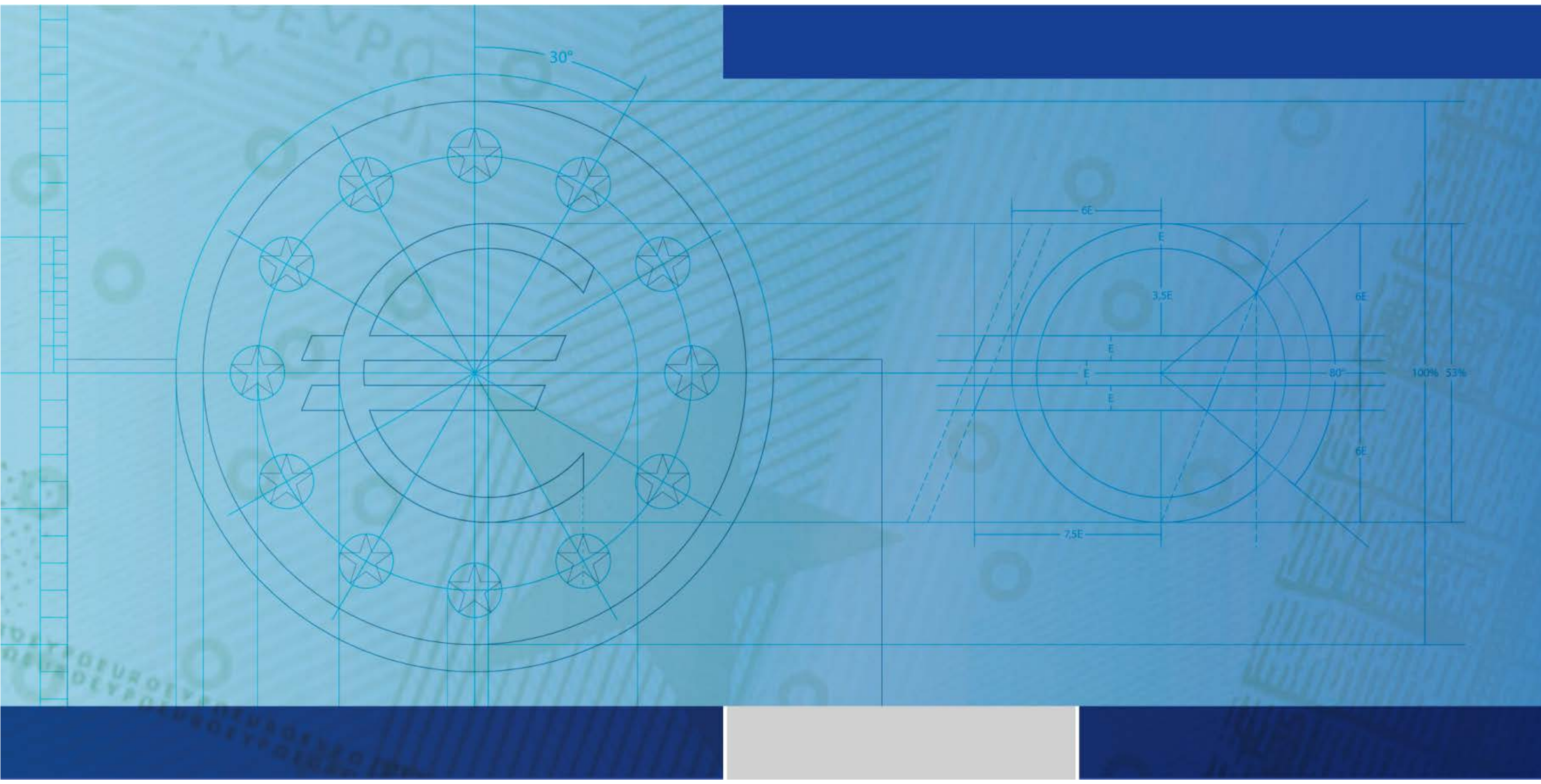
EUROPEAN CENTRAL BANK

EUROSYSTEM

Annual Report

2015



Contents

Foreword

2015 was a year of recovery for the euro area economy. Inflation, however, remained on a downward path. Against this backdrop, a key theme for the euro area in 2015 was strengthening confidence. Confidence among consumers to boost spending. Confidence among firms to resume hiring and investing. And confidence among banks to increase lending. This was essential to nurture the recovery and underpin the return of inflation towards our objective of below, but close to, 2%.

As the year progressed, we did indeed see confidence firming. Domestic demand replaced external demand as the motor of growth on the back of rising consumer confidence. Credit dynamics began recovering for the euro area as a whole. Employment continued to pick up. And fears of deflation, which had stalked the euro area in early 2015, were dispelled entirely.

As we describe in this year's Annual Report, the ECB contributed to that improving environment in two main ways.

The first and most important was through our monetary policy decisions. We took action decisively throughout the year to ward off threats to price stability and ensure the anchoring of inflation expectations. That began in January, with our decision to expand our asset purchase programme (APP). It continued with the various adjustments to the programme throughout the year, such as the expansion of the list of issuers whose securities are eligible for purchase. And it concluded with our decisions in December to cut our deposit facility rate further into negative territory and to recalibrate our asset purchases.

These measures proved effective. Financing conditions eased considerably, with bank lending rates falling by around 80 basis points in the euro area from mid-2014 onwards – a pass-through equivalent to a one-off rate cut of 100 basis points in normal times. Growth and inflation benefited too. According to Eurosystem staff assessments, without the APP – including the December package – inflation would have been negative in 2015, more than half of a percentage point lower in 2016, and around half of a percentage point lower in 2017. The APP will raise euro area GDP by around 1.5 percentage points in the period 2015-18.

We recalibrated our policy at the end of the year due to new headwinds from the global economy, which tilted the inflation outlook to the downside. Those headwinds intensified in early 2016, requiring a further expansion of our policy stance. In March 2016 the Governing Council decided to expand the APP in both size and composition (including for the first time corporate bonds), to cut the deposit facility rate further, to introduce a new series of targeted longer-term refinancing operations with powerful incentives for banks to lend, and to strengthen its forward guidance. These decisions reaffirmed that, even when faced with global disinflationary forces, the ECB does not surrender to excessively low inflation.

The ECB's second contribution to confidence in 2015 was to address threats to the integrity of the euro area. These mainly concerned events in Greece in the first half of the year. Uncertainty about the commitment of the new government to its macroeconomic adjustment programme led to both banks and the government losing market access, and to depositors stepping up withdrawals of their money from banks. The Eurosystem provided a lifeline to the Greek banking system through its emergency liquidity assistance (ELA).

The ECB acted in full independence according to its rules. That meant, on the one hand, ensuring that we did not provide any monetary financing to the Greek government and that we only lent to banks which were solvent and had sufficient collateral, and on the other, ensuring that decisions with far-reaching implications for the euro area were taken by the legitimate political authorities. The approach we followed was fully within our mandate: it respected the commitment to the single currency contained in the Treaty, but we implemented that commitment within the limits of our Statute.

Although tail risks were finally averted thanks to the agreement between Greece and the other euro area countries on a third programme, this episode highlighted the fragility of the euro area and reaffirmed the need to complete our Monetary Union. To that end, as one of the so-called "Five Presidents", in June 2015 I contributed to a report making concrete suggestions for further reform of the euro area's institutional architecture. If we are to achieve a more robust union – and to avoid overburdening the central bank – those suggestions must ultimately be turned into actions.

Finally, in 2015 the ECB also strengthened confidence in its own decision-making processes by enhancing its transparency and governance. In January we began publishing the accounts of our monetary policy meetings, which has given the outside world a clearer insight into our deliberations. We also started publishing ELA decisions and the amounts concerned, data on TARGET2 balances, and the calendars of the Executive Board members. In a time of unconventional monetary policy, these steps forward in transparency are essential to ensure our full accountability to the public.

Our governance was improved too through a project aimed at optimising how the ECB functions as we expand into new tasks and confront new challenges. In 2015 we began implementing several of its recommendations, notably appointing for the first time a Chief Services Officer to support the internal organisation of the bank.

2016 will be a no less challenging year for the ECB. We face uncertainty about the outlook for the global economy. We face continued disinflationary forces. And we face questions about the direction of Europe and its resilience to new shocks. In that environment, our commitment to our mandate will continue to be an anchor of confidence for the people of Europe.

Frankfurt am Main, April 2016

Mario Draghi
President

The euro area economy, the ECB's monetary policy and the European financial sector in 2015

1 The euro area economy: the low inflation, low interest rate environment

1.1 The global macroeconomic environment

The euro area economy was affected in particular by three key features of the international environment in 2015: a growing divergence in economic activity between advanced and emerging market economies; historically weak global trade developments; and low global inflationary pressures on the back of further declining energy prices and still abundant spare capacity.

Global economic growth remained modest

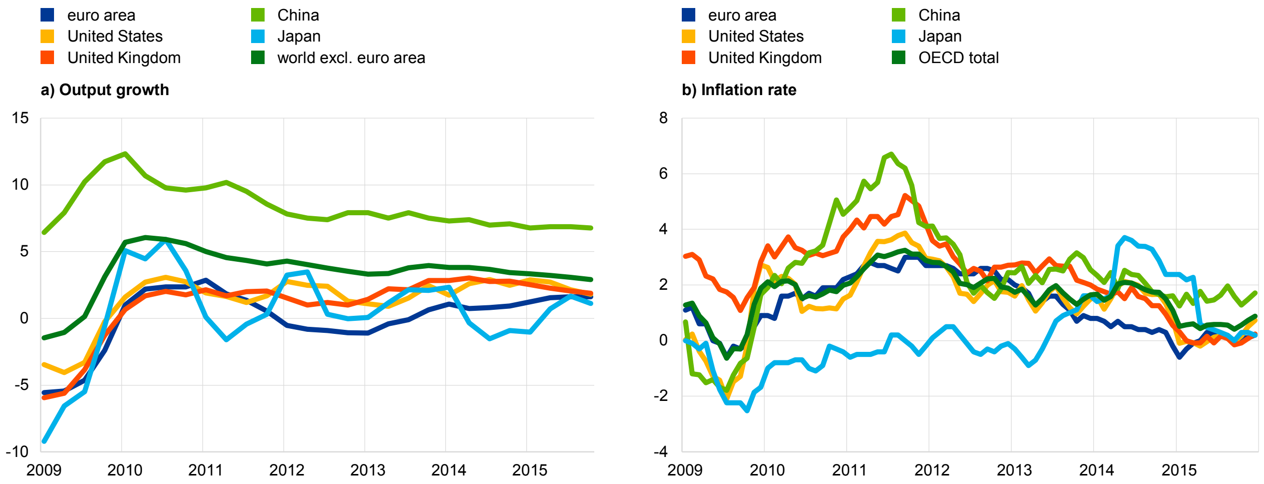
The world economy continued along its gradual recovery path in 2015, although global economic growth moderated slightly from the previous year. The marginal acceleration in economic activity in advanced economies was more than offset by the slowdown in emerging economies, with considerable heterogeneity across countries and regions. Following strong recessions in some emerging economies in the first half of the year, global GDP growth remained modest by historical standards (see Chart 1).

Economic activity in advanced economies remained resilient throughout the year against the backdrop of still accommodative financing conditions, improving labour markets, low oil prices and diminishing headwinds from private sector deleveraging and fiscal consolidation. By contrast, the pace of economic growth slowed markedly in emerging market economies in the light of heightened uncertainty, structural impediments (e.g. related to infrastructure bottlenecks, poor business environments and a lack of competition in labour and product markets) and tightening external financing conditions. In particular, lower commodity prices led to a sharp slowdown in commodity-exporting economies, while growth remained more resilient in commodity-importing countries. The decline in commodity prices, however, had an overall positive effect on global demand, as oil-importing countries tend to have a higher propensity to spend than oil-exporting countries, but in some cases the positive impact on consumption was weaker than expected.

Chart 1

Main developments in selected economies

(annual percentage changes; quarterly data; monthly data)



Sources: Eurostat and national data.
Notes: GDP figures are seasonally adjusted. HICP for the euro area and for the United Kingdom; CPI for the United States, China and Japan.

Global financing conditions remained generally accommodative. The Federal Reserve System deferred the start of its monetary policy normalisation until the end of 2015, while both the Bank of Japan and the ECB continued to follow expansionary monetary policies. The Bank of England left its monetary policy unchanged. Financial market volatility and risk aversion remained relatively low for most of the year. In the third quarter of the year, however, a sharp correction in equity prices in Chinese stock markets led to a marked increase in volatility. While the spillover effects to the real economy were limited, the prospect of a growing divergence in the monetary policy stance of major advanced economies and market concerns about the resilience of economic growth in emerging economies led to considerable exchange rate depreciations and capital outflows in a number of emerging market economies, particularly those with significant domestic and external imbalances (see also Box 1).

Historically weak world trade developments

Following three years of weak trade growth, the growth rate of global imports of goods and services declined even further in the first half of the year, before gradually recovering towards the year-end from very low levels. Overall, the volume of world imports grew by only 1.7% year on year in 2015, compared with 3.5% in 2014. As in the case of GDP growth developments, emerging market economies were the main driver behind the global trade weakness, although some advanced economies temporarily experienced extremely weak trade growth as well.

Global import growth has been below its long-term average since the second half of 2011. Although this weakness is due in part to the subdued global recovery and is thus to some extent a cyclical phenomenon, the elasticity of world trade – i.e. the responsiveness of global import growth to GDP growth – has also been extraordinarily weak in the past four years. While trade increased at almost twice the rate of global GDP in the 25 years prior to 2007, its growth rate has fallen below that of GDP in recent years.

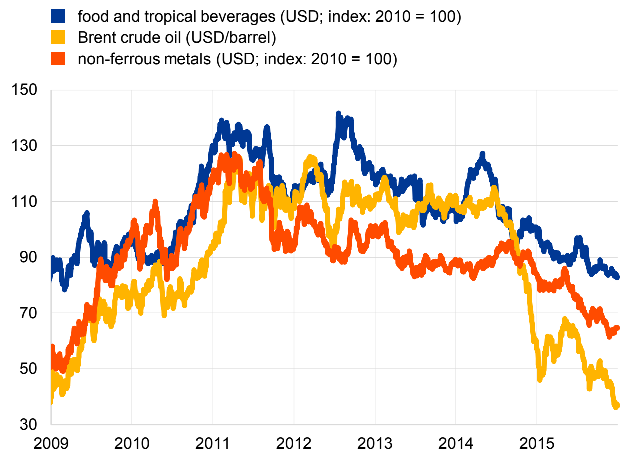
Possible reasons for the persistent weakness in global trade are manifold. On the one hand, cyclical factors include not only the generally sluggish recovery of global economic activity, but also the changed demand composition of global GDP, as import-intensive demand components (such as investment) have been particularly weak. On the other hand, structural factors may also play a significant role, including shifts in activity towards sectors (such as services) and regions (emerging market economies, in particular China) with lower underlying trade elasticities and changes in the participation in global value chains.

Low energy prices weighed on global inflation

The sharp fall in commodity prices – particularly energy prices – in the second half of 2014 contributed significantly to a decrease in global headline inflation in 2015 (see Chart 2). Annual inflation in the OECD area declined to 0.6% (down from 1.7% in 2014), while core annual OECD inflation (excluding food and energy) decreased only marginally, from 1.8% in 2014 to 1.7% in 2015 (see Chart 1).

Chart 2
Commodity prices

(daily data)



Sources: Bloomberg and Hamburg Institute of International Economics.

While remaining low overall, oil prices showed considerable volatility throughout 2015. This followed a continuous decline from around USD 112 per barrel in June 2014 to USD 46 in mid-January 2015. After a temporary uptick until May 2015, oil prices declined in the second half of the year, continuing to reflect an oversupplied global oil market. The OPEC members maintained their production at near-record rates, although non-OPEC production growth was reduced somewhat in the second half of the year. In particular, lower prices and reduced investment triggered a slowing in the still resilient US shale oil production, leading to some moderation in the supply overhang. Crude oil demand picked up during 2015 on the back of lower prices, but remained too weak to keep pace with oil supply.

