EUROPEAN CENTRAL BANK

EUROSYSTEM

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Contents

Update on economic and monetary developments

Summary

The solid and broad-based economic expansion in the euro area is continuing; the latest data and survey results point to unabated growth momentum in the second half of this year. The ECB's monetary policy measures continue to support domestic demand, which is a precondition for further progress towards a sustained adjustment in the path of inflation towards levels below, but close to, 2% over the medium term. Private consumption is underpinned by rising employment, which is also benefiting from past labour market reforms, and by increasing household wealth. The upswing in business investment continues to benefit from very favourable financing conditions and improvements in corporate profitability. Construction investment has also strengthened. Risks surrounding the euro area growth outlook remain broadly balanced. On the one hand, the strong cyclical momentum, as evidenced in recent developments in sentiment indicators, could lead to further positive growth surprises. On the other hand, downside risks continue to relate primarily to global factors and developments in foreign exchange markets. At the global level, growth has also broadened across countries and survey-based indicators point to sustained momentum. Global trade growth strengthened in July, after a moderation in the second quarter of 2017, and remained robust in August, mainly driven by the advanced economies. Leading indicators continue to signal positive prospects for trade growth in the short term.

Euro area annual HICP inflation was 1.5% in September, unchanged from August. Underlying inflation measures have ticked up moderately since early 2017, but have yet to show more convincing signs of a sustained upward trend. Wage growth has increased somewhat, but domestic cost pressures still remain subdued overall. Global headline inflation also picked up in August, mainly due to increases in energy and food prices. Underlying inflation in the euro area is expected to continue to rise gradually over the medium term, supported by the ECB's monetary policy measures, the continuing economic expansion, the corresponding gradual absorption of economic slack and rising wage growth. Looking ahead, on the basis of current futures prices for oil, headline inflation is likely to temporarily decline towards the turn of the year, mainly reflecting base effects in energy prices.

Broad money growth has remained robust, and the gradual recovery in loan growth is proceeding. Domestic counterparts of broad money, associated with Eurosystem purchases under the asset purchase programme (APP) and the gradual recovery in the growth of credit to the private sector, were the main drivers of broad money growth. The latest euro area bank lending survey shows that loan growth continues to be supported by increasing loan demand by enterprises and households, and the easing of credit standards for loans to households. Financing costs for euro area

non-financial corporations (NFCs) have remained favourable, with bank lending rates for NFCs close to their historical lows.

Financial markets reflect the firmer euro area economic outlook and global developments. Euro area government bond yields have risen and the EONIA forward curve has steepened since early September. The improved economic outlook and some easing of geopolitical concerns have driven indices of equity prices higher, while corporate debt spreads have tightened. The trade-weighted value of the euro is unchanged overall, despite some bilateral depreciation against the US dollar and the pound sterling.

At its monetary policy meeting on 26 October 2017, the Governing Council took the following decisions in pursuit of its price stability objective.

- First, the key ECB interest rates were kept unchanged and the Governing Council continues to expect them to remain at their present levels for an extended period of time, and well past the horizon of net asset purchases.
- Second, as regards non-standard monetary policy measures, the Eurosystem will continue to make purchases under the APP at the current monthly pace of €60 billion until the end of December 2017. From January 2018 net asset purchases are intended to continue at a monthly pace of €30 billion until the end of September 2018, or beyond, if necessary, and in any case until the Governing Council sees a sustained adjustment in the path of inflation consistent with its inflation aim. If the outlook becomes less favourable, or if financial conditions become inconsistent with further progress towards a sustained adjustment in the path of inflation, the Governing Council stands ready to increase the APP in terms of size and/or duration.
- Third, the Eurosystem will reinvest the principal payments from maturing securities purchased under the APP for an extended period of time after the end of its net asset purchases, and in any case for as long as necessary. This will contribute both to favourable liquidity conditions and to an appropriate monetary policy stance.
- Fourth, the Governing Council also decided to continue to conduct the main refinancing operations and three-month longer-term refinancing operations as fixed rate tender procedures with full allotment for as long as necessary, and at least until the end of the last reserve maintenance period of 2019.

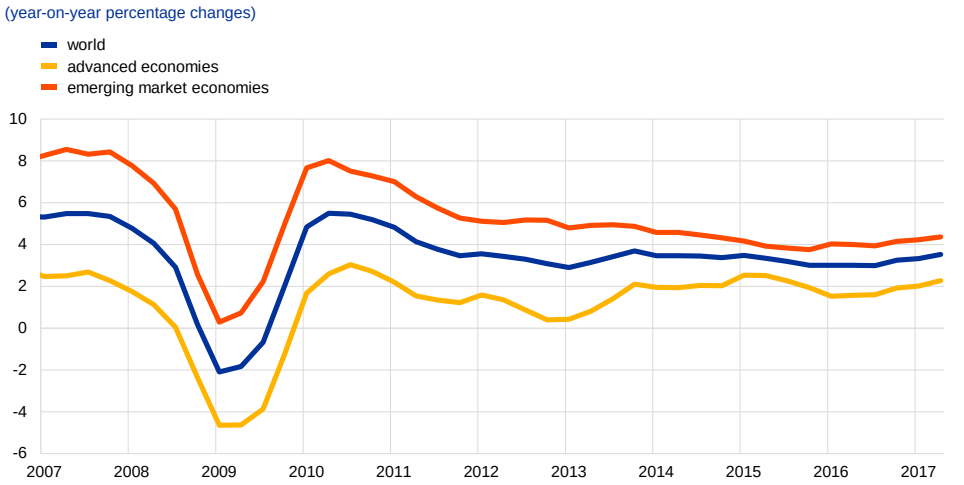
The Governing Council took these decisions to preserve the very favourable financing conditions that are still needed for a sustained return of inflation rates towards levels that are below, but close to, 2%. While the recalibration of the asset purchases reflects growing confidence in the gradual convergence of inflation towards the inflation aim, domestic price pressures are still muted overall, and the economic outlook and the path of inflation remain conditional on continued support from monetary policy. The Governing Council concluded that an ample degree of monetary stimulus therefore remains necessary for underlying inflation pressures to

gradually build up and support headline inflation developments over the medium term.

1 External environment

Global growth has broadened across countries, while survey-based indicators point to sustained momentum. Since the second half of 2016, the economic recovery has shown signs of increasing synchronisation globally (see Chart 1). Moreover, survey indicators are consistent with sustained global growth. In the third quarter of 2017 the global composite output Purchasing Managers' Index (PMI) excluding the euro area remained at a level similar to those recorded in the first half of the year, close to long-term averages. Looking at the world's major advanced economies, the PMI picked up in the United States, but declined in Japan (and, to a lesser extent, the United Kingdom) relative to the second quarter. As regards emerging market economies, the quarterly PMI increased in China and rose marginally in Brazil, but declined in Russia and India (with the latter falling below the expansion threshold).

Chart 1
World and advanced and emerging market economy GDP growth



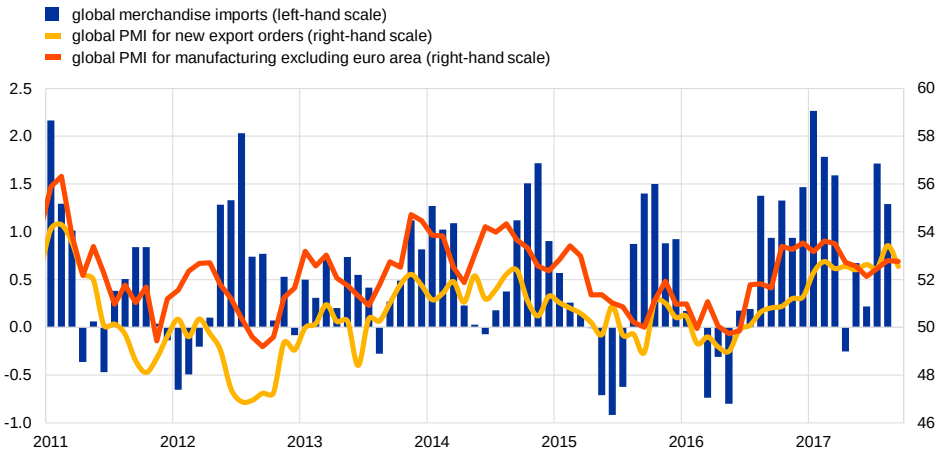
Source: ECB calculations.
Note: The latest observation is for the second quarter of 2017.

Indicators point to a recovery in global trade in the third quarter of this year. Following a moderation in the second quarter of 2017, global trade growth strengthened in July and remained robust in August, with the volume of merchandise imports increasing by a solid 1.5% in three-month-on-three-month terms in July, followed by growth of 1.3% in August (see Chart 2). The increase in those two months was driven mainly by advanced economies. Leading indicators continue to signal positive prospects in the short term. In particular, the global PMI for new export orders stood at 52.8 in the third quarter of 2017, close to the level recorded in the first half of this year and above its long-term average.

Chart 2

Global trade and surveys

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



Sources: Markit, CPB Netherlands Bureau for Economic Policy Analysis and ECB calculations.
Note: The latest observations are for August 2017 for global merchandise imports and September 2017 for the PMIs.

Global inflation picked up in August. After increasing slightly to stand at 2.0% in July, annual consumer price inflation in the Organisation for Economic Co-operation and Development (OECD) area rose further to stand at 2.2% in August. That increase was driven mainly by a pick-up in energy prices, but food prices also experienced a moderate increase. Annual OECD inflation excluding food and energy remained unchanged at 1.8% in August.

Oil prices have trended upwards in recent weeks. This reflects persistent signals that market rebalancing is under way, with demand increasing further and markets more firmly expecting the current OPEC agreement to be extended beyond March 2018. Geopolitical tensions following the independence referendum of the Kurdistan region in Iraq at the end of September and concerns about US sanctions on Iran have also supported higher oil quotations. Prices remain well above the levels observed prior to the OPEC agreement of November 2016.

Economic data in the United States are temporarily being affected by the recent hurricanes. After recovering to stand at an annualised rate of 3.1% in the second quarter, US real GDP growth is expected to weaken temporarily in the third quarter, reflecting the economic impact of recent hurricanes. However, experience of previous hurricanes suggests that economic activity should rebound thereafter as reconstruction efforts gather pace. The overall decline in employment in September was also influenced by those hurricanes. Employment growth outside the affected areas was fairly robust, consistent with a further tightening of the labour market. Annual headline inflation rose to 2.2% in September, boosted by a temporary increase in petrol prices following the hurricanes, while annual consumer price inflation excluding food and energy was stable at 1.7% for a fifth consecutive month. At its September meeting, the Federal Open Market Committee announced that it would start normalising its balance sheet in October. Specifically, it indicated that the principal payments received from its securities holdings would only be reinvested to the extent that they exceeded gradually rising caps.

In Japan, economic activity remains strong and the labour market continues to be tight. Real GDP increased by 0.6% quarter on quarter in the second quarter of 2017. That figure was revised downwards slightly from the previous estimate, but stands well above potential growth. Overall, the outlook for the Japanese economy remains favourable, supported by accommodative policies, recovering foreign demand and a strong labour market. The country's unemployment rate stood at 2.8% in August, with the vacancy rate rising to a level unseen since the early 1990s. Although base wage growth has remained weak, recent gains in labour productivity in the non-financial sector suggest that there is increasing scope for stronger wage growth. Meanwhile, annual headline consumer price inflation rose to 0.7% in August, reflecting some upward momentum across measures of underlying inflation. In the general election held on 22 October, the ruling coalition led by Prime Minister Shinzo Abe secured its victory with a two-thirds parliamentary majority.

In the United Kingdom, economic activity slowed markedly in the first half of 2017. This followed two quarters of unexpectedly resilient growth in the aftermath of the country's referendum on EU membership last year. In the second quarter of 2017, real GDP growth stood at 0.3% quarter on quarter, broadly in line with the previous quarter, but down from 0.7% in the fourth quarter of 2016. The pass-through of sterling's depreciation to consumer prices has been a major drag on growth, as it has hurt consumption by eroding households' purchasing power. Recent indicators suggest that economic activity will remain subdued in the second half of the year as well. Annual consumer price inflation rose to 3.0% in September. Five rounds of "Brexit" negotiations in accordance with Article 50 of the Treaty on European Union have taken place between the European Union and the United Kingdom following the official start of negotiations on 19 June 2017, although few decisions have been made to date regarding the terms of the final settlement.

Economic activity in China remains robust. Following strong growth in the first half of the year, China's real GDP growth weakened marginally in the third quarter of 2017, standing at 6.8% year on year, down from 6.9% in the previous quarter. This slight moderation was in line with recent data on industrial production, fixed asset investment and retail sales. However, available survey data for September have remained robust. Consumer price inflation remains moderate and weakened in September, while annual producer price inflation rose to 6.9%, up from 6.3% in August, with raw material prices continuing to increase strongly and prices of manufacturing goods also rising. In October the 19th National Congress of the Communist Party of China took place, which confirmed the leadership and set broad policy guidelines for the next five years.

2 Financial developments

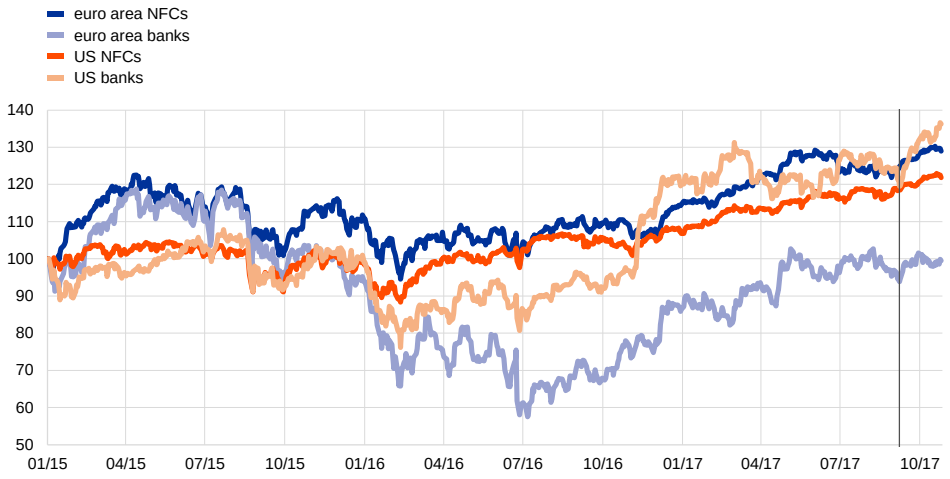
Euro area government bond yields have generally risen since early September. In the period under review (i.e. the period from 7 September to 25 October), the euro area ten-year overnight index swap (OIS) rate and the euro area ten-year sovereign bond yield (as measured by the country GDP-weighted average) increased by around 15 basis points to stand at 0.72% and 1.09% respectively. Sovereign bond spreads vis-à-vis risk-free OIS rates were broadly unchanged over the review period, with the exception of Portugal, where they fell by around 60 basis points in response to a credit rating upgrade (to investment grade) by Standard & Poor's. In the United Kingdom and the United States, sovereign bond yields rose by around 40 basis points to stand at 1.41% and 2.43% respectively, largely driven by market expectations regarding the future path of monetary policy in those two countries.

Broad indices of euro area equity prices rose over the review period (see Chart 3). The equity prices of euro area non-financial corporations (NFCs) increased by around 3.3%, while prices rose by 6% in the case of euro area bank equities. These increases were largely due to a decline in the equity risk premium, consistent with a perceived easing of geopolitical risks. Overall, expectations of solid growth in earnings continue to support euro area equity prices, reflecting the broad-based improvement in the euro area's macroeconomic environment. The equity prices of US NFCs and banks also increased over the review period, rising by 2.6% and 14% respectively. Market expectations of equity price volatility in the euro area and the United States remained unchanged overall at around 10% and 7% respectively – levels that are comparatively low from a historical perspective.

Chart 3

Euro area and US equity price indices

(index: 1 January 2015 = 100)



Source: Thomson Reuters.
Notes: The vertical grey line denotes the start of the review period (i.e. 7 September 2017). The latest observation is for 25 October 2017.

Spreads on bonds issued by NFCs declined during the period under review. On 19 October investment-grade NFC bond spreads (relative to the corresponding AAA-rated euro area average yield curve) were an average of 7 basis points lower

than in early September and around 80 basis points below the levels observed in March 2016 prior to the announcement and subsequent launch of the corporate sector purchase programme. Spreads on non-investment-grade NFC bonds also declined during the period under review, falling by 30 basis points, while spreads on financial sector debt were largely unchanged. Such low levels and further compression of corporate bond spreads are consistent with a strengthening of the economic recovery.

The euro overnight index average (EONIA) remained broadly unchanged at around −0.36% during the review period. Excess liquidity in the banking system increased by around €52 billion to stand at €1,825 billion. This increase was attributable to ongoing securities purchases under the ECB's asset purchase programme.

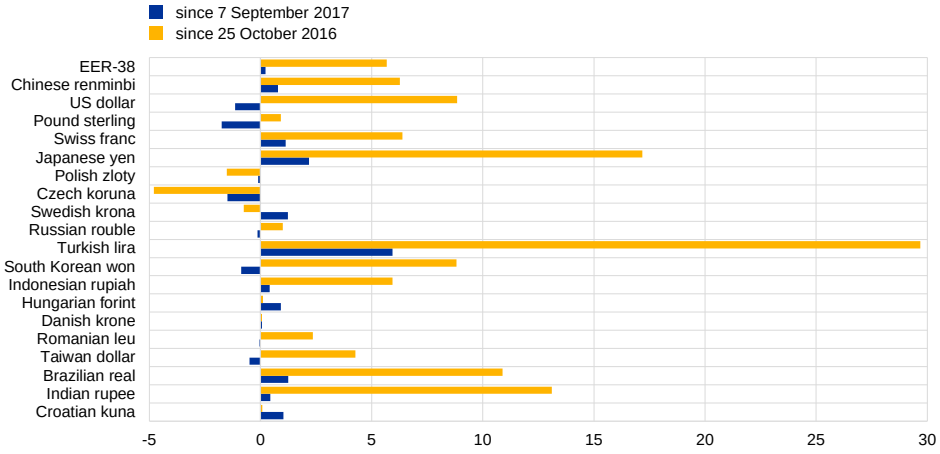
The EONIA forward curve shifted upwards slightly over the review period. This upward movement was driven by maturities longer than three years, for which EONIA forward rates increased by around 15 basis points. The gradual upward slope of the curve implies that market participants continue to expect a prolonged period of negative rates lasting until around mid-2020.

In foreign exchange markets, the value of the euro remained broadly unchanged in nominal effective terms over the period under review. The euro depreciated vis-à-vis the US dollar (by 1.6%) and the pound sterling (by 2.8%), reflecting market expectations regarding the relative monetary policy stances of those two countries. This depreciation was, however, largely offset by other developments, with the euro appreciating vis-à-vis most other major currencies, including the Chinese renminbi (by 0.8%), the Japanese yen (by 3.1%) and the Swiss franc (by 2.4%). Moreover, the euro also strengthened against the currencies of most major emerging market economies, as well as those of most EU Member States outside the euro area, with the exception of the Czech koruna and the Polish zloty (see Chart 4).

Chart 4

Changes in the euro's exchange rates vis-à-vis selected currencies

(percentage changes)



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. All changes have been calculated using the foreign exchange rates prevailing on 25 October 2017.

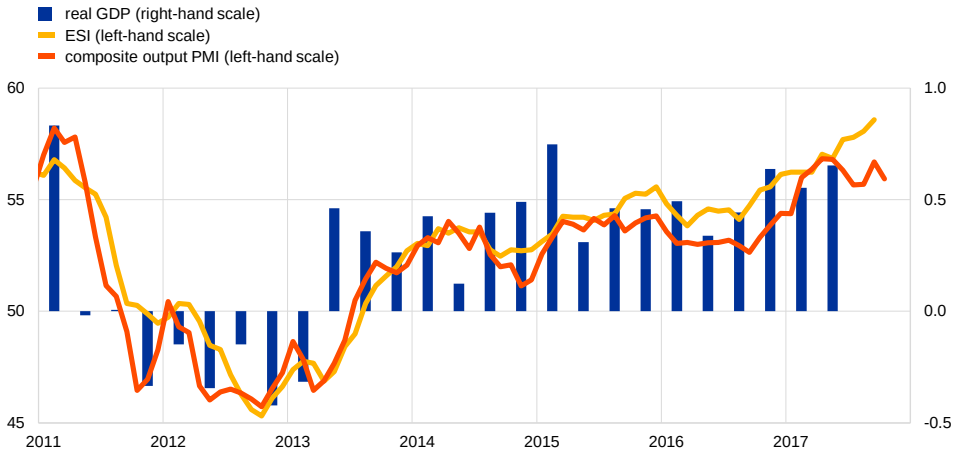
3 Economic activity

The solid and broad-based economic expansion in the euro area is continuing. Real GDP increased by 0.7%, quarter on quarter, in the second quarter of 2017, following a rise of 0.6% in the previous quarter (see Chart 5), on the back of a strong positive contribution from domestic demand. At the same time, net trade contributed negatively, while changes in inventories made a neutral contribution to GDP growth in the second quarter. The latest economic indicators – both hard data and survey results – remain elevated, confirming the expectation of robust growth in the second half of 2017 at around the same rates as in the previous two quarters.

Chart 5

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

(quarter-on-quarter percentage growth; diffusion index)



Sources: Eurostat, European Commission, Markit and ECB.
Notes: The ESI is standardised and rescaled to have the same mean and standard deviation as the PMI. The latest observations are for the second quarter of 2017 for real GDP, September 2017 for the ESI and October 2017 for the PMI.

Private consumption is continuing to increase and remains a key driver of the ongoing economic expansion. Consumer spending rose by 0.5%, quarter on quarter, in the second quarter of 2017, following a somewhat lower rate of increase in the previous quarter. This outcome largely reflected higher purchasing power following a 10% fall of the oil price in euro terms between the first and second quarters of 2017. On an annual basis, consumption rose by 1.6% in the second quarter, the same rate as in the first quarter of 2017. This stable pattern contrasted with a decline in growth in households' real disposable income to 1.4%, year on year, in the second quarter, from 1.6% in the previous quarter. Consistent with the unchanged consumption growth and lower income growth in the second quarter of 2017, the annual rate of change in savings declined in the second quarter, leading to a historically low saving ratio of 12%.

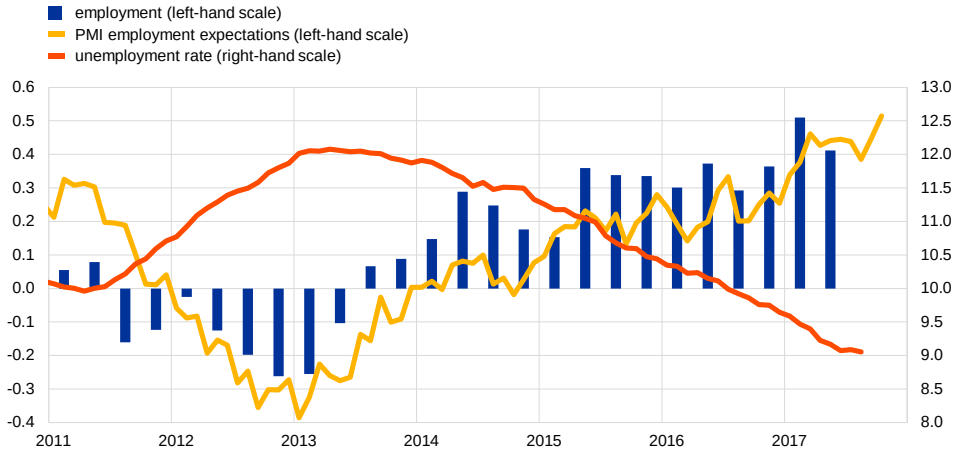
Euro area labour markets are continuing to improve, thereby underpinning household income and consumer spending. Employment rose further, by 0.4%, quarter on quarter, in the second quarter of 2017, which led to an annual increase of 1.6%. Employment currently stands almost 1% above its pre-crisis peak in the first

quarter of 2008. The unemployment rate in the euro area stood at 9.1% in August 2017, which is the same rate as in the previous two months and 3 percentage points below the post-crisis peak in April 2013 (see Chart 6). This decline has been broad-based across age and gender groups. Long-term unemployment (i.e. the number of people who have been unemployed for at least 12 months expressed as a percentage of the labour force) is also continuing to decline, but remains well above its pre-crisis level. Survey information points to continued improvements in labour markets in the period ahead. At the same time, in some countries and sectors there are increasing signs of labour shortages.

Chart 6

Euro area employment, PMI employment expectations and unemployment

(quarter-on-quarter percentage changes; diffusion index; percentage of labour force)



Sources: Eurostat, Markit and ECB calculations.
Notes: The PMI is expressed as a deviation from 50 divided by 10. The latest observations are for the second quarter of 2017 for employment, October 2017 for the PMI and August 2017 for unemployment.

Barring any short-term volatility, consumption growth is expected to remain resilient. Recent data on retail trade and new passenger car registrations currently point to lower quarterly growth in consumer spending in the third quarter of 2017 compared with the second quarter. However, these data tend to display some volatility, while other indicators point to continued robust underlying consumption dynamics. For instance, further employment growth, as suggested by the latest survey indicators, should also continue to support aggregate income and thus consumer spending. In addition, households' net worth continued to increase at robust levels, lending further support to consumer spending. These factors may partly explain why consumer confidence improved further in the third quarter before reaching its highest value since April 2001 in October.

Following a strong second quarter, business investment should continue to grow in the third quarter of 2017. Non-construction investment, which grew by 3.5%, quarter on quarter, in the second quarter of 2017, was driven by investment in intellectual property assets and non-transport-related machinery and equipment. As for the third quarter, continued favourable conditions in the capital goods sector, such as increasing capacity utilisation, rising orders, stronger confidence and rising demand, signal overall a continuation of the ongoing dynamic investment

momentum. Monthly data on capital goods production up to August also suggest rising business investment at the beginning of the third quarter. With regard to construction investment, monthly construction production data point to slowing growth in the third quarter of 2017. However, survey indicators on the demand situation and the assessment of order books in the sector, as well as the number of building permits issued, are still in line with positive underlying dynamics in the short term.

Going forward, investment is expected to remain an important contributor to growth. Investment should continue to benefit from elevated business confidence and diminishing uncertainty, rising capacity utilisation, highly supportive financing conditions, stronger corporate profits and the increasing need to modernise the capital stock. According to the euro area sectoral accounts, the corporate gross operating surplus increased in the second quarter of 2017, albeit at a lower year-on-year rate than in the previous quarter, and earnings expectations for listed companies in the euro area, available up to August, remain at high levels. As regards construction investment, factors such as households' rising disposable income and improving lending conditions should underpin demand in the sector. At the same time, some factors are expected to continue to weigh on the outlook for investment, including expectations of weaker growth over the medium term and limitations on the intermediation capacity of banks in some countries.

Despite prospects of slowing growth in the third quarter of 2017, trade indicators point to sustained momentum going forward. Total euro area exports rose by 0.9% in the second quarter on account of strong goods exports. Monthly trade in goods up to August suggests that extra-euro area exports will continue to show positive growth in the third quarter of 2017, in line with the recovery in foreign demand, albeit at a slower pace than in the second quarter. Exports in the first two months of the third quarter of 2017 seem to have been supported by demand from China, the United States, Latin America and, to a lesser extent, non-euro area EU countries, whereas the United Kingdom and Asia (excluding China) made negative contributions. Leading indicators, such as survey results, continue to signal ongoing improvements in foreign demand, while new manufacturing export orders from outside the euro area have risen further.

Overall, the latest economic indicators are, on balance, consistent with a continued robust growth pattern in the second half of 2017. Industrial production (excluding construction) rose strongly in August. As a result, in July and August production stood on average 1.0% above the level in the second quarter of the year, when it rose by 1.2% on a quarterly basis. More recent survey data also signal solid growth dynamics in the near term. The composite output PMI averaged 56.0 in the third quarter of 2017, compared with 56.6 in the second quarter, before declining between September and October to 55.9. Meanwhile, the European Commission's ESI rose to 112.1 in the third quarter from 110.0 in the second quarter (see Chart 5). Both the ESI and the PMI remain well above their respective long-term averages.

Looking ahead, the ongoing firm and broad economic expansion is expected to continue. The ECB's monetary policy measures have facilitated the deleveraging process and continue to support domestic demand. Private consumption is

underpinned by rising employment, which is also benefiting from past labour market reforms, and by increasing household wealth. The upswing in business investment continues to benefit from very favourable financing conditions and improvements in corporate profitability. Construction investment has also strengthened. In addition, the broad-based global recovery is supporting euro area exports. The results of the latest round of the ECB's Survey of Professional Forecasters, conducted in early October, show that private sector GDP growth forecasts were revised upwards for 2017, 2018 and 2019 in comparison with the previous round conducted in early July.

