the third quarter both the European Commission's Economic Sentiment Indicator and the composite output PMI were below their respective average levels in the second quarter. For both surveys, the decline was more pronounced for the manufacturing sector than the services sector (see Box 2 for

a more in-depth analysis of the relationship between developments in the services and manufacturing sectors).

Looking ahead, the euro area expansion will continue to be supported by favourable financing conditions. In addition, growth should be underpinned by further employment gains, rising wages and the ongoing – albeit somewhat slower – expansion in global activity. The results of the latest round of the ECB Survey of Professional Forecasters, conducted in early October, showed that the private sector GDP growth forecasts for 2019, 2020 and 2021 had been revised down compared with the previous round, conducted in early July.

The risks surrounding the euro area growth outlook remain on the downside. In particular, these risks pertain to the prolonged presence of uncertainties, related to geopolitical factors, rising protectionism and vulnerabilities in emerging markets.

4   Prices and costs

HICP inflation decreased to 0.8% in September 2019, down from 1.0% in August 2019. This decrease in the inflation rate reflected a decrease in energy and food inflation. Energy inflation further unwound from the high rates seen in late 2018 and was negative in September.

Chart 7

Contributions of components of euro area headline HICP inflation
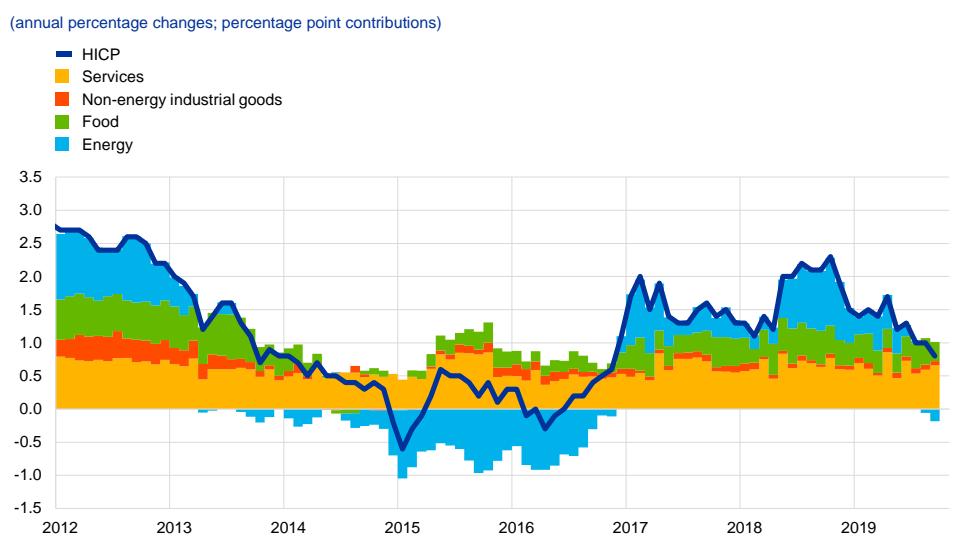
(annual percentage changes; percentage point contributions)

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

Measures of underlying inflation remained generally muted and continued to move sideways. HICP inflation excluding energy and food increased to 1.0% in September, up from 0.9% in August, and remains affected by methodological changes.[1] HICP inflation excluding energy, food, travel-related items and clothing stood at 1.1% in September, where it has remained since May. Signals from other measures of underlying inflation, including the Persistent and Common Component of Inflation (PCCI) indicator and the Supercore indicator,[2] also pointed to a continuation of the broad sideways movement now seen for several quarters.

Pipeline price pressures for HICP non-energy industrial goods weakened slightly. The annual rate of change in producer prices for domestic sales of non-food consumer goods was 0.8% in August, unchanged from July. The annual rate of change in import prices for non-food consumer goods saw a moderate decrease to 0.4% in August from 0.6% in July. At the earlier stages of the supply chain, producer price inflation for intermediate goods weakened marginally, declining to -0.4% in

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[1]   Changes in the statistical accounting of package holiday prices in Germany are estimated to have had a downward impact on HICP inflation excluding food and energy in the euro area. For details, see the box entitled "Dampening special effect in the HICP in July 2019" in the article entitled "Economic conditions in Germany", *Monthly Report*, Deutsche Bundesbank, August 2019, pp. 57-59.

[2]   For further information on these measures of underlying inflation, see Boxes 2 and 3 in the article entitled "Measures of underlying inflation for the euro area", *Economic Bulletin*, Issue 4, ECB, 2018.

August from -0.3% in July. Similarly, import price inflation for intermediate goods decreased to -0.3% in August from 0.0% in July. Global producer price inflation excluding energy also declined further to 2.0% in August from 2.5% in July and was below its long-term average of 2.3%.

Wage growth remained robust. Annual growth in compensation per employee stood at 2.3% in the first quarter of 2019 and 2.2% in the second quarter of 2019. The figures for the first and second quarters of 2019 were affected by a significant drop in social security contributions in France due to legislative changes.[3] Annual growth in wages and salaries per employee, which excludes social security contributions and is hence not affected by the legislative change in France, was 2.5% in the second quarter, compared with 2.6% in the first quarter and 2.3% on average for the previous year. Annual growth in compensation per employee has stabilised since mid-2018 at a level slightly above its historical average of 2.1%.[4]

Market-based indicators of longer-term inflation expectations have remained subdued while survey-based expectations decreased slightly. The five-year forward inflation-linked swap rate five years ahead stood at 1.20% on 23 October 2019, broadly in line with the level which prevailed in early September and eight basis points above a new all-time low of 1.12% reached on 3 October 2019. The market-based probability of deflation remains contained, despite exhibiting a continued upward trend over the review period. At the same time, the forward profile of market-based indicators of inflation expectations continues to point to a prolonged period of low inflation. The results of the ECB Survey of Professional Forecasters (SPF) for the fourth quarter of 2019 show point forecasts for annual HICP inflation averaging 1.2%, 1.2% and 1.4% for 2019, 2020 and 2021 respectively. These results represent downward revisions of 0.1 percentage points for 2019 and 2021 and of 0.2 percentage points for 2020 compared with the previous survey round. The revisions are mainly attributable to lower oil prices, a weaker growth outlook, downward surprises in recent inflation outcomes and heightened uncertainties regarding trade and Brexit. Average longer-term inflation expectations remained at 1.7%.

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[3]   This was related to a permanent reduction in employers' social security contributions in France, replacing the tax credit for competitiveness and employment (*crédit d'impôt pour la compétitivité et l'emploi* – CICE), in the first quarter of 2019.

[4]   The historical average is based on data from the first quarter of 1999 to the second quarter of 2019.

Chart 8

Market and survey-based indicators of inflation expectations

(annual percentage changes)

- ● SPF Q4 2019
- ● SPF Q3 2019
- ● SPF Q2 2019
- ● Consensus Economics forecasts (October 2019)
- ● Market-based indicators of inflation expectations (October 2019)
- ▬ ECB staff macroeconomic projections for the euro area (September 2019)
- ▬ HICP

5 Money and credit

Broad money growth remained robust in August. The annual growth rate of M3 increased to 5.7% in August 2019, up from 5.1% in July, on account of a positive base effect (see Chart 9). M3 growth continued to be supported by the lower opportunity cost of holding M3, while the positive contribution of net purchases under the APP to annual M3 growth faded out. The narrow monetary aggregate M1, which includes the most liquid components of M3, continued to be the main contributor to broad money growth. With an annual growth rate of 8.4% in August 2019, up from 7.8% in July, it was around two percentage points above its local trough in January 2019. Among M1 components, the annual growth of currency in circulation remained solid, though not exceptionally high by historical standards, pointing to no pervasive substitution into cash.

Chart 9

M3 and its counterparts

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

Source: ECB.
Notes: Credit to the private sector includes MFI loans to the private sector and MFI holdings of securities issued by the euro area private non-MFI sector. As such, it also covers the Eurosystem's purchases of non-MFI debt securities under the corporate sector purchase programme. The latest observation is for August 2019.

External monetary flows stabilised and credit to the private sector remained the main source of money growth. The fading APP impulse to M3 growth (see the red bars in Chart 9) has been largely offset by positive contributions from credit to the private sector (see the blue bars in Chart 9). In addition, external monetary inflows (see the yellow bars in Chart 9) have contributed positively to M3 growth since October 2018. This development reflects increased interest among foreign investors in euro area assets. The contribution to M3 growth from credit to general government from euro area monetary financial institutions (MFIs) excluding the Eurosystem (see the light green bars in Chart 9) remained marginally negative. Likewise, the drag from longer-term financial liabilities on annual broad money growth remained small (see the dark green bars in Chart 9).

The annual growth of loans to the private sector was broadly unchanged. The annual growth rate of MFI loans to the private sector (adjusted for loan sales, securitisation and notional cash pooling) increased to 3.8% in August 2019, from 3.7% in July (see Chart 10). This development was mainly due to the increase in the annual growth rate of loans to NFCs to 4.3% in August, from 4.0% in July, in part due to a one-off factor. Loans to households grew at an annual rate of 3.4% in August 2019, unchanged from July. In this respect, the turning point in September 2018 for loan growth to NFCs (when it peaked at 4.3%) is in line with its lagging cyclical pattern with respect to real economic activity and the 2018 slowdown in aggregate demand. Based on the same pattern, past improvements in fixed investment, which accounts for a large share of the growth in lending to NFCs, stabilised loan developments. Overall, loan growth continued to benefit from historically low bank lending rates and the overall favourable supply of bank loans, as also evidenced by the recent results of the euro area bank lending survey. In addition, banks have made progress in consolidating their balance sheets.

Chart 10
Loans to the private sector

(annual growth rate)

- Loans to the private sector
- Loans to households
- Loans to NFCs
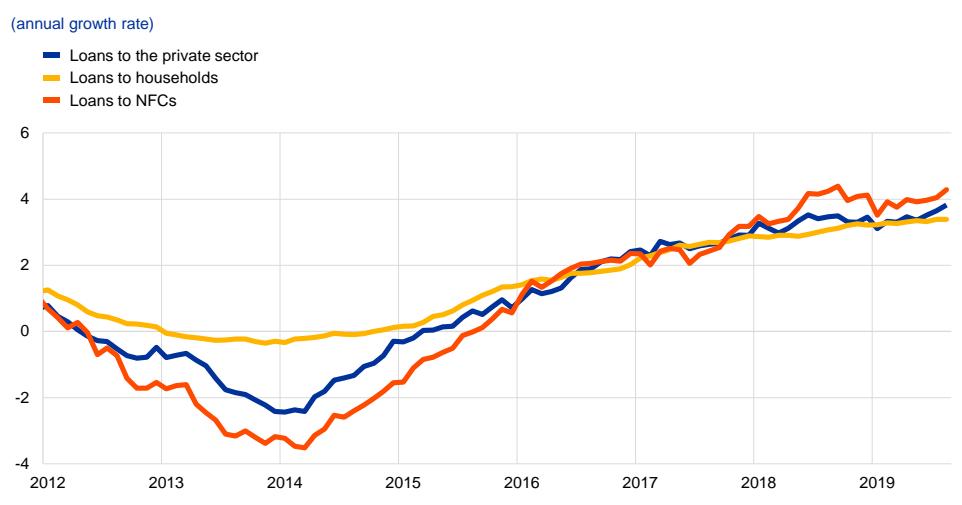
Source: ECB.
Notes: Loans are adjusted for loan sales, securitisation and notional cash pooling. The latest observation is for August 2019.

According to the October 2019 euro area bank lending survey**, credit standards for loans to enterprises and households for house purchases eased slightly.** Risk perceptions related to the economic outlook continued to make a tightening contribution, whereas in the previous round banks had expected unchanged credit standards (banks' internal guidelines or loan approval criteria). Despite ongoing pressure from competition, and mainly driven by wider margins on riskier loans, credit terms and conditions (the actual conditions laid down in the loan contract) for loans to NFCs and housing loans tightened in the third quarter of 2019. Benefiting from the low interest rate environment, demand for loans continued to increase for both housing loans and consumer credit. Favourable housing market prospects also continued to support demand for housing loans. At the same time, demand remained broadly stable for loans to enterprises. This happened because, for the first time since 2013, inventories and recourse to working capital contributed negatively to loan demand. Furthermore, euro area banks indicated that the APP was continuing to make a

positive impact on their lending volumes, liquidity position and market financing conditions, while contributing negatively to their profitability. Banks also reported that the negative deposit facility rate had contributed to an increase in lending volumes and a decrease in lending rates across all loan categories, but had had a negative impact on their net interest income.

Lending rates have continued to moderate in line with market reference rates, thereby supporting euro area economic growth. In August 2019 the composite bank lending rates for both loans to NFCs and housing loans reached new historical lows, at 1.52% and 1.56% respectively (see Chart 11). Competitive pressures and more favourable bank funding costs dampened lending rates for loans to euro area NFCs and households. Overall, composite bank lending rates for loans to NFCs and households have fallen significantly since the ECB's credit easing measures were announced in June 2014. Between May 2014 and August 2019 composite lending rates on loans to NFCs and households fell by around 140 and 135 basis points, respectively. The reduction in bank lending rates for loans to NFCs, including those for loans to small firms (assuming that very small loans of up to €0.25 million are primarily granted to small firms) was particularly significant in those euro area countries that were most exposed to the financial crisis. Overall, this indicates a more uniform transmission of monetary policy to bank lending rates across euro area countries and across firm sizes.

Chart 11

Composite bank lending rates for NFCs and households

(percentages per annum)

- NFCs
- Households for house purchase
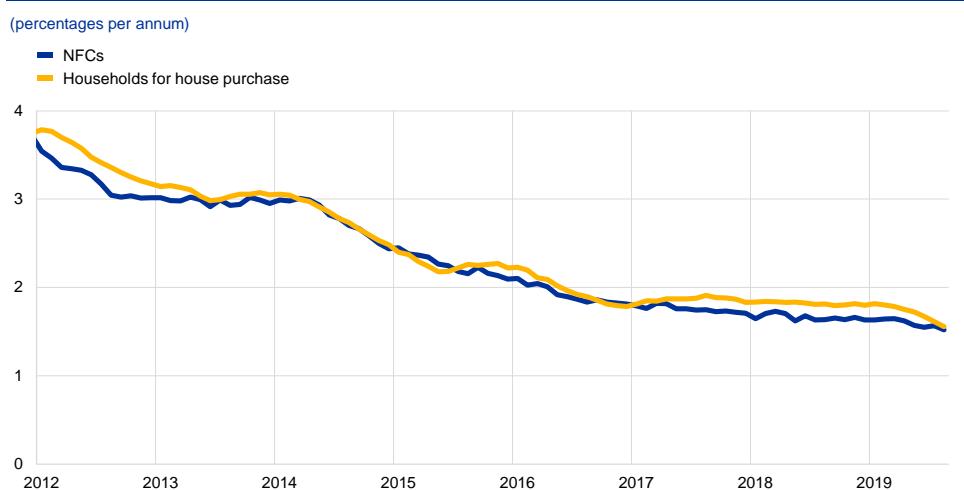
Source: ECB.
Notes: Composite bank lending rates are calculated by aggregating short and long-term rates using a 24-month moving average of new business volumes. The latest observation is for August 2019.

In August 2019 net issuance of debt securities by euro area NFCs was slightly negative, but this did not stop the upward trend in annual flows that started at the beginning of 2019. The latest ECB data indicate that, on a net basis, the total flow of debt securities issued by NFCs was slightly negative in August 2019. However, the negative reading in August is in line with the series' seasonal pattern and is affected by the redemption of debt securities issued by a single NFC in one Member State. Overall, the annual flows of debt securities continued to increase, returning to the

levels recorded at the end of 2017 (see Chart 12). Available market data suggest that net issuance of debt securities – by both investment grade and high-yield firms – remained quite strong at the end of the third quarter of 2019. In August 2019 total net issuance of quoted shares by NFCs was negative, thereby continuing the downward trend which had started at the end of 2018 and was only broken temporarily in April 2019. Negative issuance of NFC listed shares appears to have been related to both the weakness in merger and acquisition (M&A) activity and the use of share buy-backs, including cancellations, in corporate balance sheet management.

Chart 12

Net issuance of debt securities and quoted shares by euro area NFCs

(annual flows in EUR billions)
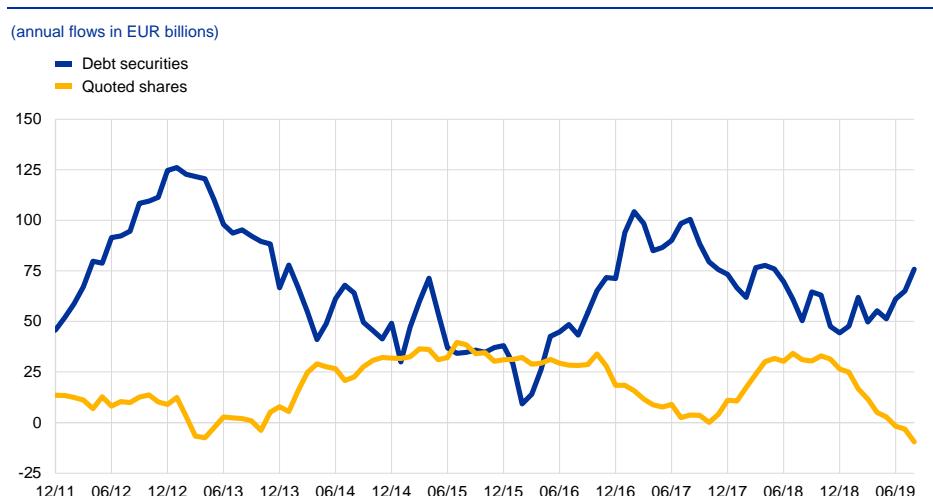
Source: ECB.
Notes: Monthly figures based on a 12-month rolling period. The latest observation is for August 2019.

Financing costs for euro area NFCs are estimated to have declined since August 2019. The overall nominal cost of external financing for NFCs, comprising bank lending, debt issuance in the market and equity finance, stood at 4.7% in August 2019, but is projected to have declined more recently to levels close to those recorded in the spring and early summer of 2019. As a result, the cost of financing in October 2019 is estimated to be 15 basis points above the historical low of April 2019, but far below the levels observed in the summer of 2014. The estimated decline in the cost of financing since August 2019 is entirely accounted for by the decline in the cost of equity, which is only partially balanced by a slight increase in the cost of market-based debt, which hit its historical low in August 2019. Since August the cost of equity has declined because of lower risk premia, reflecting, among other things, some relaxation of global trade tensions and Brexit-related risks. The slight increase since August in the cost of market-based debt reflects the increase in the long-term risk free rate, which may be related to, among other factors, a reduction in market expectations of further interest rate cuts.

Boxes

1 Goodbye EONIA, welcome €STR!

Prepared by Pascal Nicoloso and Vladimir Tsonchev

On 2 October 2019, the ECB began publishing the new overnight unsecured benchmark rate for the euro area, the euro short-term rate or €STR. The rate is computed entirely based on transactions in euro with financial counterparties as reported under the Money Market Statistical Reporting (MMSR) Regulation (Regulation (EU) No 1333/2014) and reflects the wholesale euro unsecured borrowing costs of euro area banks[5], in contrast to EONIA that measured interbank lending. The rate is published on each TARGET2 business day at 08:00 CET and is based on transactions conducted and settled on the previous TARGET2 business day. A data sufficiency policy ensures that the rate is representative by requiring that (a) at least 20 of the banks currently reporting under the MMSR Regulation should submit contributions and (b) the five largest reporting agents should not report more than 75% of a given day's turnover.

On 2 October 2019, following the recommendations of a private sector working group[6] and a public consultation, the administrator of EONIA, the European Money Markets Institute, changed the EONIA methodology so that, until its discontinuation on 3 January 2022, it is determined as a fixed spread of 8.5 basis points over the €STR. This effectively puts an end to a 20-year period in which EONIA was the reference for short-term interest rates for the euro area.

The launch of the €STR was successful from both a technical and a market perspective. The launch of the new reference rate and the change to the EONIA methodology had been well communicated to and anticipated by the financial industry, resulting in no serious disruptions. For example, internal systems were adjusted to take into account the new timing for publishing the reference rate (in the morning of the day following the reference date). Moreover, the first transactions indexed to the €STR in the over-the-counter swap market took place, as did the first securities issuances.

The process for producing the €STR on a daily basis has worked smoothly and reliably thanks to the commitment of the entire Eurosystem and the banks reporting under the MMSR Regulation. Moreover, the €STR methodology has shown its reliability, as illustrated by two examples. First, the pass-through of the ECB's deposit facility rate cut on 18 September was full and immediate, as shown by pre-€STR data, and since 1 October the rate and distribution of the underlying transactions at the 25th and 75th percentiles have remained fairly stable, with volumes ranging between €29 billion and €35 billion (see Chart A). Second, the bank holiday in Germany on 3 October 2019 had a negligible impact on the rate and its various

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[5]   For more information on the €STR and the statement of methodology, see the ECB's website.

[6]   For information on the working group on euro risk-free rates, see the ECB's website.

Economic Bulletin, Issue 7 / 2019 – Boxes
Goodbye EONIA, welcome €STR!

23

metrics. While the volume declined by €4.3 billion on that day compared with the day before, a comfortable gap remained between the participation and concentration metrics and the contingency thresholds that define the data sufficiency policy as explained in paragraph one (see Chart B).

Chart A

€STR since 9 September 2019

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

- ■ Volume (left-hand scale)
- ▬ Rate at 25th percentile (right-hand scale)
- ▬ Rate at 75th percentile (right-hand scale)
- ● €STR (right-hand scale)
- ● EONIA (right-hand scale)
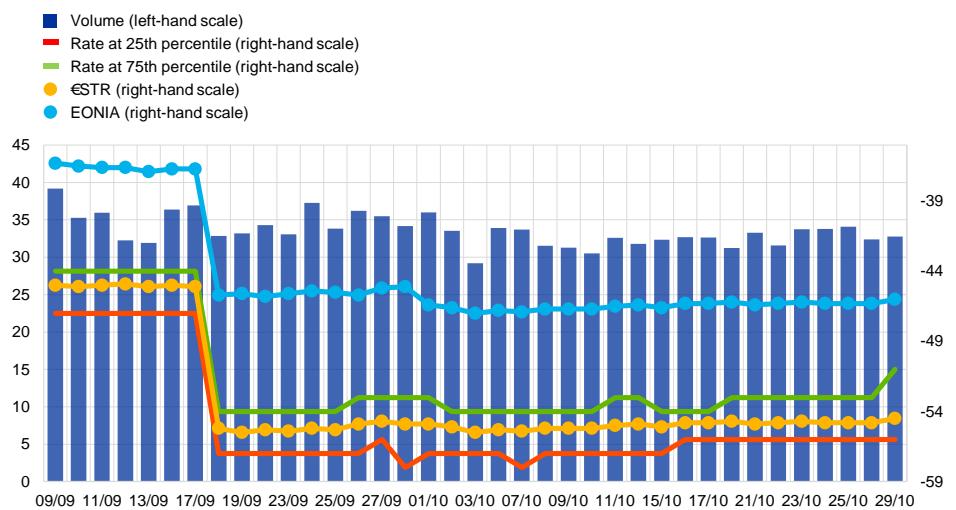
Source: ECB.
Note: Pre-€STR until 30 September, €STR from 1 October onwards.

Chart B

€STR contingency metrics since 9 September 2019

(left-hand scale: percentages; right-hand scale: number of banks)

- ▬ Volume threshold (left-hand scale)
- ● Top five banks volume (left-hand scale)
- ● Participating banks (right-hand scale)
- ▬ Participating banks threshold (right-hand scale)

Source: ECB.
Note: Pre-€STR until 30 September, €STR from 1 October onwards.

Economic Bulletin, Issue 7 / 2019 – Boxes
Goodbye EONIA, welcome €STR!

24
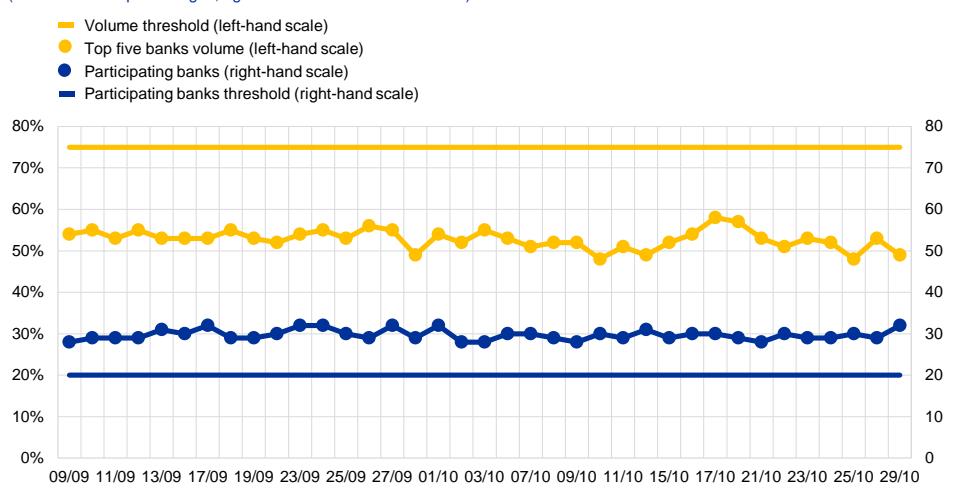
2 Developments in the services sector and its relationship with manufacturing

Prepared by Magnus Forsells, Neale Kennedy and Lisa Marie Timm

This box looks at the euro area services sector and its relationship with manufacturing, focusing particularly on the extent to which the services sector could be affected by the recent slowdown in manufacturing. Economic growth in the euro area has been slower in recent quarters, mainly reflecting the impact on the euro area manufacturing sector of the ongoing weakness in international trade in an environment of prolonged global uncertainties. However, activity levels in the services sector have so far been relatively robust in the face of this downturn in manufacturing. This is likely to stem from the resilient developments in domestic demand, supported by the very accommodative monetary policy stance, which continues to support labour markets and create favourable financing conditions. The services sector is an important driver of overall economic activity in the euro area, constituting over 70% of total value added.

The services sector is very heterogeneous. Considering services as a whole, it is useful to distinguish between market and non-market services. The latter, comprising sectors such as education and health services, constitutes around one-third of total services. Its growth tends to be relatively stable and non-cyclical (see Chart A), as it was in the economic expansion starting in 2013 (following the sovereign debt crisis) and has been during the economic slowdown starting in 2018. Market services typically exhibit more cyclical growth patterns. This sub-group of services includes diverse sectors such as wholesale/retail trade and real estate services (constituting some 15% and 11% of total value added respectively), which are more oriented towards consumers, as well as finance and insurance activities (5% of value added) and other more business-oriented services. Unlike the manufacturing sector, these sectors have continued to expand at relatively strong rates in recent quarters.

Chart A

Growth of value added in services compared with manufacturing

(index: 2015 = 100)
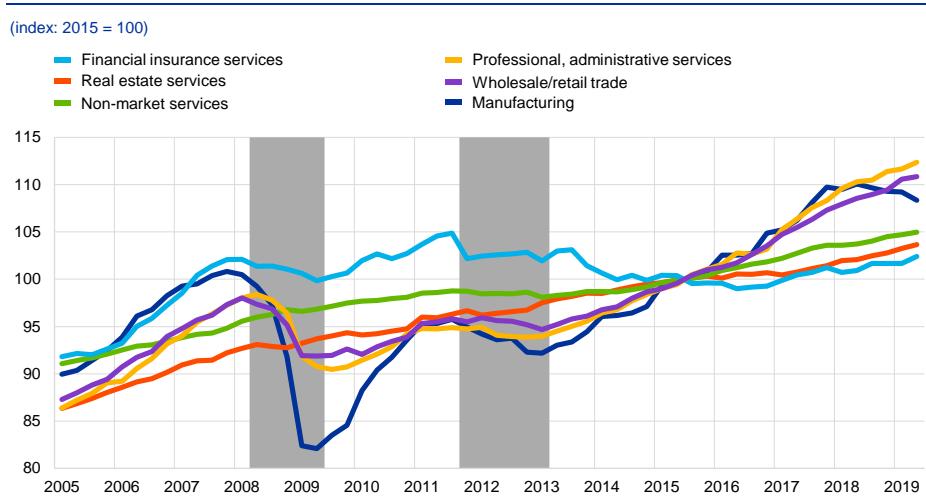
Sources: Eurostat and ECB calculations.
Note: The grey areas represent recession periods as identified by the CEPR Euro Area Business Cycle Dating Committee.

The risk of spillovers from manufacturing to services is particularly relevant in the area of business services. Developments in a number of sectors which together may be classified as business services are shown in Chart B. These sectors cover a part of transportation; a part of information technology and service activities; professional, scientific and technical services; and some administrative and support services. Together they comprise around 14% of total value added. Although these sectors generally shared the pattern of a downturn during the financial crisis in 2008-09, they remained fairly resilient in 2011-12. During the latest slowdown in manufacturing, they have mostly continued to increase at a robust pace. At the same time, growth rates have varied significantly across different sectors in recent years. Those which are more knowledge-intensive appear to have been growing very rapidly, but there is also some evidence that activity in other sectors flattened out at around the turn of the year.

Chart B

Turnover in business services compared with manufacturing

(index: 2015 = 100)
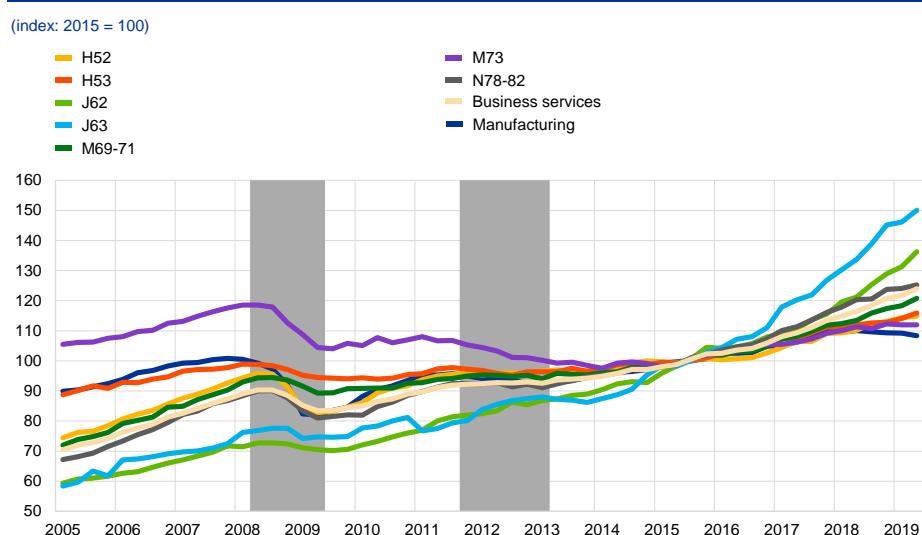
Sources: Eurostat and ECB calculations.
Note: Sector names refer to the NACE Rev. 2 classification system. H52: warehousing and transportation support; H53: postal and courier activities; J62: computer programming, consultancy and related activities; J63: information service activities; M69-71: legal and accounting, management consultancy, and architectural and engineering activities; M73: advertising and market research; N78-82: employment activities, travel agency, tour operator reservation service and related activities, security and investigation, cleaning activities and office administration.

