EUROPEAN CENTRAL BANK

EUROSYSTEM

Economic Bulletin

Issue 5 / 2017

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Update on economic and monetary developments

Summary

The ECB's monetary policy measures have continued to secure the very supportive financing conditions that are necessary to make continuous progress towards a sustained convergence of inflation rates to levels below, but close to, 2% over the medium term. The incoming information confirms a continued strengthening of the economic expansion in the euro area, which has been broadening across sectors and regions.[1] The risks to the growth outlook are broadly balanced. While the ongoing economic expansion provides confidence that inflation will gradually head to levels in line with the Governing Council's inflation aim, it has yet to translate into stronger inflation dynamics.

At the global level, available indicators point to sustained global growth during the second quarter of 2017. Global headline inflation has moderated, reflecting waning support from energy prices. Global financial conditions have remained overall supportive, despite increases in long-term interest rates in advanced economies.

Since the last Governing Council meeting in June, euro area long-term interest rates have risen, also on account of the improved growth prospects. Overall, the EONIA forward curve has moved upwards by around 15 basis points on average across maturities since early June. Euro area equity prices have declined for non-financial corporations but have increased for financial firms, while solid earnings expectations have continued to support prices in both sectors. Corporate bond yields have risen, as have risk-free interest rates, but corporate spreads have tightened, which is likely to reflect market expectations of solid economic growth in the euro area, among other things. The euro has appreciated in nominal effective terms.

Incoming data, notably survey results, continue to point to solid, broad-based growth in the euro area in the near term. The pass-through of the monetary policy measures is supporting domestic demand and has facilitated the deleveraging process. The recovery in investment continues to benefit from very favourable financing conditions and improvements in corporate profitability. Private consumption is supported by employment gains, which are also benefiting from past labour market reforms, and by increasing household wealth. Moreover, the global recovery should increasingly lend support to trade and euro area exports. However, economic growth prospects continue to be dampened by a slow pace of implementation of structural reforms, particularly in product markets, and by remaining balance sheet adjustment needs in a number of sectors, notwithstanding ongoing improvements. The risks surrounding the euro area growth outlook remain broadly balanced. On the one hand, the ongoing positive cyclical momentum could generate a stronger than expected

[1] Taking into account information available at the time of the Governing Council meeting on 20 July 2017.

economic upswing. On the other hand, downside risks primarily relating to global factors continue to exist.

Euro area annual HICP inflation was 1.3% in June, down from 1.4% in May, mainly due to lower energy price inflation. Looking ahead, on the basis of current futures prices for oil, headline inflation is likely to remain around current levels in the coming months. At the same time, measures of underlying inflation remain low and have yet to show convincing signs of a pick-up, as domestic cost pressures, including wage growth, are still subdued. Underlying inflation in the euro area is expected to rise only gradually over the medium term, supported by monetary policy measures, the continuing economic expansion and the corresponding gradual absorption of economic slack.

Broad money continued to expand at a robust pace, driven mainly by its most liquid components. In addition, the recovery in loans to the private sector observed since the beginning of 2014 is proceeding, supported by easing credit standards and increasing loan demand. Financing costs for euro area non-financial corporations and households remain favourable. The euro area bank lending survey for the second quarter of 2017 indicates that credit standards for loans to enterprises and loans to households for house purchase have further eased and that loan growth continues to be supported by increasing demand.

At its meeting on 20 July 2017, based on the regular economic and monetary analyses, the Governing Council decided to keep the key ECB interest rates unchanged. The Governing Council continues to expect the key ECB interest rates to remain at their present levels for an extended period of time, and well past the horizon of the net asset purchases. Regarding non-standard monetary policy measures, the Governing Council confirmed that the net asset purchases, at the current monthly pace of €60 billion, are intended to run until the end of December 2017, 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. The net purchases are made alongside reinvestments of the principal payments from maturing securities purchased under the asset purchase programme.

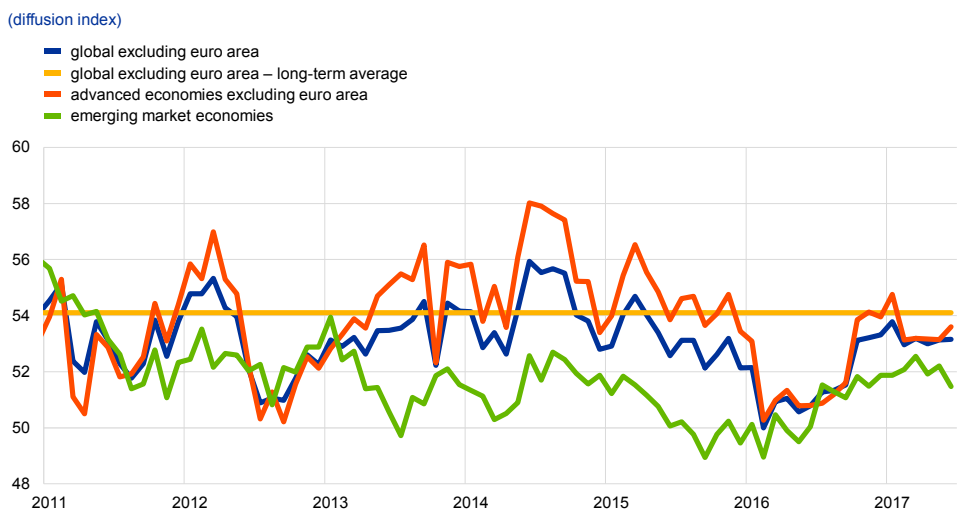
Looking ahead, the Governing Council confirmed that a very substantial degree of monetary accommodation is needed for euro area inflation pressures to gradually build up and support headline inflation developments in the medium term. If the outlook becomes less favourable, or if financial conditions become inconsistent with further progress towards a sustained adjustment in the path of inflation, the Governing Council stands ready to increase the asset purchase programme in terms of size and/or duration.

1 External environment

Survey-based indicators point to sustained global growth. In the second quarter of 2017 the global composite output Purchasing Managers' Index (PMI) (excluding the euro area) remained at levels similar to those recorded in the previous two quarters, close to long-run averages, suggesting a continuing steady expansion in global activity (see Chart 1). Among the major advanced economies, the PMI declined in the United States, while it picked up in the United Kingdom compared with the first quarter. Among emerging market economies, the PMI improved in India and Brazil, in the latter case pointing to an expansion for the first time in three years. The PMI decreased in China to stand just above the expansion threshold.

Chart 1

Global composite output PMI



Sources: Markit and ECB calculations.
Note: The latest observations are for June 2017.

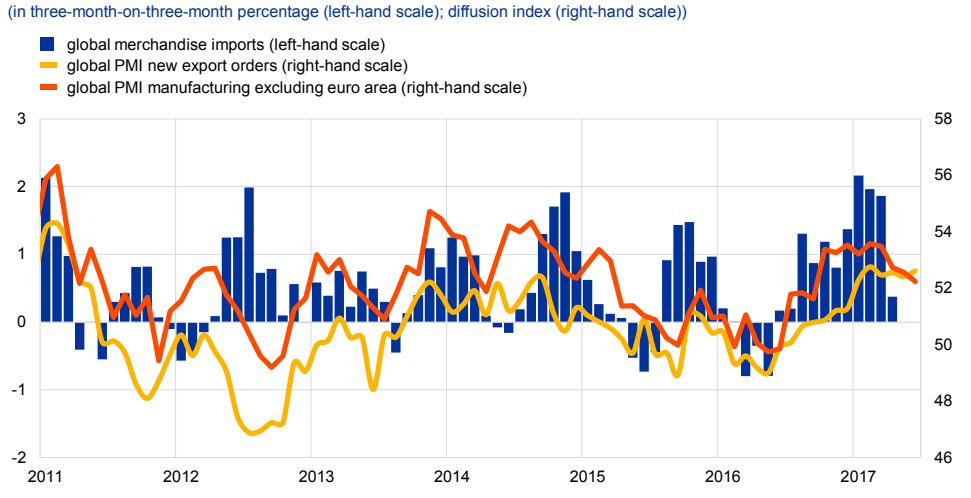
Global financial conditions remain overall supportive. Equity markets have moderated slightly in advanced economies over the past few weeks. Long-term interest rates have risen slightly in a number of major advanced economies amid market expectations about a gradual lessening of monetary accommodation. Among emerging market economies, long-term interest rates have also risen. However, in China, interbank rates have moderated slightly in the past few weeks, after a period since the beginning of the year in which financial conditions had tightened as authorities sought to curb leverage in the financial system, particularly in small banks and non-bank institutions.

Global trade growth moderated in April. Following a boost at the turn of the year, global trade growth slowed in April (see Chart 2). The volume of merchandise imports decelerated strongly, in three-month-on-three-month terms, from 1.9% in March to 0.4% in April. The slowdown in merchandise trade was mainly driven by emerging market economies. Leading indicators continue, however, to signal positive prospects in the near term. In particular, the global PMI for new export orders

increased to 52.6 in June. Moreover, industrial activity developments have recently remained relatively robust across regions, which should be supportive of trade.

Chart 2

Global trade and surveys



Sources: Markit, CPB Netherlands Bureau for Economic Policy Analysis and ECB staff calculation.
Note: The latest observations are for April 2017 for global merchandise imports, and June 2017 for PMIs.

Global inflation slowed in May. After a slight increase in April to 2.4%, annual consumer price inflation in the Organisation for Economic Co-operation and Development (OECD) area declined to 2.1% in May. This was largely due to a declining positive contribution of energy prices which more than offset the increasing contribution of food prices. Excluding food and energy, OECD annual inflation declined slightly to 1.8% in May.

Oil prices have fluctuated in recent weeks. After declining in the course of June, Brent crude oil prices have recovered more recently. The initial decrease appears to have reflected beliefs in the market that the decision by OPEC and non-OPEC producers to extend their global supply restraint until next spring would be insufficient to rebalance the oil market and sustain higher prices. More recently, oil prices have rebounded following news of a slowdown in the growth rate in the US rig count, as well as a reduction in OECD industry stocks by 6 million barrels in May.

Economic activity in the United States rebounded in the second quarter. Real GDP growth has improved in the second quarter compared with the previous quarter, with real consumer spending and inventories recovering from the very low outcomes in the first quarter. Moreover, the tightening labour market, solid increases in asset prices and the consumers' confidence indexes support economic growth. Headline and core inflation softened in the last three months, mostly owing to temporary factors. Annual CPI inflation declined further in June to 1.6% while inflation excluding food and energy was stable at 1.7%. In recent months, core CPI has been dampened by a sharp drop in prices for mobile telephone services and a weaker shelter component. The Federal Reserve System increased interest rates at its June meeting. It also announced the intention to start normalising its balance sheet later

this year. Specifically, the principal payments received from its security holdings will be reinvested only to the extent that they exceed gradually rising caps.

The expansion of economic activity in Japan continues. Real GDP increased by 0.3% quarter on quarter in the first quarter of 2017, revised down slightly from the previous estimate. Looking ahead, solid domestic demand should support activity, while exports are set to decelerate. Industrial production increased only moderately in the first two months of the second quarter, which could be linked to weaker export performance. The labour market remains tight. The unemployment rate stood at 3.1% in May 2017, and in the same month the job-offers-to-applicant ratio reached a level unseen since the early 1990s. However, wage growth has remained weak. Consumer price inflation has also been subdued. Annual headline consumer price inflation was 0.4% in May, while consumer price inflation excluding food and energy fell to -0.2%.

In the United Kingdom, economic activity has slowed down markedly. In the first quarter of 2017, real GDP increased by 0.2% quarter on quarter, down from 0.7% in the previous quarter. The slowdown was led by a decline in private consumption, as households started to feel the squeeze from rising inflation and falling real wages. Recent indicators overall suggest that the pace of economic expansion remained relatively muted in the second quarter of 2017. Although annual CPI inflation fell to 2.7% in June, inflation rates remain elevated because of upward pressure from the depreciation of the pound sterling since the UK referendum on membership of the European Union. On 19 June 2017, almost exactly one year on from the referendum, the European Union and the United Kingdom started the "Brexit" negotiations in accordance with Article 50 of the Treaties.

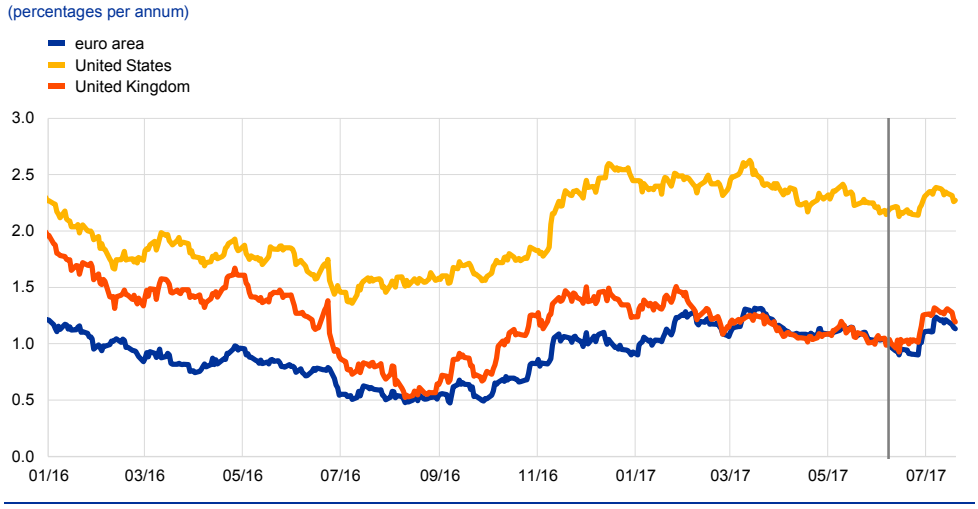
Momentum in the Chinese economy remains robust. GDP expanded by 6.9% in year-on-year terms in the second quarter. Consumer price inflation remains moderate. At the same time, leverage in the economy continues to rise, notwithstanding measures undertaken by the authorities to address financial market risks.

2 Financial developments

Euro area government bond yields have generally risen since early June, however over the period under review – 8 June to 19 July 2017 – the increase in yields took place from the last week in June. This resulted from a revision by market participants of their expectations on future monetary policy, effectively confirming that the macroeconomic outlook was firming. Overall, the euro area ten-year overnight index swap yield and euro area ten-year sovereign bond yields, as measured by their GDP-weighted average, increased by around 15 points (see Chart 3). Across countries, the increases in sovereign bond yields ranged from a few basis points to slightly over 20 basis points. Spreads vis-à-vis the rate on German ten-year bonds overall tended to tighten, especially in Greece, Italy, Spain and Portugal. In the United Kingdom sovereign bond yields rose roughly in line with those in the euro area countries, while increases were more limited in the United States and negligible in Japan. On account of the re-pricing that took place in the euro area government bond market at around the end of June, bond price volatility increased temporarily but reverted in the course of July to below the levels prevailing in around early June. US bond price volatility overall also declined over the review period.

Chart 3

Ten-year sovereign bond yields



Source: Thomson Reuters.
Notes: Daily data. The solid vertical line refers to the start of the review period (8 June 2017). The latest observation is for 19 July 2017. For the euro area, the GDP-weighted average of ten-year euro area sovereign bond yields is reported.

Yields on bonds issued by non-financial corporations (NFCs) rose during the period under review but more modestly than risk-free rates. As a result, their spreads over AAA-rated sovereign yields tightened. Overall, the decline in the corporate spreads in spite of rising yields may have occurred, among other factors, on account of the positive momentum recorded by the euro area business cycle, a development that has historically been associated with low levels of corporate defaults. On 19 July, investment grade NFC bond spreads (on average across the rating classes AAA, AA, A and BBB) were 9 basis points lower than in early June and around 35 basis points lower than in March 2016, when the Governing Council announced the launch of the corporate sector purchase programme (CSPP).

Spreads on non-investment grade corporate debt and for debt issued by financial firms (which is ineligible for purchase under the CSPP) also declined during the period under review, by around 30 and 15 basis points, respectively. On 19 July such spreads were around 270 and 35 basis points lower than in March 2016. Corporate bond yield levels also rose in other main economic areas on the back of the rise in risk-free yields.

The EONIA was stable at around -36 basis points during the review period. Excess liquidity in the banking system was little changed at around €1,650 billion, with the elevated level continuing to be supported by securities purchases under the ECB's asset purchase programme.

The EONIA forward curve shifted upwards by around 15 basis points on average across maturities over the review period. The upward movement of the curve took place entirely from late June. Overall, the increase in the EONIA forward rates peaked for maturities ranging between four and six years, at slightly below 25 basis points. Forward rates rose marginally for very long maturities and especially for maturities shorter than two years. The curve remains below zero for horizons prior to December 2019.

Broad indices of euro area equity prices have declined since early June. At the end of the period under review the equity prices of euro area NFCs were around 1.6% lower than in early June, while prices rose by 1.7% for financial corporations. On the one hand, expectations of solid growth in earnings continued to support euro area equity prices, in line with the broad-based improvement in the euro area macroeconomic environment (see Box 2). On the other hand, the recent increase in yields, and the associated higher discount rates applied to expected profits, exerted a downward pressure on stock prices. As for financial corporations, market participants may have interpreted the upward revision to interest rate expectations as a development supportive of higher interest rate margins and future profitability, thereby explaining the diverging behaviour of equity prices between financial and non-financial corporations. Over the review period, equity prices of NFCs declined in the United Kingdom, by 1.1%, while they rose in the United States and in Japan, by slightly above 1% and by 2% respectively. The equity prices of financial corporations rose in these advanced economies by comparatively more than in the euro area, with the exception of Japan where prices remained broadly stable. Since early June market expectations of equity price volatility in both the euro area and the United States have overall remained unchanged. As at 19 July such expectations stood on an annualised basis at around 11% and 7%, respectively, values that are comparatively low in historical perspective.

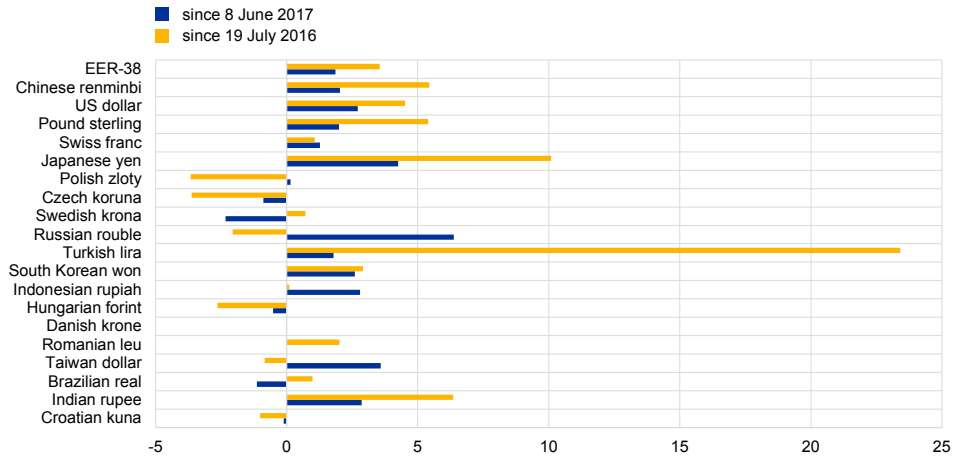
In foreign exchange markets, the euro broadly appreciated in effective terms. From 8 June, the euro appreciated vis-à-vis all major currencies, including the US dollar (by 2.7%), the pound sterling (by 2.0%), the Japanese yen (by 4.2%) and the Swiss franc (by 1.3%). The broad-based appreciation reflected the evolution of market expectations regarding the monetary policy stance of major economies and the continued recovery of the euro area economy. At the same time, the currencies of some central and eastern European non-euro area Member States appreciated

slightly vis-à-vis the euro, including the Czech koruna (by 0.9%) and the Hungarian forint (by 0.5%) (see Chart 4).

Chart 4

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

(percentages)



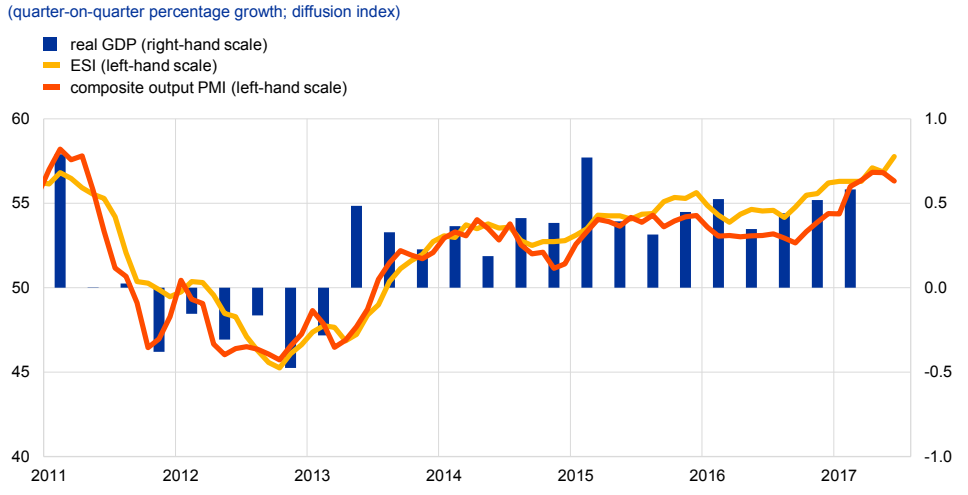
Source: ECB.
Note: EER-38 is the nominal effective exchange rate of the euro against the currencies of 38 of the euro area's most important trading partners. All changes are computed using the foreign exchange rates prevailing on 19 July 2017.

3 Economic activity

The broad-based and resilient domestic demand-driven economic expansion in the euro area continues. Real GDP continued to increase in the first quarter of 2017 (see Chart 5), on the back of positive contributions from domestic demand and, to a lesser extent, changes in inventories. The latest economic indicators, both hard data and survey results, remain buoyant and point to ongoing robust growth in the second quarter 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)



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 first quarter of 2017 for real GDP and June 2017 for the ESI and the PMI.

Household spending continues to rise and remains an important driver of the ongoing economic expansion. However, the outcome for the first quarter of 2017 was relatively low, at least in comparison with consumption developments over the previous three years, and may reflect a number of temporary factors including higher oil prices. At the same time, the annual rate of increase in real household disposable income rose to 1.7% in the first quarter, up from 1.3% in the previous quarter. This rise mainly reflects a larger contribution from property income, which suggests that stronger corporate profitability may be starting to add to household income (e.g. as a result of higher dividends), further underpinning consumption growth. In the first quarter of 2017 the saving rate remained stable on an annual basis compared with the previous quarter, as annual growth in disposable income and consumption both rose at the same rate.

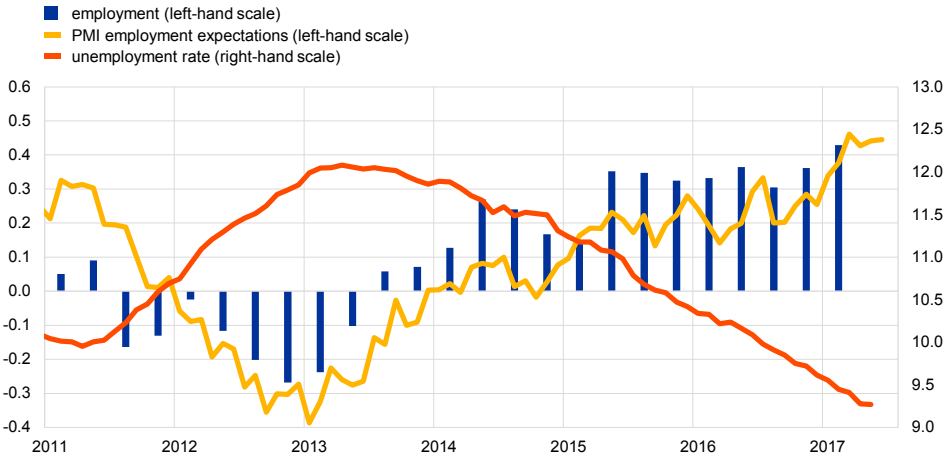
Euro area labour markets continue to improve, thereby boosting household income and spending. The most recent data show that quarter-on-quarter employment rose further, by 0.4%, in the first quarter of 2017, resulting in an annual increase of 1.5%. As a result, employment currently stands 4% above the last trough in the second quarter of 2013 and is now slightly above its pre-crisis peak in the first quarter of 2008. The unemployment rate in the euro area edged down to 9.3% in

April 2017 and remained at that level in May, which is 2.8 percentage points below its post-crisis peak in April 2013 (see Chart 6). This decline has been broad-based across age and gender groups. Long-term unemployment (capturing those who have been unemployed for at least 12 months) also continues to decline, but remains well above its pre-crisis level. Survey information points to continued improvements in labour markets in the period ahead.

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 first quarter of 2017 for employment, June 2017 for the PMI and May 2017 for unemployment.

Consumption growth is expected to remain resilient. Recent data on retail trade and new passenger car registrations are in line with sustained growth in consumer spending in the second quarter of 2017, possibly at a somewhat faster pace than that observed in the first quarter. Further employment growth, as suggested by the latest survey indicators, should also continue to support aggregate income and thus consumer spending. In addition, consumer confidence improved markedly in the second quarter and has now, for the first time, surpassed its pre-crisis peak in May 2007. Finally, households' net worth relative to disposable income continues to rise, owing largely to valuation gains on financial assets and real estate holdings. These developments suggest further support for underlying consumption dynamics.

Robust euro area business investment growth in the first quarter of 2017 should continue in the second quarter. Non-construction investment was driven mainly by a rise in investment in machinery and equipment. In the second quarter improving conditions in the capital goods sector, such as increasing capacity utilisation, rising orders, stronger confidence and survey evidence suggesting fewer perceived limits to production, taken together, signal an acceleration in the current investment momentum. Data on industrial production of capital goods up to May also suggest rising business investment in the second quarter. With regard to construction investment, monthly construction production data point to growth in the second quarter of 2017. Furthermore, survey indicators on the demand situation and

the assessment of order books in the sector, as well as building permits, are still in line with positive underlying dynamics in the short term.

Investment is expected to remain an important contributor to the medium-term growth outlook. Rising foreign and strong domestic demand, together with low financing costs (see also the box entitled "Lower interest rates and sectoral changes in interest income" in this issue of the Economic Bulletin) and waning financial and economic uncertainty, as well as robust corporate profit growth, should increasingly promote investment. In particular, corporate gross operating surplus growth strengthened markedly in the first quarter of 2017, according to the euro area sectoral accounts, and earnings expectations for listed companies in the euro area rose in the first half of 2017. With regard to construction investment, factors such as rising household disposable income and improving lending conditions should underpin demand in the sector.

Monthly trade data suggest that growth in euro area exports will continue in the near term. Total euro area exports rose by 1.2% in the first quarter, on account of strong goods exports which were supported by the rebound in global trade. Monthly trade in goods outcomes up to May suggest that growth in extra-euro area exports remained relatively strong in the second quarter of 2017 in line with developments in foreign demand. Exports (as measured by three-month-on-three-month percentage changes) seem to have been underpinned by demand mainly from Asia, whereas the United States and Latin America provided a negative contribution. Leading indicators such as surveys continue to signal ongoing improvements in foreign demand, and new manufacturing export orders have risen.

Overall, the latest economic indicators are, on balance, consistent with ongoing real GDP growth in the second quarter of 2017, at around the same rates as in the previous two quarters. Industrial production (excluding construction) recorded a further rise in May. As a result, average production in April and May stood 1.2% above its level in the first quarter of the year, when it edged up by 0.1% on a quarterly basis. More timely survey data are also in line with continued positive growth dynamics in the near term. In the second quarter of 2017 the composite output Purchasing Managers' Index (PMI) averaged 56.6 compared with 55.6 in the first quarter, while the European Commission's Economic Sentiment Indicator (ESI) rose to 110.0 from 108.0 in the first quarter (see Chart 5). Consequently, both the ESI and the PMI, which remain above their respective long-term averages, are approaching their pre-crisis peaks (recorded in 2007 and 2006 respectively).

Looking ahead, the ongoing economic expansion is expected to continue to firm and broaden. The pass-through of the monetary policy measures is supporting domestic demand and has facilitated the deleveraging process. The recovery in investment continues to benefit from very favourable financing conditions and improvements in corporate profitability. Private consumption is being supported by employment gains on the back of past labour market reforms and by increasing household wealth. Moreover, the global recovery should increasingly lend support to trade and euro area exports. However, economic growth prospects continue to be dampened by a slow pace of implementation of structural reforms, particularly in

product markets, and by remaining balance sheet adjustment needs in a number of sectors, notwithstanding ongoing improvements. The results of the latest round of the ECB's Survey of Professional Forecasters, conducted in early July, show that private sector GDP growth forecasts were revised upwards for 2017, 2018 and 2019 in comparison with the previous round conducted in early April.

The risks surrounding the euro area growth outlook remain broadly balanced. On the one hand, the current positive cyclical momentum increases the chances of a stronger than expected economic upswing. On the other hand, downside risks primarily relating to global factors continue to exist.

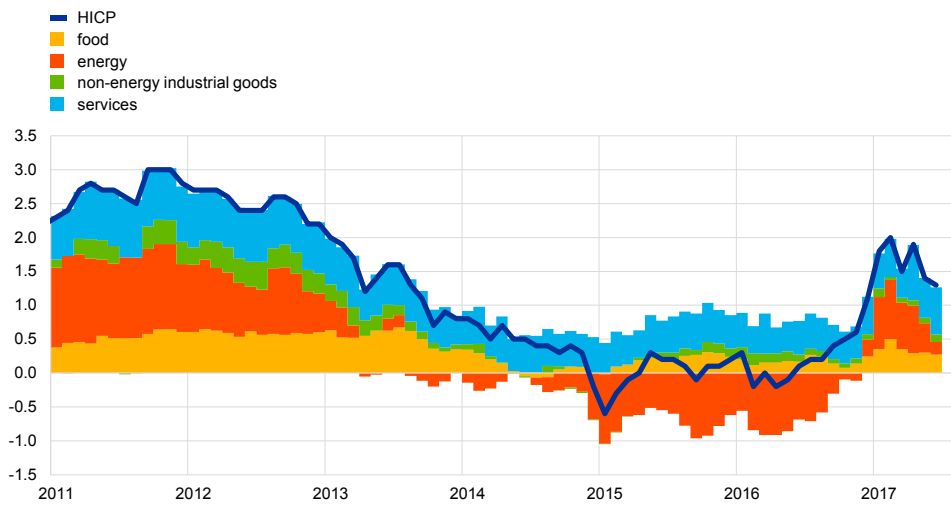
4 Prices and costs

Headline inflation fell slightly in June. Headline HICP inflation was 1.3% in June, after 1.4% in May (see Chart 7). This mainly reflected a decline in energy inflation and, to a smaller extent, food inflation, which was partly offset by an increase in HICP inflation excluding energy and food. The large decline in energy inflation in June reflected the impact of a decrease in oil prices between mid-May and mid-June, as well as a smaller base effect than in the previous month. For unprocessed food price inflation, the unwinding of the unusually large increases at the start of the year continued in June.