Non-oil commodity prices continued to decline on the back of both supply and demand factors. Lower global demand – particularly from China, which is the main source of demand for a number of metal commodities – added to the downward pressure on non-oil commodity prices. Lower food prices mainly reflected increased supply. Overall, in US dollar terms, food prices decreased by 18%, while the metal price index dropped by 17% in 2015.

Moreover, slowly closing output gaps in advanced economies and widening ones in several emerging market economies resulted in abundant spare capacity at the global level, which put further downward pressure on global inflation. At the individual country level, inflation was also strongly influenced by exchange rate movements. While the appreciation of the US dollar and the pound sterling at the beginning of the year led to additional downward pressure on inflation in the respective countries, some emerging market economies, such as Russia, Brazil and Turkey, faced upward price pressures stemming from a considerable depreciation of their currencies.

Heterogeneous growth developments in major economies

In the United States, economic activity remained resilient, with real GDP growth at 2.4% on average in 2015, unchanged from the previous year. After some weakness at the beginning of the year owing to temporary factors such as bad weather conditions and port traffic disruptions, GDP growth in the second and third quarters was fairly robust and mainly driven by final domestic demand, while net exports contributed negatively. Economic activity then decelerated again in the fourth quarter. Private consumption expenditure remained buoyant against the background of still accommodative financing conditions, lower oil prices, strengthened household balance sheets and improved consumer confidence. The underlying labour market momentum also remained robust, with a further decrease in the unemployment rate to 5.0% at the end of the year. In the light of the sharp decline in energy prices and the appreciation of the US dollar since the second half of 2014, inflation remained extremely low during the whole of 2015. Annual CPI inflation stood at 0.1% on average, down from 1.6% in 2014, while core CPI inflation (excluding food and energy) remained broadly unchanged at 1.8%.

Monetary policy stayed highly accommodative for most of 2015. Interest rate projections by the Federal Open Market Committee (FOMC) and federal funds futures moved down over time, as expectations regarding a rise in monetary policy interest rates shifted further into the future. In December 2015 the FOMC decided to raise the federal funds target range to 0.25-0.50%, which was its first rate hike in more than nine years. The fiscal stance was broadly neutral in the fiscal year 2015, with the fiscal deficit decreasing slightly to 2.5% of GDP, which was the lowest ratio since 2007.

In Japan, real GDP growth was relatively volatile during the year. Following the strong increase at the start of the year, economic activity temporarily weakened in the second quarter before returning to positive, albeit subdued, growth in the second half of the year. The recovery occurred against the background of a rebound in private consumption and exports. On average, real GDP expanded by 0.7% in 2015, which was a slight acceleration from 2014, when Japan passed through a strong recession owing to a hike in VAT rates. The fading base effects of this tax increase also led to a slowdown in inflation to 0.8% on average (down from 2.7% in 2014). Thus, despite the continuing quantitative and qualitative monetary easing programme implemented by the Bank of Japan, inflation is still well below its target of 2%, although core inflation showed some signs of acceleration towards the end of the year.

In the United Kingdom, economic activity slowed moderately in 2015. Annual GDP growth decelerated to 2.2% in 2015 from almost 3% in 2014, according to preliminary estimates. In particular, housing investment growth decelerated from the very fast pace of growth recorded in the previous year. Low inflation contributed to the increase in the real disposable income of households, thereby supporting private consumption and GDP growth. Compared with the previous year, the labour market continued to strengthen and the unemployment rate declined to around 5% by the end of 2015. Further progress was made with fiscal consolidation, and the general government deficit is estimated to have fallen to around 4½% of GDP in 2015. Inflation declined compared with one year before, hovering around the level of 0% throughout the year, on the back of low energy and food prices as well as the appreciation of the pound sterling. During 2015 the Bank of England's Monetary Policy Committee maintained an accommodative monetary policy stance, keeping the policy rate at 0.5% and the size of the asset purchase programme at GBP 375 billion.

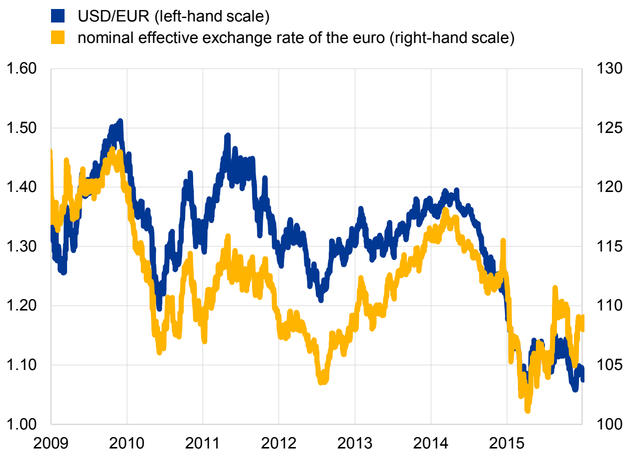
In China, the gradual slowdown of the economy continued against the backdrop of slower investment growth and weaker exports. Annual GDP growth decreased to 6.8% in 2015 from 7.3% in the previous year. Over the summer Chinese stock markets corrected sharply after posting very strong gains in the preceding months, raising concerns about financial stability and economic growth prospects in China and other emerging economies. The macroeconomic and financial stability impact of the stock market correction was, however, fairly limited. Faced with declining CPI inflation (down from 2.0% in 2014 to 1.5% in 2015) and in order to contribute to a stabilisation of growth, the People's Bank of China continued the policy loosening that it had started in November 2014, with several additional cuts of benchmark and reserve requirement rates during 2015. Additionally, further reforms were introduced to strengthen the role played by market forces in the determination of the exchange rate, which led to a depreciation of the renminbi – and other emerging market currencies – against the US dollar and renewed stock market volatility in the weeks following the decision. Regarding fiscal policy, public infrastructure spending was raised in order to support total investment.

The euro continued to weaken

In the course of 2015 the exchange rate of the euro weakened in nominal effective terms. Developments in the euro exchange rate continued to reflect to a large extent the different cyclical positions and monetary policy stances across major economies. These developments were characterised by four distinct phases. In the first quarter of 2015 the euro depreciated markedly ahead of the announcement of the expanded asset purchase programme by the ECB. The euro then stabilised in the second quarter, notwithstanding occasional bouts of volatility related to developments in the negotiations between Greece and its international creditors, as well as to changes in market expectations about the timing of a possible increase in the Federal Reserve's policy rates in the United States. Over the summer the euro appreciated markedly in an environment of heightened risk aversion globally and uncertainties about developments in China and emerging economies more generally. In the fourth

Chart 3
Euro exchange rate

(daily data)



Source: ECB.
Note: Nominal effective exchange rate against 38 major trading partners.

quarter the euro depreciated again overall on the back of renewed expectations of a growing divergence in monetary policy stances on either side of the Atlantic.

The nominal effective exchange rate of the euro (as measured against 38 major trading partners) declined by more than 3% in annual terms (see Chart 3). Bilaterally, the euro weakened strongly against the US dollar (-11.0%). In line with this, the euro continued to weaken against currencies that use the US dollar as an anchor, such as the Chinese renminbi (-6.5%). The euro also depreciated against the pound sterling (-5.9%) and the Japanese yen (-10.3%). By contrast, the euro appreciated markedly against the Brazilian real (+29.2%) and the South African rand (+18.9%).

Turning to those European currencies that have close links to the euro, the Danish krone is currently the only currency in the European exchange rate mechanism II (ERM II), after Lithuania joined the euro area on 1 January 2015. The Danish krone traded close to its central rate within ERM II, while Danmarks Nationalbank lowered its policy rates on four occasions in January and February 2015. Following the announcement of the Swiss National Bank on 15 January 2015 that it would discontinue its minimum exchange rate target of 1.20 Swiss francs per euro, the euro depreciated sharply against the Swiss franc, to trade somewhat above parity thereafter. The Bulgarian lev remained fixed to the euro, while the euro weakened modestly against some of the currencies of EU Member States with floating exchange rate regimes, including the Czech koruna (-2.6%), the Polish zloty (-0.2%), the Swedish krona (-2.2%) and the Croatian kuna (-0.3%).

Box 1
Financial stress in emerging market economies

Concerns about the economic growth prospects of China and emerging market economies more generally as well as rising expectations of monetary policy normalisation in the United States led to a period of heightened volatility in emerging economies' financial markets in 2015. Several countries were subject to marked capital outflows from domestic bond and equity markets, coupled with a rise in corporate and sovereign bond spreads and substantial depreciation pressures on their domestic currency. In an attempt to lean against these headwinds, various central banks engaged in large-scale interventions in foreign exchange markets by selling foreign currency reserves. Tensions culminated in late August 2015, when a sharp correction of Chinese stock markets led to a marked increase in global risk aversion with significant repercussions on global, including euro area, financial markets.

Financial stress in major emerging market economies peaked in the third quarter of 2015, at a level which was very high also from a longer-term perspective. Chart A shows an aggregate indicator of financial stress in emerging market economies that combines information on portfolio flows, exchange rate developments, movements in domestic bond spreads and changes in foreign

Chart A
Financial stress in major emerging market economies

(monthly data)

Sources: Haver, Institute of International Finance and ECB calculations.
Notes: The indicator of financial stress in emerging market economies combines information from different financial market time series: (1) portfolio flows into bond and equity markets (Institute of International Finance); (2) bilateral nominal exchange rate developments against the US dollar (Federal Reserve Board); (3) changes in domestic bond market spreads vis-à-vis US bond yields (JP Morgan's Emerging Market Bond Index); and (4) changes in foreign exchange reserve holdings (IMF International Financial Statistics). The indicator shown corresponds to a three-month moving average of the first principal component, which explains around 50% of the total variation of the original dataset. Positive/negative values of the indicator indicate stress levels above/below the long-run average. The country sample comprises Brazil, China, India, Indonesia, Mexico, South Africa, South Korea, Thailand and Turkey. Data are monthly and cover the period from January 2005. The latest observation is for December 2015.

exchange reserve holdings. This indicator peaked in September 2015, reaching the second-highest levels seen over the past ten years and also surpassing the elevated levels reached during the "taper tantrum" episode in mid-2013. Only the immediate aftershock of the global financial crisis in late 2008 gave rise to higher levels of stress. In terms of the individual components of the aggregate indicator, the high levels of stress over 2015 were mostly driven by exchange rate developments and, to a lesser extent, by declines in foreign official reserves. After the fall in the Chinese stock market in late August 2015, emerging market economies also registered strong equity outflows, which contributed to the peak in financial stress in September 2015.

While rising expectations of US monetary policy normalisation contributed to the heightened volatility in financial markets in 2015, they were probably not the main trigger. US rate hike expectations brought about a broad-based US dollar appreciation in 2015 and increased volatility in foreign exchange markets. At the same time, the December 2015 rate increase was well anticipated by the markets and had been largely priced in since the beginning of the year. Furthermore, in contrast to the taper tantrum episode, ten-year US Treasury yields did not show a clear upward trend in 2015 and the term premium remained very compressed.

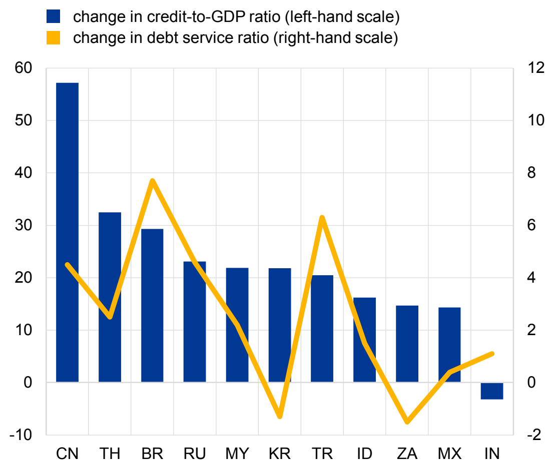
The acute financial volatility in emerging market economies during 2015 stemmed to a greater extent from concerns about the implications of slowing growth in China and the commodity price slump. For example, following the correction in the Chinese stock market in August 2015, some net commodity-exporting emerging market economies experienced sharp depreciations of their currencies. The currencies of the economies with strong trade links to China also reacted strongly, including those of Chile, Indonesia, Malaysia and Thailand.

At the same time, existing vulnerabilities and concerns about lower growth prospects also contributed to financial market stress. Most emerging market economies have experienced a moderation in growth in recent years, driven by both cyclical factors and structural impediments, and are facing lower growth prospects in the years ahead. Moreover, some of the economies which were already deemed fragile by financial markets during the 2013 taper tantrum have remained so. Brazil, Indonesia and South Africa continued to run twin deficits (fiscal and current account), as they had at the start of 2013, with Brazil and South Africa also suffering from high inflation and weakening growth. Turkey also continued to exhibit significant external imbalances, along with high inflation and credit growth. The commodity price slump has negatively affected net commodity exporters, including Russia and Brazil. In Russia, the ongoing slowdown has been exacerbated by economic sanctions and low oil prices, which pushed the economy into a sharp recession. By contrast, India has managed to correct some of its vulnerabilities compared with 2013, lowering both the inflation rate and the current account deficit, as the authorities introduced a range of stabilisation and growth-enhancing measures.

Chart B

Changes in the credit-to-GDP ratio and debt service ratio

(Q1 2010 - Q2 2015; percentage points of GDP; percentage points)



Sources: Bank for International Settlements and ECB calculations.
Notes: Credit refers to total credit to the non-financial sector provided by domestic banks, all other sectors of the economy and non-residents; in terms of financial instruments, it covers “core debt”, defined as loans, debt securities and currency and deposits. The debt service ratio reflects the share of income used to service debt in the non-financial private sector. A list of country abbreviations can be found at the end of this report.

Rapid credit growth has also made many emerging market economies susceptible to tightening global financing conditions. Loose global financing conditions have contributed to fast credit expansion in many of these countries over recent years (see Chart B). In China, where fast-rising credit has supported strong investment, credit to the non-financial private sector reached around 200% of GDP in 2015. Despite low interest rates, rising debt levels have pushed up debt service ratios for households and firms in many emerging markets, signalling increased risks to financial stability, particularly if the tightening of global financing conditions were to raise interest rates further. Moreover, in recent years several emerging market economies have significantly increased external financing in US dollars, which makes them vulnerable to a further US dollar appreciation.

Overall, the financial stress in 2015 highlighted existing vulnerabilities in some emerging market economies and the need to address them, especially in the context of the likely tightening of global financing conditions and the lower growth prospects of these countries.

1.2 Financial developments

Euro area financial dynamics in 2015 were shaped to a large extent by the monetary policy decisions of the ECB, and in particular the asset purchase programme (APP). As a consequence, money market rates, government bond yields and the cost of external financing for non-financial corporations all continued their declines to new historical lows. Households also saw a further improvement in their financial conditions.

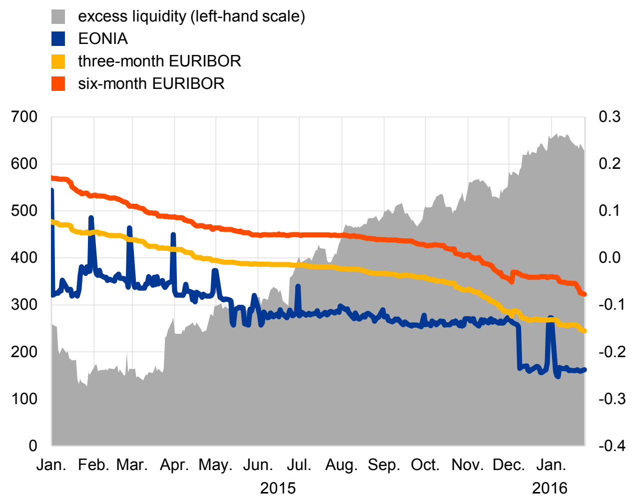
Euro area money market rates declined amid rising levels of excess liquidity

Money market rates continued to decline in 2015, initially reflecting the continued pass-through of the negative deposit facility rate, first introduced in June 2014. The initial strategies by investors to avoid negative interest rates through a search for yield at somewhat longer maturities, the purchase of high-quality securities and, to a lesser extent, the taking-on of more credit risk were progressively exhausted as pricing adjusted. In addition, market frictions associated with the transition to negative rates faded gradually.