Analysis of the correlation between the manufacturing sector and different parts of the services sector confirms different degrees of co-movement, particularly during cyclical downturns. The main co-movement between manufacturing and services is for parts of market services, including business services. Five-year rolling correlations of the annual growth rates of market, non-market and business services with manufacturing are shown in Chart C. The correlations vary over time, particularly the correlation between non-market services and manufacturing, which declines during the recession periods. It has been higher in the last few years, when there has been positive and stable growth in both sectors. In market and business services, on the other hand, the correlations are generally much higher and more stable over the whole sample period. Recently, though, they have fallen, possibly because domestic demand has been more resilient than in previous

periods, a reflection of the very accommodative monetary policy stance, which continues to support labour markets and create favourable financing conditions.

Chart C

Five-year rolling window correlations of services sectors with manufacturing

(correlation coefficients)
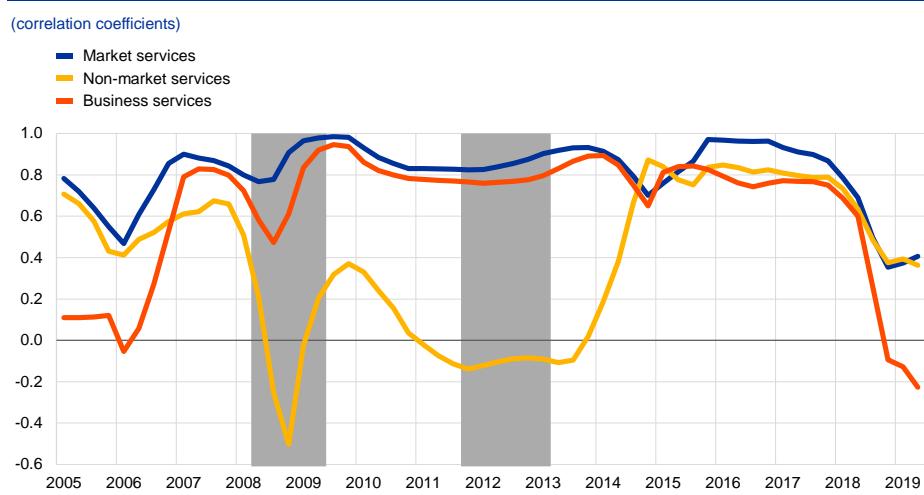
Source: ECB calculations.
Notes: Correlations are computed for year-on-year growth rates of the respective services sector with manufacturing value added growth. Business services is computed as a weighted average of the components.

So far, there has been little sign that weaker demand has affected business services, although recent survey data point to a slowdown in growth. Evidence from the European Commission's business surveys, which also allow a focus on business services, suggests that the significance of insufficient demand as a factor limiting production in business services remains below its long-term average and has not changed much in recent quarters (Chart D). This contrasts with the picture for the manufacturing sector, where demand has weakened distinctly since end-2017. However, more timely survey results have recently declined, suggesting a slowdown in growth. Thus, developments in business services, as well as other important services sectors, need to be monitored closely in coming months for signs of spillovers from the manufacturing slowdown.

Chart D

Perceived significance of insufficient demand as a factor limiting production in manufacturing and business services

(percentage balances)

- Long-term average
- Q3 2019
- Q4 2017
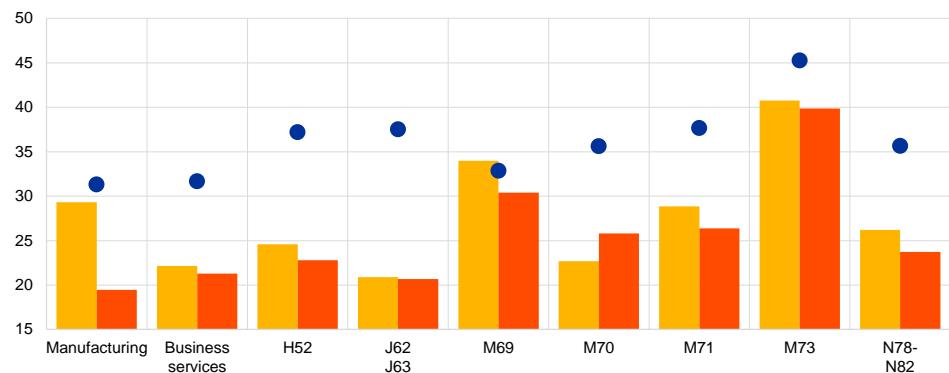
3 A stylised tracer for labour market cycles in the euro area based on assessments by corporate executives

Prepared by Vasco Botelho

This box assesses the current cyclical position of the euro area labour market by means of a stylised tracer for employment and output fluctuations using the Purchasing Managers' Index (PMI) survey data. The PMI is a set of monthly indicators which, owing to their timeliness and monthly frequency, can be used to predict movements in the growth rate of key macroeconomic variables, such as employment and real GDP. However, the monthly PMI data can also be very volatile over time, as they contain information not only on structural factors and the cyclical position of the economy, but also on assessments by corporate executives regarding the immediate reactions of their firms to idiosyncratic events over time. This latter component of the PMI data is likely to be affected by possible measurement errors or by information asymmetries. As such, a stylised labour market tracer[7] is constructed by applying a low-pass filter to the underlying monthly PMI data on employment and output, with a view to smoothing the PMI data and isolating the relevant information in order to assess the current cyclical position of the labour market.

The stylised tracer for labour market cycles in the euro area is created by juxtaposing the developments in the PMI tracer for employment with those of the PMI tracer for output. If the PMI tracer for employment shows a level above (below) 50, it implies that employment is expected to grow (decline) that month. The same holds for the relationship between the level of the PMI tracer for output and expected developments in real GDP that month. Given the interpretability of PMI data to aggregate developments in employment and GDP, the stylised tracer for the labour market cycles in the euro area is created visually by plotting the levels of the PMI tracers for employment and output against their respective month-on-month variations. This allows four positions in the labour market cycle to be identified: (1) a level above 50 and which shows a month-on-month increase is interpreted as an expansion; (2) a level above 50 but falling month on month indicates a slowdown; (3) a level below 50 but decreasing is considered to indicate a downturn; (4) when the level is below 50 but shows monthly improvements, this denotes a recovery. In addition, a local peak (or trough) is achieved whenever the tracer shows no change over the month and is at a level above (or below) 50.

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[7]   The approach undertaken in this box is similar to the Economic Climate Tracer (ECT) developed by the European Commission and applied to its Business and Consumer Surveys. For further details on how to produce the ECT, please see the related methodological documentation. Information on the most recent ECT can be accessed in the European Commission's publication "European Business Cycle Indicators: 3rd Quarter 2019". The data visualisation techniques employed in this box are comparable to those used by the European Commission. The stylised tracer in this box differs from the ECT, as it uses the approximate bandpass filter developed in Christiano, L. J. and Fitzgerald, T. J., "The Band Pass Filter", *International Economic Review*, Vol. 44, No 2, 2003, pp. 435-465, which allows for a decomposition of each PMI indicator into a trend component, a cyclical component and a high frequency component able to capture the exuberance of changes in the PMI data and link them to very short fluctuations in the economy (cycles shorter than six quarters). The stylised tracer in this box is then constructed as the sum of the trend and cyclical components for the PMI for employment. A similar approach is applied to the PMI for output to compare the current cyclical position of the labour market with that of economic activity.

Economic Bulletin, Issue 7 / 2019 – Boxes
A stylised tracer for labour market cycles in the euro area
based on assessments by corporate executives

29

The stylised labour market tracer for the euro area points towards a slowdown in the labour market since February 2018, with the tracer for employment lagging that for output.[8] Chart A shows the cyclical position of the euro area labour market over the past seven years, from September 2012 to September 2019. The cyclical assessment by corporate executives of their firms' employment and production developments is a leading indicator for the aggregate developments in hard data, in particular at the start of the current recovery. According to the stylised tracers based on the PMI for employment and output, the euro area labour market has experienced a recovery since December 2012, while output has been on a recovery path since September 2012. This is a couple of months earlier than the official trough announced for the euro area economy by the Centre for Economic Policy Research's Euro Area Business Cycle Dating Committee. In September 2019 the euro area labour market is still assessed as being in slowdown territory, with the tracer for employment in slowdown territory since February 2018 and the tracer for output since October 2017. As such, current employment and output fluctuations are seen to be consistent with a more mature phase in the cycle, which is usually characterised by movements within the expansion-slowdown territory.

Chart A

Stylised tracer for the cyclical position of the euro area labour market
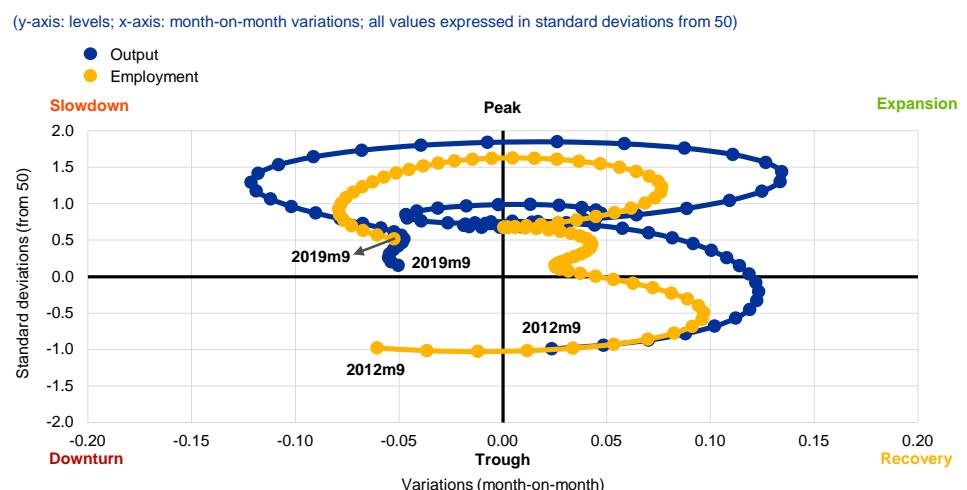
(y-axis: levels; x-axis: month-on-month variations; all values expressed in standard deviations from 50)

Sources: Markit and ECB staff calculations.
Note: The latest observation is for September 2019.

The slowdown in the euro area labour market is characterised by a dichotomy between weakness in the manufacturing sector and resilience in the services sector (see Chart B).[9] The tracer for employment suggests that the labour market in

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[8] The lagging developments in employment compared with those for output are consistent with the existence of adjustment costs to the labour input or with labour market rigidities at firm level. As such, the stylised labour market tracer provides evidence that firms consider adjusting other factors of production (including changes in the intensive margin of labour input) in response to fluctuations in their production levels before optimising their respective employment levels through adjustments to their hiring and firing processes. The lagged response of employment to GDP is also apparent in the national accounts data, as described in the box entitled "Employment growth and GDP in the euro area", *Economic Bulletin*, Issue 2, ECB, 2019.

[9] See the box entitled "Developments in the services sector and its relationship with manufacturing", *Economic Bulletin*, Issue 7, ECB, 2019.

Economic Bulletin, Issue 7 / 2019 – Boxes
A stylised tracer for labour market cycles in the euro area
based on assessments by corporate executives

30

manufacturing entered a downturn in May 2019, three months later than output, after having been assessed as being in slowdown territory since December 2017. At the same time, employment in the services sector is perceived to be moving within the expansion-slowdown territory, with the tracer for employment in this sector being more resilient than the tracer for employment in manufacturing. The resilience of employment in the services sector seems broadly consistent with the developments in economic activity in the sector, despite the month-on-month variations in the tracer for output becoming slightly more negative in recent months. Meanwhile the tracer for output in manufacturing entered downturn territory, which could signal potential risks related to the transmission of the weakness in manufacturing to the services sector. Heuristically, as employment developments lag behind changes in economic activity for both sectors, the transmission of the weakness in manufacturing to output developments in the services sector makes close monitoring of the euro area labour market and of the channels causing this effect essential going forward.

Chart B

Stylised labour market tracer for manufacturing and for the services sector

(y-axis: levels; x-axis: month-on-month variations; all values expressed in standard deviations from 50)

Sources: Markit and ECB staff calculations.
Note: The latest observation is for September 2019.

Economic Bulletin, Issue 7 / 2019 – Boxes
A stylised tracer for labour market cycles in the euro area
based on assessments by corporate executives

31
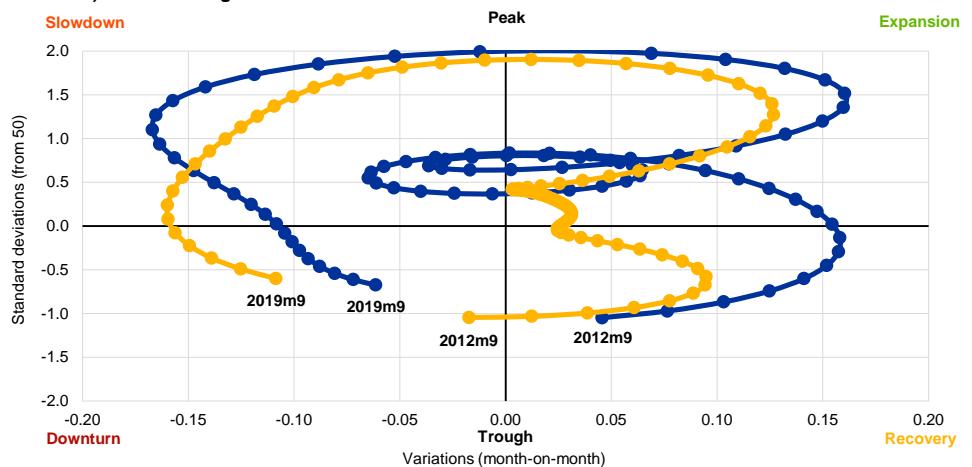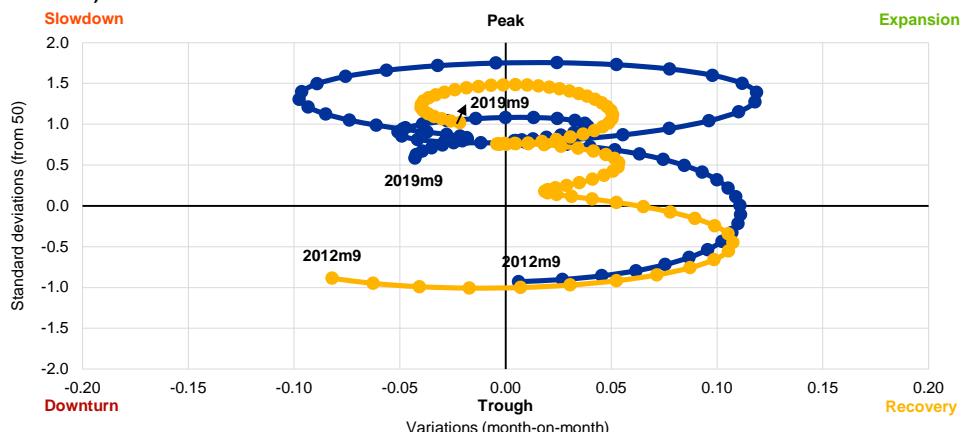
Using a more granular approach to assess the current position in the labour market cycle suggests that the weakness in manufacturing is more prevalent in the capital goods and motor vehicles industries, while the resilience of the services sector is broad-based across industries. In September 2019 the weakness in employment in the manufacturing sector is tracked as being most prevalent among capital goods and intermediates, in particular the manufacturing of rubber and plastic, the manufacturing of machinery and equipment, and the motor vehicles industries. The weakness in employment in the manufacturing sector is not observed in the cyclical position of the industries producing consumer goods, a sector that is supported by robust domestic demand despite the current slowdown in economic activity.[10] On the other hand, the performance of the services sector labour market remains broad-based within the expansion-slowdown territories, with employment developments in services sector industries showing a degree of resilience to the current weakness in manufacturing.

Overall, these results suggest that the services sector continues to support employment growth in the euro area, while employment in manufacturing has been weaker since May 2019. The question is whether there will be any negative spillovers from manufacturing to services, particularly of weaknesses stemming from the transportation industry.[11] According to the tracer for output, transportation has weakened in 2019, in parallel with the observed weakness in manufacturing. As such, there are downward risks from a possible propagation of the weakness in transportation to other services sector industries owing to its centrality in the relationship between manufacturing and services. Looking ahead, and given that the tracer for employment seems to be lagging changes in the tracer for output, the downward risk of transmission of the weakness in manufacturing to the services sector strengthens the need for close monitoring of the euro area labour market. As a caveat, the stylised tracer discussed in this box should be treated with caution during periods characterised by high uncertainty and around cyclical turning points, as the methodological approach can be somewhat prone to large changes induced by new data releases.

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[10] See the box entitled "Understanding the slowdown in growth in 2018", *Economic Bulletin*, Issue 8, ECB, 2018.

[11] These transmission channels can be either domestic or foreign in nature, as described in the box entitled "Domestic versus foreign factors behind the fall in euro area industrial production", *Economic Bulletin*, Issue 6, ECB, 2019. In particular, the relevant external shocks for the transportation industry could encompass weaker foreign demand or changes in oil prices, while the relevant adverse domestic shock would come from a weakening in the demand for the transportation industry coming through the domestic weakness in manufacturing. See Burstein et al., "Distribution costs and real exchange rate dynamics during exchange-rate-based stabilizations", *Journal of Monetary Economics*, Vol. 50(6), 2003, pp. 1189-1214 for details on the interlinkages in production between transportation and other industries. This paper provides evidence on the centrality of the transportation industry in the relationship between manufacturing and the remaining services sector, by showing that distribution costs are an important component of the selling price (and costs) of retail products for final consumers.

Economic Bulletin, Issue 7 / 2019 – Boxes
A stylised tracer for labour market cycles in the euro area
based on assessments by corporate executives

32

4 Price-setting behaviour: insights from a survey of large firms

Prepared by Richard Morris and Rupert de Vincent-Humphreys

This box summarises the findings of an ad hoc ECB survey of leading euro area firms about their price-setting behaviour. Firms' price-setting strategies are crucial pointers for understanding how prices adjust to shocks and, therefore, implicitly the effect of monetary policy on inflation. Surveys are a useful tool for collating evidence in this regard, as illustrated, in particular, in the seminal work of Blinder[12]. Survey evidence of the price-setting behaviour of firms in the euro area was collated some time ago in the context of the Eurosystem Inflation Persistence Network (see Fabiani et al., 2005[13]). Our survey draws on elements of those earlier surveys, while also gathering more qualitative evidence concerning the various dimensions of price-setting.

The main objective of the survey was to obtain an overview of how firms set prices, including the following specific dimensions. Do firms discriminate across geographical markets, by type of customer or sales platform? How often do they typically review and change their prices? What considerations do firms take into account when setting prices? Which aspects of price-setting behaviour are likely to give rise to sluggish price adjustment? Responses were received from 58 leading non-financial companies that operate across the euro area. The global sales of these firms would be the equivalent of around 2% of euro area economy-wide output. The firms are split roughly equally between industrial and services sector activities. The sample can also be split roughly equally between: (i) firms which mainly supply consumers; (ii) firms which supply businesses which mainly supply consumers; and (iii) firms which supply businesses which, in turn, mainly supply other businesses. In other words, responses were obtained from firms at various points in the supply chain.

Most firms said that they vary their prices by geographical market and by type of customer (see Chart A). Varying prices by geographical market was seen to be necessary in order to adapt to local demand and supply conditions. Many firms said that they faced different local production costs, including labour, skills, tax, regulatory and logistical costs. Differences in locally-supplied inputs could also affect product quality. Customer preferences also varied across geographical regions, thus requiring different branding and/or service levels. As to varying prices by type of customer, in business-to-business sales, the volume of the contract was significant, with the imperative to attract and retain strategic customers. Respondents also cited the importance of distinguishing between wholesale and retail and/or between professional and private customers. Finally, discounts could be given to certain customers depending on how high the risk of losing them was assessed to be.

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[12] See Blinder, A. S., "On sticky prices: academic theories meet the real world", in *Monetary Policy*, Gregory Mankiw, (ed.), The University of Chicago Press, 1994.

[13] See Fabiani, S. et al., "The pricing behaviour of firms in the euro area – new survey evidence", *Working Paper Series*, No 535, ECB, October 2005.

Most firms stated that their prices did not depend on the sales platform. Hence, for example, most firms charged the same price for online sales as for sales in the store or over the phone. However, the prices of some products differed from prices of equivalent products sold on other platforms, simply because they were only available online. Compared to equivalent products available on other platforms, costs for these online products were lower, warranted by the fact that that they involved fewer services. In business-to-business segments, prices for equivalent products would often differ in bulk contracts as compared to tenders or market-based transactions.

Chart A

Price variation by geographical market, customer and sales platform

(percentage of firms)
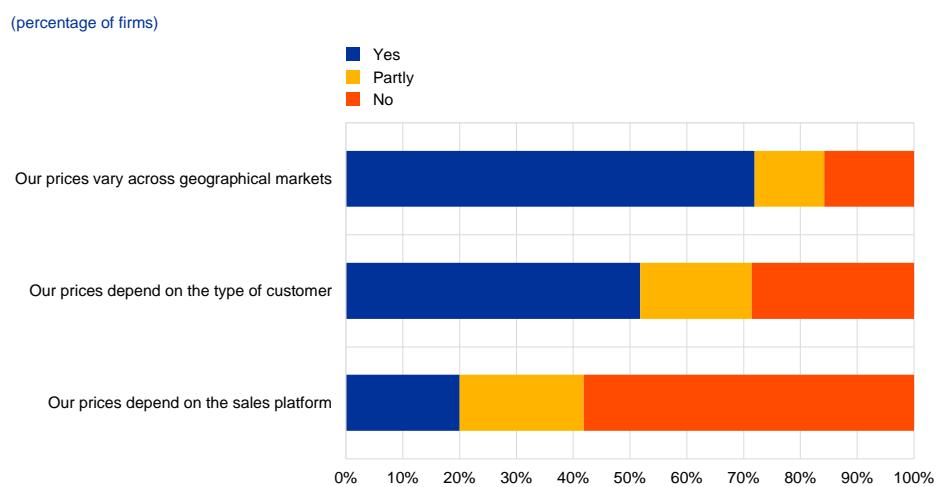
Source: ECB staff calculations.

The typical frequency of price reviews and changes varies across sectors of the economy (see Chart B). Firms were asked to focus on their main (or representative) product and given a choice of frequencies at which price reviews and changes were carried out.[14] These ranged from "daily" to "less than every three years", with firms also being able to indicate that prices were only reviewed or changed "irregularly/in response to specific events". Some firms indicated that they reviewed prices both at a regular frequency and irregularly in response to specific events.

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[14] A price review is understood as meaning that current prices are analysed and a decision is taken as to whether or not – and if so by how much – to change those prices. Price changes can therefore only be as frequent as, or less frequent than, the price reviews.

Chart B

Typical frequency of price reviews and price changes for a representative product

(percentage of firms)

Legend:
- Daily (dark blue)
- Weekly (yellow/gold)
- Monthly (orange)
- Quarterly (green)
- Semi-annually (light blue/cyan)
- Every 1-3 years (dark green)
- Less often (purple)
- Irregularly (grey)
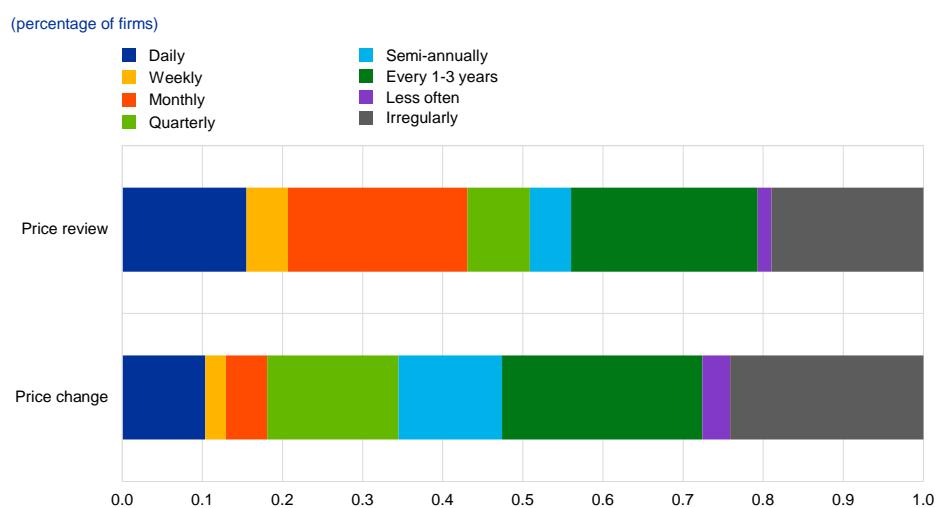
Source: ECB staff calculations.
Note: The bars reporting the share of firms that reviewed or changed prices "irregularly or in response to events" includes only those firms which did not otherwise indicate a typical frequency of price reviews and/or changes.

The frequency of price reviews and changes tends to be highest in the retail sector and lowest in consumer and business services, with the manufacturing sector somewhere in between. Most retailers who replied to the survey said that they reviewed their prices on a monthly, weekly or even daily basis, depending on their range of products. They also tended to change prices with considerable frequency. In the manufacturing sector, price reviews were typically carried out monthly, however, prices usually only changed on a quarterly, semi-annual or annual basis. Meanwhile, if we exclude retail trade and transport (where prices are driven in part by the fuel element), the majority of respondents in other services sectors said that they typically reviewed and changed prices annually. Still, identifying a "typical" frequency of price review and/or change is clearly difficult for firms with a large range of products and different customer or contract types.

When setting prices, firms pay most attention to their competitors' prices, closely followed by supply costs and product demand (see Chart C). In the survey, respondents were given a list of factors and asked to judge whether these were "not important", "important" or "very important" when setting prices. When scoring their answers with "0", "1" or "2" respectively, respondents overall considered their competitors' prices to be the most important factor when setting prices. This was closely followed by the cost of raw materials and other supply costs and the demand for the given product or service. Labour costs were also deemed important.[15] The importance of competitors' prices appears greater the closer the business is to the consumer, whereas further upstream, cost and demand considerations play a more significant role.

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[15] Whether or not "labour costs" or "raw material costs and other supply costs" were deemed important depends, in large part, on the company's cost base. If these two factors are considered together, then "input costs" would be the single most important consideration for these firms when setting prices.

Chart C

Information that firms consider when setting prices

(average score of responses: 0 = not important; 1 = important; 2 = very important)
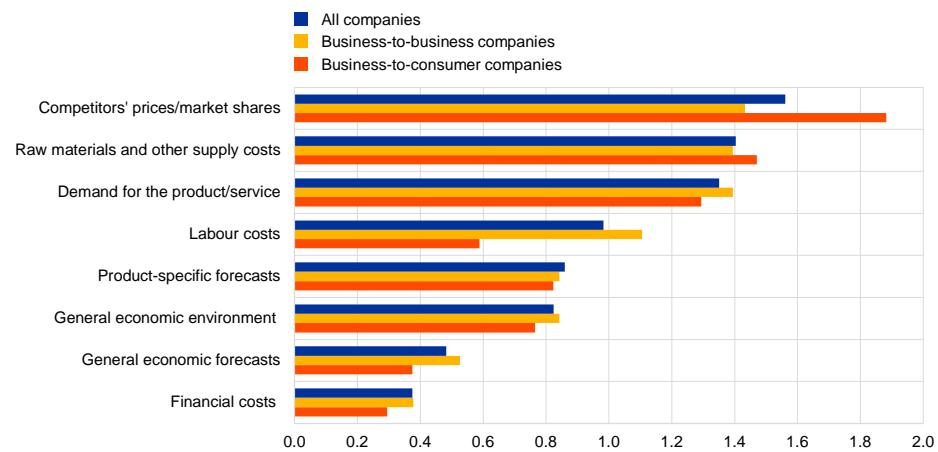
Source: ECB staff calculations.

Increases in average selling prices are achieved, to a large extent, by introducing new products with higher value content (see Chart D). Half of the respondents said that the introduction of new products with higher value content was "very important" and a further one-third said that this was "important" for raising average selling prices. Overall, the introduction of new products was regarded as being (slightly) more important than increasing the prices of existing products; and this was particularly the case for businesses selling directly to consumers. Rebranding or changing the specification of existing products was less important, albeit still considered important by around one-third of firms. Based on what firms said about how their price-setting behaviour had changed over the past five to ten years, the focus on adding value targeted at specific customers appears to be an increasing trend in response to increasing global competition and greater price transparency driven by the internet.

Chart D

How increases in average selling prices are achieved

(average score of responses: 0 = not important; 1 = important; 2 = very important)
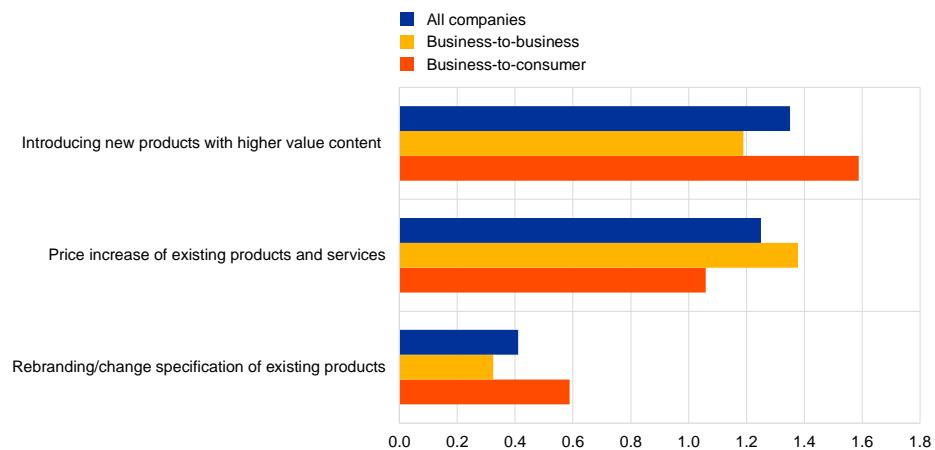
Source: ECB staff calculations.