Chart 7

Contributions of components to euro area headline HICP inflation

(annual percentage changes; percentage point contributions)



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

Underlying inflation has yet to show convincing signs of a sustained upward adjustment. Looking beyond the movements from one month to the next, measures of underlying inflation are somewhat higher than at the end of last year but remain overall subdued. HICP inflation excluding energy and food stood at 1.1% in June, after 0.9% in May and 1.2% in April. The June data saw the end of Easter-related calendar effects for this year. If, in addition to energy and food, the very volatile components clothing and footwear and travel-related items are excluded, HICP inflation shows only a modest uptick in recent months. Furthermore, most alternative measures of underlying inflation also do not indicate a pick-up yet. This may reflect in part the lagged downward indirect effects of past low oil prices but also, more fundamentally, continued weak domestic cost pressures.

Pricing pressures at the early stages of the supply chain have yet to transmit to consumer good producer prices. The strong pick-up in global non-energy producer price inflation beginning in mid-2016 contributed to some upward pressure on the annual inflation for import prices of non-food consumer goods over recent months. It also continues to filter through the early stages of the domestic pricing chain. This is reflected, for example, in continuing strong growth in import prices for

intermediate goods. Intermediate goods are also the main driver of producer price inflation for total industry (excluding construction and energy) in the euro area, which stood at 2.4% in May 2017. However, domestic producer price inflation for non-food consumer goods remained at a subdued level, recording an increase of only 0.2% in May – unchanged from March and April. The upward pressures from the earlier stages of the domestic pricing chain hence still need to feed through to the later stages before they can ultimately feed into non-energy industrial goods inflation.

More generally, underlying domestic price pressures remained subdued. The annual rate of change in the GDP deflator, which can be interpreted as a broad measure of underlying domestic price developments, stood at 0.7% in the first quarter of 2017, down slightly from the previous quarter. The contribution of profits per unit of output to the growth in the GDP deflator has moderated further as the positive terms of trade effects related to earlier oil price declines have faded out and changed signs in the first quarter of 2017 when oil prices were substantially higher than one year earlier. By contrast, the contribution of unit labour costs has remained broadly unchanged as growth in compensation per employee and productivity growth have been broadly stable at low levels.

Wage growth remains low. Annual growth in compensation per employee was 1.2% in the first quarter of 2017, down from 1.4% in the final quarter of 2016 and still well below its average since 1999 of 2.1%. Factors that may have been weighing on wage growth include still significant slack in the labour market, weak productivity growth and the ongoing impact of labour market reforms implemented in some countries during the crisis. Additionally, the low inflation environment over the last years may still be contributing to lower wage growth through backward-looking formal and informal indexation mechanisms.

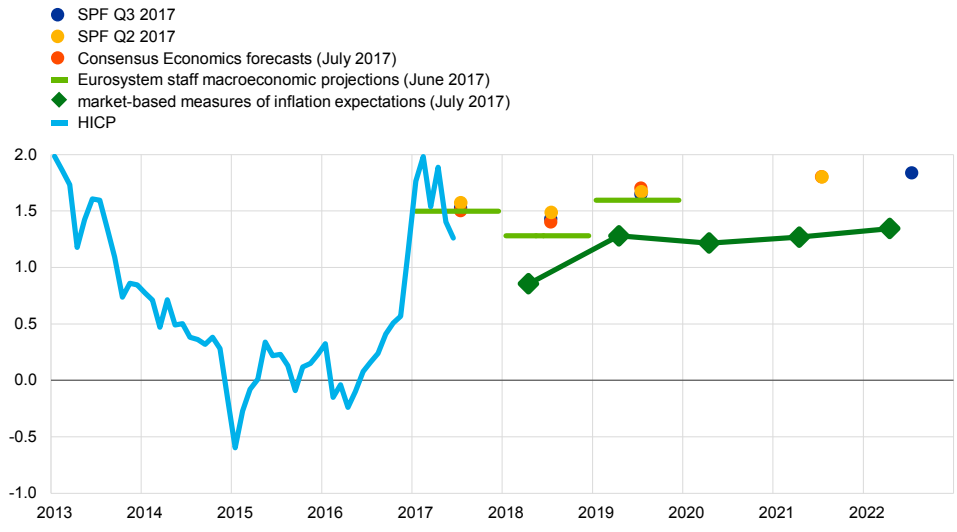
Longer-term market-based and survey-based inflation expectations have remained broadly stable (see Chart 8). Since mid-June, the five-year inflation-linked swap rate five years ahead has hovered around 1.6%. Medium to longer-term market-based inflation expectations remain well above the levels observed in mid-2016. The latest survey-based measures of long-term inflation expectations for the euro area from the July 2017 ECB Survey of Professional Forecasters continued to stand at 1.8%.[2]

[2] See also the discussion in Box 4 entitled “How do professional forecasters assess the risks to inflation?”

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 June 2017. The Consensus Economics projections for 2019 and 2021 are taken from the April forecast. The market-based measures of inflation expectations are derived from HICPx (the euro area HICP excluding tobacco) zero coupon inflation-linked swaps. The latest observations are for 19 July 2017.

Residential property prices in the euro area accelerated further in the first quarter of 2017. According to the ECB's residential property price indicator, prices for houses and flats in the euro area increased by 4.0%, on a year-on-year basis, in the first quarter of 2017, up from 3.7% in the last quarter of 2016, pointing to a further strengthening of the house price cycle.

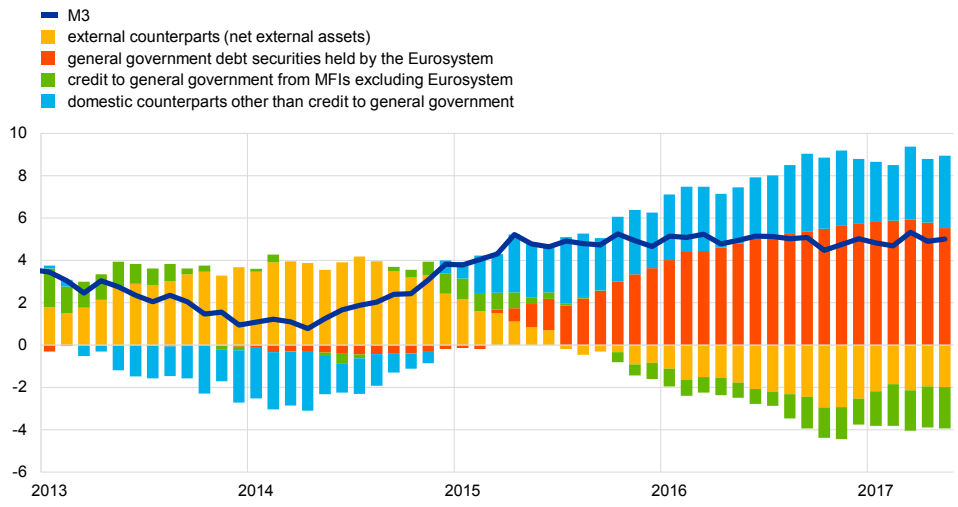
5 Money and credit

Broad money continued to expand at a robust pace. The annual growth rate of M3 remained broadly stable in May 2017 (at 5.0%, after 4.9% in April) and has been hovering around 5.0% 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 remained solid at 9.3% (unchanged from April) and was again the main contributor to M3 growth.

Chart 9

M3 and its counterparts

(annual percentage changes, percentage point contributions)



Source: ECB.
Notes: "Domestic counterparts other than credit to general government" includes MFIs' longer-term financial liabilities (including capital and reserves), MFI credit to the private sector and other counterparts. The latest observation is for May 2017.

Domestic counterparts of broad money remained the main driver of broad money growth. First, Eurosystem purchases of debt securities 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 and the significantly negative annual rate of change in monetary financial institutions' (MFIs') longer-term financial liabilities (excluding capital and reserves) exerted a positive impact on M3 growth (see the blue bars in Chart 9). The ongoing net redemption of longer-term debt securities by MFIs is partly explained by the flatness of the yield curve, which is linked to the ECB's monetary policy measures and has made it less attractive for investors to hold long-term deposits and bank bonds. The availability of the targeted longer-term refinancing operations (TLTROs) as an alternative to longer-term market-based bank funding also played a role. By contrast, the contribution to M3 growth of credit to general government from MFIs excluding the Eurosystem remained negative (see the green bars in Chart 9).

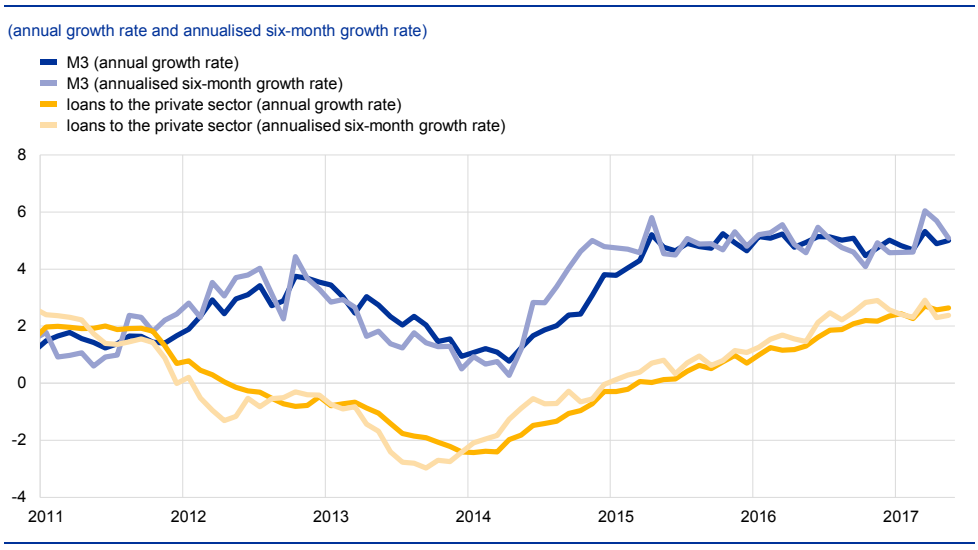
The MFI sector's net external asset position continued to exert downward pressure on annual M3 growth (see the yellow bars in Chart 9). This development

in part reflects portfolio rebalancing away from euro area debt securities triggered by the ECB's expanded asset purchase programme (APP), in particular sales of euro area government bonds by non-residents.

The recovery in loan growth is proceeding. The annual growth rate of MFI loans to the private sector (adjusted for sales, securitisation and notional cash pooling) was stable in May (see Chart 10). Across sectors, the annual growth rate of loans to non-financial corporations (NFCs) remained stable at 2.4% in May, while that of loans to households increased to 2.6% (from 2.4% in April). The significant decrease in bank lending rates seen across the euro area since summer 2014 (owing notably to the ECB's non-standard monetary policy measures) and overall improvements in the supply of, and demand for, bank loans 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 bank lending.

Chart 10

M3 and loans to the private sector



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

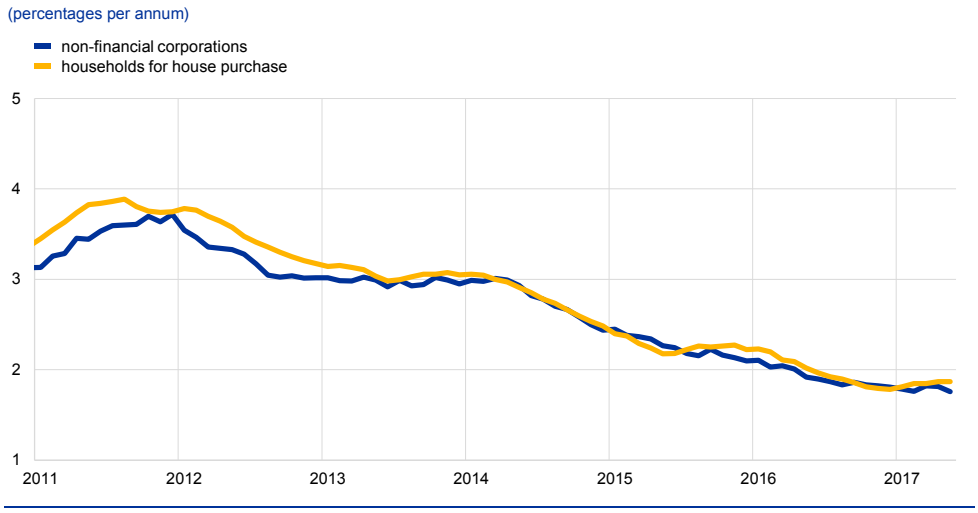
The July 2017 euro area bank lending survey **suggests that loan growth continued to be supported by easing credit standards and increasing loan demand by non-financial corporations and households.** In the second quarter of 2017, credit standards for loans to enterprises and for loans to households for house purchase eased. Competitive pressure continued to be the main factor contributing to the easing of standards. Banks also reported increasing net loan demand across all loan categories. Merger and acquisition activity, fixed investment, the low general level of interest rates and favourable housing market prospects were important positive contributors to loan demand. The ECB's TLTROs continued to have an easing impact mainly on credit terms and conditions according to reporting banks. 63% of the euro area banks surveyed reported that they participated in the fourth and final TLTRO-II operation, due mainly to profitability motives. Finally, euro area

banks also reported that they have continued to adjust to regulatory or supervisory action in the first half of 2017 by further strengthening their capital positions.

The decline in bank lending rates has stabilised since the beginning of 2017, with rates remaining close to their historical lows. In May 2017 composite bank lending rates stood at 1.76% for NFC loans, matching the historical low observed in February 2017, and 1.87% for housing loans (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 May 2017, composite lending rates on loans to euro area NFCs and households fell by 117 and 104 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 has narrowed considerably. This indicates that small and medium-sized enterprises have generally benefited to a greater extent from the decline in bank lending rates than 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 May 2017.

Net issuance of debt securities by euro area NFCs moderated in the second quarter of 2017. The latest ECB data show that net issuance of debt securities by NFCs slowed down in April and May 2017. Recent market data suggest that issuance activity strengthened in June. Net issuance of listed shares by NFCs remained subdued in the second quarter of 2017 and was dampened by significant share buy-backs in May.

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 increased moderately to around 4.3% in June and the first half of July 2017. The cost of financing now stands some 30 basis

points above its historical low of July 2016, but remains considerably lower than the level observed in summer 2014. The recent rise in the overall cost of financing mainly reflects an increase in the cost of equity. By contrast, the cost of debt, expressed as the weighted average of the cost of bank lending and the cost of market-based debt, has fluctuated around its historical low since August 2016.

Boxes

1 Convergence and adjustment in the Baltic States

The Baltic States have been able to maintain an impressive rate of convergence towards the average EU per capita income over the past 20 years. Despite the severity of the crisis, strong convergence resumed quickly after the major adjustment of imbalances in 2008-09. This box reviews the long-term performance of and recent challenges faced by Estonia, Latvia and Lithuania.

The Baltic States are very small. They jointly represent only 0.4% of euro area GDP and 1.8% of the euro area population. The three countries joined the EU in 2004 with per capita income of, on average, 44% of that of the euro area. Since they joined the EU, these three countries have each pursued a strongly free-market and pro-business economic agenda, but they accumulated severe imbalances in the period leading up to the outbreak of the financial crisis in 2008. The economic adjustment which followed the 2008 financial crisis was sudden and very fast. Estonia had already adopted the single currency in 2011, meeting all the Maastricht criteria, benefiting from a very sound fiscal position in spite of the severe macroeconomic adjustment that was taking place. Latvia and Lithuania joined the euro in 2014 and 2015, respectively.

The three countries are different in many ways, but share a number of key features: very high levels of trade and financial openness and very high labour mobility; high economic flexibility with wage bargaining mainly at firm level; relatively good institutional framework conditions; and low levels of public debt (see the table). Most of these features are generally considered supportive of real convergence. At the same time, the great openness of these countries has also been a source of macroeconomic vulnerability and specific policy challenges. In particular, managing the business cycle against the backdrop of volatile capital flows has proved challenging.

Table

Selected country features in 2015

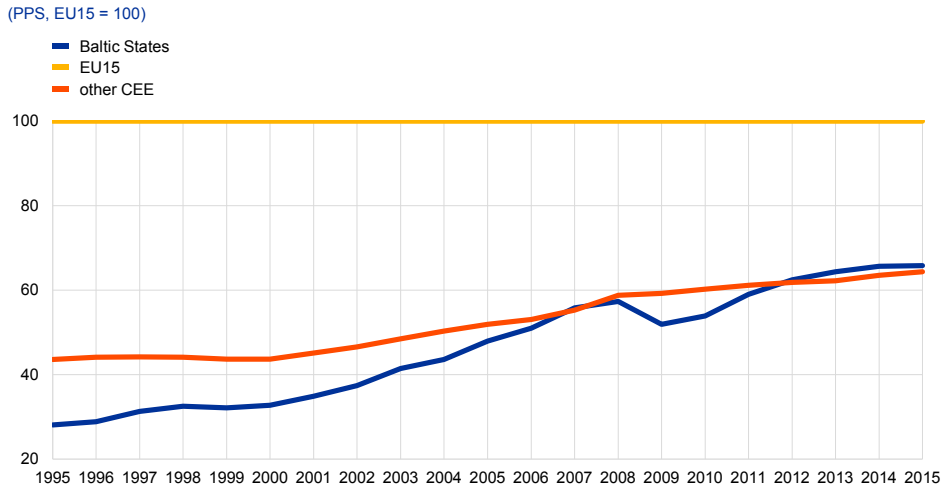
	Trade openness (ratio of exports and imports to GDP)	Financial openness (percentage of foreign branches in the total assets of the banking system)	Coordination level in wage bargaining*	Framework conditions** (four main WGI indicators)	Public debt (percentage of GDP)
Baltic States	142%	78%	1.00	1.06	30%
Euro area	88%	13%	2.63	1.18	90%

Sources: European Commission, World Bank, Database on Institutional Characteristics of Trade Unions, Wage Setting, State Interventions and Social Pacts.
Notes: * Coordination level in wage bargaining includes five categories: 1 bargaining predominantly takes place at local or company level, 2 intermediate or alternating between sector and company bargaining, 3 bargaining predominantly takes place at sector or industry level, 4 intermediate or alternating between central and industry bargaining, 5 bargaining predominantly takes place at central or cross-industry level. ** "Framework conditions" refers to the sub-index of the Worldwide Governance Indicators (WGI) of the World Bank comprising the average of the following components: rule of law, regulatory quality, government effectiveness and control of corruption. The average for the Baltic States is unweighted.

From a long-term perspective, the convergence performance of the Baltic States has been remarkable. The Baltic States are among the few euro area countries (along with Slovakia) in which real GDP per capita in purchasing power standard (PPS) terms has shown substantial convergence towards the EU average over the last 20 years. While in 1995 their average per capita income (in PPS) stood at only around 28% of the EU15 average, in 2015 it reached 66.5% (see Chart A). It is also noteworthy that all three Baltic States experienced deep declines in real GDP in 2008 and 2009, but enjoyed strong recoveries afterwards.

Chart A

GDP per capita relative to the EU15

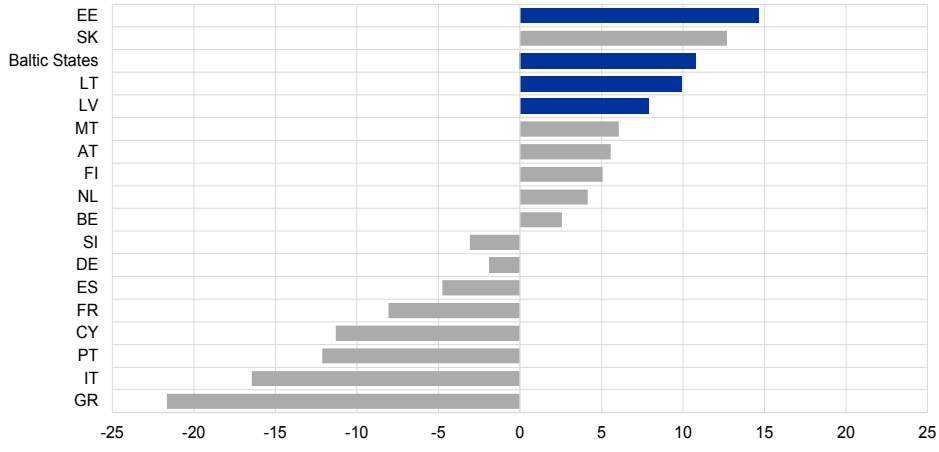


Source: European Commission.
Note: "Other CEE" is an average of the per capita income levels of seven other central and eastern European countries that joined the EU in 2004 and 2007, i.e. Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia. The term EU15 refers to the 15 Member States of the European Union as at 31 December 2003, before the new Member States joined the EU, i.e. Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

The long-term convergence performance of the Baltic States has exceeded what would have been expected based on their initial income level. The strong convergence performance of the Baltic States should be assessed against the background of their very low initial income level at the beginning of their transition to market economies in the mid-1990s. However, their performance has exceeded what could have been expected from an equation linking initial per capita income levels with growth over the period from 1999 to 2015. This is shown in Chart B, which suggests that the Baltic States, along with Slovakia, significantly overperformed when compared to the prediction of the simple catching-up model.

Chart B

Per capita GDP growth 1999-2015 (in PPS, market prices) – difference between actual and expected growth based on initial income level



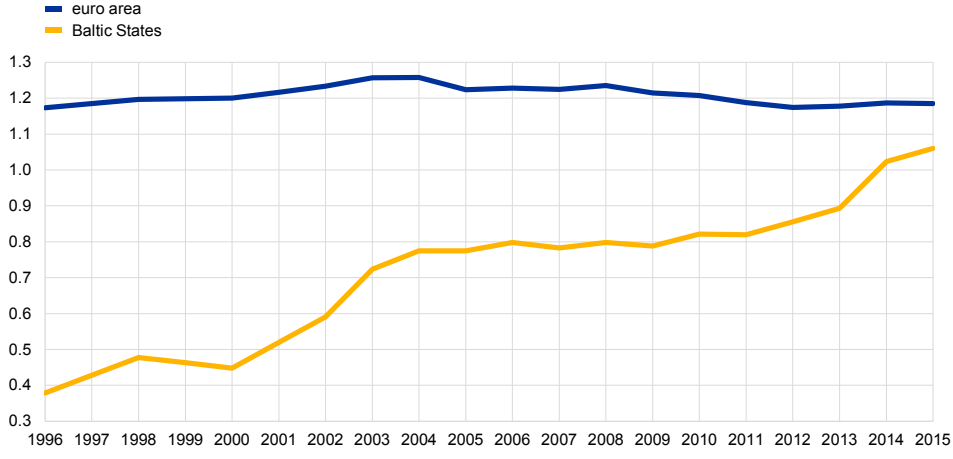
Sources: Eurostat and ECB staff calculations.
Notes: Based on a cross-country linear equation on EU countries in which cumulative growth in GDP per capita as percentage of EU GDP per capita (in PPS) between 1999 and 2015 is regressed on initial GDP per capita as a percentage of EU GDP per capita (in PPS) in 1999. More formally: $\Delta yi,1999\text{-}2015=\alpha+\beta\, yi,1999+\varepsilon i$ (R2=0.62); where $\Delta yi,1999\text{-}2015$ refers to the cumulative growth of GDP per capita between 1999 and 2015; $yi,1999$ refers to initial per capita income level (in PPS), and εi is an error term. Ireland is left out of the sample as an outlier owing to the level shift in GDP that happened in 2015, largely as a result of the statistical impact of balance sheet restructuring by multinational enterprises. Luxembourg is also excluded, as GDP per capita computations are distorted by the large number of cross-border workers.

One of the possible reasons for the fairly strong convergence performance of the Baltic States is the strong improvement in institutional quality in these countries (Chart C). The Worldwide Governance Indicators of the World Bank, which is a composite indicator of institutional quality, suggests that institutional quality has improved markedly in the Baltic States – especially in Estonia – over the recent decades. The improvement in institutional quality was particularly fast in the years prior to EU accession. The harmonisation of regulations with the EU prior to EU accession (the adoption of the *acquis communautaire*) was probably an important factor in this.

Chart C

Worldwide Governance Indicator (delivery index)

(synthetic index based on average ranking across four sub-indicators)



Source: World Bank.
Notes: The delivery index is an average of the sub-indicators regulatory quality, government effectiveness, control of corruption and rule of law. A higher index refers to better relative performance in institutional quality.

The Baltic States were very vulnerable at the start of the global crisis in 2008. All three countries had very high current account deficits, close to or above 10% of GDP in 2007, reflecting an unsustainable domestic demand boom financed by capital inflows. These large external financing gaps made the Baltic States vulnerable to the sudden stop in capital flows at the end of 2008 and in 2009. These large external imbalances in part reflected a marked deterioration in cost competitiveness against the backdrop of very fast unit labour cost growth, reflecting fast wage growth (with real compensation per employee growing annually at an average rate of 15.8%, 25.2% and 15%, respectively, in Estonia, Latvia and Lithuania between 2004 and 2007). Vulnerabilities had also built up in the financial system. Financial deepening increased rapidly in the pre-crisis years in the Baltic States, albeit from a very low level. A number of macroprudential and monetary policy measures introduced before the crisis (in particular increases in the required reserve ratio) were insufficient to prevent imbalances from emerging. Moreover, the measures were partially circumvented by the foreign-owned banks operating in the country.

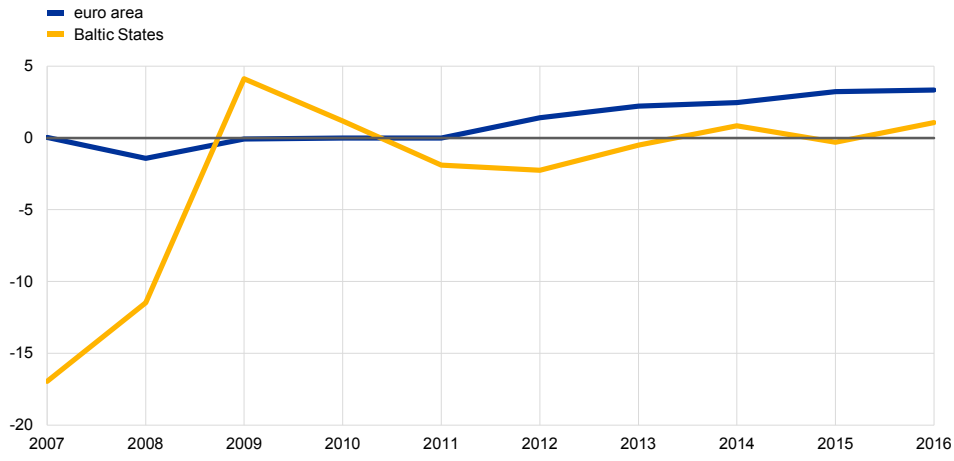
While the crisis hit the Baltic States hard, the adjustment of imbalances was very fast. The rapid adjustment in fiscal balances and private sector balance sheets implied that the Baltic States could avoid the accumulation of a large debt overhang. In addition, the fast reduction in unemployment helped to decrease the risk of hysteresis, thus avoiding lasting consequences for potential growth.

The current account adjustment in the Baltic States triggered by the sudden stop in capital flows was frontloaded. As shown in Chart D, by 2009 the current account balance had already turned positive in the Baltic States. The main driver of the adjustment of the external financing gap was a collapse in import absorption and an acceleration in exports in 2010 owing to the internal adjustment and trade links with fast-growing regions. During the crisis, while euro area countries with large current account deficits had access to ample central bank liquidity to replace private capital flows, the Baltic States had to go through a full-blown current account adjustment in the absence of financing sources over a short time interval. Only Latvia received balance of payments (BoP) assistance from the EU and the International Monetary Fund (IMF) to cover part of the external gap with public funds.

Chart D

Current account

(percentages of GDP)



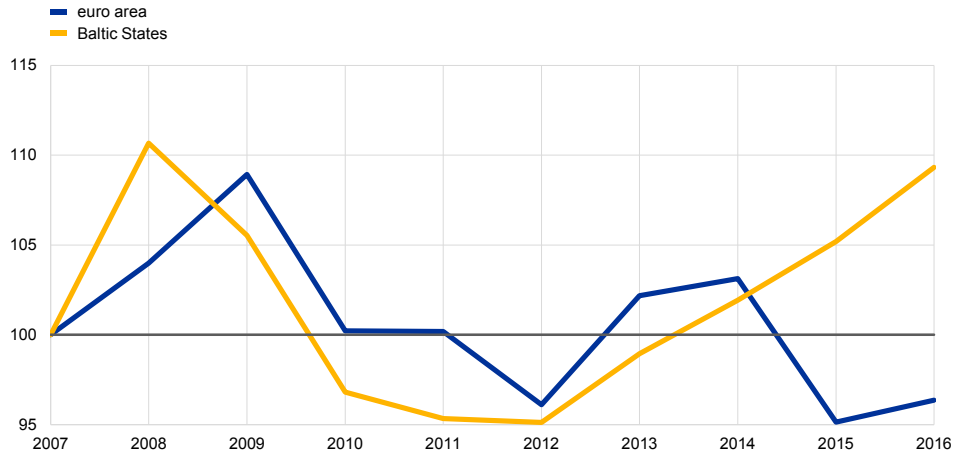
Source: European Commission.

The external adjustment of the Baltic States was facilitated by painful but effective internal devaluation (Chart E). At the time of the sudden stop in capital inflows in 2008-09, all three countries needed a significant adjustment in their overvalued real exchange rate. For various reasons, they each opted for an internal devaluation strategy. The adjustment in unemployment was also relatively fast (Chart F). At its peak in 2010, unemployment reached 16.7%, 19.5% and 17.8%, respectively, in Estonia, Latvia and Lithuania, but it subsequently decreased significantly, and by 2015 it stood at 6.2% in Estonia, 9.9% in Latvia and 9.1% in Lithuania.

Chart E

Real effective exchange rate

(index: 2007 = 100, unit labour cost deflated, 37 trading partners)

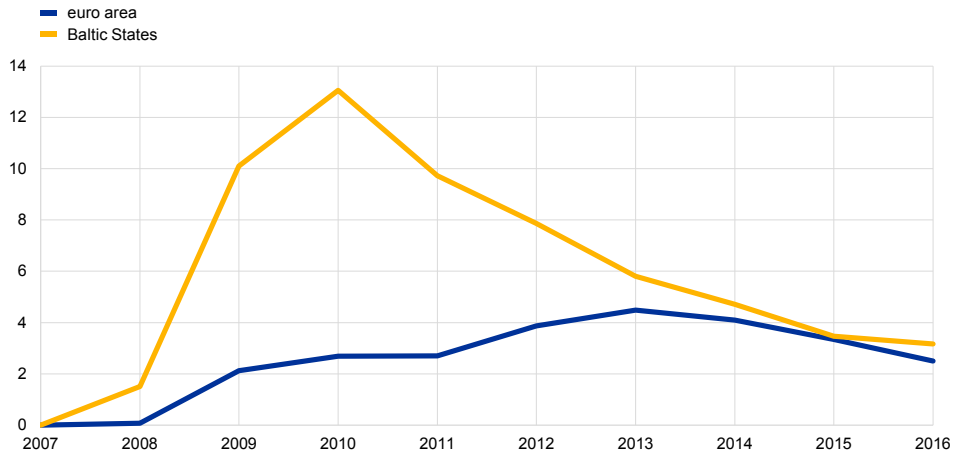


Source: ECB.