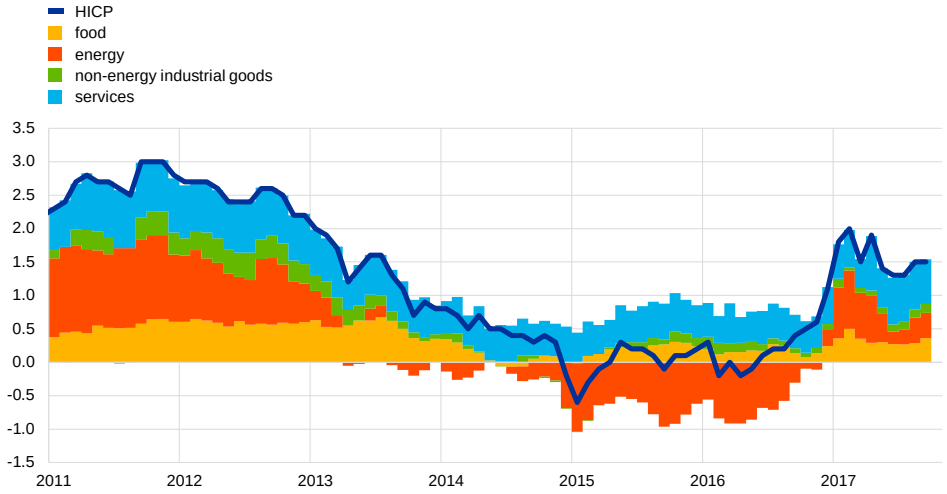
The risks surrounding the euro area growth outlook remain broadly balanced. On the one hand, the strong cyclical momentum, as evidenced by recent developments in sentiment indicators, could lead to further positive growth surprises. On the other hand, downside risks continue to relate primarily to global factors and developments in foreign exchange markets.

4 Prices and costs

Headline HICP inflation was 1.5% in September, unchanged from August (see Chart 7). The unchanged inflation rate concealed an increase in food inflation, which was offset by a slight reduction in HICP inflation excluding food and energy (which stood at 1.1% in September, down from 1.2% in August). This decline in inflation excluding food and energy mainly reflected a reduction in the inflation rate for the volatile transport services sub-component.

Chart 7
Contributions of components of euro area headline HICP inflation

(annual percentage changes; percentage point contributions)



Sources: Eurostat and ECB calculations.
Note: The latest observations are for September 2017.

A broad range of measures of underlying inflation has ticked up moderately since early 2017. HICP inflation excluding food and energy has recovered more than half of the difference between an average of 0.8% in the fourth quarter of 2016 and its long-term average of 1.4%, due in part to strong increases in inflation in the transport and accommodation services sub-components. However, measures of underlying inflation have yet to show more convincing signs of a sustained upward adjustment.

Annual growth in the GDP deflator, which can be regarded as a broad indicator of underlying domestic price developments, picked up to stand at 1.0% in the second quarter of 2017, up from 0.7% in the previous quarter. While the contribution made by unit labour costs declined marginally, this was more than offset by a strengthening in unit profits (which may reflect volatility related to the weakness observed in the previous quarter, but could also be due to a decline in the drag from the terms of trade). The recent pick-up in the GDP deflator has seen it recouple more closely with developments in HICP inflation excluding food and energy.[1]

[1] See the box entitled "What accounts for the recent decoupling between the euro area GDP deflator and the HICP excluding energy and food?", *Economic Bulletin*, Issue 6, ECB, 2016.

The appreciation of the euro exchange rate over the summer has eased external price pressures. The increase observed in the euro's nominal effective exchange rate over the summer has been reflected in a decline in import inflation. Annual import inflation for non-food consumer goods, which can be expected to feed through to consumer price inflation for non-energy industrial goods, stood at -0.1% in July and -0.3% in August, down from its recent peak of 1.3% in April. More generally, however, the pass-through of the euro's appreciation along domestic production and retailing chains is surrounded by a large degree of uncertainty and depends, inter alia, on the potential adjustment of profit margins. Thus far, producer price inflation for non-food consumer goods has remained stable, with a year-on-year rate of 0.3% being recorded in August, unchanged since June and only marginally higher than the levels observed in early 2016.

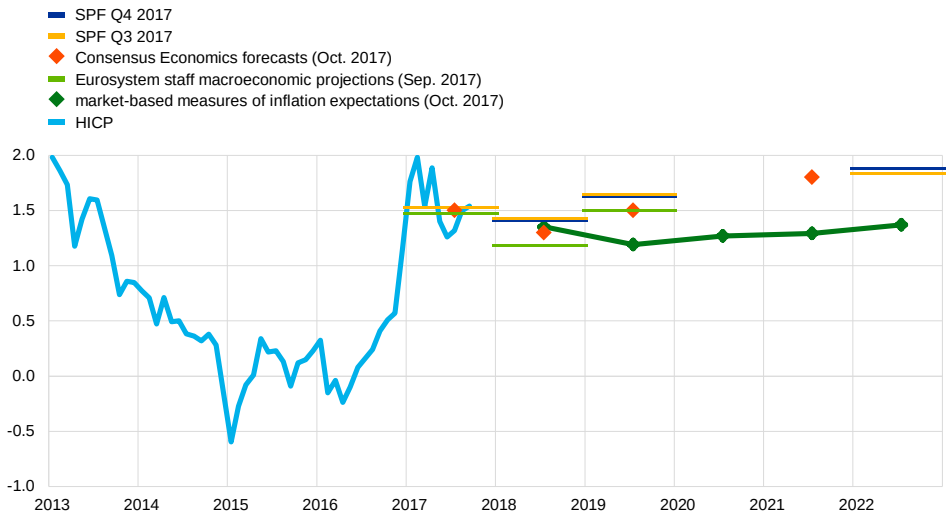
Wage growth has increased somewhat but remains well below historical averages. Annual growth in compensation per employee was 1.6% in the second quarter of 2017, up from 1.5% in the previous quarter and continuing a rise since the low of 1.1% in the second quarter of 2016. Despite this uptick, wage growth remains well below its average since 1999 of 2.1%. Following revisions to data, annual growth in compensation per hour has exhibited broadly similar developments to annual growth in compensation per employee in recent years. Factors that may have been weighing on wage growth include significant slack in the labour market, weak productivity growth, low past inflation and the ongoing impact of labour market reforms implemented in some countries during the financial crisis.

Market and survey-based measures of long-term inflation expectations have remained broadly stable (see Chart 8). On 25 October 2017, the five-year inflation-linked swap rate five years ahead stood at 1.64%. The forward profile of market-based measures of inflation expectations continues to signal a prolonged period of low inflation, with only a very gradual return to inflation levels below, but close to, 2%. The probability of deflation implied by inflation options markets remains very low and continues to suggest that deflation risk remains contained. According to the ECB Survey of Professional Forecasters for the fourth quarter of 2017, longer-term inflation expectations for the euro area were revised upwards to 1.9% (an increase from 1.83% to 1.88%).

Chart 8

Market and survey-based measures of inflation expectations

(annual percentage changes)



Sources: ECB Survey of Professional Forecasters (SPF), Thomson Reuters, Consensus Economics, Eurosystem staff macroeconomic projections and ECB calculations.
Notes: Realised HICP data are included up to September 2017. The Consensus Economics projections for 2019 and 2021 are taken from its October forecast. The market-based measures of inflation expectations are derived from HICPx (euro area HICP excluding tobacco) zero coupon inflation-linked swaps. The latest observations are for 25 October 2017.

Residential property price inflation in the euro area increased further in the second quarter of 2017. According to the ECB's residential property price indicator, the prices of houses and flats in the euro area increased by 4.1% year on year in the second quarter of this year, up from 3.8% in the first quarter, confirming a further strengthening and broadening of the house price cycle.

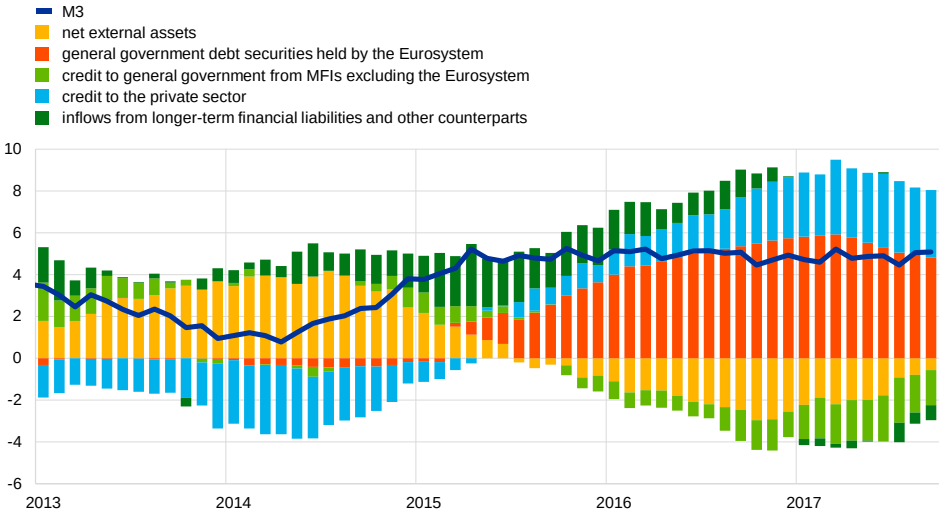
5 Money and credit

Broad money continued to expand at a robust pace. The annual growth rate of M3 increased to 5.1% in September 2017 (from 5.0% in August) and has been hovering around that level since mid-2015 (see Chart 9). The low opportunity cost of holding liquid deposits in an environment of very low interest rates and the impact of the ECB's monetary policy measures continued to support M3 growth. Annual M1 growth increased to 9.7% in September (up from 9.5% in August) and was again the main contributor to M3 growth.

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 monetary financial institution (MFI) loans to the private sector and MFI holdings of securities issued by the euro area private non-MFI sector. It thus includes the Eurosystem's holdings of debt securities in the context of the corporate sector purchase programme (CSPP). The latest observation is for September 2017.

Domestic counterparts of broad money remained the main driver of broad money growth. First, Eurosystem purchases of government bonds in the context of the public sector purchase programme (PSPP) continued to have a considerable positive impact on M3 growth (see the orange bars in Chart 9). Second, the gradual recovery in the growth of credit to the private sector exerted a positive impact on M3 growth (see the blue bars in Chart 9). This includes both MFI loans to the private sector and MFI holdings of securities issued by the euro area private non-MFI sector. The latter also include the Eurosystem's purchases in the context of the CSPP. Third, the negative annual rate of change in MFIs' longer-term financial liabilities (excluding capital and reserves) supported M3 growth (included together with other M3 counterparts in the dark green bars in Chart 9). This is partly explained by the limited attractiveness of long-term deposits and bank bonds in the environment of a relatively flat yield curve. By contrast, the contribution to M3 growth of credit to general government from MFIs excluding the Eurosystem remained negative (see the light green bars in Chart 9).

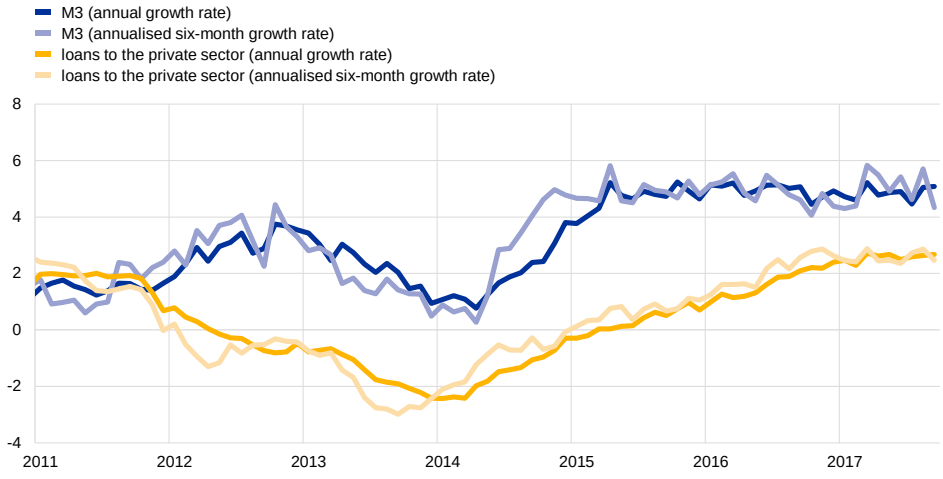
MFIs' net external assets continued to exert downward pressure on annual M3 growth (see the yellow bars in Chart 9), which was partly explained by PSPP-related sales of euro area government bonds by non-residents. At the same time, annual outflows in MFI net external assets receded somewhat, partly on account of increasing net purchases of euro area securities other than government bonds by non-residents, which partly offset non-residents' net sales of euro area general government bonds.

The gradual recovery in loan growth is continuing. The annual growth rate of MFI loans to the private sector (adjusted for loan sales, securitisation and notional cash pooling) increased marginally in September (see Chart 10). Across sectors, the annual growth rate of loans to non-financial corporations (NFCs) increased slightly to 2.5% in September (from 2.4% in August), while that of loans to households remained unchanged at 2.7% (see the box entitled "Recent trends in consumer credit in the euro area" in this issue of the Economic Bulletin). The significant decrease in bank lending rates seen across the euro area since mid-2014 (owing notably to the ECB's non-standard monetary policy measures) and the overall improvement in bank lending conditions have supported the recovery in loan growth. In addition, banks have made progress in consolidating their balance sheets, although the level of non-performing loans remains high in some countries and may constrain banks' intermediation capacity.

Chart 10

M3 and loans to the private sector

(annual growth rate and annualised six-month growth rate)



Source: ECB.
Notes: Loans are adjusted for loan sales, securitisation and notional cash pooling. The latest observation is for September 2017.

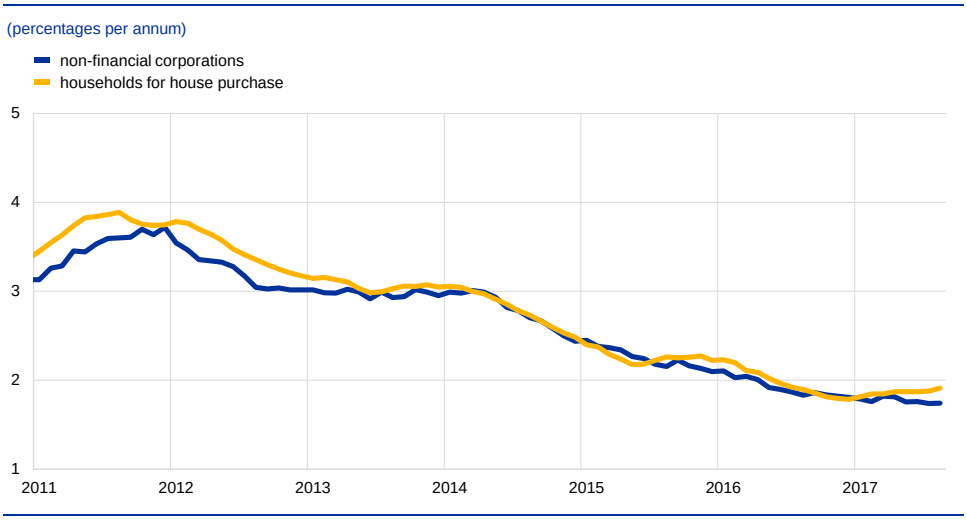
The October 2017 euro area bank lending survey **suggests that loan growth continued to be supported by increasing loan demand by enterprises and households and easing credit standards for loans to households.** In the third quarter of 2017, credit standards for loans to households for house purchase eased, while they remained broadly unchanged for loans to enterprises. Competitive pressure and reduced risk perceptions related to the improving economic outlook were important factors having an easing impact on credit standards for both

enterprises and households. Banks also reported increasing net loan demand across all loan categories. Growth in fixed investment, merger and acquisition activity, the low general level of interest rates and favourable housing market prospects were important positive contributors to loan demand. According to reporting banks, the ECB's asset purchase programme has continued to have an easing impact on credit terms and conditions over the past six months, while having a negative impact on bank profitability. Euro area banks also reported that the ECB's negative deposit facility rate has continued to have a dampening impact on bank lending rates and a positive impact on lending volumes for loans to euro area enterprises and households over the past six months.

Bank lending rates for NFCs and households remained at or close to their historical lows. In August 2017 the composite bank lending rate for NFC loans remained at the historical low of 1.74% that it reached in July. For households, the composite lending rate for housing loans continued to increase slightly, to 1.91% in August, compared with its historical low of 1.78% in December 2016 (see Chart 11). Composite lending rates for NFCs and households have decreased more than market reference rates since the announcement of the ECB's credit easing measures in June 2014. Between May 2014 and August 2017, composite lending rates on loans to euro area NFCs and households fell by 119 and 100 basis points, respectively. The reduction in bank lending rates on NFC loans was especially strong in vulnerable countries, indicating a more homogeneous transmission of monetary policy to bank lending rates in the euro area. Over the same period, the spread between interest rates charged on very small loans (loans of up to €0.25 million) and those charged on large loans (loans of above €1 million) in the euro area narrowed substantially, indicating a considerable improvement in the financing conditions for small and medium-sized enterprises compared with those for large companies.

Chart 11

Composite bank lending rates for non-financial corporations and households



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 2017.

Net issuance of debt securities by euro area NFCs increased in the third quarter of 2017. The latest ECB data show that in July and August 2017 the sum of net flows of debt securities issued by NFCs was marginally higher than it was in the second quarter of 2017. Recent market data suggest that issuance activity strengthened somewhat in September and October. Net issuance of listed shares by NFCs turned slightly negative in July and August 2017 owing to share buy-backs in July.

Financing costs for euro area NFCs remain favourable. The overall nominal cost of external financing for NFCs, comprising bank lending, debt issuance in the market and equity finance, is estimated to have declined to around 4.4% in September and the first half of October 2017. The estimated cost of financing thus stands some 35 basis points above the historical low reached in July 2016, but it is still considerably lower than the levels observed in summer 2014. Two-thirds of the decline in the estimated overall cost of financing since July 2017 is accounted for by the developments in the cost of equity. Furthermore, the estimated cost of debt, expressed as the weighted average of the cost of bank lending and the cost of market-based debt, has also declined slightly, reaching new historical lows. The ECB's CSPP is contributing to the moderation in the cost of market-based debt.

Boxes

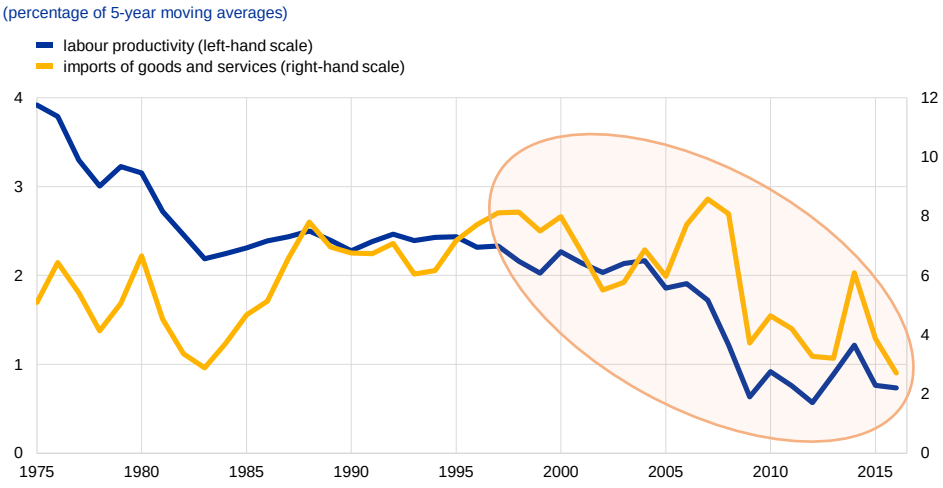
1 Does trade play a role in helping to explain productivity growth?

Against the backdrop of lower productivity and lower trade globally, this box discusses the impact of trade on medium-term labour productivity growth for major emerging and advanced economies. Economic theory advocates a positive relationship between trade and productivity, suggesting that wider participation in international trade leads to improvements in productivity.

Growth in labour productivity and global trade has lost momentum since the late 1990s. This deceleration intensified markedly after the onset in 2007 of the global financial crisis. Labour productivity – defined as real GDP divided by number of workers – slowed down across advanced economies from rates broadly stable at around 2% prior to the crisis to less than 1%. At the same time the growth rate of OECD imports declined from around 7% during the two decades prior to the financial crisis to less than 3% in recent years (see Chart A).

Chart A

Growth in labour productivity and trade across advanced economies



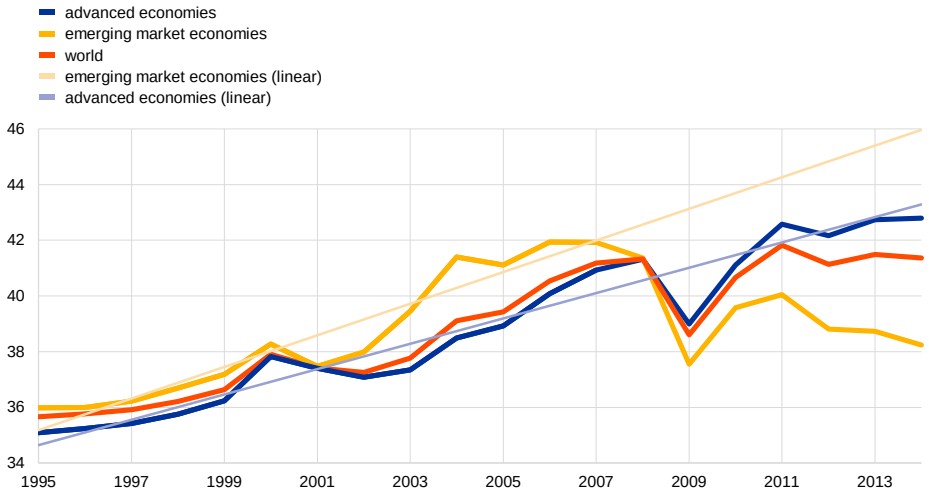
Sources: ECB calculations, OECD, and The Conference Board 2016.
Notes: Labour productivity is a weighted average across advanced economies based on GDP purchasing power parity and refers to output per worker.

A fundamental characteristic of the slowdown in global trade has been the recent stalling in the expansion of global value chains (GVCs). Over the last few years the share of GVC-related trade in world trade has hovered around 41% (see Chart B). A more detailed analysis uncovers key discrepancies across countries. While in advanced economies the share has continued closer to its pre-crisis trend, the international fragmentation of supply chains appears to have slowed and even partially reversed among emerging market economies following the financial crisis.

Chart B

Global value chain participation

(GVC-related trade as a percentage of world trade)



Source: Borin, A. and Mancini, M., "Follow the value added: bilateral gross export accounting", *Temi di discussione*, No 1026, Banca d'Italia, 2015.
Notes: GVC participation is measured as the import content of exports combined with the share of exports that is further processed and re-exported by trading partners. The underlying data are nominal; the measure has been adjusted to exclude value added in energy sectors, thus preventing distortion in the measure from oil price changes.

Economic theory points to a positive relationship between trade and productivity, as engaging in trade is considered to promote advances in productivity. Recent models on the trade-productivity nexus focus on the effect of trade on competition. This line of theory argues that higher exposure to traded goods increases competition among heterogeneous firms, leading to a reallocation of resources towards more productive firms, while the least productive companies are forced to exit the market (e.g. Melitz[2]; Melitz and Ottaviano[3], among others). Increased competition from imported products incentivises firms to invest in the upgrading of technology while the availability of a larger range of intermediate production inputs potentially lowers firms' input costs. On the export side, the possibility to expand into larger (export) markets provides incentives to improve the efficiency or quality of production, thereby boosting productivity within firms.

With the wider availability of data on GVC participation, a more recent strand of the literature examines the link between productivity and the interaction of firms within global supply chains. Two mechanisms point to productivity increases resulting from the interaction of firms within global supply chains. First, by outsourcing parts of production to international suppliers, efficiency gains in the form of lower cost or higher quality are realised and raise productivity. Second, joining international production chains typically entails knowledge spillovers, reducing the distance to the technological frontier and thereby boosting firm-level productivity. The literature on the link between GVC participation, trade and productivity has only

2 Melitz, M., "The impact of trade on intra-industry reallocations and aggregate industry productivity", *Econometrica*, Vol. 71, No 6, 2003, pp. 1695-1725.

3 Melitz, M. and Ottaviano, G., "Market size, trade, and productivity", *Review of Economic Studies*, Vol. 75, 2008, pp. 295-316.

recently developed. For example, Schwörer[4] uses European data to find evidence that offshoring of certain activities can increase firm-level productivity. Constantinescu et al.[5] observe that GVC participation is associated with higher labour productivity at the global level.

An empirical model is used to investigate the various transmission channels between trade and productivity growth. Specifically, the baseline model is a fixed effects panel regression that explains labour productivity with a range of trade variables that capture the import and export channels, as well as GVC-related trade. Two GVC measures were used – one reflects the import content of exports (backward GVC participation), while the other adds exports that are further processed and re-exported by the trading partner (forward GVC participation). The data sample is annual and covers 13 manufacturing industries in a set of 40 advanced and emerging market economies over the period 1996-2007. Following Bernard, Jensen and Schott[6], the data are divided into three-year non-overlapping periods, with the change in trade and GVC variables in a given three-year period explaining the changes in productivity over the subsequent three years.[7]

The results suggest a positive and significant relationship between productivity and international trade (in real terms). For the manufacturing sector (excluding oil-related industries), the regression in column (1) of Table A shows a positive link between growth rates of both total exports and total imports of goods and services on the one hand, and labour productivity growth on the other. When disentangling trade between final and intermediate goods, the results show that real imports of intermediate goods and services dominate the trade impact on productivity. This suggests that the more important efficiency gains from trade come through both increased competition in the domestic market and access to lower input costs.

Across trade variables, GVC-related trade is the most relevant driver of productivity, and hence activity. When differentiating the imports of intermediate goods between GVC-related imports and non-GVC-related imports, only GVC-related trade is statistically significant for labour productivity. This would suggest that beyond the positive gains to productivity from the input cost channel, the international integration of production processes provides an additional source for labour productivity growth, possibly via knowledge-transfer effects. All other things being equal, a 10 percentage point increase in GVC-related trade growth increases productivity growth by about 0.5 percentage point. The results are qualitatively similar for backward and forward GVC participation.

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4 Schwörer, T., “Offshoring, domestic outsourcing and productivity: evidence for a number of European countries”, *Review of World Economics*, Vol. 149, 2013, pp. 131-149.

5 Constantinescu, C., Mattoo, A. and Ruta, M., “Does vertical specialization increase productivity?”, World Bank, *Policy Research Working Paper* 7978, 2017.

6 Bernard, A., Jensen, J. and Schott, P., “Trade costs, firms and productivity”, *Journal of Monetary Economics*, Vol. 53, 2006, pp. 917-937.

7 This modelling choice guards against endogeneity issues and accounts for the potential time dimension over which knowledge transfer and competition effects materialise.

Table

Regression results; manufacturing sector (excluding oil)

(dependent variable: labour productivity; all variables are in log-differences; all trade and GVC variables are lagged by one period)

	All countries				Advanced economies		BRIC	
	(1)	(2)	(3)	(4)	(3)	(4)	(3)	(4)
Capital/employee	0.405***	0.404***	0.410***	0.411***	0.289***	0.291***	0.332***	0.326***
Total exports	0.052**							
Total imports	0.007							
Final exports		-0.014						
Intermediate exports		0.029						
Final imports		-0.005	-0.004	-0.004	-0.026	-0.026	-0.072	-0.070
Intermediate imports		0.076*						
Non-GVC intermediate imports			0.015	0.015	0.025*	0.025*	0.040	0.039
Backward GVC participation			0.045**		0.041*		0.136*	
Forward GVC participation				0.054**		0.049*		0.152
Observations	1032	1032	1012	1012	728	728	104	104
R^2	0.450	0.453	0.459	0.460	0.467	0.468	0.468	0.468

Source: ECB staff estimates.
Notes: The sample period is 1996-2007 and is divided into four three-year period averages. Regression includes fixed effects at the country-period level to capture technology differences across countries and time. Fixed effects at the industries level were dropped from the regression, since they were not significant. All variables are in real terms. The asterisks indicate statistical significance at the 10% (one asterisk), 5% (two asterisks) and 1% (three asterisks) level based on robust standard errors.

However, the relative importance of GVC-related trade measures for productivity differs between advanced economies and large emerging market economies. In advanced economies, the broader proxy for GVC-related trade (which includes forward participation) has a somewhat more pronounced impact on productivity than the more narrow measure (backward participation), which would be justified by the reinforced channel of learning by exporting. Among key emerging market economies (Brazil, Russia, India and China, or BRIC), the magnitude of the estimated coefficients on the backward GVC participation measure is significantly larger than in advanced economies. This suggests that in these countries productivity benefits more from backward participation, while the broader proxy for GVC-related trade is found to be marginally insignificant.

Overall, the analysis suggests that global trade and, in particular, participation in GVCs exert a significant impact on labour productivity over the medium term. A further weakening of global trade, for example through greater use of protectionist measures, could therefore entail economically significant costs in terms of lower growth in labour productivity.

2 The recalibration of the ECB's asset purchase programme

At its meeting on 26 October 2017 the Governing Council of the ECB decided to recalibrate the expanded asset purchase programme (APP). It confirmed that purchases under the APP will be made at the current monthly pace of €60 billion until the end of December 2017 and that from January 2018 the net asset purchases are intended to continue at a monthly pace of €30 billion until September 2018, or beyond, if necessary, and in any case until the Governing Council sees a sustained adjustment in the path of inflation consistent with its inflation aim. In line with recent communications, the Governing Council reiterated its readiness to increase the APP in terms of the size of purchases and/or the duration of the programme if the outlook becomes less favourable, or if financial conditions become inconsistent with further progress towards a sustained adjustment in the path of inflation. The Governing Council also confirmed that the Eurosystem would reinvest the principal payments from maturing securities purchased under the APP for an extended period of time after the end of its net asset purchases, and in any case for as long as necessary, with a view to contributing to favourable liquidity conditions and to maintaining an appropriate monetary policy stance. This box explains the rationale for the Governing Council's decision to recalibrate the APP and explains the main transmission channels of the programme.