Firms' pricing strategies are consistent with a range of theories concerning "sticky prices". Firms were presented with a number of statements, each of which related to a different theory of sticky prices, as originally surveyed by Blinder (see the table below). Chart E plots the scores of the responses against the scores (and ranking) seen in Blinder's survey, as well as against the results obtained in the survey undertaken by the Eurosystem Inflation Persistence Network (IPN) in 2005. For firms overall, the roles of cost-based pricing, contracts (either explicit or implicit) and coordination failure would appear to be the main causes of price stickiness. For more consumer-oriented firms, an understanding that customers expect prices to remain roughly the same (implicit contracts) and the targeting of psychological price thresholds are likely to be important causes of sluggish price adjustment.

Theory	Survey statement
Coordination failure	We are hesitant to change prices for fear that our competitors will not follow suit.
Cost-based pricing	We raise prices when we realise cost increases.
Change in non-price factors	We prefer to vary other elements of our products or services (e.g. warranty, delivery lag, customer services) rather than change prices.
Implicit contracts	We understand that our customers expect prices to remain roughly the same regardless of the economic environment.
Explicit contracts	We have contracts that limit our ability to change prices as costs change.
Cost of price adjustment	It is costly for us to change prices.
Pricing thresholds	We target price points that better influence pricing behaviour.
Constant marginal cost	Our costs don't change much as we increase production and we try to maintain a standard profit.
Hierarchical delays	Delays within our organisation slow down pricing decisions.
Judging quality by price	We don't reduce prices because our customers may take this as a reduction in the quality of our product or service.

Chart E

Price-setting behaviour and possible causes of sluggish price adjustment

(average score of responses)

- ■ All companies (left-hand scale)
- ▲ Business-to-consumer companies (left-hand scale)
- ● Blinder's (1994) survey (right-hand scale)
- ● Eurosystem IPN (2005) survey (right-hand scale)
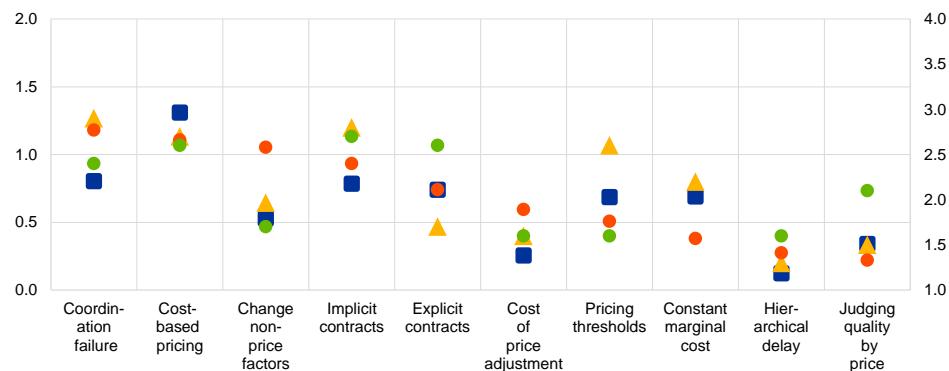
Source: ECB staff calculations.
Notes: For this ECB survey: 0 = unimportant; 1 = important; 2 = very important. For Blinder's (1994) survey and the Eurosystem IPN (2005) survey: 1 = totally unimportant; 2 = of minor importance; 3 = moderately important; 4 = very important. Theories are ordered according to their scoring (highest to lowest) in Blinder's (1994) survey. The "constant marginal cost" theory was not tested in the Eurosystem IPN (2005) survey.

Article

1 Trends in central banks' foreign currency reserves and the case of the ECB

Prepared by Livia Chiţu, Joaquim Gomes and Rolf Pauli

This article begins with a review of the global trends in central banks' foreign currency reserve holdings in terms of their size, adequacy and composition, and follows on to examine the ECB's foreign currency reserves. Just as the reasons for holding reserves have changed over time and across countries, so too have the size and composition of those reserves. Views on appropriate adequacy metrics have also changed. Global foreign currency reserves grew markedly after the Asian financial crisis of the late 1990s, with emerging markets accumulating large reserves to self-insure against potential shocks. In some cases, the growth in reserves was a by-product of export-led growth strategies. While global foreign currency reserves have traditionally been invested primarily in US dollar-denominated financial assets, in recent years holdings have become more diversified in terms of both currency and asset classes.

The second section of the article describes how the ECB's foreign currency reserves are invested in the light of its main purpose, which is to ensure that the Eurosystem has a sufficient amount of liquid resources whenever they are needed for its foreign exchange policy operations involving non-EU currencies. The investment framework includes three layers of governance, representing: i) the strategic investment policy; ii) medium-term tactical positioning; and iii) day-to-day portfolio management. The way in which the framework involves the national central banks (NCBs) of the Eurosystem in the active management of the ECB's foreign currency reserves is both unique and intricate. The article describes this active management approach, the internal competition between NCB portfolio managers and the diversification of portfolio management styles that the framework fosters.

1 Trends in central banks' foreign reserve holdings

Foreign currency reserves generally refer to readily available holdings in monetary authorities' safe external assets. These authorities are, typically, the central bank, the Treasury or the Ministry of Finance of the country concerned. Total official reserves are the broadest definition of international reserves, including both foreign currency reserves and non-currency reserves. Foreign currency reserves, which comprise external assets generally controlled by national monetary authorities, consist of securities and deposits. They are established by way of foreign reserve policy decisions on, for example, foreign exchange market interventions or the management of reserve portfolios. Such interventions might involve shifts across currency denominations, asset classes and maturities. The other component of official reserves, which generally makes up a smaller share of total official reserves, includes

monetary gold and claims on international financial institutions that can be rapidly converted into foreign currency reserves. These are special drawing rights (SDRs), the reserve position at the International Monetary Fund (IMF) and other reserve assets consisting of financial derivatives, loans to non-bank non-residents and others. While this article focuses on the main component of total official reserves, namely the foreign currency reserves component, it also includes a box describing gold developments.[16]

1.1 Main objectives of holding foreign currency reserves

Foreign currency reserves are an important element of the macro-policy toolkit. A number of countries developed the practice of holding foreign currency reserves in the mid-nineteenth century to back their liabilities and domestic currency with a view to supplementing their gold and silver reserves.[17] Since then, the reasons for holding foreign currency reserves have evolved over time and across countries. One possible use of foreign currency reserves, common to both advanced and emerging market economies, is to enable them to carry out foreign exchange interventions, if deemed necessary. In emerging markets, foreign currency reserves serve a broader range of purposes.

Foreign currency reserves are generally held for traditional operational purposes as well as for precautionary and non-precautionary policy objectives. Traditional operational purposes include facilitating regular international debt and import-related payments made on behalf of the government; smoothing out payment schedules; serving as collateral to relax external borrowing constraints; or underpinning monetary policy with respect to liquidity operations.[18] From a precautionary perspective, countries hold reserves as a buffer to absorb or self-insure against balance of payment shocks, including sudden stops in international capital flows; to provide foreign currency liquidity to banks in stressed situations; and to mitigate volatility in foreign exchange markets.[19] In countries with non-floating exchange rates, reserves act as a buffer to cover monetary liabilities. Countries with

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[16] Views regarding which assets should be considered as official reserves have evolved over time, with the IMF providing a harmonised framework for central banks' reporting around the world. Since 2001 the IMF has published guidelines for reporting data on international reserves and foreign currency liquidity. According to the definition in the sixth edition of the IMF's Balance of Payments Manual (BPM6), reserve assets are those external assets that are readily available to and controlled by monetary authorities for meeting balance of payments financing needs, for intervention in exchange markets to affect the currency exchange rate, and for other related purposes, such as maintaining confidence in the currency and the economy, and serving as a basis for foreign borrowing.

[17] The National Bank of Belgium was the first central bank to begin accumulating foreign currency-denominated assets, which it used in foreign exchange market intervention and other operations. Other central banks followed this practice, because safe and liquid assets denominated in a currency readily convertible into gold, such as the pound sterling, the French franc or the Deutsche Mark, offered advantages over gold itself, as they made it possible to economise gold, their supply was not dependent on haphazard mining discoveries and they were remunerated (see Chiţu, L., Eichengreen, B. and Mehl, A., "Mars or Mercury? The Geopolitics of International Currency Choice", *Economic Policy*, July 2019, pp. 1-44). For further details on the origins and history of foreign exchange reserves, see, for example, Chiţu, L., Eichengreen, B. and Mehl, A., How Global Currencies Work: Past, Present and Future, Princeton University Press, Princeton, 2017.

[18] See also Jones, B., "Central Bank Reserve Management and International Financial Stability – Some Post-Crisis Reflections", *IMF Working Paper* No 18/31, 2018.

[19] The precautionary motive whereby reserves act as a buffer to absorb transitory shocks to the balance of payments was pioneered by Heller, H., "Optimal international reserves", *Economic Journal,* Vol. *76,* 1966, pp. 296-311.

exchange rate flexibility need lower reserve holdings, as the exchange rate can act as a buffer and help absorb external shocks. However, exchange rate adjustment can also have adverse consequences, for instance if there are large currency mismatches or foreign currency exposures on the country's external balance sheet. Foreign currency reserves can, in that case, play a stabilising role as they may discourage one-way bets during episodes of financial stress.[20] Other studies point to non-precautionary or mercantilist motives, suggesting that economies accumulate foreign currency reserves to prevent their exchange rate from appreciating, the aim being to maintain external competitiveness and promote export-led growth.[21]

As for the ECB, the main purpose of holding foreign currency reserves is to ensure that the Eurosystem has a sufficient amount of liquid resources, whenever needed, for its foreign exchange policy operations involving non-EU currencies. The euro's external value is not a policy target for the ECB.[22] Against this background, the ECB's rationale for holding foreign currency reserves is to be able to intervene in the foreign exchange market whenever needed, to prevent disorderly market conditions that could have an adverse impact on price stability in the euro area and at the global level. Such market conditions have been rare since the inception of the euro. The ECB's foreign currency reserves were therefore only used to fund interventions in September/November 2000 and in March 2011.[23]

1.2 Size of global foreign currency reserves

Total foreign currency reserves held globally increased to over USD 11 trillion at the end of 2018, a tenfold increase compared with 30 years ago. Around two-thirds of global foreign currency reserves are held by emerging and developing economies. After the Bretton Woods system was brought to an end, global foreign currency reserve holdings grew sharply, particularly among advanced economies, despite the fact that it was widely expected that the shift to floating exchange rates would reduce the appeal of holding foreign currency reserves.[24] Following the Asian

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[20] Countries with less flexible exchange rates therefore tend to hold more reserves (as a share of GDP), although the holdings of countries with flexible regimes are also sizeable and have been rising since the global financial crisis (see, for example, Cabezas, L and De Gregorio, J., "Accumulation of reserves in emerging and developing countries: mercantilism versus insurance", *Review of World Economics,* June 2019, pp 1-39 and De Gregorio, J., Eichengreen, B., Takatoshi, I. and Wyplosz, C., "IMF Reform: The Unfinished Agenda", *Geneva Reports on the World Economy,* 2018).

[21] For further details on financial and monetary mercantilism, see, for example, Aizenman, J. and Lee, J., "Financial versus Monetary Mercantilism: Long-run View of Large International Reserves Hoarding", *The World Economy*, Vol. 31, Issue 5, 2008.

[22] The ECB monitors developments and reports on the international role of the euro on an annual basis. For further details on the international role of the euro, see the ECB report on the international role of the euro, 2019.

[23] Further information about the Eurosystem's foreign exchange operations is available on the ECB's website; see press releases of 22 September 2019, 3 November 2000 and 18 March 2011.

[24] The collapse of the Bretton Woods system has sometimes been thought to have triggered a shift in the demand for and composition of reserves. The transition to flexible exchange rates should in theory enable countries to economise on reserves, since the exchange rate can partly absorb external shocks (see, for example, Frenkel, J., "International Reserves: Pegged Exchange Rates and Managed Float," in Karl Brunner and Allan Meltzer (eds.), *Public Policies in Open Economies*, Carnegie-Rochester Conference Series on Public Policy, Vol. 9, 1978, pp. 111-140, as well as Chiṭu, L., Eichengreen, B. and Mehl, A., "Stability or upheaval? The currency composition of international reserves in the long run", *IMF Economic Review,* 64(2), 2016, pp. 354-380).

crisis, emerging market and commodity-exporting economies also began accumulating sizeable foreign currency reserves, with China accounting for the largest share of that increase. Commodity-exporting countries saw an even more rapid accumulation of reserves after 2005, as surging commodity prices contributed to their large balance of payment surpluses. The increase in foreign currency reserve holdings was widespread, with advanced economies' holdings also increasing, albeit modestly. Global foreign currency reserve holdings continued to grow in the wake of the global financial crisis, as some countries were reluctant to use their reserves, fearing that doing so might send a negative signal about potential exchange rate pressures.[25] More recent developments suggest that foreign currency reserves have levelled off since 2015 (see Chart 1).[26]

Research suggests that the significant accumulation of foreign currency reserves by emerging markets since the turn of the millennium has been driven by both precautionary and non-precautionary motives. Most studies provide two main explanations. One is that precautionary motives encourage countries to hold foreign currency reserves to manage situations of financial distress, mainly sudden stops in capital flows, as discussed in Section 1.1. The lessons of the financial crises of the late 1990s led many emerging market countries to accumulate foreign currency reserves when opening up their economies to global trade and finance. Moreover, some of the Asian economies sought to self-insure to avoid requesting external IMF financial assistance. Other studies point to additional drivers of reserve accumulation related to potential vulnerabilities and market failures in the international monetary and financial system. These include uncertainty about international liquidity availability in a financial crisis, capital flow volatility or global imbalances.[27] However, several studies have found that precautionary motives alone are not enough to explain the magnitude of the reserve accumulation of the 2000s. Non-precautionary or mercantilist motives, whereby economies accumulate reserves to maintain external competiveness and boost exports, have also played an important role.[28] There are, however, also costs associated with reserve accumulation, particularly when this accumulation is excessive.[29]

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[25] On the "fear of losing international reserves", see, for example, Aizenman, J. and Sun, Y., "The financial crisis and sizable international reserves depletion: From 'fear of floating' to the 'fear of losing international reserves'?" *International Review of Economics and Finance*, Elsevier, Vol. 24(C), 2012, pp. 250-269.

[26] Some studies point to the existence of a potential structural break in the determinants of reserve holdings in the post-global financial crisis period that would justify this trend (see, for example, Aizenman, J., Cheung, Y.-W. and Ito, H. (2012), "International reserves before and after the global crisis: Is there no end to hoarding?", *Journal of International Money and Finance*, Vol. 52, April 2015, pp. 102-126.

[27] For a review, see, for example, "Reserve Accumulation and International Monetary Stability", *IMF Policy Paper*, April 2010.

[28] See, for example, Aizenman, J. and Lee, J., op.cit.

[29] For further details on these costs, see, for instance, Chiţu, L., "Reserve accumulation, inflation and moral hazard: evidence from a natural experiment", *Working Paper Series,* No 1880, ECB, Frankfurt am Main, January 2016.

Chart 1
Global foreign currency reserves

Developments in global holdings of foreign currency reserves and breakdown by main country groups

(USD trillions)

- ■ World
- ■ Advanced economies
- ■ Emerging economies
- ■ China
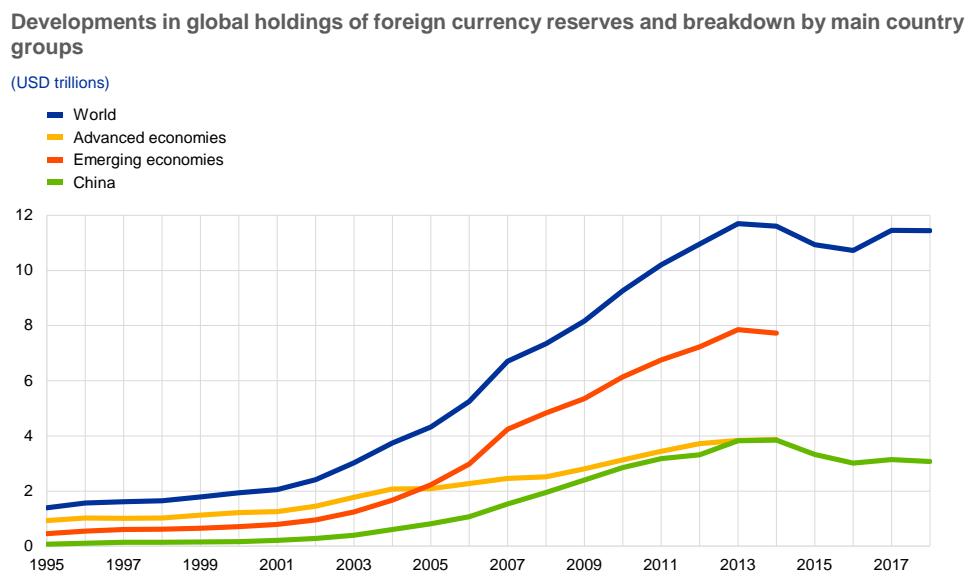
Sources: IMF COFER, Haver Analytics and ECB calculations.
Note: The breakdown between advanced and emerging economies is no longer available since China started reporting data for the IMF COFER.

In the case of the ECB, its total official reserve assets, including both foreign currency and non-foreign currency reserves, were equivalent to around EUR 68.6 billion at the end of 2018.[30] These reserves comprise around EUR 49 billion in foreign currencies (US dollar, Japanese yen and onshore Chinese renminbi) and around EUR 18.2 billion in gold, with the remaining assets held in IMF SDRs. Official reserves were initially transferred to the ECB by the NCBs of those EU Member States that had adopted the euro,[31] in proportion to their share in the ECB's capital subscription[32].

At the end of 2018, the entire Eurosystem held EUR 719 billion in total official reserve assets, including the ECB's official reserve assets. As this figure indicates, the NCBs hold significant additional official reserves on top of those held by the ECB. The NCBs have full autonomy over the management of their official reserve assets in terms of asset allocation, risk/return profile and management style and have multiple investment purposes for the assets. While the ECB's official reserve assets can be regarded as the Eurosystem's most liquid tranche that would be used as the first reserve pool to fund any foreign exchange interventions, the official reserves held

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[30] According to the IMF template for international reserves published on a monthly basis on the ECB's website.

[31] This follows from Article 30.1 of the Statute of the European System of Central Banks and of the ECB, which states that "the ECB shall be provided by the national central banks with foreign reserve assets, other than Member States' currencies, euro, IMF reserve positions and SDRs […]". The total amount of these transfers was capped at the equivalent of EUR 50 billion in the original Statute, but has since been increased to around EUR 58 billion as new members have joined the ESCB. See the Guideline of the European Central Bank of 3 November 1998, as amended by the Guideline of 16 November 2000 on the composition, valuation and modalities for the initial transfer of foreign reserve assets and the denomination and remuneration of equivalent claims.

[32] Further information on capital subscription is available on the ECB's website.

by the NCBs can be seen as separate and autonomous investment tranches. Nevertheless, according to the Statute of the European System of Central Banks,[33] a part of these reserves should be readily available for intervention purposes at short notice, if necessary. Chart 2 illustrates the development of these official reserves, whose market value has changed over time to reflect inflows and outflows, investment income and fluctuations in the market prices of investments and exchange rates.

Chart 2

Official reserve assets of the ECB and the Eurosystem

(EUR billions, monthly data)

- ■ ECB official reserve assets, including gold and SDR (right-hand scale)
- ■ Eurosystem official reserve assets, including gold and SDR (left-hand scale)
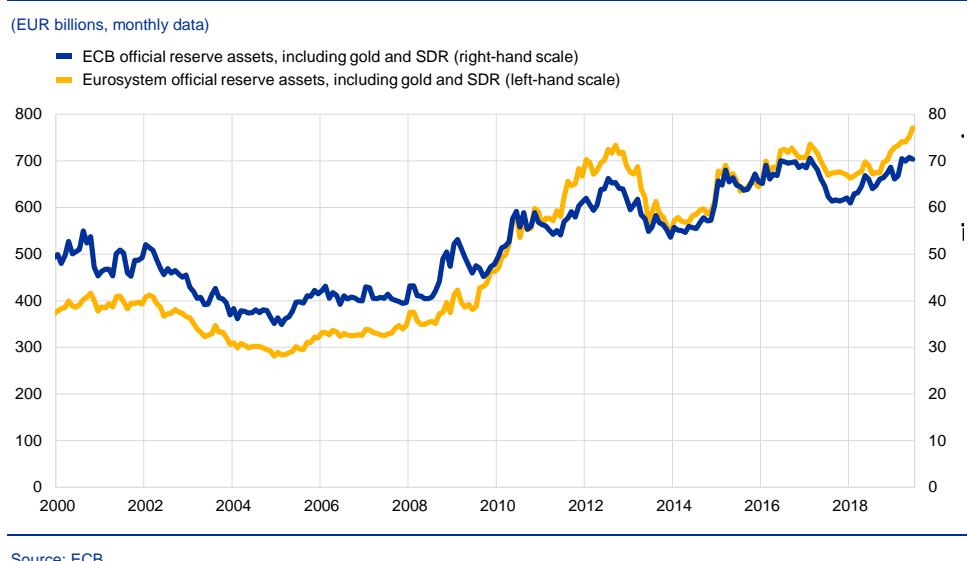
Source: ECB

1.3 Adequacy of foreign currency reserves

Whether the level of foreign currency reserve holdings is deemed to be adequate hinges on several factors. These include both the rationale for and the cost of holding reserves; the level of domestic financial development; the credibility of monetary policy and the exchange rate regime; whether the economy is (unofficially) dollarised or euroised; its trade and financial openness; and the range of instruments available for domestic monetary operations. There is therefore little consensus in the academic literature on a single measure of reserve adequacy that would capture all of these dimensions.

Several metrics of adequacy have been developed over time. They primarily focus on increasing a country's resilience, particularly to sudden capital flow reversals, and therefore have tended to focus on emerging and developing economies. As a result, they may be less relevant to advanced economies. One traditional rule of thumb relates to the number of months that imports can be sustained should all financial inflows in reserve currencies, arising for example from export revenues and

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[33] See Article 30.4 of the Statute of the European System of Central Banks and of the European Central Bank.

external financing, dry up. It is commonly argued that reserves should cover at least three months of imports.

As global financial integration has progressed, another metric that has become widely used is the "Greenspan-Guidotti rule", which suggests that reserves should cover 100% of short-term external debt to insure against rollover risk in the event of a sudden stop in foreign financing.[34] More recently, it has been argued that reserve adequacy should be judged in relation to the risks of both external and internal drains ("twin drains") – that is, the risk that capital outflows reflect not just non-residents withdrawing capital but also residents seeking to move funds out of the country. As a result, countries with open financial markets should hold foreign currency reserves proportionate to the size of their banking systems. One common metric used in this context is that foreign currency reserves should cover at least 20% of broad money to account for capital flights.[35] Still newer approaches use stylised modelling assumptions and calibrations. The IMF has also developed a risk-weighted reserve adequacy metric to capture potential losses of reserves as a result of a decline in external demand, terms-of-trade shocks, rollover risk or capital flight risk, thus encompassing drains on reserves from various sources.[36] These metrics and models notwithstanding, assessments of reserve adequacy often tend, in practice, to rely mainly on comparisons with a country's closest peers, leading to a competition in reserve accumulation – the "Machlup problem", or "keeping up with the Joneses", a motive for reserve accumulation. This may, in turn, amplify accumulation or discourage economies from drawing on their reserves when the need arises.[37]

Advanced economies, particularly major reserve currency issuers, have a less pressing need to hold reserves. Given the free-floating currency regime, the traditional metrics mentioned above, developed essentially for emerging market economies, are less suited to assessing reserve adequacy in advanced economies. Although it is difficult to assess the optimal level of foreign currency reserves to be held for conducting effective foreign exchange interventions, recent research has found that the average daily intervention volume in the foreign exchange markets (of 33 emerging and advanced economies) equals around 0.02-0.05% of a country's GDP, depending on the currency regime (higher for narrow-band regimes, lower for floating regimes). Under floating currency regimes, the baseline success rate of the foreign

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[34] Keynes mentioned the advisability of having sufficient reserves to cover external drains as early as 1930, in his Treatise on Money (Keynes, John Maynard, "Treatise on Money", London, 1930).

[35] See Obstfeld, M., Shambaugh, J. and Taylor, A., "Financial Stability, the Trilemma, and International Reserves", *American Economic Journal: Macroeconomics*, 2(2), 2010, pp. 57-94. Having sufficient reserves to cover potential "twin drains" was suggested by Henry Thornton back in the 19th century (1802).

[36] As such, the IMF risk-weighted metric is a function of exports, short and long-term debt, and broad money. The relative weights assigned to these variables are based on observed outflows from emerging markets during periods of exchange market pressure. The metric also takes into account the exchange rate regime and whether there are capital controls in place. For further details, see "Assessing Reserve Adequacy", *IMF Policy Paper*, February 2011.

[37] See, for example, Cheung, Y. and Qian, X., "Hoarding of International Reserves: Mrs Machlup's Wardrobe and the Joneses", *Review of International Economics*, Vol. 17 (4), 2009, pp. 824-843 and Eichengreen, B., "Global Monetary Order", in Vitor Constâncio and Philipp Hartmann (eds.), *The Future of the International Monetary and Financial Architecture, ECB Forum on Central Banking*, Conference Proceedings, 2016.

exchange interventions is around 60%, considering the intended objective of the intervention as identified.[38]

Policy signalling and the availability of funding arrangements are also relevant factors when considering the amount of reserves that advanced economies would need to enable them to conduct foreign exchange interventions effectively. For most advanced economies the exchange rate is not a target of monetary policy, but rather an endogenous variable affecting the main target variable(s) of monetary policy (e.g. inflation expectations). Therefore, foreign exchange interventions and their communication should typically be consistent with the main objectives of monetary policy. When a central bank publicly announces its interventions, this strengthens the overall policy message it wants to convey, which likely lowers the need for actual market operations. Foreign exchange intervention is found to be more effective if it is accompanied by verbal intervention, particularly in turbulent times[39]. Moreover, advanced economies may also have easier access to alternative means for funding possible currency intervention. For example, they can use foreign exchange swaps without immediate depletion of foreign currency reserves. In the specific case of the Eurosystem, the ECB has the ability, when needed, to make further calls on NCBs for additional foreign reserve assets.[40]

1.4   Global trends in the currency composition of global foreign reserves

Global foreign currency reserves are mainly invested in US dollar-denominated financial assets, while the euro is the second most-used reserve currency. The US dollar continues to be the pre-eminent currency of issuance of safe assets, most notably in the large and liquid US Treasury market. Based on IMF Currency Composition of Official Foreign Exchange Reserves (COFER) data[41], at constant exchange rates, the US dollar's share of globally disclosed holdings of foreign exchange reserves stood at around 62% at the end of 2018, against 69% in 2007 (i.e. immediately before the global financial crisis) and 71% in 1999 at the start of

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[38]   See, for example, Fratzscher, M., Gloede, O., Menkhoff, L., Sarno, L. and Stoehr, T., "When is Foreign Exchange Intervention Effective? Evidence from 33 Countries", *American Economic Journal: Macroeconomics*, 11(1), 2019, pp.132-156. The authors used three criteria to assess the success of FX interventions in general: i) the ability of intervention to change the direction of the exchange rate ("event" criterion); ii) the ability to smooth the path of the exchange rate ("smoothing" criterion); and iii) the ability of intervention to stabilise the exchange rate to keep it in a narrow band ("stabilisation" criterion). For the floating exchange rate regimes, the baseline success rate is based mainly on the "event" criterion.

[39]   See, for example, Fratzscher et al. 2019, op.cit.

[40]   In accordance with Article 30.4 of the ESCB and ECB Statute.

[41]   China started to report its foreign currency reserve composition to the IMF COFER database in 2015. Given its sizeable reserves, China's reporting to the IMF COFER database may have had a notable impact on the relative shares of reserve currencies.

Economic and Monetary Union. The euro accounted for roughly 20% of global foreign exchange reserves at the end of 2018, against 22% in 2007 and 19% in 1999.[42] [43]

Global reserve managers have in recent years diversified their portfolios towards non-traditional reserve currencies, including Chinese renminbi. Before the global financial crisis, the US dollar and the euro accounted jointly for almost 90% of foreign currency reserve holdings. Since the crisis, however, the rise in the share of non-traditional reserve currencies such as the Canadian dollar, the Australian dollar and the Chinese renminbi in global reserves has been notable. Non-traditional reserve currencies now account for almost 8% of globally disclosed holdings, up from less than 2% before 2007. The share of the Chinese renminbi reached almost 2% of global foreign currency reserves at the end of 2018, double that of early 2017 (see Chart 3).

Chart 3

Currency composition of global foreign currency reserves

Developments in the shares of the euro, US dollar, non-traditional currencies and other currencies in global official holdings of foreign exchange reserves

(percentages; at constant Q4 2018 exchange rates)

- Euro (right-hand scale)
- US dollar (left-hand scale)
- Non-traditional currencies (right-hand scale)
- Other currencies (right-hand scale)
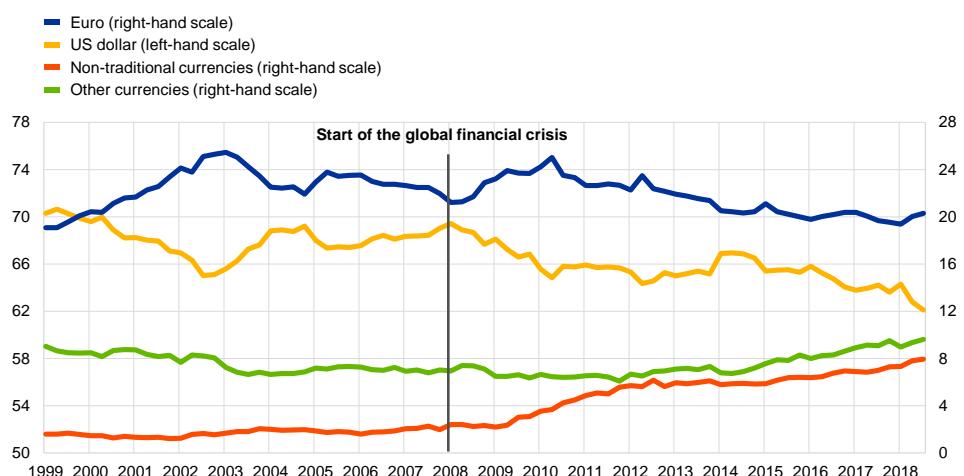
Sources: IMF, Haver Analytics and ECB calculations.
Notes: Non-traditional currencies include the Australian dollar, the Canadian dollar, the Chinese renminbi and other currencies not included in the SDR basket. Other currencies (than the US dollar, the euro and non-traditional currencies) refer mainly to the Japanese yen, the pound sterling and the Swiss franc.