Chart F

Unemployment rate

(percentage point changes vs 2007)



Source: ECB.

This relatively fast adjustment in the Baltic States was facilitated in part by a strong initial rebound in employment growth, supported by an adjustment in labour costs. In addition, significant emigration to Scandinavia and Western Europe played a key role. The impact of these migration flows is complex. While they helped to ease labour market pressures and contributed to the balance of payments via sizeable worker remittances, they also contributed to a drop in labour supply and adverse demographic changes. Since joining the EU in 2004, the populations of Estonia, Latvia and Lithuania have fallen by 3%, 12% and 14%, respectively, reflecting in particular the emigration of younger workers.

Looking forward, the Baltic States are faced with a number of economic challenges. These include the following: (1) preserving competitiveness against the backdrop of a strong increase in wages and slowing productivity growth; (2) avoiding the “middle income trap”; and (3) managing a volatile business cycle inside EMU.

(1) Over the past three years, unit labour costs have increased significantly in the Baltic States, signalling a gradual erosion of competitiveness. The key reasons are a significant deceleration in productivity growth, along with an acceleration in real compensation per employee growth. Tightening labour markets played a key role in the recent acceleration of wage growth in the Baltic States, with the unemployment rate in 2016 already at 6.8% in Estonia, 9.6% in Latvia and 7.9% in Lithuania. In the context of a relatively flexible labour market, the emergence of wage pressures under such circumstances is a sign that a large share of that unemployment is structural and there are skills mismatches in the economy. While migration was a useful adjustment channel during the recession years, continued net emigration in spite of the recovery has contributed to the labour market tightness. Overall, it appears, however, that the pace of wage growth is beyond what can be explained by labour market tightness alone. The wage dynamics in these countries were also influenced by sharp increases in minimum wages. Policies to address skills mismatches and foster productivity growth, along with efforts to ensure that

wage growth is in line with productivity growth, would therefore appear very important.

(2) International experience suggests that countries that reach a middle income level, like the Baltic States, tend to find it difficult to converge further and achieve a high income level. A World Bank study suggests that out of 101 middle-income economies in 1960, only 13 had become high-income economies by 2008.[3] In the middle income stage of development, typically the scope for a productivity boost from the inter-sectoral transfer of labour from agriculture to more productive sectors, such as manufacturing, is limited and productivity growth should increasingly stem from innovation-based activities. There are a number of factors that can decrease the chance of a country falling into the "middle income trap", including strong institutions, a low old age dependency ratio, high investment share and diversified trade and output.[4]

(3) It remains a key medium-term challenge for the Baltic States to manage business cycle fluctuations. One of the key lessons to be learned from the crisis is that a small open economy in the euro area subject to volatile capital flows needs to put even stronger emphasis on counter-cyclical polices than other euro area countries. Such considerations highlight the importance of the active use of counter-cyclical macroprudential policy tools to limit the accumulation of financial vulnerabilities over the cycle. At the same time, counter-cyclical fiscal policy is also important. This means that, during upswings, the Baltic States should build up appropriate fiscal reserves to account for potential higher volatility in economic growth. Policy-makers could then let automatic stabilisers work during downturns and avoid the need to pursue pro-cyclical fiscal tightening.

3 See *China 2030: Building a Modern, Harmonious, and Creative High-Income Society*, World Bank, 2012.

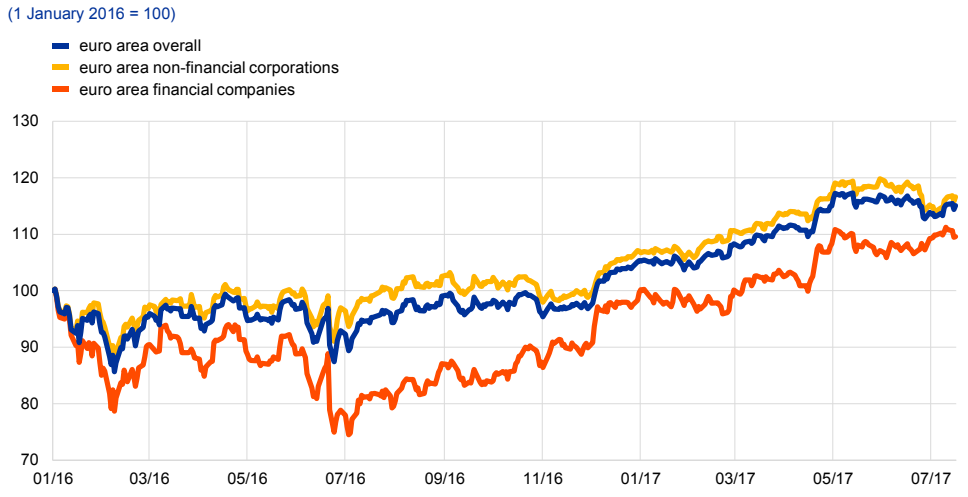
4 See Aiyar, S., Duval, R., Puy, D., Wu, Y. and Zhang, L., "Growth Slowdowns and the Middle-Income Trap", *IMF Working Paper*, No 13/71, International Monetary Fund, March 2013.

2 Recent drivers of euro area equity prices

Following the trough after the UK referendum on EU membership, equity markets in the euro area have recorded notable gains (see Chart A). Compared with early July 2016, the increase amounts to around 40% for banks and 20% for non-financial corporations.

Chart A

Euro area equity indices



Sources: Thomson Reuters DataStream and ECB calculations.
Note: The latest observation is for 19 July 2017.

Using a dividend discount model, this box analyses the driving forces behind the increase in equity prices since July 2016. Dividend discount models allow changes in equity prices to be broken down into contributions from three factors: (i) changes in expected future cash flows from equities in the form of dividends; (ii) changes in the long-term risk-free rate; and (iii) changes in the "equity risk premium". The sum of the equity risk premium and the long-term risk-free rate forms the required rate of return on equity at which future dividends are discounted, with the equity risk premium denoting the risk compensation, or extra return, required by investors for holding equity instead of long-term bonds.

To the extent that expected dividends, long-term risk-free interest rates and equity prices can be observed via financial market data, the equity risk premium can be found by equating the discounted sum of future cash flows to the prevailing stock prices. The path of future expected dividends, however, is inherently unobservable and would need to be proxied on the basis of observable indicators combined with economically plausible assumptions.

The dividend discount model is implemented here by assuming that the expected dividend growth rate varies over the course of different phases and converges to a constant long-term value. In the three-stage model, three separate phases for the dividend growth rate are assumed: (i) an initial period during which dividends grow constantly at a rate of g_a; (ii) an intermediate period over which the initial growth rate converges linearly towards a long-term growth rate (g_n);

and (iii) a final indefinite period, where dividends grow at the constant annual long-term rate (g_n). With the current dividend in place, this assumed sequence of growth rates identifies the complete evolution of expected future dividends.

Under these assumptions on future dividend growth rates, the equity premium can be readily obtained from observed dividend yields and the risk-free rate. It is calculated using the expression shown in the equation, which is an approximation of the three-stage dividend discount model, also known as the "H-model"[5]. In the equation, r denotes the required rate of return on a stock (or stock price index), r_f the risk-free long-term rate, ERP the equity risk premium, and D_0/P_0 the current dividend yield, while g_a and g_n are the two dividend growth parameters described above. The parameter H is the length of the initial period (first stage) plus half the length of the intermediate period (second stage). For the implementation of the model, the initial (first stage) dividend growth rate (g_a) is approximated by I/B/E/S "long-term" earnings projections[6] and the long-term growth rate (g_n) (third stage) by long-term year-on-year GDP growth expectations as reported by Consensus Economics. Stock prices and initial dividends are taken directly from financial markets, while the long-term risk-free rate is gauged to be the ten-year overnight index swap rate. The latter is subtracted from the required rate of return in order to calculate the equity risk premium. Changes to the equity price index can then be broken down into changes in growth expectations (as captured by changes in the g-parameters), changes in the long-term risk-free rate, or changes in the calculated equity premium.

$$r = r_f + ERP = \frac{D_0}{P_0}[(1 + g_n) + H(g_a - g_n)] + g_n$$

In cumulative terms, the increase in equity prices between early July 2016 and January 2017 was mainly attributable to a fall in the equity risk premium (see Chart B). Chart B shows cumulative contributions to the change in euro area equity prices, with positive contributions from declines in the equity risk premium being especially visible around the time of the presidential election in the United States.[7]

Since early 2017, however, improvements in earnings growth expectations for euro area firms have picked up significantly and become the major driver of the further rise in equity prices. This increase in earnings expectations has been in line with the overall improvement in the euro area macroeconomic environment, as also signalled by strong readings in, for example, the euro area Citi Economic Surprise Index or Purchasing Managers' Indices. Over the entire period, the declines in the equity risk premium and subsequent improvements in earnings expectations together more than offset the increase in longer-term yields since autumn 2016.

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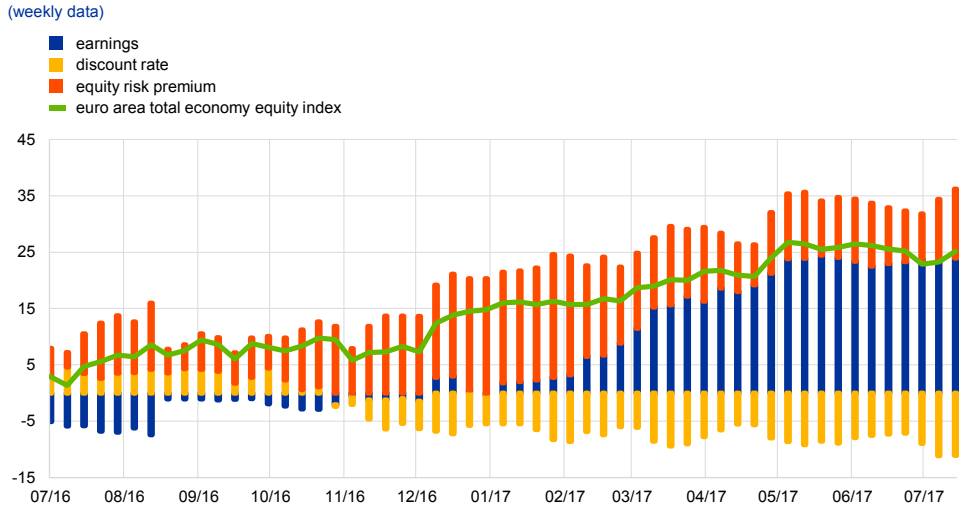
5 See Fuller, R.J. and Hsia, C.-C., "A simplified common stock valuation model", *Financial Analysts Journal*, 40(5), September-October 1984, pp. 49-56.

6 The Institutional Brokers Estimate System (I/B/E/S) provides composite estimates of the anticipated annual growth rate of earnings per share over a period of between three and five years.

7 A decline in the equity risk premium is reflected in a positive contribution to equity prices in Chart B.

Chart B

Dividend discount model decomposition of cumulative changes in euro area equity prices



Sources: Thomson Reuters and ECB calculations.
Note: The latest observation is for 14 July 2017.

From a historical perspective, the current estimate for the equity risk premium in the euro area is not low (see Chart C), indicating that equities are not particularly highly valued relative to bonds. The estimated euro area equity risk premium increased significantly to levels between 6% and 8% in the wake of the 2008 financial crisis. At the same time, the equity risk premium, just like any risk premium embedded in financial market prices, is an unobservable object. Hence, any measurement (including the one presented here) is to some extent uncertain and estimated levels of such premia should be interpreted with caution.

Chart C

Dividend discount model euro area equity risk premium, overall index

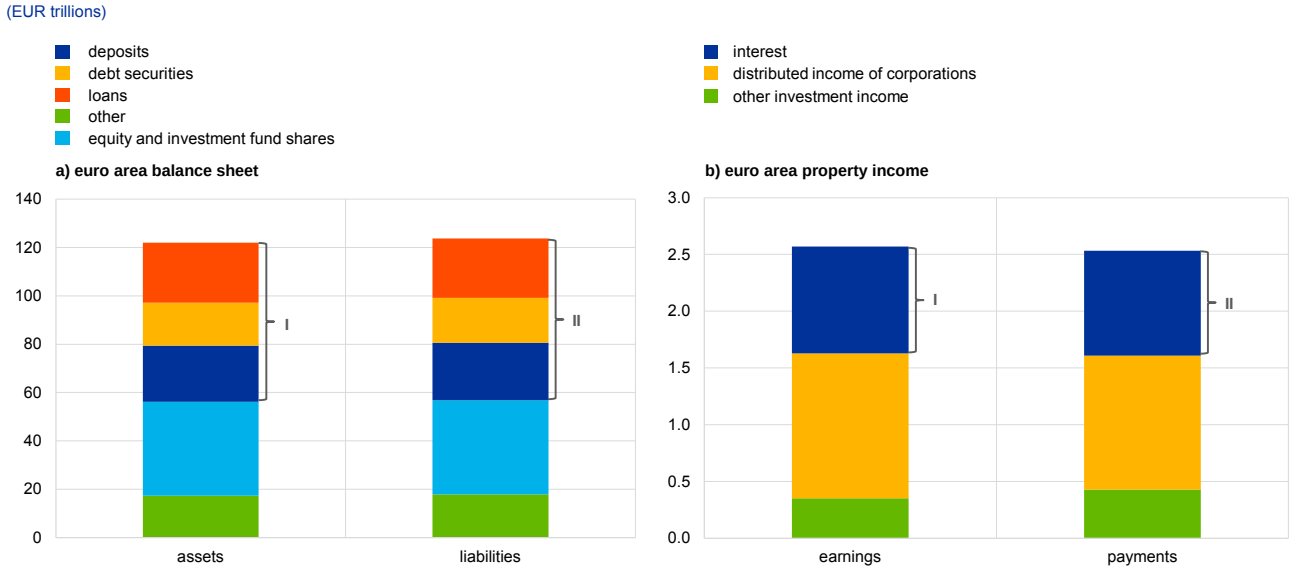
Sources: Thomson Reuters and ECB calculations
Notes: Estimated via a dividend discount model applied to the overall index. The latest observation is for June 2017.

3 Lower interest rates and sectoral changes in interest income

This box describes the impact of the decline in interest rates on interest income across sectors since 2008. It focuses on interest-bearing assets and liabilities, such as deposits, debt securities and loans (Chart A).[8]

Chart A

Euro area balance sheet and euro area property income



Sources: Eurostat and ECB calculations.
Notes: Data refer to 2016 for the euro area total economy. I and II in panels (a) and (b) indicate the interest-bearing assets and liabilities part of the euro area balance sheet and the corresponding interest earnings and payments of the euro area property income.

Sectoral holdings of interest-bearing assets/liabilities and interest earnings/payments allow sector-specific implicit interest rates to be computed. Chart A shows the balance sheet of the total euro area economy and the interest earnings and payments of the total euro area economy.[9] At the sectoral level (households, non-financial corporations (NFCs), financial corporations, government and the rest of the world), this information allows the calculation of sector-specific implicit interest rates on interest-bearing assets and liabilities. The implicit interest rate on assets, for example, is obtained by dividing interest earnings by the notional stock of assets, i.e. free of valuation effects. Notional stocks can be obtained by cumulating quarterly transactions over time. Owing to the way interest earnings and

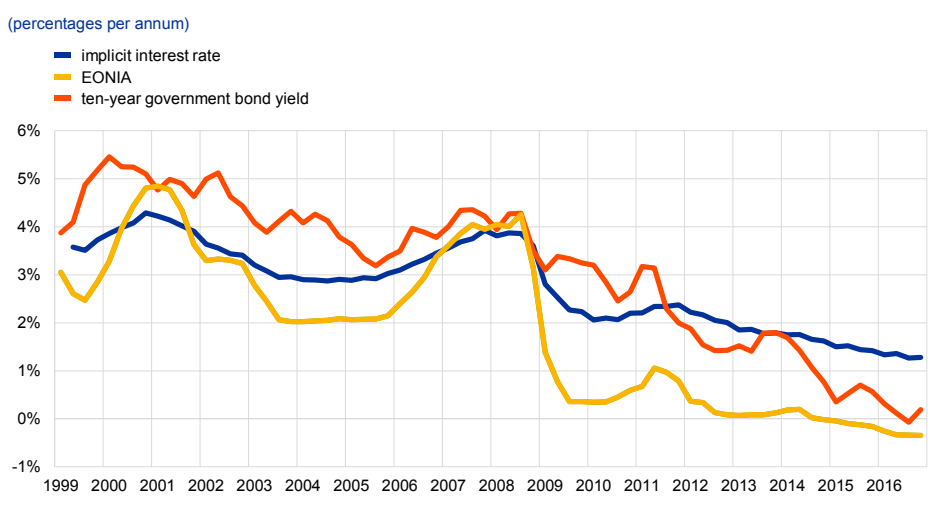
8 The analysis builds on an established literature using the sectoral accounts to assess the distributional impact of monetary policy. Bach and Ando (1957), Cukierman et al. (1985) and, more recently, Doepke and Schneider (2006), for example, assess the impact of fluctuations in prices and interest rates on income and wealth. See Bach, G. and Ando, A., "The Redistributional Effects of Inflation", *The Review of Economics and Statistics*, Vol. 39, No 1, 1957, pp. 1-13; Cukierman, A., Lennan, K. and Papadia, F., "Inflation-induced redistributions via monetary assets in five European countries: 1974-1982", in Mortensen, J. (ed.), "Economic Policy and National Accounting in Inflationary Conditions", *Studies in Banking and Finance*, Vol. 2, 1985; and Doepke, M. and Schneider, M., "Inflation and the Redistribution of Nominal Wealth", *Journal of Political Economy*, Vol. 114, No 6, 2006, pp. 1069-1097.

9 The analysis uses interest earnings and payments after allocation of financial intermediation services indirectly measured (FISIM). Conclusions do not depend on this choice.

payments are measured in the sectoral accounts, the implicit interest rate is conceptually close to a bond yield at issuance.[10] Chart B shows that the implicit interest rate for the euro area's assets is closely related to the euro area overnight interest rate (EONIA) and the long-term government bond yield. Because monetary policy closely determines the current and expected overnight interest rate, the ECB's policy ultimately also influences interest rates on interest-bearing assets at the sectoral level. However, the extent to which changes in the current and expected overnight interest rate are transmitted to sectoral interest rates will also depend on developments in sector-specific risk premiums and the average duration of outstanding interest-bearing assets.[11]

Chart B

EONIA, long-term government bond yield and an estimate of the implicit interest rate for the total economy



Sources: Thomson Reuters, ECB and ECB calculations.
Notes: The latest observations are for the fourth quarter of 2016. The implicit interest rate shown is on the euro area total economy's assets. The implicit interest rate on the euro area total economy's liabilities coincides with the one on its assets. The ten-year government bond yield refers to the synthetic euro area rate from Thomson Reuters.

The implicit interest rate can be used to compute the contribution from lower interest rates to the observed changes in net interest income since 2008. This is obtained by multiplying the implicit interest rate by the notional stock of assets at the start of the period. In this way, one can ensure that the change in interest earnings since the start of the period under consideration depends only on changes in the interest rate ("price effect"). A similar calculation is done on the liability side of the balance sheet. Changes in the stock of assets also affect the overall change in interest income ("quantity effect"). The latter is excluded from the analysis in order to be able to measure how changes in interest rates alone have redistributed interest income across sectors. The starting point of the analysis is the third quarter of 2008, which marks the beginning of the current easing phase.

10 See *European system of accounts – ESA 2010*, Eurostat, 2013.

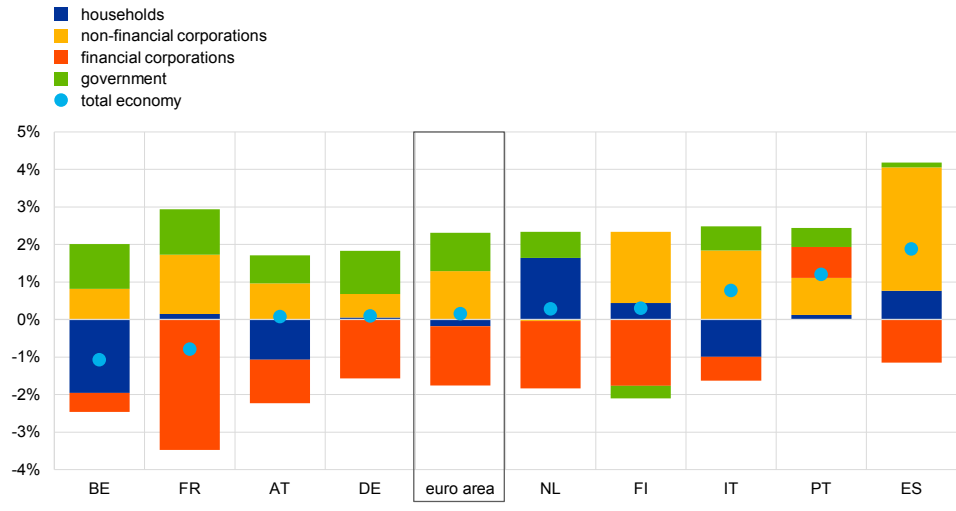
11 From 2014 onwards, the ten-year government bond yield has been persistently below the total economy's implicit interest rate, since changes in the spot rate are only slowly reflected in the implicit interest rate on outstanding assets with a relatively long duration.

For the euro area as a whole, the impact of lower interest rates on net interest income has been positive. Chart C shows the change in net interest income from lower interest rates between the third quarter of 2008 and the fourth quarter of 2016 for the euro area as a whole and for nine euro area countries.[12] As households are also indirectly affected by lower interest rates via their investments in pension funds, their equity holdings in companies or as tax payers, it is worth looking at how the total economy has been affected with respect to the rest of the world. For the euro area as a whole, and for most euro area countries, the impact of lower interest rates on net interest income has been marginally positive at the total economy level. The sectoral analysis makes it clear that the size and composition of sectoral balance sheets are key factors in understanding the impact of lower interest rates on the total economy. Chart C shows that, for the euro area as a whole, the impact of lower interest rates on net interest income was positive for the NFC and government sectors, while it was negative for the financial sector. For the household sector, the impact was broadly neutral.

Chart C

Impact of lower interest rates on net interest income

(percentages of GDP; Q3 2008 to Q4 2016)



Sources: Eurostat and ECB calculations.
Notes: Countries selected on the basis of availability of quarterly sectoral accounts. The total economy refers to the changes in net interest income with respect to the rest of the world. Owing to different levels of aggregation, the sum of the sectoral changes in net interest income does not add up exactly to the change in net interest income with respect to the rest of the world. Calculations based on four-quarter moving averages.

The direct impact of lower interest rates on the household sector has been more heterogeneous across countries.[13] Chart C shows that the household sector in Finland, the Netherlands and Spain has benefitted from lower interest rates, i.e. in these countries, net interest earnings attributable to falling interest rates increased. This is because the size of household debt has been particularly large in these countries compared to the size of assets held by households. Moreover, the

[12] The selection of countries is motivated by the availability of quarterly sectoral accounts over the sample period.

[13] See the box entitled “Low interest rates and households’ net interest income”, *Economic Bulletin*, Issue 4, ECB, 2016.

prevalence of variable rate mortgages (e.g. in Spain) also increased the gains from lower interest rates. By contrast, in Belgium, Austria and Italy, households saw larger falls in net interest income. In these countries, households hold a relatively large share of their financial wealth in the form of interest-bearing assets. In Germany, France and Portugal, the change in net interest income of the household sector was negligible.[14]

While the NFC and government sectors are among the largest beneficiaries of lower interest rates, the financial sector generally lost interest income. In the NFC sector, gains above 1% of GDP in net interest income from lower interest rates occurred in France, Finland, Italy and Spain. The government sector benefited most from lower interest rates in Belgium, France and Germany. In the countries that were hardest hit by the sovereign debt crisis, the government sector gained relatively less from the drop in interest rates, owing to the simultaneous increase in sovereign risk premiums. Finally, with the exception of Portugal, the financial sector has generally been losing interest income since the third quarter of 2008, most prominently in France. This is due to the fact that the financial sector (including monetary financial institutions, insurance corporations and pension funds, and other financial institutions) has on average more interest-bearing assets than interest-bearing liabilities. When interest rates on assets and liabilities decline to the same extent, this reduces the sector's net interest income. Note, however, that interest income is not the only determinant of the profitability of the financial sector.[15]

Over the previous business cycle, sectoral changes in net interest income were largely neutral. This box has focused on the impact of the falling interest rates since 2008. It may be useful to compare these results with the previous business cycle from 2002 to 2008, as seen in Chart B. Chart D shows that, over the period 2002-2008, the redistribution of interest income was, ultimately, largely neutral across sectors.[16] It also shows that, during the previous easing phase (2002-2005), the direction of changes in interest income across sectors was very similar to the pattern of changes since 2008. During the period 2002-2008, household and total economy net interest income was broadly unchanged. In the tightening phase (2006-2008), financial corporations recovered most of their net interest income losses, while NFCs saw a reversal of their gains. The government sector continued to benefit even beyond the end of the tightening phase. This is explained by the secular downward trend in government bond yields (see also Chart B), which started in the mid-1980s and is unrelated to the cyclical changes in interest rates from 2002 to 2008.

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14 While the sectoral accounts contain useful information about the redistribution across sectors, they cannot answer questions about how low interest rates redistribute interest income across individual households. For this, microeconomic information on the size and composition of individual households' balance sheets is needed (e.g. from the Eurosystem's Household Finance and Consumption Survey). See "The Household Finance and Consumption Survey: results from the second wave", *Statistics Paper Series*, No 18, ECB, 2016.

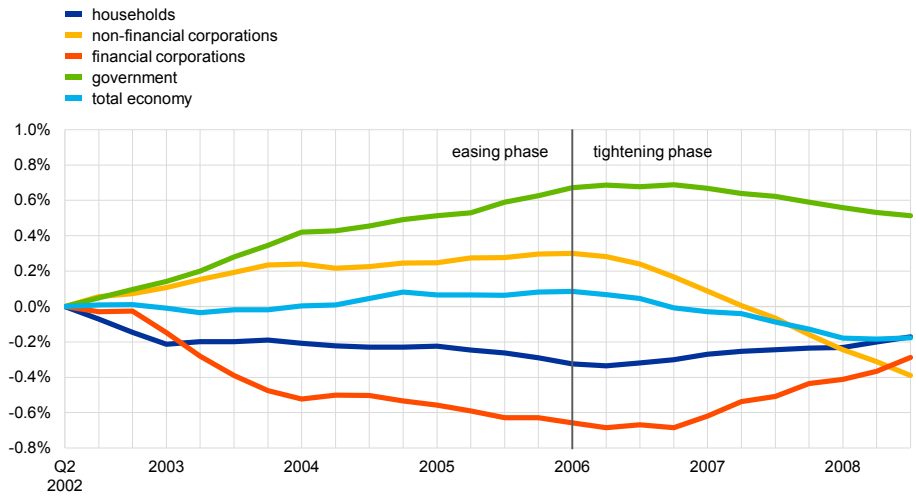
15 See the box entitled "The ECB's monetary policy and bank profitability", *Financial Stability Review*, ECB, November 2016.

16 The period covered contains both the previous easing phase (2002-2005) and the previous tightening phase (2006-2008).

Chart D

Cumulative interest income changes over the business cycle – 2002-2008

(percentages of GDP)



Sources: Eurostat and ECB calculations.
Notes: Cumulative change in the price effect derived from lower interest rates from the second quarter of 2002 to the third quarter of 2008 based on four-quarter moving averages. The total economy refers to the changes in net interest income with respect to the rest of the world. The vertical line separates the easing phase from the tightening phase.

4 How do professional forecasters assess the risks to inflation?

Perceptions of uncertainty and risks are an important element in assessing the economic outlook, adding to the information gained from point forecasts. Economic agents' expectations of future inflation can affect subsequent economic developments, for example, through their influence on price-setting, consumption and investment decisions. For this reason, analysis of inflation expectations data, such as that in the ECB's Survey of Professional Forecasters (SPF), plays an important role in the overall assessment of the inflation outlook. Such analysis has two dimensions: the point forecasts and the perception of risks around those point forecasts. The point forecasts for the next three years tell us professional forecasters' central views on the evolution of the economy, given the shocks already observed or embodied in their technical assumptions (e.g. for the oil price). Longer-term point inflation expectations can be used to assess the perceived effectiveness of monetary policy. Risk perceptions, on the other hand, reveal useful information on the expected distribution of economic shocks and provide an additional dimension for assessing the strength of the longer-term inflation expectations anchor. This box focuses on how risk metrics can be derived from the SPF data, and what those risk metrics might imply.

The probability distributions reported in the SPF can be used to derive measures of risk and uncertainty. The SPF asks not just for point expectations, but also for participants' assessment of the probabilities of different inflation outcomes in the future. While the point expectations reflect survey participants' central estimates of future inflation, the probabilities participants assign to different future inflation outcomes reveal their assessments of uncertainty and risks.

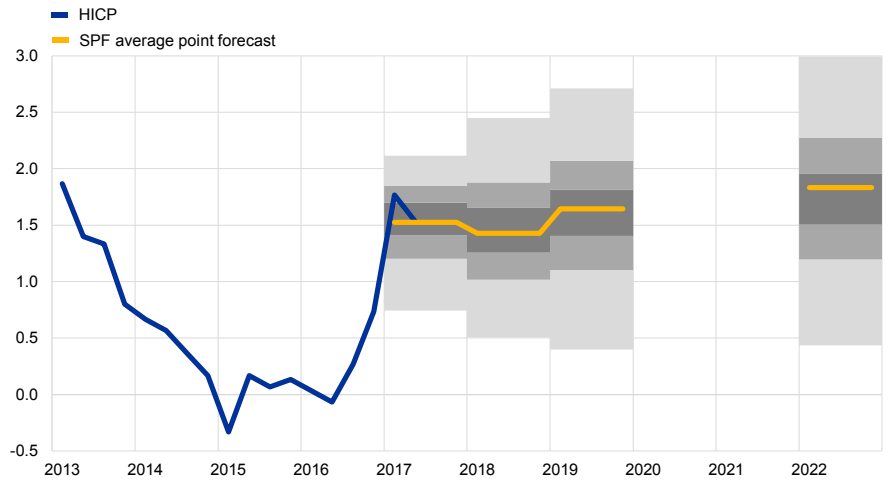
Uncertainty, measured by the width of the reported distribution, increases with the forecast horizon (see Chart A). In part, this reflects the general observation that the more distant future is typically more uncertain than the near future. More fundamentally, that may be because the number of different factors which can influence the outcome increases with the horizon: the short term tends to be affected predominantly by oil price developments; in the medium term, the outlook for inflation and the risks around it become more closely connected to those for real economic growth; in the long term, the perceived strength of the nominal anchor provided by monetary policy becomes most relevant.[17]

[17] See "What has been driving developments in professional forecasters' inflation expectations?", *Economic Bulletin*, Issue 1, ECB, 2017.