Rationale for recalibrating the APP

In January 2015 the Governing Council decided to launch the APP to address risks of too prolonged a period of low inflation. From March 2015 to March 2016 the Eurosystem purchased public and private sector securities at a pace of €60 billion per month. To accelerate the return of inflation rates to levels consistent with the ECB's definition of price stability, monthly purchases were increased to €80 billion from April 2016 to March 2017. In December 2016 the Governing Council announced a recalibration of the APP, extending the net purchases until December 2017 at a reduced monthly pace of €60 billion. Following the decision made on 26 October 2017 the monthly pace will be further reduced to €30 billion from January 2018 and net purchases will be carried out until September 2018.

The recalibration of the APP reflects growing confidence in the gradual convergence of inflation rates towards the ECB's inflation aim, on account of the increasingly robust and broad-based economic expansion, an uptick in measures of underlying inflation and the continued effective pass-through of the Governing Council's policy measures to the financing conditions of the real economy. Economic indicators point to unabated growth momentum in the second half of 2017. The broad-based global recovery should support euro area exports in the period ahead. Private consumption is underpinned by rising employment, owing in part to past labour market reforms, and by increasing household wealth. The cyclical upswing in investment continues to benefit from very favourable financing conditions and improvements in corporate profitability. While there is further evidence that measures

of underlying inflation have ticked up, they have yet to show more convincing signs of a sustained upward trend. Overall, a substantial degree of monetary accommodation is still needed for underlying inflation pressures to gradually build up and support headline inflation developments in the medium term consistent with the ECB's definition of price stability.

The size and duration of asset purchases are calibrated to deliver a constellation of yields and thus, indirectly, financing conditions that are consistent with achieving the ECB's inflation aim. Taking into account the endogenous adjustment of the whole spectrum of market conditions, including bank lending rates, corporate bonds and mortgages, as well as the euro exchange rate, the calibration of the APP is aimed at providing the necessary amount of stimulus to the economy to support inflation developments in line with the ECB's definition of price stability.

The transmission channels of the APP

The level and shape of the yield curve can be influenced by acting on two components of long-term interest rates, namely the expectations component and the term premium. The expectations component reflects market expectations regarding the future path of short-term interest rates, which are more directly affected by monetary policy rates. The term premium reflects the excess yield that an investor receives as compensation for exposure to duration risk, i.e. the portfolio losses that could potentially arise on bonds with a long residual maturity if interest rates increase unexpectedly.

By purchasing long-dated bonds, the Eurosystem absorbs part of the duration risk that otherwise would have to be borne by private investors. By announcing that, under the APP, it will withdraw a certain stock of long-term bonds over a certain horizon – and thus a share of the duration risk that otherwise would have to be borne by the market – the ECB can influence the term premium and the yield curve in general. By compressing the term premium, the APP puts pressure on longer-term interest rates in order to make long-term borrowing more affordable, thereby promoting investment and the consumption of durables. With fewer long-dated bonds available overall for them to hold, private investors have more balance sheet capacity to hedge against the amount of duration risk that remains in the market and more risk-bearing capacity to reallocate funds to other investments, including the acquisition and financing of productive capital. This process of portfolio rebalancing is the key mechanism for propagating easing, stemming from duration extraction through quantitative interventions, across the entire economy.

Overall, the Governing Council's decision reflects the assessment that a sustained adjustment in the path of inflation has yet to fully materialise. This assessment is based on checking the latest inflation developments against four criteria: first, that headline inflation is on a path to levels below, but close to, 2% over a meaningful medium-term horizon; second, that there is sufficient confidence that the convergence will be durable and inflation will stabilise around those levels; third,

that inflation developments will be self-sustaining, meaning that the trajectory will be maintained despite diminished support from monetary policy. And finally, the metric used is euro area inflation, rather than the inflation rates of any individual country. The ongoing economic expansion gives grounds for confidence that inflation will gradually converge to the ECB's objective, but patience is needed. The recalibration of the APP reflects the fact that, notwithstanding the reduction in the monthly pace of purchases, a very substantial degree of monetary accommodation is still needed for underlying inflation pressures to gradually build up and support headline inflation developments in the medium term.

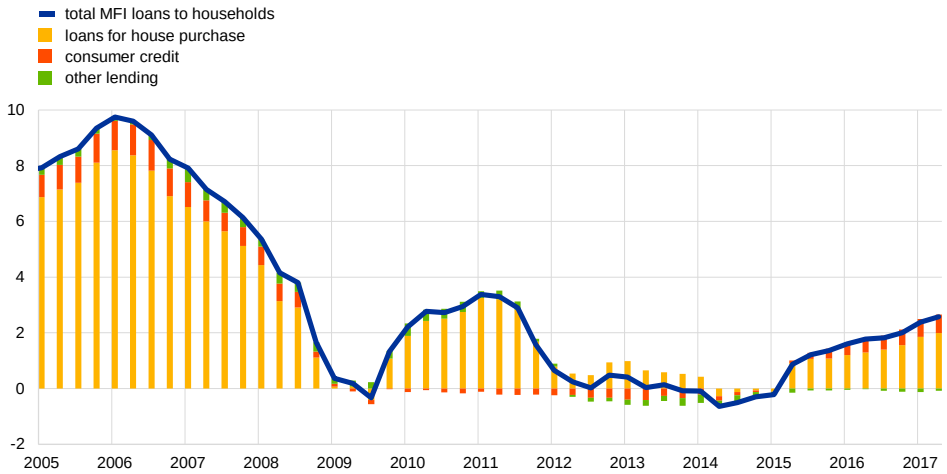
3 Recent trends in consumer credit in the euro area

Consumer credit growth is gaining momentum. The annual growth rate of total loans by monetary financial institutions (MFIs) to households has strengthened further in the euro area in recent months, thus continuing the gradual recovery observed since 2014 (see Chart A). In terms of separate loan components, loans for house purchases remain by far the most significant contributor to overall household loan growth. It can also be seen that consumer credit has increased particularly rapidly in the last two years, almost reaching the level of growth seen prior to the global financial crisis. However, the contribution that consumer credit makes to total household loan growth remains moderate, and below pre-crisis levels. This is due to two factors: (i) consumer credit is a relatively low proportion of total loans to households; and (ii) loans for house purchases – which account for 75% of total MFI loans to households – have continued to increase in recent years.

Chart A

MFI loans to households (by purpose) in the euro area

(annual percentage changes; percentage point contributions)



Source: ECB.
Notes: The latest observations are for the second quarter of 2017. The data before 2015 are unadjusted for loan sales and securitisation.

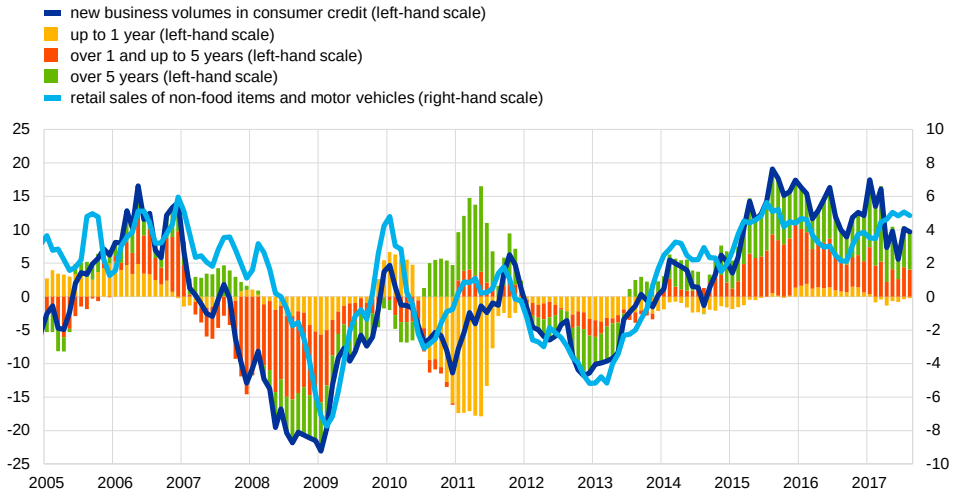
Higher volumes of consumer credit are supporting the demand by households for durable goods. The strengthening of consumer credit has been driven by increased take-up of new medium- and long-term consumer credit loans (see Chart B), which exceeds the volume of maturing consumer credit loans by a significant margin. Consumer credit is primarily used to finance purchases of big-ticket items such as furniture, household appliances and motor vehicles. The increasing demand for such items, and for consumer credit to finance them, has been supported by a return of confidence among households following the broad-based recovery in the economy and the improved labour market situation, as well as by record low bank lending rates. These developments have been buttressed by the ECB's accommodative standard and non-standard monetary policy measures. Such monetary policy measures, together with the recovery, have considerably reduced

the credit risk of borrowers, thus also contributing to an increase in credit supply and an easing of credit standards.

Chart B

New business volumes in consumer credit and retail sales in the euro area

(annual percentage changes; percentage point contributions; three-month moving averages)



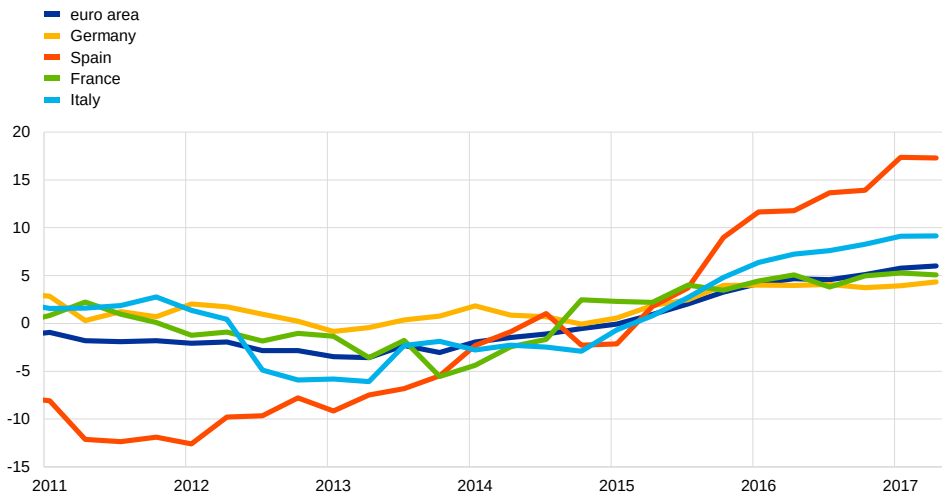
Sources: Eurostat, ECB and ECB calculations.
Notes: The latest observations are for August 2017. The growth rate of retail sales of non-food items and motor vehicles is a weighted average of the growth rate of nominal retail sales of non-food items (except fuel) and the growth rate of an index of motor vehicle sales based on new car registrations, adjusted by the relevant price index. The weighting is based on the relative shares of these items in private consumption.

The strengthening of consumer credit is broadly based across countries in the euro area, although the growth rates of consumer credit in individual countries show marked differences. Consumer credit has played a key role in supporting the recovery in total MFI loans to households in Spain and, to a lesser extent, in Italy, since mid-2015. In Spain, consumer credit is growing at double-digit rates (see Chart C). These robust dynamics should, however, be seen against the background of the strong and protracted decline in bank credit that took place during the euro area financial and sovereign debt crises. Consumer credit is the only private sector loan component to display a positive annual growth rate in Spain. In Italy, consumer credit accounts for half of the annual growth in total MFI loans to households. By contrast, the annual growth rates of consumer credit remain relatively moderate in Germany and France.

Chart C

Consumer credit in selected euro area countries

(annual percentage changes)

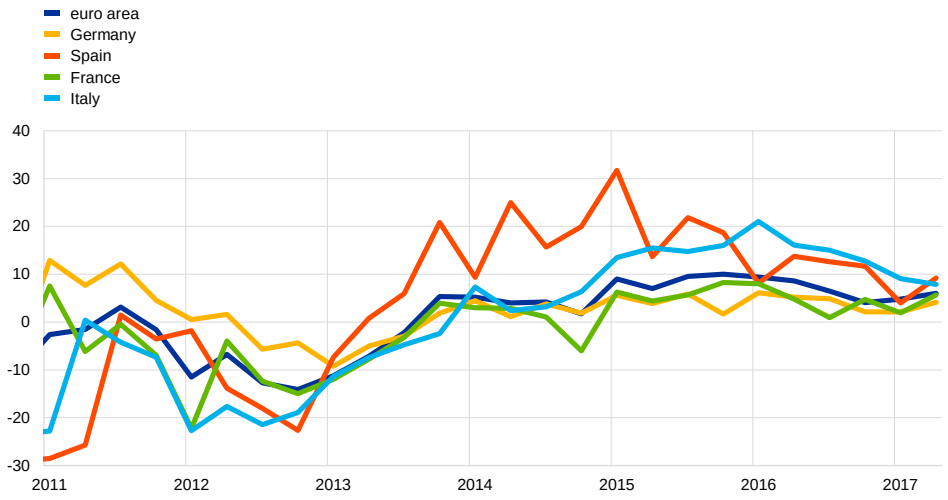


Source: ECB.
Notes: The latest observations are for the second quarter of 2017. The data before 2015 are unadjusted for loan sales and securitisation.

Chart D

New passenger car registrations in selected euro area countries

(annual percentage changes)



Sources: ECB and ECB calculations.
Note: The latest observations are for the second quarter of 2017.

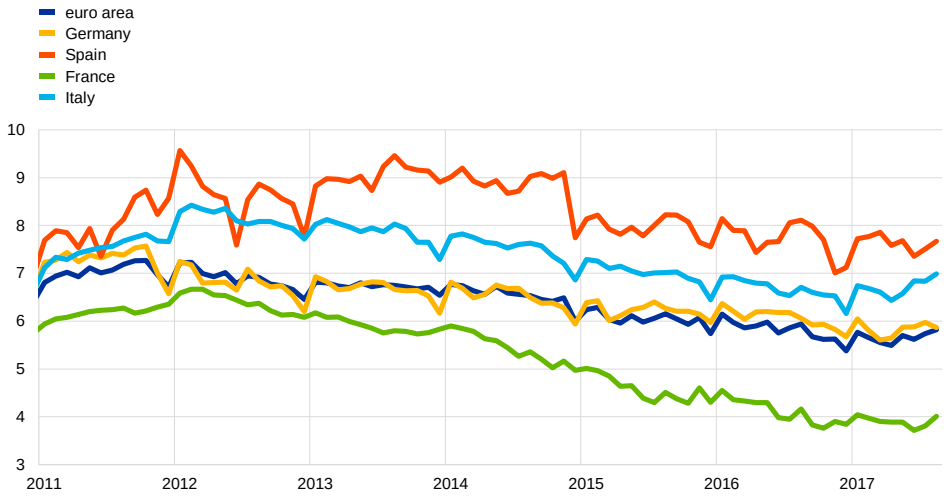
The discrepancies in consumer credit dynamics between countries are broadly consistent with recent developments in the purchases of new cars and changes in financing conditions. In Spain and Italy, new passenger car registrations have strengthened markedly in recent years (see Chart D), coinciding with growth in consumer credit turning positive in early 2015 and increasing strongly thereafter. Nominal bank lending rates on consumer credit loans have also decreased during the past three years, most significantly in France and Spain (see Chart E). Since mid-2015, credit standards applied to consumer credit loans have

been eased most in Spain and Italy (see Chart F), where they had been significantly tightened following the eruption of the financial crisis and the deterioration in the debt servicing capacity of households and in the balance sheets of banks.

Chart E

Nominal bank lending rates on consumer credit loans in selected euro area countries

(interest rate levels in percentages per annum)

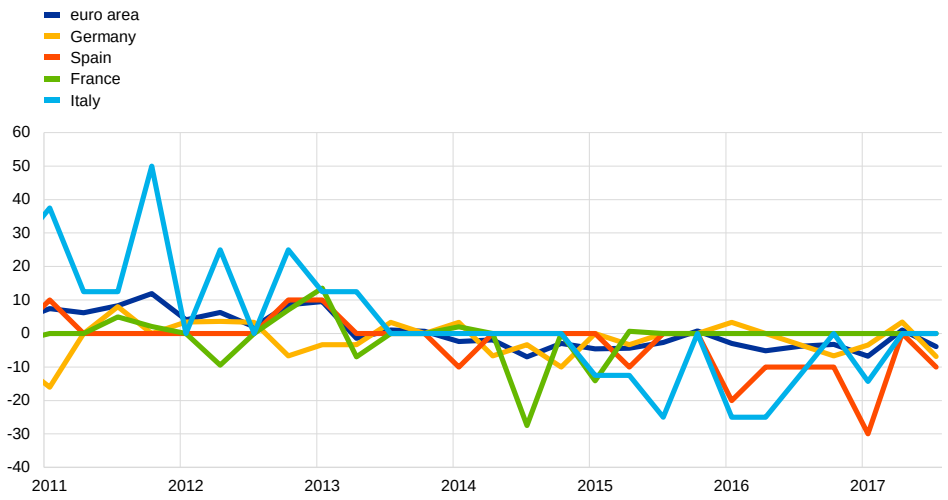


Source: ECB.
Note: The latest observations are for August 2017.

Chart F

Changes in credit standards applied to consumer credit loans in selected euro area countries

(net percentages of banks reporting tightening credit standards)



Source: ECB.
Note: The latest observations are for the third quarter of 2017 and are taken from the euro area bank lending survey (issued in October 2017).

Article

1 China's economic growth and rebalancing and the implications for the global and euro area economies

After four decades of remarkable performance, China's economic expansion has begun to slow, while the imbalances in the economy have widened. Rapid investment and rising indebtedness have created vulnerabilities in a number of sectors. Those risks have been amplified by increased complexity and leverage in the financial system. China retains policy space to cushion against potential adverse shocks, but additional rebalancing and structural reforms could facilitate a shift of China's economy onto a sustainable and strong growth trajectory in the medium term. China's size, trade openness and dominant position as a consumer of commodities mean that its transition is crucial for the global outlook. Compared with its role in global goods and commodity markets, China's integration in global financial markets is considerably lower but growing. Simulation analysis using global macro models suggests that the spillovers to the euro area would be limited in the case of a modest slowdown in China's GDP growth, but significant in the case of a sharp adjustment. However, sensitivity analysis underscores that the spillovers are dependent on the strength of the various transmission channels, as well as the policy reactions by central banks and governments.

1 Introduction

China's rise has been one of the key global economic success stories of the past four decades. Output has expanded at close to 10% per year on average since 1980. China has become the world's second-largest economy and the largest trading nation, raising living standards and reducing poverty in the process.

China's impressive economic performance was founded on a combination of strong productivity gains and factor accumulation. An initially low capital endowment and high returns on capital provided strong incentives for firms to invest.[8] Sweeping reforms, such as the development of the private sector initiative in the 1980s, the reform of state-owned enterprises (SOEs) in the 1990s, and China's accession to the World Trade Organization in 2001, led to strong productivity gains. Industrialisation also benefited from an ample labour supply linked to China's fast-rising population and the absorption of workers from the countryside into modern manufacturing sectors. This combination of productivity gains and factor accumulation allowed rapid convergence and catch-up towards higher income levels.

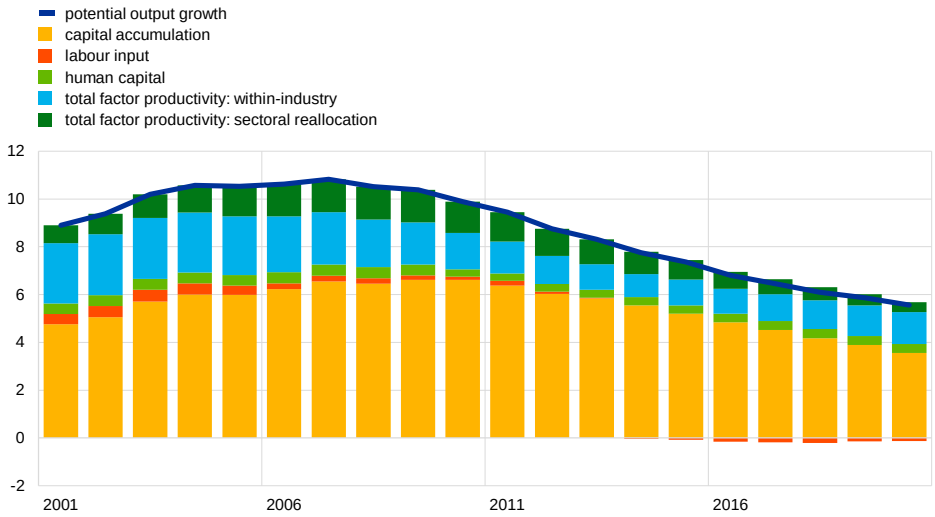
[8] For a discussion of high capital expenditure in China, see Bai, C.-E., Hsieh, C.-T. and Qian, Y., "The Return to Capital in China", *Brookings Papers on Economic Activity*, Vol. 37(2), 2006, pp. 61-102; Knight, J. and Ding, S., "Why Does China Invest So Much?", *Asian Economic Papers*, Vol. 9(3), 2010, pp. 87-117; and *OECD Economic Surveys: China 2013*, Organisation for Economic Co-operation and Development (OECD).

Yet China is increasingly confronting two interlinked challenges: slowing growth and rising imbalances. Having stood at over 14% in 2007, GDP growth slowed to around 7% last year. Much of the slowdown has been structural because the tailwinds that supported China's rapid convergence are gradually diminishing. Compared with an average of around 10% during the 1990s and 2000s, the literature finds potential growth to have decreased to 7-8% in recent years (Chart 1).[9] Falling productivity growth and diminishing returns imply that China is bumping against the limits of its traditional growth model. To secure prospects over the medium term, China needs to reform and find new sources of growth.[10] However, the challenge of transitioning from middle- to high-income status is amplified by widening imbalances. In particular, China has relied heavily on investment and credit to drive growth in the past decade. Those imbalances increasingly pose risks to the outlook.

Chart 1

Potential output growth in China

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



Sources: OECD, United Nations, national authorities and Penn World Tables.
Notes: Estimates of potential growth and contributions from a Cobb-Douglas production function. The contributions of sectoral reallocation to total factor productivity growth are taken from Albert, M., Jude, C. and Rebillard, C. (2015). Projections after 2016.

This article assesses the outlook for China's economy. The next two sections discuss the current imbalances in China's growth model and the prospects for

9 For a discussion of estimates of potential growth, see Alberola, E., Estrada, A. and Santabárbara, D., "Growth beyond imbalances: sustainable growth rates and output gap reassessment", Banco de España Working Paper No 1313, 2013; Bailliu, J., Kruger, M., Toktamyssov, A. and Welbourn, W., "How Fast Can China Grow? The Middle Kingdom's Prospects to 2030", Staff Working Paper No 16-15, Bank of Canada, 2016; Albert, M., Jude, C. and Rebillard, C., "The Long Landing Scenario: Rebalancing from Overinvestment and Excessive Credit Growth – Implications for Potential Growth in China", Banque de France Working Paper No 572, 2015; Maliszewski, W. and Zhang, L., "China's Growth: Can Goldilocks Outgrow Bears?", IMF Working Paper No 15/113, International Monetary Fund (IMF), 2015; Anand, R., Cheng, K. C., Rehman, S. and Zhang, L., "Potential Growth in Emerging Asia", IMF Working Paper No 14/02, International Monetary Fund, 2014; and *People's Republic of China: 2014 Article IV Consultation – Staff Report*, IMF Country Report No 14/235, International Monetary Fund, 2014.

10 Zilibotti characterises this as transitioning from an extensive growth model towards innovation-led growth: see Zilibotti, F., "China at a Turning Point: The Difficult Transition from Investment-Led to Innovation-Led Growth", keynote speech at the Chinese Economic Association Annual Conference, Duisburg, 1 September 2016.

change and reform. The fourth section analyses the implications of economic changes in China for the rest of the global economy and the euro area economy.

2 China's imbalances

Although China's unbalanced economic structure has been a subject of international policy discussion for some time, in recent years the nature of those imbalances has changed. Faced with a shortfall in external demand and slowing growth in the wake of the global financial crisis, China's government responded by boosting domestic investment. The combination of the weaker global environment and the investment surge led to a substantial correction of China's external imbalances, particularly the large current account surplus, which had peaked at close to 10% of GDP in 2007. This, however, came at the expense of an increasingly skewed domestic economic structure – specifically a heavy dependence on investment, rising indebtedness and increased risks in the financial sector.

Underlying both the previously high external imbalances and the current internal demand imbalance is China's exceptionally high saving rate. Gross national savings represented 46% of GDP in China in 2016 – one of the highest saving rates in the world.[11] This reflects a variety of factors including demographic trends, social policies that have limited the provision of welfare and health care, and high income and wealth inequality. Low deposit rates and capital account restrictions that weigh on investment returns for households negatively affect the saving rate. In some sectors, risk pricing and capital allocation have been skewed, allowing strong domestic investment and debt accumulation. Thus, although the patterns of China's macro imbalances have evolved, the root causes are similar.

This section discusses the recent evolution of China's imbalances and the risks they pose to the economic outlook. Section 2.1 outlines China's heavy reliance on investment and credit as drivers of growth and the vulnerabilities this has generated. Section 2.2 discusses how the rising complexity of the financial system could make the economy more susceptible to domestic crises.

2.1 Heavy reliance on investment and credit

Investment has been particularly strong in China since the late 1980s. The share of investment in GDP has progressively increased from around 30% in the 1980s to over 45% on average after 2009. In some respects, high investment rates have reflected China's fast pace of economic growth and the low initial capital endowment. Yet, while a number of Asian countries have adopted similar development strategies based on rapid capital accumulation in the past, most of these countries have typically registered investment rates considerably below

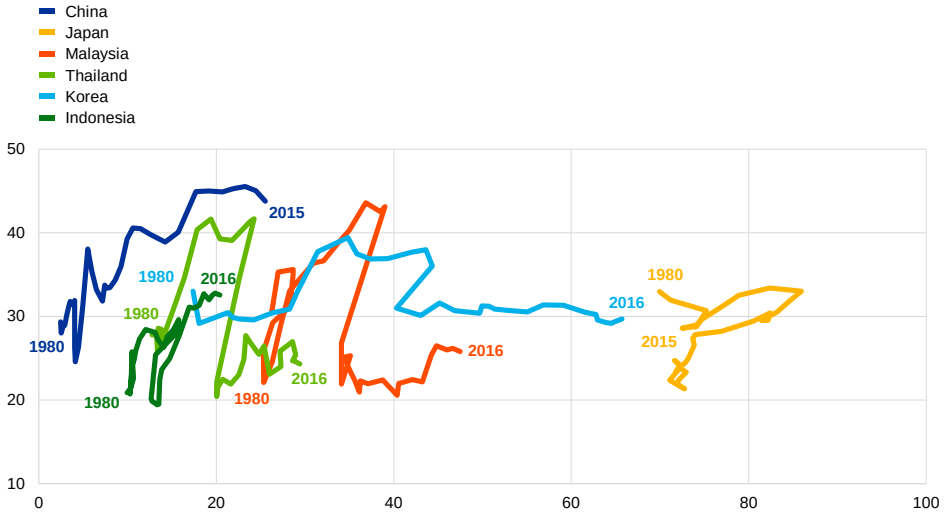
[11] For a discussion of China's saving rate, see Ma, G. and Wang, Y., "China's high saving rate: myth and reality", BIS Working Paper No 312, June 2010; and *People's Republic of China: Staff Report for the 2017 Article IV Consultation: Selected Issues*, International Monetary Fund, 2017.

China's current share (Chart 2). More recently, there has been a gradual, albeit slow, rebalancing from investment towards consumption. The investment-to-GDP ratio has fallen from the peak in 2011. Yet, it remains high by international standards. Moreover, the capital stock-to-output ratio has continued to rise and this rise has been accompanied by a declining marginal return on capital and a diminishing impulse from investment to economic growth.

Chart 2

Investment relative to stage of development

(y-axis: real investment, as a percentage of GDP; x-axis: GDP per capita at purchasing power parity (PPP), US dollars)



Sources: IMF World Economic Outlook and World Bank.
Notes: For each country, GDP per capita is relative to US GDP at each respective point in time.

High investment rates have also been accompanied by a sharp increase in indebtedness. The surge in credit began in 2009 as the authorities sought to sustain high investment in the face of falling corporate profits and savings. Corporate debt accounts for the bulk of the increase. Although household debt remains more modest, lending to households, particularly mortgage lending, has risen sharply in the past two years. More recently, credit growth has slowed but it still outpaces nominal GDP growth.

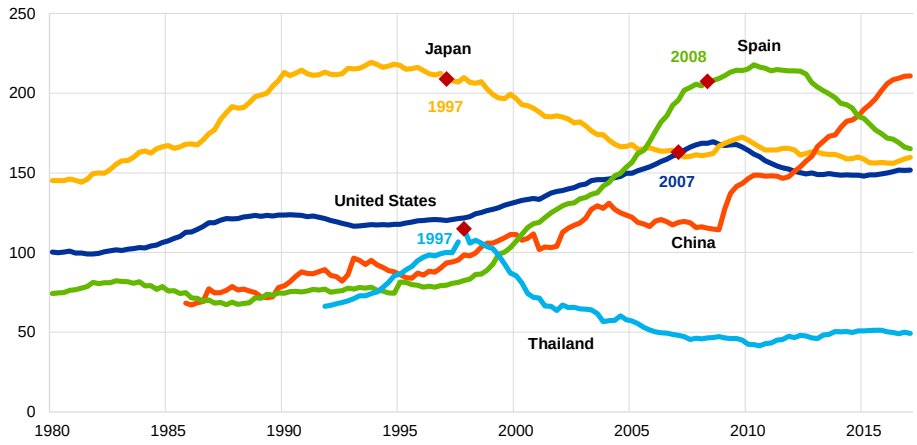
Both the level and the rate of growth of debt are exceptional for a country at China's stage of development. China's private non-financial sector debt to GDP, now at 211%, is high relative to other emerging market economies (EMEs) and comparable to levels in many advanced economies. Rapid credit growth has often been a precursor to a financial crisis (Chart 3). Even in countries that have avoided full-blown crisis, post-boom growth tends to suffer from a marked step-down after the end of a credit boom.[12]

[12] See Beck, R., Georgiadis, G. and Straub, R., "The finance and growth nexus revisited", *Economics Letters*, Vol. 124(3), 2014, pp. 382-385, which discusses the argument that beyond a certain threshold of aggregate indebtedness the growth effects of further financial intermediation can fall or even become negative.