Recent anecdotal and research-based evidence suggests that geopolitical considerations may also have an impact on reserve management decisions. Tentative evidence suggests that concerns about US/China trade tensions, Brexit and unilateral sanctions may support the diversification of reserves towards other

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[42]　For further details on the international role of the euro, see the ECB report on the international role of the euro (2019). For further details on the international role of currencies and on the rise of the US dollar, see, for example, Chiţu, L., Eichengreen, B., and Mehl, A., "How Global Currencies Work: Past, Present and Future", Princeton University Press, Princeton, 2017 and Chiţu, L., Eichengreen, B. and Mehl, A., "When did the dollar overtake sterling as the leading international currency? Evidence from the bond markets", *Journal of Development Economics*, Vol. 111, November 2014, pp. 225-245.

[43]　A much debated aspect of the international reserve status of currencies is whether the demand for safe and liquid assets by foreign official investors improves the financing conditions faced by the government issuing the currency. For an overview of academic studies on this topic and an empirical analysis that finds evidence for such effect, see Gräb, J., Kostka, T., and Quint, D., "Quantifying the "exorbitant privilege" – potential benefits from a stronger international role of the euro", in the ECB report on the international role of the euro (2019).

currencies and asset classes.[44] [45] It is, however, difficult to assess the specific considerations underlying decisions by official reserve holders, in view, not least, of the limited public information on the currency composition of central banks' reserve portfolios.[46] Anecdotal evidence aside, recent research on the role of economic and geopolitical considerations in the currency composition of foreign exchange reserves found support for both.[47]

The ECB's official reserves are currently invested in US dollars, Japanese yen, Chinese renminbi, gold and SDRs. The currency composition of the ECB's official reserves reflects policy considerations, in other words, the ability to conduct and fund effective interventions in euro against other major currencies. From this point of view, the US dollar and the Japanese yen are the two most relevant intervention currencies (see Chart 4). The Chinese renminbi was added in 2017 after its inclusion in the SDR basket in 2016 and given its increasing international role and the importance of China as one of the euro area's largest trading partners.[48] Where the ECB engages in foreign exchange transactions to adjust the composition of the foreign currency reserves, it is to ensure compliance with the Foreign Exchange Global Code (FXGC).[49] The FXGC is a set of global principles of good practice in the foreign exchange market that has been developed to provide a common code of conduct to promote the integrity and effective functioning of the wholesale foreign exchange market.[50]

The ECB's current gold holdings represent about 26% of its total official reserves, compared with 15% in 1999. This increase is a result of the significant increase in the gold price over the past two decades. As a percentage of total reserves, the ECB's gold holding is broadly similar to that of many other central banks in advanced economies. Box 1 discusses the main developments of the gold market during the 20 years of the Central Bank Gold Agreements.

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[44] See "HSBC Reserve Management Trends 2019", *Central Banking Publications*, 29 April 2019. The survey of 80 central bank reserve managers covering USD 6.9 trillion of reserves shows that nearly three-quarters of the respondents identified international trade tensions as the most or second most pressing issue for them in 2019. 80% of the survey respondents saw geopolitical forces as affecting the currency allocation of official foreign reserves.

[45] One example is Russia, one of the world's largest reserve holders, which, in the wake of new rounds of US sanctions, sold around USD 100 billion worth of US dollar-denominated reserves and purchased almost USD 90 billion worth of euro-denominated and Chinese renminbi-denominated assets in the second quarter of 2018. With a share of 32%, the euro is now the main currency of denomination of Russia's foreign exchange reserve holdings, ahead of the US dollar and the Chinese renminbi, with shares of 22% and 15%, respectively. For further details, see also the ECB report on the international role of the euro.

[46] In the above-mentioned survey, just over one-third of respondents were of the opinion that geopolitical forces would impact their own allocation directly and almost all the respondents indicated that the US dollar was "still the safe haven currency".

[47] For a quantitative analysis of the role of economic and geopolitical considerations in the currency composition of reserves, see, for example, Chițu, L., Eichengreen, B., and Mehl, A., "Mars or Mercury? The Geopolitics of International Currency Choice", *Economic Policy,* July 2019, pp. 1-44.

[48] See press release.

[49] All central banks in the European System of Central Banks (ESCB) are strongly committed to supporting and promoting adherence to the FXGC. See the related press release.

[50] With regard to central banks, the FXGC applies to all currency market operations, except where this would inhibit the discharge of their organisational policy mandate. See the FXGC.

Chart 4

Composition of the ECB's official reserves

(EUR billions, annual data)

- ● Total
- ● JPY
- ● CNY
- ● USD
- ● Gold holdings
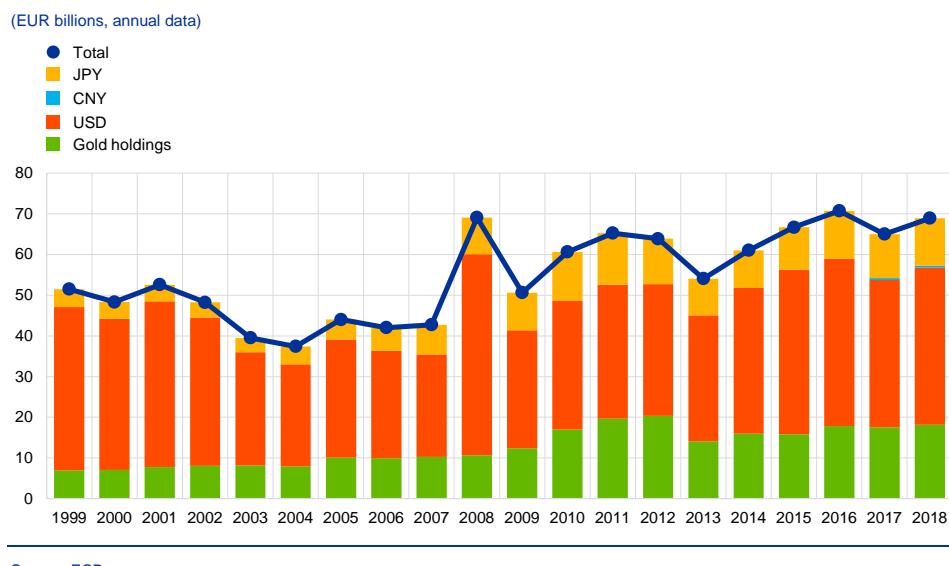
Source: ECB.

Box 1

The gold market during the 20 years of Central Bank Gold Agreements

Prepared by Ludovit Kutnik and Etienne Port

The last Central Bank Gold Agreement (CBGA) expired in September 2019 after 20 years of such agreements. The CBGAs' signatories included the Eurosystem and the central banks of Sweden, Switzerland and – initially – the United Kingdom. The first CBGA[51] was set up in 1999 for a five-year period, when concerns about the negative market impact of uncoordinated gold sales by central banks were evident, and increasing, in the gold market. The goal of the CBGAs was to help stabilise the gold market by alleviating these concerns, relieving downward pressure on gold prices, and contributing towards more balanced supply and demand conditions by limiting and coordinating central banks' gold sales. The Agreement was renewed three times, each time for a five-year period. The terms of the last two CBGAs became less and less stringent, reflecting the improving conditions in the gold market. This change in the terms mainly took the form of an adjustment of the signatories' sale quotas and a relaxation of the constraints on the use of derivatives (see Chart A). Over the full CBGA period since 1999, the price of gold has increased around five-fold. The market impact on gold prices in CBGA announcements, including the one on the expiry of the last CBGA, was negligible. The exception to this was the initial CBGA announcement, which was a novelty and a surprise.

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[51]   https://www.ecb.europa.eu/press/pr/date/1999/html/pr990926.en.html

Chart A

Gold sales by CBGA signatories and gold price developments

(Tonnes; US dollar per troy ounce)

■ CBGA sales (left-hand scale)
━ CBGA limits (left-hand scale)
━ Gold price (right-hand scale)
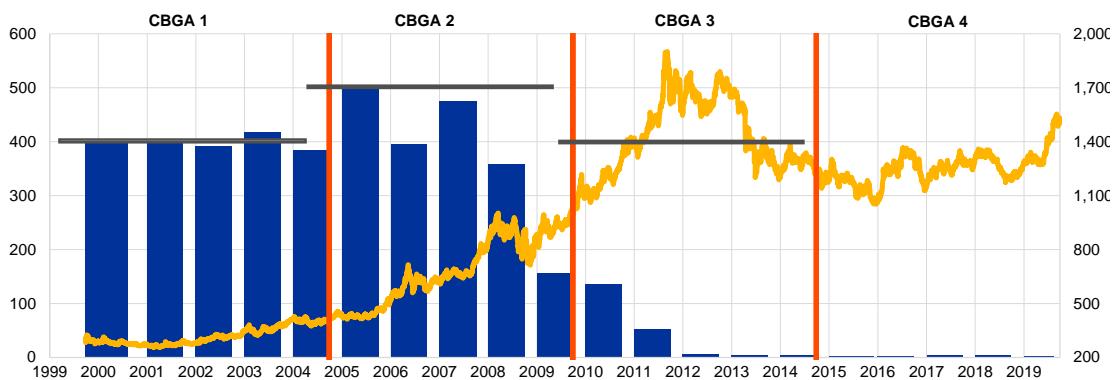
Sources: International Monetary Fund International Financial Statistics, European Central Bank, Bloomberg.
Note: The vertical lines represent the expiry dates of the successive CBGAs.

Since 1999 the gold market has grown and matured in terms of liquidity and investor base.[52]
The structure of the gold market differs from that of other financial assets, as gold does not only serve investment purposes, but also has practical uses. At the time of the first CBGA, the diversity of demand for physical gold was low and concentrated in jewellery, while the contribution to demand from the official sector was negative. Over time, innovations in financial engineering facilitated the use of gold as a financial instrument, thanks to the development of exchange-traded products tracking gold prices and backed by physical gold. These flexible and liquid investment vehicles helped broaden the range of investors by easing the access of retail and pension funds to gold exposure.[53] Diversity in gold demand increased most visibly during and after the global financial crisis, driven initially by a surge in retail investment in gold bars and later also by demand from the official sector. More recently, the sources of demand have remained diverse and broadly stable (see Chart B). The higher investor involvement in the gold market since the first CBGA is reflected in the trading of gold products and derivatives, both on exchanges and in the over-the-counter (OTC) market.[54] Market liquidity and its ability to absorb large-volume gold transactions have improved continuously, thereby lowering the need for the CBGA.

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[52] The comparison is between current conditions and those prevailing in 1999, when the CBGA was initially introduced.

[53] At the end of 2018, gold-backed investments in exchange-traded funds amounted to around 2,300 tonnes, according to Thomson Reuters GFMS data.

[54] For example, the average trading volume of gold futures contracts trading at COMEX has increased multiple times over the past 20 years (according to Bloomberg), while the net volume of Loco London gold transfers (in USD terms) settled between the five clearing members of London Precious Metals Clearing Limited (LPMCL) has increased several times during the same period (according to the clearing statistics provided by the London Bullion Market Association (LBMA)).

Chart B

Structure of gold demand

(Tonnes)

Legend:
- Jewellery (dark blue)
- Electronics (yellow/orange)
- Dentistry (orange)
- Other industry (green)
- Net official sector (light blue)
- Bar (dark green)
- Coins (purple)
- ETF inventory build (dark grey)
- Exchange inventory build (light grey)
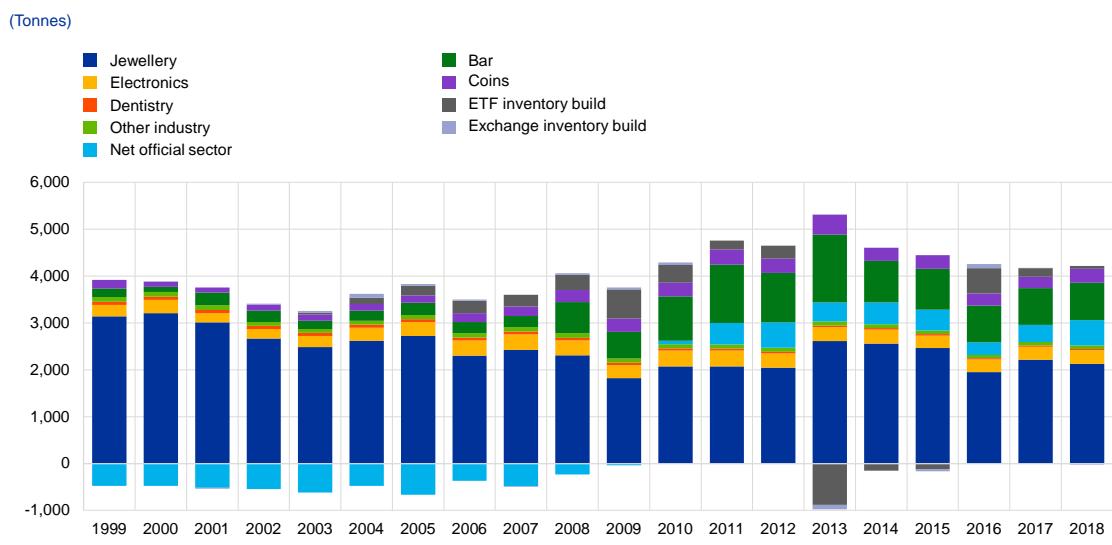
Sources: Thomson Reuters (GFMS), European Central Bank.

Central banks and other official institutions have become net buyers of gold over the current decade, mainly as a result of demand from emerging markets. The turning point came at around the time of the global financial crisis, when, after years of net selling, the contribution of the official sector to overall gold demand turned positive, with the stabilisation of CBGA signatories' gold holdings and new buying activity by other central banks. Several factors may have supported this renewed interest in gold, mainly from developing countries[55] (see Chart C). First, gold has benefited from its status as a safe-haven asset with the ability to preserve wealth over the long term with no risk of default. Second, gold offers diversification benefits from a portfolio management perspective as, in general, it has a low correlation with other assets but a positive correlation with inflation and a negative one with real bond yields and US dollar developments. Other supporting factors are the low or negative interest rate environment in major reserve currencies, the reshaping of the global geopolitical landscape and the authorities' efforts, in some countries, to back the national currency with physical assets.

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[55] Two countries, China and Russia, have accounted for more than two-thirds of the overall net buying activity in gold by the official sector since 2009, according to the World Gold Council.

Chart C

Gold holdings of selected central banks

(Tonnes)
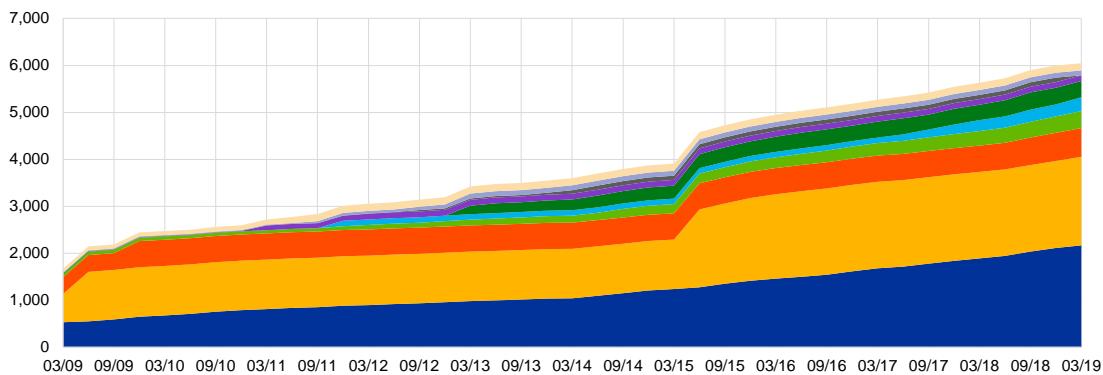
Sources: World Gold Council, ECB.

With regard to market functioning and gold market governance, a number of initiatives were taken to promote "a robust, fair, effective and appropriately transparent market". First, the London Bullion Market Association (LBMA)[56] published a Global Precious Metals Code (Code) that was adopted by the main precious metals market participants.[57] The Code sets out the best practices expected from market participants in the global OTC wholesale precious metals market. Its achievement in this respect is similar to that of the FXGC for the foreign exchange market. Second, to foster greater transparency, the LBMA began to publish new trade data[58] and other statistics for the precious metals market.

2   The management of the ECB's foreign currency reserves

The investment framework for the management of the ECB's foreign currency reserves is designed to ensure that they are readily available for policy purposes.[59]

2.1   From high-level objective to concrete investment principles

The main investment principles for the portfolio management of the ECB's foreign currency reserves are, in order of importance, liquidity, security and

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[56]   http://www.lbma.org.uk/global-precious-metals-code

[57]   The LBMA published the Code in May 2017 and all LBMA members had signed a Statement of Commitment by 1 June 2018.

[58]   The new trade data are more granular and reported with a higher frequency.

[59]   For a broad overview of central bank reserve management frameworks, see, for example, Jones, B., "Central Bank Reserve Management and International Financial Stability – Some Post-Crisis Reflections", *IMF Working Paper*, 18/31, 2018.

return. The liquidity of the investments has priority in order to fulfil the main purpose of the ECB's foreign currency reserves, which is to ensure that the ECB can, at any time, conduct foreign exchange operations, if needed. This means that it must be possible to convert the portfolio into cash balances in a short time frame and at minimal cost. To achieve this, a large share of the foreign reserves is invested in US and Japanese government bonds with a relatively short residual maturity. These are regarded as the most liquid instruments available in their respective currencies. Moreover, the high creditworthiness of the issuers and the relatively short duration of the portfolios serve the second investment principle: the preservation of the capital of the ECB's foreign currency reserves. Subject to the principles of liquidity and security, the investment framework is designed to maximise investment returns. To this end, the Eurosystem: i) applies active portfolio management with incentives to make use of an allocated risk budget; and ii) allows the use of investment instruments that yield a spread over government bonds or facilitate the expression of investment views. These include supranational and agency bonds, money market and bond futures, commercial bank deposits, repos and reverse repos, foreign exchange hedged swaps and interest rate swaps. Investments in each of these instruments are subject to risk management limits.

2.2   The organisational structure of foreign reserve management

The management of the ECB's foreign currency reserves is organised in three layers: i) a strategic benchmark; ii) a tactical benchmark; and iii) day-to-day portfolio management by NCBs (Figure 1). The main rationale for this three-layer structure is that it ensures that investments are made in accordance with the long-term risk/return preferences of the Governing Council, while providing the flexibility to actively benefit from investment opportunities over a shorter investment horizon.

Figure 1

The three layers for the management of the ECB's foreign currency reserves

Strategic benchmark
- annual review approved by the Governing Council
- long-term risk/return preferences

Tactical benchmark
- monthly review by ECB's Investment Committee
- based on investment proposals by ECB portfolio managers
- medium-term (3-6 months) risk/return preferences

NCB portfolios
- day-to-day active portfolio management by NCBs
- currency specialisation
- 11 portfolios in USD, four portfolios in JPY and one in CNY

Source: ECB.

The strategic benchmark is designed to reflect the ECB's long-term risk/return preferences, given the principles of liquidity and security. The strategic benchmark allocation is based on a modelling framework developed in-house which translates the ECB's risk/return preferences into a multi-objective function incorporating the investment principles presented in Section 2.1. The ECB's portfolio optimisation process for the strategic benchmark consists of two components. A "through-the-cycle" component identifies efficient portfolio allocations based on long-term expectations of risks and returns through the economic cycle. A "point-in-time" component complements the long-term perspective by reassessing the utility of the through-the-cycle efficient portfolios, taking into account financial variables and the current and projected state of the economy. Once the Governing Council approves the key characteristics of the strategic benchmark portfolios (e.g. modified duration, allocation per maturity bucket and asset class) for each currency, the ECB's risk management unit translates those characteristics into an investment portfolio, providing security-level detail.

The tactical benchmark is the first active layer aiming to outperform the strategic benchmark. It is designed to allow for adjustments to the risk/return characteristics of the strategic benchmark on the basis of medium-term (three to six months) investment views, taking into account prevailing financial market and macroeconomic conditions. The degree of freedom to express such views is laid down in internal investment guidelines, while the management responsibility for the tactical benchmark is assigned to an Investment Committee (ICO). This committee has members from the investment, risk management and compliance units of the ECB.

The ICO discusses and assesses proposals by the ECB's portfolio managers and, on a monthly basis, submits the final recommendations for approval by the Executive Board. To give a concrete example of how this is done, the analysis of the economic outlook, monetary policy developments, bond market valuation and other relevant variables might lead ECB portfolio managers to expect that yields in one of the relevant bond markets will increase in the coming three to six months. Rising yields would imply declining bond values. This expectation might lead portfolio managers to propose to the ICO that the benchmark should be adjusted in such a way that the tactical benchmark excludes some of the bonds included in the strategic benchmark. Instead, the tactical benchmark could hold a larger share of the invested funds in short-term money market investments, thereby reducing the interest rate sensitivity of the tactical benchmark by comparison with the strategic benchmark. If the ICO and the Executive Board accept this proposal, the adjustment is made. The change to the tactical benchmark is then communicated to the NCBs' portfolio managers with some lead time to allow them to prepare the implementation of this benchmark adjustment in the actual portfolios.

The management of the ECB portfolio by NCBs constitutes the second active layer, the investment returns of which are measured against the tactical benchmark. Unlike the internally maintained strategic and tactical benchmarks, the actual management of the investment portfolios is organised in a decentralised manner within the Eurosystem. Subject to the rules set by a guideline governing the NCBs' management of the ECB's foreign currency reserves, the NCBs act as agents

of the ECB. When NCBs carry out transactions for the ECB's foreign currency reserves they disclose their agency status to their counterparties before entering into transactions, with the ECB acting as the principal for all counterparties. The Eurosystem has a dedicated working group which regularly discusses all issues related to the foreign currency reserve management framework and the actual management of the ECB's foreign currency reserves.

All NCBs that manage a portfolio for the ECB have an identical mandate to manage the reserves prudently in such a way as to maximise their value within the internal investment framework decided by the Governing Council. The NCBs can make and implement investment decisions on a daily basis, applying the investment horizon that best suits their preferred investment style (covered in Section 2.3).

The ECB's foreign currency reserves are currently distributed across 11 portfolios in US dollars, four portfolios in Japanese yen and one portfolio for the Chinese renminbi. This distribution reflects a currency specialisation by NCBs. At the inception of the euro, all NCBs were still assumed to manage portfolios in both US dollars and Japanese yen in proportion to their share in the ECB capital key. However, in 2006 a currency specialisation scheme was implemented. This scheme envisaged that NCBs would typically choose one currency portfolio according to their preferences, subject to the ECB's aim of keeping a reasonable number of portfolios per currency.[60] The aim was to maintain an efficient framework, including by limiting the number of (small) portfolios, as more countries were expected to join the euro area, while facilitating more focused investment activities and leveraging NCBs' different expertise and management styles. Since then, most of the new euro area NCBs have decided to pool "their" share of the ECB reserves with that of another NCB. Every three years the Governing Council reviews the allocation of portfolios and may decide to change the currency allocation.

2.3 The active management of the ECB's foreign currency reserves – incentives and management styles

Active management, competition between NCB portfolio managers and diversification of portfolio management styles are key characteristics of the ECB's foreign currency reserve management framework, which is intended to generate a steady stream of additional investment returns compared with the strategic benchmark. Over time, all active layers have made a positive contribution to the strategic benchmark returns for all reserve currencies. As illustrated in Chart 5, for the US dollar portfolios, all individual NCB portfolios have, on average, contributed positively. Chart 5 also highlights that the average tracking errors[61] of the individual

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[60] Article 12.1 of the ESCB and ECB Statute states that "(…) the ECB shall have recourse to the national central banks to carry out operations which form part of the tasks of the ESCB". This initially implied that all NCBs participated in the active management of the ECB's foreign reserves. However, since 1 January 2006 NCBs have been free to abstain from participating in operational activities related to the management of the ECB's foreign reserves. This allows specialisation and the pooling of portfolios.

[61] Tracking error refers to the annualised standard deviation of daily differences between portfolio return and tactical benchmark return.

portfolios range from approximately 0.05% to 0.4%, illustrating differences in the active risk-taking behaviour of the NCBs.

(percentage points, annual averages 2006-18)
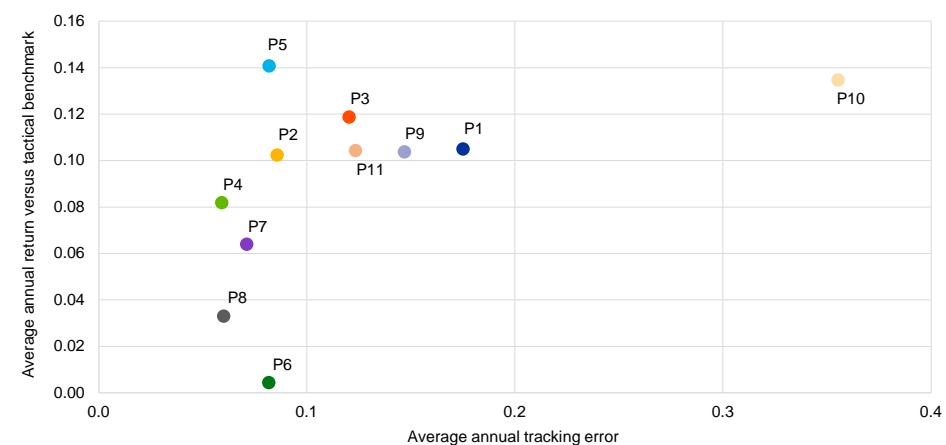
Source: ECB.

Active portfolio management takes place within a specific risk budget for both the tactical benchmark and the actual portfolios. This budget is defined in terms of relative value-at-risk (VaR)[62]. The ECB's independent risk management function is responsible for defining and maintaining the parameters within which portfolio managers can actively take risk. The risk budget allocated to the tactical benchmark typically exceeds that of the NCBs' portfolios by a factor of 2. This illustrates that tactical management provides an opportunity to adjust the risk characteristics of the benchmark meaningfully if the ICO believes, for example, that an adjustment is required by developments in the economic cycle. The role of the NCB portfolio managers (anticipating day-to-day developments in markets) can be expected to involve more moderate risk adjustments, but with greater flexibility.

In addition, the investment framework includes incentives for the active layers to actively use the risk budget. At the tactical benchmark level, the incentive consists of an internal target, set by the ICO, for outperforming the strategic benchmark. The ICO sets this relative return target every year for each currency portfolio. The target is a prominent element of the overall annual performance targets for ECB portfolio managers preparing ICO proposals. This is in line with best asset management practices, which allow portfolio managers to better calibrate their positions in order to reach the target.

With regard to actual portfolio management, a performance-based internal ranking of Eurosystem NCBs provides for competition and has been an

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[62] VaR is the maximum loss not exceeded at a certain confidence level over a specific time horizon. For example, if a portfolio has a one-year 99% VaR of EUR 1 million, this means that there is a 1% probability that the portfolio will lose more than EUR 1 million over one year. Relative VaR is a measure of the risk of losses with respect to the benchmark result and is defined as the VaR of the difference portfolio (i.e. the actual minus the market-value-scaled benchmark portfolio).

important tool in fostering risk-taking. On a monthly basis, the ECB compiles and distributes an updated ranking to the NCB portfolio managers, allowing them to monitor and benchmark each other's performance. At the end of the year, the ranking is shared with the Governing Council, which ensures that strong performers are duly recognised. According to internal surveys, the ranking and its dissemination is seen to be an important motivation for risk-taking among portfolio managers.[63] In this respect, Scalia and Sahel (2011)[64] analysed the behaviour of NCB portfolio managers involved in the ECB's foreign currency reserve management and found some evidence of risk-shifting behaviour by these managers, related to their year-to-date ranking. For example, some of the portfolio managers seemed to increase their relative risk-taking in the second half of the year if they had achieved a lower ranking in the first half.

Even though the performance ranking gives portfolio managers an incentive to keep up with their peers, the relative performance of NCBs seems to exhibit persistence over time. For example, Chart 6 (upper panel) shows the average ranking of all NCB portfolios over the 2006-12 period on the x-axis, and the average ranking over 2013-18 on the y-axis. The chart shows that, broadly speaking, two groups of NCBs can be identified that ranked either relatively high or relatively low in both periods. Chart 6 (lower panel) illustrates the trend in the annual performance ranking, showing that the cumulative ranking difference between the top and bottom performers increased steadily between 2006 and 2018. These indications of persistence may be related to a number of factors, such as portfolio managers' skills and NCBs' portfolio management styles and risk appetite (as seen in Chart 5). Indeed, some NCBs take on positions that are, on average, small (in terms of outright duration and yield curve) and make relatively few positioning changes over time, while others take on relatively large positions and change them more frequently. These style differences point to the diversification effects of having several active portfolios.

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[63] In addition to the ranking, portfolio managers are also committed to using a minimum percentage of the daily relative VaR limit, on average over the medium term. The risk usage is monitored and discussed periodically among portfolio managers to encourage self-enforcement.

[64] See Sahel, B. and Scalia, A., "Ranking, risk-taking and effort: an analysis of the ECB's foreign reserves management", *Working Paper Series*, No 1377, ECB, Frankfurt am Main, 2011.

Chart 6

Persistence in performance ranking for USD and JPY portfolios

(Period 1: 2006-12; period 2: 2013-18)

- Average cumulative ranking difference (bottom 3-top 3)
- Average cumulative ranking difference (bottom 7-top 7)
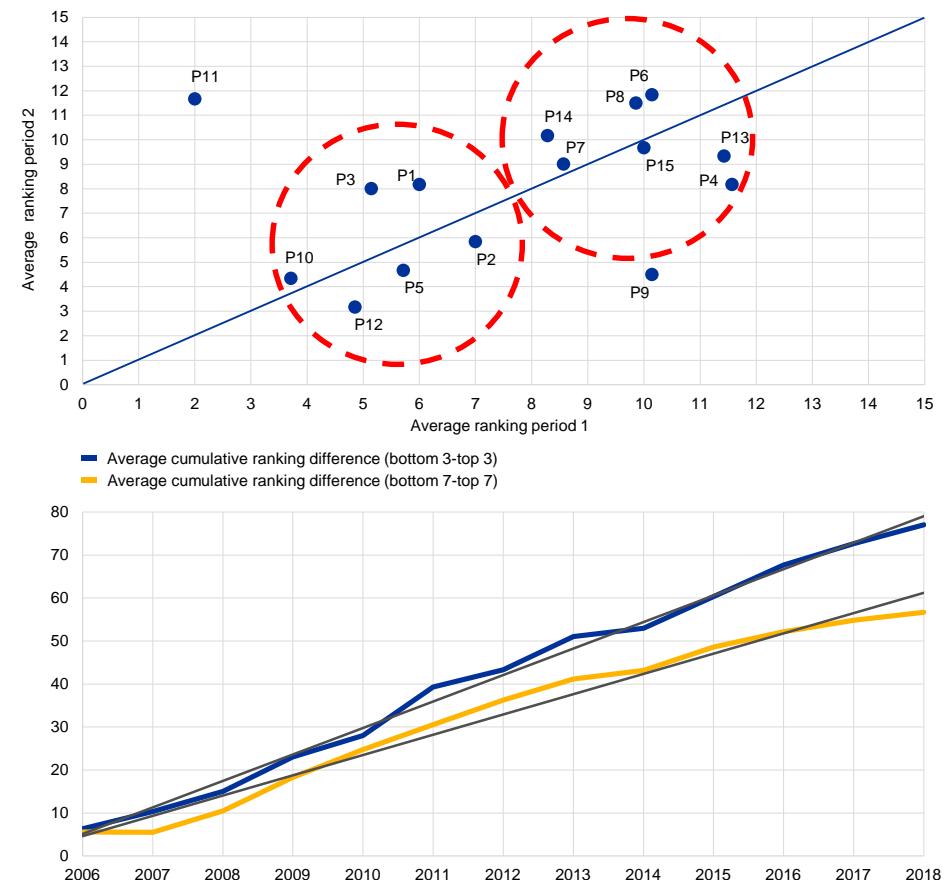
Source: ECB.