Chart A

SPF expectations for HICP inflation in 2017, 2018, 2019 and 2022

(annual percentage changes)

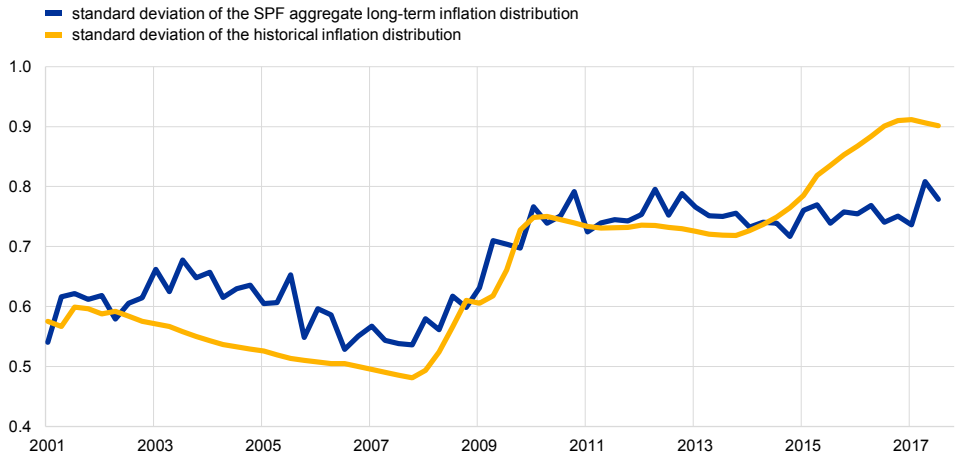


Sources: Eurostat and ECB calculations based on SPF results.
Notes: Quarterly data. The shaded bands denote the 5th, 20th, 35th, 65th, 80th and 95th percentiles of the probability distributions for each horizon.

Overall inflation uncertainty has remained higher than it was before 2008, but the volatility of actual inflation has increased by more. The standard deviation of the aggregate longer-term probability distribution, which measures its width, increased in 2008 and 2009. This movement in the forward-looking uncertainty measure tracked the evolution of the backward-looking, realised volatility in inflation, as movements in oil and other global commodity prices drove quarterly HICP inflation from 2% up to 3.8% in the third quarter of 2008 and then down to -0.4% in the third quarter of 2009. Uncertainty around future inflation outcomes has since remained at that higher level, even though the more recent movements in inflation, down from 2.9% in the fourth quarter of 2011 to -0.3% in the first quarter of 2015, then back up to 1.8% in the first quarter of 2017, have pushed up realised volatility further (see Chart B). This might suggest that while SPF respondents acknowledge the possibility of extreme commodity price swings leading to volatility in inflation, they do not expect large movements in inflation, such as those experienced over 2015 and 2016, to be repeated.

Chart B

SPF perceptions of inflation uncertainty and the dispersion of actual inflation



Sources: Eurostat and ECB calculations based on SPF results.
Note: The yellow line shows the standard deviation of the expanding sample of quarterly HICP inflation outturns from the first quarter of 1995.

The asymmetry of respondents' probability distributions indicates how they perceive the balance of risks. Put simply, the balance of risks measures how, in the event that a forecast would turn out to be wrong, the forecaster considers it more likely to be wrong. For instance, a positive balance of risks indicates that the forecaster believes that, were their forecast to be wrong, it would more likely be because the outturn was above the forecast than below it.[18] In terms of the expected probability distribution, a positive balance of risks signifies that more probability is assigned to outcomes above the central estimate than to outcomes below it.[19]

There are different ways of measuring the balance of risks numerically, but all measures tend to move closely together. Alternative measures of asymmetry and alternative practical choices which must be made when calculating those measures from survey data lead to a range of calculated asymmetries, rather than a unique value.[20] Furthermore, in the SPF the point forecasts are reported separately and can be compared with the probability distributions to provide an indication of the balance of risks. In the quarterly SPF reports, this is measured numerically as the mean of the aggregate probability distribution *minus* the average point forecast.[21]

SPF respondents see the risks to their inflation projections as broadly balanced at short horizons, but still to the downside in the longer term. The

18 As a stylised example, consider making a point forecast of one throw of a die with the following six numbers on its faces: 1, 2, 2, 2, 3, 3. The most likely outcome – and therefore the central estimate – is 2, but if the outcome were to be something other than 2, it is more likely that it is above 2 than below. Hence in this example, the balance of risks is positive, i.e. to the upside.

19 Statistically, this implies that for a positive (negative) balance of risks, the distribution mean is higher (lower) than the distribution mode, i.e. the most likely outcome. In the example above, the distribution mean is: (1+2+2+2+3+3)/6 = 13/6, which is greater than 2, the most likely outcome.

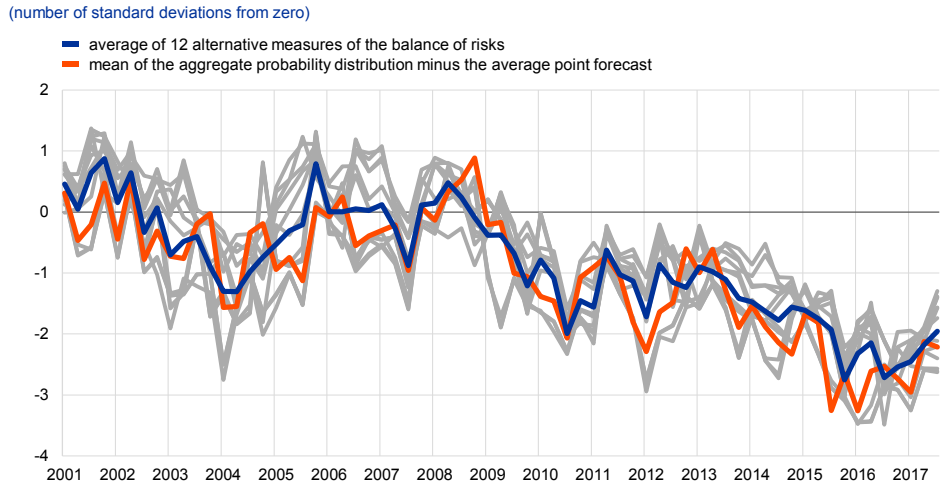
20 Different theoretical statistical measures of asymmetry include: skewness, quantile skewness, mean *minus* median. The different practical choices which need to be made to calculate these measures from SPF data include: how to close the unbounded bins at each end of the overall probability range in the survey and how to derive a continuous distribution from the discrete probabilities reported.

21 See the latest SPF report for the third quarter of 2017.

point forecast for inflation in 2017 lies close to the centre of the corresponding probability distribution (shaded darkest in Chart A), which suggests that the risks around that expectation are thought to be broadly balanced. In contrast, at the longer-term horizon, more probability is assigned to inflation outcomes below the point forecast than above it, indicating that the balance of risks around the longer-term inflation expectation is to the downside. However, the longer-term balance of risks has been recovering since 2016, albeit gradually (see Chart C).

Chart C

SPF perceptions of the balance of risks to longer-term inflation projections



Sources: ECB calculations based on SPF results.
Notes: The individual series have been normalised to allow comparability. A negative (positive) sign means the balance of risks is perceived as being to the downside (upside). The measures included in the swathe are the skewness, quantile skewness, mean-median and mean-point forecast of continuous distributions derived from: linear interpolation, cubic spline interpolation and fitting a parametric (beta) distribution.

Overall, the risk information in the SPF supports the notion that longer-term HICP inflation expectations remain anchored. Longer-term inflation expectations have remained stable at 1.8% over the last two years, despite strong volatility in actual HICP outturns. Furthermore, the forward-looking measure of uncertainty has also remained stable, despite the actual volatility, and the downside balance of risks to longer-term inflation expectations has shown some modest improvement in the last few survey rounds. This could suggest that the risks of de-anchoring of longer-term inflation expectations are gradually receding.

5 The 2017 country-specific recommendations

Every year the European Commission issues country-specific recommendations (CSRs) for each EU Member State,[22] which contain the policy priorities for the following year. These recommendations are approved by the EU Council following endorsement by the Heads of State or Government of all EU Member States. The CSRs provide guidance tailored to individual Member States on how to enhance growth and resilience, while maintaining sound public finances.[23] The CSRs are drawn up in line with the medium-term Integrated Guidelines on economic and employment policies of the Member States. They are a key element of the European Semester as they are the instrument through which national economic policies become "a matter of common concern", as stipulated in Article 121 of the Treaty on the Functioning of the European Union. Timely implementation of these recommendations is critical to reduce vulnerabilities and boost medium-term growth, employment and productivity in the European Union. For euro area countries, they are also consistent with the objective of ensuring the smooth functioning of Economic and Monetary Union (EMU).

The CSRs are prepared by means of a comprehensive process which starts in the autumn of the preceding year. First, in November each year the Commission releases the Annual Growth Survey and the Alert Mechanism Report. While the Annual Growth Survey identifies the main policy priorities for the European Union as a whole, the Alert Mechanism Report assesses developments in Member States to establish whether there are potential or existing imbalances which need to be corrected by targeted policy actions. On the basis of these documents, the Council adopts the recommendations for the euro area early in the year, setting out the main areas for reform for EMU as a whole. On 22 February 2017 the Commission released the Country Reports for all EU Member States, which analyse progress made by each country on implementing reforms and identify imbalances and rigidities which require further policy actions, in the context of the in-depth review of the macroeconomic imbalances procedure. On the basis of the Country Reports, the Commission provided Member States with the draft 2017 CSRs on 22 May. Following discussions in the relevant EU committees, the Council adopted the final CSRs on 11 July.

The euro area recommendation this year focuses on ways to reduce imbalances, increase resilience and strengthen growth and employment in euro area countries. The euro area recommendation (adopted by the Council on 10 March) precedes the country-specific recommendations and is addressed to all euro area Member States jointly. More specifically, it calls on euro area countries to increase reform efforts towards improving productivity and the institutional and

22 Member States that are under a macroeconomic adjustment programme do not receive CSRs, as their policy priorities are already covered under a Memorandum of Understanding. This is currently the case for Greece.

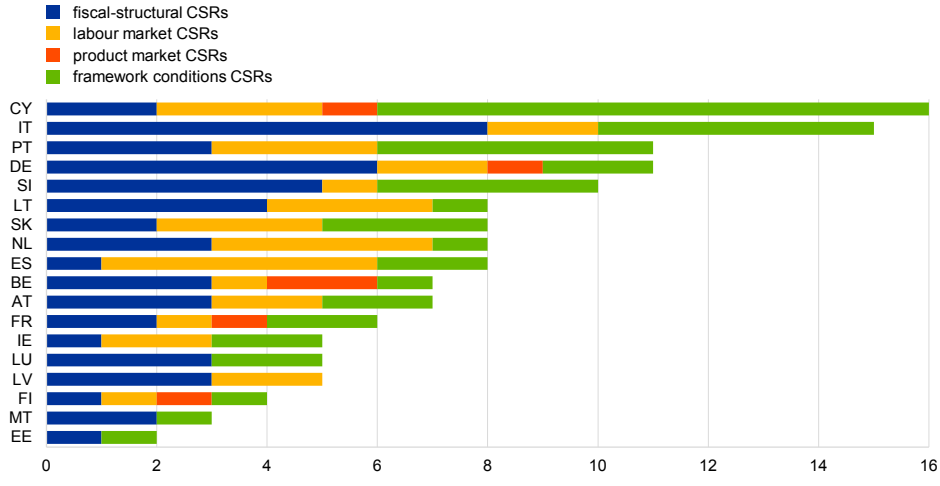
23 This box focuses on all the CSRs received by the euro area countries, except for the first recommendation on fiscal policies, which contains recommendations for implementing the Stability and Growth Pact (SGP). These SGP recommendations are described in the box entitled "Country-specific recommendations for fiscal policies under the 2017 European Semester", *Economic Bulletin*, Issue 4, ECB, 2017.

business environment, and removing bottlenecks to investment. The euro area recommendation also calls on governments to increase flexibility and security in labour markets, as well as to ensure fiscal sustainability and accelerate the work on completing EMU, in particular regarding banking union.

The 2017 CSRs broadly echo the emphasis of the euro area recommendation. Chart A shows a breakdown of the 2017 CSRs by reform area. It indicates, for example, that a significant proportion of the recommendations address bottlenecks in framework conditions (including all measures related to the regulatory environment, the judicial system, insolvency frameworks, housing policy and financial sector regulation). Addressing such bottlenecks should positively affect market entry, increase incentives for firms to invest and improve resource reallocation. A large proportion of the recommendations address fiscal-structural issues, such as increasing the long-term sustainability of public finances, reducing the tax burden on labour, and increasing the efficiency of public administration and state-owned enterprises.

Chart A

The 2017 CSRs for euro area countries by reform area



Source: ECB computations, applying the CSR breakdown used in the European Commission's Country Reports.
Notes: The chart shows the number of 2017 CSRs broken down into broad reform areas. "Fiscal-structural" comprises public administration, age-related spending and taxation policies; "labour market" comprises wage policies, employment protection, education and active labour market policies; "product market" comprises sector-specific regulations; and "framework conditions" comprises the regulatory environment, public procurement, the judicial system, insolvency frameworks, housing policies and financial sector regulation. CSRs related to the Stability and Growth Pact are not included.

The new recommendations should be seen in the context of the relatively weak implementation of CSRs in recent years.[24] The Commission found in February this year that for the overwhelming majority of the 2016 recommendations (more than 90%) there had been only "some", "limited" or indeed "no" progress on implementation, while only a very small number of recommendations had been "substantially" or "fully" implemented. Despite specific monitoring by the European Commission, implementation was not higher for countries with excessive

[24] For more details, see the box entitled "The 2017 macroeconomic imbalance procedure and implementation of the 2016 country-specific recommendations", *Economic Bulletin*, Issue 2, ECB, 2017.

imbalances. This is consistent with past patterns of very low rates of "substantially" or "fully" implemented reforms. The weak implementation of CSRs is all the more concerning given the remaining rigidities and vulnerabilities in euro area countries. The high level of remaining vulnerabilities is, for instance, reflected in the Commission's finding that the number of countries with excessive imbalances (Bulgaria, France, Croatia, Italy, Cyprus and Portugal) remains at an all-time high.[25]

Although the degree of CSR implementation remains low, the 2017 CSRs have been streamlined further. The Commission had already reduced the 2015 and 2016 CSRs with a view to allowing Member States to focus on key macroeconomic and social priorities. Despite this, CSR implementation did not improve. In several cases, some recommendations have even been dropped, although the countries concerned have made no progress or only limited progress on implementation during the past year.

CSRs have also been streamlined for countries with excessive imbalances. The number of CSRs has been reduced for countries with excessive imbalances and in several cases the level of urgency has been reduced, insofar as the CSRs contain significantly fewer deadlines compared with last year's recommendations. This comes despite the limited implementation of CSRs for countries with excessive imbalances.

Given the difficulties of strengthening reform implementation in the context of the preventive arm of the macroeconomic imbalance procedure, there seems to be a strong case for applying the corrective arm of this procedure for all countries with excessive imbalances. This tool, which has not been used so far, offers a well-defined process ensuring greater traction on reform implementation for the most vulnerable Member States.

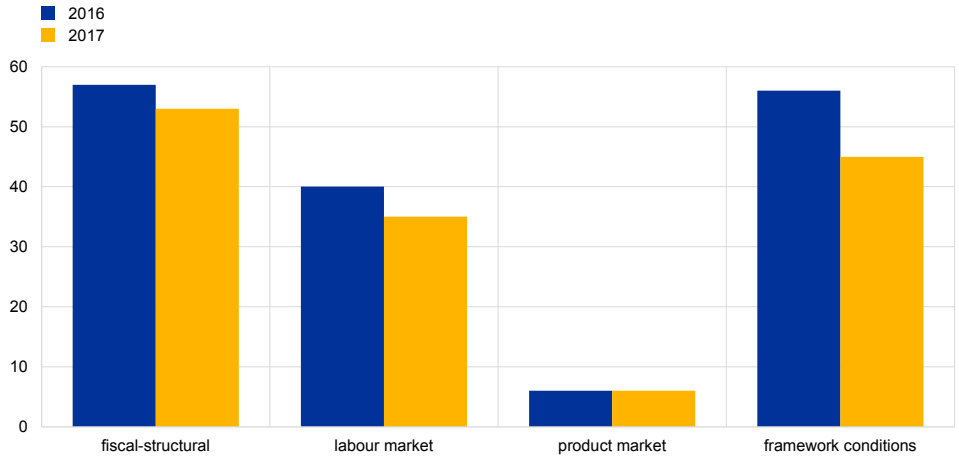
As a result of the streamlining of CSRs, fewer recommendations have been issued compared with the previous year. In particular, there are fewer recommendations on framework conditions and still only a limited number on product markets (see Chart B). This is surprising since a lack of competition in product markets and sub-optimal conditions for business activity remain an issue in many sectors across Member States.[26] In view of the continued emphasis on strengthening private investment and productivity, it will be important to ensure that greater focus is restored to product market reforms in Member States' CSRs.

[25] ibid.

[26] See Chart 6 in the article entitled "Increasing resilience and long-term growth: the importance of sound institutions and economic structures for euro area countries and EMU", *Economic Bulletin*, Issue 5, ECB, 2016.

Chart B

2016 and 2017 CSRs for euro area countries by reform area



Source: ECB computations, applying the CSR breakdown used in the European Commission's Country Reports.
Notes: The chart shows the number of 2016 and 2017 CSRs broken down into broad reform areas. "Fiscal-structural" comprises public administration, age-related spending and taxation policies; "labour market" comprises wage policies, employment protection, education and active labour market policies; "product market" comprises sector-specific regulations; and "framework conditions" comprises the regulatory environment, public procurement, the judicial system, insolvency frameworks, housing policies and financial sector regulation. CSRs related to the Stability and Growth Pact are not included.

Continued monitoring of other reform areas which are no longer covered by the CSRs, but which are critical for the overall economic performance of Member States, remains essential. For the past three years the Commission has excluded from the CSRs certain policy areas which are covered by other monitoring channels.[27] These include the energy sector (which is covered in the context of the energy union) and the monitoring and enforcement mechanisms related to the Single Market. It remains essential, however, to keep track of developments and policies in these areas under the European Semester to ensure that all significant economic policies implemented by Member States are assessed in a holistic manner.

[27] See the European Commission's communication entitled *2016 European Semester: country-specific recommendations*, published on 13 May 2015.

Article

1 The composition of public finances in the euro area

In times of stretched public finances and low structural economic growth, a legacy of the recent crisis, it is essential that fiscal policies are designed to be as growth-friendly as possible. A key element in today's policy debate is the composition of public budgets, i.e. the choice of fiscal instruments on the government revenue and expenditure side. This article sheds light on changes in the composition of public finances since the pre-crisis years and assesses their growth-friendliness. It illustrates how vulnerable public finances have led governments to adopt consolidation measures that impinge negatively on long-term growth. The article also suggests redirecting public funds from less productive spending items towards education and infrastructure, while shifting the tax burden away from distortionary taxes, in particular labour taxation, towards less distortionary consumption and property taxes.

1 Introduction

The current environment of low structural growth, high unemployment and high government debt levels has brought attention to the composition of governments' expenditure and revenue. As a legacy of the recent economic and financial crisis, the euro area has experienced a long period of relatively subdued growth and unemployment levels have remained high. At the same time management of public finances is constrained by high stocks of debt. Euro area government debt, although declining, stands at 90% of GDP, which limits the scope for expansionary policies. Hence, the challenge is how to foster potential growth without compromising fiscal sustainability. Consequently, evidence that the composition of budgets matters for long-term economic growth is of particular relevance in these times of necessary fiscal retrenchment. Shifting expenditure to the most growth-enhancing categories or the tax burden to less distortive taxes can exert positive effects on output growth without burdening public budgets.

This article assesses the growth-friendliness of the composition of euro area government budgets since the pre-crisis years. The size of the government sector in the euro area is large by international standards and it has grown further during the financial crisis and the subsequent consolidation period. On average governments in the euro area spend almost 48% of GDP. In its analysis this article focuses on developments in budgetary composition during the boom leading to the financial crisis and the subsequent fiscal consolidation. A backward-looking perspective is helpful to identify changes in the growth-friendliness of budgets and in particular to assess whether recent consolidations have curbed growth prospects by relying too much on cuts in growth-enhancing spending or increases in particularly distortionary taxes.

The analysis suggests that there is scope for reforms to improve the growth-friendliness of the fiscal composition. Such reforms are changes to the budget composition that improve the national GDP per capita in the long run, but are budget neutral in the short run. These may constitute reallocation of expenditures from less growth-friendly to more growth-friendly categories, tax shifts from distortionary to less distortionary taxes, or simultaneous changes in expenditure and revenue shares. There have been repeated calls by the European Commission, the Eurogroup, the ECB[28], the IMF and the OECD to increase the growth-friendliness of fiscal policies.

The composition of public budgets is also an important element of the wider discussion on the quality of public finances[29]. This has several dimensions, such as the size of the government, the level and sustainability of fiscal positions, the composition and efficiency of expenditure, the structure and efficiency of revenue systems and fiscal governance.

This article is structured as follows: Section 2 discusses the relative growth-friendliness of different expenditure and revenue categories based on a survey of the empirical literature; Section 3 analyses the composition of expenditure by function and the evolution of tax structures by type of tax base since the pre-crisis years; and Section 4 concludes.

2 The growth-friendliness of the composition of public finances: what does the literature tell us?

The empirical literature provides evidence that some expenditure and revenue categories are more relevant for supporting long-term growth than others. Based on the review of the literature, it is possible to identify some underlying patterns in the adequacy of different fiscal instruments in terms of their long-term impact on growth.[30]

Expenditure on education and health is important for long-term growth prospects since it raises the level of human capital, while expenditure on infrastructure raises the level of physical capital. As shown in a survey article[31], the recent literature generally finds robust empirical relationships between certain expenditure categories and economic growth. In particular, it finds robust positive long-run effects for productive expenditure categories, such as education and

28 See, for example, the Introductory Statement by the President of the ECB following the Governing Council meeting of March 2017, which states: "Regarding fiscal policies, all countries should intensify efforts towards achieving a more growth-friendly composition of public finances".

29 The European Commission defined the quality of public finances as "a broad concept with many facets" concerning "the level and composition of public expenditure and its financing via revenue and deficits" (see *The Quality of Public Finances – Findings of the Economic Policy Committee Working Group*, European Commission, Brussels, March 2008).

30 See, for instance, Fournier, J.-M. and Johansson, A., "The effect of the size and the mix of public spending on growth and inequality", *Economics Department Working Papers,* No 1344, OECD Publishing, Paris, 2016.

31 Johansson, A., "Public Finance, Economic Growth and Inequality: A Survey of the Evidence", *OECD Economics Department Working Papers*, No 1346, 2016.

several types of investment. For example, one of these empirical analyses[32] studies the long-run effect of changes in the shares of different expenditure categories on the growth rates of per capita GDP in a panel of OECD countries. It finds a significant positive effect for education spending, as well as spending on transport and communication. Moreover, the study finds some evidence supporting positive effects for housing and health and negative effects for social welfare spending. The main findings are in line with earlier findings[33] showing that shifting expenditure to education spending has a robust effect on growth.

The empirical evidence relating to the impact of physical public investment on structural growth is mixed. The estimates from the empirical studies tend to find a positive relationship between public investment and growth, but the results are heterogeneous. A meta-analysis[34] shows that, in most empirical studies, a positive effect of the share of productive government investment on economic growth is found. However, the estimates vary widely and some studies even find a negative relationship between public investment and growth. These conflicting results can be reconciled if one distinguishes productive from unproductive government investment. Government investment can be conducive to economic growth, particularly if it creates public capital that is complementary to private capital or that would otherwise be undersupplied in an economy. But its effect becomes negative if it crowds out private investment. The positive effect is particularly pronounced for investment in infrastructure, such as transport and communication or education.

There are studies that find a negative relationship between social spending and economic growth[35], but overall the results are not very robust. A possible explanation is the distortionary effects of social spending on labour market activity. The magnitude of these effects depends not only on the amount spent, but also and to a large extent on the design of the social programmes.[36] By focussing transfers on those in need and avoiding negative incentives for labour market participation, fiscal costs can be lowered while also reducing the possible growth-inhibiting effects of such policies.

On the revenue side, taxes on income are found to be more detrimental to growth than taxes on consumption and property. According to the literature survey, labour taxation is particularly detrimental to growth, as it distorts individuals' labour supply decisions and firms' incentives to hire workers. Corporate income taxes tend to reduce the incentives to invest and can induce capital outflows. By contrast, consumption taxes are considered to be relatively less distortionary as they

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32 See Gemmell, N., Kneller, R. and Sanz, I., "Does the Composition of Government Expenditure Matter for Long-Run GDP Levels?", *Oxford Bulletin of Economics and Statistics*, Vol. 78, No 4, 2016, pp. 522-547.

33 See, for example, Acosta-Ormaechea, S. and Morozumi, J., "Can a Government Enhance Long-Run Growth by Changing the Composition of Public Expenditure?", *IMF Working Papers*, No 13/162, 2013.

34 Bom, P.R.D. and Ligthart, J.E., "What have we learned from three decades of research on the productivity of public capital?", *Journal of Economic Surveys*, Vol. 28, No 5, 2014, pp. 889-916.

35 See, for example, Afonso, A. and Alegre, J., "Economic growth and budgetary components: A panel assessment for the European Union", *Empirical Economics*, Vol. 41, No 3, 2011, pp. 703-723.

36 At the same time, social protection spending is the most relevant item for income distribution and for protecting the living standards of the most vulnerable members of society.

do not affect intertemporal consumption decisions (i.e. consumption now and consumption in the future are taxed equally). Finally, capital taxes on immobile capital, such as property taxes, are assumed to have low distortionary effects.[37] Recent empirical analyses[38] find that increases in the taxation of personal income and corporate profits have a negative effect on long-term growth, while raising tax rates on consumption does not significantly affect the growth rate.

It is likely that the progressivity of labour taxes has an ambiguous effect on long-term growth. At the upper end of the income distribution, high effective marginal income tax rates reduce incentives to pursue more highly productive (and thus more highly rewarded) activities. At the lower end of the income distribution, high tax rates may discourage low-skilled workers and second earners from participating in the labour market. These groups can be assumed to be particularly responsive to cuts in labour tax rates. Some recent empirical papers confirm this notion, showing that labour tax reforms reducing the burden for low-income earners have a particularly positive effect on employment and, eventually, economic growth.[39]

3 Evolution of the composition of public finances in the euro area

This section is structured as follows: Section 3.1 sets the overall scene by providing an overview of the cyclically adjusted primary balances, revenues and expenditures during the period under observation. The disaggregated composition of the various expenditure and revenue instruments underlying the overall changes is particularly important when assessing the growth-friendliness of the changes. Consequently, Sections 3.2 and 3.3 look at developments in various expenditure and revenue categories[40] respectively.

37 Property taxes are considered to be the most growth-friendly tax type, see the paper by Roeger, W. and in't Veld, J., "Fiscal stimulus and exit strategies in the EU: A model-based analysis", *European Economy – Economic Papers*, No 426, 2010. In their model, a tax on housing property is introduced in such a way that a tax increase affects housing investment negatively. However, it does not directly distort the provision of the inputs to production and the consumption decision of the households. Moreover, by making investment in productive capital relatively more attractive than investment in housing, it leads to a higher productive capital stock and more production.

38 Gemmell, N., Kneller, R. and Sanz, I., "The Timing and Persistence of Fiscal Policy Impacts on Growth: Evidence from OECD Countries", *Economic Journal*, Vol. 121 No 550, 2011, pp. 33-58; Arnold, J., Brys, B., Heady, C., Johansson, A., Schwellnuss, C. and Vartia, L., "Tax policy for economic recovery and growth", *Economic Journal*, Vol. 121, No 550, 2011, pp. 59-80.

39 See for example Zidar, O.M., "Tax Cuts For Whom? Heterogeneous Effects of Income Tax Changes on Growth and Employment", *NBER Working Paper*s, No 21035, 2015 and Lehmann, E., Lucifora, C., Moriconi, S. and Van der Linden, B., "Beyond the labour income tax wedge: the unemployment-reducing effect of tax progressivity", *International Tax and Public Finance*, Vol. 23 No 3, 2016, pp. 454-489.

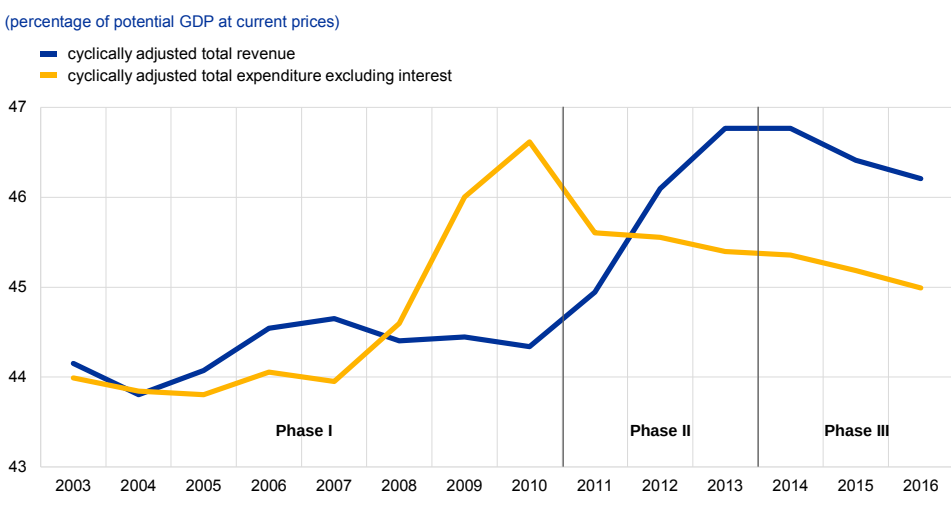
40 Data are only available up to 2015.

3.1 Overall trends

Expenditure and revenue-to-GDP ratios have shown some volatility since the pre-crisis years, but have increased overall. Chart 1 illustrates the trends in the cyclically adjusted primary expenditure and revenue ratios at the euro area level during the period 2003-16. The expenditure share increased sharply with the start of the financial crisis in 2008, when many countries reacted with expansionary fiscal policies. After the peak of the financial crisis, expenditure shares declined, but stayed above the pre-crisis level. By contrast, revenue shares stayed relatively constant until 2010, but climbed significantly in the years afterwards, reflecting euro area countries' policies of revenue-based fiscal consolidation in view of surging deficits and debt levels.