Chart 3

Credit-to-GDP ratios in selected countries

(as a percentage of GDP)



Source: Bank for International Settlements.
Notes: Credit to private non-financial sectors at market value as a percentage of GDP. The red diamonds indicate years of crises according to Laeven, L. and Valencia, F., "Systemic Banking Crises Database: An Update", IMF Working Paper No 12/163, 2013.

Rapid investment and increasing indebtedness have created vulnerabilities in a number of sectors in China. The risks extend across the corporate sector, SOEs, local governments and the real estate market.

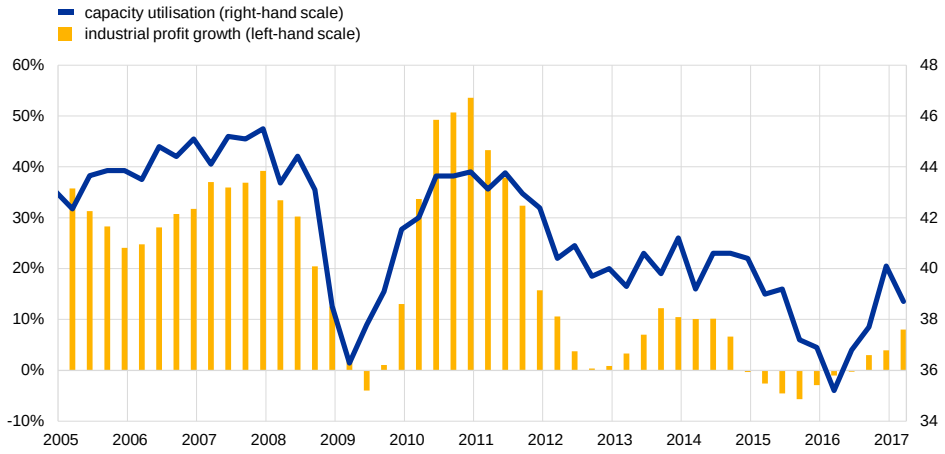
In the corporate sector, rising leverage and expanding capacity have weakened balance sheets and profitability. Since the global financial crisis, capacity has expanded rapidly in several industries and well ahead of market demand. Despite the modest rebound in recent months, surveys suggest that capacity utilisation rates across industries remain below pre-crisis levels (Chart 4). Excess capacity has been particularly problematic in some heavy industries such as steel, aluminium, cement, flat glass and shipbuilding.[13] Excess capacity has affected corporate profitability. Growth in profits in the industrial sector has been weak in recent years. Analysis of firm-level data suggests there is a significant share of listed firms for which profits are insufficient to cover interest payments (Chart 5).

[13] See *Overcapacity in China: An Impediment to the Party's Reform Agenda*, European Union Chamber of Commerce in China, 2016.

Chart 4

Industrial capacity utilisation and profit growth

(left-hand scale: percentages; right-hand scale: diffusion index)

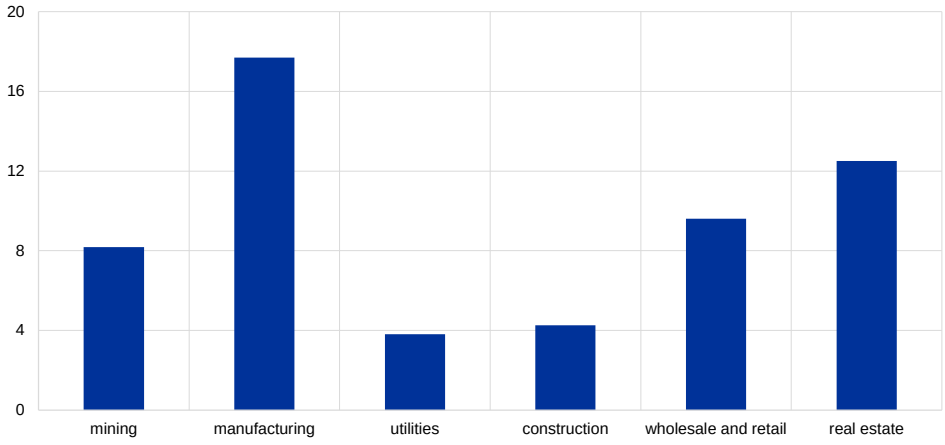


Sources: CEIC and ECB staff calculations.

Chart 5

Shares of debt at risk by industry

(percentage of listed firms in each sector with an interest coverage ratio below 1)



Sources: Wind Economic Database and ECB staff calculations.
Notes: Figures taken for individual listed firms using data from June 2016. Interest coverage ratio refers to the ratio of earnings before interest and taxes (EBIT) over interest expense, as calculated in the Wind Economic Database.

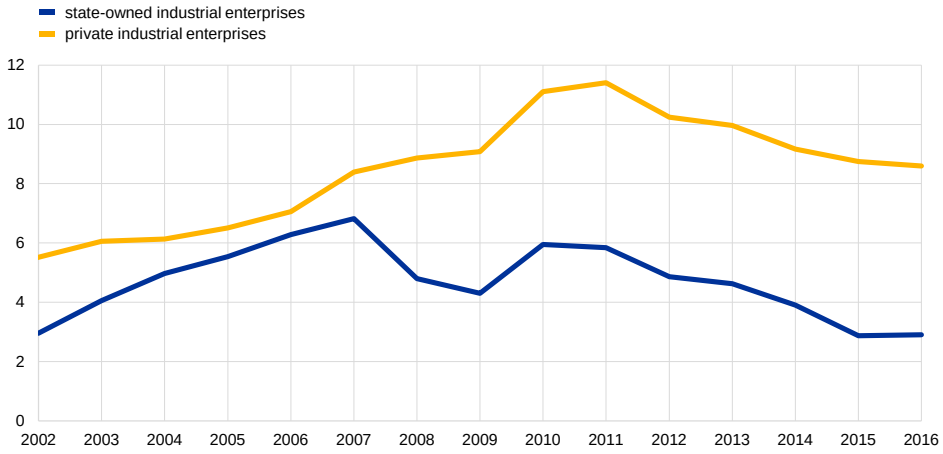
Vulnerabilities in the corporate sector have been driven particularly by state-owned enterprises. With preferential access to credit and implicit state guarantees, SOEs have been a primary driver of the increase in leverage and investment in recent years. In the wake of the global financial crisis, high investment by SOEs acted as a significant countercyclical force against falling global demand.[14] However, the consequence has been declining profitability, with the return on assets of SOEs in the industrial sector falling well below that of private sector counterparts (Chart 6).

[14] See Wen, Y. and Wu, J., "Withstanding great recession like China", Federal Reserve Bank of St. Louis Working Paper No 2014-007A, 2014.

Chart 6

Return on assets

(percentages)



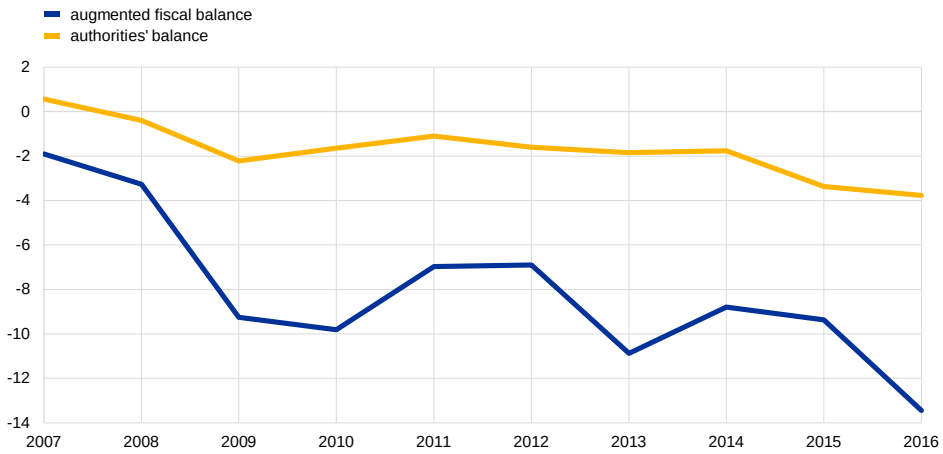
Sources: CEIC and ECB staff calculations.

The state sector has also played an important role through rapid infrastructure expansion by local governments. A sizeable part of the investment since the global financial crisis has been infrastructure investment mostly by local governments, which are forbidden from running budget deficits. In order to meet ambitious growth targets, they resorted to land sales and off-balance-sheet funding through local government financing vehicles, which borrowed through bond issues and bank loans. Factoring such finance into calculations of an "augmented deficit" suggests that in recent years the stimulus provided by government has been significantly larger than that shown by official deficit figures (Chart 7).

Chart 7

Fiscal balance

(as a percentage of GDP)

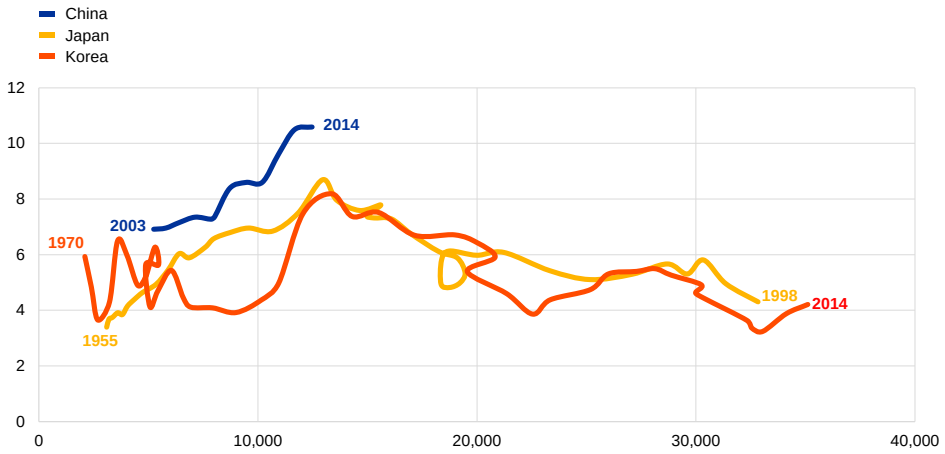


Sources: CEIC, Wind Economic Database and ECB staff estimates.
Notes: The augmented fiscal balance is the general government balance, plus estimated local government spending financed by land sales, local government borrowing and off-balance-sheet borrowing (through local government financing vehicles). The definition of the augmented deficit is close to that in *People's Republic of China: Staff Report for the 2017 Article IV Consultation*, International Monetary Fund, 2017.

Risks have also increased in the real estate sector. Real estate investment has been one of the main drivers of China's rapid investment growth in recent years (Chart 8). A number of factors have supported strong housing demand, including the process of urbanisation and the need to upgrade dwellings. Solid household income growth, high saving rates and limited alternative investment options have also made real estate an attractive asset for households in comparison to bank deposits and the stock market. Yet there are signs of possible imbalances. China's real estate boom has been accompanied by rapid property price increases. In real terms, estimates of a quality-adjusted price index for residential property in 35 major Chinese cities increased by 10% per year between 2006 and 2014.[15] By contrast, in smaller cities, despite some improvement over the past year, oversupply in the real estate market remains a concern, with still sizeable unsold inventories held by developers. Given China's heavy reliance on real estate, a downturn in the real estate market could significantly impair its broader economy.

Chart 8
Residential investment

(y-axis: residential investment as a percentage of GDP; x-axis: GDP per capita based on PPP)



Sources: Penn World Tables and national sources.
Note: The estimates for residential investment are based on the value of all new residential buildings according to China's construction statistics. See "The potential effects of a downturn in the Chinese housing market on the real economy", *Monthly Report*, Deutsche Bundesbank, August 2014, pp. 17-19.

2.2 Rising leverage and complexity in the financial sector

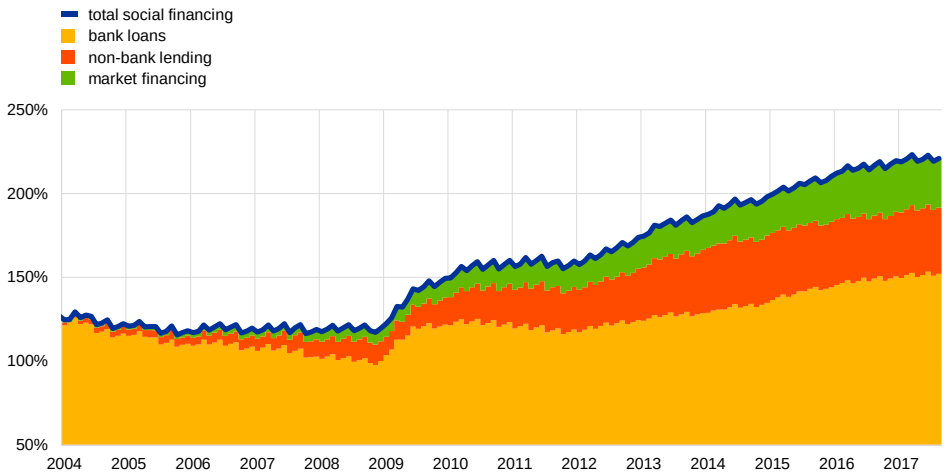
The risks associated with fast-rising indebtedness have been amplified by increased complexity in the financial system. Banks remain the primary source of credit in China and their assets have grown substantially since the global financial crisis. At the same time, non-bank or "shadow banking" activities have also increased, with credit from non-bank sources to the non-financial sector rising to around 70% of GDP by 2016 (Chart 9).

[15] See Wu, J., Gyourko, J. and Deng, Y., "Evaluating the Risk of Chinese Housing Markets: What We Know and What We Need to Know", *China Economic Review*, Vol. 39(7), 2016, pp. 91-114.

Chart 9

Total social financing

(as a percentage of GDP)



Sources: CEIC and ECB staff calculations.
Notes: Total social financing is a measure used by the People's Bank of China of the aggregate provision of financing to the economy. Total social financing also includes equity financing.

Increased non-bank financing has widened the sources of credit for firms but has given rise to new risks. Non-bank forms of finance can have advantages if they provide firms and households with alternative sources of funding and promote financial inclusion. In China's case, new channels of non-bank financing have been one means of enabling financial liberalisation. However, such activity has increasingly reflected regulatory arbitrage, with institutions aiming to minimise regulatory oversight and reduce (or avoid) the impact of capital, provisioning and liquidity requirements.

The risks associated with shadow banking extend across the financial system. Banks are exposed to shadow banking products through outright and implicit guarantees. Banks own and operate many of the non-bank structures and are potentially liable for losses on shadow banking investment products they have marketed. For example, although banks do not have direct liability for so-called wealth management products (WMPs), implicit guarantees suggest they may feel obliged to compensate investors in the event of default. Greater interconnectedness between the shadow banking and banking sectors is also reflected in the rapid expansion of borrowing in the money market, as large banks have lent to smaller banks and other financial institutions such as securities firms, trust companies and asset management companies. Finally, banks have increasingly used shadow structures to shift traditional lending activity out of their banking book. These so-called "shadow loans" comprise a claim on products structured by trust or securities companies, packaging together loans or bonds. Banks classify such exposures as a claim on a financial institution which lowers the capital charge and provisioning requirement.

Rapid credit expansion could imply heightened risks for the banking system. However, on aggregate, banks' core Tier 1 capital adequacy ratio is well above the regulatory minimum. Provision coverage ratios are high, albeit declining, and

reported non-performing loans for the aggregate banking sector are very low at around 1.7% of total lending in 2016. Yet, analysis of firm- and bank-level data suggests that estimates of the debt at risk – i.e. the proportion of firms with low interest coverage ratios – could be higher.[16]

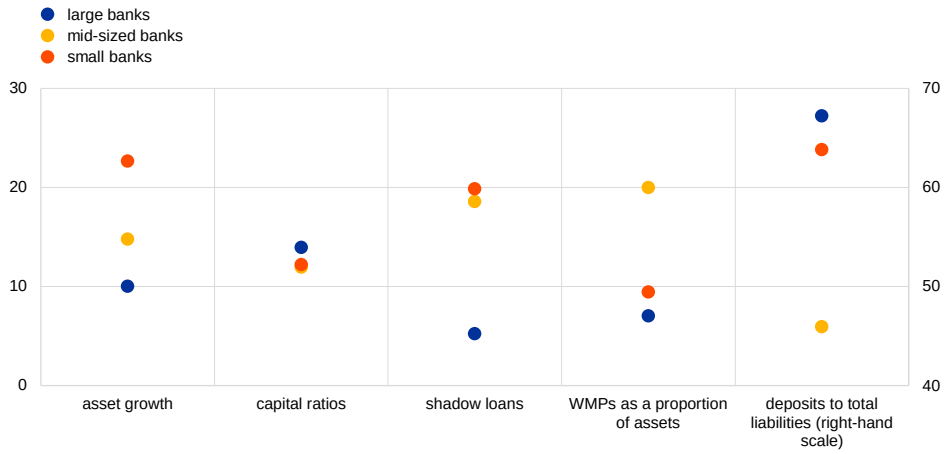
Shifts in saving behaviour have also increased funding, liquidity and counterparty risks for banks, particularly smaller institutions. The low deposit rate environment and the proliferation of alternative saving products, such as WMPs, have encouraged greater mobility of savers who are increasingly seeking higher returns. However, the situation differs across banks. With strong expectations of implicit state support, the five largest banks continue to receive the bulk of retail deposits. By contrast, with a much lower expectation of state support, smaller banks are suffering more from the shift in saving behaviour and have become increasingly dependent on wholesale funding to fund rapid asset growth. And they have increasingly relied on central bank liquidity provision: bank borrowing from the People's Bank of China has doubled in the past two years, reaching 16% of GDP by the end of 2016. The squeeze on funding has affected net interest margins and the profitability of small banks.

Overall, therefore, while the banking sector appears healthy in aggregate, there are large variations across institutions. The five largest banks continue to attract deposits and are net lenders in the interbank market. They have expanded less aggressively, have accumulated fewer shadow loans and have minimal off-balance-sheet exposures, which means reported regulatory ratios are much more representative of their liquidity and capital needs. Risks are significantly higher outside the big-five banks. Mid-sized and smaller banks bear a disproportionate share of the credit and funding risks, with larger shadow loan portfolios and off-balance-sheet WMP exposures, weaker profitability and a greater reliance on wholesale funding (Chart 10).

16 Estimates for listed firms in the Wind Economic Database as at June 2015 suggest that around 8% of on-balance-sheet lending could be classified as "at risk". Debt at risk is calculated as the proportion of the debt of listed firms with an interest coverage ratio below one.

Chart 10

Banks' funding and loan exposures



Sources: CEIC, UBS and ECB staff calculations.
Notes: Asset growth is the average for the period 2014-16. The capital ratios include Tier 1 and Tier 2 capital. Shadow loans are represented by the share of claims on other financial institutions in total assets. WMPs as a share of assets are computed from UBS data for 23 listed banks as at end-2015. Capital ratios, shadow loans and deposits to total liabilities are shown as at end-2016. Bank definitions according to the CEIC classification.

3 The prospects for transition and reform

Although vulnerabilities have grown, China retains policy space to cushion against potential adverse shocks. China has high national savings, large foreign exchange reserves and a current account surplus, which help to shield it against an external funding crisis. An estimate of augmented general government debt, which accounts for contingent liabilities and off-balance-sheet local government borrowing, has risen in the past five years but, at around 60% of GDP, affords some space to react to emerging shocks.[17] Moreover, despite slowing growth, the interest rate-growth differential remains favourable. The government also has significant public assets including the stock of foreign exchange reserves (despite the declines in the past two years). Importantly, the government also retains levers to manage the economy, particularly through its close links with SOEs and banks.

However, additional rebalancing and reform could help to move China onto a more sustainable growth trajectory in the medium term. In the past, short-term stimulus to bolster economic activity in the face of slowing structural growth and widening imbalances has helped to stabilise growth. However, continued reliance on such measures could eventually deplete policy buffers. An adjustment to the structure of production and demand, including less reliance on investment and credit-driven growth, could support the transition towards a more balanced growth path.

17 For a discussion of calculating augmented government debt for China, see *People's Republic of China: Staff Report for the 2017 Article IV Consultation*, International Monetary Fund, 2017.

The Third Plenum of the Chinese Communist Party in 2013 mapped out a reform agenda. It emphasised tackling imbalances and allowing markets to play a greater role in allocating resources. Since then, and especially in 2016 when China chaired the G20, liberalisation of the financial system has continued. In recent months, the government has placed increased emphasis on tackling financial stability risks, with regulatory measures to increase scrutiny and recognition of risks in the shadow banking sectors. Administrative reforms are improving the business environment. Fiscal measures are also starting to put local government finances on a more even keel. Steps towards reforming the role of SOEs in the economy are proceeding more slowly, although the government has initiated reforms to address governance issues. The measured approach towards economic reforms in part reflects that reforms can entail a trade-off between greater variability in short-term growth and achieving medium-term stability. The reduction and loosening of annual targets for GDP growth partly acknowledge this trade-off. The recent 19th National Congress of the Communist Party provided the government with a chance to renew reform momentum.

Experience in adjusting the exchange rate regime during 2015 provides one illustration of the challenges associated with reform. From mid-2014 the appreciation of the US dollar and increased market concerns about China's economic outlook prompted a change in expectations about the renminbi exchange rate. Significant net capital outflows from China followed as corporates repaid dollar liabilities and households sought to diversify asset portfolios. At the same time, the authorities aimed to adjust the exchange rate regime, moving from a de facto US dollar-based peg towards an exchange rate managed against a basket of other currencies. The move prompted significant financial market volatility amid an acceleration of capital outflows and sharply falling foreign exchange reserves. The situation was stabilised by a combination of improved communication by the People's Bank of China, tighter capital controls and measures to support the growth outlook which helped shift expectations. However, the episode emphasised that greater financial openness can entail more financial market instability and must be accompanied by exchange rate flexibility to ensure monetary policy autonomy. Such complex trade-offs between short-term stability and progress in reaching medium-term goals could also be encountered in other areas of reform.

4 The implications of China's transition for the global and euro area economies

4.1 China's links with the rest of the world and the euro area

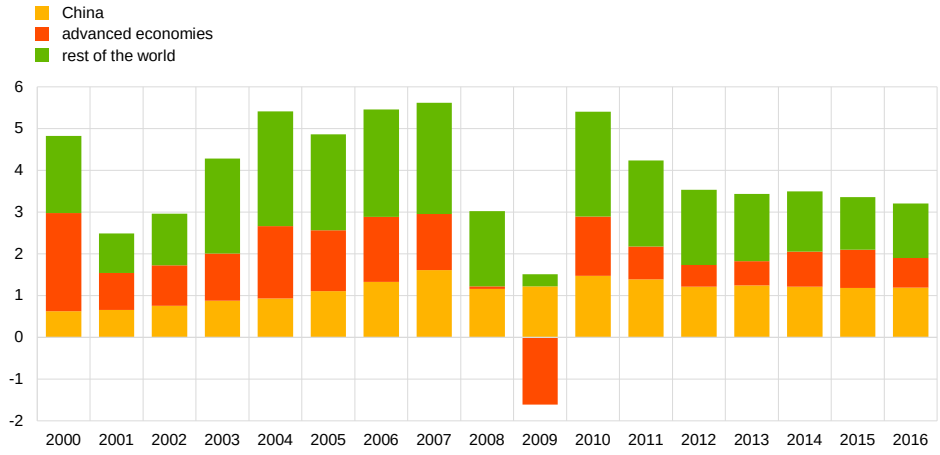
China's size, trade openness and dominant position as a consumer of commodities mean that its transition is crucial for the global outlook. China has contributed on average one-third of total global growth since 2005 – more than the combined contribution of advanced economies (Chart 11). China accounts for around 10% of global imports and while that partly reflects China's important position

in global value chains, for many trade partners a significant proportion of value added depends on final demand in China. China is one of the world's largest consumers and producers of many commodities, accounting for over half of global copper, aluminium and iron ore consumption, and a high proportion of global energy consumption.

Chart 11

Contributions to global GDP growth

(percentage point contributions to global GDP based on PPP weights)



Source: International Monetary Fund.

Compared with its role in global goods and commodity markets, China's integration in global financial markets is considerably lower, but experience in recent years has shown that shocks emanating from China can affect global financial markets. Together, China and Hong Kong accounted for 8% of global gross asset and liability positions in 2015, although the composition of China's external position, with assets dominated by reserves and liabilities skewed towards foreign direct investment, may limit the potential for financial spillovers through balance sheet and valuation channels. But the events of the summer of 2015, when equity market and currency volatility prompted a bout of global risk aversion, have shown that, despite limited direct financial sector exposures, shocks emanating from China can affect global financial markets through the confidence channel. Looking ahead, given the authorities' emphasis on greater financial openness, financial channels are likely to become more important.[18]

China's direct links to the euro area are more limited. Around 7% of extra-euro area exports go to China.[19] Direct financial links are smaller: China and Hong Kong account for 2.7% of extra-euro area banking claims and around 1% of euro area banking claims when intra-euro area claims are included (Chart 12).

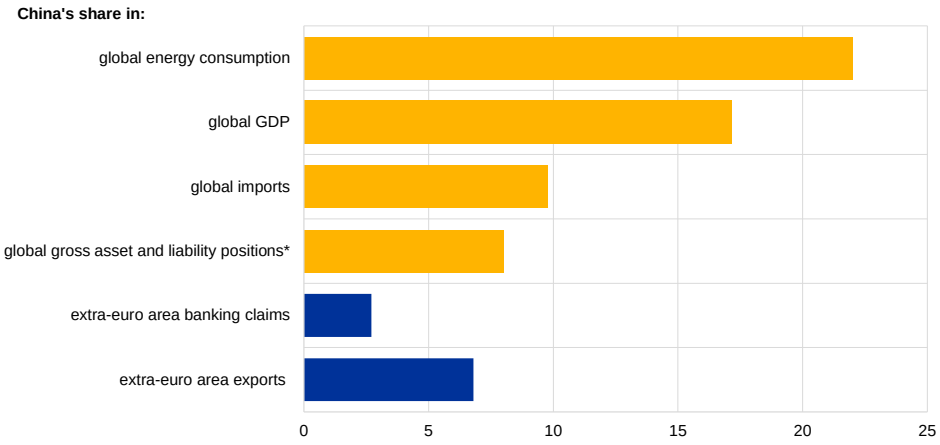
[18] See the box entitled "Understanding the links between China and the euro area" in *Financial Stability Review*, ECB, November 2015. See also the box entitled "Is euro area financial stress becoming more global?" in *Financial Stability Review*, ECB, November 2016.

[19] Given the rapid increase in China's imports in the past decade, China has contributed about 12% of the growth in euro area foreign demand since 2005.

Chart 12

China's global role and euro area links

(yellow bars: percentage of global totals; blue bars: percentage of euro area totals)



Sources: International Monetary Fund and International Energy Agency.
Notes: Figures for 2015. GDP based on PPP; imports based on market exchange rates. Energy consumption as a share of world total primary energy supply. Euro area banking claims as a percentage of extra-euro area claims. *Includes Hong Kong.

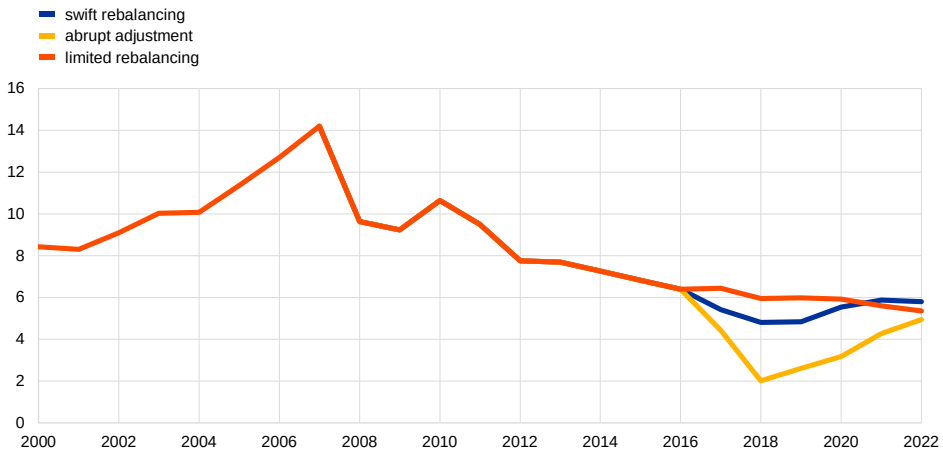
4.2 The spillovers from China's transition to the global and euro area economies

To illustrate the possible adjustment paths for the Chinese economy, this section sketches three stylised scenarios (Chart 13). A "limited rebalancing" scenario envisages China undergoing a gradual slowdown with some modest steps towards rebalancing the economy. In the near term, this would imply that the economy remains skewed towards investment and credit-driven expansion, suggesting that some vulnerabilities and downside risks would remain. A "swift rebalancing" scenario envisages a more aggressive reform effort to address existing fragilities. Lower investment and credit creation imply weaker growth in the short term. However, over time reforms would support household consumption and improve the efficiency of the economy, securing a more sustainable medium-term growth path. An "abrupt adjustment" scenario foresees a sharper downturn as downside risks materialise. One trigger for such a downturn could be adjustment in the financial sector amid tightening financial conditions. Given that China retains policy space to cushion the economy against shocks, a sharp slowdown in the near term is considered a low probability event.