Conclusion

As the reasons for holding foreign currency reserves have evolved over time and across countries, so have the size and composition of those reserves. Global foreign currency reserves have grown markedly, especially since the Asian crisis of the late 1990s, with emerging markets accumulating large amounts of foreign currency reserves to self-insure against potential shocks but also, in some cases, as a by-product of export-led growth strategies. While global foreign currency reserves were traditionally invested primarily in US dollar-denominated financial assets, holdings have become more diversified in terms of both currency and asset classes.

As for the ECB, the main purpose of its foreign currency reserves is to ensure that, whenever needed, the Eurosystem has a sufficient amount of liquid resources for foreign exchange policy operations. The composition of the ECB's foreign currency reserves has remained broadly stable over time, with the exception of the recent addition of the Chinese renminbi.

The investment framework of the ECB's foreign currency reserves has evolved over time with a view to encouraging efficiency and creating incentives for the use of the available risk budget by active layers, while ensuring that the reserves are readily available for policy purposes. The decentralised management of the reserves by NCBs is a unique characteristic of the framework. It offers benefits, including information sharing and promoting best practice among portfolio managers. Active management, encouraged by the competition between NCB portfolio managers, and the diversification of portfolio management styles have been key characteristics of the investment framework and have contributed to generating a steady stream of additional investment returns above the strategic benchmark return.

Statistics

Contents

Further information

ECB statistics can be accessed from the Statistical Data Warehouse (SDW):   http://sdw.ecb.europa.eu/

Data from the statistics section of the Economic Bulletin are available from the SDW: http://sdw.ecb.europa.eu/reports.do?node=1000004813

A comprehensive Statistics Bulletin can be found in the SDW: http://sdw.ecb.europa.eu/reports.do?node=1000004045

Methodological definitions can be found in the General Notes to the Statistics Bulletin: http://sdw.ecb.europa.eu/reports.do?node=10000023

Details on calculations can be found in the Technical Notes to the Statistics Bulletin: http://sdw.ecb.europa.eu/reports.do?node=10000022

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

Conventions used in the tables

-        data do not exist/data are not applicable

.   data are not yet available

...   nil or negligible

(p)   provisional

s.a.   seasonally adjusted

n.s.a.   non-seasonally adjusted

1 External environment

1.1 Main trading partners, GDP and CPI

	GDP [1] (period-on-period percentage changes)						CPI (annual percentage changes)						
	G20	United States	United Kingdom	Japan	China	Memo item: euro area	OECD countries		United States	United Kingdom (HICP)	Japan	China	Memo item: euro area [2] (HICP)
							Total	excluding food and energy					
	1	2	3	4	5	6	7	8	9	10	11	12	13
2016	3.3	1.6	1.9	0.6	6.7	1.9	1.1	1.9	1.3	0.7	-0.1	2.0	0.2
2017	3.8	2.4	1.9	1.9	6.8	2.5	2.3	1.9	2.1	2.7	0.5	1.6	1.5
2018	3.7	2.9	1.4	0.8	6.6	1.9	2.6	2.1	2.4	2.5	1.0	2.1	1.8
2018 Q3	0.8	0.7	0.6	-0.5	1.6	0.2	2.9	2.2	2.6	2.5	1.1	2.3	2.1
Q4	0.7	0.3	0.3	0.4	1.5	0.3	2.8	2.3	2.2	2.3	0.8	2.2	1.9
2019 Q1	0.8	0.8	0.6	0.5	1.4	0.4	2.2	2.2	1.6	1.9	0.3	1.8	1.4
Q2	0.7	0.5	-0.2	0.3	1.6	0.2	2.3	2.2	1.8	2.0	0.8	2.6	1.4
2019 Apr.	-	-	-	-	-	-	2.5	2.2	2.0	2.1	0.9	2.5	1.7
May	-	-	-	-	-	-	2.2	2.1	1.8	2.0	0.7	2.7	1.2
June	-	-	-	-	-	-	2.1	2.2	1.6	2.0	0.7	2.7	1.3
July	-	-	-	-	-	-	2.1	2.3	1.8	2.1	0.5	2.8	1.0
Aug.	-	-	-	-	-	-	1.9	2.3	1.7	1.7	0.3	2.8	1.0
Sep.	-	-	-	-	-	-	.	.	1.7	1.7	0.2	.	0.8

Sources: Eurostat (col. 3, 6, 10, 13); BIS (col. 9, 11, 12); OECD (col. 1, 2, 4, 5, 7, 8).
1) Quarterly data seasonally adjusted; annual data unadjusted.
2) Data refer to the changing composition of the euro area.

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

	Purchasing Managers' Surveys (diffusion indices; s.a.)									Merchandise imports [1]		
	Composite Purchasing Managers' Index						Global Purchasing Managers' Index [2]					
	Global [2]	United States	United Kingdom	Japan	China	Memo item: euro area	Manufacturing	Services	New export orders	Global	Advanced economies	Emerging market economies
	1	2	3	4	5	6	7	8	9	10	11	12
2016	51.6	52.4	53.4	50.5	51.4	53.3	51.7	52.0	50.1	1.1	1.4	0.9
2017	53.2	54.3	54.7	52.5	51.8	56.4	53.8	53.8	52.8	5.8	3.1	7.6
2018	53.4	55.0	53.3	52.1	52.3	54.6	53.1	53.8	50.9	4.4	3.1	5.2
2018 Q4	53.1	54.7	51.4	52.3	51.5	52.3	52.0	53.5	49.9	-0.8	1.6	-2.4
2019 Q1	52.8	54.8	50.6	50.6	51.5	51.5	50.9	53.4	49.6	-0.7	-0.1	-1.0
Q2	51.5	51.8	50.5	50.8	51.6	51.8	50.4	51.8	49.4	-0.8	-1.3	-0.4
Q3	51.4	51.4	50.1	51.3	51.4	51.2	50.4	51.8	48.5	.	.	.
2019 Apr.	52.3	53.0	50.9	50.8	52.7	51.5	51.1	52.7	49.6	0.0	-1.1	0.7
May	51.1	50.9	50.9	50.7	51.5	51.8	50.3	51.3	49.4	0.4	-0.8	1.2
June	51.0	51.5	49.7	50.8	50.6	52.2	49.6	51.5	49.2	-0.8	-1.3	-0.4
July	51.7	52.6	50.7	50.6	50.9	51.5	49.9	52.3	49.0	-0.8	0.3	-1.5
Aug.	51.1	50.7	50.2	51.9	51.6	51.9	50.4	51.3	47.7	.	.	.
Sep.	51.4	51.0	49.3	51.5	51.9	50.1	50.9	51.6	48.6	.	.	.

Sources: Markit (col. 1-9); CPB Netherlands Bureau for Economic Policy Analysis and ECB calculations (col. 10-12).
1) Global and advanced economies exclude the euro area. Annual and quarterly data are period-on-period percentages; monthly data are 3-month-on-3-month percentages. All data are seasonally adjusted.
2) Excluding the euro area.

2 Financial developments

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

	Euro area [1]					United States	Japan
	Overnight deposits (EONIA)	1-month deposits (EURIBOR)	3-month deposits (EURIBOR)	6-month deposits (EURIBOR)	12-month deposits (EURIBOR)	3-month deposits (LIBOR)	3-month deposits (LIBOR)
	1	2	3	4	5	6	7
2016	-0.32	-0.34	-0.26	-0.17	-0.03	0.74	-0.02
2017	-0.35	-0.37	-0.33	-0.26	-0.15	1.26	-0.02
2018	-0.36	-0.37	-0.32	-0.27	-0.17	2.31	-0.05
2019 Mar.	-0.37	-0.37	-0.31	-0.23	-0.11	2.61	-0.07
Apr.	-0.37	-0.37	-0.31	-0.23	-0.11	2.59	-0.06
May	-0.37	-0.37	-0.31	-0.24	-0.13	2.53	-0.07
June	-0.36	-0.38	-0.33	-0.28	-0.19	2.40	-0.07
July	-0.37	-0.40	-0.36	-0.35	-0.28	2.29	-0.07
Aug.	-0.36	-0.41	-0.41	-0.40	-0.36	2.16	-0.10
Sep.	-0.40	-0.45	-0.42	-0.39	-0.34	2.13	-0.09

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

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

	Spot rates					Spreads			Instantaneous forward rates			
	Euro area [1], [2]					Euro area [1], [2]	United States	United Kingdom	Euro area [1], [2]			
	3 months	1 year	2 years	5 years	10 years	10 years - 1 year	10 years - 1 year	10 years - 1 year	1 year	2 years	5 years	10 years
	1	2	3	4	5	6	7	8	9	10	11	12
2016	-0.93	-0.82	-0.80	-0.47	0.26	1.08	1.63	1.17	-0.78	-0.75	0.35	1.35
2017	-0.78	-0.74	-0.64	-0.17	0.52	1.26	0.67	0.83	-0.66	-0.39	0.66	1.56
2018	-0.80	-0.75	-0.66	-0.26	0.32	1.07	0.08	0.51	-0.67	-0.45	0.44	1.17
2019 Mar.	-0.57	-0.61	-0.62	-0.45	-0.01	0.60	0.00	0.35	-0.64	-0.59	-0.02	0.75
Apr.	-0.56	-0.60	-0.59	-0.39	0.08	0.67	0.12	0.43	-0.62	-0.54	0.08	0.88
May	-0.57	-0.64	-0.69	-0.56	-0.13	0.51	-0.08	0.24	-0.72	-0.72	-0.17	0.64
June	-0.60	-0.69	-0.75	-0.64	-0.26	0.43	0.07	0.14	-0.78	-0.79	-0.29	0.44
July	-0.67	-0.74	-0.79	-0.72	-0.39	0.35	0.02	0.09	-0.82	-0.84	-0.45	0.25
Aug.	-0.84	-0.88	-0.93	-0.92	-0.65	0.23	-0.27	0.03	-0.94	-1.00	-0.73	-0.12
Sep.	-0.70	-0.76	-0.81	-0.77	-0.52	0.24	-0.10	0.03	-0.83	-0.86	-0.58	-0.02

Source: ECB.
1) Data refer to the changing composition of the euro area, see the General Notes.
2) ECB calculations based on underlying data provided by EuroMTS and ratings provided by Fitch Ratings.

2.3 Stock market indices
(index levels in points; period averages)

	Dow Jones EURO STOXX indices												United States	Japan
	Benchmark		Main industry indices											
	Broad index	50	Basic materials	Consumer services	Consumer goods	Oil and gas	Financials	Industrials	Technology	Utilities	Telecoms	Health care	Standard & Poor's 500	Nikkei 225
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
2016	321.6	3,003.7	620.7	250.9	600.1	278.9	148.7	496.0	375.8	248.6	326.9	770.9	2,094.7	16,920.5
2017	376.9	3,491.0	757.3	268.6	690.4	307.9	182.3	605.5	468.4	272.7	339.2	876.3	2,449.1	20,209.0
2018	375.5	3,386.6	766.3	264.9	697.3	336.0	173.1	629.5	502.5	278.8	292.9	800.5	2,746.2	22,310.7
2019 Mar.	365.7	3,332.9	718.3	272.1	692.2	339.9	157.6	621.0	493.4	307.8	297.0	755.1	2,804.0	21,414.9
Apr.	379.0	3,458.8	750.9	277.8	731.0	341.6	163.8	652.7	522.5	311.9	296.9	749.6	2,903.8	21,964.9
May	369.4	3,385.4	710.2	267.4	721.6	324.7	157.0	643.9	519.6	312.0	290.9	732.7	2,854.7	21,218.4
June	369.7	3,406.0	722.6	264.9	728.5	323.2	152.0	652.3	517.5	323.9	296.6	734.0	2,890.2	21,060.2
July	380.0	3,507.8	739.6	271.8	752.7	329.3	155.8	666.2	548.2	326.4	292.2	769.2	2,996.1	21,593.7
Aug.	363.6	3,355.3	704.2	262.0	722.8	303.0	144.1	639.4	523.4	325.7	281.9	778.9	2,897.5	20,629.7
Sep.	379.7	3,514.5	738.2	271.3	751.1	319.7	151.8	669.4	545.0	338.5	294.7	804.3	2,982.2	21,585.5

Source: ECB.

2 Financial developments

2.4 MFI interest rates on loans to and deposits from households (new business) [1], [2]
(Percentages per annum; period average, unless otherwise indicated)

	Deposits				Revolving loans and overdrafts	Extended credit card credit	Loans for consumption			Loans to sole proprietors and unincorporated partnerships	Loans for house purchase					Composite cost-of-borrowing indicator
	Over-night	Redeem-able at notice of up to 3 months	With an agreed maturity of:				By initial period of rate fixation		APRC [3]		By initial period of rate fixation				APRC [3]	
			Up to 2 years	Over 2 years			Floating rate and up to 1 year	Over 1 year			Floating rate and up to 1 year	Over 1 and up to 5 years	Over 5 and up to 10 years	Over 10 years		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2018 Sep.	0.03	0.45	0.30	0.69	6.04	16.71	5.30	5.74	6.27	2.33	1.60	1.81	1.91	1.85	2.08	1.79
Oct.	0.03	0.45	0.29	0.73	5.97	16.73	5.06	5.71	6.23	2.45	1.60	1.80	1.91	1.86	2.09	1.80
Nov.	0.04	0.44	0.29	0.73	5.93	16.67	4.94	5.68	6.18	2.37	1.61	1.85	1.94	1.88	2.11	1.81
Dec.	0.03	0.43	0.30	0.78	5.87	16.68	4.92	5.47	5.98	2.27	1.61	1.80	1.91	1.84	2.10	1.80
2019 Jan.	0.03	0.42	0.33	0.74	5.92	16.63	5.32	5.82	6.33	2.36	1.61	1.81	1.89	1.86	2.09	1.82
Feb.	0.03	0.42	0.32	0.70	5.97	16.61	5.28	5.71	6.27	2.41	1.59	1.84	1.87	1.84	2.09	1.80
Mar.	0.03	0.40	0.30	0.76	5.90	16.65	5.41	5.61	6.18	2.36	1.60	1.80	1.83	1.81	2.06	1.78
Apr.	0.03	0.40	0.32	0.75	5.88	16.66	5.56	5.63	6.19	2.36	1.60	1.77	1.77	1.77	2.02	1.75
May	0.03	0.43	0.31	0.79	5.81	16.67	5.61	5.76	6.34	2.33	1.58	1.79	1.73	1.74	1.99	1.72
June	0.03	0.43	0.32	0.82	5.81	16.63	5.43	5.67	6.24	2.31	1.56	1.73	1.67	1.65	1.95	1.67
July	0.03	0.43	0.31	0.80	5.75	16.58	5.74	5.73	6.30	2.34	1.56	1.71	1.59	1.57	1.90	1.61
Aug. (p)	0.03	0.43	0.28	0.78	5.74	16.60	6.15	5.75	6.34	2.25	1.51	1.68	1.53	1.50	1.84	1.56

Source: ECB.
1) Data refer to the changing composition of the euro area.
2) Including non-profit institutions serving households.
3) Annual percentage rate of charge (APRC).

2.5 MFI interest rates on loans to and deposits from non-financial corporations (new business) [1], [2]
(Percentages per annum; period average, unless otherwise indicated)

	Deposits			Revolving loans and overdrafts	Other loans by size and initial period of rate fixation									Composite cost-of-borrowing indicator
	Over-night	With an agreed maturity of:			up to EUR 0.25 million			over EUR 0.25 and up to 1 million			over EUR 1 million			
		Up to 2 years	Over 2 years		Floating rate and up to 3 months	Over 3 months and up to 1 year	Over 1 year	Floating rate and up to 3 months	Over 3 months and up to 1 year	Over 1 year	Floating rate and up to 3 months	Over 3 months and up to 1 year	Over 1 year	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
2018 Sep.	0.03	0.08	0.44	2.22	2.21	2.35	2.31	1.65	1.54	1.67	1.13	1.40	1.69	1.65
Oct.	0.03	0.06	0.52	2.22	2.13	2.43	2.33	1.66	1.60	1.69	1.23	1.10	1.66	1.64
Nov.	0.03	0.06	0.63	2.19	2.19	2.40	2.34	1.67	1.60	1.67	1.20	1.35	1.69	1.66
Dec.	0.03	0.07	0.53	2.18	2.20	2.29	2.25	1.60	1.59	1.67	1.21	1.39	1.59	1.63
2019 Jan.	0.03	0.05	0.54	2.22	2.15	2.40	2.32	1.67	1.62	1.72	1.13	1.30	1.61	1.63
Feb.	0.03	0.03	0.52	2.21	2.15	2.41	2.33	1.65	1.63	1.70	1.13	1.39	1.56	1.64
Mar.	0.03	0.07	0.62	2.17	2.17	2.38	2.30	1.66	1.58	1.68	1.19	1.36	1.57	1.65
Apr.	0.03	0.06	0.54	2.19	2.19	2.36	2.26	1.67	1.60	1.64	1.16	1.33	1.44	1.62
May	0.03	0.04	0.46	2.15	2.18	2.38	2.29	1.66	1.59	1.63	1.09	1.16	1.50	1.57
June	0.03	0.03	0.56	2.17	2.13	2.33	2.25	1.63	1.55	1.56	1.09	1.28	1.39	1.55
July	0.03	0.04	0.57	2.11	2.07	2.50	2.20	1.66	1.57	1.54	1.17	1.32	1.39	1.57
Aug. (p)	0.03	-0.04	0.54	2.08	2.07	2.36	2.19	1.64	1.59	1.53	1.06	1.32	1.39	1.52

Source: ECB.
1) Data refer to the changing composition of the euro area.
2) In accordance with the ESA 2010, in December 2014 holding companies of non-financial groups were reclassified from the non-financial corporations sector to the financial corporations sector.

2 Financial developments

2.6 Debt securities issued by euro area residents, by sector of the issuer and initial maturity
(EUR billions; transactions during the month and end-of-period outstanding amounts; nominal values)

	Outstanding amounts							Gross issues [1]						
	Total	MFIs (including Euro-system)	Non-MFI corporations			General government		Total	MFIs (including Euro-system)	Non-MFI corporations			General government	
			Financial corporations other than MFIs	FVCs	Non-financial corporations	Central govern-ment	Other general govern-ment			Financial corporations other than MFIs	FVCs	Non-financial corporations	Central govern-ment	Other general govern-ment
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Short-term														
2016	1,241	518	135	.	59	466	62	349	161	45	.	31	79	33
2017	1,240	519	155	.	70	438	57	367	167	54	.	37	79	31
2018	1,221	504	174	.	72	424	47	389	171	66	.	41	76	35
2019 Mar.	1,330	564	178	.	98	435	55	431	186	81	.	44	79	40
Apr.	1,320	561	170	.	109	418	61	423	195	70	.	53	58	47
May	1,343	573	174	.	115	422	59	446	196	74	.	56	83	37
June	1,319	556	179	.	100	428	56	380	152	78	.	45	71	35
July	1,344	576	177	.	110	424	57	457	204	75	.	56	76	45
Aug.	1,371	587	184	.	113	424	63	389	165	75	.	39	71	38
Long-term														
2016	15,372	3,695	3,174	.	1,177	6,685	641	219	62	53	.	19	78	8
2017	15,353	3,560	3,049	.	1,236	6,865	642	247	66	73	.	18	83	7
2018	15,746	3,688	3,151	.	1,261	7,021	626	229	64	68	.	16	75	6
2019 Mar.	16,017	3,755	3,201	.	1,295	7,125	641	269	76	63	.	25	88	17
Apr.	15,992	3,748	3,183	.	1,300	7,120	641	234	55	68	.	19	84	8
May	16,054	3,767	3,201	.	1,299	7,151	635	247	62	80	.	13	86	7
June	16,113	3,768	3,217	.	1,307	7,188	633	245	61	76	.	23	80	5
July	16,184	3,790	3,258	.	1,317	7,183	636	253	71	72	.	24	78	8
Aug.	16,192	3,785	3,255	.	1,314	7,199	638	123	25	43	.	8	41	6

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

2.7 Growth rates and outstanding amounts of debt securities and listed shares
(EUR billions; percentage changes)

	Debt securities							Listed shares			
	Total	MFIs (including Eurosystem)	Non-MFI corporations			General government		Total	MFIs	Financial corporations other than MFIs	Non-financial corporations
			Financial corporations other than MFIs	FVCs	Non-financial corporations	Central government	Other general government				
	1	2	3	4	5	6	7	8	9	10	11
Oustanding amount											
2016	16,613.5	4,213.2	3,309.7	.	1,236.0	7,150.9	703.7	7,089.5	537.6	1,084.2	5,467.7
2017	16,592.9	4,079.3	3,204.4	.	1,305.6	7,303.6	699.9	7,954.7	612.5	1,249.6	6,092.6
2018	16,966.9	4,191.6	3,324.8	.	1,333.0	7,444.8	672.7	7,027.2	465.1	1,099.4	5,462.7
2019 Mar.	17,347.3	4,319.1	3,378.8	.	1,393.0	7,560.7	695.7	7,761.2	495.8	1,230.9	6,034.5
Apr.	17,312.0	4,309.2	3,352.8	.	1,408.9	7,538.8	702.3	8,090.6	537.0	1,281.8	6,271.8
May	17,396.7	4,340.5	3,375.4	.	1,414.3	7,572.7	693.8	7,586.6	470.9	1,208.1	5,907.6
June	17,432.6	4,324.1	3,396.5	.	1,407.4	7,616.2	688.4	7,940.6	493.3	1,246.0	6,201.3
July	17,527.5	4,366.2	3,435.1	.	1,427.5	7,606.3	692.4	7,980.2	484.0	1,252.8	6,243.4
Aug.	17,563.4	4,372.3	3,439.1	.	1,427.5	7,623.1	701.4	7,839.7	462.4	1,183.0	6,194.3
Growth rate											
2016	0.3	-3.0	-1.2	.	6.2	2.2	-0.1	0.5	1.2	0.9	0.4
2017	1.3	-0.5	0.1	.	5.9	2.2	0.5	1.0	6.1	2.8	0.2
2018	1.9	1.7	3.0	.	3.4	1.9	-4.3	0.7	-0.1	2.4	0.4
2019 Mar.	2.5	3.1	3.0	.	3.8	2.1	0.0	0.4	-0.2	1.7	0.2
Apr.	2.3	3.0	1.6	.	4.1	2.1	0.7	0.0	-0.2	-0.1	0.1
May	2.6	3.9	2.2	.	3.8	2.1	0.6	0.0	-0.2	-0.2	0.0
June	2.9	4.5	2.2	.	4.6	2.3	1.0	0.0	-0.1	0.0	0.0
July	3.0	5.2	2.0	.	4.8	2.0	1.3	-0.1	-0.1	-0.1	-0.1
Aug.	3.2	4.9	2.9	.	5.7	2.2	1.6	-0.1	-0.1	-0.1	-0.2

Source: ECB.

2 Financial developments

2.8 Effective exchange rates [1]
(period averages; index: 1999 Q1=100)

	EER-19						EER-38	
	Nominal	Real CPI	Real PPI	Real GDP deflator	Real ULCM	Real ULCT	Nominal	Real CPI
	1	2	3	4	5	6	7	8
2016	94.4	89.5	90.8	85.2	80.0	90.2	109.7	88.9
2017	96.6	91.4	91.9	86.0	78.8	90.6	112.0	90.0
2018	98.9	93.4	93.4	87.4	79.2	91.5	117.9	93.8
2018 Q4	98.5	93.0	92.9	86.9	79.1	91.0	118.4	93.8
2019 Q1	97.4	91.7	92.1	85.7	78.3	89.6	116.7	92.1
Q2	97.3	91.4	91.7	85.5	78.6	89.3	116.8	91.9
Q3	97.7	91.5	91.8	.	.	.	116.9	91.5
2019 Apr.	96.7	91.0	91.3	-	-	-	116.1	91.4
May	97.4	91.4	91.8	-	-	-	117.0	91.9
June	97.9	91.9	92.1	-	-	-	117.4	92.2
July	97.5	91.3	91.5	-	-	-	116.5	91.3
Aug.	98.1	91.9	92.2	-	-	-	117.6	92.0
Sep.	97.4	91.2	91.6	-	-	-	116.7	91.2
	Percentage change versus previous month							
2019 Sep.	-0.7	-0.7	-0.7	-	-	-	-0.8	-0.9
	Percentage change versus previous year							
2019 Sep.	-2.0	-2.9	-2.2	-	-	-	-3.1	-4.5

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

2.9 Bilateral exchange rates
(period averages; units of national currency per euro)

	Chinese renminbi	Croatian kuna	Czech koruna	Danish krone	Hungarian forint	Japanese yen	Polish zloty	Pound sterling	Romanian leu	Swedish krona	Swiss franc	US Dollar
	1	2	3	4	5	6	7	8	9	10	11	12
2016	7.352	7.533	27.034	7.445	311.438	120.197	4.363	0.819	4.4904	9.469	1.090	1.107
2017	7.629	7.464	26.326	7.439	309.193	126.711	4.257	0.877	4.5688	9.635	1.112	1.130
2018	7.808	7.418	25.647	7.453	318.890	130.396	4.261	0.885	4.6540	10.258	1.155	1.181
2018 Q4	7.895	7.420	25.864	7.462	322.995	128.816	4.299	0.887	4.6605	10.320	1.137	1.141
2019 Q1	7.663	7.422	25.683	7.464	317.907	125.083	4.302	0.873	4.7358	10.419	1.132	1.136
Q2	7.672	7.418	25.686	7.467	322.973	123.471	4.282	0.875	4.7480	10.619	1.126	1.124
Q3	7.800	7.394	25.734	7.463	328.099	119.323	4.318	0.902	4.7314	10.662	1.096	1.112
2019 Apr.	7.549	7.428	25.677	7.465	321.181	125.436	4.286	0.862	4.7584	10.482	1.132	1.124
May	7.674	7.419	25.768	7.468	324.978	122.948	4.296	0.872	4.7594	10.737	1.130	1.118
June	7.794	7.408	25.605	7.467	322.559	122.081	4.264	0.891	4.7250	10.626	1.117	1.129
July	7.715	7.390	25.548	7.466	325.269	121.406	4.260	0.899	4.7286	10.560	1.108	1.122
Aug.	7.858	7.390	25.802	7.460	326.906	118.179	4.347	0.916	4.7280	10.736	1.089	1.113
Sep.	7.832	7.401	25.868	7.463	332.448	118.242	4.353	0.891	4.7381	10.697	1.090	1.100
	Percentage change versus previous month											
2019 Sep.	-0.3	0.2	0.3	0.0	1.7	0.1	0.1	-2.7	0.2	-0.4	0.1	-1.1
	Percentage change versus previous year											
2019 Sep.	-2.0	-0.4	1.0	0.1	2.3	-9.4	1.2	-0.2	2.0	2.4	-3.4	-5.6

Source: ECB.

2 Financial developments

2.10 Euro area balance of payments, financial account
(EUR billions, unless otherwise indicated; outstanding amounts at end of period; transactions during period)

	Total [1]			Direct investment		Portfolio investment		Net financial derivatives	Other investment		Reserve assets	Memo: Gross external debt
	Assets	Liabilities	Net	Assets	Liabilities	Assets	Liabilities		Assets	Liabilities		
	1	2	3	4	5	6	7	8	9	10	11	12
Outstanding amounts (international investment position)												
2018 Q3	26,129.9	26,707.7	-577.8	11,198.5	9,161.6	8,890.1	11,147.7	-72.5	5,439.9	6,398.4	673.9	14,502.9
Q4	25,399.7	25,891.3	-491.6	10,895.1	9,041.6	8,475.2	10,508.5	-87.9	5,398.2	6,341.2	719.1	14,197.4
2019 Q1	26,652.9	26,908.5	-255.6	11,179.5	9,124.4	9,114.2	11,251.0	-91.4	5,709.4	6,533.1	741.1	14,629.3
Q2	26,837.0	27,084.1	-247.1	11,064.3	9,096.4	9,232.2	11,424.4	-78.2	5,847.8	6,563.3	770.8	14,695.5
Outstanding amounts as a percentage of GDP												
2019 Q2	229.0	231.1	-2.1	94.4	77.6	78.8	97.5	-0.7	49.9	56.0	6.6	125.4
Transactions												
2018 Q3	62.8	-31.3	94.1	-79.2	-81.9	40.5	6.1	35.0	65.3	44.6	1.2	-
Q4	-407.0	-470.9	63.8	-303.9	-195.0	-28.2	-158.2	29.6	-110.4	-117.6	5.8	-
2019 Q1	355.0	303.6	51.4	90.6	35.7	58.6	141.8	2.2	200.7	126.1	2.8	-
Q2	217.7	180.7	37.0	-47.3	12.0	49.5	91.3	30.2	182.6	77.4	2.6	-
2019 Mar.	45.2	-1.0	46.1	3.1	-23.7	20.1	61.3	5.3	11.6	-38.5	5.0	-
Apr.	157.3	173.7	-16.3	21.4	49.0	-7.6	-10.6	10.6	129.8	135.3	3.2	-
May	86.0	73.8	12.2	9.0	16.1	-0.5	60.3	12.6	63.2	-2.6	1.8	-
June	-25.6	-66.8	41.2	-77.7	-53.1	57.6	41.7	7.1	-10.3	-55.4	-2.3	-
July	191.7	176.2	15.5	-14.6	2.4	48.6	75.7	8.3	142.3	98.1	7.1	-
Aug.	35.2	11.4	23.9	-21.0	-30.6	28.7	16.6	6.1	20.7	25.4	0.8	-
12-month cumulated transactions												
2019 Aug.	290.3	58.7	231.5	-398.2	-279.2	152.6	207.8	83.1	431.3	130.2	21.4	-
12-month cumulated transactions as a percentage of GDP												
2019 Aug.	2.5	0.5	2.0	-3.4	-2.4	1.3	1.8	0.7	3.7	1.1	0.2	-

Source: ECB.
1) Net financial derivatives are included in total assets.