Chart 1

Cyclically adjusted primary expenditure and revenue ratios of the euro area aggregate



Sources: The European Commission Spring 2017 Forecast (AMECO database) and the Eurostat database.

In more detail, the period 2003-16 can be divided into three distinctive periods of budgetary composition. Based on Chart 2, these developments can be summarised as follows:

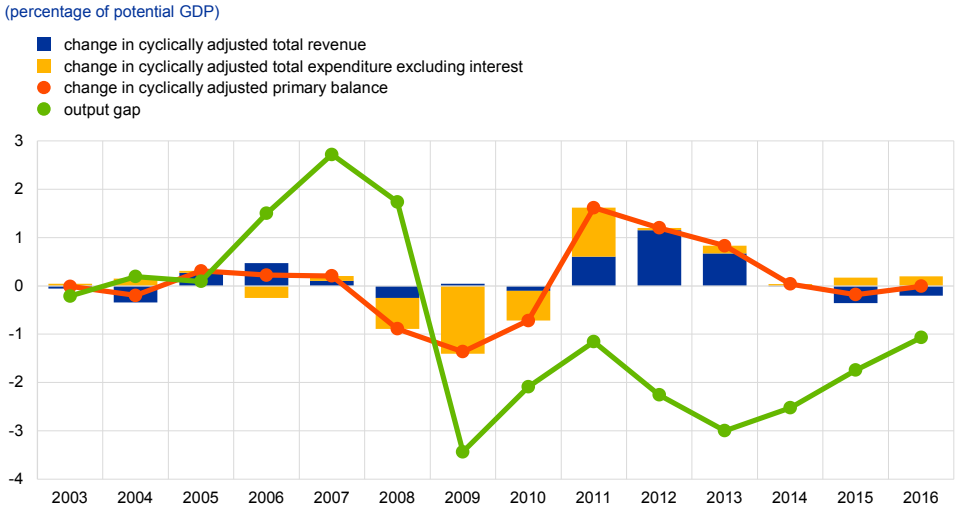
- *The first period covers the years leading up to and including the start of the financial crisis (2003-10).* After the years 2003-05, which can be characterised as "normal" times with on average closed output gaps for the euro area aggregate, significant positive output gaps were recorded over the period 2006-08, which were then followed by the financial crisis. The euro area cyclically adjusted revenue ratio remained stable over 2003-10, indicating that overall governments were not actively pursuing discretionary changes. The sharp GDP deterioration in 2008-09 was accompanied by a temporary fiscal stimulus, which is reflected in the deterioration in the cyclically adjusted primary balances. Governments largely responded with emergency-driven expenditure increases. In 2010 the euro area as a whole recorded the most negative cyclically adjusted primary balance of the period 2003-16.

- *The second period was marked by strong consolidation efforts in most euro area countries to reverse the steep deterioration of public finances (2011-13).*[41] As a consequence, 2013 was the last year in which the euro area as a whole recorded a significant improvement of the cyclically adjusted primary balance.

- *Although consolidation continued in a few countries beyond 2013, most notably those countries with the highest adjustment needs, the subsequent period can be considered as the convergence to the new "normal" (2014-16).* Output gaps were still negative but they were closing according to European Commission estimates.[42] For the euro area as a whole the consolidation effort came to a standstill over this period.

Chart 2

Output gap and changes in the cyclically adjusted primary balance of the euro area aggregate



Sources: The European Commission Spring 2017 Forecast (AMECO database) and the Eurostat database.
Notes: The output gap is the gap between actual and potential gross domestic product at 2010 reference levels (expressed as a percentage of potential gross domestic product at constant prices).
A negative (positive) change in the cyclically adjusted primary balance indicates a deepening (reduction) of fiscal imbalance. The sign of expenditures was reversed, so a negative (positive) change in the cyclically adjusted primary expenditure ratio indicates an increase (reduction).

In the run-up to the crisis, most euro area countries failed to take advantage of the favourable economic conditions to build sufficient fiscal buffers. At the end of 2007, the euro area aggregate cyclically adjusted balance was in significant deficit, amounting to -2.2% of GDP, despite the fact that the euro area output level was considerably above its potential.

The financial crisis and the largely expenditure-based expansionary fiscal stance during 2008-09 led to a sharp deterioration of fiscal positions in most

41 For the charts depicting the euro area as a whole the consolidation period is defined as the period from the end of 2010, the year when the highest cyclically adjusted primary deficit was recorded, to the end of 2013. For the charts depicting the various euro area countries the starting year used for the consolidation period varies to account for the fact that different countries started to consolidate in different years (for example the Baltic States embarked on fiscal consolidation as early as 2009).

42 The European Commission Spring 2017 Forecast.

euro area countries and the need for a large adjustment in subsequent years. The cyclically adjusted primary balance, as a measure of the fiscal stance, deteriorated by 3 percentage points of potential GDP over the period 2008-10 in the euro area. The dominant share of this deterioration can be attributed to increases in cyclically adjusted primary expenditures which recorded an increase of approximately 2.7 percentage points of potential GDP as seen in Charts 1 and 2.

In most countries a largely revenue-based consolidation process started in 2011 and lasted until 2013. However, despite the already large size of the government sector in many euro area countries and the fact that developments during 2008-10 warranted more of an expenditure-based consolidation, revenue increases clearly predominated over expenditure cuts. More specifically, approximately two-thirds of the 3.6 percentage points of potential GDP consolidation during 2011-13 was revenue-based.

The fiscal stance has been broadly neutral since 2014 as most countries have stopped any further fiscal consolidation. This also implies that the expenditure ratio and – even more so – the revenue ratio have remained at a higher level than before the start of the boom-bust cycle, as shown in Chart 1. In certain countries, most notably those countries under economic adjustment programmes, consolidation has continued beyond 2013.

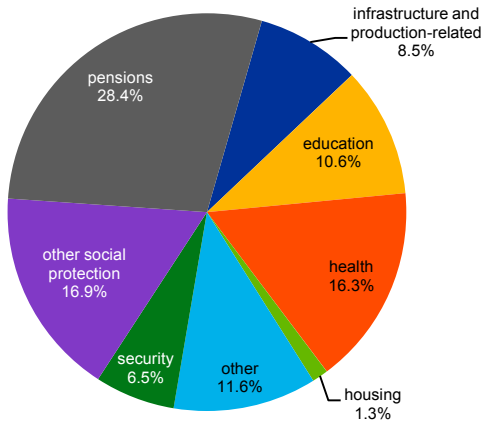
3.2 Government expenditures

Expenditures on education and transport infrastructure, which are usually considered as the most growth-friendly, accounted for about one-fifth of total euro area government primary expenditures in 2015. In addition, health expenditure, which can also have beneficial growth effects, accounted for nearly one-fifth. Social protection, on the other hand, accounts for over two-fifths of total primary expenditure and is by far the largest budgetary component. Pension payments constitute around 60% of expenditure in this category.

Chart 3

Share of the functional composition of government primary spending (excluding contributions to the EU budget) in the euro area in 2015

(percentage of total government primary expenditures)



Source: The Eurostat database.
Note: The category "infrastructure and production-related" excludes the capital transfers for the recapitalisation of the financial system.

Box 1
Categorisation of expenditures and revenues

This box explains the reasoning behind the categorisation of the various expenditure and revenue items that are used in the analysis. The general principle is to define categories along the lines of economic rationale rather than purely statistical definitions.

On the **expenditure** side the analysis differentiates between eight categories: 1) infrastructure and production-related spending, 2) education, 3) health, 4) housing, 5) security, 6) pensions, 7) other social protection and 8) other. These categories closely follow the "Classification of the Functions of Government" (COFOG)[43], however they have been adjusted and re-grouped to better fit the purposes of the analysis. The main adjustments made are the following:

- The category "**infrastructure and production-related**" spending corresponds to the COFOG category "economic affairs". The largest item under this category is government expenditure related to infrastructure, most notably transport, but also the energy sector. The COFOG category also includes a component for capital transfers, a significant part of which is for the purposes of recapitalising the financial sector. Given that the latter are not considered to be persistent costs, the category capital transfers is excluded.
- The category social protection has been broken down into the two sub-categories "**pensions**" and "**other social protection**". The rationale for the breakdown is that pension expenditure, which corresponds to old age and survivors' pensions, is largely determined by past government commitments. An important element of "other social protection" is unemployment expenditure, which is cyclically adjusted for this analysis.

[43] "The Functional Composition of Government Spending in the European Union", *Monthly Bulletin*, ECB, April 2009, pp. 91-99.

- "**Security**" consists of the COFOG categories "defence" and "public order and safety".
- The category "**other**" comprises the relatively small COFOG categories of "environmental protection", "recreation, culture and religion" and "general public services". The latter excludes expenditures related to interest payments and contributions to the EU budget, which are viewed as being non-discretionary.

Data based on the functions of government allow the relevant developments in specific expenditure categories to be identified. By contrast the traditional government expenditure data from national accounts (government finance statistics) do not allow such analysis. They classify expenditures by differentiating between current expenditure (e.g. compensation of employees, intermediate consumption) and capital expenditure (e.g. investment). As shown in Section 2, education spending in particular is considered growth-friendly. But in national accounts this is split between current expenditure (e.g. wages for teachers and professors) and capital spending (e.g. investment in buildings). At the same time, expenditure recorded as investment spending can have very limited long-term growth effects, e.g. in the case of purchases of military equipment.

On the **revenue** side the analysis concentrates on four main categories according to the type of tax base: labour, capital (i.e. taxation on firms), consumption and property. The category of labour taxation mostly consists of taxes on the wage bill as well as payroll taxes and social security contributions paid by employers and employees.[44] Taxation of firms comprises taxes on the income or profits of corporations. Consumption taxes consist of VAT and excise taxes as well as some minor taxes paid by households. Finally, property taxes are the summation of those taxes paid by households related to property and wealth, such as capital taxes as well as taxes on land and other assets. Since the analysis is restricted to tax revenue, other capital (i.e. extraordinary) revenue sources, such as privatisation receipts or receipts emanating from financial sector recapitalisation, are excluded.

Developments in expenditure categories show a stark change in behaviour during the period under study. Before the start of the consolidation, increases in government spending were recorded across almost all categories of expenditure with the largest increases being concentrated in pension and health expenditure, as illustrated in Chart 4 (blue bars). These increases may not be purely discretionary on account of ageing populations. There were also significant increases in the particularly growth-friendly category of infrastructure and production-related expenditure. During the consolidation period (yellow bars) reductions occurred in all categories with the exception of pension expenditure. The consolidation relied significantly on cuts in education and infrastructure expenditure. In the case of the latter, however, the ratio of expenditure as a percentage of potential GDP remained constant overall for the period 2003-15, with the significant reductions during the consolidation period offsetting increases recorded pre-consolidation and post-consolidation. In the case of education, reductions have continued in the post-consolidation period (red bars). By contrast, in the post-consolidation period,

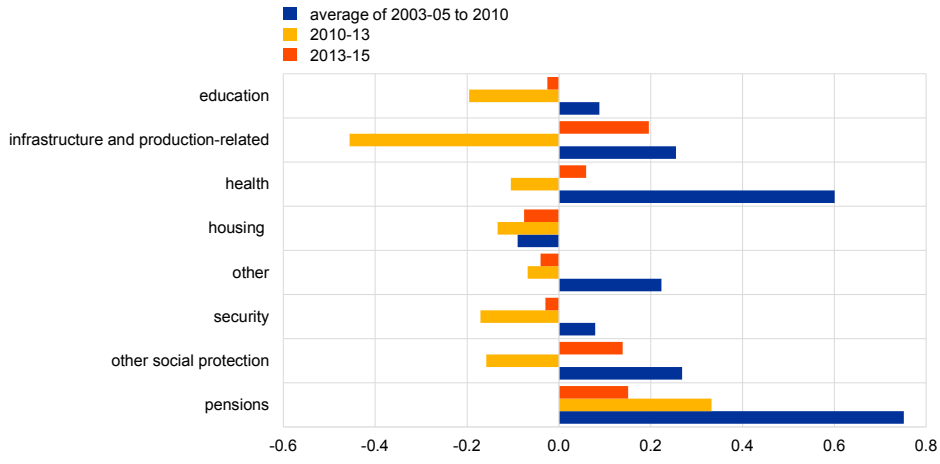
[44] This differentiation of tax revenues is motivated by the approach followed by the European Commission in its publication "Taxation Trends in the European Union: Data for the EU Member States, Iceland and Norway" (2016 edition).

expenditures on pensions have continued increasing, while in the categories health and non-pension social payments increases have largely reversed the cuts of the consolidation period.

Chart 4

Cumulative changes in the functional composition of the government primary spending of the euro area

(percentage of potential GDP)



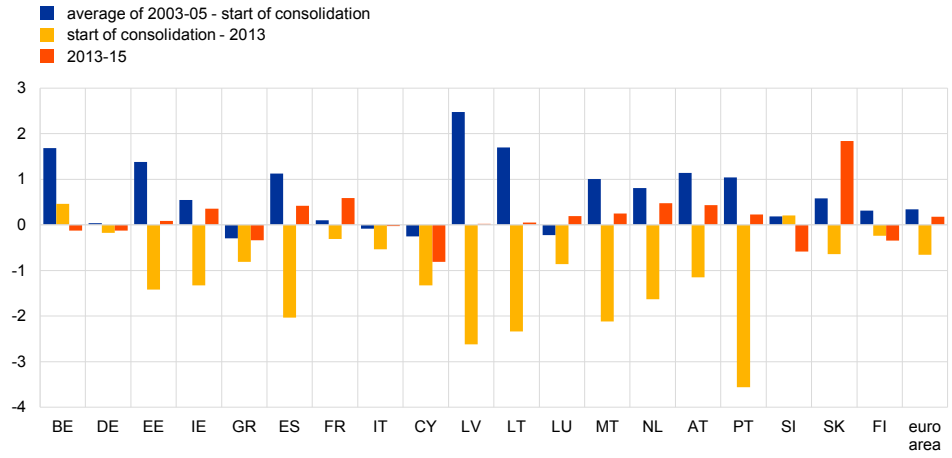
Sources: The Eurostat database, the European Commission (AMECO database) and ECB calculations using OECD budgetary elasticities. COFOG sub-components for Spain for 2015 have been obtained from a national source.
Notes: The chart refers to the euro area aggregate excluding Latvia due to the lack of data on COFOG sub-components for the period 2003-06.
Cyclical adjustment of unemployment-related expenditure is based on the OECD elasticity appearing in Price, R., Dang, T. and Guillemette, Y., "New Tax and Expenditure Elasticity Estimates for EU Budget Surveillance", *OECD Economics Department Working Papers*, No 1174, OECD Publishing, Paris, 2014.
The category "infrastructure and production-related" excludes the capital transfers for the recapitalisation of the financial system.
The blue bars represent the changes over the years leading up to and including the start of the financial crisis (2003-10). The average of 2003-05 is taken as the starting point, as this period can be characterised as "normal" times with on average closed output gaps for the euro area aggregate.

Looking at developments in individual countries, in the period before the consolidation, significant increases in particularly growth-enhancing expenditures (education and infrastructure) were recorded in the majority of the euro area countries. As illustrated in Chart 5 Greece, Luxembourg, Italy and Cyprus are the only countries that registered reductions in the aggregate of expenditures on education and infrastructure even before the crisis.

Chart 5

Cumulative changes in “education” and “infrastructure and production-related” expenditures for euro area countries

(percentage of potential GDP)



Sources: The Eurostat database and the European Commission (AMECO database). COFOG sub-components for Spain for 2015 have been obtained from a national source.
Note: The “start of consolidation” is country-specific to indicate the fact that different countries started their consolidation at different times. The starting year is defined as the year in which the largest deficit/lowest surplus in the cyclically adjusted primary balance was recorded. The start of the consolidation is thus set: at the end of 2008 for EE, LV, LT and MT; at the end of 2009 for BE, GR, ES and AT; at the end of 2010 for DE, IE, FR, IT, LU, NL, PT, SK and FI; and at the end of 2011 for CY and SI. The start of consolidation for the euro area 19 is defined as the end of 2010, the year in which the highest deficit in the cyclically adjusted primary balance was recorded.

During the consolidation period, expenditure on education and infrastructure investment suffered the largest reductions in most countries. Expenditure reductions were registered in all euro area countries except Belgium and Slovenia. The reductions were particularly large in the countries with the strongest adjustment needs. Ireland, Greece, Portugal and Cyprus registered reductions up to 2013, while the reductions have continued beyond 2013 in Greece and Cyprus.

Expenditure on infrastructure and education registered increases in the years 2014-15 in many countries, thus partly reversing the reductions in the consolidation period. As illustrated in Chart 5, since 2013 expenditures that are particularly growth-enhancing have recovered overall, but in 2015 they were still below pre-consolidation period levels. Increases were recorded in over half of the euro area countries. Germany, despite the absence of pressing consolidation needs, has, however, slightly reduced the ratio of expenditures on education and infrastructure as a percentage of potential GDP. The increases observed in other countries are largely in the category of infrastructure expenditure. In the case of education, the drop in the expenditure as a percentage of potential GDP even continued in 2014-15 in the majority of the euro area countries. The decline, however, does not necessarily translate fully into reduced expenditure per student as there is a declining population share of the young generation.

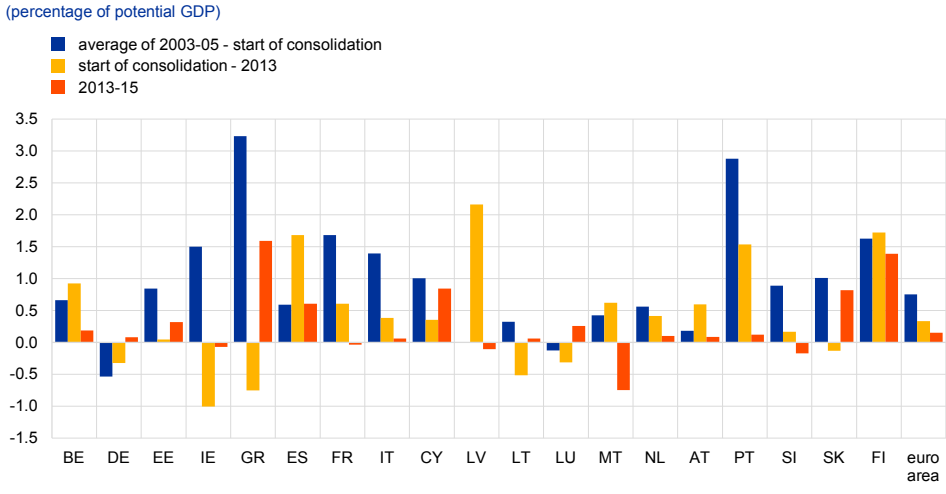
It is also relevant to consider the efficiency of the growth-enhancing expenditures in terms of outcomes. It is remarkable that some of the countries with the biggest cuts in expenditures on education and infrastructure after the financial crisis were also those with the biggest increases during the boom period that preceded it. Consequently, the adjustments after 2009 also to some extent

mirror unsustainable developments before the onset of the crisis in which some expenditure was not well targeted and had low efficiency.

Expenditure on pensions is the only category to register increases in most countries throughout 2003-15, including during the consolidation period. As shown in Chart 6, increases were particularly strong in Greece and Portugal before the onset of the consolidation, while Germany and Luxembourg were the only countries which recorded decreases. During the consolidation episodes, increases continued in the majority of countries, while significant reductions occurred in some of the programme countries. However, these reductions were smaller than the increases in the years before. Pension expenditures continued increasing in the majority of euro area countries after 2013, also reflecting a further rise in the share of older people in the population. This shows that the pressure from an ageing society will continue to limit governments' room for manoeuvre in the coming years as further increases in the share of elderly people are projected.

Chart 6

Cumulative changes in old age and survivors' pension expenditure for euro area countries



Sources: The Eurostat database and the European Commission (AMECO database). COFOG sub-components for Spain for 2015 have been obtained from a national source.
Notes: No COFOG data on pensions are available for Latvia for the period 2003-06. Consequently the euro area aggregate refers to the euro area 18 excluding Latvia.
The "start of consolidation" is country-specific to indicate the fact that different countries started their consolidation at different times. The starting year is defined as the year in which the largest deficit/lowest surplus in the cyclically adjusted primary balance was recorded. The start of the consolidation is thus set: at the end of 2008 for EE, LV, LT and MT; at the end of 2009 for BE, GR, ES and AT; at the end of 2010 for DE, IE, FR, IT, LU, NL, PT, SK and FI; and at the end of 2011 for CY and SI. The start of consolidation for the euro area 18 is defined as the end of 2010, the year in which the highest deficit in the cyclically adjusted primary balance was recorded.

Overall, expenditure in the most growth-friendly categories was reduced over the consolidation years, but pension expenditure increased steadily over the entire period. This finding is particularly relevant taking into account that pension expenditure amounts to more than a quarter of government expenditure in the euro area, while expenditures in the growth-friendly categories of education and transport represent less than a fifth.

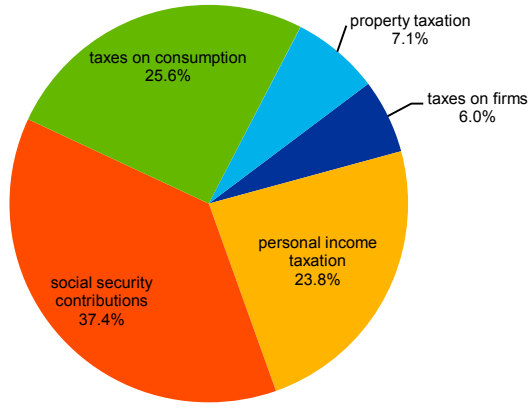
3.3 Government revenues

Developments on the revenue side can be assessed across four broad categories of tax revenue, namely property taxation, taxes on consumption, labour taxation and taxation on firms. Chart 7 illustrates the shares for these broad tax revenue categories for the euro area as whole. Labour taxation, which is the summation of personal income taxation and social security contributions, accounted for over 60% of taxation revenue, while taxes on firms only amounted to 6%. The categories of property and consumption taxation that have been shown to be less distortionary accounted for close to a third of taxation revenue.

Chart 7

Shares of the various categories of euro area tax revenue in 2015

(percentage of tax revenue)



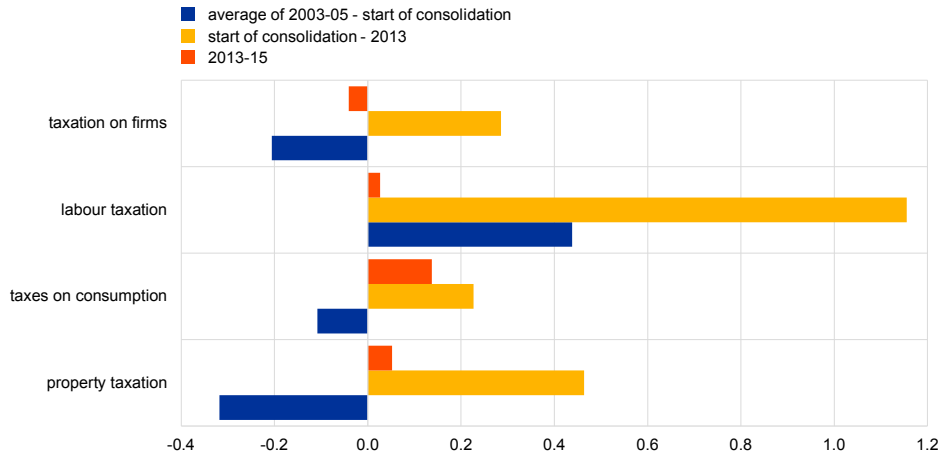
Sources: The Eurostat database, the European Commission (AMECO database) and ECB calculations using OECD budgetary elasticities.
Note: The category labour taxation corresponds to the aggregation of personal income taxation and social security contributions.

Before the consolidation period, increases in labour taxation were offset by reductions in the other tax categories. As illustrated in Chart 8, it is remarkable that taxation on firms, consumption and property were decreasing on average during the period 2003-10. One notable exception was Germany, where the revenue share from labour taxation decreased substantially and the revenue share from consumption taxes increased.

Chart 8

Changes in cyclically adjusted categories of revenue for the euro area aggregate

(percentage of potential GDP)



Sources: The Eurostat database, the European Commission (AMECO database) and ECB calculations using OECD budgetary elasticities.
Note: Cyclical adjustment of the various revenue categories is based on the OECD elasticities appearing in Price, R., Dang, T. and Guillemette, Y., "New Tax and Expenditure Elasticity Estimates for EU Budget Surveillance", *OECD Economics Department Working Papers*, No 1174, OECD Publishing, Paris, 2014.

During the consolidation period governments relied significantly on more distortionary taxes, most notably labour taxation, for consolidation. As shown in Chart 8, the increases were mostly concentrated on labour taxation. In particular considerable increases were recorded in the countries that had high consolidation needs, such as Greece, Portugal and France. The increases in revenues from corporate taxation observed during the consolidation period reversed to a certain extent the lower reliance on these revenues in the period leading up to it.

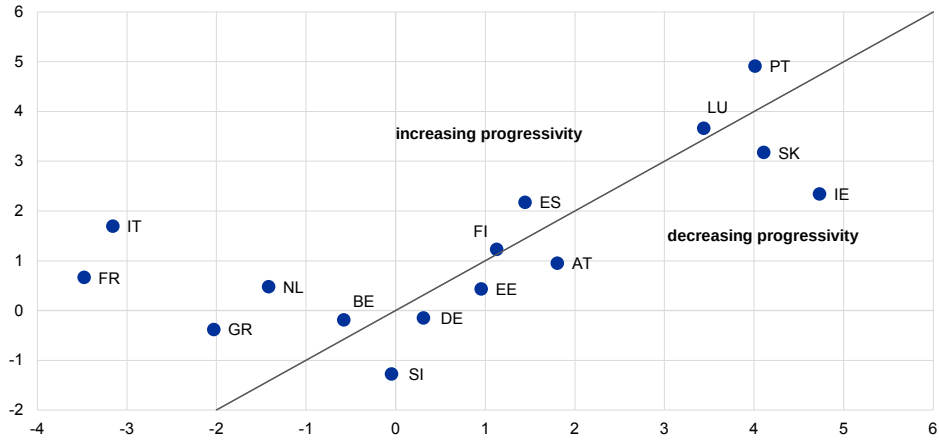
Since 2013 revenue shares have shifted towards the less distortionary taxation categories. Reliance on property and consumption taxation has continued to increase, while taxation on firms has recorded a small decrease.

Both the relative share of labour taxation and the degree of tax progression are relevant for growth. As shown in Chart 9, many euro area countries resorted to hikes in labour taxes when the need for fiscal consolidation was particularly pressing. Chart 9 shows the changes in the tax wedge on labour (i.e. the ratio of personal income taxes and social security contributions to the corresponding total labour cost for the employer) for single earners receiving 67% and 167% of the mean national income, respectively. The graph demonstrates that most countries in the sample increased the tax burden on high-income earners, while four of them (most notably France and Italy) reduced the burden on low-income earners.

Chart 9

Changes in the average tax wedge on labour (beginning of consolidation until 2015)

(in percentage points, x-axis: for a single earner at 67% of average earnings; y-axis: at 167% of average earnings)



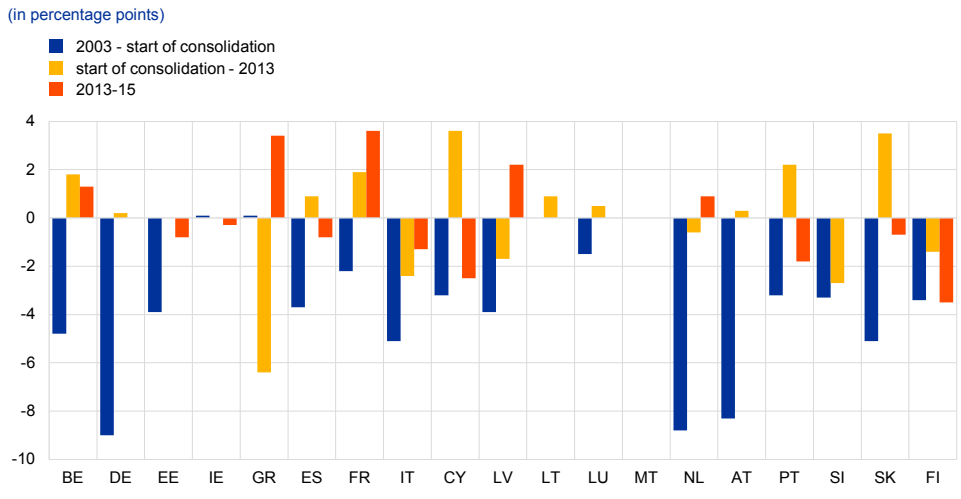
Source: *Taxing Wages 2017*, OECD publishing, Paris, 2017.
Note: The line indicates the 45 degree line.

Corporate income tax rates were not increased significantly, either during the consolidation period or afterwards. Chart 10 shows the effective average tax rate (EATR)[45], which represents the effective tax burden on profitable investment. It takes into account the current tax code of each country, in particular concerning statutory tax rates and the definition of the tax base. In the first period, we see a general trend towards reducing the tax burden on firms, possibly also reflecting intensifying tax competition. During the consolidation period and after 2015, only a few countries resorted to increases in corporate taxes to generate additional revenues. Overall, the effective tax burden for firms is now lower in most countries than it was before the boom.

[45] EATR are based on calculations by the Centre for European Economic Research (ZEW), 2016.

Chart 10

Changes in the EATR on corporate income

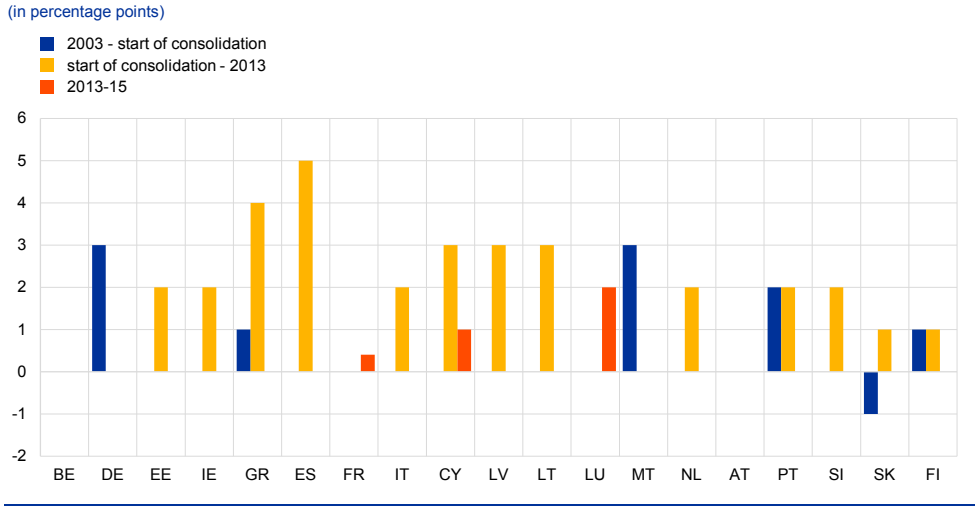


Sources: Spengel, C., Schmidt, F., Heckemeyer, J. H., Nicolay, K., Bartholmeß, A., Bräutigam, R., Braun, J., Dutt, V., Evers, M. T., Harendt, C., Klar, O., Nusser, H., Olbert, M., Pfeiffer, O., Steinbrenner, D., Streif, F. and Todtenhaupt, M., *Effective Tax Levels using the Devereux/Griffith Methodology, Project for the EU Commission* TAXUD/2013/CC/120 Final Report, ZEW, Mannheim, 2016.