Chart 13

Illustrative scenarios for China's growth outlook

(annual percentage changes in GDP)



Sources: CEIC and ECB staff calculations.

To understand the impact of a transition in China, global macroeconomic models are used to study its spillovers to the global economy. The "limited rebalancing" scenario is treated as the baseline. This is first compared with the "swift rebalancing" scenario, which envisages an aggressive reform effort to address existing fragilities and implies an additional slowdown in GDP of cumulatively about 3% in China over three years (Chart 13).[20] Secondly, the implications of the "abrupt adjustment" scenario triggered by a sharp financial tightening are studied; here, China's real GDP would be around 9% lower after three years. To draw out the importance of different spillover channels, the simulations start with some key assumptions that are subsequently relaxed. In particular, it is initially assumed that: (a) trade and financial linkages are in line with past averages; (b) oil markets react endogenously; (c) the spillovers from China's financial markets to the rest of the world are limited; and (d) monetary policy in China is constrained, with the authorities following a managed exchange rate regime.[21] The simulations are carried out using the ECB-Global model and are cross-checked with a range of structural and non-structural global models including the IMF's global model (GIMF), the Oxford Economics global model (Oxford) and, for the euro area, the ECB's New Multi-Country Model (NMCM)[22]. The models have varying levels of detail and country coverage.

20 This is simulated via a negative domestic demand shock, driven primarily by slower investment, and an endogenous tightening of credit and bank lending conditions.

21 A further key assumption is that monetary policies are unconstrained outside China. In addition, the simulations assume there is no fiscal stimulus beyond the functioning of automatic fiscal stabilisers. The scenarios do not include possible effects from shifts in global uncertainty or confidence effects, or contagion to other EMEs.

22 See Dieppe, A., Georgiadis, G., Ricci, M., Van Robays, I. and van Roye, B., "ECB-Global: Introducing the ECB's Global Macroeconomic Model for Spillover Analysis", *Working Paper Series*, No 2045, ECB, 2017; Kumhof, M., Laxton, D., Mursula, S. and Muir, D., "The Global Integrated Monetary and Fiscal Model (GIMF) – Theoretical Structure", IMF Working Paper No 10/34, International Monetary Fund, 2010; and Dieppe, A., Gonzalez Pandiella, A. and Willman, A., "The ECB's New Multi-Country Model for the euro area: NMCM – Simulated with rational expectations", *Working Paper Series*, No 1315, ECB, 2011.

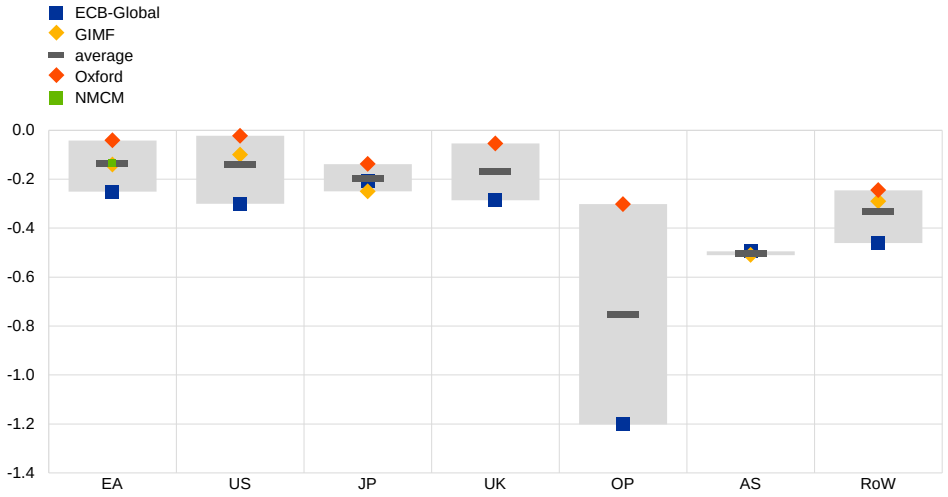
Under these assumptions, the near-term model implication of the "swift rebalancing" scenario is that global activity would be depressed, although the effects are relatively limited, except for oil producers. The rebalancing of growth in China, with (import-intensive) investment growth falling, entails a marked decline in global trade growth, which dampens export demand for China's main trading partners. Countries with closer trade linkages are more affected by negative shocks from China. Oil producers' output is also affected strongly by adverse terms-of-trade adjustments arising from the decline in oil prices due to weaker global demand. However, for commodity-importing economies, the decline in commodity prices helps to cushion demand together with looser monetary policy. In ECB-Global, which encompasses financial channels, the cross-border effects are to a limited degree also amplified by financial markets: the rise in China's interbank spreads and the fall in equity prices weigh on global equity prices and cause an increase in global interbank spreads and risk premia. By contrast, in GIMF, Oxford and NMCM there is only limited modelling of the financial side of the economy which implies less pronounced global spillovers than in ECB-Global. Yet, despite these differences, the results from the range of models are broadly similar, suggesting that output in advanced economies, including the euro area, is lower by up to 0.3% after three years in response to an around 3% slowdown in China (Chart 14). These effects are broadly in line with the literature, which provides a range of estimates depending on the model and scenario specification.[23] There is also downward pressure on inflation as a result of lower domestic and manufacturing cost pressures in China, combined with the drop in oil and non-energy commodity prices caused by China's demand slowdown.

[23] See, for example, Dizioli, A., Hunt, B. and Maliszewski, W., "Spillovers from the Maturing of China's Economy", IMF Working Paper No 16/212, 2016; *OECD Economic Outlook*, Vol. 2015, Issue 2, Organisation for Economic Co-operation and Development; Furceri, D., Jalles, J. T. and Zdzienicka, A., "China Spillovers: New Evidence from Time-Varying Estimates", IMF Spillover Task Force, 2016; and Huidrom, R., Kose, A. and Ohnsorge, F. L., "How important are spillovers from major emerging markets?", World Bank Working Paper No 8093, 2017.

Chart 14

Spillovers from China: "swift rebalancing" scenario

(real GDP, percentage deviations from "limited rebalancing" scenario after three years)



Source: ECB staff calculations.
Notes: Responses to a cumulative slowdown in China of around 3% of GDP after three years. EA = euro area; US = United States; JP = Japan; UK = United Kingdom; OP = oil producers; AS = emerging Asia; RoW = rest of the world.

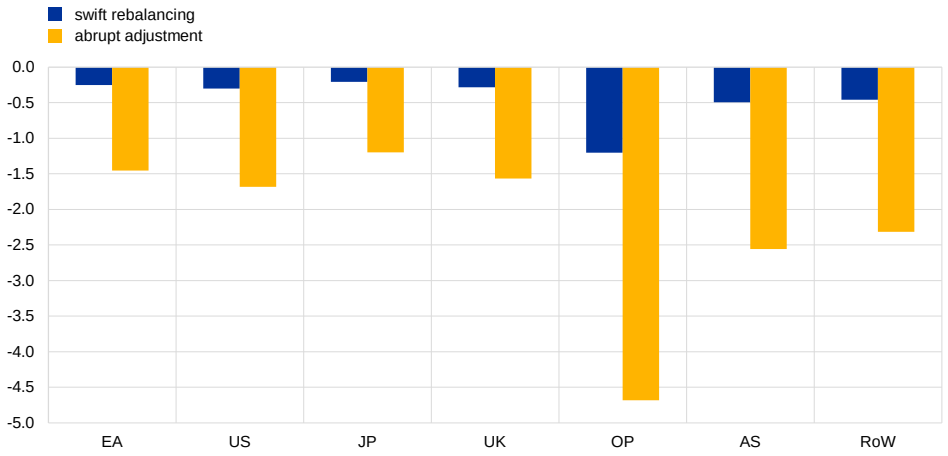
However, the "abrupt adjustment" scenario, driven by significant financial tightening in China, entails relatively larger spillovers. This scenario involves a deeper decline in output growth in China which inevitably has a larger impact on the rest of the world compared with the "swift rebalancing" scenario (Chart 15). However, the different nature of the shock also affects the size of the spillovers. Despite still relatively modest financial linkages with the rest of the world, tighter financial conditions in China are assumed to raise global risk premia. The shock in China therefore propagates both via the trade channel (through lower domestic demand) and the financial channel and, as a consequence, the impact on the rest of the world is larger.[24]

[24] This is consistent with Kalemli-Ozcan, S., Papaioannou, E. and Pedro, J. L., "Financial Regulation, Financial Globalization and the Synchronization of Economic Activity", *Journal of Finance*, Vol. 68(3), 2013, pp. 1179-1228.

Chart 15

Spillovers from China: "abrupt adjustment" scenario

(real GDP, percentage deviations from "limited rebalancing" scenario after three years)



Source: ECB-Global model.
Notes: The chart shows the fall in GDP resulting from: (1) a "swift rebalancing" scenario in China driven by a slowdown in domestic demand of around 3% of GDP after three years; and (2) an "abrupt adjustment" scenario in China triggered by financial tightening which leads to about 9% lower GDP after three years. EA = euro area; US = United States; JP = Japan; UK = United Kingdom; OP = oil producers; AS = emerging Asia; RoW = rest of the world.

Relaxing some assumptions about the transmission channels and the reaction of policy in different economies implies stronger spillovers from a slowdown in China. The primary source of the scenario results is the ECB-Global model, which includes real and financial cross-country spillovers and therefore provides a framework for exploring the spillover channels in a more consistent manner. Chart 16 based on the "swift rebalancing" scenario illustrates that the cumulative effect of relaxing different assumptions on euro area GDP would be substantially larger. The following sections consider the different channels in more detail.

a) Commodity prices

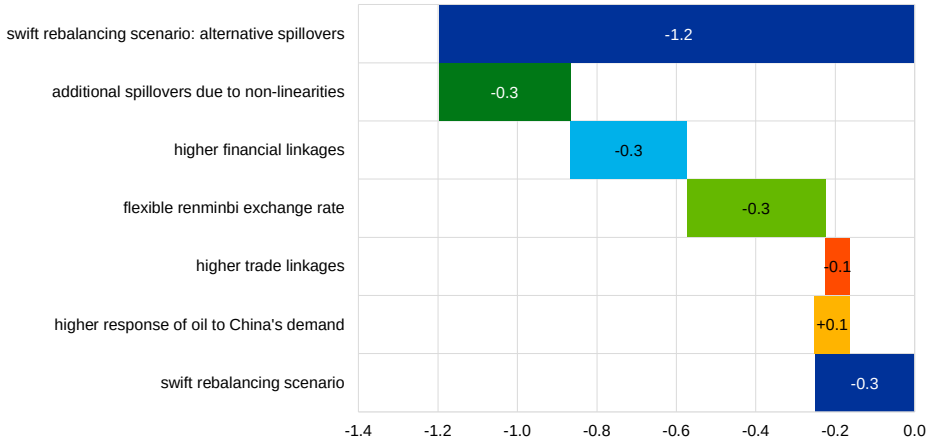
China's effect on commodity prices could affect the size of spillovers. The range of estimates from the literature of the impact of a slowdown in China on oil and non-oil commodity prices is large. In the "swift rebalancing" scenario, ECB-Global simulations suggest that oil prices would be nearly 6% lower after three years, which is on the low side compared with other estimates.[25] Taking oil prices as a proxy for commodity prices means the reduction could be twice as responsive to shifts in China's demand. With commodity prices responding more strongly, activity in the euro area (and other commodity-importing advanced economies) is cushioned somewhat following a slowdown in China (the second bar in Chart 16).

[25] See, for example, Gauvin, L. and Rebillard, C., "Towards recoupling? Assessing the global impact of a Chinese hard landing through trade and commodity price channels", Banque de France Working Paper No 562, 2015.

Chart 16

"Swift rebalancing" scenario and alternative specifications: euro area GDP response

(percentage deviations from "limited rebalancing" scenario after three years)



Source: ECB-Global model.
Notes: The scenarios are conditioned on the same slowdown in China's GDP (the "swift rebalancing" scenario). The bottom bar shows the deviation of euro area real GDP from the "limited rebalancing" scenario after three years. Each bar above shows the effect of changing an assumption underlying that spillover analysis: (1) doubling the response of the oil price to fluctuations in China's demand; (2) doubling the trade linkages; (3) assuming that China's exchange rate reacts flexibly to the slowdown in output; (4) increasing by a factor of five China's financial linkages with the rest of the world; and (5) taking into account the additional non-linearities arising from combining the blocks together. The top bar shows the cumulative effect of these alternative assumptions on the spillovers to euro area GDP.

b) Trade linkages

There has been a rapid strengthening of global trade linkages with China, which has more than doubled its share in global trade in the last 15 years. This greater integration of China in global trade has also increased the potential for spillovers. However, global macro models are typically calibrated based on average bilateral trade linkages over the past years.[26] To illustrate that point, in this alternative scenario a doubling of the trade linkages of advanced economies with China is considered, which broadly corresponds to the increase in direct trade flows from advanced economies to China from 1996 to 2016. The impact of shocks in China on the euro area is predicted to rise slightly as China's importance in global trade has increased (the third bar in Chart 16).[27]

c) China's exchange rate regime and monetary policy response

Spillovers also depend crucially on the exchange rate regime and the monetary policy response in China. The "swift rebalancing" scenario assumes that China's monetary policy does not react as the economy slows and the exchange rate is assumed to be essentially a "managed float" against the US dollar. However, given recent reforms to liberalise the exchange rate, it may be more sensible to anticipate

[26] For example, the trade weights used in ECB-Global are averaged over the period 2009-15.

[27] This is consistent with Furceri, D., Jalles, J. T. and Zdzienicka, A., "China Spillovers: New Evidence from Time-Varying Estimates", IMF Spillover Task Force, 2016.

that China's monetary authorities partly counteract the adverse economic shock by lowering policy rates. This, in turn, leads to a depreciation of the renminbi exchange rate.[28] The associated gains in China's price competitiveness would partly offset the adverse implications of the swift rebalancing for activity in China. Accordingly, the scenario is adjusted; it calibrates a combination of gains in price competitiveness and lower demand (in response to the reform efforts), which still generates a 3% lower GDP in China over three years. The associated lower demand from China and the loss in euro area price competitiveness imply a significantly stronger spillover (the fourth bar in Chart 16), with a doubling of the decline in euro area GDP compared with a scenario assuming unresponsive monetary policy in China.

d) Financial linkages

As the strength of financial linkages increases, the impact of a slowdown in China on the global economy may also be stronger. The baseline simulations assume limited financial linkages between China and the rest of the world resulting in small financial spillovers. However, China's financial integration with the rest of the world is increasing rapidly and events during the summer of 2015 illustrate the potential for China to affect global financial markets. To simulate stronger financial linkages with China, the share of financial exposures of each economy to China is quintupled and, correspondingly, the share of financial exposures to the rest of the world is reduced.[29] With stronger financial linkages, negative spillover effects on GDP in advanced economies are more than doubled (the fifth bar in Chart 16).

Overall, the model-based sensitivity analysis underscores that the spillovers are complex and dependent on the strength of the various transmission channels, as well as the policy reactions by central banks. Chart 16 illustrates the cumulative effect of the various assumptions on the transmission channels. Assuming a larger impact on commodity prices, stronger trade linkages and a more aggressive policy response in China leading to a renminbi depreciation would double the size of the spillovers. Assuming stronger financial linkages would further increase the effects. Non-linearities that arise from the combination of increased interlinkages and different policy reactions would have a further impact on euro area GDP. Spillovers could be even larger than in the model simulations if a worsening outlook in China were to trigger a synchronised downturn across EMEs and spillovers were to be dependent on policy reactions by central banks. At the same time, policy support in China via fiscal stimulus could theoretically cushion any slowdown.

[28] After targeting a stable RMB/USD exchange rate, the Chinese authorities have liberalised the renminbi and now target a basket of currencies.

[29] This implies that China and Hong Kong combined would have financial linkages with the rest of the world that correspond to average financial linkages between other economies.

5 Conclusions

China has been the economic success story of the past four decades, but economic growth has been slowing and vulnerabilities are increasing. This article finds that China's heavy reliance on investment and credit has led to increasing indebtedness, which has created vulnerabilities in a number of sectors, including the corporate sector, SOEs, local governments and the real estate market. These fragilities are heightened due to the increased complexity and leverage in the financial system, in particular the marked increase in non-bank lending. Although vulnerabilities have clearly grown, China retains policy space to cushion against adverse shocks. Nonetheless, additional rebalancing and structural reforms could facilitate a shift of China's economy onto a sustainable and strong growth trajectory in the medium term. China's size, trade openness and dominant position as a consumer of commodities mean that its transition is crucial for the global outlook. Compared with its role in global goods and commodity markets, China's integration in global financial markets is considerably lower but growing. This article has provided some quantification of the potential impact of a transition in China on the global and euro area economies. The simulation analysis suggests that the spillovers to the euro area would be limited in the case of a modest slowdown in China's GDP growth, but significant in the case of a sharp adjustment. However, the sensitivity analysis underscores that the spillovers are dependent on the strength of the various transmission channels, as well as the policy reactions by central banks and governments.

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
2014	3.5	2.6	3.1	0.3	7.3	1.3	1.7	1.8	1.6	1.5	2.7	2.0	0.4
2015	3.4	2.9	2.3	1.1	6.9	2.1	0.6	1.7	0.1	0.0	0.8	1.4	0.0
2016	3.1	1.5	1.8	1.0	6.7	1.8	1.1	1.8	1.3	0.7	-0.1	2.0	0.2
2016 Q4	1.0	0.4	0.6	0.4	1.7	0.6	1.5	1.7	1.8	1.2	0.3	2.2	0.7
2017 Q1	0.8	0.3	0.3	0.3	1.4	0.6	2.4	1.8	2.5	2.1	0.3	1.4	1.8
Q2	0.9	0.8	0.3	0.6	1.8	0.7	2.1	1.8	1.9	2.7	0.4	1.4	1.5
Q3	.	.	.	.	1.7	.	.	.	2.0	2.8	.	.	1.5
2017 Apr.	-	-	-	-	-	-	2.4	1.9	2.2	2.7	0.4	1.2	1.9
May	-	-	-	-	-	-	2.1	1.8	1.9	2.9	0.4	1.5	1.4
June	-	-	-	-	-	-	1.9	1.8	1.6	2.6	0.4	1.5	1.3
July	-	-	-	-	-	-	2.0	1.8	1.7	2.6	0.4	1.4	1.3
Aug.	-	-	-	-	-	-	2.2	1.8	1.9	2.9	0.7	1.8	1.5
Sep.	-	-	-	-	-	-	.	.	2.2	3.0	.	1.6	1.5

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
2014	54.2	57.3	57.9	50.9	51.1	52.7	53.3	54.1	51.5	2.7	3.8	2.0
2015	53.2	55.8	56.2	51.4	50.4	53.8	51.8	53.7	50.3	0.9	3.7	-1.0
2016	51.6	52.4	53.4	50.5	51.4	53.3	51.8	51.9	50.2	1.0	1.3	0.7
2016 Q4	53.2	54.6	55.5	52.0	53.1	53.8	53.4	53.2	50.5	1.8	-1.3	3.9
2017 Q1	53.3	54.3	54.6	52.5	52.3	55.6	53.4	53.3	51.8	2.1	1.4	2.6
Q2	53.1	53.6	54.8	53.0	51.3	56.6	52.5	53.3	51.5	-0.3	1.6	-1.6
Q3	53.4	54.9	54.1	51.8	51.9	56.0	52.7	53.6	51.8	.	.	.
2017 May	53.1	53.6	54.3	53.4	51.5	56.8	52.5	53.3	51.4	0.3	1.4	-0.5
June	53.1	53.9	53.8	52.9	51.1	56.3	52.1	53.4	51.7	-0.3	1.6	-1.6
July	53.1	54.6	54.1	51.8	51.9	55.7	52.5	53.3	51.6	1.5	2.3	0.9
Aug.	53.6	55.3	54.0	51.9	52.4	55.7	52.8	53.9	52.4	1.2	1.2	1.2
Sep.	53.4	54.8	54.1	51.7	51.4	56.7	52.8	53.6	51.6	.	.	.
Oct.	.	55.7	.	.	.	55.9	.	.	.	.	.	.

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
2014	0.09	0.13	0.21	0.31	0.48	0.23	0.13
2015	-0.11	-0.07	-0.02	0.05	0.17	0.32	0.09
2016	-0.32	-0.34	-0.26	-0.17	-0.03	0.74	-0.02
2017 Mar.	-0.35	-0.37	-0.33	-0.24	-0.11	1.13	0.00
Apr.	-0.36	-0.37	-0.33	-0.25	-0.12	1.16	0.02
May	-0.36	-0.37	-0.33	-0.25	-0.13	1.19	-0.01
June	-0.36	-0.37	-0.33	-0.27	-0.15	1.26	-0.01
July	-0.36	-0.37	-0.33	-0.27	-0.15	1.31	-0.01
Aug.	-0.36	-0.37	-0.33	-0.27	-0.16	1.31	-0.03
Sep.	-0.36	-0.37	-0.33	-0.27	-0.17	1.32	-0.03

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
2014	-0.02	-0.09	-0.12	0.07	0.65	0.74	1.95	1.45	-0.15	-0.11	0.58	1.77
2015	-0.45	-0.40	-0.35	0.02	0.77	1.17	1.66	1.68	-0.35	-0.22	0.82	1.98
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 Mar.	-0.75	-0.74	-0.73	-0.36	0.38	1.12	1.36	1.01	-0.75	-0.64	0.47	1.52
Apr.	-0.78	-0.77	-0.73	-0.35	0.38	1.15	1.21	1.03	-0.75	-0.61	0.48	1.50
May	-0.73	-0.74	-0.74	-0.39	0.36	1.10	1.05	0.88	-0.76	-0.67	0.43	1.54
June	-0.69	-0.65	-0.59	-0.17	0.54	1.19	1.07	0.93	-0.60	-0.41	0.65	1.63
July	-0.71	-0.71	-0.67	-0.21	0.58	1.29	1.07	0.93	-0.70	-0.51	0.72	1.75
Aug.	-0.78	-0.77	-0.73	-0.35	0.38	1.15	0.89	0.92	-0.75	-0.62	0.48	1.52
Sep.	-0.76	-0.75	-0.70	-0.26	0.52	1.27	1.04	0.98	-0.73	-0.54	0.65	1.68

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
2014	318.7	3,145.3	644.3	216.6	510.6	335.5	180.0	452.9	310.8	279.2	306.7	668.1	1,931.4	15,460.4
2015	356.2	3,444.1	717.4	261.9	628.2	299.9	189.8	500.6	373.2	278.0	377.7	821.3	2,061.1	19,203.8
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 Mar.	365.7	3,427.1	740.4	261.7	671.6	314.2	174.7	578.4	450.3	252.1	349.6	870.0	2,366.8	19,340.2
Apr.	373.9	3,491.8	753.7	271.1	683.6	319.4	178.0	598.4	459.3	260.7	349.8	893.3	2,359.3	18,736.4
May	387.1	3,601.9	765.9	281.9	707.5	318.8	186.4	616.2	477.1	272.5	363.8	935.1	2,395.3	19,726.8
June	383.6	3,547.8	767.8	283.0	698.8	299.9	182.4	617.2	475.2	283.6	355.4	927.3	2,434.0	20,045.6
July	377.8	3,483.9	745.3	270.9	685.3	289.5	187.7	606.5	465.2	273.5	339.7	891.3	2,454.1	20,044.9
Aug.	375.1	3,451.3	727.5	266.5	681.4	288.8	187.3	596.2	467.4	284.4	340.3	861.1	2,456.2	19,670.2
Sep.	380.7	3,507.1	750.1	261.2	701.2	298.1	185.9	615.8	480.3	288.2	331.8	883.8	2,492.8	19,924.4

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					
	Overnight	Redeemable at notice of up to 3 months	With an agreed maturity of:				By initial period of rate fixation		APRC [3)]		By initial period of rate fixation				APRC [3)]	Composite cost-of-borrowing indicator
			Up to 2 years	Over 2 years			Floating rate and up to 1 year	Over 1 year			Floating rate and up to 1 year	Over 1 and up to 5 years	Over 5 and up to 10 years	Over 10 years		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2016 Sep.	0.08	0.50	0.50	0.79	6.50	16.78	5.16	5.75	6.14	2.35	1.80	1.98	1.85	1.85	2.28	1.86
Oct.	0.08	0.49	0.44	0.75	6.42	16.78	5.16	5.69	6.11	2.43	1.78	1.90	1.80	1.81	2.25	1.81
Nov.	0.08	0.49	0.43	0.78	6.39	16.71	4.91	5.74	6.12	2.43	1.76	1.91	1.76	1.79	2.24	1.79
Dec.	0.08	0.49	0.43	0.76	6.33	16.68	4.78	5.48	5.87	2.31	1.77	1.90	1.80	1.75	2.24	1.78
2017 Jan.	0.07	0.48	0.41	0.75	6.34	16.62	5.05	5.87	6.24	2.27	1.76	1.88	1.80	1.76	2.28	1.81
Feb.	0.07	0.48	0.40	0.76	6.38	16.68	5.09	5.72	6.17	2.39	1.77	1.89	1.84	1.81	2.29	1.85
Mar.	0.06	0.48	0.40	0.74	6.39	16.69	4.99	5.62	6.08	2.39	1.74	1.88	1.85	1.82	2.25	1.85
Apr.	0.06	0.47	0.39	0.74	6.34	16.70	4.83	5.58	5.96	2.36	1.73	1.89	1.91	1.85	2.26	1.87
May	0.06	0.47	0.39	0.81	6.33	16.70	5.09	5.78	6.22	2.43	1.73	1.90	1.90	1.87	2.23	1.87
June	0.06	0.47	0.38	0.77	6.31	16.83	4.68	5.74	6.20	2.41	1.69	1.89	1.91	1.89	2.21	1.87
July	0.05	0.46	0.38	0.76	6.27	16.80	4.95	5.84	6.28	2.36	1.75	1.91	1.90	1.90	2.21	1.88
Aug. [(p)]	0.05	0.45	0.35	0.75	6.24	16.80	5.29	5.88	6.38	2.36	1.75	2.00	1.92	1.94	2.21	1.91

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
	Overnight	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
2016 Sep.	0.09	0.12	0.47	2.73	2.65	2.96	2.42	1.83	1.86	1.73	1.28	1.61	1.63	1.86
Oct.	0.08	0.15	0.49	2.68	2.63	3.04	2.37	1.81	1.84	1.72	1.28	1.40	1.63	1.83
Nov.	0.07	0.12	0.42	2.65	2.60	2.91	2.38	1.82	1.82	1.68	1.29	1.43	1.52	1.82
Dec.	0.07	0.12	0.59	2.64	2.58	2.84	2.30	1.83	1.84	1.68	1.33	1.46	1.62	1.81
2017 Jan.	0.06	0.12	0.51	2.64	2.68	2.80	2.30	1.81	1.86	1.73	1.22	1.37	1.62	1.79
Feb.	0.06	0.10	0.53	2.64	2.58	2.78	2.35	1.77	1.76	1.71	1.18	1.31	1.53	1.76
Mar.	0.06	0.08	0.58	2.58	2.52	2.79	2.35	1.76	1.79	1.72	1.31	1.63	1.58	1.82
Apr.	0.06	0.10	0.40	2.56	2.55	2.69	2.35	1.79	1.78	1.70	1.34	1.50	1.64	1.81
May	0.05	0.10	0.43	2.52	2.49	2.77	2.37	1.76	1.73	1.71	1.20	1.47	1.63	1.76
June	0.05	0.06	0.43	2.51	2.46	2.68	2.34	1.74	1.72	1.67	1.26	1.43	1.55	1.76
July	0.05	0.11	0.35	2.45	2.45	2.76	2.36	1.75	1.74	1.72	1.23	1.33	1.65	1.74
Aug. [(p)]	0.05	0.10	0.36	2.43	2.49	2.70	2.41	1.74	1.78	1.78	1.24	1.44	1.58	1.74

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														
2014	1,320	543	131	.	59	538	50	410	219	34	.	38	93	25
2015	1,269	517	147	.	62	478	65	347	161	37	.	33	82	34
2016	1,242	520	135	.	59	466	62	350	162	45	.	32	79	33
2017 Mar.	1,315	547	131	.	82	480	74	383	171	46	.	43	90	33
Apr.	1,303	525	137	.	91	479	72	360	156	50	.	43	75	36
May	1,304	522	140	.	93	481	68	362	173	46	.	37	84	21
June	1,289	509	144	.	80	484	72	363	149	68	.	33	81	33
July	1,291	516	146	.	86	477	66	373	177	44	.	43	77	32
Aug.	1,293	517	147	.	84	474	71	347	168	46	.	29	80	25
Long-term														
2014	15,134	4,048	3,165	.	994	6,285	643	223	65	45	.	16	86	10
2015	15,247	3,784	3,287	.	1,058	6,481	637	215	68	45	.	13	81	9
2016	15,399	3,693	3,233	.	1,189	6,643	641	219	61	53	.	18	79	8
2017 Mar.	15,386	3,643	3,207	.	1,159	6,735	643	304	71	103	.	24	97	9
Apr.	15,358	3,625	3,240	.	1,143	6,716	632	260	55	101	.	12	87	5
May	15,420	3,624	3,240	.	1,143	6,779	634	281	68	90	.	18	101	4
June	15,401	3,618	3,211	.	1,147	6,788	638	230	62	50	.	24	84	9
July	15,394	3,614	3,225	.	1,157	6,765	633	261	74	86	.	21	76	4
Aug.	15,310	3,589	3,155	.	1,153	6,780	633	118	30	26	.	3	54	5