3 Economic activity

3.1 GDP and expenditure components
(quarterly data seasonally adjusted; annual data unadjusted)

	GDP									External balance [1]		
Total	Domestic demand									Total	Exports [1]	Imports [1]
	Total	Private consumption	Government consumption	Gross fixed capital formation				Changes in inventories [2]			
					Total construction	Total machinery	Intellectual property products				
1	2	3	4	5	6	7	8	9	10	11	12
Current prices (EUR billions)											
2016	10,817.0	10,339.5	5,858.7	2,235.3	2,193.0	1,038.2	675.1	473.5	52.5	477.5	4,928.9	4,451.4
2017	11,200.9	10,707.5	6,036.9	2,296.7	2,304.3	1,101.6	707.0	489.2	69.6	493.4	5,297.9	4,804.5
2018	11,561.2	11,060.8	6,207.5	2,363.9	2,405.9	1,175.2	742.2	481.7	83.5	500.4	5,547.4	5,047.0
2018 Q3	2,897.0	2,778.2	1,556.6	592.5	606.9	296.9	187.7	120.7	22.3	118.7	1,398.2	1,279.5
Q4	2,922.3	2,805.1	1,566.8	597.4	619.4	302.8	188.8	126.1	21.5	117.1	1,410.5	1,293.4
2019 Q1	2,945.4	2,814.2	1,575.2	602.2	626.2	310.9	190.5	123.2	10.5	131.2	1,425.7	1,294.5
Q2	2,965.9	2,864.5	1,587.9	607.6	660.8	311.0	192.6	155.5	8.0	101.4	1,430.8	1,329.4
as a percentage of GDP											
2018	100.0	95.7	53.7	20.4	20.8	10.2	6.4	4.2	0.7	4.3	-	-
Chain-linked volumes (prices for the previous year)											
quarter-on-quarter percentage changes											
2018 Q3	0.2	0.4	0.2	0.1	0.8	0.5	0.7	1.5	-	-	0.4	1.0
Q4	0.3	0.4	0.4	0.4	1.6	1.2	0.4	4.4	-	-	0.9	1.1
2019 Q1	0.4	0.1	0.3	0.4	0.5	1.7	0.7	-2.7	-	-	1.1	0.4
Q2	0.2	1.4	0.2	0.4	5.6	-0.1	1.6	26.4	-	-	0.2	2.8
annual percentage changes											
2016	1.9	2.4	2.0	1.9	4.0	2.7	5.8	4.5	-	-	2.9	4.1
2017	2.5	2.2	1.7	1.3	3.5	3.6	4.0	2.4	-	-	5.5	5.0
2018	1.9	1.6	1.4	1.1	2.3	3.4	4.3	-2.8	-	-	3.3	2.7
2018 Q3	1.6	1.8	1.1	0.9	3.5	2.5	4.6	4.0	-	-	3.1	3.8
Q4	1.2	1.8	1.1	1.1	4.1	3.4	2.3	8.7	-	-	1.7	3.1
2019 Q1	1.3	1.4	1.1	1.3	4.2	5.0	3.3	3.4	-	-	3.4	3.8
Q2	1.2	2.4	1.1	1.3	8.7	3.2	3.4	30.4	-	-	2.5	5.3
contributions to quarter-on-quarter percentage changes in GDP; percentage points											
2018 Q3	0.2	0.4	0.1	0.0	0.2	0.0	0.0	0.1	0.1	-0.2	-	-
Q4	0.3	0.4	0.2	0.1	0.3	0.1	0.0	0.2	-0.2	-0.1	-	-
2019 Q1	0.4	0.1	0.2	0.1	0.1	0.2	0.0	-0.1	-0.3	0.3	-	-
Q2	0.2	1.3	0.1	0.1	1.2	0.0	0.1	1.1	0.0	-1.1	-	-
contributions to annual percentage changes in GDP; percentage points											
2016	1.9	2.3	1.1	0.4	0.8	0.3	0.4	0.2	0.0	-0.4	-	-
2017	2.5	2.1	0.9	0.3	0.7	0.3	0.3	0.1	0.2	0.5	-	-
2018	1.9	1.5	0.7	0.2	0.5	0.3	0.3	-0.1	0.0	0.4	-	-
2018 Q3	1.6	1.8	0.6	0.2	0.7	0.3	0.3	0.2	0.3	-0.1	-	-
Q4	1.2	1.7	0.6	0.2	0.8	0.3	0.1	0.4	0.1	-0.5	-	-
2019 Q1	1.3	1.4	0.6	0.3	0.9	0.5	0.2	0.1	-0.3	0.0	-	-
Q2	1.2	2.3	0.6	0.3	1.8	0.3	0.2	1.2	-0.4	-1.1	-	-

Sources: Eurostat and ECB calculations.
1) Exports and imports cover goods and services and include cross-border intra-euro area trade.
2) Including acquisitions less disposals of valuables.

3 Economic activity

3.2 Value added by economic activity
(quarterly data seasonally adjusted; annual data unadjusted)

| | Gross value added (basic prices) | | | | | | | | | | | Taxes less subsidies on products |
	Total	Agriculture, forestry and fishing	Manufacturing energy and utilities	Const-ruction	Trade, transport, accom-modation and food services	Infor-mation and com-munica-tion	Finance and insurance	Real estate	Professional, business and support services	Public ad-ministration, education, health and social work	Arts, enter-tainment and other services	
	1	2	3	4	5	6	7	8	9	10	11	12
	Current prices (EUR billions)											
2016	9,703.7	161.1	1,931.6	479.2	1,834.9	444.3	473.7	1,106.3	1,084.7	1,847.2	340.6	1,113.3
2017	10,040.0	176.2	1,991.7	502.2	1,909.8	468.8	465.8	1,133.7	1,143.7	1,897.4	350.6	1,160.9
2018	10,356.2	177.7	2,041.5	537.2	1,968.4	488.5	469.8	1,168.0	1,195.2	1,954.7	355.3	1,205.0
2018 Q3	2,594.1	44.6	511.9	135.4	492.6	122.0	117.4	292.3	299.5	489.6	88.7	302.9
Q4	2,618.3	45.0	512.2	138.8	497.3	124.5	118.7	295.0	303.6	494.4	89.3	303.9
2019 Q1	2,639.1	45.8	514.6	142.8	502.2	125.5	117.4	297.6	306.1	497.1	90.1	306.2
Q2	2,657.4	46.6	512.6	144.2	505.8	127.9	118.5	299.5	309.4	501.6	91.2	308.5
	as a percentage of value added											
2018	100.0	1.7	19.7	5.2	19.0	4.7	4.5	11.3	11.5	18.9	3.4	-
	Chain-linked volumes (prices for the previous year)											
	quarter-on-quarter percentage changes											
2018 Q3	0.2	-0.8	-0.2	0.7	0.0	1.8	0.7	0.4	0.2	0.3	0.2	0.0
Q4	0.3	0.9	-0.4	1.3	0.5	0.5	-0.2	0.3	0.8	0.4	0.2	0.3
2019 Q1	0.5	0.4	0.0	1.6	0.9	1.4	0.3	0.5	0.2	0.0	0.7	0.2
Q2	0.1	-0.6	-0.5	-0.2	0.1	1.2	0.8	0.2	0.4	0.2	0.2	0.8
	annual percentage changes											
2016	1.8	-2.0	2.9	1.9	1.9	4.2	-1.0	0.6	2.6	1.6	0.0	2.7
2017	2.6	0.7	3.4	2.4	3.0	5.8	1.0	0.8	4.3	1.6	1.5	2.1
2018	2.0	1.2	1.8	3.4	2.1	4.4	1.1	1.6	3.3	1.0	0.4	1.5
2018 Q3	1.6	0.4	1.2	3.3	1.8	4.7	1.3	1.5	2.6	0.7	0.0	1.6
Q4	1.2	0.0	-0.6	3.6	1.5	3.7	0.7	1.4	2.6	0.8	0.2	1.1
2019 Q1	1.4	0.3	-0.3	4.8	1.9	4.7	1.2	1.4	1.8	0.9	0.9	0.9
Q2	1.1	-0.1	-1.1	3.4	1.5	5.1	1.5	1.4	1.6	1.0	1.3	1.3
	contributions to quarter-on-quarter percentage changes in value added; percentage points											
2018 Q3	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	-
Q4	0.3	0.0	-0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	-
2019 Q1	0.5	0.0	0.0	0.1	0.2	0.1	0.0	0.1	0.0	0.0	0.0	-
Q2	0.1	0.0	-0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-
	contributions to annual percentage changes in value added; percentage points											
2016	1.8	0.0	0.6	0.1	0.4	0.2	-0.1	0.1	0.3	0.3	0.0	-
2017	2.6	0.0	0.7	0.1	0.6	0.3	0.1	0.1	0.5	0.3	0.1	-
2018	2.0	0.0	0.4	0.2	0.4	0.2	0.1	0.2	0.4	0.2	0.0	-
2018 Q3	1.6	0.0	0.2	0.2	0.3	0.2	0.1	0.2	0.3	0.1	0.0	-
Q4	1.2	0.0	-0.1	0.2	0.3	0.2	0.0	0.2	0.3	0.2	0.0	-
2019 Q1	1.4	0.0	-0.1	0.2	0.4	0.2	0.1	0.2	0.2	0.2	0.0	-
Q2	1.1	0.0	-0.2	0.2	0.3	0.2	0.1	0.2	0.2	0.2	0.0	-

Sources: Eurostat and ECB calculations.

3 Economic activity

3.3 Employment [1]
(quarterly data seasonally adjusted; annual data unadjusted)

	Total	By employment status		By economic activity									
		Employees	Self-employed	Agriculture, forestry and fishing	Manufacturing, energy and utilities	Construction	Trade, transport, accommodation and food services	Information and communication	Finance and insurance	Real estate	Professional, business and support services	Public administration, education, health and social work	Arts, entertainment and other services
	1	2	3	4	5	6	7	8	9	10	11	12	13
							Persons employed						
							as a percentage of total persons employed						
2016	100.0	85.2	14.8	3.3	14.7	6.0	24.9	2.8	2.6	1.0	13.6	24.4	7.0
2017	100.0	85.6	14.4	3.2	14.6	6.0	24.9	2.8	2.5	1.0	13.8	24.3	6.9
2018	100.0	85.8	14.2	3.1	14.6	6.0	24.9	2.9	2.4	1.0	14.0	24.2	6.9
							annual percentage changes						
2016	1.3	1.6	-0.2	-0.2	0.8	0.3	1.4	3.0	-0.5	2.1	2.9	1.3	0.7
2017	1.6	2.0	-0.7	-0.5	1.1	1.5	1.8	3.4	-1.5	1.8	3.7	1.1	1.0
2018	1.5	1.8	-0.2	-0.4	1.5	2.4	1.4	3.4	-0.7	1.7	2.8	1.3	0.6
2018 Q3	1.4	1.7	-0.1	0.0	1.4	2.5	1.2	3.9	-0.9	2.0	2.5	1.3	0.4
Q4	1.4	1.6	-0.1	-0.4	1.3	3.1	1.3	3.8	-0.4	1.9	1.9	1.3	0.2
2019 Q1	1.4	1.6	0.1	0.0	1.2	2.5	1.2	4.0	-0.2	2.2	1.8	1.3	0.5
Q2	1.2	1.4	-0.3	-2.2	1.0	1.5	1.2	3.9	-0.4	1.1	1.4	1.4	0.9
							Hours worked						
							as a percentage of total hours worked						
2016	100.0	80.3	19.7	4.4	15.1	6.7	25.8	2.9	2.6	1.0	13.3	21.9	6.3
2017	100.0	80.7	19.3	4.3	15.1	6.7	25.8	3.0	2.5	1.0	13.6	21.8	6.2
2018	100.0	81.1	18.9	4.2	15.0	6.8	25.7	3.0	2.5	1.0	13.8	21.8	6.1
							annual percentage changes						
2016	1.4	1.9	-0.3	0.0	0.9	0.5	1.6	3.0	-0.1	2.9	3.0	1.3	0.7
2017	1.1	1.7	-1.2	-1.1	0.8	1.3	1.3	3.2	-2.0	1.5	3.4	0.5	0.4
2018	1.4	1.9	-0.4	0.4	1.2	2.7	1.1	3.2	-1.0	2.4	2.7	1.3	0.4
2018 Q3	1.6	1.9	0.1	1.0	1.3	3.2	1.3	3.7	-1.1	3.0	2.8	1.3	0.5
Q4	1.5	1.9	-0.1	0.3	1.3	3.3	1.4	3.8	-0.1	1.9	2.1	1.5	0.4
2019 Q1	1.6	1.9	0.2	1.2	1.5	3.0	1.4	4.1	0.0	1.7	1.9	1.4	0.5
Q2	0.9	1.3	-0.6	-2.0	0.7	1.7	1.0	3.4	-0.4	1.1	1.4	1.1	0.1
							Hours worked per person employed						
							annual percentage changes						
2016	0.1	0.3	-0.2	0.3	0.1	0.2	0.2	0.0	0.4	0.7	0.1	0.0	0.0
2017	-0.5	-0.3	-0.5	-0.6	-0.3	-0.1	-0.5	-0.1	-0.5	-0.3	-0.3	-0.6	-0.6
2018	-0.1	0.1	-0.2	0.8	-0.2	0.2	-0.3	-0.3	-0.3	0.6	-0.1	0.0	-0.2
2018 Q3	0.1	0.2	0.2	1.0	-0.1	0.6	0.1	-0.2	-0.2	1.0	0.3	0.0	0.2
Q4	0.1	0.3	-0.1	0.7	0.0	0.2	0.1	0.1	0.3	0.1	0.2	0.1	0.1
2019 Q1	0.2	0.3	0.1	1.2	0.2	0.5	0.2	0.1	0.2	-0.5	0.1	0.1	0.0
Q2	-0.2	-0.1	-0.3	0.2	-0.3	0.1	-0.2	-0.5	0.0	0.1	0.0	-0.3	-0.8

Sources: Eurostat and ECB calculations.
1) Data for employment are based on the ESA 2010.

3 Economic activity

3.4 Labour force, unemployment and job vacancies
(seasonally adjusted, unless otherwise indicated)

	Labour force, millions [1]	Under-employ-ment, % of labour force [1]	Unemployment											Job vacancy rate [2]
			Total		Long-term unemploy-ment, % of labour force [1]	By age				By gender				
						Adult		Youth		Male		Female		
			Millions	% of labour force		Millions	% of labour force	Millions	% of labour force	Millions	% of labour force	Millions	% of labour force	% of total posts
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
% of total in 2016			100.0			81.7		18.3		52.2		47.8		
2016	162.028	4.3	16.258	10.0	5.0	13.294	9.0	2.965	20.9	8.484	9.7	7.774	10.4	1.7
2017	162.659	4.1	14.760	9.1	4.4	12.094	8.1	2.667	18.8	7.637	8.7	7.123	9.5	1.9
2018	163.305	3.8	13.394	8.2	3.8	10.965	7.4	2.429	17.0	6.900	7.9	6.493	8.6	2.1
2018 Q3	163.735	3.6	13.150	8.0	3.6	10.748	7.2	2.402	16.7	6.796	7.7	6.354	8.4	2.1
Q4	163.707	3.7	12.970	7.9	3.6	10.596	7.1	2.374	16.5	6.650	7.6	6.320	8.3	2.3
2019 Q1	163.284	3.6	12.679	7.7	3.5	10.363	6.9	2.316	16.1	6.471	7.4	6.208	8.2	2.3
Q2	163.765	3.6	12.399	7.6	3.3	10.151	6.8	2.248	15.6	6.365	7.2	6.033	7.9	2.3
2019 Mar.	-	-	12.552	7.7	-	10.256	6.9	2.296	15.9	6.410	7.3	6.142	8.1	-
Apr.	-	-	12.488	7.6	-	10.229	6.8	2.258	15.6	6.404	7.3	6.083	8.0	-
May	-	-	12.401	7.6	-	10.143	6.8	2.258	15.7	6.378	7.3	6.023	7.9	-
June	-	-	12.308	7.5	-	10.080	6.7	2.228	15.5	6.314	7.2	5.994	7.9	-
July	-	-	12.284	7.5	-	10.040	6.7	2.244	15.6	6.295	7.2	5.989	7.9	-
Aug.	-	-	12.169	7.4	-	9.967	6.7	2.202	15.4	6.235	7.1	5.934	7.8	-

Sources: Eurostat and ECB calculations.
1) Not seasonally adjusted.
2) The job vacancy rate is equal to the number of job vacancies divided by the sum of the number of occupied posts and the number of job vacancies, expressed as a percentage.

3.5 Short-term business statistics

	Industrial production						Con-struction produc-tion	ECB indicator on industrial new orders	Retail sales				New passenger car regis-trations
	Total (excluding construction)		Main Industrial Groupings						Total	Food, beverages, tobacco	Non-food	Fuel	
		Manu-facturing	Inter-mediate goods	Capital goods	Consumer goods	Energy							
	1	2	3	4	5	6	7	8	9	10	11	12	13
% of total in 2015	100.0	88.7	32.1	34.5	21.8	11.6	100.0	100.0	100.0	40.4	52.5	7.1	100.0
							annual percentage changes						
2016	1.6	1.8	1.8	2.0	1.8	0.5	3.0	0.6	1.6	1.0	2.3	1.4	7.1
2017	2.9	3.2	3.4	3.8	1.5	1.2	3.1	7.9	2.5	1.6	3.5	1.0	5.7
2018	0.9	1.2	0.6	1.8	1.2	-1.5	2.1	2.7	1.6	1.3	1.9	0.6	0.9
2018 Q4	-1.9	-1.7	-2.1	-2.0	-0.4	-3.7	1.9	-0.9	1.6	1.4	1.7	1.7	-9.0
2019 Q1	-0.5	-0.2	-0.6	-0.6	1.4	-2.7	4.6	-3.2	2.4	1.0	3.5	2.9	-3.1
Q2	-1.3	-1.4	-2.3	-2.7	2.1	-0.2	2.2	-3.5	2.1	1.1	3.0	0.6	-0.7
Q3	.	.	.	.	.	.	.	.	.	.	.	.	0.6
2019 Apr.	-0.7	-0.8	-1.1	-2.3	1.9	0.0	2.8	-1.9	2.2	2.3	1.9	1.5	-1.2
May	-0.8	-0.9	-2.4	-1.8	3.1	0.3	1.5	-5.2	1.3	-0.3	2.5	-0.9	-2.1
June	-2.4	-2.5	-3.4	-4.0	1.4	-0.9	1.5	-3.5	2.8	1.3	4.4	1.1	1.1
July	-2.1	-2.2	-2.9	-3.2	3.9	-1.3	1.8	-4.5	2.2	1.0	3.3	1.4	-3.8
Aug.	-2.8	-2.7	-3.1	-2.9	1.8	-3.3	1.2	-5.8	2.1	0.4	4.1	2.1	-6.1
Sep.	.	.	.	.	.	.	.	.	.	.	.	.	14.8
							month-on-month percentage changes (s.a.)						
2019 Apr.	-0.5	-0.8	-0.9	-2.0	0.3	1.8	-1.4	0.8	0.1	0.0	0.3	-0.1	0.5
May	0.8	0.8	-0.2	1.0	2.2	0.4	-0.5	-1.9	-0.3	-0.9	0.0	-1.5	0.3
June	-1.5	-1.5	-1.3	-3.7	-1.5	-0.9	0.6	0.6	0.8	1.4	1.2	1.6	2.8
July	-0.4	-0.4	-0.2	2.1	2.0	0.0	-0.2	-1.8	-0.5	-0.7	-0.7	-0.1	-1.5
Aug.	0.4	0.4	0.3	1.2	0.0	-0.4	-0.5	0.5	0.3	0.0	0.4	0.1	10.7
Sep.	.	.	.	.	.	.	.	.	.	.	.	.	-18.7

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

3 Economic activity

3.6 Opinion surveys
(seasonally adjusted)

	European Commission Business and Consumer Surveys (percentage balances, unless otherwise indicated)								Purchasing Managers' Surveys (diffusion indices)			
	Economic sentiment indicator (long-term average = 100)	Manufacturing industry		Consumer confidence indicator	Construction confidence indicator	Retail trade confid-ence indicator	Service industries		Purchasing Managers' Index (PMI) for manu-facturing	Manu-facturing output	Business activity for services	Composite output
		Industrial confidence indicator	Capacity utilisation (%)				Services confidence indicator	Capacity utilisation (%)				
	1	2	3	4	5	6	7	8	9	10	11	12
1999-15	99.2	-5.3	80.7	-11.7	-15.0	-8.7	7.2	-	51.2	52.5	53.0	52.8
2016	104.1	-1.8	81.7	-8.1	-16.4	0.6	11.3	88.9	52.5	53.6	53.1	53.3
2017	110.1	5.5	83.2	-5.4	-4.2	2.3	14.6	89.8	57.4	58.5	55.6	56.4
2018	111.2	6.6	83.8	-4.9	6.1	1.3	15.2	90.3	54.9	54.7	54.5	54.6
2018 Q4	108.8	3.6	83.6	-6.4	7.9	-0.3	13.4	90.4	51.7	51.0	52.8	52.3
2019 Q1	106.0	-0.5	83.2	-7.0	7.5	-1.0	11.6	90.7	49.1	49.0	52.4	51.5
Q2	104.1	-4.3	82.4	-7.0	6.1	-0.7	11.6	90.5	47.7	48.5	53.1	51.8
Q3	102.5	-7.3	.	-6.7	4.2	0.0	9.8	.	46.4	47.0	52.8	51.2
2019 Apr.	103.9	-4.3	82.8	-7.3	6.5	-1.1	11.8	90.6	47.9	48.0	52.8	51.5
May	105.2	-2.9	-	-6.5	4.1	-0.9	12.1	-	47.7	48.9	52.9	51.8
June	103.3	-5.6	-	-7.2	7.6	0.1	11.0	-	47.6	48.5	53.6	52.2
July	102.7	-7.3	81.9	-6.6	5.0	-0.7	10.6	90.5	46.5	46.9	53.2	51.5
Aug.	103.1	-5.8	-	-7.1	3.9	0.6	9.2	-	47.0	47.9	53.5	51.9
Sep.	101.7	-8.8	-	-6.5	3.8	0.1	9.5	-	45.7	46.1	51.6	50.1

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

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

	Households							Non-financial corporations					
	Saving ratio (gross) [1]	Debt ratio	Real gross disposable income	Financial investment	Non-financial investment (gross)	Net worth [2]	Hous-ing wealth	Profit share [3]	Saving ratio (net)	Debt ratio [4]	Financial investment	Non-financial investment (gross)	Finan-cing
	Percentage of gross disposable income (adjusted)		Annual percentage changes					Percentage of net value added		Percent-age of GDP	Annual percentage changes		
	1	2	3	4	5	6	7	8	9	10	11	12	13
2016	12.4	93.9	2.1	2.0	5.5	3.4	2.8	35.7	7.8	138.9	4.9	5.5	2.9
2017	12.1	93.8	1.4	2.1	5.4	4.4	4.4	34.4	7.0	137.4	3.9	7.8	2.4
2018	12.4	93.5	1.8	2.0	7.0	2.5	4.6	34.0	6.0	136.0	2.0	5.6	1.3
2018 Q3	12.3	93.5	1.3	2.0	7.5	3.7	4.8	34.1	6.4	137.4	2.8	7.3	1.7
Q4	12.4	93.5	1.5	2.0	8.6	2.5	4.6	34.0	6.0	136.0	2.0	20.8	1.3
2019 Q1	12.7	93.3	2.1	2.1	7.6	3.5	3.9	33.8	6.2	136.0	1.9	7.4	1.3
Q2	13.0	93.5	2.3	2.2	4.4	4.1	3.9	33.6	6.0	136.3	1.3	15.9	1.0

Sources: ECB and Eurostat.
1) Based on four-quarter cumulated sums of both saving and gross disposable income (adjusted for the change in the net equity of households in pension fund reserves).
2) Financial assets (net of financial liabilities) and non-financial assets. Non-financial assets consist mainly of housing wealth (residential structures and land). They also include non-financial assets of unincorporated enterprises classified within the household sector.
3) The profit share uses net entrepreneurial income, which is broadly equivalent to current profits in business accounting.
4) Based on the outstanding amount of loans, debt securities, trade credits and pension scheme liabilities.

3 Economic activity

3.8 Euro area balance of payments, current and capital accounts
(EUR billions; seasonally adjusted unless otherwise indicated; transactions)

	Current account											Capital account [1]	
	Total			Goods		Services		Primary income		Secondary income			
	Credit	Debit	Net	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit
	1	2	3	4	5	6	7	8	9	10	11	12	13
2018 Q3	1,042.6	968.0	74.6	589.0	521.6	232.6	207.2	191.6	170.9	29.3	68.4	8.8	5.7
Q4	1,058.5	977.4	81.2	599.3	527.1	234.6	210.4	195.2	166.4	29.4	73.4	22.0	64.4
2019 Q1	1,065.8	974.4	91.4	604.7	520.5	235.6	210.0	196.7	175.5	28.8	68.3	10.7	14.9
Q2	1,061.1	990.5	70.7	600.2	519.3	241.1	233.2	193.2	175.0	26.6	63.0	8.7	24.0
2019 Mar.	352.6	325.1	27.5	203.5	176.1	78.8	70.0	60.5	56.6	9.8	22.3	3.0	6.2
Apr.	352.9	330.8	22.1	199.3	173.5	80.1	77.8	64.6	58.9	8.9	20.6	2.4	7.8
May	355.2	329.1	26.1	200.6	172.8	80.1	76.9	65.4	59.5	9.1	20.0	3.0	8.0
June	353.0	330.6	22.5	200.3	173.1	80.8	78.5	63.2	56.6	8.7	22.4	3.4	8.2
July	353.4	331.8	21.6	200.4	172.5	79.5	77.5	64.4	59.2	9.0	22.6	3.6	2.4
Aug.	352.1	325.4	26.6	201.6	173.9	80.1	74.6	62.1	54.9	8.3	22.1	3.0	1.9
	12-month cumulated transactions												
2019 Aug.	4,239.5	3,927.1	312.4	2,403.0	2,089.2	948.5	875.1	776.6	690.5	111.5	272.4	50.6	109.8
	12-month cumulated transactions as a percentage of GDP												
2019 Aug.	36.1	33.5	2.7	20.5	17.8	8.1	7.5	6.6	5.9	1.0	2.3	0.4	0.9

1) The capital account is not seasonally adjusted.

3.9 Euro area external trade in goods [1], values and volumes by product group [2]
(seasonally adjusted, unless otherwise indicated)

	Total (n.s.a.)		Exports (f.o.b.)					Imports (c.i.f.)					
			Total				Memo item:	Total				Memo items:	
	Exports	Imports		Intermediate goods	Capital goods	Consumption goods	Manu-facturing		Intermediate goods	Capital goods	Consumption goods	Manu-facturing	Oil
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Values (EUR billions; annual percentage changes for columns 1 and 2)												
2018 Q3	4.8	10.2	572.4	277.6	118.0	166.9	479.4	531.0	310.9	85.6	126.7	373.9	68.6
Q4	3.8	7.9	579.2	278.8	122.7	168.0	485.0	536.6	310.1	88.9	130.1	380.6	66.0
2019 Q1	4.1	5.2	586.7	283.5	120.8	172.4	492.6	532.2	307.0	85.2	133.1	381.8	64.1
Q2	2.3	2.5	581.6	275.7	119.2	175.7	485.8	530.2	302.6	84.4	133.9	379.9	65.5
2019 Mar.	3.5	6.4	196.3	94.6	40.0	58.6	164.4	179.1	102.8	28.3	45.3	128.4	22.2
Apr.	5.3	6.6	192.6	92.3	39.2	58.0	159.7	177.3	101.4	28.1	44.9	126.7	21.8
May	7.2	5.2	195.2	91.7	40.7	59.0	163.1	176.9	101.9	28.8	44.0	125.0	22.5
June	-5.1	-4.0	193.8	91.7	39.3	58.6	162.9	176.0	99.3	27.5	45.0	128.2	21.2
July	6.4	2.7	194.1	92.6	38.9	58.3	162.2	176.6	100.8	29.1	44.6	128.5	20.3
Aug.	-2.2	-4.0	194.8	.	.	.	162.1	174.5	.	.	.	126.3	.
	Volume indices (2000 = 100; annual percentage changes for columns 1 and 2)												
2018 Q3	1.2	2.0	107.1	110.6	106.3	103.9	107.5	108.8	108.9	110.1	108.2	110.7	97.0
Q4	0.2	1.8	107.5	110.4	109.6	103.7	107.6	109.6	109.0	112.0	110.0	111.3	98.0
2019 Q1	0.1	1.5	108.1	111.6	107.1	105.0	107.9	109.9	110.3	107.5	112.0	111.2	105.1
Q2	-1.3	-0.2	106.4	108.3	104.8	105.4	106.0	109.0	107.6	107.6	112.6	110.9	97.1
2019 Feb.	2.0	1.7	107.7	111.3	107.1	104.1	107.7	108.8	109.0	105.0	111.4	110.9	103.1
Mar.	-0.7	1.0	108.2	111.9	105.8	106.6	108.1	110.1	109.8	105.9	114.4	111.8	103.7
Apr.	0.8	2.2	105.6	108.4	102.9	105.1	104.5	109.1	108.1	106.1	113.4	110.9	96.4
May	3.4	1.6	106.9	107.7	107.6	105.8	106.7	108.9	108.0	110.8	111.4	109.9	97.1
June	-7.6	-4.3	106.6	108.7	103.9	105.3	106.8	109.0	106.8	105.8	113.0	112.0	97.8
July	4.0	3.3	106.6	109.1	103.2	105.3	106.3	109.5	109.2	111.0	111.5	112.1	95.2

Sources: ECB and Eurostat.
1) Differences between ECB's b.o.p. goods (Table 3.8) and Eurostat's trade in goods (Table 3.9) are mainly due to different definitions.
2) Product groups as classified in the Broad Economic Categories.