Chart 4

Money market rates and excess liquidity

(EUR billions; percentages per annum; daily data)



Sources: ECB and Bloomberg.
Note: The latest observations are for 11 January 2016.

Liquidity injections by means of non-standard monetary policy measures put additional downward pressure on money market rates. In particular, the APP and the targeted longer-term refinancing operations (TLTROs) were the main drivers of rising excess liquidity. With excess liquidity rising above €650 billion at the end of the year, rates turned increasingly negative (see Chart 4) and activity declined in certain segments of the euro area money market.

In the period preceding the December 2015 Governing Council meeting, money market rates decreased even further, reflecting market expectations of additional monetary easing. On 3 December 2015 the Governing Council decided to cut the deposit facility rate to -30 basis points and extended the APP at least until March 2017. As a result, money market yield curves gradually shifted further downwards.

Overall, despite some initial concerns, the transition of a broad set of reference rates to negative levels went smoothly, including the transmission to longer maturities such as the six-month EURIBOR. The three-month EURIBOR and six-month EURIBOR turned negative in April and November respectively, and stood at -13 basis points and -4 basis points respectively at end-2015.

Government bond yields reached historical lows

The euro area government bond market was strongly influenced by the public sector purchase programme (PSPP) (see Chart 5).[1] First, as a result of the announcement and implementation of the PSPP, long-term yields on AAA-rated debt continued the decline that started in 2014 to reach new historical lows in the spring. Thereafter, yields increased up to mid-2015 owing to positive surprises regarding the euro area's

1 See also Box 6 on "The transmission of monetary policy measures to financial markets and the real economy".

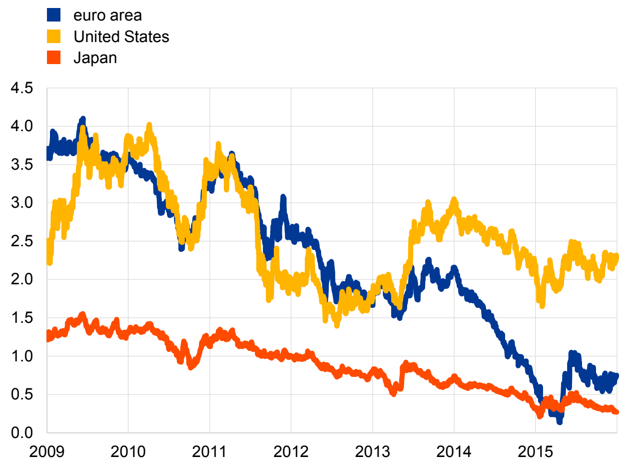
economic outlook, technical market factors and a learning process in which the market adapted to the implementation of the PSPP. In the second half of 2015 yields resumed their decline as continued downside risks to the inflation outlook prompted further monetary policy accommodation by the ECB, including an extension of the APP. Overall, the average euro area ten-year yield over the year reached a historical low of 0.6%. This is notably lower than the averages recorded in previous years and is also significantly lower than the average of 2.1% recorded in the United States. It was, however, higher than the 0.4% observed in Japan.

Developments in intra-euro area government bond spreads were relatively muted year on year, but showed some heterogeneity across countries. At the same time, spreads remained at levels comparable to those before the start of the sovereign debt crisis.

Chart 5

Long-term government bond yields

(percentages per annum; daily data)

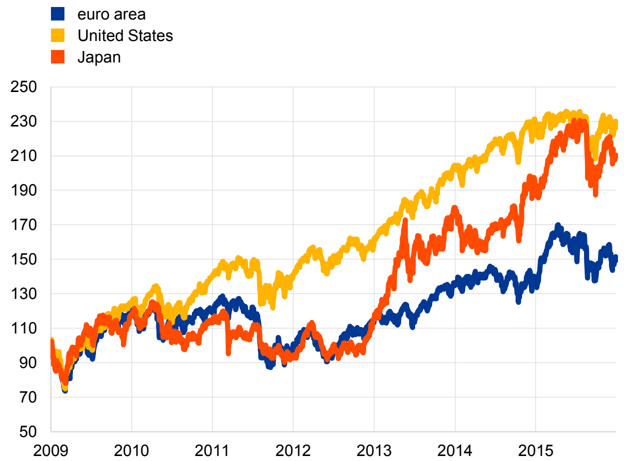


Sources: EuroMTS, ECB, Bloomberg and Thomson Reuters.
Notes: Long-term government bond yields refer to ten-year bonds or to the closest available bond maturity. The euro area government bond yield is based on the ECB's data on AAA-rated bonds, which include bonds of Austria, Finland, Germany and the Netherlands.

Chart 6

Major stock market indices

(index: 1 January 2009 = 100; daily data)



Source: Thomson Reuters.
Note: The indices used are the Dow Jones EURO STOXX broad index for the euro area, the Standard & Poor's 500 index for the United States and the Nikkei 225 index for Japan.

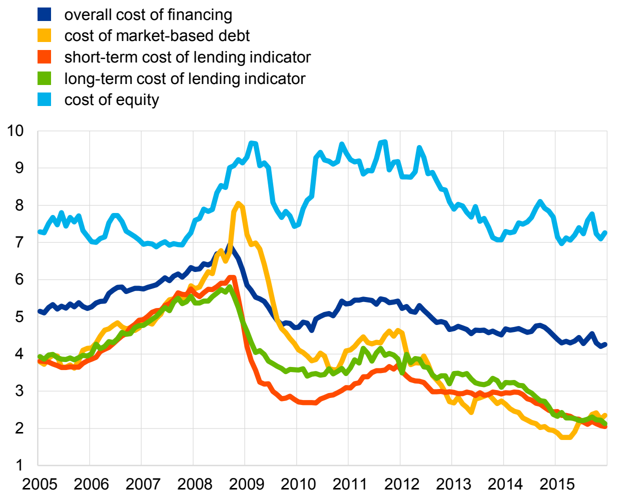
Equities rose amid heightened volatility

Euro area equity markets were also affected by the PSPP. Initially, equity prices increased substantially in anticipation of and following the announcement of the PSPP, as declining bond yields provided strong support for euro area stocks through lower discount rates and a rebalancing by investors of their portfolios towards riskier assets. As a consequence, the EURO STOXX index had gained almost a quarter in value by the spring (see Chart 6). However, in the middle of 2015 volatility rose and stock prices declined, reflecting uncertainty surrounding events in Greece and the sharp declines in Chinese equity prices, which – coupled with a rapid fall in oil prices – raised concerns about the global economic outlook. Nevertheless, euro area equity markets increased in the autumn – in part because these concerns prompted

Chart 7

Overall nominal cost of external financing for non-financial corporations in the euro area

(percentages per annum; three-month moving averages)

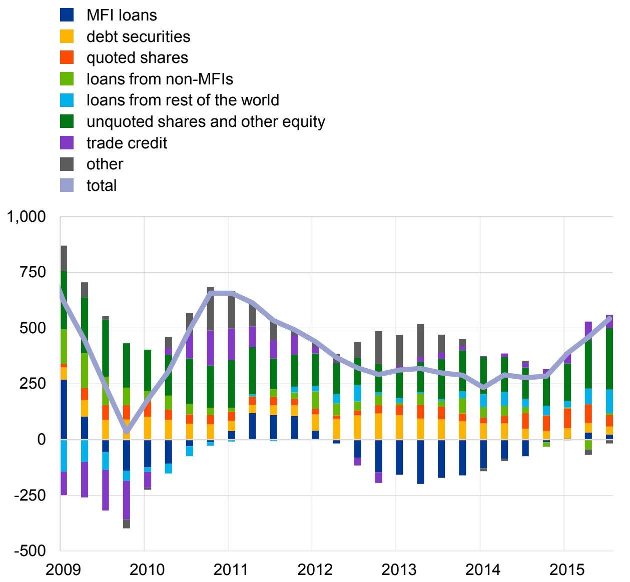


Sources: ECB, Merrill Lynch, Thomson Reuters and ECB calculations.
Notes: The overall cost of financing for non-financial corporations is calculated as a weighted average of the cost of bank lending, the cost of market-based debt and the cost of equity, based on their respective amounts outstanding derived from the euro area accounts. The cost of equity is measured by a three-stage dividend discount model using information from the Datastream non-financial stock market index. The latest observations are for November 2015.

Chart 8

Changes in the sources of external financing of non-financial corporations in the euro area

(four-quarter sums; EUR billions)



Sources: Eurostat and ECB.
Notes: MFI loans and loans from non-MFIs (other financial intermediaries, insurance corporations and pension funds) are corrected for loan sales and securitisations. "Other" is the difference between the total and the instruments included in the chart. It includes inter-company loans. The latest observation is for the third quarter of 2015.

expectations of monetary accommodation by major central banks, including the ECB – and ended the year up by around 8%.

Nominal cost of external financing for non-financial corporations also reached a historical low

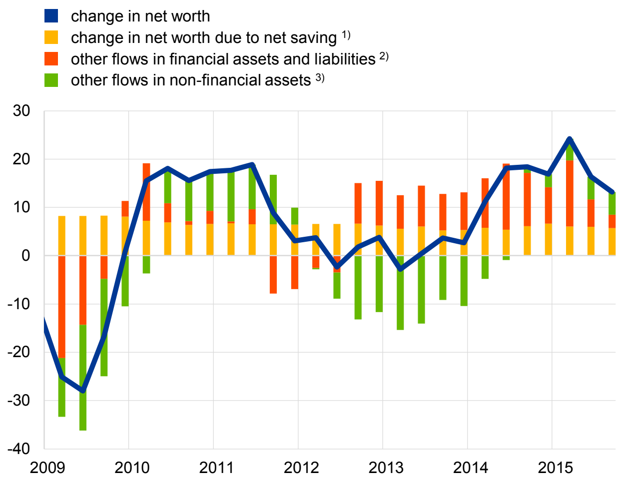
By reducing the costs of market-based debt and equity, the announcement of the PSPP also helped to bring the overall nominal cost of external financing for non-financial corporations (NFCs) to a new historical low in February 2015 (see Chart 7). In particular, the easing of banks' financing conditions as a result of both the PSPP and the TLTROs helped to further reduce the cost of bank lending for NFCs. Owing to the more bank-based nature of financial intermediation in the euro area, the reduction in the cost of bank financing played an important role in reducing the overall nominal cost of external financing. It compensated for the increase in the cost of market-based debt in the second half of the year and the spike in the cost of equity associated with the stock market developments in mid-2015. Importantly, the heterogeneity of external funding costs across euro area countries declined further during 2015 as the pass-through of increased monetary policy accommodation by the ECB strengthened in those countries that were most affected by the crisis.

Increased flow of external financing

The low financing costs (both nominal and real), coupled with improved access to funding and a strengthening economy, led to a significant increase in the use of external financing by NFCs in the first three quarters of 2015 (see Chart 8). The key drivers behind the overall increase were bank loans, the issuance of unquoted shares and trade credit, while ongoing strong growth in retained earnings most likely dampened securities issuance somewhat. Significantly, 2015 was the first time in four years that NFCs increased their use of bank loans, reflecting both a strengthening of credit supply and a continued improvement in credit demand. Credit supply picked up owing to the easing of banks' financing conditions and the improvement in the risk-

Chart 9
Change in the net worth of households

(four-quarter sums; percentages of gross disposable income)



Sources: Eurostat and ECB.
Notes: Data on non-financial assets are ECB estimates. The latest observation is for the second quarter of 2015.
1) This item comprises net saving, net capital transfers received and the discrepancy between the non-financial and the financial accounts.
2) Mainly holding gains and losses on shares and other equity.
3) Mainly holding gains and losses on real estate (including land).

return profile of loans relative to other assets.[2] Credit demand was supported, in turn, by the ongoing declines in the cost of lending amid a strengthening economic outlook. In addition to bank loans, the issuance of debt securities and quoted shares went up sharply between January and April 2015 following the announcement of the PSPP, but moderated in the second half of the year as market-based financing became more costly.

Household net worth continued to increase

The low level of interest rates and the related high level of asset prices, which was also reflected in house price dynamics, increased the net worth of euro area households in 2015 (see Chart 9).

The financing costs of euro area households remained near record lows in all lending categories, but continued to vary across countries and loan types. Bank borrowing by the household sector recovered at a moderate pace.

Box 2
Why are interest rates so low?

Nominal euro area interest rates are now at historical lows, with the interest rate on the main refinancing operations close to 0% and the deposit facility rate in negative territory. Over the past year and a half the euro area yield curve has moved downwards and become flatter (see Chart A).

As these developments across advanced economies are, by any standards, highly unusual, it is important to understand why interest rates are so low. The very low interest rates are only partly the choice of the central bank. They also reflect global and euro area-specific factors, some of which are of a long-term, secular nature, while others are associated with the legacy of the financial crisis.[3]

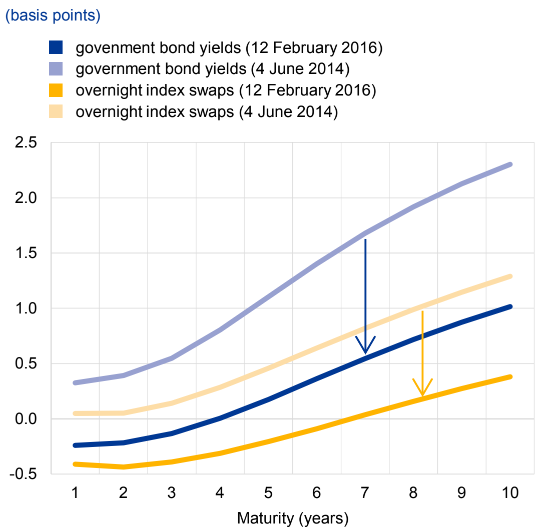
While monetary policy cannot address these longer-term forces weighing on the economy, it does need to respond to the disinflationary pressures that they create. If consistent with its mandate, the central bank may also respond to the additional weakness in aggregate demand stemming from the crisis. This is achieved by bringing the interest rate as close as possible to what is known as the "equilibrium" interest rate. This is the interest rate at which resources are fully employed in the

[2] For more information on the easing of banks' financing conditions, see also Section 1.5 of Chapter 1, which discusses the recent results of the euro area bank lending survey.

[3] See also Bean, C., Broda, C., Ito, T. and Kroszner, R., "Low for Long? Causes and Consequences of Persistently Low Interest Rates", *Geneva Reports on the World Economy* 17, International Center for Monetary and Banking Studies, October 2015.

Chart A

Synthetic euro area government bond yield curve and the overnight index swap curve



Source: ECB.

economy and inflation is stable around the level most consistent with the price stability objective of the central bank. Given the severity of the crisis, this could not be attained through conventional monetary policy alone and a set of non-standard measures was required. Looking ahead, delivering price stability will create the conditions for interest rates to increase once more and gradually converge towards more normal levels.

Against this background, this box reviews the determinants of low interest rates in the euro area and discusses some of the implications for banks and savers. While monetary policy accommodation is clearly warranted in support of the recovery and inflation and is proving to be effective, as evidenced by the reduction in bank lending rates and the better availability of credit for firms and households, low interest rates may have implications for those who are more dependent on interest income, such as holders of savings accounts. Moreover, low interest rates can have undesired side-effects, such as stimulating excessive risk-taking in financial markets. Therefore, it is important to understand the underlying causes of persistently low interest rates, not least as these can be linked to factors that are outside the control of monetary policy.