For consumption taxes there is a pattern of increasing VAT rates. Chart 11 shows the changes in the standard rates of VAT, which are a good proxy for the tax burden on consumption given that VAT is the predominant source of revenue from indirect taxation. Almost all countries increased the tax burden on consumption. Rates were increased particularly strongly in the consolidation period (especially in countries undergoing adjustment programmes), but some countries also increased their VAT rates after the adjustment. Increases in consumption taxes also took place in many euro area countries in the form of a broadening of tax bases, as goods were shifted from reduced to standard rates, and in the form of higher excise tax rates.

Chart 11

Changes in the standard rate of VAT



Source: *VAT rates applied in the Member States of the European Union*: *Situation at 1 January 2017*, European Commission, Taxud.c.1, 2017.
Note: Empty columns indicate that there was no change in the standard rate of VAT in the jurisdiction and period concerned.

Overall, while taxation in the most distortionary categories (e.g. labour taxation) increased over the consolidation period, since 2013 governments have relied more on less distortionary taxation. This finding is particularly relevant taking into account that labour taxation is the largest component of tax revenues. The European Commission[46] developed a horizontal indicator-based assessment methodology to help identify the need and scope for shifting the tax burden from labour to other revenue categories that are less detrimental to growth. The analysis using data for the period 2011-13 demonstrates that around one-third of the EU Member States show a need and scope for growth-enhancing shifts of taxation from labour to other tax bases.

4 Summary and policy implications

Changes in euro area public finances over recent years illustrate the risks that fiscal vulnerabilities cast on the growth-friendliness of public revenues and expenditures. Overall, the composition of budgets has become less growth-friendly over time during the 2003-15 period analysed, mainly due to the policy response to the crisis (see Chart 12). During the pre-consolidation period (2003-10) expenditure increased across the board, with the largest peaks concentrated in pensions and health spending, which are considered to be less growth-friendly. In the consolidation period (2011-13), there was significant reliance on the more distortionary taxes for increasing revenues, most notably labour taxation, while expenditure cuts centred on the growth-friendly categories of education and infrastructure investment.[47] However, it is encouraging to observe some tendencies towards improving the growth-friendliness of budgetary composition since 2013, with a tax shift towards less distortionary taxation and a partial recovery in certain growth-friendly expenditures.

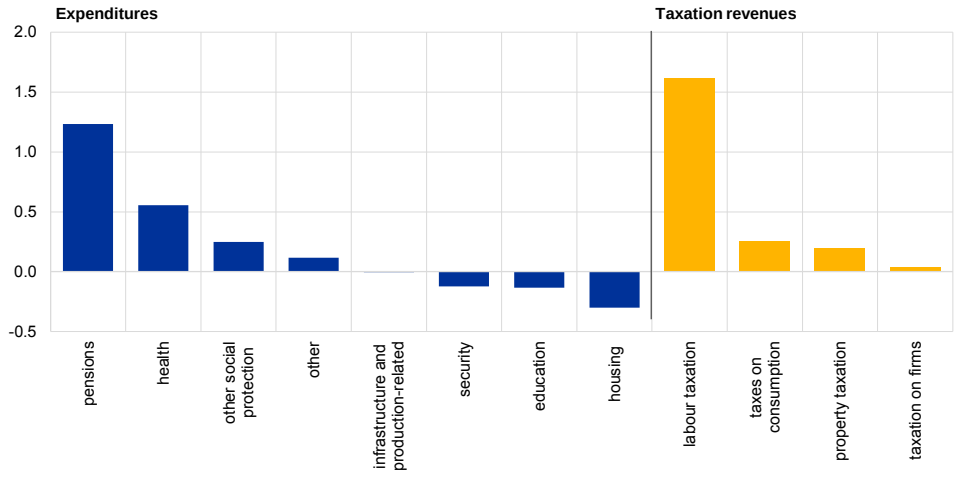
46 Wöhlbier, F., Astarita, C. and Mourre, G., "Growth-Friendly Tax Structures: An Indicator-Based Approach", *German Economic Review*, forthcoming.

47 See also "Taxing times", *IMF Fiscal Monitor*, October 2013.

Chart 12

Cumulative changes in expenditure and tax categories of the euro area

(average 2003-05 to 2015, percentage of potential GDP)



Sources: The Eurostat database, the European Commission (AMECO database) and ECB calculations using OECD budgetary elasticities. COFOG sub-components for Spain for 2015 have been obtained from a national source.
Notes: For the expenditure categories the chart refers to the euro area aggregate excluding Latvia due to the lack of data on COFOG sub-components for the period 2003-06.
Cyclical adjustment is based on the OECD elasticity appearing in Price, R., Dang, T. and Guillemette, Y., "New Tax and Expenditure Elasticity Estimates for EU Budget Surveillance", *OECD Economics Department Working Papers*, No 1174, OECD Publishing, Paris, 2014.
The category "infrastructure and production-related" excludes the capital transfers for the recapitalisation of the financial system.

Looking ahead, there is now a need to improve the composition of public budgets in line with the long-term growth objective. In particular, it should be possible to lower the tax burden in a budget neutral way. The revenue share of labour taxation has increased significantly during the consolidation period and cutting it should be quite beneficial for growth. Greater reliance could be placed on the less distortionary tax bases of consumption and property: shifting towards taxation of property can also be equity-friendly. Moreover, the most growth-friendly reforms to personal income taxes are those which reduce the burden of low-income earners and second earners, and the resulting higher labour participation of these two groups contributes to lower inequality in labour income. According to OECD data, in 2016 the average tax wedge for low-income earners amounted to 37.6% and was substantially higher than the OECD average (32.3%). On the expenditure side, particular care should be devoted to redirecting more resources towards the areas of health, education or infrastructure, as such spending has been shown to have positive long-term effects on growth, while cutting less productive spending. The long-term economic growth effect coincides with a reduction in the share of those who are at risk of being unemployed or precariously employed.

Country-specific factors have to be considered when designing policies for a more growth-friendly budgetary composition. The trends identified at the euro area level are heterogeneous across countries. All other things being equal, for a country which has a very high public expenditure share it should be relatively more worthwhile to cut expenditures and thus create fiscal space for reducing distortive taxes. By contrast, for a country with a small public sector it may be more appropriate to increase tax revenues from non-distortionary sources if there is a need to strengthen productive expenditure. To determine the growth-friendliness of

public finances it is also important to look at microeconomic data and efficiency studies at country level. A weak tax administration induces evasion activities that are inefficient and leads to an unfair tax competition between informal firms and formally registered firms (IMF Fiscal Monitor, 2017). More efficient tax collection can also create fiscal room for reductions in distortionary tax rates. On the expenditure side, the efficiency of public spending is crucial to maximise the economic effect of spending using the available resources. In this regard, studies show a great heterogeneity of expenditure efficiency across euro area countries.

Statistics

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Further information

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

Conventions used in the tables

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

1 External environment

1.1 Main trading partners, GDP and CPI

	GDP [1] (period-on-period percentage changes)						CPI (annual percentage changes)						
	G20 [2]	United States	United Kingdom	Japan	China	Memo item: euro area	OECD countries		United States	United Kingdom (HICP)	Japan	China	Memo item: euro area [3] (HICP)
							Total	excluding food and energy					
	1	2	3	4	5	6	7	8	9	10	11	12	13
2014	3.4	2.4	3.1	0.3	7.3	1.2	1.7	1.8	1.6	1.5	2.7	2.0	0.4
2015	3.4	2.6	2.2	1.1	6.9	2.0	0.6	1.7	0.1	0.0	0.8	1.4	0.0
2016	3.2	1.6	1.8	1.0	6.7	1.8	1.1	1.8	1.3	0.7	-0.1	2.0	0.2
2016 Q3	0.9	0.9	0.5	0.3	1.8	0.4	1.0	1.8	1.1	0.7	-0.5	1.7	0.3
Q4	0.9	0.5	0.7	0.3	1.7	0.5	1.5	1.7	1.8	1.2	0.3	2.2	0.7
2017 Q1	0.9	0.4	0.2	0.3	1.3	0.6	2.4	1.8	2.5	2.1	0.3	1.4	1.8
Q2	.	.	.	.	1.7	.	.	.	1.9	.	.	.	1.5
2017 Jan.	-	-	-	-	-	-	2.3	1.9	2.5	1.8	0.4	2.5	1.8
Feb.	-	-	-	-	-	-	2.5	1.9	2.7	2.3	0.3	0.8	2.0
Mar.	-	-	-	-	-	-	2.3	1.8	2.4	2.3	0.2	0.9	1.5
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	-	-	-	-	-	-	.	.	1.6	.	.	.	1.3

Sources: Eurostat (col. 3, 6, 10, 13); BIS (col. 9, 11, 12); OECD (col. 1, 2, 4, 5, 7, 8).
1) Quarterly data seasonally adjusted; annual data unadjusted.
2) Data for Argentina are currently not available owing to the state of emergency in the national statistical system declared by the government of Argentina on 7 January 2016. As a consequence, Argentina is not included in the calculation of the G20 aggregate. The policy regarding the inclusion of Argentina will be reconsidered in the future depending on further developments.
3) 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	2.5	3.8	1.7
2015	53.2	55.8	56.3	51.4	50.4	53.8	51.8	53.7	50.3	1.3	3.7	-0.2
2016	51.6	52.4	53.4	50.5	51.4	53.3	51.8	51.9	50.2	0.9	1.2	0.7
2016 Q3	51.4	51.9	51.6	49.6	51.7	52.9	51.8	51.3	50.1	0.9	1.0	0.9
Q4	53.2	54.6	55.6	52.0	53.1	53.8	53.4	53.2	50.5	1.6	-1.3	3.7
2017 Q1	53.3	54.3	54.6	52.5	52.3	55.6	53.4	53.3	51.8	2.6	1.7	3.2
Q2	53.1	53.6	54.8	53.0	51.3	56.6	52.5	53.3	51.5	.	.	.
2017 Jan.	53.8	55.8	55.3	52.3	52.2	54.4	53.2	54.0	51.7	2.7	0.3	4.4
Feb.	53.0	54.1	53.8	52.2	52.6	56.0	53.6	52.8	52.2	2.8	1.1	3.9
Mar.	53.2	53.0	54.8	52.9	52.1	56.4	53.5	53.1	51.6	2.6	1.7	3.2
Apr.	53.0	53.2	56.2	52.6	51.2	56.8	52.7	53.1	51.6	0.5	0.4	0.6
May	53.1	53.6	54.3	53.4	51.5	56.8	52.6	53.3	51.4	.	.	.
June	53.2	53.9	53.8	52.9	51.1	56.3	52.2	53.4	51.6	.	.	.

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

2 Financial developments

2.1 Money market interest rates

(percentages per annum; period averages)

	Euro area [1]					United States	Japan
	Overnight deposits (EONIA)	1-month deposits (EURIBOR)	3-month deposits (EURIBOR)	6-month deposits (EURIBOR)	12-month deposits (EURIBOR)	3-month deposits (LIBOR)	3-month deposits (LIBOR)
	1	2	3	4	5	6	7
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
2016 Dec.	-0.35	-0.37	-0.32	-0.22	-0.08	0.98	-0.04
2017 Jan.	-0.35	-0.37	-0.33	-0.24	-0.09	1.03	-0.02
Feb.	-0.35	-0.37	-0.33	-0.24	-0.11	1.04	-0.01
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

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
2016 Dec.	-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 Jan.	-0.70	-0.70	-0.69	-0.28	0.50	1.20	1.69	1.36	-0.72	-0.60	0.64	1.63
Feb.	-0.87	-0.88	-0.90	-0.54	0.25	1.13	1.56	1.05	-0.92	-0.86	0.34	1.46
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

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
2016 Dec.	342.6	3,207.3	698.1	253.7	619.1	313.6	165.7	541.6	396.0	237.1	320.9	797.3	2,246.6	19,066.0
2017 Jan.	352.4	3,298.8	720.9	258.4	637.7	321.1	170.1	557.7	412.7	240.1	337.5	817.4	2,275.1	19,194.1
Feb.	353.2	3,293.1	728.9	257.0	644.9	312.5	166.6	563.0	431.7	239.1	334.6	839.5	2,329.9	19,188.7
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

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 June	0.09	0.54	0.56	0.85	6.54	16.80	4.96	5.87	6.18	2.44	1.81	2.00	1.96	2.01	2.32	1.96
July	0.09	0.52	0.50	0.91	6.45	16.80	5.14	5.96	6.29	2.39	1.81	1.96	1.96	1.95	2.32	1.92
Aug.	0.08	0.51	0.52	0.83	6.48	16.78	5.43	6.01	6.37	2.40	1.86	1.95	1.86	1.88	2.31	1.90
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	6.43	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	6.40	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	6.34	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	0.42	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	6.39	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	6.34	16.68	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	0.40	0.75	6.34	16.70	4.82	5.58	5.96	2.36	1.72	1.89	1.91	1.85	2.26	1.87
May [(p)]	0.06	0.47	0.39	0.81	6.33	16.69	5.06	5.78	6.21	2.44	1.73	1.90	1.90	1.87	2.23	1.87

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 June	0.11	0.15	0.64	2.75	2.66	3.01	2.52	1.85	1.91	1.85	1.34	1.60	1.64	1.90
July	0.10	0.16	0.42	2.71	2.73	3.07	2.47	1.86	1.91	1.81	1.28	1.56	1.69	1.87
Aug.	0.09	0.16	0.47	2.74	2.69	3.02	2.46	1.87	1.95	1.80	1.22	1.48	1.54	1.83
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	1.38	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	1.32	1.53	1.76
Mar.	0.06	0.08	0.58	2.57	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 [(p)]	0.05	0.10	0.47	2.51	2.49	2.77	2.37	1.76	1.73	1.71	1.20	1.46	1.63	1.76

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	1,322	544	132	.	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	351	161	46	.	32	79	33
2016 Dec.	1,242	520	135	.	59	466	62	316	143	66	.	32	50	25
2017 Jan.	1,276	536	135	.	73	469	63	420	203	49	.	39	88	41
Feb.	1,303	550	141	.	79	466	66	348	168	49	.	31	72	29
Mar.	1,315	547	131	.	82	480	74	389	171	52	.	43	90	33
Apr.	1,302	525	136	.	90	479	72	354	155	45	.	43	75	36
May	1,301	522	138	.	92	481	68	357	173	42	.	37	84	21
Long-term														
2014	15,128	4,055	3,156	.	990	6,285	642	219	65	43	.	16	85	10
2015	15,232	3,784	3,274	.	1,055	6,482	637	215	68	45	.	13	81	9
2016	15,245	3,640	3,187	.	1,133	6,643	641	208	59	46	.	17	78	8
2016 Dec.	15,245	3,640	3,187	.	1,133	6,643	641	163	45	78	.	13	25	2
2017 Jan.	15,305	3,645	3,198	.	1,135	6,688	638	317	103	82	.	15	108	9
Feb.	15,332	3,667	3,201	.	1,138	6,686	640	246	80	54	.	12	89	12
Mar.	15,346	3,648	3,170	.	1,149	6,736	643	277	63	83	.	24	97	9
Apr.	15,313	3,632	3,184	.	1,148	6,717	632	211	54	53	.	13	87	5
May	15,379	3,634	3,177	.	1,152	6,781	634	249	62	63	.	18	101	4

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	16,450.2	4,598.3	3,287.1	.	1,048.9	6,823.2	692.7	5,958.0	591.1	782.2	4,584.6
2015	16,501.2	4,301.4	3,421.0	.	1,116.7	6,960.1	702.1	6,744.7	586.1	907.6	5,251.0
2016	16,486.5	4,160.0	3,322.3	.	1,192.6	7,108.6	703.0	7,029.2	538.7	1,020.0	5,470.5
2016 Dec.	16,486.5	4,160.0	3,322.3	.	1,192.6	7,108.6	703.0	7,029.2	538.7	1,020.0	5,470.5
2017 Jan.	16,580.6	4,181.5	3,333.6	.	1,208.1	7,156.9	700.5	7,015.2	542.3	1,018.4	5,454.5
Feb.	16,634.6	4,217.1	3,342.1	.	1,217.2	7,151.9	706.3	7,201.2	539.0	1,028.8	5,633.4
Mar.	16,660.9	4,195.3	3,301.9	.	1,230.7	7,216.0	717.0	7,509.1	609.8	1,058.8	5,840.5
Apr.	16,615.2	4,157.8	3,319.7	.	1,238.5	7,195.8	703.5	7,689.6	636.8	1,077.2	5,975.6
May	16,680.2	4,155.9	3,315.3	.	1,244.7	7,262.7	701.6	7,781.7	631.0	1,070.8	6,079.9
Growth rate											
2014	-0.8	-8.1	0.2	.	4.9	3.1	1.1	1.6	7.2	2.0	0.7
2015	0.2	-7.0	5.4	.	4.7	1.8	0.6	1.1	4.5	1.5	0.6
2016	0.1	-3.1	-2.2	.	7.0	2.1	-0.1	0.5	1.2	1.0	0.4
2016 Dec.	0.1	-3.1	-2.2	.	7.0	2.1	-0.1	0.5	1.2	1.0	0.4
2017 Jan.	0.7	-2.1	-1.0	.	8.9	2.2	-0.3	0.6	1.5	1.1	0.4
Feb.	1.2	-1.7	1.1	.	9.8	1.6	0.8	0.7	4.1	1.3	0.3
Mar.	1.3	-1.4	1.5	.	9.5	1.7	0.8	0.8	5.8	0.9	0.3
Apr.	1.4	-2.0	1.9	.	8.4	2.2	0.2	0.8	5.9	1.1	0.3
May	1.4	-1.9	2.1	.	8.2	2.2	0.1	0.8	5.8	1.2	0.3

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	101.8	97.9	97.0	91.9	97.9	99.7	114.7	96.1
2015	92.4	88.4	89.3	83.7	82.5	89.5	106.5	87.8
2016	94.8	90.1	91.4	85.8	81.1	90.4	110.4	90.0
2016 Q3	95.2	90.5	91.7	86.0	80.8	90.5	110.6	90.1
Q4	94.9	90.2	91.1	85.6	80.9	90.1	110.0	89.6
2017 Q1	94.2	89.7	90.3	84.2	79.7	89.0	109.2	88.7
Q2	95.7	90.9	91.9	.	.	.	110.8	89.6
2017 Jan.	94.4	89.8	90.4	-	-	-	109.7	89.1
Feb.	93.9	89.5	90.0	-	-	-	108.8	88.5
Mar.	94.4	89.8	90.4	-	-	-	109.2	88.6
Apr.	94.1	89.6	90.2	-	-	-	108.8	88.3
May	96.0	91.2	92.3	-	-	-	111.1	90.0
June	96.8	91.8	93.3	-	-	-	112.1	90.6
Percentage change versus previous month								
2017 June	0.8	0.7	1.0	-	-	-	0.9	0.7
Percentage change versus previous year								
2017 June	2.1	1.7	1.9	-	-	-	1.4	0.4

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 Q3	7.443	7.493	27.029	7.442	311.016	114.292	4.338	0.850	4.4646	9.511	1.089	1.117
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
2017 Jan.	7.319	7.530	27.021	7.435	308.987	122.136	4.367	0.861	4.5018	9.511	1.071	1.061
Feb.	7.314	7.448	27.021	7.435	308.502	120.168	4.308	0.853	4.5136	9.476	1.066	1.064
Mar.	7.369	7.423	27.021	7.436	309.714	120.676	4.287	0.866	4.5476	9.528	1.071	1.068
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
Percentage change versus previous month												
2017 June	0.4	-0.3	-1.2	0.0	-0.5	0.4	0.3	2.5	0.4	0.5	-0.3	1.6
Percentage change versus previous year												
2017 June	3.3	-1.5	-2.9	0.0	-1.8	5.2	-4.3	11.0	1.1	4.5	-0.2	0.0

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 Q2	22,882.6	23,691.0	-808.5	9,940.6	8,276.0	7,430.2	9,989.1	-65.1	4,855.0	5,425.9	721.8	13,618.7
Q3	23,116.4	23,859.3	-743.0	9,911.5	8,142.6	7,690.0	10,166.4	-62.1	4,849.9	5,550.4	727.0	13,617.3
Q4	23,598.0	24,253.6	-655.5	10,246.5	8,382.5	7,883.9	10,324.0	-53.8	4,813.8	5,547.1	707.7	13,616.0
2017 Q1	24,733.9	25,094.7	-360.8	10,613.8	8,559.8	8,223.2	10,601.2	-51.3	5,221.6	5,933.7	726.6	13,959.6
Outstanding amounts as a percentage of GDP												
2017 Q1	228.4	231.8	-3.3	98.0	79.1	75.9	97.9	-0.5	48.2	54.8	6.7	128.9
Transactions												
2016 Q2	248.4	162.0	86.4	17.9	45.5	117.6	-52.6	-45.6	156.3	169.0	2.2	-
Q3	218.8	87.7	131.0	55.8	-79.4	127.5	14.8	23.9	3.8	152.4	7.7	-
Q4	95.4	11.7	83.7	120.1	102.9	14.6	-78.2	15.2	-59.1	-13.0	4.6	-
2017 Q1	566.7	513.6	53.1	147.2	110.5	167.7	91.2	15.5	238.8	311.9	-2.5	-
2016 Nov.	40.1	38.8	1.3	44.2	51.7	-14.4	9.5	2.9	4.9	-22.3	2.5	-
Dec.	-206.6	-281.2	74.7	-11.9	-1.1	22.9	-41.0	6.1	-229.7	-239.2	6.1	-
2017 Jan.	350.2	362.6	-12.5	52.5	64.8	43.0	31.4	2.2	257.6	266.4	-5.1	-
Feb.	219.7	197.7	22.0	85.4	53.0	82.5	26.9	8.1	41.7	117.8	2.0	-
Mar.	-3.2	-46.7	43.5	9.3	-7.3	42.2	32.9	5.2	-60.5	-72.3	0.6	-
Apr.	149.2	133.4	15.8	27.9	3.8	42.7	-3.1	1.3	81.6	132.7	-4.4	-
12-month cumulated transactions												
2017 Apr.	1,128.3	793.4	334.9	367.6	173.4	418.2	55.7	32.0	301.2	564.4	9.2	-
12-month cumulated transactions as a percentage of GDP												
2017 Apr.	10.4	7.3	3.1	3.4	1.6	3.9	0.5	0.3	2.8	5.2	0.1	-

Source: ECB.

1) Net financial derivatives are included in total assets.

3 Economic activity

3.1 GDP and expenditure components

(quarterly data seasonally adjusted; annual data unadjusted)

	GDP											
	Total	Domestic demand								External balance [1]		
		Total	Private consumption	Government consumption	Gross fixed capital formation				Changes in inventories [2]	Total	Exports [1]	Imports [1]
						Total construction	Total machinery	Intellectual property products				
	1	2	3	4	5	6	7	8	9	10	11	12
	Current prices (EUR billions)											
2014	10,143.5	9,783.8	5,633.2	2,125.7	1,991.5	1,002.0	600.9	383.7	33.5	359.7	4,534.3	4,174.6
2015	10,473.8	10,002.8	5,748.2	2,163.7	2,070.0	1,021.1	634.5	409.2	20.9	471.0	4,827.9	4,356.9
2016	10,745.4	10,272.3	5,887.3	2,218.1	2,163.5	1,056.0	662.0	440.3	3.4	473.1	4,902.6	4,429.5
2016 Q2	2,672.6	2,551.6	1,465.1	553.0	534.7	260.6	163.5	109.3	-1.2	121.0	1,213.5	1,092.5
Q3	2,689.3	2,568.0	1,473.2	555.5	536.3	264.9	165.9	104.3	3.1	121.2	1,223.9	1,102.6
Q4	2,715.2	2,614.1	1,488.3	558.4	559.2	267.9	167.4	122.6	8.2	101.1	1,258.8	1,157.6
2017 Q1	2,729.6	2,639.3	1,501.8	562.6	567.3	272.7	169.3	124.0	7.6	90.3	1,288.7	1,198.4
	as a percentage of GDP											
2016	100.0	95.6	54.8	20.6	20.1	9.8	6.2	4.1	0.0	4.4	-	-
	Chain-linked volumes (prices for the previous year)											
	quarter-on-quarter percentage changes											
2016 Q2	0.3	0.4	0.4	0.3	1.2	-0.4	0.7	6.0	-	-	1.2	1.6
Q3	0.4	0.4	0.4	0.1	0.0	1.6	0.8	-4.9	-	-	0.4	0.3
Q4	0.5	1.4	0.4	0.3	3.4	0.1	-0.3	17.6	-	-	1.7	3.8
2017 Q1	0.6	0.6	0.3	0.4	1.3	1.3	1.8	0.7	-	-	1.2	1.3
	annual percentage changes											
2014	1.2	1.3	0.8	0.7	1.6	-0.8	4.7	3.5	-	-	4.4	4.9
2015	2.0	1.9	1.8	1.3	3.2	1.4	4.7	5.6	-	-	6.2	6.3
2016	1.8	2.2	2.1	1.8	3.7	2.3	3.9	7.0	-	-	3.0	4.1
2016 Q2	1.6	2.3	2.0	2.0	3.7	2.0	5.0	6.1	-	-	2.7	4.2
Q3	1.8	1.9	1.9	1.7	2.5	2.5	4.1	-0.1	-	-	2.8	3.2
Q4	1.8	2.6	2.0	1.4	5.1	1.8	1.0	20.1	-	-	3.8	5.7
2017 Q1	1.9	2.8	1.6	1.0	6.0	2.5	3.0	19.4	-	-	4.6	7.1
	contributions to quarter-on-quarter percentage changes in GDP; percentage points											
2016 Q2	0.3	0.4	0.2	0.1	0.2	0.0	0.0	0.2	-0.1	-0.1	-	-
Q3	0.4	0.4	0.2	0.0	0.0	0.2	0.0	-0.2	0.1	0.1	-	-
Q4	0.5	1.4	0.2	0.1	0.7	0.0	0.0	0.7	0.4	-0.8	-	-
2017 Q1	0.6	0.6	0.2	0.1	0.3	0.1	0.1	0.0	0.1	0.0	-	-
	contributions to annual percentage changes in GDP; percentage points											
2014	1.2	1.3	0.4	0.1	0.3	-0.1	0.3	0.1	0.4	0.0	-	-
2015	2.0	1.8	1.0	0.3	0.6	0.1	0.3	0.2	-0.1	0.2	-	-
2016	1.8	2.1	1.1	0.4	0.7	0.2	0.2	0.3	-0.1	-0.3	-	-
2016 Q2	1.6	2.2	1.1	0.4	0.7	0.2	0.3	0.2	-0.1	-0.5	-	-
Q3	1.8	1.8	1.1	0.3	0.5	0.2	0.3	0.0	-0.1	0.0	-	-
Q4	1.8	2.5	1.1	0.3	1.0	0.2	0.1	0.8	0.1	-0.7	-	-
2017 Q1	1.9	2.7	0.9	0.2	1.2	0.2	0.2	0.8	0.4	-0.8	-	-