4 Prices and costs

4.1 Harmonised Index of Consumer Prices [1]
(annual percentage changes, unless otherwise indicated)

	Total					Total (s.a.; percentage change vis-à-vis previous period) [2]						Administered prices	
	Index: 2015 = 100	Total		Goods	Services	Total	Processed food	Unpro-cessed food	Non-energy industrial goods	Energy (n.s.a.)	Services	Total HICP excluding administered prices	Admini-stered prices
			Total excluding food and energy										
	1	2	3	4	5	6	7	8	9	10	11	12	13
% of total in 2019	100.0	100.0	70.9	55.5	44.5	100.0	14.5	4.5	26.4	10.1	44.5	86.7	13.3
2016	100.2	0.2	0.8	-0.4	1.1	-	-	-	-	-	-	0.2	0.3
2017	101.8	1.5	1.0	1.6	1.4	-	-	-	-	-	-	1.6	1.0
2018	103.6	1.8	1.0	2.0	1.5	-	-	-	-	-	-	1.7	2.2
2018 Q4	104.3	1.9	1.0	2.3	1.5	0.3	0.3	0.2	0.1	1.6	0.2	1.8	2.8
2019 Q1	103.5	1.4	1.0	1.5	1.4	0.0	0.6	0.2	0.1	-2.4	0.3	1.3	2.4
Q2	105.3	1.4	1.1	1.3	1.5	0.6	0.6	-0.2	0.1	1.6	0.6	1.3	2.1
Q3	105.1	1.0	0.9	0.7	1.3	0.1	0.5	1.4	0.1	-1.5	0.4	0.9	1.4
2019 Apr.	105.1	1.7	1.3	1.5	1.9	0.3	0.1	0.0	0.0	0.7	0.4	1.7	2.1
May	105.2	1.2	0.8	1.4	1.0	0.1	0.2	0.4	0.1	0.9	-0.2	1.1	2.1
June	105.4	1.3	1.1	1.0	1.6	0.1	0.2	0.4	0.0	-1.2	0.4	1.1	2.2
July	104.9	1.0	0.9	0.9	1.2	0.0	0.2	0.5	0.1	-0.6	0.0	1.0	1.3
Aug.	105.1	1.0	0.9	0.8	1.3	0.1	0.1	0.9	0.0	-0.6	0.2	0.9	1.5
Sep.	105.3	0.8	1.0	0.3	1.5	0.0	0.0	-0.5	0.0	0.0	0.1	0.7	1.4

	Goods						Services					
	Food (including alcoholic beverages and tobacco)			Industrial goods			Housing		Transport	Communi-cation	Recreation and personal care	Miscel-laneous
	Total	Processed food	Unpro-cessed food	Total	Non-energy industrial goods	Energy		Rents				
	14	15	16	17	18	19	20	21	22	23	24	25
% of total in 2019	19.0	14.5	4.5	36.5	26.4	10.1	11.0	6.5	7.2	2.6	15.3	8.4
2016	0.9	0.6	1.4	-1.1	0.4	-5.1	1.1	1.1	0.8	0.0	1.3	1.2
2017	1.8	1.5	2.4	1.5	0.3	4.9	1.3	1.2	2.1	-1.1	2.1	0.8
2018	2.2	2.1	2.3	1.9	0.3	6.4	1.2	1.2	1.5	-0.1	2.0	1.4
2018 Q4	2.0	1.9	2.0	2.4	0.2	8.4	1.2	1.1	1.5	-0.3	1.9	1.7
2019 Q1	2.0	1.9	1.9	1.3	0.3	3.9	1.2	1.2	1.3	-0.6	1.7	1.5
Q2	1.5	1.8	0.6	1.2	0.3	3.6	1.3	1.3	2.1	-1.2	2.0	1.5
Q3	1.8	1.9	1.6	0.0	0.3	-0.7	1.5	1.5	2.2	-0.8	1.1	1.5
2019 Apr.	1.5	1.7	0.8	1.6	0.2	5.3	1.3	1.2	2.5	-1.2	2.8	1.6
May	1.5	1.9	0.4	1.3	0.3	3.8	1.3	1.2	1.5	-1.5	1.0	1.4
June	1.6	1.9	0.7	0.6	0.3	1.7	1.5	1.4	2.2	-0.9	2.1	1.4
July	1.9	2.0	1.7	0.4	0.4	0.5	1.5	1.5	2.1	-1.1	0.8	1.4
Aug.	2.1	1.9	2.5	0.1	0.3	-0.6	1.5	1.5	2.3	-0.8	0.9	1.7
Sep.	1.6	1.8	0.7	-0.3	0.2	-1.8	1.5	1.5	2.1	-0.6	1.5	1.6

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

4 Prices and costs

4.2 Industry, construction and property prices
(annual percentage changes, unless otherwise indicated)

	Industrial producer prices excluding construction [1]										Con-struction [2]	Residential property prices [3]	Experimental indicator of commercial property prices [3]
	Total (index: 2015 = 100)	Total	Manu-facturing	Total	Industry excluding construction and energy		Consumer goods			Energy			
					Intermediate goods	Capital goods	Total	Food, beverages and tobacco	Non-food				
	1	2	3	4	5	6	7	8	9	10	11	12	13
% of total in 2015	100.0	100.0	77.3	72.1	28.9	20.7	22.5	16.5	5.9	27.9			
2016	97.9	-2.1	-1.4	-0.5	-1.6	0.5	0.0	0.0	0.0	-6.9	0.7	4.0	5.0
2017	100.8	3.0	3.0	2.1	3.2	0.9	1.9	2.9	0.2	5.6	2.0	4.3	4.8
2018	104.0	3.2	2.4	1.5	2.6	1.0	0.4	0.2	0.6	8.1	2.5	4.8	4.2
2018 Q3	104.9	4.3	3.2	1.5	3.1	1.1	0.1	-0.3	0.7	12.5	3.0	4.9	3.3
Q4	105.7	4.0	2.3	1.4	2.5	1.1	0.3	-0.2	0.8	11.1	2.4	4.7	3.0
2019 Q1	105.4	3.0	1.3	1.1	1.3	1.5	0.4	-0.1	1.0	7.7	2.5	4.1	.
Q2	104.8	1.6	1.0	0.9	0.7	1.5	1.0	0.9	0.9	3.0	2.2	4.1	.
2019 Mar.	105.4	2.9	1.7	1.1	1.2	1.6	0.2	-0.4	1.0	7.7	-	-	-
Apr.	105.1	2.6	1.6	1.1	1.2	1.5	0.8	0.6	1.0	6.4	-	-	-
May	105.0	1.6	1.2	1.0	0.8	1.6	1.0	0.9	0.9	3.0	-	-	-
June	104.4	0.7	0.3	0.8	0.2	1.5	1.2	1.3	0.9	-0.2	-	-	-
July	104.5	0.1	0.4	0.6	-0.3	1.6	1.0	1.1	0.8	-2.0	-	-	-
Aug.	104.0	-0.8	-0.2	0.5	-0.4	1.5	1.0	1.3	0.8	-4.9	-	-	-

Sources: Eurostat, ECB calculations, and ECB calculations based on MSCI data and national sources (col. 13).
1) Domestic sales only.
2) Input prices for residential buildings.
3) Experimental data based on non-harmonised sources (see https://www.ecb.europa.eu/stats/ecb_statistics/governance_and_quality_framework/html/experimental-data.en.html for further details).

4.3 Commodity prices and GDP deflators
(annual percentage changes, unless otherwise indicated)

	GDP deflators						Exports [1]	Imports [1]	Oil prices (EUR per barrel)	Non-energy commodity prices (EUR)					
	Total (s.a.; index: 2015 = 100)	Total	Domestic demand							Import-weighted [2]			Use-weighted [2]		
			Total	Private consump-tion	Govern-ment consump-tion	Gross fixed capital formation				Total	Food	Non-food	Total	Food	Non-food
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
% of total										100.0	45.4	54.6	100.0	50.4	49.6
2016	100.9	0.9	0.4	0.4	0.4	0.7	-1.3	-2.4	39.9	-2.0	-1.4	-2.8	-3.1	-3.7	-2.3
2017	101.8	1.0	1.3	1.3	1.4	1.6	1.9	2.8	48.1	5.8	-3.5	16.6	6.7	-1.6	17.8
2018	103.1	1.3	1.7	1.4	1.8	2.0	1.4	2.3	60.4	-0.9	-6.3	4.3	-0.2	-5.5	5.7
2018 Q4	103.8	1.5	2.0	1.7	1.8	2.3	1.8	2.9	59.5	1.9	0.1	3.6	2.3	0.2	4.4
2019 Q1	104.2	1.5	1.7	1.3	1.7	2.6	1.2	1.6	55.6	3.2	3.7	2.8	3.9	5.2	2.7
Q2	104.7	1.7	1.7	1.6	1.7	2.0	1.0	1.0	61.0	-1.8	-0.6	-2.8	-0.1	4.8	-4.9
Q3	.	.	.	.	.	.	.	.	55.7	1.9	3.9	0.2	1.7	6.6	-3.1
2019 Apr.	-	-	-	-	-	-	-	-	63.4	2.0	1.2	2.8	4.3	7.5	1.0
May	-	-	-	-	-	-	-	-	63.1	-4.2	-3.3	-5.0	-2.2	2.6	-7.1
June	-	-	-	-	-	-	-	-	56.0	-3.0	0.4	-5.8	-2.1	4.4	-8.4
July	-	-	-	-	-	-	-	-	57.1	2.7	3.8	1.8	2.9	7.5	-1.6
Aug.	-	-	-	-	-	-	-	-	53.3	-1.0	0.9	-2.7	-1.2	3.3	-5.7
Sep.	-	-	-	-	-	-	-	-	56.6	4.2	7.1	1.7	3.5	9.1	-2.0

Sources: Eurostat, ECB calculations and Bloomberg (col. 9).
1) Deflators for exports and imports refer to goods and services and include cross-border trade within the euro area.
2) Import-weighted: weighted according to 2009-11 average import structure; use-weighted: weighted according to 2009-11 average domestic demand structure.

4 Prices and costs

4.4 Price-related opinion surveys
(seasonally adjusted)

	European Commission Business and Consumer Surveys (percentage balances)					Purchasing Managers' Surveys (diffusion indices)			
	Selling price expectations (for next three months)				Consumer price trends over past	Input prices		Prices charged	
	Manu-facturing	Retail trade	Services	Construction	12 months	Manu-facturing	Services	Manu-facturing	Services
	1	2	3	4	5	6	7	8	9
1999-15	4.2	-	-	-3.6	32.0	56.7	56.3	-	49.7
2016	-0.4	2.3	4.4	-7.1	0.6	49.8	53.9	49.3	49.6
2017	9.2	5.1	6.9	2.5	12.7	64.6	56.3	55.1	51.6
2018	11.5	7.4	9.4	12.1	20.3	65.4	57.9	56.1	52.7
2018 Q4	11.9	8.5	10.0	13.0	23.9	62.6	58.4	54.5	52.7
2019 Q1	8.9	8.2	10.4	11.4	20.4	53.9	57.7	53.0	53.1
Q2	4.6	7.2	9.1	6.1	19.7	50.6	57.1	51.2	52.3
Q3	1.8	6.6	8.3	4.4	17.9	46.4	56.5	48.9	52.0
2019 Apr.	5.2	8.3	10.1	7.8	15.6	52.7	57.7	51.4	53.1
May	5.3	7.7	8.2	6.7	22.6	51.2	57.5	51.6	51.6
June	3.2	5.5	9.0	3.9	21.0	48.0	56.2	50.6	52.3
July	1.4	6.8	8.5	4.0	18.7	46.3	56.7	48.8	52.3
Aug.	2.3	6.1	8.8	4.4	18.1	46.7	56.8	49.4	52.1
Sep.	1.6	6.8	7.7	4.9	17.0	46.3	55.9	48.6	51.7

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

4.5 Labour cost indices
(annual percentage changes, unless otherwise indicated)

	Total (index: 2016 = 100)	Total	By component		For selected economic activities		Memo item: Indicator of negotiated wages [1]
			Wages and salaries	Employers' social contributions	Business economy	Mainly non-business economy	
	1	2	3	4	5	6	7
% of total in 2018	100.0	100.0	75.3	24.7	69.0	31.0	
2016	100.0	1.3	1.4	1.0	1.1	1.6	1.4
2017	101.8	1.8	1.8	1.8	1.9	1.6	1.5
2018	104.0	2.2	2.1	2.3	2.3	1.9	2.0
2018 Q3	100.7	2.3	2.2	2.4	2.5	2.1	2.1
Q4	110.5	2.2	2.2	2.0	2.1	2.3	2.2
2019 Q1	99.6	2.5	2.7	2.0	2.6	2.5	2.3
Q2	110.5	2.7	2.7	2.9	2.7	3.0	2.0

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

4 Prices and costs

4.6 Unit labour costs, compensation per labour input and labour productivity
(annual percentage changes, unless otherwise indicated; quarterly data seasonally adjusted; annual data unadjusted)

	Total (index: 2015 =100)	Total	By economic activity									
			Agriculture, forestry and fishing	Manu-facturing, energy and utilities	Con-struction	Trade, transport, accom-modation and food services	Information and commu-nication	Finance and insurance	Real estate	Professional, business and support services	Public ad-ministration, education, health and social work	Arts, enter-tainment and other services
	1	2	3	4	5	6	7	8	9	10	11	12
					Unit labour costs							
2016	105.4	0.7	1.9	-0.8	0.1	1.1	-0.7	2.3	4.5	0.9	1.1	2.3
2017	106.2	0.7	-0.1	-0.6	1.0	0.3	0.0	-1.3	3.2	1.9	1.4	1.0
2018	108.2	1.8	0.7	1.7	1.0	1.7	1.6	-0.5	3.4	2.2	2.3	2.5
2018 Q3	108.6	2.3	2.2	2.4	1.7	2.4	1.5	-0.8	4.4	3.0	2.7	3.1
Q4	109.1	2.5	1.3	3.7	1.2	2.2	2.1	0.3	4.9	2.3	2.5	2.9
2019 Q1	109.5	2.3	1.8	3.7	0.9	2.1	1.2	-0.3	5.1	2.0	2.4	2.0
Q2	110.1	2.2	-0.1	3.6	1.3	2.1	0.4	-0.8	2.9	2.4	2.4	2.5
					Compensation per employee							
2016	109.5	1.3	0.1	1.4	1.7	1.6	0.5	1.8	2.9	0.6	1.4	1.5
2017	111.3	1.7	1.1	1.6	2.0	1.4	2.3	1.2	2.2	2.5	1.8	1.6
2018	113.8	2.2	2.4	2.0	1.9	2.4	2.5	1.4	3.2	2.7	2.0	2.3
2018 Q3	114.3	2.5	2.7	2.2	2.5	2.9	2.3	1.5	3.8	3.1	2.1	2.8
Q4	114.9	2.2	1.8	1.8	1.7	2.4	2.1	1.4	4.5	3.0	2.1	2.9
2019 Q1	115.4	2.3	2.0	2.1	3.2	2.9	1.9	1.0	4.3	2.0	2.0	2.4
Q2	116.0	2.2	2.1	1.5	3.1	2.4	1.5	1.1	3.2	2.6	2.0	2.9
					Labour productivity per person employed							
2016	103.9	0.6	-1.8	2.2	1.6	0.5	1.2	-0.5	-1.5	-0.2	0.3	-0.8
2017	104.8	0.9	1.2	2.2	0.9	1.1	2.3	2.6	-1.0	0.6	0.5	0.6
2018	105.2	0.4	1.6	0.3	0.9	0.7	0.9	1.9	-0.2	0.5	-0.3	-0.2
2018 Q3	105.3	0.2	0.5	-0.2	0.8	0.5	0.8	2.3	-0.5	0.1	-0.6	-0.3
Q4	105.3	-0.2	0.4	-1.8	0.5	0.2	0.0	1.1	-0.4	0.7	-0.5	0.0
2019 Q1	105.4	0.0	0.3	-1.5	2.3	0.7	0.7	1.3	-0.8	-0.1	-0.4	0.4
Q2	105.4	0.0	2.1	-2.0	1.8	0.3	1.1	2.0	0.3	0.3	-0.4	0.4
					Compensation per hour worked							
2016	111.2	1.0	-0.6	1.2	1.8	0.9	0.5	1.4	2.5	0.2	1.4	1.5
2017	113.3	2.0	1.3	1.8	2.0	1.8	2.4	1.8	2.1	2.4	2.4	2.1
2018	115.8	2.1	1.9	2.1	1.4	2.5	2.6	1.7	2.4	2.7	1.9	2.2
2018 Q3	115.7	2.2	2.5	2.1	1.7	2.6	2.4	1.8	2.6	2.7	2.0	2.4
Q4	116.2	1.9	1.2	1.8	1.2	2.0	1.9	1.1	4.2	2.8	1.9	2.4
2019 Q1	116.8	1.9	0.1	1.9	2.6	2.3	1.7	0.8	4.3	1.9	1.9	2.5
Q2	117.6	2.3	2.8	1.7	3.0	2.3	1.9	1.2	3.1	2.6	2.3	3.9
					Hourly labour productivity							
2016	105.7	0.5	-2.1	2.0	1.4	0.3	1.2	-0.9	-2.2	-0.4	0.3	-0.8
2017	107.2	1.4	1.8	2.5	1.1	1.7	2.5	3.1	-0.7	0.9	1.1	1.1
2018	107.7	0.5	0.8	0.5	0.7	1.0	1.1	2.1	-0.8	0.6	-0.3	0.0
2018 Q3	107.2	0.0	-0.5	-0.1	0.2	0.4	1.0	2.5	-1.4	-0.2	-0.6	-0.5
Q4	107.3	-0.4	-0.2	-1.8	0.2	0.1	-0.1	0.8	-0.5	0.5	-0.6	-0.2
2019 Q1	107.5	-0.2	-0.9	-1.8	1.8	0.5	0.6	1.1	-0.3	-0.2	-0.5	0.4
Q2	107.6	0.2	1.9	-1.7	1.7	0.5	1.6	2.0	0.3	0.2	-0.1	1.2

Sources: Eurostat and ECB calculations.

5 Money and credit

5.1 Monetary aggregates [1]
(EUR billions and annual growth rates; seasonally adjusted; outstanding amounts and growth rates at end of period; transactions during period)

	M3											
	M2							M3-M2				
	M1			M2-M1								
	Currency in circulation	Overnight deposits		Deposits with an agreed maturity of up to 2 years	Deposits redeemable at notice of up to 3 months			Repos	Money market fund shares	Debt securities with a maturity of up to 2 years		
	1	2	3	4	5	6	7	8	9	10	11	12
Outstanding amounts												
2016	1,075.3	6,082.8	7,158.1	1,330.6	2,221.0	3,551.5	10,709.7	69.6	523.1	87.7	680.4	11,390.0
2017	1,111.6	6,637.3	7,748.9	1,197.0	2,260.9	3,457.9	11,206.8	74.7	512.0	72.6	659.4	11,866.2
2018	1,162.7	7,114.8	8,277.4	1,128.1	2,298.0	3,426.1	11,703.5	74.6	523.3	72.9	670.7	12,374.2
2018 Q3	1,150.6	7,009.8	8,160.3	1,126.6	2,284.6	3,411.2	11,571.5	71.4	495.4	61.1	627.9	12,199.4
Q4	1,162.7	7,114.8	8,277.4	1,128.1	2,298.0	3,426.1	11,703.5	74.6	523.3	72.9	670.7	12,374.2
2019 Q1	1,180.7	7,285.2	8,465.9	1,113.0	2,318.5	3,431.5	11,897.4	74.4	509.6	31.7	615.6	12,513.1
Q2	1,188.0	7,419.2	8,607.2	1,110.2	2,338.9	3,449.2	12,056.3	74.9	509.6	38.3	622.8	12,679.2
2019 Mar.	1,180.7	7,285.2	8,465.9	1,113.0	2,318.5	3,431.5	11,897.4	74.4	509.6	31.7	615.6	12,513.1
Apr.	1,182.2	7,307.3	8,489.5	1,126.3	2,327.2	3,453.5	11,943.0	73.9	514.0	40.1	628.0	12,571.0
May	1,185.4	7,365.5	8,550.9	1,124.6	2,335.2	3,459.8	12,010.7	70.7	511.9	46.7	629.3	12,640.0
June	1,188.0	7,419.2	8,607.2	1,110.2	2,338.9	3,449.2	12,056.3	74.9	509.6	38.3	622.8	12,679.2
July	1,193.1	7,492.3	8,685.4	1,099.5	2,345.0	3,444.5	12,129.9	76.4	523.4	37.2	637.0	12,766.8
Aug. [(p)]	1,198.0	7,584.7	8,782.7	1,116.8	2,345.7	3,462.5	12,245.1	72.1	531.8	23.5	627.5	12,872.6
Transactions												
2016	38.1	541.7	579.8	-106.1	16.1	-90.0	489.8	-4.3	34.3	19.4	49.4	539.1
2017	36.4	591.7	628.0	-110.6	34.3	-76.3	551.7	6.6	-10.9	-18.4	-22.7	529.0
2018	50.0	461.9	512.0	-71.5	45.0	-26.5	485.5	-0.8	11.3	-3.5	7.0	492.5
2018 Q3	16.0	116.1	132.1	-51.8	14.1	-37.7	94.4	-2.4	-12.6	-4.9	-19.9	74.6
Q4	12.1	105.3	117.4	0.2	13.4	13.7	131.0	2.9	27.7	8.5	39.0	170.0
2019 Q1	18.1	167.8	185.9	-17.4	21.0	3.6	189.4	-0.5	-20.5	-37.7	-58.7	130.8
Q2	7.3	138.7	146.0	-3.7	20.3	16.6	162.6	0.8	0.3	7.0	8.1	170.7
2019 Mar.	8.0	90.7	98.7	-13.4	9.5	-3.9	94.8	3.5	2.5	-24.9	-18.9	75.9
Apr.	1.5	22.3	23.8	13.2	8.6	21.7	45.6	-0.5	4.6	8.1	12.3	57.9
May	3.2	58.4	61.6	-3.2	8.0	4.7	66.3	-3.2	-2.1	5.3	0.0	66.3
June	2.6	57.9	60.6	-13.7	3.8	-9.9	50.7	4.5	-2.2	-6.4	-4.1	46.5
July	5.0	69.9	75.0	-12.1	6.0	-6.1	68.9	1.3	13.8	-2.4	12.8	81.6
Aug. [(p)]	5.0	89.6	94.5	16.1	0.7	16.8	111.4	-4.5	8.5	-13.1	-9.2	102.2
Growth rates												
2016	3.7	9.7	8.8	-7.4	0.7	-2.5	4.8	-5.8	7.0	27.4	7.8	5.0
2017	3.4	9.8	8.8	-8.4	1.5	-2.2	5.2	9.5	-2.1	-21.0	-3.3	4.7
2018	4.5	6.9	6.6	-6.0	2.0	-0.8	4.3	-1.1	2.2	-5.0	1.0	4.1
2018 Q3	4.1	7.3	6.9	-7.4	1.8	-1.4	4.3	5.8	-6.7	-26.2	-7.8	3.6
Q4	4.5	6.9	6.6	-6.0	2.0	-0.8	4.3	-1.1	2.2	-5.0	1.0	4.1
2019 Q1	5.6	7.8	7.5	-5.5	2.6	-0.2	5.2	2.5	-1.7	-49.2	-5.9	4.6
Q2	4.7	7.7	7.2	-6.2	3.0	-0.1	5.0	1.1	-1.0	-39.9	-4.8	4.5
2019 Mar.	5.6	7.8	7.5	-5.5	2.6	-0.2	5.2	2.5	-1.7	-49.2	-5.9	4.6
Apr.	5.2	7.7	7.4	-3.7	2.8	0.6	5.3	-4.6	-0.8	-43.3	-5.9	4.7
May	4.9	7.6	7.2	-3.9	3.0	0.7	5.2	-2.4	-0.3	-30.0	-3.7	4.8
June	4.7	7.7	7.2	-6.2	3.0	-0.1	5.0	1.1	-1.0	-39.9	-4.8	4.5
July	4.9	8.3	7.8	-5.5	3.0	0.1	5.5	10.6	1.6	-40.5	-1.6	5.1
Aug. [(p)]	4.7	9.0	8.4	-2.7	2.9	1.0	6.2	-0.7	4.6	-63.2	-2.9	5.7

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

5 Money and credit

5.2 Deposits in M3 [1]

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

	Non-financial corporations [2]					Households [3]					Financial corporations other than MFIs and ICPFs [2]	Insurance corporations and pension funds	Other general government [4]
	Total	Overnight	With an agreed maturity of up to 2 years	Redeemable at notice of up to 3 months	Repos	Total	Overnight	With an agreed maturity of up to 2 years	Redeemable at notice of up to 3 months	Repos			
	1	2	3	4	5	6	7	8	9	10	11	12	13
Outstanding amounts													
2016	2,093.2	1,630.3	295.1	159.6	8.2	6,055.5	3,402.3	644.9	2,006.3	2.1	972.0	199.5	383.8
2017	2,239.0	1,795.5	285.7	148.8	9.1	6,315.2	3,700.7	562.0	2,051.9	0.7	998.6	204.4	412.6
2018	2,336.5	1,900.4	280.8	147.5	7.8	6,642.8	4,034.6	517.3	2,089.8	1.2	1,004.6	200.2	431.2
2018 Q3	2,309.7	1,886.3	267.9	148.7	6.8	6,545.8	3,946.3	524.6	2,073.8	1.1	986.4	212.2	438.3
Q4	2,336.5	1,900.4	280.8	147.5	7.8	6,642.8	4,034.6	517.3	2,089.8	1.2	1,004.6	200.2	431.2
2019 Q1	2,383.9	1,960.5	269.6	147.9	5.9	6,753.9	4,126.3	515.0	2,111.2	1.3	977.7	213.2	462.3
Q2	2,407.2	1,985.8	263.8	150.2	7.4	6,844.1	4,203.9	510.3	2,128.0	1.9	1,012.3	217.4	462.2
2019 Mar.	2,383.9	1,960.5	269.6	147.9	5.9	6,753.9	4,126.3	515.0	2,111.2	1.3	977.7	213.2	462.3
Apr.	2,390.9	1,963.1	271.7	148.8	7.2	6,789.7	4,156.2	513.5	2,118.3	1.7	983.4	211.7	459.0
May	2,401.7	1,977.0	268.5	149.2	7.0	6,828.6	4,188.3	512.7	2,126.1	1.6	990.2	216.8	458.7
June	2,407.2	1,985.8	263.8	150.2	7.4	6,844.1	4,203.9	510.3	2,128.0	1.9	1,012.3	217.4	462.2
July	2,436.3	2,016.4	263.2	150.4	6.4	6,898.0	4,253.6	508.8	2,133.5	2.1	1,003.1	220.9	454.9
Aug. (p)	2,469.8	2,046.4	264.9	152.0	6.5	6,924.4	4,281.6	507.7	2,132.8	2.3	1,029.7	235.2	460.2
Transactions													
2016	131.8	156.7	-25.2	0.2	0.1	300.7	334.2	-46.5	13.9	-0.9	23.9	-28.1	19.0
2017	180.0	182.8	-3.0	-0.8	1.0	254.1	303.5	-81.6	33.5	-1.3	54.7	6.3	26.9
2018	93.9	103.2	-6.9	-1.1	-1.4	326.9	325.6	-45.1	45.9	0.5	0.9	-4.8	17.8
2018 Q3	25.9	35.4	-9.9	0.6	-0.2	76.0	75.5	-10.7	11.3	0.0	-29.2	-8.0	11.4
Q4	27.4	14.3	12.9	-0.7	0.9	96.4	88.2	-7.5	15.7	0.1	17.2	-12.4	-6.8
2019 Q1	50.0	61.8	-11.3	0.8	-1.2	109.8	91.0	-2.6	21.4	0.1	-31.8	12.4	30.5
Q2	26.8	28.1	-5.4	2.6	1.5	90.2	78.1	-4.8	16.3	0.6	34.9	4.5	-0.4
2019 Mar.	34.0	40.0	-6.6	0.8	-0.2	29.7	22.8	-2.1	9.2	-0.3	9.8	7.0	10.0
Apr.	7.0	2.7	2.1	1.0	1.3	35.1	29.8	-2.0	6.9	0.4	6.4	-1.6	-3.3
May	11.8	15.0	-3.3	0.3	-0.2	38.8	32.0	-0.9	7.7	-0.1	4.7	5.0	-0.3
June	8.1	10.5	-4.1	1.3	0.4	16.3	16.3	-1.9	1.7	0.3	23.8	1.0	3.3
July	28.4	29.2	0.1	0.0	-1.0	53.5	49.6	-1.8	5.5	0.3	-12.7	3.3	-7.4
Aug. (p)	31.6	28.6	1.3	1.7	0.1	26.1	27.9	-1.3	-0.7	0.2	24.7	14.1	5.3
Growth rates													
2016	6.8	10.4	-7.8	0.2	1.4	5.2	10.9	-6.7	0.7	-29.3	2.4	-12.4	5.2
2017	8.6	11.2	-1.1	-0.5	12.5	4.2	8.9	-12.7	1.7	-65.5	5.7	3.2	7.0
2018	4.2	5.7	-2.5	-0.7	-15.9	5.2	8.8	-8.0	2.2	65.1	0.1	-2.3	4.3
2018 Q3	4.8	7.0	-6.8	0.3	27.6	4.5	8.4	-10.0	1.9	-45.8	1.3	5.2	4.8
Q4	4.2	5.7	-2.5	-0.7	-15.9	5.2	8.8	-8.0	2.2	65.1	0.1	-2.3	4.3
2019 Q1	5.9	7.7	-2.6	0.2	-17.4	5.7	8.9	-5.5	2.9	-18.1	-2.1	0.4	10.8
Q2	5.7	7.6	-4.9	2.3	12.4	5.8	8.6	-4.8	3.1	73.3	-0.9	-1.6	8.1
2019 Mar.	5.9	7.7	-2.6	0.2	-17.4	5.7	8.9	-5.5	2.9	-18.1	-2.1	0.4	10.8
Apr.	5.8	7.1	-0.6	1.6	0.2	5.8	8.9	-5.2	2.9	1.5	0.1	-0.5	9.2
May	5.5	6.8	-1.3	1.4	8.9	5.9	8.9	-4.7	3.2	20.2	-0.7	0.3	8.8
June	5.7	7.6	-4.9	2.3	12.4	5.8	8.6	-4.8	3.1	73.3	-0.9	-1.6	8.1
July	6.9	8.7	-3.0	2.4	-8.1	6.1	9.2	-4.6	3.1	15.9	-0.1	1.6	6.5
Aug. (p)	7.9	9.6	-1.3	2.9	2.7	6.1	9.2	-4.1	3.0	28.2	4.0	9.0	5.4

Source: ECB.
1) Data refer to the changing composition of the euro area.
2) In accordance with the ESA 2010, in December 2014 holding companies of non-financial groups were reclassified from the non-financial corporations sector to the financial corporations sector. These entities are included in MFI balance sheet statistics with financial corporations other than MFIs and insurance corporations and pension funds (ICPFs).
3) Including non-profit institutions serving households.
4) Refers to the general government sector excluding central government.