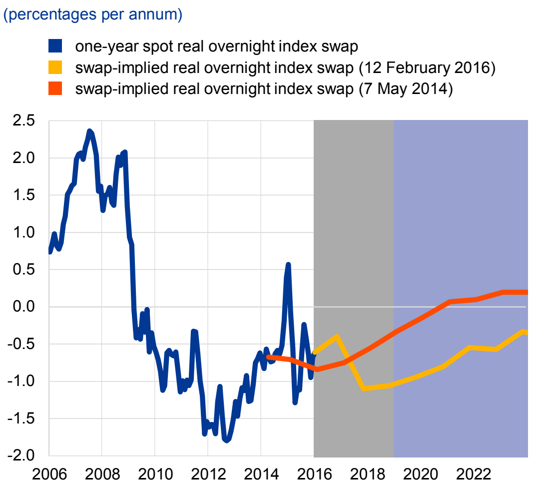
Determinants of low interest rates

As a way to better understand the different drivers of low interest rates, it is useful to break down long-term nominal yields into four components: expected inflation over the term of the asset; the expected path of short-term real rates; the inflation risk premium and the real term premium, which together represent the compensation required by investors for holding long-term bonds as opposed to rolling over short-term securities. In sum, all these components have contributed to the very low long-term rates observed today.

From a long-term perspective, nominal yields on long-term bonds have been on a declining trend in all major advanced economies since the 1980s. This in part reflects the improvements in monetary policy frameworks adopted by central banks which have brought down long-term inflation expectations and compressed inflation premia, both of which have contributed to lower nominal yields.

The decline in nominal long-term rates is also explained by the real component, with forward real interest rates in negative territory far into the future (see Chart B). As the forward real interest rate encompasses the expected real rate and the real term premium, it has been shown that the expected real interest rate at horizons sufficiently far away from the present, after the forward premium is removed, is a proxy for the equilibrium real interest rate.[4]

Chart B
Market-implied path of the one-year real rate in the euro area



Source: ECB.

Part of the decline in global real interest rates can be accounted for by long-run forces; the other part is due to more cyclical dynamics. If the textbook Solow growth model is used to organise the different forces driving real interest rates in the long run, these forces ultimately pertain to productivity and population growth and savings behaviour. The intuition is that these forces determine investment and therefore the demand for loanable funds, which have to be matched by savings. Seen over the long term, growth in total factor productivity as well as population has been slowing in the euro area for decades. It is also possible that the global propensity to save has increased.

On top of the gravitational pull of these long-term forces, there are additional factors weighing on real interest rates that are more directly linked with the global financial crisis. Notably, the euro area is still working its way through a "balance sheet recession", where a severe debt overhang creates the conditions for a sharp downturn, which in turn necessitates substantial deleveraging and prolongs the length of the slump.

The final component affecting long-term interest rates is the term premium. Here too longer-term forces have combined with more cyclical dynamics connected to the financial crisis to push nominal interest rates down. Term premia in the euro area have been compressed on account of the Eurosystem's securities purchases as well as factors such as the supply of and demand for safe assets at the global level.

Overall, low interest rates are ultimately a consequence of weak long-term trends, coupled with the cyclical consequences of a complex financial crisis and an extraordinarily protracted macroeconomic slump. Forecasting the persistence of these influences is fraught with considerable uncertainty. While the longer-term forces behind the drawn-out decline in real rates are outside the scope of monetary policy, it is the mandate of a central bank to ensure that inflation returns to and stabilises around the central bank's objective, which in turn will help put the economy on a sustainable growth trajectory where cyclical slack is reabsorbed. Currently, this mandate motivates policies which can exert downward pressure on interest rates across the term structure so that borrowing conditions are kept at levels that are sufficiently accommodative to ensure that economic conditions and inflation normalise within a medium-term horizon.

The evidence indeed suggests that the ECB's measures, by keeping current and anticipated short-term rates anchored at their effective lower bound and by compressing the real term premium component of long-term rates, are working their way through the financial system. Bank lending

4 For more information, see Bomfim, A., "Measuring Equilibrium Real Interest Rates: What can we learn from yields on indexed bonds?", Federal Reserve Board, July 2001.

rates charged to households and non-financial corporations have continued to decline, while credit growth is recovering gradually, albeit remaining weak (see Section 1.5 of this chapter).

Accordingly, the prevailing accommodative monetary policy stance of the ECB is a necessary and effective means to ensure price stability over the medium term. Given that the Treaty on the Functioning of the European Union establishes price stability as the overriding objective of monetary policy in the euro area, the ECB's current monetary policy stance is fully consistent with its mandate.

Box 3
What do low interest rates mean for banks and savers?

It is important to monitor whether the ECB's accommodative monetary policy stance gives rise to adverse side-effects for banks and savers. While the price stability mandate, as enshrined in the Treaty on the Functioning of the European Union, is not to be traded off against other policy considerations, the risk of side-effects can be mitigated by devising appropriate safeguards and highlighting areas where other policy domains should step up efforts to address underlying weaknesses in the euro area economy and financial system. Common concerns regarding potential side-effects of the ECB's accommodative monetary policy stance and the low interest rate environment relate to the impact on bank profitability and on the remuneration of savings.

One potentially adverse impact on the financial sector is often associated with the effect that a low interest rate environment – and notably central bank asset purchases and the flattening of the yield curve that they promote – can exert on bank profitability. In other words, banks' traditional business model of maturity transformation (funding the acquisition of long-term assets by issuing short-term liabilities) may be hampered by downward pressure on their intermediation margins. Moreover, the negative deposit facility rate may further reduce the profitability of banks that deposit large amounts of excess liquidity with the Eurosystem.

While these effects are indeed observable, one should not lose sight of other countervailing, beneficial effects associated with asset purchase programmes and accommodative monetary policy instruments more broadly. By supporting economic activity, these instruments improve the capacity of borrowers to honour their commitments, leading to positive effects on bank balance sheets through a marked improvement in the quality of bank assets and a decline in banks' provisioning needs. Moreover, the general increase in asset prices triggered by the accommodative monetary policy leads to valuation gains for these assets on bank balance sheets.

Judging by information from the euro area bank lending survey, there are currently no indications that the adverse effects of the accommodative stance on bank profitability dominate at the euro area level. In fact, over the months following the start of purchases under the asset purchase programme (APP), a positive net percentage of banks reported an increase in profitability as a result of the APP. While the ultimate effect of the APP on bank profitability may differ across countries, depending on the structural features of the respective banking system, this evidence overall warrants a positive assessment.

The second concern relates to the decline in the remuneration that households can earn on their savings, especially those held as bank deposits.[5] Indeed, there is a tight link between such remuneration and the prevailing monetary policy stance. As a consequence, nominal rates on many types of savings in the euro area are currently very low by historical standards.

However, as explained previously, the low interest rate environment is actually a reflection of prevailing macroeconomic and structural conditions. Therefore, the low remuneration of savings is a symptom rather than a cause of the sluggish recovery. Departing from the current accommodative monetary policy stance would further curtail economic dynamism, discourage borrowing (for example, by firms aiming to finance profitable investment projects) and ultimately contribute to prolonging the period of low interest rates.

Ultimately, it is crucial to address the fundamental forces which are responsible for the currently low level of the equilibrium real interest rate. This has to be done primarily with effective structural policies which have the ability to raise productivity and to improve economic growth in a sustainable manner. Moreover, fiscal policies should support the economic recovery, while remaining in compliance with the EU's fiscal rules. Finally, to remove remaining obstacles to high and sustainable growth, there is a clear need to address the institutional incompleteness of EMU along the dimensions laid out in the Five Presidents' Report.

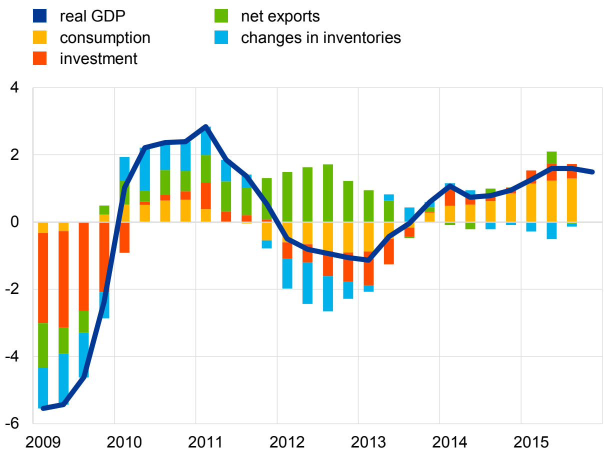
1.3 Economic activity

Despite a weakening of the external environment, euro area economic activity remained robust on the back of improvements in domestic demand. As a result, the gradual recovery in the euro area that started in the second quarter of 2013 continued throughout 2015. Average annual growth stood at 1.5% in 2015 (see Chart 10), which is the highest rate since 2011. The gradual improvements in growth mainly reflected robust private consumption, which was relatively broad-based across euro area countries (see also Box 4). Net trade also made a slight positive contribution to growth, mainly due to gains in export market shares following the sizeable depreciation of the euro that started in the middle of 2014. However, investment growth remained weak and was held back by the relatively slow progress in the implementation of structural reforms in some countries and the necessary balance sheet adjustments in a number of sectors.

5 See Bindseil, U., Domnick, C. and Zeuner, J., "Critique of accommodating central bank policies and the 'expropriation of the saver' – A review", *Occasional Paper Series*, No 161, ECB, May 2015 for a more detailed discussion of the argument that savers bear the costs of accommodative monetary policy. For further details, see also the article entitled "German households' saving and investment behaviour in light of the low-interest-rate environment", *Monthly Report*, Deutsche Bundesbank, October 2015.

Chart 10
Euro area real GDP

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



Sources: Eurostat and ECB calculations.

The euro area economic recovery continued in 2015 despite a weaker global growth outlook

The increase in average annual growth in 2015 was supported by the very accommodative monetary policy stance of the ECB, which was transmitted to the economy through an easing of financing conditions, improved market sentiment, very low interest rates and the euro depreciation. The decline in oil prices and the gradual improvements in euro area labour markets provided further impetus to growth in 2015.

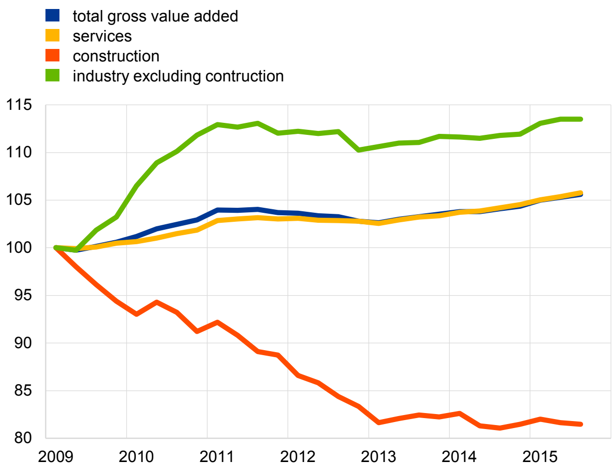
In addition to supporting consumer sentiment, the various monetary policy measures implemented over recent years, including the expanded asset purchase programme at the beginning of 2015, boosted business confidence, as financial conditions, including those for small and medium-sized enterprises, improved. This was beneficial to investment, which contributed more to growth on average in 2015 than in 2014 and 2013, reflecting improvements in firms' profits, less constrained demand and increasing capacity utilisation. However, while investment strengthened at the beginning of 2015, it remained around 15% below its pre-crisis level.

Domestic demand within the euro area improved during 2015 and was on average the strongest it had been since 2007. The household saving ratio was broadly stable during 2015 and thus supported consumption dynamics. Government consumption contributed positively to economic growth in 2015. A dampening effect on domestic demand stemmed from public and private sector indebtedness, which remained at high levels in some countries. Moreover, slow progress in implementing structural reforms continued to be a drag on growth.

Economic growth dynamics in 2015 were dampened by a weak external environment (see Section 1.1 of Chapter 1). While the slowdown of emerging market economies generated headwinds for euro area export growth, the sizeable depreciation of the effective exchange rate of the euro that started in the middle of 2014 benefited exports and led to gains in euro area export market shares. The relatively strong export performance was underpinned by a shift in the geographical composition of exports, whereby advanced economies such as the United States increasingly took in euro area exports. In addition, intra-euro area trade recovered further in 2015, mirroring the positive developments in euro area domestic demand. Growth rates for both exports and imports were higher in 2015 than in the previous three years. Overall, net trade is likely to have made a slightly positive contribution to growth in 2015.

Chart 11
Euro area real gross value added by economic activity

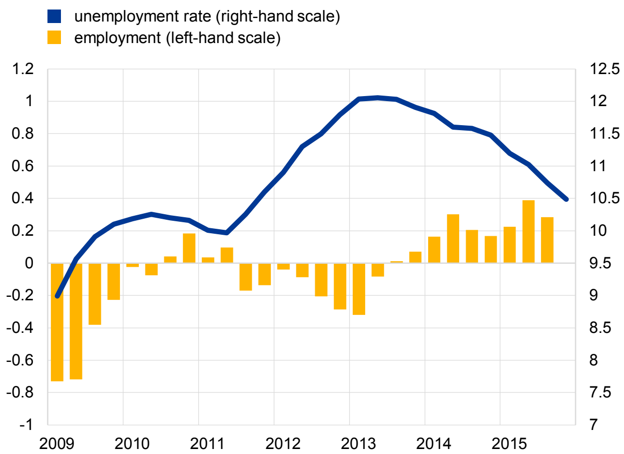
(index: Q1 2009 = 100)



Sources: Eurostat and ECB calculations.

Chart 12
Labour market indicators

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



Source: Eurostat.

From a sectoral perspective, the recovery in 2015 was relatively broad-based (see Chart 11). Total gross value added almost reached its pre-crisis peak in the third quarter of 2015, having been on a recovery path over the past three years. Growth of value added in services continued to outpace that in industry (excluding construction) as well as construction and stood about 3% above its pre-crisis peak in the third quarter of 2015. Value added in industry excluding construction remained below its pre-crisis level, but continued to recover gradually. Conversely, value added in construction displayed a small decline in 2015 and remained far below the pre-crisis peaks seen in 2008.

Labour markets continued to gradually improve

Labour markets recovered further in 2015 (see Chart 12). The rise in the number of persons employed which started in mid-2013 continued in 2015. In the third quarter of the year the number of persons employed in the euro area stood 1.1% above the level seen in the corresponding quarter of 2014, but remained some 2% below its pre-crisis peak. The rise in employment in 2015 mainly reflected improvements in Spain and Germany, but there were encouraging signs that other, previously vulnerable countries also contributed to the rise.

Looking at the breakdown by sector, employment increased mainly in the services sector, while the number of persons employed in industry excluding construction increased only moderately and employment in construction declined. In 2015 total hours worked increased slightly less than headcount employment. Annual productivity growth per person employed remained low, averaging around 0.5% per quarter over the first three quarters of 2015, compared with an annual rise of 0.3% in 2014.

The unemployment rate continued to decline in 2015 and stood at 10.5% in the fourth quarter of 2015, which was the lowest rate since the beginning of 2012. The decline in unemployment, which started in the first half of 2013, has been broad-based across gender and age groups. For 2015 as a whole, the unemployment rate averaged 10.9%, compared with 11.6% in 2014 and 12% in 2013.

However, while the euro area unemployment rate has declined substantially since the middle of 2013, broader measures of labour market slack – which take account of those involuntarily working part-time and those who have withdrawn from the labour market – remain elevated. With more than seven million people currently working part-time involuntarily owing to a lack of full-time work and around seven million discouraged workers (i.e. those who have given up looking for work and have withdrawn from the labour market), the euro area labour market still exhibits significant slack.

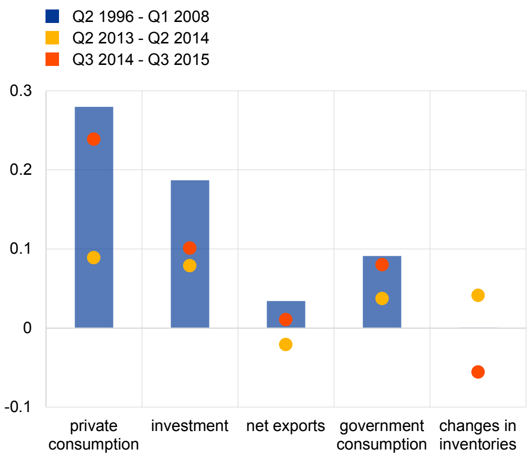
Box 4
The role of private consumption in the economic recovery

Private consumption has been the main driver of the recovery in the euro area. Against a background of weak investment, fiscal consolidation and moderate growth in trade, private consumption has been recovering steadily since early 2013. In the four quarters up to the third quarter of 2015 its contribution to GDP growth was approaching its pre-crisis average contribution, which was not the case for investment (see Chart A).