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											
2014	16,454.4	4,590.6	3,295.4	.	1,052.6	6,822.7	693.0	6,026.4	591.3	850.5	4,584.6
2015	16,516.4	4,301.6	3,433.9	.	1,119.2	6,959.3	702.4	6,819.1	586.4	981.9	5,250.9
2016	16,641.1	4,213.1	3,368.0	.	1,248.4	7,108.2	703.4	7,095.2	538.8	1,085.9	5,470.5
2017 Mar.	16,700.7	4,189.9	3,337.7	.	1,240.8	7,215.0	717.3	7,584.6	610.0	1,134.1	5,840.5
Apr.	16,660.9	4,150.5	3,377.5	.	1,234.0	7,195.0	703.8	7,764.9	636.9	1,152.4	5,975.6
May	16,723.5	4,146.2	3,379.5	.	1,235.7	7,260.1	701.9	7,851.0	631.3	1,140.2	6,079.5
June	16,690.7	4,127.3	3,354.8	.	1,226.6	7,272.2	709.8	7,701.0	640.5	1,137.9	5,922.6
July	16,684.8	4,130.4	3,371.0	.	1,243.4	7,241.7	698.4	7,724.2	663.1	1,197.7	5,863.4
Aug.	16,603.3	4,105.4	3,302.2	.	1,237.2	7,253.9	704.7	7,644.2	630.9	1,174.1	5,839.3
Growth rate											
2014	-0.6	-8.0	0.9	.	5.2	3.2	1.1	1.5	7.2	1.9	0.7
2015	0.2	-7.0	5.2	.	4.6	1.8	0.6	1.1	4.5	1.4	0.6
2016	0.3	-3.0	-1.8	.	7.6	2.1	-0.1	0.5	1.2	0.9	0.4
2017 Mar.	1.3	-1.5	1.4	.	9.6	1.6	0.8	0.8	5.8	0.9	0.3
Apr.	1.4	-2.0	2.0	.	8.5	2.1	0.2	0.8	5.8	1.0	0.3
May	1.4	-2.0	2.0	.	8.2	2.2	0.1	0.8	5.8	1.1	0.3
June	1.3	-2.2	2.9	.	8.4	1.7	0.4	0.7	4.8	1.1	0.3
July	1.7	-1.1	2.6	.	9.4	1.8	-0.9	0.8	6.0	1.3	0.2
Aug.	1.4	-1.5	1.1	.	9.2	2.1	-0.4	0.8	6.0	1.3	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 [2)]	Real ULCT	Nominal	Real CPI
	1	2	3	4	5	6	7	8
2014	101.4	97.2	96.4	91.0	96.4	98.6	114.3	95.4
2015	91.7	87.6	88.6	82.8	80.6	88.2	105.7	87.0
2016	94.4	89.5	90.8	85.0	79.8	89.3	109.7	89.3
2016 Q4	94.5	89.6	90.5	84.7	79.5	89.1	109.4	88.9
2017 Q1	93.8	89.0	89.6	83.4	78.7	88.3	108.6	88.1
Q2	95.3	90.3	91.0	84.7	78.8	89.2	110.2	89.1
Q3	98.6	93.3	93.8	.	.	.	114.5	92.4
2017 Apr.	93.7	89.0	89.6	-	-	-	108.3	87.7
May	95.6	90.5	91.5	-	-	-	110.5	89.3
June	96.3	91.3	91.9	-	-	-	111.5	90.1
July	97.6	92.4	93.2	-	-	-	113.4	91.6
Aug.	99.0	93.7	94.3	-	-	-	115.1	92.9
Sep.	99.0	93.7	94.0	-	-	-	115.1	92.8
Percentage change versus previous month								
2017 Sep.	0.0	0.0	-0.2	-	-	-	0.0	0.0
Percentage change versus previous year								
2017 Sep.	4.2	3.9	2.9	-	-	-	4.3	3.5

Source: ECB.

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

2) ULCM-deflated series are available only for the EER-18 trading partner group.

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
2014	8.186	7.634	27.536	7.455	308.706	140.306	4.184	0.806	4.4437	9.099	1.215	1.329
2015	6.973	7.614	27.279	7.459	309.996	134.314	4.184	0.726	4.4454	9.353	1.068	1.110
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
2016 Q4	7.369	7.523	27.029	7.439	309.342	117.918	4.378	0.869	4.5069	9.757	1.080	1.079
2017 Q1	7.335	7.467	27.021	7.435	309.095	121.014	4.321	0.860	4.5217	9.506	1.069	1.065
Q2	7.560	7.430	26.535	7.438	309.764	122.584	4.215	0.861	4.5532	9.692	1.084	1.102
Q3	7.834	7.426	26.085	7.438	306.418	130.349	4.258	0.898	4.5822	9.557	1.131	1.175
2017 Apr.	7.389	7.450	26.823	7.438	311.566	118.294	4.237	0.848	4.5291	9.594	1.073	1.072
May	7.613	7.432	26.572	7.440	309.768	124.093	4.200	0.856	4.5539	9.710	1.090	1.106
June	7.646	7.410	26.264	7.438	308.285	124.585	4.211	0.877	4.5721	9.754	1.087	1.123
July	7.796	7.412	26.079	7.437	306.715	129.482	4.236	0.886	4.5689	9.589	1.106	1.151
Aug.	7.876	7.405	26.101	7.438	304.366	129.703	4.267	0.911	4.5789	9.548	1.140	1.181
Sep.	7.826	7.464	26.075	7.440	308.368	131.924	4.269	0.895	4.5992	9.533	1.147	1.191
Percentage change versus previous month												
2017 Sep.	-0.6	0.8	-0.1	0.0	1.3	1.7	0.1	-1.8	0.4	-0.2	0.6	0.9
Percentage change versus previous year												
2017 Sep.	4.6	-0.5	-3.5	-0.1	-0.1	15.5	-1.2	5.0	3.3	-0.3	5.0	6.3

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)												
2016 Q3	23,519.8	24,521.3	-1,001.5	10,318.1	8,434.1	7,682.4	10,463.6	-62.1	4,854.3	5,623.5	727.0	13,856.0
Q4	23,982.9	24,780.0	-797.1	10,680.0	8,610.8	7,862.2	10,570.0	-57.7	4,790.9	5,599.2	707.6	13,782.1
2017 Q1	25,161.7	25,746.9	-585.2	11,055.3	8,909.6	8,253.0	10,859.1	-62.8	5,189.5	5,978.2	726.6	14,242.7
Q2	24,571.9	25,201.4	-629.5	10,766.7	8,719.8	8,175.2	10,679.9	-48.8	4,996.1	5,801.8	682.7	13,888.6
Outstanding amounts as a percentage of GDP												
2017 Q2	224.4	230.2	-5.7	98.3	79.6	74.7	97.5	-0.4	45.6	53.0	6.2	126.8
Transactions												
2016 Q3	263.3	148.3	115.0	94.3	-28.5	120.2	-12.2	23.6	17.4	188.9	7.7	-
Q4	94.9	0.6	94.3	102.5	38.7	23.2	-22.8	15.9	-51.3	-15.4	4.6	-
2017 Q1	629.7	567.3	62.4	187.1	199.8	172.3	65.7	21.8	251.0	301.8	-2.5	-
Q2	209.4	160.8	48.7	51.0	70.6	174.5	110.6	-1.3	-13.2	-20.4	-1.7	-
2017 Mar.	30.6	-2.9	33.5	30.1	75.8	42.3	-3.3	8.0	-50.4	-75.4	0.6	-
Apr.	172.0	161.3	10.7	46.0	7.0	40.9	16.8	2.2	87.4	137.5	-4.5	-
May	97.0	89.2	7.9	31.8	33.0	70.2	65.0	4.0	-10.4	-8.8	1.4	-
June	-59.6	-89.7	30.1	-26.8	30.6	63.4	28.7	-7.5	-90.2	-149.0	1.4	-
July	-20.1	-60.8	40.7	-177.4	-186.1	65.8	52.0	-5.3	101.9	73.2	-5.2	-
Aug.	56.9	15.8	41.1	12.7	19.2	68.9	-26.3	-7.9	-16.1	22.9	-0.7	-
12-month cumulated transactions												
2017 Aug.	967.0	621.3	345.7	231.9	127.7	515.1	170.5	27.3	191.3	323.1	1.3	-
12-month cumulated transactions as a percentage of GDP												
2017 Aug.	8.8	5.7	3.2	2.1	1.2	4.7	1.6	0.2	1.7	3.0	0.0	-

Source: ECB.

1) Net financial derivatives are included in total assets.

3 Economic activity

3.1 GDP and expenditure components

(quarterly data seasonally adjusted; annual data unadjusted)

	GDP											
	Total	Domestic demand								External balance [1]		
		Total	Private consumption	Government consumption	Gross fixed capital formation				Changes in inventories [2]	Total	Exports [1]	Imports [1]
						Total construction	Total machinery	Intellectual property products				
	1	2	3	4	5	6	7	8	9	10	11	12
	Current prices (EUR billions)											
2014	10,157.6	9,786.6	5,633.9	2,129.1	1,997.1	1,006.5	599.7	385.6	26.5	371.0	4,541.7	4,170.8
2015	10,515.0	10,030.2	5,754.3	2,168.9	2,078.1	1,016.2	637.9	418.4	28.8	484.8	4,847.0	4,362.2
2016	10,788.7	10,309.9	5,891.6	2,218.8	2,189.3	1,051.8	674.3	457.7	10.2	478.8	4,935.9	4,457.1
2016 Q3	2,699.5	2,582.0	1,474.4	555.7	548.9	262.9	168.4	116.2	3.0	117.5	1,234.6	1,117.1
Q4	2,725.4	2,614.5	1,489.1	559.1	558.6	267.4	171.3	118.6	7.7	111.0	1,265.2	1,154.3
2017 Q1	2,745.1	2,630.0	1,503.1	562.1	560.0	272.8	171.7	114.2	4.8	115.1	1,297.6	1,182.5
Q2	2,774.1	2,656.6	1,513.0	565.5	572.3	277.8	174.4	118.7	5.8	117.5	1,305.7	1,188.2
	as a percentage of GDP											
2016	100.0	95.6	54.6	20.6	20.3	9.7	6.2	4.2	0.1	4.4	-	-
	Chain-linked volumes (prices for the previous year)											
	quarter-on-quarter percentage changes											
2016 Q3	0.4	0.4	0.4	0.2	0.1	0.4	0.1	-0.6	-	-	0.6	0.5
Q4	0.6	0.8	0.5	0.4	1.5	1.7	1.8	0.3	-	-	1.5	1.9
2017 Q1	0.6	0.1	0.4	0.2	-0.2	1.7	0.8	-6.0	-	-	1.3	0.4
Q2	0.7	0.9	0.5	0.5	2.0	0.4	0.9	7.7	-	-	0.9	1.5
	annual percentage changes											
2014	1.3	1.3	0.8	0.7	1.9	-0.4	4.6	3.8	-	-	4.7	4.9
2015	2.1	2.0	1.8	1.3	3.3	0.5	5.3	7.3	-	-	6.4	6.7
2016	1.8	2.3	2.0	1.8	4.5	2.5	5.5	8.3	-	-	3.3	4.7
2016 Q3	1.7	2.3	1.9	1.6	4.7	2.7	5.2	8.5	-	-	3.2	4.6
Q4	1.9	2.3	1.9	1.7	4.6	2.7	3.4	11.1	-	-	3.8	4.9
2017 Q1	2.0	1.9	1.6	1.0	4.0	3.7	3.7	5.6	-	-	4.6	4.8
Q2	2.3	2.2	1.8	1.2	3.3	4.3	3.6	0.8	-	-	4.4	4.3
	contributions to quarter-on-quarter percentage changes in GDP; percentage points											
2016 Q3	0.4	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	-	-
Q4	0.6	0.7	0.3	0.1	0.3	0.2	0.1	0.0	0.1	-0.1	-	-
2017 Q1	0.6	0.1	0.2	0.0	0.0	0.2	0.1	-0.3	-0.1	0.4	-	-
Q2	0.7	0.8	0.3	0.1	0.4	0.0	0.1	0.3	0.0	-0.2	-	-
	contributions to annual percentage changes in GDP; percentage points											
2014	1.3	1.3	0.5	0.1	0.4	0.0	0.3	0.1	0.3	0.1	-	-
2015	2.1	2.0	1.0	0.3	0.6	0.0	0.3	0.3	0.0	0.1	-	-
2016	1.8	2.2	1.1	0.4	0.9	0.2	0.3	0.3	-0.1	-0.4	-	-
2016 Q3	1.7	2.2	1.0	0.3	0.9	0.3	0.3	0.3	-0.1	-0.4	-	-
Q4	1.9	2.2	1.1	0.3	0.9	0.3	0.2	0.4	-0.1	-0.3	-	-
2017 Q1	2.0	1.8	0.9	0.2	0.8	0.4	0.2	0.2	0.0	0.1	-	-
Q2	2.3	2.1	1.0	0.3	0.7	0.4	0.2	0.0	0.2	0.2	-	-

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)											
2014	9,123.0	152.0	1,782.5	461.6	1,720.2	418.4	458.0	1,050.1	980.8	1,777.3	322.0	1,034.6
2015	9,443.1	153.8	1,899.9	468.7	1,782.7	433.1	464.2	1,072.9	1,025.7	1,811.4	330.6	1,071.9
2016	9,680.2	151.4	1,936.5	489.3	1,831.4	451.3	454.1	1,100.1	1,070.6	1,857.5	338.1	1,108.5
2016 Q3	2,421.9	37.9	482.8	122.6	457.7	113.6	113.4	275.5	268.2	465.6	84.6	277.6
Q4	2,443.6	38.7	489.5	123.8	463.0	114.5	112.3	277.5	270.7	468.4	85.1	281.9
2017 Q1	2,462.5	39.9	490.6	126.2	468.4	114.8	112.6	279.5	274.7	470.5	85.4	282.6
Q2	2,488.8	40.0	497.9	128.4	474.6	116.2	112.3	281.9	278.5	472.9	86.1	285.3
	as a percentage of value added											
2016	100.0	1.6	20.0	5.1	18.9	4.7	4.7	11.4	11.1	19.2	3.5	-
	Chain-linked volumes (prices for the previous year)											
	quarter-on-quarter percentage changes											
2016 Q3	0.4	-0.3	0.7	0.6	0.5	1.9	-0.1	0.1	0.0	0.4	0.2	0.7
Q4	0.6	-1.1	1.2	0.6	0.8	0.8	-0.3	0.3	0.8	0.3	0.2	0.9
2017 Q1	0.6	1.7	0.0	1.5	1.0	0.9	-0.2	0.4	1.3	0.2	0.2	0.4
Q2	0.7	-0.2	1.1	1.0	0.7	1.0	0.3	0.3	0.9	0.3	0.5	0.6
	annual percentage changes											
2014	1.3	1.7	2.7	-1.0	1.7	4.3	-1.9	0.4	2.7	0.5	0.1	1.3
2015	1.9	3.0	4.0	0.4	1.7	3.4	-0.1	0.7	2.8	0.9	1.0	3.4
2016	1.7	-1.3	2.0	1.6	1.9	3.0	0.4	0.9	2.9	1.3	0.9	3.0
2016 Q3	1.6	-1.3	1.6	2.0	1.6	3.5	0.9	0.9	2.6	1.4	0.8	3.0
Q4	1.9	-2.8	2.6	1.7	2.1	3.6	-0.2	1.0	2.6	1.5	0.9	2.5
2017 Q1	1.9	0.1	1.7	2.7	2.5	4.3	-0.6	1.1	3.4	1.3	0.9	2.7
Q2	2.3	0.1	3.0	3.6	2.9	4.7	-0.2	1.1	3.0	1.2	1.2	2.6
	contributions to quarter-on-quarter percentage changes in value added; percentage points											
2016 Q3	0.4	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	-
Q4	0.6	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	-
2017 Q1	0.6	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.1	0.0	0.0	-
Q2	0.7	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	-
	contributions to annual percentage changes in value added; percentage points											
2014	1.3	0.0	0.5	-0.1	0.3	0.2	-0.1	0.0	0.3	0.1	0.0	-
2015	1.9	0.1	0.8	0.0	0.3	0.2	0.0	0.1	0.3	0.2	0.0	-
2016	1.7	0.0	0.4	0.1	0.4	0.1	0.0	0.1	0.3	0.3	0.0	-
2016 Q3	1.6	0.0	0.3	0.1	0.3	0.2	0.0	0.1	0.3	0.3	0.0	-
Q4	1.9	0.0	0.5	0.1	0.4	0.2	0.0	0.1	0.3	0.3	0.0	-
2017 Q1	1.9	0.0	0.3	0.1	0.5	0.2	0.0	0.1	0.4	0.2	0.0	-
Q2	2.3	0.0	0.6	0.2	0.6	0.2	0.0	0.1	0.3	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													
2014	100.0	85.0	15.0	3.4	15.0	6.1	24.7	2.7	2.7	1.0	13.1	24.3	7.1
2015	100.0	85.2	14.8	3.3	14.9	6.0	24.8	2.7	2.6	1.0	13.3	24.3	7.1
2016	100.0	85.5	14.5	3.2	14.8	5.9	24.9	2.8	2.6	1.0	13.5	24.3	7.0
annual percentage changes													
2014	0.6	0.7	0.1	0.1	-0.4	-1.3	0.7	0.7	-0.9	0.2	2.3	1.0	0.7
2015	1.0	1.2	-0.3	-1.2	0.2	0.1	1.2	1.4	-0.2	1.4	2.7	1.1	0.5
2016	1.3	1.6	-0.3	-0.5	0.6	-0.2	1.7	2.3	0.0	1.9	2.8	1.3	1.1
2016 Q3	1.3	1.6	-0.1	-0.1	0.6	-0.3	1.6	2.1	0.1	2.3	2.8	1.3	1.0
Q4	1.3	1.6	-0.1	0.2	0.7	0.3	1.7	2.6	0.1	2.3	2.7	1.2	0.5
2017 Q1	1.5	1.8	0.2	0.9	0.8	1.2	1.7	3.1	-0.4	2.0	3.1	1.3	1.1
Q2	1.6	1.9	-0.5	0.2	1.1	1.2	1.7	3.3	-0.6	2.0	3.1	1.2	1.8
Hours worked													
as a percentage of total hours worked													
2014	100.0	80.3	19.7	4.4	15.6	6.8	25.6	2.9	2.7	1.0	12.8	22.0	6.3
2015	100.0	80.5	19.5	4.3	15.5	6.8	25.6	2.9	2.7	1.0	13.0	22.0	6.3
2016	100.0	80.8	19.2	4.2	15.4	6.7	25.7	2.9	2.7	1.0	13.2	22.0	6.2
annual percentage changes													
2014	0.6	0.8	-0.4	-0.3	-0.1	-0.9	0.4	0.6	-1.0	0.0	2.4	1.2	0.1
2015	1.1	1.4	-0.2	-0.3	0.6	0.6	0.8	2.4	-0.1	1.8	2.9	1.1	0.8
2016	1.2	1.6	-0.1	-0.5	0.7	-0.1	1.6	1.9	0.6	2.1	2.8	1.0	0.9
2016 Q3	1.1	1.4	-0.4	-0.7	0.6	-0.2	1.5	1.5	0.3	1.5	2.3	1.1	0.4
Q4	1.0	1.4	-0.3	-0.9	0.9	-0.2	1.4	2.0	0.2	2.3	2.5	0.8	0.1
2017 Q1	1.3	1.7	-0.5	-0.6	1.0	1.4	1.2	2.7	-0.2	2.3	2.8	0.9	1.1
Q2	1.5	1.9	-0.3	-0.7	1.5	1.7	1.7	2.9	-1.2	1.8	2.7	1.0	1.6
Hours worked per person employed													
annual percentage changes													
2014	0.0	0.1	-0.5	-0.4	0.3	0.4	-0.3	-0.1	-0.1	-0.3	0.1	0.3	-0.5
2015	0.1	0.1	0.1	0.9	0.3	0.5	-0.4	1.0	0.1	0.3	0.1	0.0	0.3
2016	-0.1	-0.1	0.1	0.0	0.1	0.2	-0.2	-0.4	0.6	0.2	0.0	-0.2	-0.1
2016 Q3	-0.2	-0.1	-0.3	-0.5	0.0	0.1	-0.2	-0.6	0.2	-0.8	-0.5	-0.2	-0.6
Q4	-0.3	-0.2	-0.2	-1.1	0.2	-0.4	-0.3	-0.6	0.1	0.0	-0.2	-0.4	-0.4
2017 Q1	-0.3	-0.1	-0.7	-1.5	0.2	0.2	-0.5	-0.4	0.2	0.3	-0.3	-0.4	0.0
Q2	-0.1	0.0	0.2	-0.9	0.4	0.4	0.0	-0.3	-0.6	-0.2	-0.4	-0.2	-0.1

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		
	1	2	3	4	5	6	7	8	9	10	11	12	13		14
% of total in 2016			100.0			81.8		18.2		52.2		47.8			
2014	160.334	4.6	18.633	11.6	6.1	15.212	10.4	3.421	23.7	9.930	11.5	8.704	11.8		1.4
2015	160.600	4.6	17.447	10.9	5.6	14.297	9.8	3.151	22.3	9.256	10.7	8.191	11.0		1.5
2016	161.877	4.3	16.232	10.0	5.0	13.282	9.0	2.950	20.9	8.477	9.7	7.755	10.4		1.7
2016 Q3	162.275	4.1	16.076	9.9	4.8	13.162	8.9	2.913	20.6	8.383	9.6	7.692	10.3		1.6
Q4	162.300	4.2	15.755	9.7	4.9	12.873	8.7	2.882	20.4	8.243	9.4	7.512	10.0		1.7
2017 Q1	161.635	4.3	15.378	9.5	4.8	12.629	8.5	2.748	19.6	7.965	9.1	7.413	9.9		1.9
Q2	162.214	4.2	14.858	9.2	4.5	12.173	8.2	2.685	19.1	7.691	8.8	7.167	9.6		1.9
2017 Mar.	-	-	15.240	9.4	-	12.525	8.5	2.715	19.3	7.894	9.0	7.346	9.8		-
Apr.	-	-	14.965	9.2	-	12.268	8.3	2.697	19.2	7.732	8.9	7.233	9.7		-
May	-	-	14.878	9.2	-	12.183	8.2	2.696	19.2	7.701	8.8	7.177	9.6		-
June	-	-	14.731	9.1	-	12.069	8.1	2.662	18.9	7.640	8.8	7.091	9.4		-
July	-	-	14.793	9.1	-	12.128	8.2	2.664	18.9	7.654	8.7	7.139	9.5		-
Aug.	-	-	14.751	9.1	-	12.082	8.1	2.668	18.9	7.655	8.7	7.095	9.4		-

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 2010	100.0	86.0	33.6	29.2	22.5	14.7	100.0	100.0	100.0	39.3	51.5	9.1	100.0
	annual percentage changes												
2014	0.8	1.7	1.1	1.8	2.7	-5.4	2.0	3.1	1.5	0.7	2.4	0.0	3.8
2015	2.1	2.4	1.0	3.6	2.6	0.8	-0.9	3.6	2.7	1.7	3.4	2.3	8.8
2016	1.4	1.6	1.8	1.7	1.2	0.1	2.2	0.3	1.5	1.3	1.7	1.8	7.2
2016 Q4	2.3	1.8	2.4	1.8	1.3	5.3	2.3	3.3	2.4	1.7	3.1	1.4	4.1
2017 Q1	1.3	1.3	2.3	1.4	-0.6	1.9	1.9	5.7	2.2	1.4	2.9	1.4	4.8
Q2	2.7	2.8	3.9	2.4	1.7	1.8	3.7	6.8	3.0	2.7	3.4	1.3	6.0
Q3	.	.	.	.	.	.	.	.	.	.	.	.	5.5
2017 Apr.	1.2	1.5	3.2	0.4	0.5	-0.9	3.2	6.2	2.8	3.5	2.7	0.0	4.3
May	4.1	4.4	4.1	5.5	3.2	1.6	2.9	8.5	2.7	2.1	3.6	-0.1	7.1
June	2.9	2.6	4.3	1.6	1.3	4.9	4.3	5.7	3.5	2.7	3.8	4.1	6.5
July	3.6	3.8	5.1	4.6	1.2	1.1	2.8	6.7	2.3	1.5	3.6	1.1	4.6
Aug.	3.8	4.4	5.3	4.9	2.4	-0.7	1.6	.	1.2	1.1	2.3	-0.2	6.9
Sep.	.	.	.	.	.	.	.	.	.	.	.	.	5.3
	month-on-month percentage changes (s.a.)												
2017 Apr.	0.3	-0.1	0.2	-0.9	-0.1	3.7	0.3	-1.3	0.0	1.2	-0.9	-0.6	0.2
May	1.3	1.4	0.6	2.2	1.5	0.6	0.0	2.4	0.5	-0.6	1.0	1.2	2.8
June	-0.6	-0.7	0.0	-1.9	-0.5	0.9	0.1	-0.7	0.5	0.6	0.5	1.0	-1.8
July	0.3	0.5	0.7	0.9	0.5	-1.6	0.0	-1.0	-0.3	-0.6	0.0	-0.9	-2.0
Aug.	1.4	1.7	1.2	3.1	0.3	0.2	-0.2	.	-0.5	-0.3	-0.4	-0.9	2.9
Sep.	.	.	.	.	.	.	.	.	.	.	.	.	1.5

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

3 Economic activity

3.6 Opinion surveys
(seasonally adjusted)

	European Commission Business and Consumer Surveys (percentage balances, unless otherwise indicated)								Purchasing Managers' Surveys (diffusion indices)			
	Economic sentiment indicator (long-term average = 100)	Manufacturing industry		Consumer confidence indicator	Construction confidence indicator	Retail trade confidence indicator	Service industries		Purchasing Managers' Index (PMI) for manufacturing	Manufacturing output	Business activity for services	Composite output
		Industrial confidence indicator	Capacity utilisation (%)				Services confidence indicator	Capacity utilisation (%)				
	1	2	3	4	5	6	7	8	9	10	11	12
1999-13	100.0	-6.1	80.7	-12.8	-13.6	-8.7	7.0	-	51.0	52.4	52.9	52.7
2014	101.4	-3.8	80.5	-10.1	-26.6	-3.1	4.7	87.7	51.8	53.3	52.5	52.7
2015	104.2	-3.1	81.4	-6.2	-22.4	1.6	9.2	88.4	52.2	53.4	54.0	53.8
2016	104.8	-2.6	81.9	-7.7	-16.6	1.5	11.2	89.1	52.5	53.6	53.1	53.3
2016 Q4	106.9	-0.6	82.4	-6.5	-13.1	1.8	12.4	89.4	54.0	54.9	53.5	53.8
2017 Q1	108.0	1.1	82.6	-5.5	-11.0	2.0	13.2	89.4	55.6	56.9	55.1	55.6
Q2	110.0	3.3	82.9	-2.7	-5.0	3.2	13.4	89.8	57.0	58.3	56.0	56.6
Q3	112.1	5.4	.	-1.5	-2.3	2.9	14.9	.	57.4	58.0	55.3	56.0
2017 May	109.3	2.8	-	-3.3	-5.6	2.0	12.8	-	57.0	58.3	56.3	56.8
June	111.1	4.5	-	-1.3	-3.5	4.4	13.3	-	57.4	58.7	55.4	56.3
July	111.3	4.5	83.2	-1.7	-1.8	3.9	14.2	90.2	56.6	56.5	55.4	55.7
Aug.	111.9	5.0	-	-1.5	-3.3	1.6	15.1	-	57.4	58.3	54.7	55.7
Sep.	113.0	6.6	-	-1.2	-1.7	3.0	15.3	-	58.1	59.2	55.8	56.7
Oct.	.	.	-	-1.0	.	.	.	-	58.6	58.7	54.9	55.9

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]	Housing wealth	Profit share [3]	Saving ratio (net)	Debt ratio [4]	Financial investment	Non-financial investment (gross)	Financing
	Percentage of gross disposable income (adjusted)		Annual percentage changes					Percentage of net value added		Percentage of GDP	Annual percentage changes		
	1	2	3	4	5	6	7	8	9	10	11	12	13
2014	12.7	94.6	1.0	1.8	1.3	2.7	1.0	32.5	4.6	131.1	2.7	6.9	1.5
2015	12.4	93.9	1.5	2.0	1.5	3.4	2.5	33.4	6.3	132.8	3.8	4.6	2.1
2016	12.2	93.5	1.9	1.9	5.4	4.3	4.4	33.4	7.7	132.5	3.8	6.1	2.0
2016 Q3	12.4	93.5	1.7	2.2	5.6	4.2	4.0	33.5	7.6	131.6	3.4	6.2	1.7
Q4	12.2	93.5	1.3	1.9	4.9	4.3	4.4	33.4	7.7	132.5	3.8	6.6	2.0
2017 Q1	12.2	93.1	1.6	2.0	10.1	4.6	4.6	33.5	7.2	132.7	4.2	10.1	2.4
Q2	.	.	1.4	1.8	5.7	4.9	4.9	33.3	6.6	.	4.2	8.4	2.3