5 Money and credit

5.3 Credit to euro area residents [1]

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

	Credit to general government			Credit to other euro area residents								
	Total	Loans	Debt securities	Total	Loans						Debt securities	Equity and non-money market fund investment fund shares
					Total		To non-financial corporations [3]	To households [4]	To financial corporations other than MFIs and ICPFs [3]	To insurance corporations and pension funds		
						Adjusted loans [2]						
	1	2	3	4	5	6	7	8	9	10	11	12
Outstanding amounts												
2016	4,389.3	1,084.0	3,292.1	12,881.3	10,711.1	10,982.1	4,311.4	5,449.3	836.7	113.5	1,387.4	782.9
2017	4,625.9	1,033.3	3,578.7	13,116.4	10,874.1	11,167.4	4,325.4	5,600.0	839.1	109.6	1,442.4	799.8
2018	4,685.8	1,007.4	3,666.9	13,417.9	11,127.0	11,484.9	4,408.9	5,741.4	848.7	127.9	1,519.7	771.2
2018 Q3	4,627.4	1,003.5	3,609.9	13,363.3	11,064.5	11,394.1	4,396.2	5,702.0	841.9	124.4	1,513.8	785.0
Q4	4,685.8	1,007.4	3,666.9	13,417.9	11,127.0	11,484.9	4,408.9	5,741.4	848.7	127.9	1,519.7	771.2
2019 Q1	4,662.0	1,001.3	3,649.2	13,526.6	11,196.3	11,548.1	4,422.3	5,788.2	854.4	131.4	1,526.9	803.4
Q2	4,632.6	1,000.7	3,620.2	13,642.3	11,294.1	11,668.7	4,461.7	5,826.1	874.9	131.4	1,546.2	802.0
2019 Mar.	4,662.0	1,001.3	3,649.2	13,526.6	11,196.3	11,548.1	4,422.3	5,788.2	854.4	131.4	1,526.9	803.4
Apr.	4,638.8	998.2	3,629.2	13,570.0	11,234.0	11,591.2	4,443.8	5,800.5	864.1	125.7	1,522.9	813.1
May	4,631.6	1,004.3	3,615.6	13,592.4	11,257.4	11,623.7	4,463.9	5,807.5	862.8	123.2	1,533.5	801.6
June	4,632.6	1,000.7	3,620.2	13,642.3	11,294.1	11,668.7	4,461.7	5,826.1	874.9	131.4	1,546.2	802.0
July	4,671.5	1,000.6	3,659.3	13,683.6	11,339.0	11,711.1	4,486.1	5,843.0	876.2	133.7	1,537.5	807.1
Aug. (p)	4,709.3	1,005.5	3,692.1	13,741.8	11,398.9	11,760.5	4,509.9	5,865.3	883.0	140.7	1,540.7	802.1
Transactions												
2016	486.2	-34.2	520.3	319.4	235.6	259.2	82.6	121.0	43.0	-11.0	80.3	3.6
2017	289.3	-43.7	332.3	363.7	275.2	316.9	85.5	173.4	19.8	-3.5	64.3	24.2
2018	91.3	-28.3	119.6	376.2	308.5	384.4	124.2	165.9	0.2	18.1	89.0	-21.3
2018 Q3	48.0	-16.2	64.5	105.1	90.7	88.9	48.7	49.8	-12.4	4.5	18.6	-4.2
Q4	39.7	4.0	35.7	65.5	60.1	93.1	16.5	42.0	-1.8	3.4	13.2	-7.8
2019 Q1	-40.6	-6.8	-33.8	107.2	83.1	79.5	25.1	50.2	6.0	1.8	-1.8	25.9
Q2	-56.8	-1.4	-55.7	126.4	113.8	135.7	53.8	38.6	24.1	-2.8	17.5	-4.9
2019 Mar.	-38.8	0.4	-38.7	26.2	23.1	27.9	3.2	18.8	-2.4	3.5	-8.7	11.8
Apr.	-22.2	-3.2	-19.0	40.5	41.6	47.1	26.1	12.6	8.6	-5.7	-6.3	5.2
May	-8.3	5.9	-14.5	34.0	25.6	34.2	21.9	7.6	-1.5	-2.5	13.9	-5.5
June	-26.4	-4.1	-22.3	52.0	46.6	54.5	5.8	18.4	17.1	5.3	10.0	-4.6
July	13.7	-0.2	13.9	38.5	45.1	44.2	25.7	17.1	0.1	2.2	-10.5	3.9
Aug. (p)	8.3	4.9	3.4	55.3	58.1	51.3	23.5	21.9	5.7	7.0	1.3	-4.1
Growth rates												
2016	12.4	-3.1	18.7	2.5	2.2	2.4	1.9	2.3	5.5	-8.9	6.1	0.5
2017	6.6	-4.0	10.2	2.8	2.6	2.9	2.0	3.2	2.4	-3.1	4.6	3.1
2018	2.0	-2.7	3.4	2.9	2.8	3.5	2.9	3.0	0.0	16.5	6.2	-2.7
2018 Q3	3.1	-4.5	5.3	3.1	3.0	3.5	3.3	3.1	0.1	11.7	5.9	-1.1
Q4	2.0	-2.7	3.4	2.9	2.8	3.5	2.9	3.0	0.0	16.5	6.2	-2.7
2019 Q1	1.8	-2.4	3.0	2.8	2.7	3.3	2.5	3.1	-0.9	14.8	4.1	1.8
Q2	-0.2	-2.0	0.3	3.0	3.2	3.5	3.3	3.2	1.8	5.8	3.2	1.1
2019 Mar.	1.8	-2.4	3.0	2.8	2.7	3.3	2.5	3.1	-0.9	14.8	4.1	1.8
Apr.	1.3	-2.7	2.5	2.7	2.8	3.5	2.8	3.2	0.6	5.4	2.5	1.2
May	0.6	-2.2	1.4	2.6	2.7	3.4	2.7	3.1	-0.4	1.6	3.0	0.5
June	-0.2	-2.0	0.3	3.0	3.2	3.5	3.3	3.2	1.8	5.8	3.2	1.1
July	-0.5	-1.4	-0.2	2.9	3.2	3.7	3.3	3.2	2.6	7.1	1.4	1.8
Aug. (p)	-0.6	-0.3	-0.7	3.1	3.5	3.8	3.5	3.2	3.3	13.0	1.2	2.0

Source: ECB.
1) Data refer to the changing composition of the euro area.
2) Adjusted for loan sales and securitisation (resulting in derecognition from the MFI statistical balance sheet) as well as for positions arising from notional cash pooling services provided by MFIs.
3) In accordance with the ESA 2010, in December 2014 holding companies of non-financial groups were reclassified from the non-financial corporations sector to the financial corporations sector. These entities are included in MFI balance sheet statistics with financial corporations other than MFIs and insurance corporations and pension funds (ICPFs).
4) Including non-profit institutions serving households.

5 Money and credit

5.4 MFI loans to euro area non-financial corporations and households [1]
(EUR billions and annual growth rates; seasonally adjusted; outstanding amounts and growth rates at end of period; transactions during period)

| | Non-financial corporations [2] | | | | | Households [3] | | | | |
	Total	Adjusted loans [4]	Up to 1 year	Over 1 and up to 5 years	Over 5 years	Total	Adjusted loans [4]	Loans for consumption	Loans for house purchase	Other loans
	1	2	3	4	5	6	7	8	9	10
Outstanding amounts										
2016	4,311.4	4,309.1	1,013.3	795.7	2,502.4	5,449.3	5,728.7	615.9	4,084.1	749.3
2017	4,325.4	4,360.1	987.3	820.2	2,517.9	5,600.0	5,866.6	654.4	4,217.0	728.6
2018	4,408.9	4,494.4	995.4	844.6	2,568.9	5,741.4	6,023.3	683.6	4,353.9	703.9
2018 Q3	4,396.2	4,459.8	999.7	836.2	2,560.4	5,702.0	5,979.1	678.6	4,311.8	711.5
Q4	4,408.9	4,494.4	995.4	844.6	2,568.9	5,741.4	6,023.3	683.6	4,353.9	703.9
2019 Q1	4,422.3	4,508.9	979.9	852.0	2,590.4	5,788.2	6,065.7	694.4	4,391.6	702.2
Q2	4,461.7	4,555.9	978.6	867.7	2,615.5	5,826.1	6,112.5	707.9	4,421.3	696.9
2019 Mar.	4,422.3	4,508.9	979.9	852.0	2,590.4	5,788.2	6,065.7	694.4	4,391.6	702.2
Apr.	4,443.8	4,528.0	984.9	858.9	2,600.0	5,800.5	6,083.2	695.7	4,405.3	699.5
May	4,463.9	4,546.6	982.4	865.7	2,615.9	5,807.5	6,098.7	701.0	4,409.5	697.0
June	4,461.7	4,555.9	978.6	867.7	2,615.5	5,826.1	6,112.5	707.9	4,421.3	696.9
July	4,486.1	4,576.1	985.5	874.8	2,625.8	5,843.0	6,133.1	711.1	4,437.0	694.9
Aug. (p)	4,509.9	4,597.1	999.9	878.9	2,631.2	5,865.3	6,150.8	714.3	4,456.0	694.9
Transactions										
2016	82.6	100.1	-14.6	43.3	53.9	121.0	113.7	24.1	105.4	-8.5
2017	85.5	135.5	0.6	38.9	46.0	173.4	165.1	45.2	134.2	-6.0
2018	124.2	178.7	19.2	33.8	71.3	165.9	188.0	39.7	136.3	-10.1
2018 Q3	48.7	49.0	16.4	9.7	22.6	49.8	48.5	10.3	40.6	-1.1
Q4	16.5	41.6	-2.6	7.7	11.5	42.0	50.6	7.8	39.1	-5.0
2019 Q1	25.1	24.4	-14.0	10.1	29.0	50.2	49.0	11.6	38.8	-0.2
Q2	53.8	59.8	2.6	18.6	32.7	38.6	48.5	13.2	27.4	-1.9
2019 Mar.	3.2	8.5	-0.8	2.2	1.9	18.8	16.1	3.9	15.8	-0.9
Apr.	26.1	24.2	6.4	7.2	12.6	12.6	17.4	2.8	10.2	-0.4
May	21.9	19.3	-2.4	7.0	17.4	7.6	16.8	5.6	4.2	-2.2
June	5.8	16.3	-1.4	4.4	2.8	18.4	14.3	4.9	12.9	0.6
July	25.7	22.5	6.5	7.4	11.8	17.1	21.0	3.3	15.5	-1.7
Aug. (p)	23.5	24.0	13.8	4.1	5.7	21.9	17.8	3.4	18.2	0.3
Growth rates										
2016	1.9	2.4	-1.4	5.7	2.2	2.3	2.0	4.1	2.7	-1.1
2017	2.0	3.2	0.1	4.9	1.8	3.2	2.9	7.4	3.3	-0.8
2018	2.9	4.1	1.9	4.2	2.8	3.0	3.2	6.1	3.2	-1.4
2018 Q3	3.3	4.4	3.3	4.6	2.8	3.1	3.1	6.9	3.2	-0.9
Q4	2.9	4.1	1.9	4.2	2.8	3.0	3.2	6.1	3.2	-1.4
2019 Q1	2.5	3.8	-1.3	4.6	3.3	3.1	3.3	6.1	3.5	-1.5
Q2	3.3	4.0	0.2	5.6	3.8	3.2	3.3	6.4	3.4	-1.1
2019 Mar.	2.5	3.8	-1.3	4.6	3.3	3.1	3.3	6.1	3.5	-1.5
Apr.	2.8	4.0	-0.9	5.3	3.4	3.2	3.3	5.8	3.5	-1.4
May	2.7	3.9	-1.6	5.5	3.5	3.1	3.3	6.1	3.4	-1.6
June	3.3	4.0	0.2	5.6	3.8	3.2	3.3	6.4	3.4	-1.1
July	3.3	4.0	-0.4	5.8	3.9	3.2	3.4	6.2	3.5	-1.3
Aug. (p)	3.5	4.3	0.6	6.0	3.8	3.2	3.4	6.1	3.5	-1.2

Source: ECB.
1) Data refer to the changing composition of the euro area.
2) In accordance with the ESA 2010, in December 2014 holding companies of non-financial groups were reclassified from the non-financial corporations sector to the financial corporations sector. These entities are included in MFI balance sheet statistics with financial corporations other than MFIs and insurance corporations and pension funds (ICPFs).
3) Including non-profit institutions serving households.
4) Adjusted for loan sales and securitisation (resulting in derecognition from the MFI statistical balance sheet) as well as for positions arising from notional cash pooling services provided by MFIs.

5 Money and credit

5.5 Counterparts to M3 other than credit to euro area residents [1]
(EUR billions and annual growth rates; seasonally adjusted; outstanding amounts and growth rates at end of period; transactions during period)

	MFI liabilities						MFI assets			
	Central government holdings [2]	Longer-term financial liabilities vis-à-vis other euro area residents					Net external assets	Other		
		Total	Deposits with an agreed maturity of over 2 years	Deposits redeemable at notice of over 3 months	Debt securities with a maturity of over 2 years	Capital and reserves		Total		
									Repos with central counter-parties [3]	Reverse repos to central counter-parties [3]
	1	2	3	4	5	6	7	8	9	10
Outstanding amounts										
2016	307.7	6,955.5	2,089.5	70.9	2,145.5	2,649.6	1,125.9	256.6	205.9	121.6
2017	343.9	6,768.5	1,968.3	59.7	2,014.2	2,726.2	936.5	299.8	143.5	92.5
2018	379.0	6,815.8	1,941.5	56.0	2,095.3	2,723.1	1,027.6	437.8	187.0	194.9
2018 Q3	403.7	6,696.4	1,934.8	56.9	2,048.6	2,656.2	881.8	427.1	177.3	183.0
Q4	379.0	6,815.8	1,941.5	56.0	2,095.3	2,723.1	1,027.6	437.8	187.0	194.9
2019 Q1	367.4	6,909.3	1,937.7	55.6	2,151.1	2,764.9	1,181.5	419.7	199.0	212.3
Q2	366.6	6,987.8	1,955.8	57.6	2,139.6	2,834.8	1,322.3	436.3	191.5	207.8
2019 Mar.	367.4	6,909.3	1,937.7	55.6	2,151.1	2,764.9	1,181.5	419.7	199.0	212.3
Apr.	362.2	6,898.8	1,934.7	56.0	2,136.6	2,771.5	1,203.7	419.6	216.8	232.2
May	361.8	6,913.1	1,932.2	56.5	2,137.5	2,786.8	1,278.1	412.8	212.8	229.2
June	366.6	6,987.8	1,955.8	57.6	2,139.6	2,834.8	1,322.3	436.3	191.5	207.8
July	370.5	7,025.0	1,929.5	58.1	2,156.3	2,881.1	1,402.2	405.0	206.5	224.1
Aug. (p)	410.4	7,058.0	1,915.5	57.6	2,145.5	2,939.3	1,453.0	436.9	212.6	231.5
Transactions										
2016	22.0	-123.4	-71.3	-8.6	-119.2	75.7	-277.2	-90.6	12.8	-12.0
2017	39.0	-73.9	-83.5	-6.6	-71.4	87.5	-92.8	-66.0	-61.2	-28.5
2018	39.0	50.3	-37.6	-4.9	21.7	71.1	62.8	51.6	16.2	23.6
2018 Q3	76.4	30.4	-16.2	-1.5	19.2	28.9	39.0	-10.8	3.2	-0.8
Q4	-24.1	20.8	-0.4	-0.9	8.1	14.0	33.1	28.4	9.7	11.9
2019 Q1	-11.5	50.0	-10.8	-0.3	46.2	14.8	118.0	-15.3	2.7	5.5
Q2	-0.7	47.8	20.4	2.0	-0.7	26.1	108.9	39.3	-7.1	-4.5
2019 Mar.	-41.4	9.6	-1.5	0.0	-0.3	11.3	55.4	1.2	-8.4	-10.2
Apr.	-5.2	-4.8	-2.6	0.3	-13.4	10.9	26.5	3.2	17.8	19.8
May	-0.4	5.6	-1.8	0.6	-0.4	7.2	58.8	-12.9	-4.1	-2.9
June	4.8	47.0	24.8	1.1	13.1	8.0	23.7	49.1	-20.8	-21.4
July	3.9	-1.8	-27.6	0.4	10.3	15.1	54.4	-22.8	14.9	16.3
Aug. (p)	40.0	-29.4	-16.5	-0.4	-16.5	4.1	2.0	47.0	6.1	7.4
Growth rates										
2016	7.8	-1.8	-3.4	-10.9	-5.3	2.9	-	-	6.3	-9.0
2017	12.5	-1.1	-4.0	-9.7	-3.4	3.4	-	-	-29.8	-23.5
2018	11.3	0.7	-1.9	-8.1	1.1	2.7	-	-	8.1	7.7
2018 Q3	14.3	0.1	-2.7	-9.3	0.1	2.4	-	-	4.6	9.5
Q4	11.3	0.7	-1.9	-8.1	1.1	2.7	-	-	8.1	7.7
2019 Q1	8.8	1.4	-1.6	-6.4	2.8	2.6	-	-	17.8	21.2
Q2	12.0	2.2	-0.4	-1.3	3.5	3.1	-	-	5.1	6.7
2019 Mar.	8.8	1.4	-1.6	-6.4	2.8	2.6	-	-	17.8	21.2
Apr.	4.6	1.2	-1.9	-5.4	2.5	2.6	-	-	40.6	44.3
May	8.7	1.4	-1.6	-3.8	2.7	2.7	-	-	14.4	15.9
June	12.0	2.2	-0.4	-1.3	3.5	3.1	-	-	5.1	6.7
July	5.5	2.0	-1.8	0.5	4.2	3.3	-	-	7.1	9.9
Aug. (p)	5.9	1.7	-2.2	0.5	3.7	3.1	-	-	11.9	15.6

Source: ECB.
1) Data refer to the changing composition of the euro area.
2) Comprises central government holdings of deposits with the MFI sector and of securities issued by the MFI sector.
3) Not adjusted for seasonal effects.

6 Fiscal developments

6.1 Deficit/surplus
(as a percentage of GDP; flows during one-year period)

| | Deficit (-)/surplus (+) | | | | | Memo item: Primary deficit (-)/ surplus (+) |
	Total	Central government	State government	Local government	Social security funds	
	1	2	3	4	5	6
2015	-2.0	-1.9	-0.2	0.2	-0.1	0.3
2016	-1.4	-1.7	0.0	0.2	0.1	0.7
2017	-0.9	-1.3	0.1	0.2	0.1	1.0
2018	-0.5	-1.1	0.1	0.2	0.3	1.3
2018 Q3	-0.4	.	.	.	.	1.5
Q4	-0.5	.	.	.	.	1.3
2019 Q1	-0.6	.	.	.	.	1.2
Q2	-0.7	.	.	.	.	1.0

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

6.2 Revenue and expenditure
(as a percentage of GDP; flows during one-year period)

| | Revenue | | | | | | Expenditure | | | | | | |
| | Total | Current revenue | | | | Capital revenue | Total | Current expenditure | | | | | Capital expenditure |
			Direct taxes	Indirect taxes	Net social contributions				Compen- sation of employees	Intermediate consumption	Interest	Social benefits	
	1	2	3	4	5	6	7	8	9	10	11	12	13
2015	46.4	45.8	12.5	13.0	15.2	0.6	48.4	44.5	10.1	5.3	2.3	22.7	3.9
2016	46.2	45.7	12.6	13.0	15.3	0.5	47.7	44.1	10.0	5.3	2.1	22.7	3.6
2017	46.2	45.8	12.8	13.0	15.2	0.4	47.2	43.4	9.9	5.3	1.9	22.5	3.8
2018	46.5	46.0	13.0	13.0	15.2	0.5	47.0	43.3	9.9	5.3	1.8	22.3	3.7
2018 Q3	46.5	46.0	13.0	13.0	15.2	0.4	46.8	43.2	9.9	5.3	1.9	22.3	3.7
Q4	46.5	46.0	13.0	13.0	15.2	0.5	47.0	43.3	9.9	5.3	1.8	22.3	3.7
2019 Q1	46.4	45.9	12.9	13.0	15.2	0.5	47.0	43.3	9.9	5.3	1.8	22.4	3.7
Q2	46.4	45.9	12.9	13.0	15.2	0.4	47.1	43.4	9.9	5.3	1.8	22.5	3.7

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

6.3 Government debt-to-GDP ratio
(as a percentage of GDP; outstanding amounts at end of period)

| | Total | Financial instrument | | | Holder | | | Original maturity | | Residual maturity | | | Currency | |
		Currency and deposits	Loans	Debt securities	Resident creditors	MFIs	Non-resident creditors	Up to 1 year	Over 1 year	Up to 1 year	Over 1 and up to 5 years	Over 5 years	Euro or participating currencies	Other curren- cies
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
2015	90.8	3.4	16.5	71.0	45.0	27.6	45.8	9.7	81.2	18.3	31.1	41.4	88.8	2.1
2016	90.0	3.3	15.7	71.0	47.5	30.8	42.5	9.4	80.6	17.9	29.8	42.3	87.9	2.1
2017	87.8	3.2	14.5	70.1	48.2	32.2	39.5	8.6	79.1	16.4	29.0	42.3	86.0	1.8
2018	85.9	3.1	13.8	69.0	48.0	32.4	37.8	8.0	77.8	16.1	28.3	41.4	84.5	1.4
2018 Q3	87.1	3.2	13.9	70.1	.	.	.	.	.	.	.	.	.	.
Q4	85.9	3.1	13.8	69.0	.	.	.	.	.	.	.	.	.	.
2019 Q1	86.5	3.1	13.6	69.8	.	.	.	.	.	.	.	.	.	.
Q2	86.4	3.1	13.5	69.8	.	.	.	.	.	.	.	.	.	.

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

6 Fiscal developments

6.4 Annual change in the government debt-to-GDP ratio and underlying factors [1]
(as a percentage of GDP; flows during one-year period)

	Change in debt-to-GDP ratio [2]	Primary deficit (+)/ surplus (-)	Deficit-debt adjustment								Interest-growth differential	Memo item: Borrowing requirement
			Total	Transactions in main financial assets					Revaluation effects and other changes in volume	Other		
				Total	Currency and deposits	Loans	Debt securities	Equity and investment fund shares				
	1	2	3	4	5	6	7	8	9	10	11	12
2015	-1.9	-0.3	-0.8	-0.5	0.2	-0.3	-0.3	-0.1	0.0	-0.3	-0.8	1.2
2016	-0.8	-0.7	0.2	0.1	0.3	-0.1	0.0	0.1	0.0	0.0	-0.3	1.6
2017	-2.3	-1.0	-0.1	0.3	0.5	0.0	-0.2	0.1	-0.1	-0.3	-1.1	0.9
2018	-1.9	-1.3	0.4	0.3	0.4	-0.1	0.0	0.2	0.0	0.1	-0.9	0.8
2018 Q3	-2.2	-1.5	0.5	0.7	0.6	-0.1	0.0	0.2	-0.1	-0.2	-1.2	0.9
Q4	-1.9	-1.3	0.4	0.5	0.4	-0.1	0.0	0.2	0.0	-0.1	-0.9	0.8
2019 Q1	-1.3	-1.2	0.7	0.6	0.6	-0.2	0.0	0.2	0.1	0.0	-0.8	1.2
Q2	-0.9	-1.0	0.8	0.7	0.7	-0.1	0.0	0.2	0.1	0.0	-0.6	1.4

Sources: ECB for annual data; Eurostat for quarterly data.
1) Intergovernmental lending in the context of the financial crisis is consolidated except in quarterly data on the deficit-debt adjustment.
2) Calculated as the difference between the government debt-to-GDP ratios at the end of the reference period and a year earlier.

6.5 Government debt securities [1]
(debt service as a percentage of GDP; flows during debt service period; average nominal yields in percentages per annum)

	Debt service due within 1 year [2]					Average residual maturity in years [3]	Average nominal yields [4]						
	Total	Principal		Interest			Outstanding amounts					Transactions	
			Maturities of up to 3 months		Maturities of up to 3 months		Total	Floating rate	Zero coupon	Fixed rate		Issuance	Redemption
											Maturities of up to 1 year		
	1	2	3	4	5	6	7	8	9	10	11	12	13
2016	14.1	12.4	4.6	1.7	0.4	6.9	2.6	1.2	-0.1	3.0	2.9	0.2	1.2
2017	12.9	11.2	4.2	1.7	0.4	7.1	2.4	1.1	-0.2	2.8	2.3	0.3	1.1
2018	12.6	11.1	3.8	1.5	0.4	7.3	2.3	1.1	-0.1	2.7	2.5	0.4	0.9
2018 Q2	12.5	10.9	3.5	1.6	0.4	7.3	2.4	1.1	-0.2	2.8	2.5	0.4	0.9
Q3	12.7	11.2	3.7	1.6	0.4	7.3	2.3	1.1	-0.1	2.7	2.6	0.4	0.9
Q4	12.6	11.1	3.8	1.5	0.4	7.3	2.3	1.1	-0.1	2.7	2.5	0.4	0.9
2019 Q1	12.7	11.3	3.8	1.5	0.4	7.4	2.3	1.1	0.0	2.6	2.5	0.5	1.0
2019 Apr.	13.1	11.6	3.9	1.5	0.4	7.4	2.3	1.2	0.0	2.6	2.5	0.5	1.1
May	12.9	11.4	3.5	1.5	0.4	7.4	2.3	1.2	0.0	2.6	2.5	0.5	1.0
June	12.9	11.4	3.8	1.5	0.4	7.4	2.3	1.3	0.0	2.6	2.3	0.5	0.9
July	13.0	11.6	4.1	1.5	0.4	7.5	2.3	1.3	-0.1	2.6	2.3	0.4	1.0
Aug.	12.9	11.4	4.2	1.5	0.4	7.4	2.2	1.3	-0.1	2.6	2.3	0.4	1.1
Sep.	13.1	11.6	3.9	1.5	0.4	7.4	2.2	1.3	-0.1	2.6	2.3	0.4	1.0

Source: ECB.
1) At face value and not consolidated within the general government sector.
2) Excludes future payments on debt securities not yet outstanding and early redemptions.
3) Residual maturity at the end of the period.
4) Outstanding amounts at the end of the period; transactions as 12-month average.

6 Fiscal developments

6.6 Fiscal developments in euro area countries
(as a percentage of GDP; flows during one-year period and outstanding amounts at end of period)

	Belgium	Germany	Estonia	Ireland	Greece	Spain	France	Italy	Cyprus
	1	2	3	4	5	6	7	8	9
Government deficit (-)/surplus (+)									
2015	-2.4	0.9	0.1	-1.9	-5.6	-5.2	-3.6	-2.6	-1.0
2016	-2.4	1.2	-0.5	-0.7	0.5	-4.3	-3.5	-2.4	0.1
2017	-0.7	1.2	-0.8	-0.3	0.7	-3.0	-2.8	-2.4	1.7
2018	-0.7	1.9	-0.6	0.1	1.0	-2.5	-2.5	-2.2	-4.4
2018 Q3	-0.2	2.1	0.2	-0.5	0.8	-2.7	-2.5	-2.0	-4.2
Q4	-0.8	1.9	-0.6	0.1	1.0	-2.5	-2.5	-2.2	-4.4
2019 Q1	-1.1	1.8	-0.7	0.1	0.3	-2.6	-3.0	-2.2	-3.9
Q2	-1.6	1.7	-0.6	0.7	0.5	-2.8	-3.3	-2.1	-3.7
Government debt									
2015	105.2	72.1	10.0	76.7	175.9	99.3	95.6	135.3	107.5
2016	104.9	69.2	10.2	73.9	178.5	99.2	98.0	134.8	103.4
2017	101.8	65.3	9.3	67.8	176.2	98.6	98.4	134.1	93.9
2018	100.0	61.9	8.4	63.6	181.2	97.6	98.4	134.8	100.6
2018 Q3	105.4	62.7	8.5	67.2	182.3	98.9	99.4	136.1	107.9
Q4	102.1	61.9	8.4	63.6	181.2	97.6	98.4	134.8	100.6
2019 Q1	105.3	61.7	8.0	65.4	182.1	98.9	99.7	136.6	103.2
Q2	104.7	61.2	9.3	63.9	180.2	98.9	99.6	138.0	107.2

	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Austria	Portugal	Slovenia	Slovakia	Finland
	10	11	12	13	14	15	16	17	18	19
Government deficit (-)/surplus (+)										
2015	-1.4	-0.3	1.4	-1.0	-2.0	-1.0	-4.4	-2.8	-2.7	-2.4
2016	0.1	0.2	1.8	0.9	0.0	-1.5	-1.9	-1.9	-2.5	-1.7
2017	-0.5	0.5	1.4	3.4	1.3	-0.7	-3.0	0.0	-1.0	-0.7
2018	-0.7	0.6	2.7	1.9	1.5	0.2	-0.4	0.8	-1.1	-0.8
2018 Q3	-0.4	0.5	2.2	3.4	2.0	0.1	-0.1	0.5	-0.7	-0.7
Q4	-0.7	0.6	2.7	1.9	1.5	0.2	-0.4	0.8	-1.1	-0.8
2019 Q1	-0.7	0.2	3.1	1.8	1.7	-0.1	-0.2	0.6	-1.0	-0.9
Q2	-0.9	0.0	3.2	1.0	1.8	0.0	0.2	0.6	-1.0	-1.0
Government debt										
2015	36.7	42.7	22.0	57.8	64.6	84.9	131.2	82.6	51.9	63.0
2016	40.2	39.9	20.1	55.5	61.9	82.9	131.5	78.7	52.0	62.6
2017	38.6	39.3	22.3	50.3	56.9	78.3	126.0	74.1	51.3	60.9
2018	36.4	34.1	21.0	45.8	52.4	74.0	122.2	70.4	49.4	59.0
2018 Q3	37.5	34.9	21.2	45.9	52.9	75.7	125.5	71.4	51.7	58.9
Q4	36.4	34.1	21.0	45.8	52.4	74.0	122.2	70.4	49.1	59.0
2019 Q1	37.7	34.0	20.8	46.4	50.9	72.7	123.7	68.1	49.0	58.7
Q2	36.7	36.1	20.3	45.7	50.9	71.8	121.2	67.7	48.4	60.5

Source: Eurostat.