The recent recovery in consumption has gone hand in hand with steady improvements in labour markets. The increase in consumer confidence since early 2013 reflects robust growth in real disposable income, which, in turn, has benefited from steady improvements in labour markets (see Chart B). The unemployment rate declined by 1.6 percentage points over this period, but it remains well above the pre-crisis trough (3.3 percentage points higher in the fourth quarter of 2015 than in the first quarter of 2008). Looking at the individual euro area countries, recent consumption growth has been relatively high in countries where labour markets have strongly improved. In particular in Spain, Ireland and Portugal, the recovery of the labour market has been remarkable, coinciding with a significant increase in disposable income and consumption.

Chart A
Average quarterly contribution of the main GDP components to GDP growth

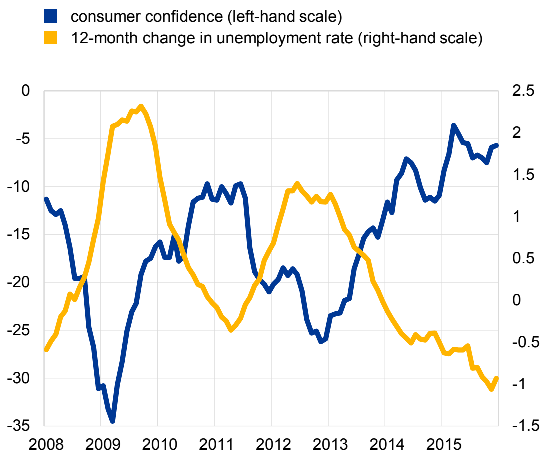
(average quarter-on-quarter contribution; percentage points)



Sources: Eurostat and ECB calculations.

Chart B
Consumer confidence and the change in the unemployment rate

(percentages; percentage points)



Sources: Eurostat and ECB calculations.

Lower energy prices have also played a non-negligible role in the recent recovery of consumption. Since the beginning of 2013 households' purchasing power as measured by real disposable income has increased by around 3%. Around one-third of that increase was due to lower energy prices.[6]

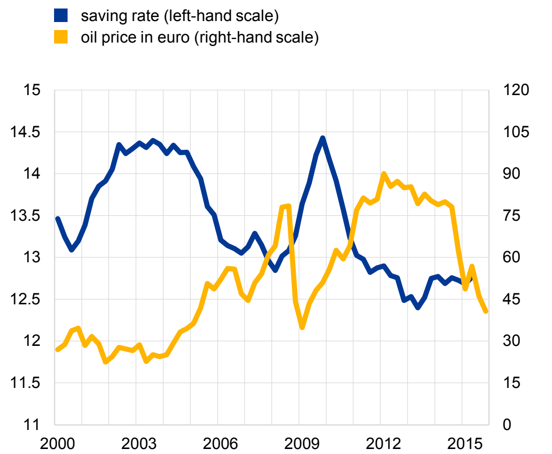
Moreover, gains in purchasing power owing to lower energy prices seem to have had a stronger than usual effect on consumption during the ongoing recovery. Part of the gain in real disposable income resulting from a fall in commodity prices is typically saved for a few quarters. Indeed, the saving rate usually increases after a drop in oil prices, and decreases after a rise. This was also the case during the financial crisis, when sharp decreases in oil prices were accompanied by a sizeable rise in the saving rate (see Chart C). By contrast, the saving rate has remained broadly stable over recent quarters.

The muted response of the saving rate to lower energy prices is in line with an unwinding of pent-up consumption demand, for instance the demand for durables, which fell by more than the demand for non-durables and services during the crisis (see Chart D). Pent-up demand is often observed for durable goods immediately following a recession, when consumers have held off on purchases owing to the uncertain economic climate. The longer households postpone their durable purchases, the stronger are both the desire and the need to replace them once the recovery sets in. Thus, pent-up demand may accelerate the economic recovery immediately after an economic downturn.

Chart C

Saving rate and the price of crude oil

(percentages; euro per barrel)

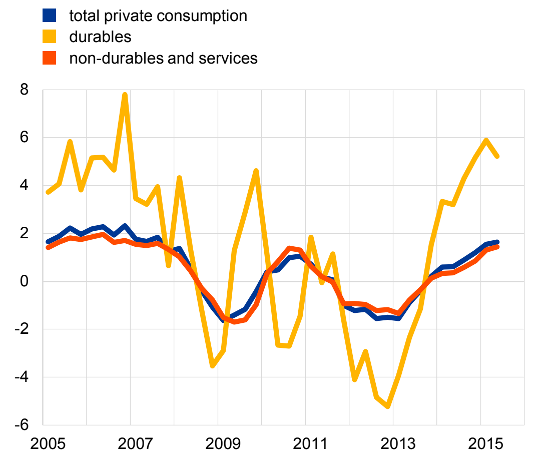


Sources: Eurostat and IMF.
Note: The saving rate is the ratio of gross savings of households and non-profit institutions serving households to the annual moving sum of their gross disposable income.

Chart D

Consumption of durables and non-durables and services in the euro area

(annual percentage changes)



Sources: Eurostat and ECB calculations.
Notes: Since Eurostat only publishes a breakdown of private consumption into durable and non-durable goods for some euro area countries, euro area aggregates are approximated using data for 17 countries (i.e. all euro area countries except Belgium and Ireland). The latest observation is for the second quarter of 2015.

The recent pick-up in durable goods consumption may therefore reflect the build-up of pent-up demand during the crisis (see Chart D). From 2007 to 2013 the share of durable goods in total consumption declined in the euro area as a whole. This drop was much larger in the countries most affected by the crisis. Conversely, since 2013 durable goods as a share of total consumption have

6 See also "An assessment of recent euro area consumption growth", *Economic Bulletin*, Issue 7, ECB, 2015.

picked up faster in those countries. Looking ahead, the upward effect of pent-up demand on consumption growth is likely to disappear as soon as households have restored their stock of durable goods.

As the bulk of the increase in real income seems to have come from improvements in the labour market, consumption will prove resilient, to the extent that labour markets continue to improve. Even when the support from lower oil prices and pent-up demand for durable goods fades, a continued improvement of the labour market will continue to support the recovery in private consumption.

1.4 Price and cost developments

Throughout 2015 headline inflation in the euro area, as measured by the Harmonised Index of Consumer Prices (HICP), was very low or even negative, against the background of continued low commodity prices. HICP inflation excluding energy and food initially picked up from its historical low in the first half of the year, but remained broadly stable at around 0.9% in the second half of the year.

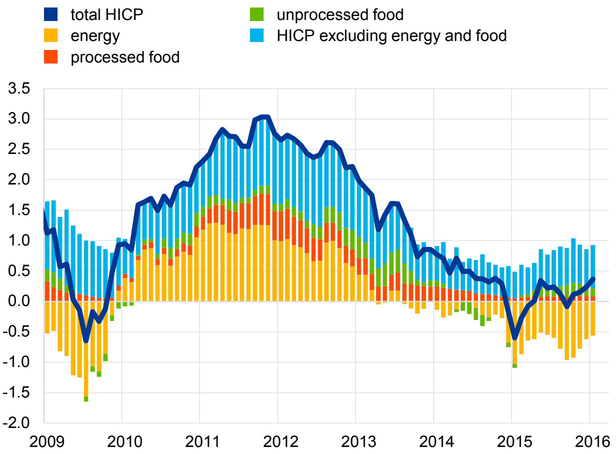
Headline inflation declined further in 2015

In 2015 headline HICP inflation in the euro area was 0.0% on average, down from 0.4% in 2014 and 1.4% in 2013. The pattern of HICP inflation was mostly driven by energy price developments (see Chart 13). Headline inflation entered negative territory twice – first in early 2015 and then again in the autumn. Towards the end of the year headline inflation returned to slightly positive rates.

Underlying inflation, as measured by the HICP excluding energy and food, increased from its historical low of 0.6% at the beginning of 2015 (see Box 5). In the second half of the year it remained broadly stable at around 0.9%, with the annual average being 0.8% (see Chart 14). External factors, including the lagged effects of the appreciation of the euro until May 2014 and the indirect effects of the declines in oil and other commodity prices, exerted downward pressure on underlying HICP inflation throughout the year. On the domestic side, subdued wage growth and firms' low pricing power in a highly competitive environment also contributed to the low levels of underlying inflation.

Chart 13
HICP inflation and contributions by components

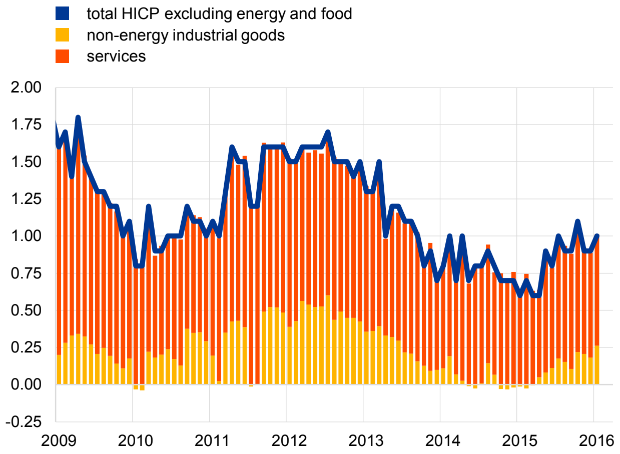
(annual percentage changes and percentage point contributions)



Sources: Eurostat and ECB calculations.

Chart 14
HICP inflation excluding energy and food and contributions by components

(annual percentage changes and percentage point contributions)



Sources: Eurostat and ECB calculations.

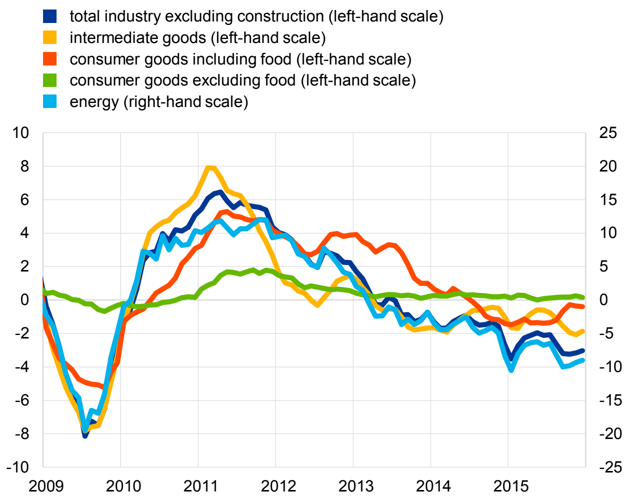
Looking at the main components of the HICP in more detail, the energy component exerted continuous downward pressure on headline HICP throughout 2015. Energy inflation was negative in every month of 2015, owing mainly to developments in oil prices in euro terms.

Food price inflation has been on an upward trend since the start of 2015, mainly driven by unprocessed food inflation. The steep rise in unprocessed food inflation in the autumn reflected the impact of unusually hot weather in the summer on fruit and vegetable prices. Processed food inflation remained broadly stable during the year.

The annual rate of change in non-energy industrial goods prices recovered from very low levels in 2014 and early 2015. This upward movement was mainly driven by durable goods prices and, to a lesser extent, by prices for semi-durables, while non-durable goods inflation remained broadly stable. The upward trend mainly reflected the impact of the depreciation of the euro since May 2014. Looking back over a longer period, non-energy industrial goods inflation has continued to be dampened by the rapid fall in the prices of high-tech goods, which are subject to strong competition among retailers at both the national and the international level.

Chart 15
Breakdown of industrial producer prices

(annual percentage changes)



Sources: Eurostat and ECB calculations.

Import prices were the main source of upward pipeline price pressures, reflecting the depreciation of the euro. Import prices for non-food consumer goods continued to post solid annual growth rates throughout the year. On the domestic side, pipeline pressures on consumer prices for non-energy industrial goods remained subdued, as evidenced in particular by producer price inflation in the non-food consumer goods industries hovering at levels just above zero throughout the year. Producer prices in the intermediate goods industries, as well as the euro prices of crude oil and other commodities, suggest that pressures were also subdued at the earlier stages of the price chain mainly on account of weak prices for energy and non-energy commodity inputs (see Chart 15).

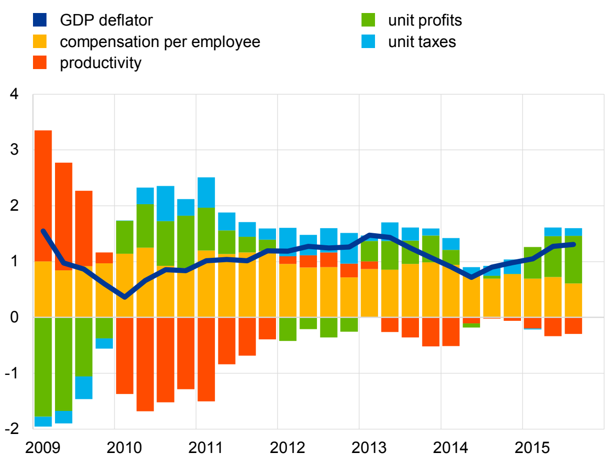
Services price inflation remained broadly stable within a range from 1.0% to 1.3% in 2015, reflecting still sizeable slack in the euro area product and labour markets. Items in the services component of the HICP tend to be produced domestically, which means that services prices are more closely linked to developments in domestic demand and labour costs.

Domestic cost pressures remained subdued

Domestic cost pressures stemming from labour costs remained subdued in the first three quarters of 2015 (see Chart 16). The large amount of economic and labour market slack in the euro area continued to constrain labour cost pressures and pricing power. In addition, structural reforms in labour and product markets in recent years have resulted in higher downward wage and price flexibility in some euro area countries. The fact that the real purchasing power of wages is higher given lower inflation also kept a lid on wage pressures.

Chart 16
Breakdown of the GDP deflator

(annual percentage changes and percentage point contributions)



Sources: Eurostat and ECB calculations.

Growth in compensation per employee in the euro area stood at 1.1% (year on year) in the third quarter of 2015, and the average of 1.2% for the first three quarters of 2015 implies a lower reading than for 2014. The annual rate of growth in unit labour costs stayed at low levels, perceptibly below 1%. This mainly reflected the decline in the growth of compensation per employee, while productivity growth accelerated initially in the first half of 2015 before also decreasing slightly.

Domestic cost pressures stemming from profit developments strengthened in 2015. The annual growth in profits (measured in terms of the gross operating surplus) continued to increase in the first three quarters of 2015, reflecting the economic recovery, moderate wage costs and terms of trade improvements related to weak import price developments. As a result, profits per unit of output were the main driver of the increase in the annual rate of change in the GDP deflator in 2015.

Long-term inflation expectations recovered

Survey-based and market-based long-term inflation expectations recovered, after having reached historically low levels at the beginning of 2015. The Survey of Professional Forecasters for the fourth quarter of 2015 showed five-year-ahead inflation expectations of 1.9%, while the level of longer-term inflation expectations in the October 2015 Consensus Economics survey was also 1.9%. Market-based long-term inflation expectations remained lower than survey-based expectations throughout the year, with some of the difference possibly stemming from inflation risk premia.

Box 5
Tracking developments in underlying inflation

At the end of 2014 the question of when and how viably the inflation cycle would turn upwards was important in relation to the macroeconomic outlook. This box reviews the evolution of different measures of underlying inflation, i.e. the more persistent as opposed to transitory components of inflation,[7] and the signals they provided for a turning point.[8]

Permanent exclusion-based measures of underlying inflation discount different types of transitory influence. A widely used measure is the Harmonised Index of Consumer Prices (HICP) excluding energy and food, which looks beyond the volatility inherent in energy and food prices owing to their exposure to commodity price shocks and, in the case of unprocessed food, weather influences. However, this sub-index can still include substantial transitory influences. One example is calendar effects, which come to the fore in particular in prices of travel-related items or items affected by seasonal sales such as clothing and footwear. Another example is one-off changes in indirect taxation or administered prices whose impact on the price level drops out of the annual rate of change after one year.