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
2016 Q3	919.2	835.5	83.8	532.7	438.1	197.7	188.1	161.2	140.9	27.6	68.4	6.3	5.4
Q4	946.0	860.8	85.3	548.4	457.9	199.2	193.7	170.0	144.3	28.4	64.8	9.4	9.6
2017 Q1	955.2	871.1	84.1	558.9	479.8	206.1	188.8	163.0	145.9	27.2	56.6	7.4	17.7
Q2	964.4	890.2	74.1	559.1	477.5	208.0	190.8	170.5	151.5	26.8	70.3	7.0	17.2
2017 Mar.	322.2	289.5	32.7	188.5	160.0	69.4	61.2	54.4	48.0	9.8	20.2	2.2	6.2
Apr.	318.9	297.3	21.6	184.2	158.4	69.3	62.8	56.5	49.6	8.9	26.5	2.0	6.1
May	326.3	297.9	28.4	188.9	162.2	68.6	64.1	59.8	50.8	9.0	20.8	2.1	5.5
June	319.2	295.0	24.1	186.0	156.9	70.0	64.0	54.2	51.1	8.9	23.0	2.9	5.6
July	320.3	288.8	31.5	185.1	158.7	70.2	62.1	56.3	44.6	8.6	23.4	2.4	1.4
Aug.	323.7	290.4	33.3	188.1	159.9	70.2	62.9	56.6	46.3	8.8	21.3	1.8	1.3
12-month cumulated transactions													
2017 Aug.	3,819.4	3,481.0	338.5	2,218.5	1,879.6	820.7	762.0	670.8	579.8	109.4	259.6	30.3	49.2
12-month cumulated transactions as a percentage of GDP													
2017 Aug.	34.9	31.8	3.1	20.3	17.2	7.5	7.0	6.1	5.3	1.0	2.4	0.3	0.4

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	Consump-tion goods	Manu-facturing		Intermediate goods	Capital goods	Consump-tion 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)													
2016 Q3	-0.1	-1.7	509.8	237.8	103.9	154.3	427.1	443.8	244.8	72.7	117.8	328.0	44.0
Q4	2.3	2.5	525.8	244.8	109.0	157.5	440.2	461.5	257.1	75.1	119.6	335.7	50.1
2017 Q1	10.9	13.9	539.6	256.9	109.2	160.9	449.5	485.5	279.3	77.9	119.9	344.3	59.9
Q2	5.3	9.6	544.7	256.8	111.4	162.8	455.1	485.6	274.6	77.4	122.9	351.6	51.7
2017 Mar.	14.6	17.0	183.1	86.5	37.5	54.8	153.2	161.9	93.2	25.5	40.7	115.3	18.5
Apr.	-1.6	4.3	179.9	85.5	36.4	53.7	149.6	161.3	91.7	25.9	40.1	116.3	17.8
May	13.7	18.2	184.1	86.5	38.2	55.3	154.5	165.5	93.8	26.4	42.2	119.7	17.5
June	4.0	6.5	180.7	84.8	36.8	53.8	151.0	158.8	89.1	25.1	40.7	115.6	16.4
July	6.1	9.1	178.7	83.6	36.1	54.1	149.6	160.9	90.2	25.9	40.7	117.4	15.6
Aug.	6.8	8.6	183.1	.	.	.	153.0	161.6	.	.	.	117.7	.
Volume indices (2000 = 100; annual percentage changes for columns 1 and 2)													
2016 Q3	0.7	1.7	118.4	116.3	114.0	124.0	117.5	109.3	108.5	106.8	112.2	112.3	101.3
Q4	1.5	0.9	120.5	118.1	118.8	124.9	120.1	109.9	108.9	107.5	112.0	112.6	104.5
2017 Q1	6.4	3.4	121.1	121.0	118.0	124.4	120.5	110.5	111.5	108.1	109.9	112.5	109.9
Q2	1.3	2.3	122.4	121.5	120.4	125.5	121.8	112.8	112.6	108.9	113.9	115.8	104.0
2017 Feb.	0.9	-3.1	120.7	121.2	118.3	122.6	121.0	110.0	111.0	107.7	108.6	112.2	113.1
Mar.	9.3	6.5	122.6	121.9	121.5	125.9	122.5	111.0	111.9	106.4	112.9	113.1	104.2
Apr.	-6.1	-4.7	121.0	120.8	117.6	124.4	120.1	111.0	111.0	107.6	111.1	114.1	101.6
May	8.9	9.9	123.7	122.4	123.5	126.9	123.5	115.0	115.0	111.6	116.6	118.0	104.5
June	1.4	2.0	122.6	121.4	120.1	125.1	121.9	112.5	111.8	107.6	113.9	115.1	105.9
July	3.4	4.0	121.2	119.5	116.8	126.3	120.6	113.5	113.5	109.3	113.2	116.1	100.9

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)]						Memo item: Administered prices	
	Index: 2015 = 100	Total		Goods	Services	Total	Processed food	Unprocessed food	Non-energy industrial goods	Energy (n.s.a.)	Services	Total HICP excluding administered prices	Administered prices
			Total excluding food and energy										
	1	2	3	4	5	6	7	8	9	10	11	12	13
% of total in 2017	100.0	100.0	70.9	55.4	44.6	100.0	12.1	7.5	26.3	9.5	44.6	86.6	13.4
2014	100.0	0.4	0.8	-0.2	1.2	-	-	-	-	-	-	0.2	1.9
2015	100.0	0.0	0.8	-0.8	1.2	-	-	-	-	-	-	-0.1	0.9
2016	100.2	0.2	0.9	-0.4	1.1	-	-	-	-	-	-	0.2	0.2
2016 Q4	101.0	0.7	0.8	0.4	1.1	0.4	0.3	-0.1	0.1	2.4	0.3	0.8	0.3
2017 Q1	101.0	1.8	0.8	2.3	1.1	0.6	0.3	1.9	0.1	3.3	0.3	2.0	0.5
Q2	102.0	1.5	1.1	1.5	1.6	0.1	0.7	-1.2	0.1	-1.4	0.6	1.6	1.3
Q3	101.8	1.5	1.2	1.4	1.5	0.2	0.6	0.3	0.2	-0.9	0.4	1.5	1.1
2017 Apr.	102.0	1.9	1.2	1.9	1.8	0.2	0.2	-0.5	0.0	0.3	0.5	2.0	1.3
May	101.9	1.4	0.9	1.5	1.3	-0.1	0.4	-0.1	0.0	-1.2	-0.1	1.4	1.2
June	102.0	1.3	1.1	1.0	1.6	0.0	0.2	-0.5	0.1	-0.9	0.3	1.3	1.3
July	101.4	1.3	1.2	1.1	1.6	0.1	0.2	0.2	0.1	-0.7	0.2	1.3	1.1
Aug.	101.7	1.5	1.2	1.4	1.6	0.2	0.2	0.6	0.0	0.7	0.1	1.6	1.1
Sep.	102.2	1.5	1.1	1.6	1.5	0.1	0.1	0.1	0.0	1.0	0.0	1.6	1.0

	Goods						Services					
	Food (including alcoholic beverages and tobacco)			Industrial goods			Housing		Transport	Communication	Recreation and personal	Miscellaneous
	Total	Processed food	Unprocessed food	Total	Non-energy industrial goods	Energy		Rents				
	14	15	16	17	18	19	20	21	22	23	24	25
% of total in 2017	19.6	12.1	7.5	35.8	26.3	9.5	10.7	6.5	7.3	3.2	15.1	8.2
2014	0.5	1.2	-0.8	-0.5	0.1	-1.9	1.7	1.4	1.7	-2.8	1.5	1.3
2015	1.0	0.6	1.6	-1.8	0.3	-6.8	1.2	1.1	1.3	-0.8	1.5	1.2
2016	0.9	0.6	1.4	-1.1	0.4	-5.1	1.1	1.1	0.8	0.0	1.4	1.2
2016 Q4	0.8	0.6	1.0	0.2	0.3	0.2	1.2	1.2	1.2	-0.1	1.3	1.2
2017 Q1	2.0	0.9	4.0	2.4	0.3	8.2	1.3	1.2	1.7	-1.1	1.4	0.7
Q2	1.5	1.4	1.6	1.5	0.3	4.6	1.3	1.3	2.6	-1.4	2.3	0.8
Q3	1.6	2.0	0.9	1.3	0.5	3.4	1.3	1.2	2.3	-1.8	2.4	0.8
2017 Apr.	1.5	1.1	2.2	2.2	0.3	7.6	1.3	1.3	3.3	-1.2	2.8	0.8
May	1.5	1.5	1.6	1.4	0.3	4.5	1.3	1.3	2.1	-1.4	1.8	0.8
June	1.4	1.6	1.0	0.8	0.4	1.9	1.3	1.3	2.4	-1.6	2.4	0.9
July	1.4	1.9	0.6	0.9	0.5	2.2	1.3	1.2	2.2	-1.8	2.5	0.8
Aug.	1.4	2.0	0.6	1.4	0.5	4.0	1.3	1.2	2.5	-1.9	2.4	0.8
Sep.	1.9	2.0	1.5	1.4	0.5	3.9	1.3	1.2	2.1	-1.8	2.4	0.9

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	Residential property prices [2]	Experimental indicator of commercial property prices [2]
	Total (index: 2010 = 100)	Total		Industry excluding construction and energy						Energy			
			Manu-facturing	Total	Intermediate goods	Capital goods	Consumer goods						
							Total	Food, beverages and tobacco	Non-food				
	1	2	3	4	5	6	7	8	9	10	11	12	13
% of total in 2010	100.0	100.0	78.1	72.1	29.4	20.1	22.6	13.8	8.9	27.9			
2014	106.9	-1.5	-0.9	-0.3	-1.1	0.4	0.1	-0.1	0.3	-4.3	0.3	0.3	1.6
2015	104.0	-2.7	-2.4	-0.5	-1.3	0.7	-0.6	-0.9	0.2	-8.2	0.2	1.6	3.8
2016	101.6	-2.3	-1.5	-0.5	-1.7	0.4	0.0	0.0	0.1	-6.9	0.4	3.2	5.7
2016 Q3	101.9	-2.0	-1.3	-0.6	-1.8	0.4	0.0	0.0	0.1	-5.9	0.5	3.3	7.5
Q4	103.1	0.4	1.0	0.4	0.0	0.5	0.8	1.3	0.1	0.4	1.2	3.7	5.5
2017 Q1	104.7	4.1	4.0	2.1	3.1	0.8	1.7	2.6	0.2	9.9	1.9	3.8	.
Q2	104.2	3.3	3.1	2.4	3.5	0.9	2.4	3.5	0.2	5.7	1.9	4.1	.
2017 Mar.	104.5	3.9	4.0	2.5	3.9	0.9	2.0	3.0	0.2	8.1	-	-	-
Apr.	104.5	4.3	3.9	2.6	4.0	0.9	2.3	3.5	0.2	9.0	-	-	-
May	104.2	3.4	3.1	2.4	3.6	0.9	2.3	3.6	0.2	5.8	-	-	-
June	104.0	2.4	2.1	2.2	3.0	0.9	2.4	3.5	0.3	2.5	-	-	-
July	104.0	2.0	2.3	2.1	2.7	1.0	2.2	3.3	0.3	1.9	-	-	-
Aug.	104.3	2.5	2.7	2.2	3.0	1.0	2.2	3.3	0.3	3.4	-	-	-

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

1) Domestic sales only.

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

4.3 Commodity prices and GDP deflators

(annual percentage changes, unless otherwise indicated)

	GDP deflators								Oil prices (EUR per barrel)	Non-energy commodity prices (EUR)					
	Total (s.a.; index: 2010 = 100)	Total	Domestic demand				Exports [1]	Imports [1]		Import-weighted [2]			Use-weighted [2]		
			Total	Private consump-tion	Govern-ment consump-tion	Gross fixed capital formation				Total	Food	Non-food	Total	Food	Non-food
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
% of total										100.0	45.4	54.6	100.0	50.4	49.6
2014	104.5	0.9	0.6	0.5	0.9	0.7	-0.7	-1.5	74.1	-3.4	2.0	-8.5	-0.4	4.6	-6.4
2015	106.0	1.4	0.4	0.3	0.5	0.8	0.3	-1.9	47.1	0.0	4.2	-4.5	2.9	7.0	-2.7
2016	106.8	0.8	0.4	0.3	0.5	0.8	-1.5	-2.5	39.9	-3.5	-3.9	-3.2	-7.3	-10.3	-2.9
2016 Q4	107.2	0.7	0.8	0.7	0.6	0.9	-0.1	0.2	46.5	9.1	1.1	18.6	3.3	-6.7	18.5
2017 Q1	107.3	0.7	1.4	1.6	1.0	1.3	2.6	4.6	50.8	18.3	5.9	33.2	13.0	0.1	32.4
Q2	107.8	1.0	1.3	1.4	1.0	1.3	2.4	3.1	45.6	6.8	-2.7	18.2	6.7	-2.4	19.9
Q3	.	.	.	.	.	.	.	.	44.0	.	.	.	.	.	.
2017 Apr.	-	-	-	-	-	-	-	-	49.6	11.4	1.2	23.2	9.9	-0.5	24.8
May	-	-	-	-	-	-	-	-	46.0	7.0	-2.1	17.7	6.9	-1.8	19.7
June	-	-	-	-	-	-	-	-	41.7	2.3	-7.1	13.7	3.2	-4.8	15.1
July	-	-	-	-	-	-	-	-	42.2	1.0	-6.0	8.9	2.0	-3.9	10.1
Aug.	-	-	-	-	-	-	-	-	43.5	1.1	-8.7	12.1	1.2	-7.6	13.0
Sep.	-	-	-	-	-	-	-	-	46.3	.	.	.	.	.	.

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

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

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

4 Prices and costs

4.4 Price-related opinion surveys
(seasonally adjusted)

	European Commission Business and Consumer Surveys (percentage balances)					Purchasing Managers' Surveys (diffusion indices)			
	Selling price expectations (for next three months)				Consumer price trends over past 12 months	Input prices		Prices charged	
	Manu-facturing	Retail trade	Services	Construction		Manu-facturing	Services	Manu-facturing	Services
	1	2	3	4	5	6	7	8	9
1999-13	4.7	-	-	-2.0	34.7	57.7	56.7	-	49.9
2014	-0.9	-1.5	0.9	-17.4	15.1	49.6	53.5	49.7	48.2
2015	-2.8	1.3	2.7	-13.2	-0.2	48.9	53.5	49.6	49.0
2016	-0.4	1.7	4.4	-7.3	0.2	49.8	53.9	49.3	49.6
2016 Q4	4.6	3.1	4.9	-5.4	2.4	58.6	54.9	51.6	50.5
2017 Q1	9.0	5.5	6.4	-3.7	12.9	67.8	56.7	55.0	51.4
Q2	7.8	4.2	5.9	1.8	12.3	62.5	55.9	54.6	51.5
Q3	8.7	4.9	6.9	3.3	10.5	60.4	55.7	54.4	51.4
2017 May	8.2	3.6	5.1	-0.5	11.8	62.0	55.9	54.1	51.7
June	7.1	3.4	5.8	3.6	11.7	58.4	55.3	54.3	50.9
July	7.5	4.4	6.2	5.3	10.1	57.8	55.2	53.7	51.0
Aug.	8.1	4.0	6.4	0.1	9.9	59.4	55.6	54.3	51.3
Sep.	10.5	6.2	8.0	4.5	11.5	64.0	56.3	55.2	51.8
Oct.	.	.	.	.	.	66.5	56.6	56.1	52.3

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: 2012 = 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 2012	100.0	100.0	74.6	25.4	69.3	30.7	
2014	102.6	1.3	1.3	1.2	1.3	1.2	1.7
2015	104.3	1.6	1.9	0.7	1.6	1.6	1.5
2016	105.8	1.5	1.5	1.6	1.4	1.5	1.4
2016 Q3	102.6	1.3	1.4	1.1	1.2	1.6	1.5
Q4	112.3	1.6	1.6	1.5	1.6	1.5	1.4
2017 Q1	100.4	1.4	1.3	1.6	1.3	1.6	1.6
Q2	111.1	1.7	2.1	0.8	1.9	1.5	1.4

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: 2010 =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												
2014	104.4	0.7	-1.4	-1.0	1.3	0.3	-1.4	3.0	1.7	1.3	1.6	1.6
2015	104.8	0.4	-3.3	-1.8	0.5	1.2	0.9	0.6	2.0	1.6	1.3	1.4
2016	105.6	0.8	1.3	0.0	-0.3	1.3	0.1	1.7	4.3	0.8	1.2	1.7
2016 Q3	105.8	0.8	1.5	0.4	-0.5	1.4	-0.8	1.4	4.5	0.8	1.1	1.7
Q4	106.1	0.8	3.7	-0.4	0.1	1.1	-0.3	2.3	5.1	0.7	1.1	1.6
2017 Q1	106.4	1.0	1.1	0.7	0.4	0.7	-0.4	1.9	4.5	1.5	1.5	1.5
Q2	106.5	0.9	1.9	0.0	0.4	0.3	0.2	1.0	5.1	2.2	1.4	1.6
Compensation per employee												
2014	106.6	1.4	0.2	2.1	1.6	1.2	2.2	2.0	1.9	1.7	1.1	1.0
2015	108.1	1.4	0.9	1.9	0.8	1.6	2.9	0.7	1.4	1.7	1.1	2.0
2016	109.5	1.3	0.5	1.3	1.5	1.5	0.7	2.2	3.3	0.8	1.2	1.6
2016 Q3	109.7	1.3	0.3	1.4	1.8	1.4	0.6	2.2	3.1	0.5	1.3	1.5
Q4	110.3	1.4	0.6	1.5	1.5	1.6	0.6	2.1	3.8	0.7	1.5	2.0
2017 Q1	110.6	1.5	0.4	1.6	1.9	1.5	0.8	1.7	3.6	1.8	1.5	1.4
Q2	111.0	1.6	1.8	1.9	2.7	1.5	1.6	1.4	4.2	2.2	1.4	1.0
Labour productivity per person employed												
2014	102.1	0.7	1.7	3.1	0.3	0.9	3.6	-0.9	0.2	0.4	-0.5	-0.6
2015	103.2	1.1	4.3	3.7	0.4	0.4	1.9	0.1	-0.7	0.1	-0.2	0.6
2016	103.7	0.5	-0.8	1.3	1.8	0.2	0.6	0.4	-0.9	0.1	0.0	-0.1
2016 Q3	103.7	0.4	-1.2	1.0	2.3	0.0	1.3	0.8	-1.4	-0.2	0.2	-0.2
Q4	104.0	0.6	-3.0	1.9	1.4	0.4	1.0	-0.2	-1.3	-0.1	0.3	0.4
2017 Q1	104.0	0.4	-0.7	0.9	1.5	0.8	1.2	-0.2	-0.9	0.3	0.0	-0.1
Q2	104.3	0.7	-0.1	1.9	2.3	1.2	1.4	0.4	-0.8	-0.1	0.0	-0.6
Compensation per hour worked												
2014	108.5	1.3	1.1	1.7	1.1	1.4	2.0	2.0	1.7	1.3	0.8	1.4
2015	109.9	1.3	0.7	1.5	0.3	1.7	1.9	0.6	0.6	1.3	1.2	1.9
2016	111.4	1.3	-0.1	1.2	1.5	1.5	1.1	1.7	3.5	0.7	1.5	1.7
2016 Q3	111.6	1.4	0.2	1.4	2.0	1.3	1.1	2.1	4.2	0.8	1.5	2.2
Q4	112.2	1.6	1.2	1.4	1.8	1.8	1.2	2.1	4.5	0.8	1.9	2.4
2017 Q1	112.4	1.6	0.8	1.4	1.5	1.6	1.0	1.4	3.6	1.8	1.9	1.3
Q2	112.8	1.6	3.0	1.4	2.2	1.6	1.8	2.0	4.7	2.2	1.5	0.9
Hourly labour productivity												
2014	104.2	0.8	2.0	2.8	-0.1	1.3	3.7	-0.9	0.5	0.3	-0.8	-0.1
2015	105.2	1.0	3.4	3.4	-0.2	0.8	1.0	0.0	-1.0	0.0	-0.1	0.3
2016	105.8	0.6	-0.8	1.2	1.7	0.3	1.1	-0.2	-1.1	0.0	0.3	0.0
2016 Q3	105.8	0.7	-0.7	1.0	2.2	0.2	1.9	0.6	-0.6	0.3	0.4	0.4
Q4	106.2	0.9	-1.9	1.8	1.8	0.7	1.6	-0.3	-1.3	0.2	0.7	0.8
2017 Q1	106.2	0.7	0.8	0.7	1.3	1.3	1.6	-0.4	-1.2	0.6	0.4	-0.1
Q2	106.4	0.8	0.8	1.5	1.9	1.3	1.7	1.0	-0.6	0.3	0.2	-0.4

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												
2014	969.5	4,970.5	5,939.9	1,581.7	2,147.6	3,729.4	9,669.3	121.5	430.3	109.2	661.0	10,330.3
2015	1,036.5	5,566.3	6,602.8	1,439.2	2,159.8	3,599.1	10,201.8	74.6	485.5	75.4	635.5	10,837.3
2016	1,073.1	6,117.1	7,190.2	1,320.3	2,175.8	3,496.1	10,686.3	70.4	523.7	95.8	689.9	11,376.2
2016 Q4	1,073.1	6,117.1	7,190.2	1,320.3	2,175.8	3,496.1	10,686.3	70.4	523.7	95.8	689.9	11,376.2
2017 Q1	1,088.6	6,302.5	7,391.0	1,306.7	2,180.0	3,486.6	10,877.7	73.5	533.6	102.4	709.5	11,587.2
Q2	1,095.0	6,430.9	7,525.9	1,259.9	2,195.1	3,455.0	10,980.9	68.3	515.2	80.5	664.0	11,644.9
Q3 [p]	1,103.0	6,579.5	7,682.4	1,223.1	2,209.2	3,432.3	11,114.7	68.6	532.3	80.9	681.9	11,796.6
2017 Apr.	1,092.3	6,342.9	7,435.2	1,280.1	2,183.0	3,463.0	10,898.3	72.3	518.7	81.0	671.9	11,570.2
May	1,092.4	6,376.5	7,468.9	1,264.3	2,190.4	3,454.8	10,923.6	72.5	518.5	81.8	672.8	11,596.5
June	1,095.0	6,430.9	7,525.9	1,259.9	2,195.1	3,455.0	10,980.9	68.3	515.2	80.5	664.0	11,644.9
July	1,093.9	6,458.0	7,551.9	1,245.4	2,201.0	3,446.4	10,998.3	66.7	513.4	79.5	659.5	11,657.8
Aug.	1,099.1	6,535.4	7,634.5	1,245.7	2,206.4	3,452.1	11,086.6	72.5	519.9	75.1	667.5	11,754.1
Sep. [p]	1,103.0	6,579.5	7,682.4	1,223.1	2,209.2	3,432.3	11,114.7	68.6	532.3	80.9	681.9	11,796.6
Transactions												
2014	59.0	374.9	433.9	-91.8	3.7	-88.1	345.8	3.6	11.9	13.0	28.5	374.3
2015	65.9	562.6	628.5	-135.4	12.3	-123.0	505.5	-48.0	49.8	-26.6	-24.8	480.7
2016	36.7	540.6	577.3	-109.2	15.9	-93.3	484.0	-4.3	38.1	16.4	50.2	534.2
2016 Q4	6.5	152.1	158.6	-66.7	3.2	-63.5	95.1	-10.4	19.7	4.2	13.5	108.6
2017 Q1	15.5	187.9	203.3	-11.3	4.1	-7.2	196.1	3.1	10.0	6.0	19.1	215.3
Q2	6.4	148.0	154.4	-37.2	14.7	-22.5	132.0	-4.7	-18.1	-20.1	-43.0	89.0
Q3 [p]	7.9	156.6	164.5	-34.7	11.0	-23.8	140.7	0.9	17.3	0.0	18.2	158.9
2017 Apr.	3.7	45.0	48.7	-25.0	3.1	-22.0	26.7	-1.1	-14.9	-21.5	-37.5	-10.8
May	0.1	44.7	44.8	-8.7	6.9	-1.8	43.1	0.5	-0.1	0.0	0.4	43.5
June	2.6	58.3	60.9	-3.5	4.7	1.3	62.2	-4.1	-3.1	1.4	-5.9	56.3
July	-1.1	33.2	32.1	-12.4	2.8	-9.7	22.4	-1.4	-1.8	0.8	-2.4	20.1
Aug.	5.3	80.9	86.1	0.7	5.4	6.0	92.2	6.2	6.6	-6.9	5.8	98.0
Sep. [p]	3.8	42.5	46.3	-23.0	2.8	-20.2	26.1	-3.9	12.5	6.1	14.8	40.9
Growth rates												
2014	6.5	8.4	8.0	-5.4	0.2	-2.3	3.7	2.9	2.9	19.2	4.6	3.8
2015	6.8	11.3	10.5	-8.6	0.6	-3.3	5.2	-39.1	11.4	-25.0	-3.7	4.6
2016	3.5	9.7	8.7	-7.6	0.7	-2.6	4.7	-5.8	7.8	21.6	7.9	4.9
2016 Q4	3.5	9.7	8.7	-7.6	0.7	-2.6	4.7	-5.8	7.8	21.6	7.9	4.9
2017 Q1	3.7	10.0	9.0	-7.5	0.8	-2.5	5.0	-14.4	12.9	4.2	8.1	5.2
Q2	3.8	10.6	9.5	-9.3	1.1	-3.0	5.3	-18.6	5.0	-13.9	-0.6	4.9
Q3 [p]	3.4	10.8	9.7	-10.8	1.5	-3.3	5.3	-13.8	5.7	-11.3	1.2	5.1
2017 Apr.	4.2	10.0	9.1	-8.7	0.9	-2.9	5.0	-17.8	7.9	-16.0	1.1	4.8
May	3.9	10.1	9.2	-8.7	1.0	-2.8	5.1	-17.0	7.1	-9.5	1.6	4.9
June	3.8	10.6	9.5	-9.3	1.1	-3.0	5.3	-18.6	5.0	-13.9	-0.6	4.9
July	3.4	10.0	9.0	-9.9	1.2	-3.2	4.9	-18.5	3.7	-17.6	-2.1	4.5
Aug.	3.5	10.6	9.5	-9.1	1.4	-2.7	5.4	-10.9	6.2	-24.7	-0.4	5.0
Sep. [p]	3.4	10.8	9.7	-10.8	1.5	-3.3	5.3	-13.8	5.7	-11.3	1.2	5.1