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	9,109.0	150.3	1,780.3	460.9	1,713.7	417.9	460.9	1,045.5	980.7	1,777.5	321.3	1,034.5
2015	9,402.4	151.4	1,890.8	468.0	1,765.6	430.6	460.4	1,067.0	1,025.1	1,816.2	327.3	1,071.5
2016	9,637.4	149.2	1,928.2	486.6	1,817.1	445.2	449.4	1,093.6	1,068.5	1,863.5	336.1	1,108.0
2016 Q2	2,396.8	36.7	477.6	121.1	451.7	110.8	112.5	272.4	266.3	464.0	83.7	275.7
Q3	2,411.8	37.2	481.3	121.9	454.3	111.7	112.2	274.0	267.8	467.2	84.1	277.5
Q4	2,434.2	38.6	487.1	122.9	459.9	112.5	111.3	276.6	270.3	470.4	84.6	281.0
2017 Q1	2,446.3	38.8	488.4	124.3	463.1	112.5	111.8	277.9	273.4	471.4	84.9	283.3
	as a percentage of value added											
2016	100.0	1.5	20.0	5.0	18.9	4.6	4.7	11.3	11.1	19.3	3.5	-
	Chain-linked volumes (prices for the previous year)											
	quarter-on-quarter percentage changes											
2016 Q2	0.3	-0.6	0.1	0.2	0.4	1.0	-0.6	0.2	1.3	0.3	0.0	0.4
Q3	0.4	-0.6	0.7	0.3	0.4	1.4	-0.1	0.2	0.3	0.4	0.5	0.5
Q4	0.5	0.1	0.7	0.2	0.7	0.3	-0.3	0.4	0.6	0.4	0.2	0.9
2017 Q1	0.6	2.1	0.2	1.1	0.6	0.7	0.9	0.5	1.2	0.2	0.3	0.8
	annual percentage changes											
2014	1.2	1.5	2.5	-1.2	1.3	3.8	-1.3	0.6	2.7	0.5	0.1	1.2
2015	1.9	0.5	4.1	0.1	1.8	3.0	0.1	0.7	2.8	0.9	0.1	3.2
2016	1.6	-1.6	1.6	1.7	2.3	3.0	-0.2	0.9	3.1	1.2	1.1	2.7
2016 Q2	1.5	-1.3	1.3	1.6	2.2	2.6	-0.7	0.9	3.6	1.0	1.1	2.5
Q3	1.7	-1.9	1.3	2.2	2.2	3.4	-0.2	1.0	3.1	1.3	1.2	2.8
Q4	1.8	-2.5	2.0	1.5	2.5	3.5	-0.4	1.0	2.9	1.5	1.3	2.1
2017 Q1	1.8	1.0	1.7	1.8	2.2	3.5	-0.1	1.3	3.4	1.2	1.1	2.6
	contributions to quarter-on-quarter percentage changes in value added; percentage points											
2016 Q2	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	-
Q3	0.4	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	-
Q4	0.5	0.0	0.1	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	0.1	0.0	0.0	0.1	0.1	0.0	0.0	-
	contributions to annual percentage changes in value added; percentage points											
2014	1.2	0.0	0.5	-0.1	0.2	0.2	-0.1	0.1	0.3	0.1	0.0	-
2015	1.9	0.0	0.8	0.0	0.3	0.1	0.0	0.1	0.3	0.2	0.0	-
2016	1.6	0.0	0.3	0.1	0.4	0.1	0.0	0.1	0.3	0.2	0.0	-
2016 Q2	1.5	0.0	0.3	0.1	0.4	0.1	0.0	0.1	0.4	0.2	0.0	-
Q3	1.7	0.0	0.3	0.1	0.4	0.2	0.0	0.1	0.3	0.3	0.0	-
Q4	1.8	0.0	0.4	0.1	0.5	0.2	0.0	0.1	0.3	0.3	0.0	-
2017 Q1	1.8	0.0	0.3	0.1	0.4	0.2	0.0	0.2	0.4	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	85.1	14.9	3.4	15.1	6.1	24.7	2.7	2.7	1.0	13.0	24.3	7.1
2015	100.0	85.3	14.7	3.3	14.9	6.0	24.8	2.7	2.6	1.0	13.3	24.2	7.1
2016	100.0	85.5	14.5	3.2	14.8	5.9	24.9	2.7	2.6	1.0	13.5	24.2	7.1
annual percentage changes													
2014	0.5	0.6	0.0	0.0	-0.4	-1.6	0.7	0.5	-0.9	0.2	2.2	1.0	0.5
2015	1.0	1.2	-0.4	-1.2	0.2	0.0	1.1	1.3	-0.2	1.8	3.0	0.9	0.8
2016	1.4	1.6	-0.2	-0.6	0.6	0.1	1.9	2.3	0.1	1.6	2.9	1.2	0.9
2016 Q2	1.4	1.6	-0.2	-0.8	0.6	-0.2	2.0	2.0	0.1	1.0	2.8	1.3	1.0
Q3	1.3	1.6	0.0	-0.3	0.6	0.0	1.9	2.2	0.2	1.9	2.7	1.3	0.6
Q4	1.4	1.6	0.2	0.2	0.7	0.5	1.8	2.7	0.3	1.9	2.6	1.2	0.5
2017 Q1	1.5	1.7	0.2	0.9	0.7	1.3	1.7	2.6	-0.2	1.7	3.0	1.2	0.9
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	12.7	22.0	6.3
2015	100.0	80.6	19.4	4.3	15.5	6.8	25.6	2.9	2.7	1.0	13.0	22.0	6.3
2016	100.0	80.7	19.3	4.2	15.4	6.7	25.8	2.9	2.6	1.0	13.2	21.9	6.3
annual percentage changes													
2014	0.6	0.8	-0.5	-0.4	0.0	-1.3	0.3	0.5	-1.0	0.0	2.3	1.3	0.2
2015	1.1	1.4	-0.3	-0.3	0.6	0.7	0.8	2.4	0.0	2.3	3.1	0.9	0.8
2016	0.8	1.0	-0.1	-0.4	0.3	-0.5	1.5	1.1	-1.3	1.4	2.5	0.2	0.6
2016 Q2	1.0	1.1	0.7	-0.1	0.4	-0.5	1.9	1.1	-0.9	1.6	2.9	0.2	0.7
Q3	0.6	0.8	-0.3	-0.6	0.0	-0.7	1.6	0.6	-1.6	1.2	1.8	0.1	0.0
Q4	0.7	0.9	-0.2	-0.7	0.5	-0.7	1.5	1.4	-1.4	1.6	2.2	0.1	0.2
2017 Q1	1.0	1.2	0.1	-0.4	0.6	0.5	1.2	2.1	-0.9	1.7	2.6	0.4	0.9
Hours worked per person employed													
annual percentage changes													
2014	0.0	0.2	-0.5	-0.4	0.4	0.3	-0.3	0.0	-0.1	-0.2	0.1	0.3	-0.3
2015	0.1	0.2	0.1	0.9	0.4	0.7	-0.3	1.1	0.2	0.5	0.1	0.0	0.0
2016	-0.6	-0.6	0.1	0.2	-0.4	-0.6	-0.3	-1.1	-1.4	-0.2	-0.3	-1.0	-0.2
2016 Q2	-0.4	-0.6	0.9	0.7	-0.1	-0.3	-0.2	-0.8	-1.0	0.6	0.1	-1.1	-0.3
Q3	-0.7	-0.8	-0.3	-0.3	-0.6	-0.7	-0.3	-1.5	-1.8	-0.7	-0.8	-1.2	-0.6
Q4	-0.7	-0.6	-0.4	-0.9	-0.2	-1.3	-0.4	-1.3	-1.6	-0.4	-0.5	-1.1	-0.3
2017 Q1	-0.5	-0.5	-0.1	-1.3	-0.1	-0.7	-0.4	-0.5	-0.7	0.1	-0.3	-0.8	0.0

Sources: Eurostat and ECB calculations.

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

3 Economic activity

3.4 Labour force, unemployment and job vacancies

(seasonally adjusted, unless otherwise indicated)

	Labour force, millions [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				
			Millions	% of labour force		Adult		Youth		Male		Female		
						Millions	% of labour force	Millions	% of labour force	Millions	% of labour force	Millions	% of labour force	% of total posts
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
% of total in 2016			100.0			81.8		18.2		52.2		47.8		
2014	160.334	4.6	18.637	11.6	6.1	15.218	10.4	3.419	23.7	9.932	11.5	8.705	11.8	1.4
2015	160.600	4.6	17.442	10.9	5.6	14.292	9.8	3.149	22.3	9.252	10.7	8.190	11.0	1.5
2016	161.882	4.3	16.226	10.0	5.0	13.276	9.0	2.950	20.9	8.470	9.7	7.756	10.4	1.7
2016 Q2	161.779	4.5	16.464	10.2	5.1	13.452	9.1	3.012	21.2	8.551	9.8	7.912	10.6	1.7
Q3	162.280	4.1	16.084	9.9	4.8	13.166	8.9	2.918	20.6	8.382	9.6	7.702	10.3	1.6
Q4	162.306	4.2	15.749	9.7	4.9	12.883	8.7	2.867	20.3	8.244	9.4	7.505	10.0	1.7
2017 Q1	161.634	4.3	15.376	9.5	4.8	12.658	8.5	2.718	19.4	7.955	9.1	7.420	9.9	1.9
2016 Dec.	-	-	15.618	9.6	-	12.779	8.6	2.840	20.1	8.131	9.3	7.487	10.0	-
2017 Jan.	-	-	15.524	9.6	-	12.747	8.6	2.777	19.7	8.042	9.2	7.481	10.0	-
Feb.	-	-	15.337	9.4	-	12.632	8.5	2.705	19.3	7.935	9.1	7.402	9.9	-
Mar.	-	-	15.266	9.4	-	12.594	8.5	2.672	19.1	7.888	9.0	7.378	9.8	-
Apr.	-	-	15.039	9.3	-	12.413	8.4	2.626	18.9	7.728	8.9	7.312	9.8	-
May	-	-	15.034	9.3	-	12.412	8.4	2.622	18.9	7.734	8.9	7.299	9.7	-

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	2.6	-5.3	2.0	3.1	1.5	0.7	2.4	0.0	3.8
2015	2.1	2.4	1.0	3.6	2.5	0.8	-0.8	3.6	3.2	1.7	4.2	2.3	8.8
2016	1.4	1.5	1.8	1.7	1.1	0.1	2.2	0.3	2.2	1.3	2.9	1.8	7.2
2016 Q3	1.0	1.3	1.7	0.8	1.2	-0.5	3.6	-0.2	1.5	1.3	1.5	2.4	6.4
Q4	2.3	1.8	2.4	1.8	1.2	5.4	2.3	3.3	2.6	1.6	3.5	1.4	4.1
2017 Q1	1.4	1.3	2.2	1.4	-0.6	2.0	1.8	5.6	2.1	1.1	3.0	0.8	4.8
Q2	.	.	.	.	.	.	.	.	.	.	.	.	6.0
2017 Jan.	0.4	-0.7	0.6	-1.6	-2.5	8.1	-5.7	2.9	1.6	1.1	1.9	1.4	3.7
Feb.	1.4	1.2	2.1	1.6	-1.6	2.4	5.3	6.5	1.9	1.0	2.8	0.8	4.8
Mar.	2.2	3.2	3.7	3.6	2.1	-4.9	4.1	7.3	2.8	1.3	4.3	0.3	5.5
Apr.	1.2	1.5	3.1	0.3	0.8	-0.7	3.3	7.2	2.6	2.9	2.9	-0.8	4.3
May	4.0	4.3	3.8	5.5	3.1	2.2	2.6	.	2.6	2.1	3.5	0.9	7.1
June	.	.	.	.	.	.	.	.	.	.	.	.	6.5
	month-on-month percentage changes (s.a.)												
2017 Jan.	0.1	-0.2	-1.1	1.0	-1.1	2.8	-2.8	-2.9	0.1	0.0	-0.2	0.5	0.8
Feb.	-0.1	0.5	1.2	1.1	-1.2	-5.7	5.5	2.2	0.5	0.3	0.7	-0.4	0.8
Mar.	0.4	0.8	0.6	0.9	1.9	-2.8	-0.9	0.9	0.4	0.0	1.1	0.1	-0.6
Apr.	0.3	0.0	0.3	-1.1	0.2	3.8	0.3	-0.6	0.1	1.1	-0.7	-0.6	0.2
May	1.3	1.3	0.3	2.3	1.3	0.9	-0.7	.	0.4	-0.4	0.6	1.7	3.0
June	.	.	.	.	.	.	.	.	.	.	.	.	-1.9

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	-10.2	-26.6	-3.1	4.7	87.7	51.8	53.3	52.5	52.7
2015	104.2	-3.1	81.4	-6.3	-22.4	1.6	9.2	88.4	52.2	53.4	54.0	53.8
2016	104.8	-2.6	81.9	-7.8	-16.6	1.5	11.2	89.1	52.5	53.6	53.1	53.3
2016 Q3	104.2	-2.9	82.0	-8.3	-16.0	0.3	10.3	89.3	52.1	53.7	52.6	52.9
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	.	-2.7	-5.0	3.2	13.5	.	57.0	58.3	56.0	56.6
2017 Jan.	108.0	0.8	82.5	-4.9	-12.9	2.3	12.9	89.4	55.2	56.1	53.7	54.4
Feb.	108.0	1.3	-	-6.4	-10.1	1.8	13.9	-	55.4	57.3	55.5	56.0
Mar.	108.0	1.3	-	-5.1	-9.9	1.8	12.8	-	56.2	57.5	56.0	56.4
Apr.	109.7	2.6	82.6	-3.6	-6.0	3.1	14.2	89.4	56.7	57.9	56.4	56.8
May	109.2	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	13.4	-	57.4	58.7	55.4	56.3

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	12.6	94.7	0.9	1.8	1.4	2.6	1.0	32.8	4.9	131.0	2.6	7.2	1.4
2015	12.4	94.0	1.7	2.1	2.8	3.4	2.5	34.0	6.4	134.1	3.7	3.5	2.1
2016	12.3	93.5	1.8	2.0	4.7	4.5	4.5	33.5	7.7	133.6	3.2	4.8	1.5
2016 Q2	12.5	93.5	2.4	2.2	5.9	3.1	3.7	33.6	7.2	134.1	3.5	3.4	1.9
Q3	12.5	93.5	1.6	2.2	4.9	4.3	4.1	33.6	7.6	132.6	3.3	3.0	1.6
Q4	12.3	93.5	1.3	2.0	4.3	4.5	4.5	33.5	7.7	133.6	3.2	9.1	1.5
2017 Q1	.	.	1.7	2.2	9.4	4.8	4.8	33.5	7.2	.	3.4	12.0	1.9

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 Q2	902.5	796.6	105.9	522.2	423.0	192.6	178.9	160.6	137.4	27.2	57.3	6.4	7.3
Q3	907.1	812.1	95.0	526.6	433.6	197.6	177.9	155.8	133.3	27.2	67.5	6.6	5.5
Q4	940.1	864.1	76.0	545.1	456.5	199.6	205.0	167.2	138.5	28.2	64.0	9.6	10.0
2017 Q1	958.3	867.5	90.8	559.0	478.2	208.0	187.8	163.4	146.8	27.8	54.7	6.7	22.3
2016 Nov.	316.4	288.4	28.0	182.8	152.7	66.5	68.9	58.2	45.0	8.8	21.8	2.3	2.8
Dec.	314.9	290.4	24.5	184.5	153.8	66.0	67.9	53.9	48.2	10.5	20.5	5.3	4.6
2017 Jan.	317.9	295.1	22.8	183.2	159.4	68.7	66.2	57.4	48.2	8.6	21.3	2.3	10.9
Feb.	319.2	284.9	34.3	187.2	159.1	69.9	61.7	53.2	50.4	8.9	13.7	2.4	5.3
Mar.	321.2	287.4	33.8	188.6	159.6	69.4	59.8	52.9	48.3	10.3	19.7	2.0	6.1
Apr.	313.0	290.8	22.2	182.7	157.6	68.7	61.3	53.4	45.2	8.2	26.7	1.6	1.9
12-month cumulated transactions													
2017 Apr.	3,721.4	3,368.2	353.2	2,161.8	1,808.5	802.7	751.3	646.9	557.2	110.0	251.3	28.8	45.0
12-month cumulated transactions as a percentage of GDP													
2017 Apr.	34.4	31.2	3.3	20.0	16.7	7.4	7.0	6.0	5.2	1.0	2.3	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	Consumption goods	Manufacturing		Intermediate goods	Capital goods	Consumption goods	Manufacturing	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 Q2	-0.1	-3.5	504.8	231.8	106.4	153.4	425.3	433.4	237.3	72.9	115.6	321.7	42.1
Q3	-0.1	-1.7	509.0	237.5	103.5	154.2	426.3	443.4	244.3	72.5	117.5	327.9	43.9
Q4	2.2	2.4	525.6	244.9	108.7	157.5	439.8	461.3	256.7	74.7	119.4	335.4	50.3
2017 Q1	10.8	13.6	539.7	256.8	108.6	160.9	449.4	484.8	279.1	76.8	119.8	343.2	59.9
2016 Dec.	6.1	4.7	179.2	83.1	38.7	52.6	150.8	156.3	87.4	25.1	40.0	112.3	17.7
2017 Jan.	12.6	17.3	177.5	84.8	34.9	53.4	146.1	162.3	93.2	26.1	39.9	114.4	20.7
Feb.	5.1	7.0	179.0	85.6	36.4	52.7	150.0	161.0	92.8	25.7	39.3	114.0	20.7
Mar.	14.5	16.6	183.1	86.4	37.3	54.8	153.3	161.6	93.1	25.0	40.6	114.8	18.5
Apr.	-2.1	4.3	180.0	85.5	36.0	53.6	149.7	161.4	91.6	25.6	40.0	116.4	17.8
May	12.9	16.4	183.7	.	.	.	154.1	164.0	.	.	.	118.1	.
Volume indices (2000 = 100; annual percentage changes for columns 1 and 2)													
2016 Q2	2.4	5.0	118.0	114.3	118.0	123.9	117.8	108.2	107.0	107.2	111.1	111.0	100.1
Q3	0.7	1.8	118.2	116.2	113.7	124.0	117.3	109.2	108.2	106.6	111.9	112.2	101.1
Q4	1.4	0.9	120.5	118.2	118.3	124.9	119.9	109.9	108.9	106.8	112.0	112.5	105.0
2017 Q1	6.3	3.0	121.0	120.9	117.5	124.3	120.5	110.2	111.3	106.4	109.7	112.0	109.8
2016 Nov.	4.8	5.2	121.2	120.0	115.9	126.0	120.4	111.3	111.0	107.1	112.4	113.9	108.1
Dec.	4.7	-0.3	122.2	119.2	125.3	124.2	122.5	108.9	107.5	105.2	111.2	111.0	103.1
2017 Jan.	8.8	6.5	119.8	119.9	113.7	124.4	117.9	110.3	111.3	108.9	108.2	111.8	112.3
Feb.	1.0	-3.2	120.7	121.1	117.9	122.6	121.0	109.9	111.1	106.3	108.4	111.9	113.3
Mar.	9.2	5.9	122.7	121.7	120.8	125.9	122.5	110.6	111.6	104.1	112.6	112.4	103.7
Apr.	-6.6	-4.9	120.8	120.7	116.1	123.7	119.8	111.0	110.9	106.2	110.9	114.2	101.5

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	86.8	13.2
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 Q3	100.3	0.3	0.8	-0.4	1.1	0.3	0.1	1.2	0.0	0.3	0.4	0.3	0.3
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	1.8	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	-1.3	0.1	-1.4	0.6	1.6	1.3
2017 Jan.	100.5	1.8	0.9	2.2	1.2	0.3	0.1	0.7	0.1	2.5	0.0	2.0	0.4
Feb.	100.8	2.0	0.9	2.6	1.3	0.2	0.1	1.7	-0.1	-0.2	0.2	2.2	0.5
Mar.	101.7	1.5	0.7	2.0	1.0	-0.1	0.1	-1.6	0.1	-0.8	0.0	1.7	0.7
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

	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 Q3	1.1	0.5	2.1	-1.3	0.3	-5.1	1.1	1.0	0.9	0.0	1.5	1.3
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
2017 Jan.	1.8	0.7	3.5	2.5	0.5	8.1	1.3	1.3	1.3	-1.0	1.7	0.7
Feb.	2.5	0.8	5.3	2.6	0.2	9.3	1.2	1.2	1.9	-0.9	1.7	0.8
Mar.	1.8	1.0	3.1	2.1	0.3	7.4	1.3	1.2	1.9	-1.2	0.9	0.8
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

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	0.4	1.0
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	2.9
2016	101.6	-2.3	-1.5	-0.5	-1.7	0.4	0.0	0.0	0.1	-6.9	0.4	3.3	5.2
2016 Q2	100.9	-3.8	-2.8	-1.1	-2.7	0.4	-0.5	-0.7	0.1	-10.7	0.2	3.1	3.7
Q3	101.9	-2.0	-1.3	-0.6	-1.8	0.4	0.0	0.0	0.1	-5.9	0.4	3.4	7.1
Q4	103.1	0.4	1.0	0.4	0.0	0.5	0.8	1.3	0.1	0.4	1.1	3.8	5.1
2017 Q1	104.7	4.1	4.0	2.0	3.1	0.8	1.7	2.6	0.1	9.9	1.9	4.0	.
2016 Dec.	103.7	1.6	2.3	0.9	0.8	0.6	1.1	1.8	-0.1	3.8	-	-	-
2017 Jan.	104.8	3.9	3.7	1.5	2.1	0.7	1.5	2.2	0.1	10.3	-	-	-
Feb.	104.8	4.5	4.4	2.1	3.4	0.8	1.7	2.6	0.1	11.4	-	-	-
Mar.	104.5	3.9	4.0	2.4	3.9	0.9	1.9	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	104.1	3.3	3.0	2.4	3.5	0.9	2.3	3.5	0.2	5.7	-	-	-

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	104.6	0.9	0.6	0.5	0.8	0.7	-0.7	-1.5	74.1	-3.4	2.0	-8.5	-0.4	4.6	-6.4
2015	105.9	1.2	0.3	0.2	0.5	0.7	0.2	-1.8	47.1	0.0	4.2	-4.5	2.9	7.0	-2.7
2016	106.7	0.8	0.5	0.3	0.7	0.8	-1.4	-2.4	39.9	-3.5	-3.9	-3.2	-7.3	-10.3	-2.9
2016 Q3	106.7	0.7	0.6	0.2	0.7	0.7	-1.6	-2.2	41.0	-0.5	-2.1	1.4	-5.8	-10.6	1.3
Q4	107.2	0.7	0.8	0.8	0.8	1.2	0.0	0.1	46.5	9.1	1.1	18.6	3.3	-6.7	18.5
2017 Q1	107.2	0.7	1.2	1.6	1.0	1.7	2.7	4.3	50.8	18.3	5.9	33.2	13.0	0.1	32.4
Q2	.	.	.	.	.	.	.	.	45.6	7.0	-2.8	18.5	6.8	-2.3	20.1
2017 Jan.	-	-	-	-	-	-	-	-	51.6	19.2	7.2	34.0	13.1	0.9	32.0
Feb.	-	-	-	-	-	-	-	-	52.2	21.4	8.0	37.4	15.5	1.7	36.0
Mar.	-	-	-	-	-	-	-	-	48.7	14.6	2.7	28.5	10.5	-2.2	29.3
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	2.6	-7.2	14.7	3.7	-4.6	15.7

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	34.9	57.7	56.7	-	49.9
2014	-0.9	-1.5	0.9	-17.4	15.0	49.6	53.5	49.7	48.2
2015	-2.8	1.3	2.7	-13.2	-0.3	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 Q3	-0.2	1.0	4.5	-6.6	0.5	51.4	54.0	49.6	49.8
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	7.9	4.2	5.9	1.8	12.3	62.5	55.9	54.6	51.5
2017 Jan.	8.3	4.9	6.7	-5.1	9.2	67.0	56.4	54.0	50.9
Feb.	9.0	6.3	6.4	-3.1	13.8	68.3	56.9	55.4	51.1
Mar.	9.6	5.1	6.1	-2.9	15.6	68.1	56.8	55.6	52.2
Apr.	8.2	5.5	6.7	2.3	13.5	67.1	56.5	55.4	51.7
May	8.2	3.6	5.1	-0.5	11.8	62.0	55.9	54.1	51.7
June	7.2	3.4	5.8	3.7	11.7	58.4	55.3	54.3	50.9

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	1.2	1.3	1.2	1.3	1.2	1.7
2015	104.2	1.6	1.9	0.4	1.6	1.6	1.5
2016	105.7	1.4	1.4	1.4	1.3	1.6	1.4
2016 Q2	109.1	1.1	0.9	1.5	0.9	1.4	1.5
Q3	102.5	1.4	1.5	1.1	1.2	1.8	1.5
Q4	112.1	1.4	1.6	1.4	1.5	1.4	1.4
2017 Q1	100.4	1.5	1.4	1.5	1.3	1.7	1.5

Sources: Eurostat and ECB calculations.

1) Experimental data based on non-harmonised sources (see https://www.ecb.europa.eu/stats/ecb_statistics/governance_and_quality_framework/html/experimental-data.en.html 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	104.6	0.7	-1.3	-0.8	1.4	0.6	-0.9	2.3	1.5	1.2	1.6	1.6
2015	104.8	0.2	-0.9	-2.2	0.6	0.6	0.7	0.7	2.3	1.7	1.2	1.6
2016	105.7	0.8	1.8	0.1	-0.4	0.8	0.4	1.5	4.0	1.0	1.4	1.9
2016 Q2	105.5	0.8	1.5	0.0	-0.8	1.2	0.6	1.6	3.8	0.5	1.5	1.6
Q3	105.8	0.8	2.4	0.5	-0.6	0.8	-0.3	1.6	4.0	0.6	1.4	1.7
Q4	106.2	1.0	3.6	-0.1	0.4	0.7	0.2	1.5	4.5	1.1	1.4	1.8
2017 Q1	106.3	0.8	-0.3	0.4	0.8	0.7	-0.2	1.0	2.2	1.1	1.3	1.4
Compensation per employee												
2014	106.6	1.4	0.2	2.1	1.9	1.2	2.3	1.8	1.9	1.7	1.1	1.2
2015	107.9	1.2	0.8	1.6	0.7	1.3	2.4	1.0	1.2	1.5	1.2	0.9
2016	109.3	1.2	0.8	1.1	1.2	1.2	1.1	1.1	3.3	1.3	1.4	2.1
2016 Q2	109.0	1.1	1.1	0.8	1.0	1.3	1.2	0.8	3.6	1.3	1.2	1.7
Q3	109.5	1.3	0.8	1.2	1.6	1.2	0.9	1.3	3.0	1.0	1.5	2.3
Q4	110.0	1.4	0.8	1.2	1.4	1.4	1.0	0.8	3.6	1.3	1.7	2.6
2017 Q1	110.3	1.2	-0.2	1.4	1.4	1.2	0.7	1.1	1.8	1.5	1.4	1.6
Labour productivity per person employed												
2014	102.0	0.7	1.6	2.9	0.4	0.6	3.2	-0.4	0.3	0.5	-0.5	-0.4
2015	103.0	1.0	1.7	4.0	0.1	0.7	1.7	0.3	-1.0	-0.2	-0.1	-0.6
2016	103.4	0.4	-1.0	0.9	1.6	0.5	0.7	-0.4	-0.7	0.3	0.0	0.3
2016 Q2	103.3	0.3	-0.5	0.8	1.8	0.1	0.6	-0.8	-0.2	0.8	-0.2	0.1
Q3	103.5	0.4	-1.6	0.7	2.2	0.3	1.2	-0.3	-0.9	0.4	0.1	0.6
Q4	103.6	0.5	-2.7	1.3	1.0	0.6	0.8	-0.6	-0.9	0.2	0.3	0.8
2017 Q1	103.8	0.4	0.1	1.0	0.5	0.5	0.8	0.1	-0.3	0.4	0.0	0.1
Compensation per hour worked												
2014	108.5	1.3	1.1	1.6	1.4	1.4	2.2	1.8	1.7	1.2	0.8	1.2
2015	109.7	1.1	0.9	1.1	0.1	1.3	1.2	0.9	0.8	1.2	1.2	0.9
2016	111.7	1.9	0.0	1.4	2.1	1.6	2.3	2.9	3.7	1.7	2.4	3.0
2016 Q2	111.1	1.7	-0.1	0.9	1.7	1.6	2.2	2.4	3.5	1.8	2.3	2.9
Q3	111.8	2.0	0.6	1.7	2.7	1.4	2.5	3.3	4.3	1.8	2.5	3.6
Q4	112.5	2.1	1.1	1.4	2.5	1.8	2.5	2.7	4.2	1.7	2.6	3.6
2017 Q1	112.8	1.7	0.3	1.5	2.5	1.6	1.1	1.9	2.5	1.6	2.2	2.1
Hourly labour productivity												
2014	104.0	0.7	2.0	2.5	0.1	0.9	3.2	-0.4	0.6	0.3	-0.8	-0.2
2015	105.0	0.9	0.8	3.5	-0.6	1.0	0.6	0.0	-1.5	-0.3	-0.1	-0.6
2016	106.0	1.0	-1.2	1.3	2.2	0.8	1.8	1.1	-0.5	0.6	1.0	0.5
2016 Q2	105.5	0.6	-1.1	0.9	2.1	0.3	1.4	0.2	-0.7	0.7	0.8	0.4
Q3	106.0	1.2	-1.3	1.3	2.9	0.6	2.8	1.5	-0.2	1.3	1.3	1.2
Q4	106.3	1.1	-1.8	1.5	2.3	1.0	2.1	1.0	-0.5	0.7	1.4	1.1
2017 Q1	106.5	0.9	1.4	1.1	1.3	1.0	1.3	0.8	-0.4	0.8	0.8	0.1

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	424.3	107.3	653.1	10,322.4
2015	1,036.5	5,566.3	6,602.8	1,439.2	2,159.8	3,599.1	10,201.8	74.6	479.0	73.6	627.2	10,829.1
2016	1,073.1	6,117.0	7,190.1	1,320.3	2,175.8	3,496.1	10,686.3	70.4	519.6	96.7	686.7	11,373.0
2016 Q2	1,054.6	5,821.2	6,875.8	1,411.0	2,170.0	3,581.0	10,456.8	84.2	481.7	94.8	660.7	11,117.5
Q3	1,066.6	5,946.7	7,013.3	1,393.3	2,172.6	3,565.8	10,579.2	80.5	494.2	93.9	668.6	11,247.8
Q4	1,073.1	6,117.0	7,190.1	1,320.3	2,175.8	3,496.1	10,686.3	70.4	519.6	96.7	686.7	11,373.0
2017 Q1	1,088.6	6,303.2	7,391.8	1,306.0	2,180.0	3,486.0	10,877.8	73.5	530.3	104.5	708.4	11,586.1
2016 Dec.	1,073.1	6,117.0	7,190.1	1,320.3	2,175.8	3,496.1	10,686.3	70.4	519.6	96.7	686.7	11,373.0
2017 Jan.	1,081.8	6,154.8	7,236.6	1,329.8	2,178.1	3,507.8	10,744.4	75.1	513.2	98.6	686.9	11,431.3
Feb.	1,086.1	6,208.4	7,294.5	1,325.2	2,178.0	3,503.2	10,797.7	66.7	505.9	99.7	672.4	11,470.1
Mar.	1,088.6	6,303.2	7,391.8	1,306.0	2,180.0	3,486.0	10,877.8	73.5	530.3	104.5	708.4	11,586.1
Apr.	1,092.3	6,345.7	7,438.0	1,279.5	2,183.0	3,462.4	10,900.4	73.0	512.4	82.8	668.2	11,568.6
May [p]	1,092.5	6,383.9	7,476.4	1,268.0	2,188.0	3,456.0	10,932.4	73.2	511.3	91.0	675.5	11,607.9
	Transactions											
2014	59.0	374.9	433.9	-91.8	3.7	-88.1	345.8	3.6	12.5	12.9	28.9	374.8
2015	65.9	562.6	628.5	-135.4	12.3	-123.0	505.5	-48.0	49.3	-26.6	-25.2	480.3
2016	36.7	544.6	581.3	-107.9	16.0	-91.9	489.4	-4.3	40.4	17.9	54.0	543.5
2016 Q2	5.0	104.4	109.3	-12.7	7.2	-5.5	103.9	-1.4	15.5	-1.4	12.7	116.6
Q3	12.0	127.9	139.9	-15.7	2.3	-13.5	126.5	-3.7	12.9	-2.2	7.1	133.5
Q4	6.5	156.2	162.6	-65.4	3.3	-62.1	100.5	-10.4	25.3	2.2	17.2	117.7
2017 Q1	15.5	188.7	204.1	-11.7	4.1	-7.6	196.6	3.1	10.8	7.2	21.2	217.8
2016 Dec.	-2.1	46.9	44.7	-28.5	3.8	-24.6	20.1	-2.1	15.5	-2.2	11.2	31.3
2017 Jan.	8.7	41.5	50.2	12.0	2.2	14.2	64.4	4.7	-6.3	1.2	-0.4	64.0
Feb.	4.3	50.1	54.4	-5.2	-0.2	-5.4	49.0	-8.5	-7.3	1.0	-14.8	34.3
Mar.	2.4	97.1	99.5	-18.5	2.0	-16.4	83.1	6.9	24.4	5.1	36.4	119.4
Apr.	3.7	47.1	50.8	-25.0	3.1	-21.9	28.9	-0.3	-17.9	-21.9	-40.2	-11.3
May [p]	0.1	45.6	45.8	-9.2	3.0	-6.2	39.5	0.4	-0.9	7.6	7.1	46.6
	Growth rates											
2014	6.5	8.4	8.0	-5.4	0.2	-2.3	3.7	2.9	3.0	19.3	4.7	3.8
2015	6.8	11.3	10.5	-8.6	0.6	-3.3	5.2	-39.1	11.5	-25.5	-3.8	4.6
2016	3.5	9.8	8.8	-7.5	0.7	-2.6	4.8	-5.8	8.4	24.1	8.6	5.0
2016 Q2	4.0	9.7	8.8	-4.1	0.6	-1.3	5.1	1.1	9.2	-3.3	6.0	5.1
Q3	3.7	9.3	8.4	-3.3	0.5	-1.0	5.0	-12.8	8.0	13.9	5.7	5.1
Q4	3.5	9.8	8.8	-7.5	0.7	-2.6	4.8	-5.8	8.4	24.1	8.6	5.0
2017 Q1	3.7	10.1	9.1	-7.4	0.8	-2.5	5.1	-14.4	13.9	6.0	9.0	5.3
2016 Dec.	3.5	9.8	8.8	-7.5	0.7	-2.6	4.8	-5.8	8.4	24.1	8.6	5.0
2017 Jan.	3.6	9.3	8.4	-6.7	0.8	-2.2	4.7	-7.3	8.5	12.4	7.0	4.8
Feb.	3.9	9.2	8.4	-6.2	0.7	-2.1	4.8	-24.4	7.9	7.9	3.5	4.7
Mar.	3.7	10.1	9.1	-7.4	0.8	-2.5	5.1	-14.4	13.9	6.0	9.0	5.3
Apr.	4.2	10.2	9.3	-8.6	0.9	-2.8	5.1	-16.9	8.6	-15.3	1.7	4.9
May [p]	3.9	10.3	9.3	-8.7	0.8	-2.9	5.1	-16.3	7.7	-1.8	3.1	5.0

Source: ECB.