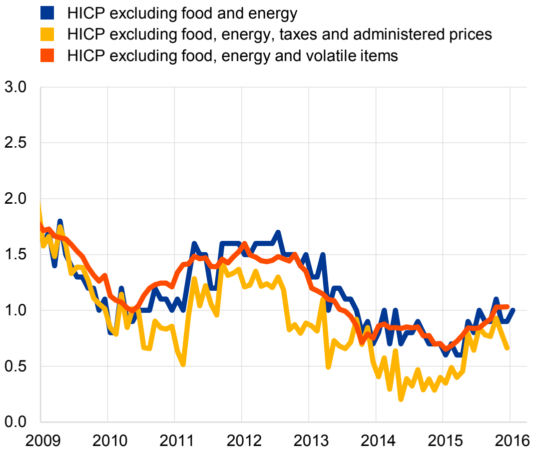
7 Measures of underlying inflation are typically monitored because of their ability to track inflation trends and/or to forecast headline inflation. See also the box entitled “Are sub-indices of the HICP measures of underlying inflation?”, *Monthly Bulletin*, ECB, December 2013.

8 See also the box entitled “Has underlying inflation reached a turning point?”, *Economic Bulletin*, Issue 5, ECB, 2015.

Chart A

Permanent exclusion-based measures of underlying inflation

(annual percentage changes)

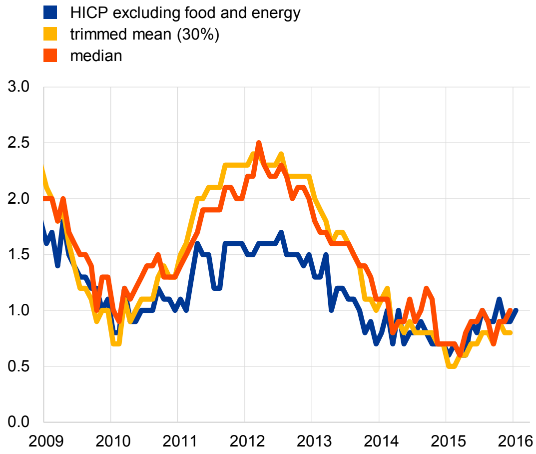


Sources: Eurostat and ECB calculations.
Note: Volatile items include transport by air, accommodation, package holidays and clothing and footwear.

Chart B

Statistical exclusion-based measures of underlying inflation

(annual percentage changes)



Sources: Eurostat and ECB calculations.

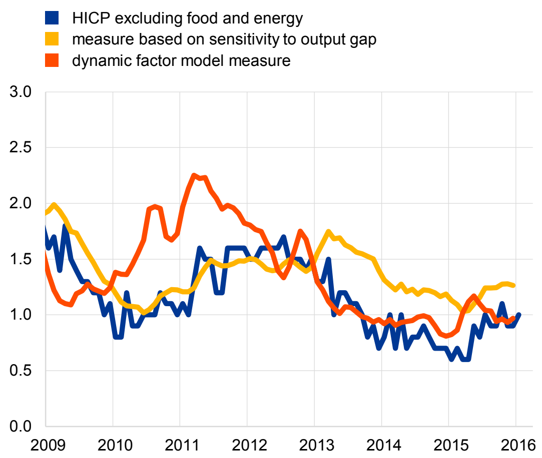
The various exclusion-based measures under review implied a different timing of the turning point. Looking at developments over the last two years, HICP inflation excluding energy, food, taxes and administered prices reached a trough in May 2014. However, the signal for a more persistent upward movement remained blurred until the turn of the year 2014-15, when the HICP excluding food and energy also reached its trough (see Chart A). The underlying inflation measure which, in addition to energy and food, also excludes volatile seasonal items is much smoother and, after bottoming out in November 2014, provided relatively consistent signals for an upturn during the first half of 2015. However, all measures witnessed some loss of upward momentum after the summer months, which thus raised doubts about whether a turning point had actually been reached.

Statistical exclusion-based measures provided a similar message. These measures reduce the volatility in HICP inflation data by excluding in each month the items with the highest and lowest annual rates of change. Two such examples are the 30% trimmed mean[9] and the weighted median. The 30% trimmed mean came out of its trough in January 2015, while the median reached its low point in March 2015 (see Chart B). The upward movement in these two measures was somewhat weaker than in the case of the permanent exclusion-based measures.

[9] The 30% trimmed mean has 15% trimmed from each tail.

Chart C
Measures of underlying inflation based on econometric techniques

(annual percentage changes)



Sources: Eurostat and ECB calculations.
Notes: The super-core index (yellow line, three-month moving average) is constructed using those sub-items in the HICP excluding energy and food, for which the output gap has predictive power in an out-of-sample forecast exercise. The U2 core index (orange line) is based on a dynamic factor model using detailed HICP items for 12 countries.

Measures of underlying inflation based on econometric techniques confirmed the signals. One such measure is based on a dynamic factor model, which captures the common and persistent factor in inflation rates across countries and HICP items. This measure had reached its low point in December 2014, increased substantially up to May 2015, but then – like the median – lost some ground over the summer months and remained stable until the end of the year (see Chart C). Another measure takes into account only those items in the HICP excluding food and energy for which the output gap has had predictive power in the past. This is motivated by the economic reasoning that underlying inflation pressures should increase when economic slack starts to decline. The measure based on sensitivity to the output gap seems to have reached its turning point in March 2015.

Overall, the signals provided by all of these indicators in real time implied some uncertainty with respect to the precise timing of the turning point and the strength of the upturn in price dynamics. In retrospect, looking at the different measures confirms that underlying inflation increased compared with early 2015. However, the loss of further upward momentum in the second half of the year suggests that confirmation of a definite turning point is yet to come.

1.5 Money and credit developments

In an environment characterised by subdued inflation rates and low policy interest rates, the ECB adopted additional non-standard monetary policy measures. Three developments in 2015 stood out: money growth remained robust, credit growth recovered gradually but remained weak, and lending rates declined significantly.

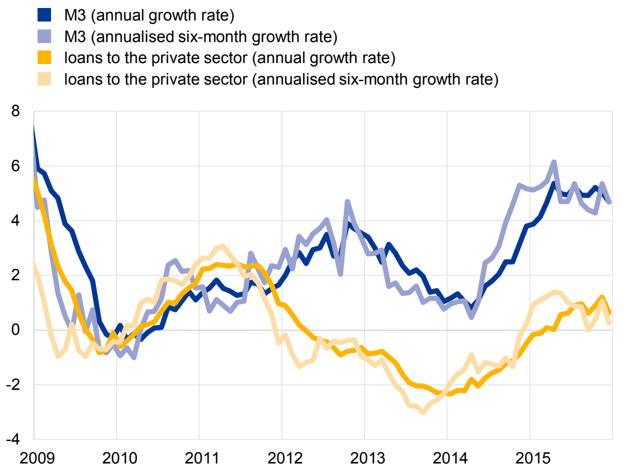
Money growth remained robust

In 2015 broad money growth first accelerated and, from April, remained robust (see Chart 17). In December 2015 annual M3 growth stood at 4.7%, compared with 3.8% at the end of 2014. Two factors were important drivers of monetary developments in the euro area: (i) the strong growth of the narrow monetary aggregate M1, in particular overnight deposits, which benefited from the low opportunity cost of holding the most liquid instruments; and (ii) the ECB's non-standard measures, specifically the targeted longer-term refinancing operations

(TLTROs) announced in June 2014 and the expanded asset purchase programme (APP) announced in January 2015.

Chart 17
M3 and loans to the private sector

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



Source: ECB.

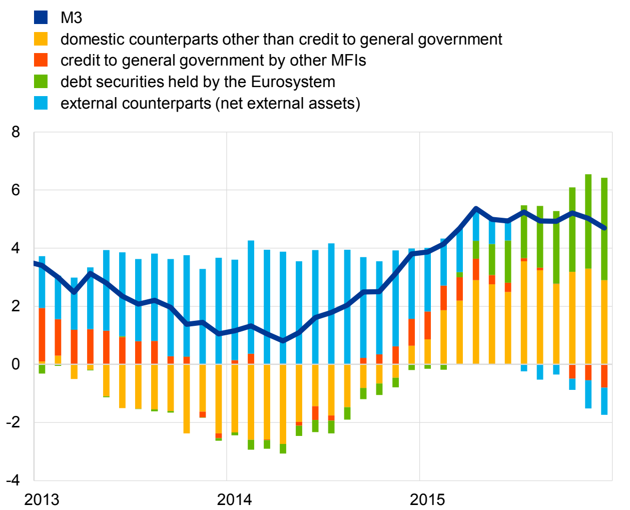
As regards the main components of M3, the very low key ECB interest rates and money market interest rates contributed to the strong growth of narrow money (i.e. M1), which stood at 10.7% in December 2015, compared with 8.1% in December 2014. M1 benefited from the elevated growth of overnight deposits held by both households and non-financial corporations (NFCs). The low remuneration of less liquid monetary assets contributed to the ongoing contraction of short-term deposits other than overnight deposits (i.e. M2 minus M1), which remained a drag on M3 growth. The growth rate of marketable instruments (i.e. M3 minus M2), which have a small weight in M3, turned positive. This development reflected in particular a recovery in the holdings of money market fund shares/units, as their relative rate of return (compared with the one-month EURIBOR) was positive.

Money creation was driven by domestic sources

An assessment of the counterparts of M3 (see Chart 18) shows that domestic sources of money creation dominated during 2015. In an environment of low interest rates, M3 dynamics were driven by shifts away from longer-term financial liabilities and by the increasing contribution of credit from MFIs. The annual rate of change in MFI longer-term financial liabilities (excluding capital and reserves) held by the money-holding sector decreased further in the course of the year, to stand at -6.7% in December, compared with -5.3% at the end of 2014. This development reflected the relatively flat yield curve, the substitution by MFIs of longer-term debt securities with funds from TLTROs and the purchase of covered bonds by the Eurosystem via the third covered bond purchase programme. To the extent that resident non-MFIs were sellers of those bonds, this increased the money stock.

Chart 18
Counterparts of M3

(annual percentage changes, percentage point contributions)



Source: ECB.

Eurosystem purchases of government bonds in the context of the public sector purchase programme was an important source of money creation (see Chart 18, in particular the item "debt securities held by the Eurosystem"). Within domestic counterparts other than credit to general government, credit to the private sector, which was the main drag on money growth in previous years, gradually increased in 2015. Despite a sizeable current account surplus, the net external asset position of euro area MFIs (which is the mirror image of the net external liability position of euro area non-MFIs settled via banks) declined in 2015. This position had been a major source of money creation in previous years. This development mainly reflected net portfolio outflows from the euro area in the context of the APP, which also favoured portfolio rebalancing towards non-euro area investment instruments.

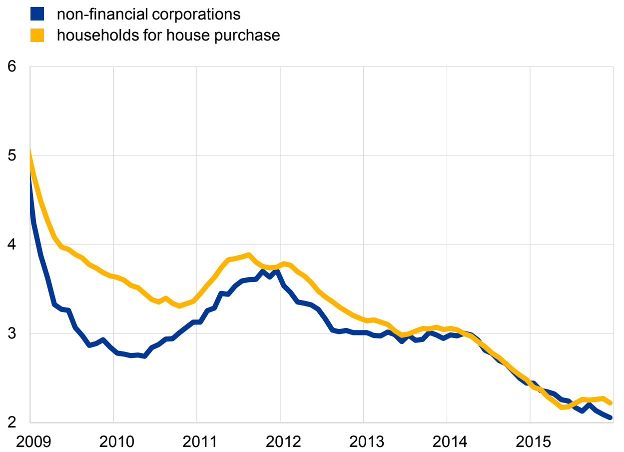
Credit growth recovered gradually, but remained weak

The gradual recovery of credit growth reflected developments in loans to the private sector (see Chart 17). The annual growth rate of MFI credit to euro area residents increased throughout 2015, to stand at 2.3% in December, up from -0.2% in December 2014. An improvement in credit dynamics was noticeable for both households and NFCs. While the annual growth rate of loans to households increased further, the annual growth rate of loans to NFCs only turned positive in mid-2015. The improvement in credit dynamics was facilitated by significant declines in bank lending rates supported by a further reduction in bank funding costs, which was related to the ECB's non-standard monetary policy measures.

Moreover, as indicated by the euro area bank lending survey, changes in both credit standards and loan demand have supported a recovery in loan growth. This survey identified the low general level of interest rates, increased financing needs for fixed investment and housing market prospects as important drivers of increasing loan demand. In this context, the APP had a net easing impact on credit standards and particularly on credit terms and conditions. Banks also reported that the additional liquidity from the APP and the TLTROs was used to grant loans, as well as to replace funding from other sources. Despite these improvements, loan dynamics remain weak and continue to reflect factors such as subdued economic conditions and the consolidation of bank balance sheets. Moreover, in some parts of the euro area tight lending conditions are still weighing on loan supply.

Chart 19
Composite bank lending rates for non-financial corporations and households

(percentages per annum)



Source: ECB.
Note: The indicator for the composite bank lending rate is calculated by aggregating short and long-term rates using a 24-month moving average of new business volumes.

Bank lending rates charged to households and non-financial corporations declined significantly

The ECB's accommodative monetary policy stance, a strengthened balance sheet situation and receding fragmentation in financial markets in general have supported a decrease in banks' composite funding costs, which stabilised close to their historical lows. Since June 2014 banks have been passing on the decline in their funding costs in the form of lower lending rates (see Chart 19), which reached historical lows in the second half of 2015. Between the beginning of June 2014 and December 2015, composite bank lending rates for NFCs declined by around 87 basis points and those for households by around 69 basis points. In addition, bank lending rates for both NFCs and households continued to show reduced dispersion across countries.

1.6 Fiscal policy and structural reforms

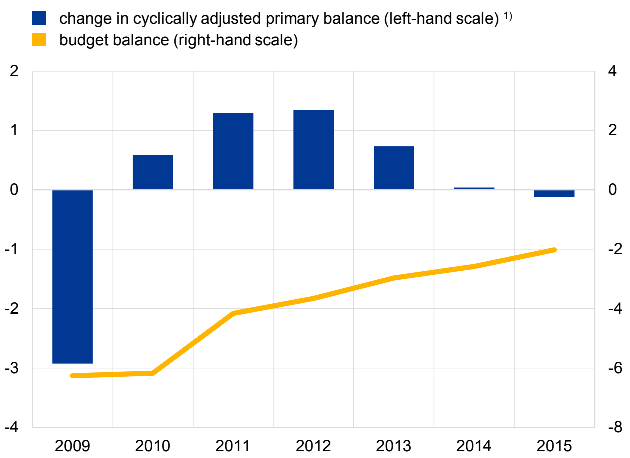
The euro area fiscal deficit continued to decline in 2015, mainly on the back of favourable cyclical developments and lower interest costs, while the euro area fiscal stance was broadly neutral. For the first time in eight years, the ratio of general government debt to GDP fell, but debt levels remain high. To ensure sustainable public finances, further fiscal efforts are required. However, in order to support the economic recovery, consolidation should be growth-friendly. Growth would also benefit from the faster implementation of structural reforms, the pace of which remained slow in 2015, despite efforts at the European level. A stronger push in the implementation of reforms in the business and regulatory environment and in product and labour markets is necessary to support the recovery, to foster convergence towards the best performers and to increase growth potential.

Fiscal deficits continued to decline in 2015

The euro area fiscal deficit continued to decline in 2015, although at a slower pace than in the previous year (see Chart 20). According to the December 2015 Eurosystem staff macroeconomic projections, the euro area general government fiscal deficit declined from 2.6% of GDP in 2014 to 2.0% of GDP in 2015. This is broadly in line with the European Commission's winter 2016 economic forecast. The decline in the 2015 deficit was mainly driven by favourable cyclical developments and lower interest costs. The windfall resulting from lower than initially budgeted interest expenditures amounted to around 0.2% of GDP in 2015 for the euro area. Many countries used part of these savings to increase primary spending rather than to reduce debt as recommended by the ECOFIN Council in its 2015 country-specific recommendations (CSRs). In a few countries, the unwinding of one-off factors in 2015, related to, among other things, financial sector support provided in 2014, also contributed to a budgetary improvement.