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													
2014	1,863.4	1,366.3	365.1	112.6	19.4	5,555.6	2,749.5	812.1	1,991.1	2.8	847.2	222.2	332.9
2015	1,950.8	1,503.1	321.8	117.5	8.4	5,748.9	3,059.7	695.1	1,991.7	2.4	949.7	225.8	364.7
2016	2,077.2	1,656.4	293.9	118.3	8.6	6,049.8	3,399.6	643.6	2,004.8	1.7	979.8	196.3	380.6
2016 Q4	2,077.2	1,656.4	293.9	118.3	8.6	6,049.8	3,399.6	643.6	2,004.8	1.7	979.8	196.3	380.6
2017 Q1	2,170.8	1,743.3	303.7	117.4	6.4	6,139.8	3,503.3	620.0	2,013.7	2.7	972.0	190.9	389.1
Q2	2,196.2	1,775.3	295.5	118.9	6.5	6,188.7	3,560.9	599.1	2,026.4	2.3	971.1	198.0	400.2
Q3 [p]	2,215.9	1,805.6	284.7	120.5	5.1	6,253.0	3,631.6	582.8	2,036.7	1.9	989.7	201.5	420.3
2017 Apr.	2,164.7	1,746.0	294.8	117.1	6.8	6,156.5	3,524.2	611.5	2,017.6	3.2	959.8	199.7	397.6
May	2,172.7	1,753.3	294.5	118.8	6.2	6,173.6	3,542.3	605.5	2,023.2	2.7	963.9	195.8	397.7
June	2,196.2	1,775.3	295.5	118.9	6.5	6,188.7	3,560.9	599.1	2,026.4	2.3	971.1	198.0	400.2
July	2,177.7	1,761.6	290.6	119.2	6.3	6,200.7	3,573.4	593.4	2,032.0	2.0	987.7	193.5	411.4
Aug.	2,205.6	1,792.8	286.7	120.2	5.8	6,231.3	3,604.9	589.2	2,035.2	2.0	999.6	202.1	421.3
Sep. [p]	2,215.9	1,805.6	284.7	120.5	5.1	6,253.0	3,631.6	582.8	2,036.7	1.9	989.7	201.5	420.3
Transactions													
2014	68.7	91.1	-26.7	1.5	2.8	140.7	208.8	-65.0	-1.4	-1.7	52.7	7.3	21.0
2015	83.9	123.7	-33.5	4.9	-11.2	193.6	303.0	-109.9	0.9	-0.4	84.0	-0.1	30.3
2016	128.7	152.9	-24.7	0.2	0.2	298.8	333.0	-46.8	13.4	-0.8	29.0	-30.6	17.1
2016 Q4	4.2	28.2	-22.3	-1.2	-0.5	68.6	90.6	-24.5	3.4	-0.9	21.4	-11.1	-4.9
2017 Q1	96.4	88.4	11.3	-1.0	-2.2	90.1	104.1	-23.9	8.8	1.1	-6.2	-5.2	8.6
Q2	34.9	38.0	-5.2	1.9	0.2	52.1	60.8	-20.0	11.8	-0.5	15.6	7.5	10.8
Q3 [p]	23.8	33.2	-9.6	1.7	-1.4	62.2	71.4	-16.1	7.2	-0.3	23.6	3.7	20.3
2017 Apr.	-2.6	4.5	-7.3	-0.3	0.5	17.9	21.8	-8.3	4.0	0.5	-10.6	9.0	8.2
May	11.9	10.3	0.6	1.7	-0.6	18.4	19.6	-5.6	5.0	-0.6	16.6	-3.7	0.1
June	25.6	23.2	1.5	0.5	0.4	15.7	19.5	-6.2	2.8	-0.4	9.5	2.2	2.5
July	-14.8	-10.8	-4.0	0.3	-0.3	9.9	13.1	-5.5	2.5	-0.2	19.9	-4.2	11.4
Aug.	29.6	32.4	-3.4	1.1	-0.4	31.0	31.9	-4.1	3.3	0.0	13.8	8.7	9.9
Sep. [p]	9.0	11.7	-2.2	0.3	-0.8	21.3	26.5	-6.5	1.5	-0.1	-10.1	-0.7	-1.0
Growth rates													
2014	4.0	7.6	-6.6	1.3	15.9	2.6	8.2	-7.4	-0.1	-37.8	6.6	3.9	7.0
2015	4.5	9.0	-9.4	4.4	-57.4	3.5	11.0	-13.6	0.0	-15.1	9.7	0.0	9.1
2016	6.6	10.2	-7.7	0.2	2.2	5.2	10.9	-6.8	0.7	-31.2	3.1	-13.6	4.7
2016 Q4	6.6	10.2	-7.7	0.2	2.2	5.2	10.9	-6.8	0.7	-31.2	3.1	-13.6	4.7
2017 Q1	8.1	11.7	-5.0	-0.3	-32.6	5.3	11.4	-10.1	1.0	2.1	1.5	-13.3	3.6
Q2	8.4	11.6	-3.9	0.3	-21.3	4.8	10.7	-12.4	1.4	-25.5	3.2	-6.2	5.4
Q3 [p]	7.7	11.6	-8.2	1.2	-43.6	4.6	9.9	-12.6	1.6	-25.6	5.7	-2.4	9.0
2017 Apr.	7.0	10.6	-6.9	-0.5	-20.0	5.2	11.3	-11.1	1.2	-9.9	1.1	-7.7	5.4
May	7.5	10.8	-5.7	0.5	-22.4	5.1	11.1	-11.7	1.3	-24.0	2.5	-9.0	4.9
June	8.4	11.6	-3.9	0.3	-21.3	4.8	10.7	-12.4	1.4	-25.5	3.2	-6.2	5.4
July	6.8	9.7	-5.3	1.1	-24.4	4.5	10.0	-12.6	1.5	-30.3	5.4	-9.9	6.8
Aug.	8.1	11.3	-5.2	1.6	-32.1	4.5	9.9	-12.4	1.5	-29.2	6.4	-5.3	9.3
Sep. [p]	7.7	11.6	-8.2	1.2	-43.6	4.6	9.9	-12.6	1.6	-25.6	5.7	-2.4	9.0

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								
					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		
	Total	Loans	Debt securities	Total		Adjusted loans [2)]						
	1	2	3	4	5	6	7	8	9	10	11	12
Outstanding amounts												
2014	3,615.6	1,135.0	2,478.5	12,506.8	10,454.5	10,725.2	4,317.2	5,200.2	808.1	129.0	1,280.0	772.4
2015	3,904.2	1,112.3	2,789.5	12,599.4	10,512.0	10,805.8	4,291.4	5,306.9	790.1	123.5	1,305.1	782.3
2016	4,397.8	1,081.9	3,302.7	12,838.1	10,671.8	10,978.5	4,313.5	5,407.7	838.2	112.5	1,382.1	784.2
2016 Q4	4,397.8	1,081.9	3,302.7	12,838.1	10,671.8	10,978.5	4,313.5	5,407.7	838.2	112.5	1,382.1	784.2
2017 Q1	4,439.1	1,070.3	3,354.7	12,971.0	10,755.0	11,046.5	4,334.2	5,456.5	851.5	112.9	1,423.8	792.2
Q2	4,457.4	1,065.2	3,378.0	12,962.7	10,722.7	11,038.6	4,297.6	5,486.4	826.2	112.5	1,439.9	800.0
Q3 [p)]	4,544.1	1,052.2	3,477.8	13,019.4	10,785.6	11,102.5	4,300.5	5,523.6	850.6	111.0	1,439.0	794.7
2017 Apr.	4,465.9	1,072.2	3,379.5	12,953.4	10,741.3	11,044.1	4,337.2	5,465.7	823.9	114.4	1,423.4	788.7
May	4,477.9	1,066.4	3,397.1	12,975.3	10,746.0	11,058.0	4,341.4	5,473.0	820.6	111.0	1,439.9	789.4
June	4,457.4	1,065.2	3,378.0	12,962.7	10,722.7	11,038.6	4,297.6	5,486.4	826.2	112.5	1,439.9	800.0
July	4,492.3	1,058.3	3,419.6	12,990.4	10,735.3	11,071.6	4,303.1	5,486.2	831.6	114.3	1,458.5	796.6
Aug.	4,539.5	1,058.9	3,466.2	12,992.0	10,761.6	11,084.5	4,302.4	5,507.3	837.2	114.7	1,442.5	787.8
Sep. [p)]	4,544.1	1,052.2	3,477.8	13,019.4	10,785.6	11,102.5	4,300.5	5,523.6	850.6	111.0	1,439.0	794.7
Transactions												
2014	73.8	16.4	57.4	-99.9	-47.1	-32.6	-60.6	-14.9	16.7	11.7	-89.8	37.0
2015	296.1	-21.1	316.9	84.9	58.2	76.2	-13.7	98.1	-20.5	-5.7	25.2	1.5
2016	489.5	-34.8	524.2	315.8	233.4	258.2	81.2	119.2	44.1	-11.1	78.1	4.3
2016 Q4	161.4	-20.2	181.7	78.6	61.6	69.1	19.4	35.1	3.8	3.3	15.3	1.6
2017 Q1	77.9	-10.9	88.3	147.8	97.7	86.5	27.9	51.1	18.2	0.5	40.6	9.5
Q2	23.5	-3.2	26.6	55.7	18.8	42.0	-2.5	39.2	-17.6	-0.3	20.9	16.0
Q3 [p)]	90.9	-10.0	101.0	80.7	87.3	93.0	20.8	41.6	26.3	-1.5	0.2	-6.8
2017 Apr.	26.6	1.8	24.7	-7.7	-4.7	6.6	7.1	12.0	-25.4	1.6	-0.3	-2.7
May	13.9	-3.2	17.0	31.0	14.1	22.8	8.8	9.1	-0.5	-3.3	16.9	0.0
June	-17.0	-1.8	-15.1	32.5	9.4	12.7	-18.4	18.1	8.2	1.5	4.3	18.7
July	34.9	-6.5	41.3	40.3	25.0	45.8	13.5	0.9	8.7	1.9	19.3	-4.0
Aug.	41.8	0.3	41.5	13.5	34.6	22.4	3.9	23.2	7.0	0.4	-15.7	-5.4
Sep. [p)]	14.2	-3.8	18.3	26.9	27.6	24.9	3.4	17.5	10.6	-3.8	-3.4	2.7
Growth rates												
2014	2.1	1.5	2.4	-0.8	-0.4	-0.3	-1.4	-0.3	1.8	11.9	-6.6	4.6
2015	8.2	-1.9	12.8	0.7	0.6	0.7	-0.3	1.9	-2.5	-4.4	2.0	0.2
2016	12.5	-3.1	18.8	2.5	2.2	2.4	1.9	2.2	5.6	-9.0	6.0	0.6
2016 Q4	12.5	-3.1	18.8	2.5	2.2	2.4	1.9	2.2	5.6	-9.0	6.0	0.6
2017 Q1	10.9	-4.2	16.8	3.1	2.4	2.7	1.7	2.5	4.9	3.6	8.2	4.6
Q2	8.2	-3.7	12.6	3.1	2.4	2.5	1.2	3.0	3.6	8.3	7.2	6.5
Q3 [p)]	8.4	-4.0	12.8	2.8	2.5	2.7	1.5	3.1	3.7	1.9	5.6	2.6
2017 Apr.	10.3	-4.4	16.0	2.9	2.2	2.6	1.6	2.6	2.6	1.5	7.6	4.5
May	9.6	-4.8	15.0	2.9	2.2	2.7	1.6	2.7	2.2	0.2	8.1	3.9
June	8.2	-3.7	12.6	3.1	2.4	2.5	1.2	3.0	3.6	8.3	7.2	6.5
July	7.7	-4.1	11.9	3.0	2.2	2.6	1.2	2.9	3.4	3.7	7.5	5.7
Aug.	8.4	-3.9	12.9	2.8	2.4	2.6	1.4	3.1	3.5	4.0	6.0	2.6
Sep. [p)]	8.4	-4.0	12.8	2.8	2.5	2.7	1.5	3.1	3.7	1.9	5.6	2.6

Source: ECB.

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

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

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

4) Including non-profit institutions serving households.

5 Money and credit

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

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

	Non-financial corporations [2)]					Households [3)]				
	Total		Up to 1 year	Over 1 and up to 5 years	Over 5 years	Total		Loans for consumption	Loans for house purchase	Other loans
		Adjusted loans [4)]					Adjusted loans [4)]			
	1	2	3	4	5	6	7	8	9	10
Outstanding amounts										
2014	4,317.2	4,270.2	1,112.3	724.9	2,480.0	5,200.2	5,545.5	562.9	3,860.9	776.4
2015	4,291.4	4,273.3	1,041.1	762.2	2,488.2	5,306.9	5,640.0	595.2	3,948.4	763.3
2016	4,313.5	4,312.8	998.3	798.3	2,516.8	5,407.7	5,724.3	615.0	4,044.9	747.7
2016 Q4	4,313.5	4,312.8	998.3	798.3	2,516.8	5,407.7	5,724.3	615.0	4,044.9	747.7
2017 Q1	4,334.2	4,332.9	1,004.3	803.0	2,526.9	5,456.5	5,768.2	626.5	4,085.6	744.4
Q2	4,297.6	4,310.2	988.7	797.4	2,511.4	5,486.4	5,798.7	634.8	4,113.9	737.8
Q3 [p)]	4,300.5	4,324.7	973.7	813.3	2,513.5	5,523.6	5,828.1	643.2	4,149.1	731.3
2017 Apr.	4,337.2	4,339.5	998.2	805.3	2,533.7	5,465.7	5,776.2	628.5	4,096.4	740.8
May	4,341.4	4,344.2	1,002.0	804.8	2,534.6	5,473.0	5,792.3	635.2	4,096.7	741.1
June	4,297.6	4,310.2	988.7	797.4	2,511.4	5,486.4	5,798.7	634.8	4,113.9	737.8
July	4,303.1	4,326.1	984.0	801.9	2,517.2	5,486.2	5,810.9	639.4	4,113.1	733.7
Aug.	4,302.4	4,325.4	980.7	804.5	2,517.2	5,507.3	5,819.9	642.2	4,132.6	732.5
Sep. [p)]	4,300.5	4,324.7	973.7	813.3	2,513.5	5,523.6	5,828.1	643.2	4,149.1	731.3
Transactions										
2014	-60.6	-67.1	-14.1	2.6	-49.0	-14.9	5.6	-3.0	-3.2	-8.7
2015	-13.7	22.9	-64.2	32.0	18.5	98.1	76.4	21.8	80.0	-3.6
2016	81.2	98.7	-18.1	44.3	55.0	119.2	113.8	23.4	105.0	-9.2
2016 Q4	19.4	29.8	-10.1	7.7	21.9	35.1	31.4	9.2	30.5	-4.5
2017 Q1	27.9	30.7	8.3	6.3	13.3	51.1	46.0	11.3	40.0	-0.3
Q2	-2.5	9.4	-2.1	0.6	-1.0	39.2	40.8	10.2	28.9	0.2
Q3 [p)]	20.8	36.5	-9.3	19.1	11.0	41.6	32.9	9.8	35.9	-4.2
2017 Apr.	7.1	9.9	-4.0	3.6	7.5	12.0	11.4	2.3	10.8	-1.1
May	8.8	8.5	7.5	1.0	0.3	9.1	18.0	7.1	1.1	0.9
June	-18.4	-9.0	-5.6	-4.0	-8.8	18.1	11.4	0.8	17.0	0.4
July	13.5	24.8	-1.4	6.1	8.8	0.9	12.5	5.1	-0.6	-3.6
Aug.	3.9	4.7	-1.4	3.7	1.6	23.2	11.2	3.2	20.0	0.0
Sep. [p)]	3.4	7.0	-6.5	9.4	0.5	17.5	9.2	1.6	16.5	-0.6
Growth rates										
2014	-1.4	-1.5	-1.3	0.4	-1.9	-0.3	0.1	-0.5	-0.1	-1.1
2015	-0.3	0.5	-5.8	4.4	0.7	1.9	1.4	3.8	2.1	-0.5
2016	1.9	2.3	-1.8	5.8	2.2	2.2	2.0	3.9	2.7	-1.2
2016 Q4	1.9	2.3	-1.8	5.8	2.2	2.2	2.0	3.9	2.7	-1.2
2017 Q1	1.7	2.4	-2.8	4.9	2.6	2.5	2.4	4.5	2.9	-1.2
Q2	1.2	2.0	-2.6	3.8	2.0	3.0	2.6	5.9	3.3	-1.1
Q3 [p)]	1.5	2.5	-1.3	4.3	1.8	3.1	2.7	6.7	3.4	-1.2
2017 Apr.	1.6	2.5	-3.0	4.9	2.6	2.6	2.5	4.6	3.0	-1.1
May	1.6	2.5	-2.5	4.9	2.3	2.7	2.6	6.3	2.9	-1.0
June	1.2	2.0	-2.6	3.8	2.0	3.0	2.6	5.9	3.3	-1.1
July	1.2	2.4	-2.2	3.7	1.9	2.9	2.6	6.7	3.1	-1.4
Aug.	1.4	2.4	-1.8	3.8	2.0	3.1	2.7	6.7	3.3	-1.3
Sep. [p)]	1.5	2.5	-1.3	4.3	1.8	3.1	2.7	6.7	3.4	-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										
2014	269.4	7,131.5	2,186.6	92.2	2,391.5	2,461.1	1,389.0	219.7	184.5	139.7
2015	284.8	6,997.7	2,119.7	79.8	2,254.7	2,543.5	1,353.7	262.5	205.9	135.6
2016	318.8	6,922.7	2,054.4	70.6	2,145.6	2,652.1	1,140.6	241.2	205.9	121.6
2016 Q4	318.8	6,922.7	2,054.4	70.6	2,145.6	2,652.1	1,140.6	241.2	205.9	121.6
2017 Q1	304.1	6,881.8	2,033.2	69.2	2,101.9	2,677.5	1,104.2	258.8	182.2	111.8
Q2	296.5	6,764.4	2,003.4	67.0	2,067.9	2,626.1	1,026.4	259.2	154.2	109.7
Q3 [p]	378.5	6,701.3	1,976.2	61.7	2,016.7	2,646.7	1,032.1	280.8	142.2	85.6
2017 Apr.	335.9	6,849.8	2,023.4	69.3	2,084.1	2,673.0	1,091.9	244.7	175.4	103.7
May	310.5	6,833.3	2,015.7	67.0	2,082.5	2,668.1	1,040.5	246.5	162.4	104.3
June	296.5	6,764.4	2,003.4	67.0	2,067.9	2,626.1	1,026.4	259.2	154.2	109.7
July	322.1	6,724.7	1,990.5	63.5	2,058.0	2,612.7	1,044.9	177.0	128.1	76.4
Aug.	352.3	6,728.8	1,981.2	62.6	2,039.7	2,645.3	1,027.6	276.2	124.4	69.0
Sep. [p]	378.5	6,701.3	1,976.2	61.7	2,016.7	2,646.7	1,032.1	280.8	142.2	85.6
Transactions										
2014	-4.0	-171.0	-120.8	2.0	-160.1	107.9	238.7	-13.2	0.7	17.8
2015	9.2	-212.8	-106.2	-13.5	-215.4	122.2	-85.3	-18.6	21.4	-4.0
2016	31.0	-104.3	-70.3	-9.1	-110.4	85.5	-275.8	-68.7	12.8	-12.0
2016 Q4	6.6	-9.5	-18.6	-2.6	-11.9	23.6	-43.9	-90.4	-0.2	-7.5
2017 Q1	-16.2	-14.1	-15.0	-1.4	-30.8	33.2	-37.3	-3.5	-22.5	-9.1
Q2	-7.6	-6.1	-22.2	-2.1	3.4	14.8	-18.9	15.0	-28.0	-2.1
Q3 [p]	87.8	-14.4	-24.2	-2.9	-30.6	43.3	35.9	24.9	-11.9	-24.1
2017 Apr.	31.8	-13.1	-8.2	0.2	-6.2	1.1	-0.7	-10.3	-6.8	-8.2
May	-25.4	14.9	-5.6	-2.3	14.3	8.4	-28.1	16.2	-13.0	0.6
June	-14.0	-7.9	-8.4	0.0	-4.7	5.3	9.8	9.2	-8.2	5.4
July	25.7	-0.3	-10.8	-1.1	3.7	7.9	38.3	-68.1	-26.0	-33.3
Aug.	30.1	0.1	-8.2	-0.8	-10.7	19.9	-18.2	91.2	-3.7	-7.5
Sep. [p]	32.0	-14.2	-5.2	-1.0	-23.5	15.4	15.7	1.8	17.8	16.6
Growth rates										
2014	-1.6	-2.3	-5.1	2.2	-6.3	4.5	-	-	0.4	14.6
2015	3.6	-2.9	-4.8	-14.5	-8.8	4.9	-	-	11.6	-2.9
2016	10.9	-1.5	-3.3	-11.5	-4.9	3.3	-	-	6.3	-9.0
2016 Q4	10.9	-1.5	-3.3	-11.5	-4.9	3.3	-	-	6.3	-9.0
2017 Q1	-4.6	-1.0	-3.9	-10.1	-4.6	4.5	-	-	-21.1	-25.3
Q2	-8.2	-1.1	-3.9	-10.8	-3.7	3.7	-	-	-30.7	-22.6
Q3 [p]	22.5	-0.6	-3.9	-12.4	-3.3	4.4	-	-	-30.4	-33.3
2017 Apr.	5.5	-1.3	-4.2	-9.0	-4.6	4.0	-	-	-20.8	-24.8
May	3.2	-1.1	-4.3	-11.6	-3.9	4.0	-	-	-23.4	-23.6
June	-8.2	-1.1	-3.9	-10.8	-3.7	3.7	-	-	-30.7	-22.6
July	-2.5	-0.8	-4.0	-11.4	-2.7	3.7	-	-	-35.6	-39.5
Aug.	9.2	-0.7	-4.1	-11.7	-2.9	4.1	-	-	-38.2	-48.0
Sep. [p]	22.5	-0.6	-3.9	-12.4	-3.3	4.4	-	-	-30.4	-33.3

Source: ECB.

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

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

3) Not adjusted for seasonal effects.

6 Fiscal developments

6.1 Deficit/surplus

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

	Deficit (-)/surplus (+)					Memo item: Primary deficit (-)/ surplus (+)
	Total	Central government	State government	Local government	Socual security funds	
	1	2	3	4	5	6
2013	-3.0	-2.6	-0.2	-0.1	-0.1	-0.2
2014	-2.6	-2.2	-0.2	0.0	-0.1	0.1
2015	-2.1	-2.0	-0.2	0.1	-0.1	0.3
2016	-1.5	-1.7	-0.1	0.2	0.0	0.6
2016 Q3	-1.8	.	.	.	.	0.5
Q4	-1.5	.	.	.	.	0.6
2017 Q1	-1.3	.	.	.	.	0.8
Q2	-1.3	.	.	.	.	0.9

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
2013	46.7	46.2	12.6	13.0	15.5	0.5	49.8	45.6	10.4	5.3	2.8	23.0	4.2
2014	46.7	46.2	12.5	13.1	15.4	0.5	49.2	45.3	10.3	5.3	2.6	23.0	3.9
2015	46.2	45.7	12.5	13.0	15.2	0.5	48.3	44.4	10.1	5.2	2.4	22.7	3.9
2016	46.1	45.6	12.6	13.0	15.3	0.5	47.6	44.1	10.0	5.2	2.2	22.7	3.5
2016 Q3	46.1	45.6	12.5	13.0	15.3	0.5	47.9	44.1	10.0	5.2	2.2	22.7	3.8
Q4	46.1	45.6	12.6	13.0	15.3	0.4	47.6	44.1	10.0	5.2	2.2	22.7	3.5
2017 Q1	46.1	45.6	12.6	13.0	15.3	0.4	47.4	43.9	9.9	5.1	2.2	22.7	3.5
Q2	46.1	45.7	12.7	13.0	15.3	0.4	47.4	43.9	9.9	5.1	2.1	22.7	3.5

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
2013	91.3	2.6	17.5	71.2	45.4	26.4	45.9	10.4	81.0	19.4	32.1	39.9	89.3	2.1
2014	91.8	2.7	17.1	72.0	44.1	25.8	47.7	10.0	81.9	18.8	31.8	41.2	89.7	2.1
2015	89.9	2.8	16.1	71.0	44.3	27.3	45.6	9.3	80.7	17.6	31.2	41.1	87.9	2.1
2016	88.9	2.7	15.4	70.8	46.2	30.7	42.7	8.9	80.0	17.1	29.8	41.9	86.9	2.1
2016 Q3	89.7	2.7	15.6	71.4	.	.	.	.	.	.	.	.	.	.
Q4	88.9	2.7	15.4	70.8	.	.	.	.	.	.	.	.	.	.
2017 Q1	89.2	2.6	15.1	71.4	.	.	.	.	.	.	.	.	.	.
Q2	89.1	2.7	14.8	71.5	.	.	.	.	.	.	.	.	.	.

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
2013	1.9	0.2	-0.3	-0.8	-0.5	-0.4	-0.2	0.4	0.2	0.3	1.9	2.6
2014	0.5	-0.1	-0.1	-0.3	0.2	-0.2	-0.3	0.0	0.1	0.2	0.6	2.4
2015	-1.9	-0.3	-0.9	-0.5	0.2	-0.2	-0.3	-0.1	-0.1	-0.3	-0.8	1.3
2016	-1.0	-0.6	-0.3	0.3	0.3	-0.1	0.0	0.1	-0.3	-0.3	-0.1	1.6
2016 Q3	-1.4	-0.5	-0.5	-0.2	0.2	-0.1	-0.3	0.0	-0.2	-0.1	-0.4	1.5
Q4	-1.0	-0.6	-0.3	0.3	0.3	-0.1	0.0	0.1	-0.3	-0.3	-0.1	1.6
2017 Q1	-1.7	-0.8	-0.5	-0.1	-0.1	-0.1	0.0	0.2	-0.3	-0.2	-0.3	1.0
Q2	-1.7	-0.9	-0.7	-0.3	-0.2	-0.1	-0.1	0.1	-0.2	-0.1	-0.2	0.8

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

6.5 Government debt securities [1)]

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

	Debt service due within 1 year [2)]					Average residual maturity in years [3)]	Average nominal yields [4)]						
	Total	Principal		Interest			Outstanding amounts					Transactions	
			Maturities of up to 3 months		Maturities of up to 3 months		Total	Floating rate	Zero coupon	Fixed rate	Maturities of up to 1 year	Issuance	Redemption
	1	2	3	4	5	6	7	8	9	10	11	12	13
2014	15.8	13.8	5.1	2.0	0.5	6.4	3.1	1.6	0.4	3.5	2.8	0.8	1.6
2015	14.7	12.8	4.3	1.9	0.5	6.6	2.9	1.4	0.1	3.3	3.0	0.4	1.2
2016	14.2	12.5	4.6	1.7	0.4	6.7	2.6	1.2	-0.1	3.0	2.9	0.2	1.2
2016 Q2	14.9	13.1	4.8	1.8	0.5	6.7	2.7	1.3	-0.1	3.1	3.0	0.3	1.1
Q3	14.4	12.7	4.0	1.7	0.4	6.8	2.6	1.3	-0.1	3.1	2.9	0.2	1.2
Q4	14.2	12.5	4.6	1.7	0.4	6.9	2.6	1.2	-0.1	3.0	2.9	0.2	1.2
2017 Q1	14.4	12.6	4.3	1.7	0.4	6.9	2.6	1.2	-0.2	3.0	2.9	0.2	1.1
2017 Apr.	14.1	12.4	4.3	1.7	0.4	7.0	2.6	1.2	-0.2	3.0	2.7	0.2	1.2
May	14.2	12.5	4.3	1.7	0.4	7.0	2.5	1.2	-0.2	2.9	2.6	0.1	1.2
June	13.8	12.1	4.3	1.7	0.4	7.1	2.5	1.2	-0.2	2.9	2.6	0.2	1.2
July	13.5	11.8	4.3	1.7	0.4	7.1	2.5	1.2	-0.2	2.9	2.5	0.2	1.3
Aug.	13.7	12.0	4.3	1.7	0.4	7.1	2.5	1.1	-0.2	2.9	2.5	0.2	1.2
Sep.	13.4	11.7	3.9	1.7	0.4	7.1	2.4	1.1	-0.2	2.9	2.5	0.2	1.1

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 (+)								
2013	-3.1	-0.1	-0.2	-6.1	-13.2	-7.0	-4.1	-2.9	-5.1
2014	-3.1	0.3	0.7	-3.6	-3.6	-6.0	-3.9	-3.0	-8.8
2015	-2.5	0.6	0.1	-1.9	-5.7	-5.3	-3.6	-2.6	-1.2
2016	-2.5	0.8	-0.3	-0.7	0.5	-4.5	-3.4	-2.5	0.5
2016 Q3	-2.8	0.6	0.3	-1.6	-1.9	-4.9	-3.3	-2.4	-1.0
Q4	-2.5	0.8	-0.3	-0.7	0.4	-4.5	-3.4	-2.5	0.5
2017 Q1	-2.0	1.0	-0.5	-0.5	1.0	-4.1	-3.4	-2.4	0.8
Q2	-1.5	0.8	-0.5	-0.6	1.0	-3.6	-3.3	-2.4	1.0
	Government debt								
2013	105.5	77.4	10.2	119.4	177.4	95.5	92.4	129.0	102.6
2014	106.8	74.6	10.7	104.5	179.0	100.4	95.0	131.8	107.5
2015	106.0	70.9	10.0	76.9	176.8	99.4	95.8	131.5	107.5
2016	105.7	68.1	9.4	72.8	180.8	99.0	96.5	132.0	107.1
2016 Q3	108.8	69.2	9.5	75.1	176.4	99.9	97.4	132.1	111.5
Q4	106.1	68.1	9.4	72.8	179.1	99.0	96.5	132.0	108.5
2017 Q1	107.8	66.6	9.2	74.7	176.2	99.9	98.8	134.0	107.6
Q2	106.6	66.0	8.9	74.3	175.0	99.8	99.3	134.7	107.6

	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Austria	Portugal	Slovenia	Slovakia	Finland
	10	11	12	13	14	15	16	17	18	19
	Government deficit (-)/surplus (+)									
2013	-1.0	-2.6	1.0	-2.4	-2.4	-2.0	-4.8	-14.7	-2.7	-2.6
2014	-1.2	-0.6	1.3	-1.8	-2.3	-2.7	-7.2	-5.3	-2.7	-3.2
2015	-1.2	-0.2	1.4	-1.1	-2.1	-1.0	-4.4	-2.9	-2.7	-2.7
2016	0.0	0.3	1.6	1.1	0.4	-1.6	-2.0	-1.9	-2.2	-1.7
2016 Q3	0.2	0.3	1.6	0.9	-0.4	-0.7	-3.7	-1.8	-2.4	-2.0
Q4	0.0	0.3	1.6	1.1	0.4	-1.6	-2.0	-1.9	-2.2	-1.7
2017 Q1	-0.1	0.7	0.5	2.3	1.0	-1.2	-1.6	-1.4	-1.9	-1.5
Q2	0.4	0.7	0.4	2.0	1.1	-1.3	-1.4	-1.2	-1.7	-0.9
	Government debt									
2013	39.0	38.8	23.7	68.4	67.8	81.0	129.0	70.4	54.7	56.5
2014	40.9	40.5	22.7	63.8	68.0	83.8	130.6	80.3	53.5	60.2
2015	36.9	42.6	22.0	60.3	64.6	84.3	128.8	82.6	52.3	63.6
2016	40.6	40.1	20.8	57.6	61.8	83.6	130.1	78.5	51.8	63.1
2016 Q3	38.3	41.2	21.6	59.3	61.5	82.7	132.8	81.7	52.7	61.6
Q4	40.5	40.1	20.8	57.6	61.8	83.6	130.1	78.5	51.9	63.1
2017 Q1	39.4	39.2	23.9	58.1	59.6	81.7	130.4	80.2	53.5	62.6
Q2	40.0	41.7	23.4	56.8	58.7	81.4	132.1	79.8	51.8	61.8

Source: Eurostat.

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