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

5 Money and credit

5.2 Deposits in M3 [1]

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

	Non-financial corporations [2]					Households [3]					Financial corporations other than MFIs and ICPFs [2]	Insurance corporations and pension funds	Other general government [4]
	Total	Overnight	With an agreed maturity of up to 2 years	Redeemable at notice of up to 3 months	Repos	Total	Overnight	With an agreed maturity of up to 2 years	Redeemable at notice of up to 3 months	Repos			
	1	2	3	4	5	6	7	8	9	10	11	12	13
Outstanding amounts													
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	979.5	196.5	380.6
2016 Q2	2,034.8	1,594.2	314.0	118.2	8.4	5,904.1	3,214.2	688.8	1,998.1	3.0	957.0	210.7	379.9
Q3	2,069.0	1,622.9	317.7	119.3	9.1	5,977.7	3,301.8	672.0	2,001.3	2.6	953.9	206.2	386.3
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	979.5	196.5	380.6
2017 Q1	2,170.7	1,743.4	303.6	117.4	6.4	6,139.6	3,503.1	620.0	2,013.7	2.7	972.4	190.9	389.1
2016 Dec.	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	979.5	196.5	380.6
2017 Jan.	2,121.3	1,697.8	299.2	117.3	7.0	6,087.8	3,438.6	636.0	2,010.5	2.7	940.9	194.6	392.9
Feb.	2,142.8	1,717.2	301.5	117.3	6.8	6,111.8	3,469.5	627.5	2,012.0	2.8	937.0	195.4	391.3
Mar.	2,170.7	1,743.4	303.6	117.4	6.4	6,139.6	3,503.1	620.0	2,013.7	2.7	972.4	190.9	389.1
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	962.6	199.7	397.6
May [p]	2,171.8	1,754.4	294.3	116.9	6.2	6,173.5	3,542.1	605.7	2,023.0	2.7	975.5	196.0	396.4
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	129.7	153.3	-24.1	0.3	0.2	302.0	335.5	-46.1	13.4	-0.8	29.0	-29.3	17.1
2016 Q2	27.6	36.6	-8.9	1.1	-1.1	75.5	76.2	-5.1	4.0	0.4	-0.8	-8.5	3.7
Q3	35.2	29.9	3.9	0.7	0.7	73.8	87.7	-16.6	3.2	-0.5	-0.2	-4.2	6.2
Q4	5.2	28.6	-21.8	-1.1	-0.5	71.8	93.1	-23.8	3.4	-0.9	21.6	-10.0	-4.9
2017 Q1	96.3	88.4	11.1	-1.0	-2.2	90.0	103.9	-23.9	8.8	1.1	-5.6	-5.1	8.6
2016 Dec.	-9.4	1.2	-10.7	0.0	0.1	19.9	27.9	-9.1	1.9	-0.8	21.9	-9.8	-2.3
2017 Jan.	46.7	43.2	6.1	-1.0	-1.6	38.8	39.6	-7.4	5.6	1.0	-35.6	-1.7	12.3
Feb.	19.9	17.9	2.3	0.0	-0.2	22.9	30.4	-9.1	1.5	0.1	-6.3	0.9	-1.2
Mar.	29.7	27.3	2.7	0.0	-0.4	28.3	34.0	-7.4	1.7	-0.1	36.3	-4.3	-2.5
Apr.	-2.5	4.5	-7.2	-0.3	0.5	18.1	21.8	-8.2	4.0	0.5	-8.1	9.1	8.2
May [p]	10.5	11.5	0.4	-0.8	-0.6	18.1	19.5	-5.4	4.7	-0.6	16.6	-3.5	-1.9
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	6.7	10.2	-7.6	0.2	2.2	5.3	11.0	-6.7	0.7	-31.2	3.1	-13.0	4.7
2016 Q2	8.0	11.1	-3.0	3.9	-27.8	4.6	10.4	-5.9	0.1	0.3	4.0	-8.5	10.3
Q3	7.5	9.9	-1.3	1.8	-8.5	5.1	10.6	-4.9	0.4	-18.2	0.9	-5.7	7.7
Q4	6.7	10.2	-7.6	0.2	2.2	5.3	11.0	-6.7	0.7	-31.2	3.1	-13.0	4.7
2017 Q1	8.2	11.8	-4.9	-0.3	-32.6	5.3	11.5	-10.0	1.0	2.1	1.6	-12.7	3.6
2016 Dec.	6.7	10.2	-7.6	0.2	2.2	5.3	11.0	-6.7	0.7	-31.2	3.1	-13.0	4.7
2017 Jan.	7.1	10.5	-5.5	-0.1	-26.8	5.5	11.4	-7.7	0.9	-19.8	-1.2	-13.5	5.6
Feb.	7.6	10.9	-4.7	-0.3	-26.7	5.4	11.5	-8.9	0.9	-4.8	-2.2	-15.3	5.1
Mar.	8.2	11.8	-4.9	-0.3	-32.6	5.3	11.5	-10.0	1.0	2.1	1.6	-12.7	3.6
Apr.	7.1	10.6	-6.8	-0.4	-20.0	5.3	11.4	-11.0	1.2	-9.8	1.4	-7.0	5.4
May [p]	7.5	10.9	-5.6	-1.6	-22.4	5.1	11.2	-11.6	1.3	-23.9	2.8	-8.3	4.3

Source: ECB.

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

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

3) Including non-profit institutions serving households.

4) Refers to the general government sector excluding central government.

5 Money and credit

5.3 Credit to euro area residents [1)]

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

	Credit to general government			Credit to other euro area residents								
	Total	Loans	Debt securities	Total	Loans						Debt securities	Equity and non-money market fund investment fund shares
					Total		To non-financial corporations [3)]	To households [4)]	To financial corporations other than MFIs and ICPFs [3)]	To insurance corporations and pension funds		
						Adjusted loans [2)]						
	1	2	3	4	5	6	7	8	9	10	11	12
Outstanding amounts												
2014	3,615.6	1,135.0	2,478.5	12,506.8	10,454.5	10,726.7	4,316.6	5,200.7	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	10,807.4	4,290.7	5,307.6	790.1	123.5	1,305.1	782.3
2016	4,397.6	1,082.0	3,302.4	12,843.0	10,674.1	10,981.8	4,313.4	5,410.1	838.2	112.5	1,384.6	784.3
2016 Q2	4,191.8	1,112.5	3,066.2	12,664.0	10,566.1	10,870.4	4,312.7	5,348.3	801.2	103.9	1,342.5	755.4
Q3	4,272.2	1,105.2	3,153.7	12,768.5	10,623.5	10,927.4	4,302.5	5,379.3	832.6	109.1	1,364.5	780.5
Q4	4,397.6	1,082.0	3,302.4	12,843.0	10,674.1	10,981.8	4,313.4	5,410.1	838.2	112.5	1,384.6	784.3
2017 Q1	4,438.5	1,070.4	3,353.9	12,976.7	10,757.6	11,055.6	4,333.8	5,459.2	851.7	112.9	1,426.9	792.2
2016 Dec.	4,397.6	1,082.0	3,302.4	12,843.0	10,674.1	10,981.8	4,313.4	5,410.1	838.2	112.5	1,384.6	784.3
2017 Jan.	4,383.3	1,087.3	3,282.3	12,882.2	10,696.5	10,995.8	4,329.3	5,422.9	829.8	114.6	1,399.5	786.2
Feb.	4,399.6	1,073.3	3,312.5	12,913.4	10,720.0	11,012.1	4,334.6	5,443.9	829.9	111.6	1,400.4	793.0
Mar.	4,438.5	1,070.4	3,353.9	12,976.7	10,757.6	11,055.6	4,333.8	5,459.2	851.7	112.9	1,426.9	792.2
Apr.	4,466.9	1,074.2	3,378.5	12,958.9	10,743.1	11,043.3	4,337.1	5,467.6	823.9	114.4	1,426.4	789.4
May [p)]	4,477.0	1,066.5	3,395.7	12,980.7	10,747.5	11,058.1	4,341.2	5,474.6	820.6	111.1	1,439.4	793.8
Transactions												
2014	73.8	16.4	57.4	-99.9	-47.1	-32.4	-60.6	-14.9	16.7	11.7	-89.8	37.0
2015	296.1	-21.1	316.9	84.9	58.2	75.9	-13.8	98.3	-20.5	-5.7	25.1	1.5
2016	489.1	-34.9	523.9	317.6	233.6	253.4	78.5	119.8	46.3	-11.1	80.6	3.4
2016 Q2	125.2	-8.9	134.0	54.9	22.1	60.2	19.3	14.5	-6.7	-5.0	31.1	1.6
Q3	78.1	-7.3	85.2	113.1	70.3	73.6	3.9	33.8	27.5	5.2	20.7	22.1
Q4	161.0	-20.3	181.4	80.3	61.8	65.4	19.9	35.3	3.4	3.3	17.8	0.7
2017 Q1	77.8	-11.0	88.2	149.1	99.0	92.7	29.1	51.6	17.8	0.5	41.2	8.9
2016 Dec.	71.7	-7.8	79.7	2.0	-9.4	15.3	-14.8	9.2	-0.3	-3.5	4.4	7.0
2017 Jan.	22.0	5.2	16.3	52.2	30.5	24.1	18.8	14.0	-4.4	2.1	16.0	5.6
Feb.	8.4	-13.0	21.3	24.0	20.0	12.8	3.8	20.0	-0.9	-3.0	-0.4	4.4
Mar.	47.5	-3.2	50.7	72.9	48.5	55.8	6.5	17.6	23.0	1.3	25.6	-1.1
Apr.	28.2	3.6	24.4	-7.8	-5.4	-3.6	7.4	11.1	-25.5	1.6	-0.4	-2.0
May [p)]	12.1	-5.1	16.8	31.2	13.9	25.0	9.0	8.7	-0.5	-3.3	13.6	3.8
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	18.7	2.5	2.2	2.4	1.8	2.3	5.9	-9.0	6.2	0.5
2016 Q2	12.3	-2.8	19.0	1.6	1.2	1.6	1.3	1.9	0.5	-23.6	7.2	-2.9
Q3	10.8	-2.5	16.3	2.0	1.9	2.1	1.4	2.1	5.4	-10.7	3.5	0.8
Q4	12.5	-3.1	18.7	2.5	2.2	2.4	1.8	2.3	5.9	-9.0	6.2	0.5
2017 Q1	10.9	-4.2	16.8	3.2	2.4	2.7	1.7	2.5	5.2	3.6	8.4	4.4
2016 Dec.	12.5	-3.1	18.7	2.5	2.2	2.4	1.8	2.3	5.9	-9.0	6.2	0.5
2017 Jan.	11.4	-2.9	17.1	2.7	2.2	2.4	1.7	2.4	5.1	-8.6	6.8	2.6
Feb.	10.6	-3.9	16.3	2.6	2.0	2.3	1.5	2.4	4.4	-11.4	6.5	3.6
Mar.	10.9	-4.2	16.8	3.2	2.4	2.7	1.7	2.5	5.2	3.6	8.4	4.4
Apr.	10.4	-4.2	15.9	2.9	2.2	2.6	1.6	2.6	2.8	1.5	7.8	4.4
May [p)]	9.6	-4.8	15.0	3.0	2.2	2.6	1.6	2.7	2.4	0.3	8.1	4.3

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	4,316.6	4,269.9	1,112.3	724.3	2,480.0	5,200.7	5,546.1	563.5	3,860.9	776.4
2015	4,290.7	4,272.9	1,041.1	761.5	2,488.2	5,307.6	5,640.6	595.9	3,948.4	763.3
2016	4,313.4	4,313.2	998.5	797.6	2,517.3	5,410.1	5,726.7	616.5	4,044.9	748.7
2016 Q2	4,312.7	4,293.2	1,043.0	777.5	2,492.1	5,348.3	5,683.5	604.1	3,986.3	757.9
Q3	4,302.5	4,291.6	1,011.5	787.9	2,503.1	5,379.3	5,701.1	608.5	4,018.2	752.6
Q4	4,313.4	4,313.2	998.5	797.6	2,517.3	5,410.1	5,726.7	616.5	4,044.9	748.7
2017 Q1	4,333.8	4,335.6	1,003.8	802.6	2,527.5	5,459.2	5,770.6	628.2	4,085.7	745.3
2016 Dec.	4,313.4	4,313.2	998.5	797.6	2,517.3	5,410.1	5,726.7	616.5	4,044.9	748.7
2017 Jan.	4,329.3	4,322.3	1,013.9	799.6	2,515.7	5,422.9	5,743.6	620.8	4,052.2	749.9
Feb.	4,334.6	4,325.3	1,011.3	798.3	2,525.0	5,443.9	5,757.2	623.8	4,072.3	747.8
Mar.	4,333.8	4,335.6	1,003.8	802.6	2,527.5	5,459.2	5,770.6	628.2	4,085.7	745.3
Apr.	4,337.1	4,343.3	990.4	812.4	2,534.4	5,467.6	5,778.1	630.5	4,096.3	740.8
May [(p)]	4,341.2	4,348.2	992.6	810.1	2,538.4	5,474.6	5,793.9	637.1	4,096.6	740.9
Transactions										
2014	-60.6	-67.0	-14.1	2.6	-49.0	-14.9	5.5	-3.0	-3.2	-8.7
2015	-13.8	22.8	-64.2	31.9	18.5	98.3	76.1	21.9	80.0	-3.6
2016	78.5	93.7	-18.4	43.2	53.8	119.8	112.5	24.1	105.2	-9.4
2016 Q2	19.3	23.7	-4.2	8.5	14.9	14.5	29.5	1.6	13.5	-0.6
Q3	3.9	9.0	-23.7	13.4	14.2	33.8	27.8	5.1	32.5	-3.8
Q4	19.9	31.4	-9.8	8.4	21.3	35.3	30.4	9.3	30.6	-4.7
2017 Q1	29.1	33.9	8.6	7.0	13.6	51.6	46.2	10.6	40.2	0.8
2016 Dec.	-14.8	9.6	-29.3	-1.8	16.3	9.2	10.0	2.4	10.4	-3.6
2017 Jan.	18.8	13.5	16.5	2.1	0.2	14.0	18.6	4.8	7.5	1.7
Feb.	3.8	1.6	-2.9	-1.1	7.8	20.0	12.5	1.9	18.6	-0.5
Mar.	6.5	18.8	-5.0	6.0	5.6	17.6	15.1	4.0	14.0	-0.4
Apr.	7.4	11.1	-3.7	3.4	7.6	11.1	10.5	2.5	10.7	-2.0
May [(p)]	9.0	9.6	6.0	-0.7	3.7	8.7	18.1	7.0	1.1	0.7
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	3.9	2.1	-0.5
2016	1.8	2.2	-1.8	5.7	2.2	2.3	2.0	4.1	2.7	-1.2
2016 Q2	1.3	1.8	-2.0	5.1	1.6	1.9	1.8	3.5	2.1	-0.4
Q3	1.4	1.9	-3.0	6.4	1.8	2.1	1.8	3.4	2.4	-0.9
Q4	1.8	2.2	-1.8	5.7	2.2	2.3	2.0	4.1	2.7	-1.2
2017 Q1	1.7	2.3	-2.8	4.8	2.6	2.5	2.4	4.4	2.9	-1.1
2016 Dec.	1.8	2.2	-1.8	5.7	2.2	2.3	2.0	4.1	2.7	-1.2
2017 Jan.	1.7	2.2	-1.9	5.3	2.1	2.4	2.2	4.6	2.7	-0.9
Feb.	1.5	1.9	-2.3	3.8	2.3	2.4	2.3	4.2	2.8	-1.0
Mar.	1.7	2.3	-2.8	4.8	2.6	2.5	2.4	4.4	2.9	-1.1
Apr.	1.6	2.4	-3.0	4.9	2.6	2.6	2.4	4.7	3.0	-1.1
May [(p)]	1.6	2.4	-2.7	4.7	2.4	2.7	2.6	6.2	2.9	-1.0

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) 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	1,380.4	220.4	184.5	139.7
2015	284.8	6,996.9	2,119.7	79.8	2,254.0	2,543.5	1,343.8	263.4	205.9	135.6
2016	318.8	6,921.9	2,054.4	70.6	2,144.3	2,652.5	1,136.4	236.6	205.9	121.6
2016 Q2	319.3	7,012.3	2,094.1	74.6	2,181.4	2,662.3	1,298.0	295.3	238.0	144.0
Q3	310.1	6,966.7	2,068.5	72.4	2,130.8	2,695.0	1,202.2	281.7	209.2	129.1
Q4	318.8	6,921.9	2,054.4	70.6	2,144.3	2,652.5	1,136.4	236.6	205.9	121.6
2017 Q1	304.1	6,880.9	2,033.5	69.2	2,100.3	2,677.8	1,104.4	251.5	182.2	111.8
2016 Dec.	318.8	6,921.9	2,054.4	70.6	2,144.3	2,652.5	1,136.4	236.6	205.9	121.6
2017 Jan.	303.4	6,871.2	2,037.8	69.8	2,122.8	2,640.9	1,119.3	221.0	176.5	106.3
Feb.	295.7	6,919.8	2,027.9	69.6	2,125.3	2,697.0	1,120.0	252.6	171.3	104.4
Mar.	304.1	6,880.9	2,033.5	69.2	2,100.3	2,677.8	1,104.4	251.5	182.2	111.8
Apr.	335.9	6,849.2	2,023.4	69.3	2,083.0	2,673.4	1,089.2	238.7	173.8	103.7
May [p)]	310.5	6,824.5	2,015.8	67.0	2,074.2	2,667.5	1,035.6	249.7	161.5	104.3
Transactions										
2014	-4.0	-171.0	-120.8	2.0	-160.1	107.9	238.7	-12.8	0.7	17.8
2015	9.2	-213.6	-106.2	-13.5	-216.1	122.2	-86.6	-18.5	21.4	-4.0
2016	31.0	-114.2	-73.1	-9.1	-117.2	85.2	-274.1	-72.4	12.8	-12.0
2016 Q2	4.2	-4.0	-22.3	-1.8	-16.4	36.5	-63.5	0.3	-9.2	-8.1
Q3	-9.2	-45.0	-25.8	-2.0	-41.7	24.6	-97.6	-14.3	-19.2	-13.7
Q4	6.6	-18.9	-21.5	-2.6	-18.2	23.3	-43.6	-92.3	-0.2	-7.5
2017 Q1	-16.1	-15.6	-14.7	-1.4	-31.4	31.9	-31.6	-9.3	-22.6	-9.1
2016 Dec.	21.1	-13.3	-7.9	-1.3	-3.3	-0.7	22.2	-56.8	11.2	0.3
2017 Jan.	-16.4	-22.0	-10.3	-0.8	-4.9	-6.1	6.7	-55.3	-28.3	-14.6
Feb.	-8.2	13.3	-11.1	-0.2	-5.6	30.2	-34.5	41.6	-5.1	-2.0
Mar.	8.4	-6.9	6.6	-0.4	-20.9	7.8	-3.8	4.4	10.8	7.5
Apr.	31.8	-15.1	-8.5	0.2	-5.8	-1.0	-3.4	-11.5	-8.4	-8.2
May [p)]	-25.4	7.2	-5.4	-0.8	7.0	6.5	-30.8	16.0	-12.2	0.6
Growth rates										
2014	-1.6	-2.3	-5.1	2.2	-6.3	4.5	-	-	0.4	14.6
2015	3.6	-3.0	-4.8	-14.5	-8.8	4.9	-	-	11.6	-2.9
2016	10.9	-1.6	-3.4	-11.5	-5.2	3.3	-	-	6.3	-9.0
2016 Q2	20.1	-2.0	-2.9	-13.3	-6.9	3.8	-	-	3.6	-2.9
Q3	5.3	-2.1	-4.3	-12.2	-6.2	3.8	-	-	1.5	-8.2
Q4	10.9	-1.6	-3.4	-11.5	-5.2	3.3	-	-	6.3	-9.0
2017 Q1	-4.6	-1.2	-4.0	-10.1	-4.9	4.5	-	-	-21.2	-25.3
2016 Dec.	10.9	-1.6	-3.4	-11.5	-5.2	3.3	-	-	6.3	-9.0
2017 Jan.	-1.4	-1.6	-3.5	-11.3	-4.6	3.0	-	-	-12.2	-23.8
Feb.	-1.7	-1.2	-4.4	-10.5	-3.7	3.9	-	-	-25.7	-25.7
Mar.	-4.6	-1.2	-4.0	-10.1	-4.9	4.5	-	-	-21.2	-25.3
Apr.	5.5	-1.5	-4.4	-9.0	-4.9	3.9	-	-	-21.6	-24.8
May [p)]	3.2	-1.4	-4.4	-9.6	-4.5	3.8	-	-	-23.9	-23.6

Source: ECB.

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

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

3) Not adjusted for seasonal effects.

6 Fiscal developments

6.1 Deficit/surplus

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

	Deficit (-)/surplus (+)					Memo item: Primary deficit (-)/ surplus (+)
	Total	Central government	State government	Local government	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	-0.2	0.1
2015	-2.1	-1.9	-0.2	0.1	-0.1	0.3
2016	-1.5	-1.7	0.0	0.2	0.0	0.7
2016 Q1	-1.9	.	.	.	.	0.4
Q2	-1.8	.	.	.	.	0.5
Q3	-1.8	.	.	.	.	0.5
Q4	-1.5	.	.	.	.	0.7

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	49.7	45.6	10.4	5.3	2.8	23.0	4.1
2014	46.7	46.3	12.5	13.1	15.5	0.5	49.3	45.3	10.3	5.3	2.7	23.0	4.0
2015	46.4	45.9	12.6	13.1	15.3	0.5	48.5	44.6	10.1	5.2	2.4	22.8	3.9
2016	46.3	45.8	12.6	13.0	15.4	0.5	47.8	44.3	10.0	5.2	2.2	22.8	3.5
2016 Q1	46.4	45.9	12.6	13.1	15.3	0.5	48.3	44.5	10.1	5.2	2.3	22.8	3.9
Q2	46.3	45.8	12.5	13.1	15.4	0.5	48.1	44.3	10.0	5.2	2.3	22.8	3.8
Q3	46.3	45.8	12.6	13.1	15.4	0.5	48.1	44.3	10.0	5.2	2.2	22.8	3.8
Q4	46.3	45.8	12.6	13.0	15.4	0.5	47.8	44.3	10.0	5.2	2.2	22.9	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	91.4	2.6	17.5	71.2	46.4	26.3	45.0	10.4	81.0	19.4	32.1	39.9	89.3	2.1
2014	92.0	2.7	17.1	72.1	45.2	26.0	46.8	10.0	82.0	18.8	31.9	41.2	89.9	2.1
2015	90.3	2.8	16.2	71.3	45.5	27.5	44.7	9.3	81.0	17.7	31.1	41.5	88.2	2.1
2016	89.2	2.7	15.5	71.0	47.8	30.3	41.5	9.0	80.3	17.3	29.5	42.5	87.2	2.1
2016 Q1	91.3	2.7	16.2	72.4	.	.	.	.	.	.	.	.	.	.
Q2	91.2	2.7	16.0	72.5	.	.	.	.	.	.	.	.	.	.
Q3	90.1	2.7	15.6	71.7	.	.	.	.	.	.	.	.	.	.
Q4	89.3	2.7	15.5	71.1	.	.	.	.	.	.	.	.	.	.

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	-0.2	-0.8	-0.5	-0.4	-0.2	0.4	0.2	0.4	1.9	2.6
2014	0.6	-0.1	-0.1	-0.3	0.2	-0.2	-0.3	0.0	0.0	0.2	0.8	2.5
2015	-1.7	-0.3	-0.9	-0.5	0.2	-0.2	-0.3	-0.1	-0.1	-0.3	-0.5	1.3
2016	-1.0	-0.7	-0.3	0.2	0.2	-0.1	0.0	0.1	-0.3	-0.2	-0.1	1.5
2016 Q1	-1.5	-0.4	-0.6	-0.2	0.3	-0.2	-0.3	0.0	0.0	-0.4	-0.5	1.3
Q2	-0.9	-0.5	0.1	0.4	0.8	-0.2	-0.2	0.0	-0.1	-0.2	-0.5	2.0
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	-1.1	-0.7	-0.3	0.3	0.2	-0.1	0.0	0.1	-0.3	-0.3	-0.2	1.5

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	15.9	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	14.4	12.6	4.8	1.7	0.4	6.7	2.6	1.2	-0.1	3.0	2.9	0.2	1.2
2016 Q1	15.2	13.4	4.7	1.8	0.5	6.6	2.8	1.4	0.0	3.2	2.8	0.3	1.1
Q2	15.1	13.3	4.8	1.8	0.5	6.7	2.7	1.3	-0.1	3.1	2.9	0.3	1.1
Q3	14.7	12.9	4.0	1.8	0.4	6.8	2.6	1.3	-0.1	3.1	2.8	0.2	1.2
Q4	14.4	12.6	4.8	1.7	0.4	6.9	2.6	1.2	-0.1	3.0	2.9	0.2	1.2
2017 Jan.	14.6	12.8	5.1	1.7	0.4	6.9	2.6	1.2	-0.2	3.0	2.9	0.2	1.2
Feb.	14.1	12.4	4.3	1.7	0.4	7.0	2.6	1.2	-0.2	3.0	2.9	0.2	1.3
Mar.	14.3	12.5	4.4	1.7	0.4	6.9	2.6	1.2	-0.2	3.0	2.9	0.2	1.1
Apr.	14.2	12.5	4.3	1.7	0.4	7.0	2.6	1.2	-0.2	3.0	2.7	0.2	1.2
May	14.3	12.6	4.3	1.7	0.4	7.0	2.5	1.2	-0.2	2.9	2.6	0.1	1.2
June	14.0	12.3	4.3	1.7	0.4	7.0	2.5	1.2	-0.2	2.9	2.6	0.2	1.2

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	-0.2	-0.2	-5.7	-13.1	-7.0	-4.0	-2.9	-5.1
2014	-3.1	0.3	0.7	-3.7	-3.7	-6.0	-3.9	-3.0	-8.8
2015	-2.5	0.7	0.1	-2.0	-5.9	-5.1	-3.6	-2.7	-1.2
2016	-2.6	0.8	0.3	-0.6	0.7	-4.5	-3.4	-2.4	0.4
2016 Q1	-2.6	0.8	0.7	-1.6	-4.8	-5.1	-3.5	-2.6	-0.3
Q2	-2.6	0.8	0.8	-1.6	-3.7	-5.3	-3.3	-2.4	-1.3
Q3	-3.0	0.6	0.5	-1.8	-1.8	-4.8	-3.4	-2.4	-1.0
Q4	-2.6	0.8	0.3	-0.6	0.7	-4.5	-3.4	-2.4	0.4
	Government debt								
2013	105.6	77.5	10.2	119.5	177.4	95.5	92.3	129.0	102.2
2014	106.7	74.9	10.7	105.3	179.7	100.4	94.9	131.8	107.1
2015	106.0	71.2	10.1	78.7	177.4	99.8	95.6	132.1	107.5
2016	105.9	68.3	9.5	75.4	179.0	99.4	96.0	132.6	107.8
2016 Q1	109.2	70.9	9.9	80.1	176.4	101.2	97.6	134.8	108.4
Q2	109.7	70.2	9.7	77.7	179.7	101.1	98.4	135.4	107.5
Q3	108.7	69.5	9.6	77.1	176.3	100.4	97.5	132.7	110.6
Q4	105.9	68.3	9.5	75.4	179.0	99.4	96.6	132.6	107.8

	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	-2.6	-2.4	-1.4	-4.8	-15.1	-2.7	-2.6
2014	-1.6	-0.7	1.4	-2.0	-2.3	-2.7	-7.2	-5.4	-2.7	-3.2
2015	-1.3	-0.2	1.4	-1.3	-2.1	-1.1	-4.4	-2.9	-2.7	-2.7
2016	0.0	0.3	1.6	1.0	0.4	-1.6	-2.0	-1.8	-1.7	-1.9
2016 Q1	-0.7	-0.1	1.3	-0.3	-1.9	-1.0	-3.7	-2.7	-2.5	-2.4
Q2	-0.4	0.4	1.1	0.4	-1.0	-0.9	-3.5	-1.8	-2.3	-2.4
Q3	0.2	0.2	1.1	0.8	-0.4	-0.6	-3.7	-1.7	-2.0	-2.2
Q4	0.0	0.3	1.6	1.0	0.4	-1.6	-2.0	-1.8	-1.7	-1.9
	Government debt									
2013	39.0	38.7	23.4	68.7	67.7	81.3	129.0	71.0	54.7	56.5
2014	40.9	40.5	22.4	64.3	67.9	84.4	130.6	80.9	53.6	60.2
2015	36.5	42.7	21.6	60.6	65.2	85.5	129.0	83.1	52.5	63.7
2016	40.1	40.2	20.0	58.3	62.3	84.6	130.4	79.7	51.9	63.6
2016 Q1	36.3	40.0	21.9	61.8	64.9	86.5	128.9	83.6	51.8	64.3
Q2	38.9	40.1	21.4	61.0	63.8	86.2	131.6	82.5	52.9	61.9
Q3	37.9	41.3	20.9	59.7	62.0	83.7	133.1	82.8	52.7	61.8
Q4	40.1	40.2	20.0	58.3	62.3	84.6	130.4	79.7	51.9	63.6

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