Chart 20
Budget balance and fiscal stance

(as a percentage of GDP)



Sources: Eurostat and December 2015 Eurosystem staff macroeconomic projections.
1) Change in the cyclically adjusted primary balance net of the budgetary impact from government assistance to the financial sector.

The primary structural balance is projected to have deteriorated slightly in 2015. Consolidation measures, mostly in the form of indirect tax hikes, were outweighed by fiscal stimulus packages, which were adopted in a number of countries in support of economic growth and employment. Overall, this resulted in a broadly neutral fiscal policy stance in the euro area in 2015, as measured by the change in the cyclically adjusted primary balance net of government assistance to the financial sector (see Chart 20).

The immediate budgetary impact of the inflow of refugees varied considerably across countries, depending on the respective size of the inflows, whether the refugees just passed through a country or whether it was their final destination, and differences in social entitlements as well as legal provisions governing access to the labour market. In 2015 the refugee-related fiscal costs amounted to around 0.2% of GDP in the countries most affected by the refugee flows.[10]

Government balances converged further

Compared with the peak of the crisis, fiscal positions have improved in all euro area countries, largely on the back of significant structural adjustments in the years 2010-13. Government balances across euro area countries converged further, with the majority of countries now recording deficits below the 3% of GDP reference value. Progress in fiscal consolidation was evident from the increasing number of countries exiting their excessive deficit procedures (EDPs). In 2015 the EDP was abrogated for Malta. Moreover, Ireland and Slovenia are expected to have achieved a correction of their excessive deficits in a timely manner by their 2015 EDP deadline, and Cyprus may have achieved the correction one year ahead of its 2016 deadline. In Portugal, the 3% deficit target is likely to have been exceeded in 2015 owing to financial sector support. In 2016 France, Spain and Greece are expected to remain subject to the EDP.

The government debt-to-GDP ratio started to decline

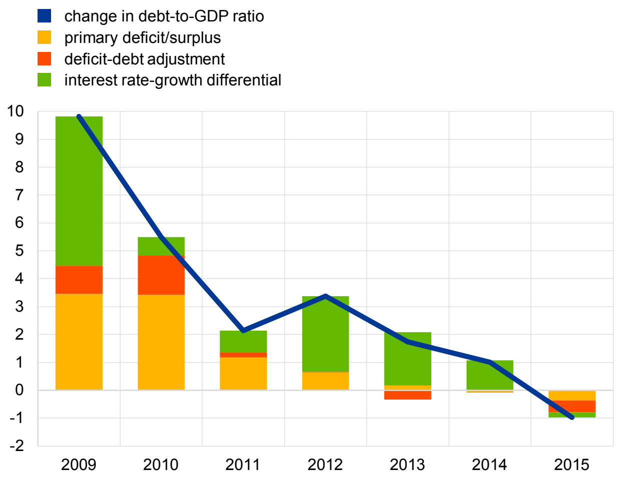
After having peaked in 2014, euro area general government debt (as a percentage of GDP) fell for the first time since the outbreak of the financial crisis. According to the December 2015 Eurosystem staff macroeconomic projections, it stood at 91% of GDP in 2015, down from 92% in 2014, with the reduction being supported by favourable developments in the interest rate-growth differential and small primary surpluses (see Chart 21). In addition, negative deficit-debt adjustments, reflecting, among other things, privatisation receipts, contributed to the improvement. In a few countries, however, the debt ratio increased further.

10 See the box entitled “A first assessment of the macroeconomic impact of the refugee influx”, *European Economic Forecast Autumn 2015*, European Commission.

Chart 21

Drivers of general government debt

(as a percentage of GDP)



Sources: Eurostat and December 2015 Eurosystem staff macroeconomic projections.

However, government debt levels remain high in a number of euro area countries. Containing risks to debt sustainability is all the more important in view of the substantial long-term challenges resulting from an ageing population and rising health and long-term care costs. In fact, the European Commission's 2015 Ageing Report projects that total ageing-related costs will increase from 26.8% of GDP in 2013 to 28.3% of GDP in 2060. The increase is mainly driven by demographic factors, which are expected to result in almost a doubling of the old-age dependency ratio, i.e. the share of persons aged 65 or above relative to the working age population (aged 15-64), to above 50% by 2060. To put the ageing costs into perspective, it should be noted that these projections are subject to substantial adverse risks, as they are based in part on very favourable underlying economic and demographic assumptions.[11] In its 2015 Fiscal Sustainability Report, the European Commission confirmed that fiscal sustainability risks are substantial in a number of euro area countries over the medium and long term, assuming no further changes in policies. Moreover, the analysis underscores the importance of full compliance with the Stability and Growth Pact (SGP) to stabilise or even reduce the debt ratios of those countries with currently high debt levels.

More fiscal effort is needed in several countries

During 2015 a number of governments faced the challenge of carefully calibrating their fiscal policy stance in order to find a balance between reducing their high debt levels and not impairing the economic recovery, while staying in full compliance with the requirements of the SGP. For a number of euro area countries, large consolidation gaps with respect to the SGP requirements were identified in 2015 and further ahead, thereby calling for additional fiscal efforts. The European Commission published its assessment of the 2016 draft budgetary plans against the SGP requirements on 17 November 2015.[12] It found that out of 16 budgetary plans only five (i.e. those of Germany, Estonia, Luxembourg, the Netherlands and Slovakia) were fully compliant with the SGP. Seven (those of Belgium, Ireland, France, Latvia, Malta, Slovenia and Finland) were regarded as "broadly compliant", as the headline deficit targets were likely to be met while the expected structural effort fell short of requirements, and four (those of Spain, Italy, Lithuania and Austria) were seen as being at "risk of non-compliance" with the SGP.

[11] See the box entitled "The 2015 Ageing Report: how costly will ageing in Europe be?", *Economic Bulletin*, Issue 4, ECB, 2015.

[12] For an analysis of the Commission's assessment, see the box entitled "Review of draft budgetary plans for 2016", *Economic Bulletin*, Issue 8, ECB, 2015.

On 23 November the Eurogroup urged the countries at risk of non-compliance to take the additional measures needed to address the risks identified by the Commission.

It is important that fiscal consolidation is growth-friendly. On the expenditure side, spending reviews are a promising avenue for identifying entitlements that do not necessarily result in welfare increases. On the revenue side, improving the growth-friendliness of the tax system and limiting tax evasion are important reform areas in a number of countries. In particular, reducing the labour tax wedge can have positive growth and employment effects.

The implementation of structural reforms remained slow in 2015

While the economic recovery proceeded at different rates across euro area countries, efforts to support the supply side and increase economic resilience were generally limited in 2015. The pace of implementation of structural reforms remained slow, as was the case in 2014. This occurred despite the changes introduced in the 2015 European Semester, which aimed to increase ownership of reforms and support implementation efforts. Across policy areas, efforts focused on strengthening framework conditions (in particular via improvements in insolvency frameworks), making active labour market policies more effective and reducing the tax wedge on labour. Less effort was dedicated to reducing protection and increasing competition in sheltered services sectors, to improving public administration and to increasing wage flexibility.

Table 1 illustrates the progress achieved in the implementation of the 2015 CSRs. It shows that only limited progress has been made in the implementation of a large number of the recommendations. Across the euro area countries, implementation has been particularly weak, with limited progress being made in most areas in Germany, Lithuania, Luxembourg, the Netherlands, Austria and Slovakia. Among the euro area countries with excessive imbalances, as identified by the European Commission in 2015, Italy recorded a somewhat higher implementation rate than Portugal and France.

Table 1

European Commission assessment of the implementation of the 2015 country-specific recommendations

Reform recommendations	BE	DE	EE	ES	FR	IE	IT	LV	LT	LU	MT	NL	AT	PT	SI	SK	FI
1	some progress	limited progress		limited progress	limited progress	limited progress	limited progress		limited progress	no progress		limited progress	limited progress	some progress	limited progress	some progress	
2	some progress	limited progress	some progress	substantial progress	some progress	some progress	some progress	some progress	limited progress	limited progress	some progress	some progress	limited progress	some progress	some progress	limited progress	some progress
3	some progress	limited progress	some progress	some progress	some progress	some progress	some progress	limited progress	limited progress	no progress	limited progress	limited progress	limited progress	some progress	substantial progress	limited progress	some progress
4	limited progress			some progress	some progress	some progress	substantial progress	limited progress			some progress		some progress	some progress	some progress	limited progress	some progress
5					limited progress		substantial progress							limited progress			
6					limited progress		limited progress										

= fully addressed
= substantial progress
= some progress
= limited progress
= no progress

Source: European Commission, 2016 Country Reports.
Notes: The following categories are used to assess progress in implementing the 2015 CSRs: No progress: the Member State has neither announced nor adopted any measures to address the CSR. This category also applies if a Member State has commissioned a study to evaluate possible measures. Limited progress: the Member State has announced some measures to address the CSR, but these measures appear insufficient and/or their adoption/implementation is at risk. Some progress: the Member State has announced or adopted measures to address the CSR. These measures are promising, but not all of them have been implemented yet and implementation is not certain in all cases. Substantial progress: the Member State has adopted measures, most of which have been implemented. These measures go a long way towards addressing the CSR. Fully addressed: the Member State has adopted and implemented measures that address the CSR appropriately. The grey areas refer to reforms related to SGP compliance, which were not assessed in the Country Reports. Cyprus and Greece were not included in the European Semester in 2015 because they were engaged in macroeconomic adjustment programmes and thus did not receive CSRs.

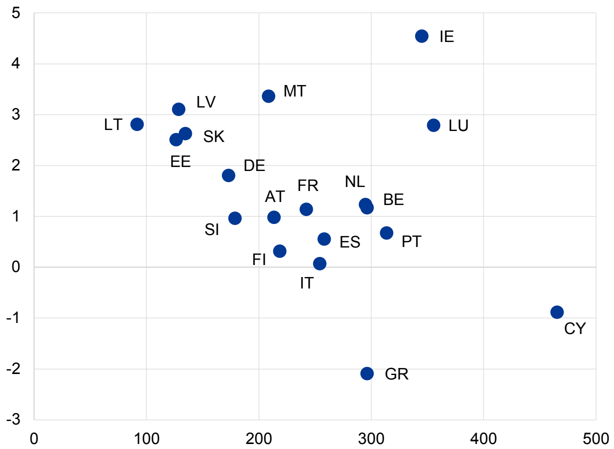
Stronger implementation of structural reforms needed to permanently boost GDP growth

Against the background of slow reform implementation, some euro area countries still lag considerably behind the best performers in terms of structures that increase resilience and affect the long-term growth outlook. This is true with regard to the business and regulatory environment, as well as product and labour markets. These lags highlight potential that could be tapped through the implementation of structural reforms. Given that many economies are some way from following best practice, the gains from structural reforms could be large. For example, in the World Bank Group’s publication “Doing Business”, only one euro area country appears among the ten best performers. The deceleration in reform implementation in 2014 and 2015 emphasises the need for a stronger reform push to sustain the cyclical recovery and to lift growth potential. This push could be supported by stronger governance over structural reforms and by a stronger commitment by the euro area countries to take advantage of the low interest rate environment to bring about real structural change in their economies.

Low productivity growth, high unemployment rates and, in some countries, large stock imbalances such as high debt levels and negative net foreign assets pose risks to a sustainable economic recovery and call for policy action (see, for example, Chart 22). The available estimates from various international institutions (e.g. the European Commission, the IMF and the OECD) suggest that total factor productivity growth will remain below 1% in the next three to five years in most euro area countries. If structural reforms are credible, carefully chosen and well-designed, their positive effects can be felt quickly (e.g. via a boost to confidence) and thus support the recovery.[13] In many countries, reforms are still needed in product and labour markets as well as in the business and regulatory environment.

Chart 22
Average potential growth versus public and private debt

(x-axis: public and private sector consolidated debt, Q2 2015, percentage of GDP; y-axis: average potential output growth, 2016-17)



Sources: Eurostat and European Commission.

Past experience shows that challenges to reform implementation vary across policy areas. This may be one of the reasons why the implementation of product market reforms lags behind that of reforms in other areas, such as the labour market. However, product market reforms that facilitate entry to sheltered sectors can contribute significantly to improving the adjustment capacity in the euro area. Far-reaching reforms need to be put in place to increase competition in regulated professions in retail trade and in network industries, as open and competitive markets are necessary to promote an efficient allocation of resources and spur investment, which remains at very low levels. Higher investment levels and a more efficient allocation of resources could also be supported by cutting red tape in the business environment, increasing the efficiency of the judicial system, improving the regulatory environment and enhancing insolvency frameworks and resolution tools. In addition, significant divergence persists in the functioning of the labour market across the euro area. Policies to improve the quality of the labour supply and facilitate the transition from unemployment or inactivity to employment need to continue to be put in place, and adjustments to labour legislation need to strike a better balance between flexibility and security.[14]

Following the publication of the Five Presidents' Report, steps have been taken to bolster reform implementation and increase reform ownership. In particular, the Commission has issued a recommendation for a Council recommendation on the establishment of national competitiveness boards within the euro area. These boards can facilitate a better understanding of the factors determining competitiveness in each country and across the euro area. However, their role and impact in terms of spurring reform implementation will depend on their full independence and their mandate.[15]

[13] See Anderson, D., Barkbu, B., Lusinyan, L. and Muir, D., "Assessing the Gains from Structural Reforms for Jobs and Growth", *Jobs and Growth: Supporting the European Recovery*, IMF, 2013, which shows the positive short-run GDP dynamics for the euro area.

[14] See the article entitled "Progress with structural reforms across the euro area and their possible impacts", *Economic Bulletin*, Issue 2, ECB, 2015.

[15] See the European Commission communication "On steps towards completing Economic and Monetary Union", 21 October 2015, and the box entitled "The creation of competitiveness boards in the context of striving towards a genuine economic union", *Economic Bulletin*, Issue 8, ECB, 2015.

2 Monetary policy in challenging times

2.1 A challenging inflation outlook necessitated further decisive ECB action

In early January 2015 the Governing Council conducted a thorough reassessment of the outlook for price developments and of the monetary stimulus achieved by the measures implemented since mid-2014. Inflation dynamics had continued to be weaker than expected in a context in which economic slack remained sizeable and money and credit developments continued to be subdued. Reflecting these conditions, market-based measures of inflation expectations had fallen at different horizons and most indicators of actual or expected inflation stood at, or close to, their historical lows. The Governing Council was thus faced with heightened risks of too prolonged a period of low – and possibly negative – inflation. The monetary policy measures in place (in particular the targeted longer-term refinancing operations (TLTROs), the asset-backed securities purchase programme (ABSPP) and the third covered bond purchase programme (CBPP3) in conjunction with previously introduced forward guidance) were already generating a satisfactory degree of pass-through and private sector borrowing costs had started to fall convincingly in the summer months. However, given the widening gap between realised and expected inflation, on the one hand, and levels of inflation which the Governing Council considered consistent with its objective over the medium term, on the other hand, the quantitative impact of those measures on the balance sheet of the Eurosystem, and thus on the monetary policy stance, was seen as insufficient to secure a return of inflation to levels closer to 2% over the medium term. Against this backdrop, a forceful monetary policy response was warranted.

With key interest rates at or close to their effective lower bound, on 22 January the Governing Council decided to expand the asset purchase programme which had started in October 2014 to include euro-denominated investment-grade securities issued by euro area governments and agencies and European institutions. Under this expanded asset purchase programme (APP), the combined monthly purchases of public and private sector securities were to amount to €60 billion. Eurosystem purchases of public sector assets in the secondary market began in March 2015 and were intended to be carried out until end-September 2016 and in any case until the Governing Council saw a sustained adjustment in the path of inflation consistent with its aim of achieving inflation rates below, but close to, 2% over the medium term. Moreover, it was decided to change the pricing of the six remaining TLTROs and remove the 10 basis point spread over the main refinancing operation (MRO) rate that had been applied in the first two TLTROs.

The APP and the TLTROs, in conjunction with the negative rate on the deposit facility, have delivered tangible results in particular by improving the financing conditions faced by firms – including small and medium-sized ones – and households (see Section 1.2 of Chapter 1). By making credit more affordable for the economy, they have stimulated credit demand. By compressing the risk-adjusted returns that banks can earn on securities, they have encouraged banks to diversify their exposures towards loans, which has supported credit supply. As a result, spending has been more robust than it would otherwise have been, which has led to higher real GDP growth and inflation (see Box 6).

Owing to the strengthened monetary policy stimulus, increased confidence and the supportive impact of low energy prices on disposable incomes, the economic recovery gathered momentum in the first half of the year. Inflation expectations recovered appreciably from the lows they had reached in the month preceding the January decision.

However, starting in June and for most of the third quarter, financing conditions and economic sentiment worsened again, for a time owing to the heightened financial volatility associated with the difficult negotiations over the macroeconomic assistance package for Greece, but mainly because of growing and persistent concerns over the state of the global economy. The concomitant decline in confidence, together with weak external demand, weighed on the pace of the recovery, which decelerated in the third quarter. At the same time, the renewed downward tendencies in imported inflation, associated with the slump in a number of important emerging economies, were slowing the process by which inflation was edging up and could be expected to normalise in the medium term.

Table 2

Evolution of ECB/Eurosystem staff macroeconomic projections

(annual percentage changes)

	Real GDP			HICP		
Projections/Horizon	**2015**	**2016**	**2017**	**2015**	**2016**	**2017**
December 2014	1.0	1.5		0.7	1.3	
March 2015	1.5	1.9	2.1	0.0	1.5	1.8
June 2015	1.5	1.9	2.0	0.3	1.5	1.8
September 2015	1.4	1.7	1.8	0.1	1.1	1.7
December 2015	1.5	1.7	1.9	0.1	1.0	1.6

Source: Eurosystem.

Overall, developments over the summer of 2015 were reflected in notable downward revisions of the baseline outlook for growth and inflation in the projections by ECB and Eurosystem staff (see Table 2). Downside risks to the outlook were also judged to have increased, mainly reflecting the uncertainty about the global economy, as well as increased volatility in financial, foreign exchange and commodity markets. In these circumstances, the Governing Council, while monitoring closely the incoming information, and especially the implications of the repricing in financial markets for the monetary policy stance, judged that the uncertainty was too high to provide a sufficiently robust basis for deciding whether more accommodation was necessary. Therefore, at its October monetary policy meeting, the Governing Council announced that it would conduct a thorough analysis of the strength and persistence of the factors that were slowing the return of inflation to levels below, but close to, 2% in the medium term, and would re-examine the degree of monetary policy accommodation and the efficacy and sufficiency of the monetary policy instruments deployed at its next monetary policy meeting in December. The October post-meeting communication elicited a substantial market reaction and a return of financing conditions to the more supportive levels seen in early 2015 when the purchases under the expanded APP started.

In the event, at its early December meeting, the Governing Council decided to recalibrate the degree of monetary accommodation in view of its price stability objective. The December 2015 Eurosystem staff macroeconomic projections, which to some extent incorporated the favourable financial market developments which had materialised following the October monetary policy meeting, indicated that it would very likely take longer for inflation to move to levels that the Governing Council considered sufficiently close to 2% than was anticipated earlier in the year, and that downside risks to the inflation outlook had increased. While weak commodity prices were contributing to low inflation, the sizeable economic slack and the headwinds from the external environment were expected to continue weighing on domestic price pressures. Further monetary policy action was, therefore, necessary in order to avert the risk of second-round effects and secure a return of inflation rates to levels below, but close to, 2% in the medium term.

At its December meeting, the Governing Council decided to: (i) lower the interest rate on the deposit facility by 10 basis points to -0.30%, while leaving the interest rates on the main refinancing operations and the marginal lending facility unchanged at their levels of 0.05% and 0.30% respectively; (ii) extend the intended end-date for the monthly purchases of €60 billion under the APP until the end of March 2017, or beyond, if necessary, and in any case until the Governing Council saw a sustained adjustment in the path of inflation consistent with its aim of achieving inflation rates below, but close to, 2% over the medium term; (iii) reinvest the principal payments on the securities purchased under the APP as they matured, for as long as necessary; (iv) include euro-denominated marketable debt instruments issued by regional and local governments located in the euro area in the list of assets that were eligible for regular purchases by the respective national central banks; and (v) continue conducting the main refinancing operations and the three-month longer-term refinancing operations as fixed rate tender procedures with full allotment for as long as necessary, and at least until the end of the last reserve maintenance period of 2017.

The new measures aimed to ensure continued accommodative financial conditions and further strengthen the substantial easing impact of the measures taken since June 2014. They were also expected to reinforce the momentum of the euro area's economic recovery and strengthen its resilience against global economic shocks.

In particular, the extension of the intended end-date of the Eurosystem's net asset purchases under the APP to the end of March 2017 and the decision to reinvest the principal payments on maturing securities for as long as necessary are expected to add around €680 billion in liquidity by 2019, relative to the situation that would have prevailed under previous policies. This will strengthen the ECB's forward guidance on interest rates and will ensure that liquidity conditions remain very supportive in the long term.

The Governing Council continuously monitors economic and financial conditions. The Governing Council made it clear that, if these conditions were to change in ways that made it necessary to respond again in order to maintain an appropriate degree of monetary accommodation, it was willing and able to act by using all the instruments available within its mandate to secure the return of inflation to its objective without undue delay. In particular, it recalled that the APP has sufficient flexibility in terms of adjusting its size, composition and duration.

Box 6
The transmission of monetary policy measures to financial markets and the real economy

The pass-through of the monetary policy measures implemented since June 2014 to the euro area economy has been pronounced.[16] The stimulus introduced has led to a significant easing in borrowing conditions for the economy and has been a major factor supporting the euro area recovery, helping to arrest disinflation and to bring inflation rates closer to levels below, but close to, 2%. This box summarises the evidence on the transmission of the ECB's measures.[17]

A number of transmission channels have been at work.[18] First, the non-standard measures have improved borrowing conditions in the non-financial private sector by easing banks' refinancing conditions and promoting loan creation, thereby encouraging borrowing and expenditure for investment and consumption (the direct pass-through channel). Second, yields on a broad range of assets have been lowered and thus the stimulus has been transmitted more widely in the economy (the portfolio rebalancing channel). Third, the deployment of non-standard measures, particularly those that have a sizeable effect on the central bank's balance sheet, has underscored the ECB's commitment to its price stability mandate (the signalling channel).

Impact on benchmark financial assets

The financial market impact of the measures announced since June 2014 is the first link in the chain of transmission of monetary policy impulses to the real economy and ultimately to inflation.[19] The targeted longer-term refinancing operations (TLTROs) and the asset purchase programme (APP), in conjunction with the negative deposit facility rate, have had a substantial easing impact on a wide array of financial market segments. Most notably, sovereign bond yields have been compressed by asset purchases and via the portfolio rebalancing channel. The ECB's asset purchases, in conjunction with its forward guidance, have contributed to a reduction in the average amount of duration risk in the private sector's portfolio and, in turn, this has caused the price charged by investors for lending over the longer run – the term premium – to decline. In addition, spillovers to yields of untargeted assets such as financial and non-financial corporate bonds have resulted in a significant narrowing of credit spreads over the same period. Such spillovers, in conjunction with lower discount rates due to declining bond yields, have also contributed to upward pressures on stock prices. The anticipation, announcement and implementation of the monetary policy measures, including the three reductions in the deposit facility rate since mid-2014, have also contributed to a depreciation of the nominal effective exchange rate of the euro, as investors have rebalanced their portfolios away from lower-yielding euro area fixed income instruments towards higher-yielding assets outside the euro area.

16 See also Altavilla, C., Carboni, C. and Motto, R., "Asset purchase programmes and financial markets: lessons from the euro area", *Working Paper Series*, No 1864, ECB, November 2015.

17 For a more extensive review of the evidence, see the article entitled "The transmission of the ECB's recent non-standard monetary policy measures", *Economic Bulletin*, Issue 7, ECB, 2015, and the literature referenced therein.

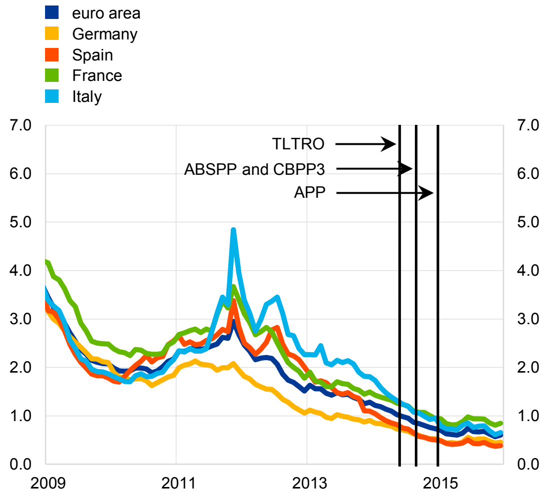
18 For more details, see the article entitled "The role of the central bank balance sheet in monetary policy", *Economic Bulletin*, Issue 4, ECB, 2015.

19 See the article entitled "The transmission of the ECB's recent non-standard monetary policy measures", *Economic Bulletin*, Issue 7, ECB, 2015, and in particular Box 2 for more details and for some event study-based evidence.

Chart A

Composite cost of bank deposit and bond financing

(percentages per annum)



Sources: ECB, Merrill Lynch Global Index and ECB calculations.
Notes: Average of deposit rates on new business and cost of market debt funding weighted with their corresponding outstanding amounts. The vertical lines indicate the announcement dates of the respective measures.

Market-based financing costs for banks

The monetary policy measures have substantially lowered market-based financing costs for banks – an essential element of the transmission chain for a bank-based economy. First, they have done this directly by allowing the replacement of more costly and shorter-dated funding sources by TLTRO funding. Second, they have done this indirectly through the substantial compression of medium and long-term yields on a broad array of financial assets, including bank funding instruments. These improvements have resulted in a broader easing of financing conditions which applies to banks regardless of the volume of their recourse to the Eurosystem's lending operations (including the TLTROs), as evidenced by a marked decline in the composite cost of debt financing for banks across euro area countries (see Chart A).[20]

Bank lending conditions

The substantial easing of banks' funding conditions amid increased competition among lenders[21] improved the pass-through of the ECB's policy measures to bank credit conditions and reduced fragmentation across euro area countries.

Prior to the measures taken since June 2014, the bulk of the reduction in key ECB interest rates – a cumulative 125 basis points between September 2011 and June 2014 – was incompletely and unevenly reflected in the decline in the median lending rate. Since spring 2014 the measures taken by the ECB have contributed to a significant decline in bank lending rates. In fact, while the key ECB interest rates were lowered by 20 basis points between June and September 2014, bank lending rates for euro area non-financial corporations fell by approximately 80 basis points up to October 2015. ECB staff estimates suggest that – based on past regularities observed prior to the crisis – in order to achieve a similar effect on banks' interest rates on corporate loans, a reduction of the standard policy rates by around 100 basis points would have been required. This indicates that the APP and the TLTROs have also supported the pass-through of the ECB's policy stance.

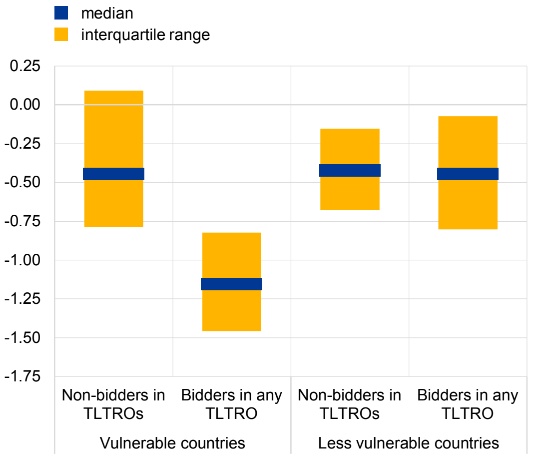
[20] The role of the ECB's non-standard measures as a driver of these developments is confirmed by banks' responses to the euro area bank lending survey. Around one-quarter of respondents in the July 2015 survey indicated that the TLTROs had contributed to easing the conditions they faced when accessing market financing. The positive impact is even more widespread in the case of the APP, with almost half of the banks participating in the April 2015 survey identifying a positive effect on market financing conditions.

[21] As indicated by banks responses to the euro area bank lending survey, among the factors affecting banks' credit standards, competition has been the main driver of banks' easing of credit standards for loans to enterprises.

Chart B

Changes in lending rates for non-financial corporations

(percentage points)



Source: ECB.
Notes: The chart covers the period from June 2014 to July 2015. In "vulnerable" countries, the "non-bidders in TLTROs" group comprises ten banks and the "bidders in any TLTRO" group comprises 49 banks. In "less vulnerable" countries, the "non-bidders in TLTROs" group comprises 71 banks and the "bidders in any TLTRO" group comprises 43 banks.

In particular, the pass-through of the ECB's policy stance has improved in countries most affected by the crisis, reflecting a decline in fragmentation. Indeed, the declines in lending rates for non-financial corporations following the ECB's monetary policy measures taken since June 2014 were substantially greater in the largest countries most affected by the crisis (by some 110-140 basis points). This can in part be associated with the effects of the TLTROs, as banks located in those countries which participated in at least one of the first four TLTROs have lowered their lending rates, in the median, by more than non-participating banks (see Chart B). At the same time, TLTRO participation did not appear to have affected, in a systematic way, bank lending rates in other countries, mainly because the pass-through of changes in the key ECB interest rates has been broadly in line with past regularities in these economies.[22] Overall, staff analysis corroborates that the direct impact of the TLTROs, as well as the indirect effects of the TLTROs and the APP on bond yields, have contributed to the observed fall in lending rates. The indirect effects have been reinforced by the beneficial impact of lower long-term yields on the macroeconomic outlook and hence on the credit component embedded in lending rates.

Lending volumes

The TLTROs and the APP are translating into improved credit supply and demand conditions, thereby supporting the gradual recovery in the volume of loans to non-financial corporations and households (see Charts C and D and Section 1.5 of Chapter 1). Credit supply has strengthened amid improved funding conditions for banks and the increased attractiveness of extending loans, as declining yields on sovereign bonds have tilted the risk-adjusted return on assets in favour of loans.[23] Likewise, credit demand has continued to improve, supported by lower lending rates, easier credit standards and increased financing needs for investment purposes.

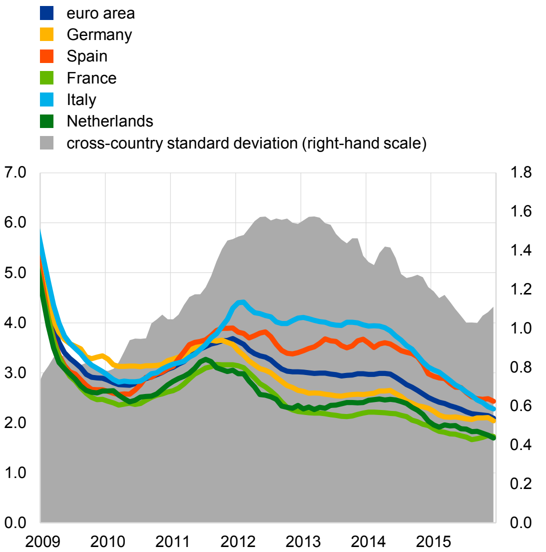
[22] However, demand for TLTROs increased also from banks in other countries during the bond market repricing episode between April and June 2015, when market-based funding became more expensive. This is likely to have cushioned the tightening in banks' market-based funding conditions.

[23] In their responses to the July 2015 euro area bank lending survey, banks indicated that in future TLTROs they expected that more of the TLTRO funds drawn would be deployed to grant loans and less to acquire other assets. Likewise, a large number of respondents to the April 2015 survey said that they expected to use the increased liquidity they received from the APP to grant loans.

Chart C

Composite bank lending rates for non-financial corporations

(percentages per annum, three-month moving average)

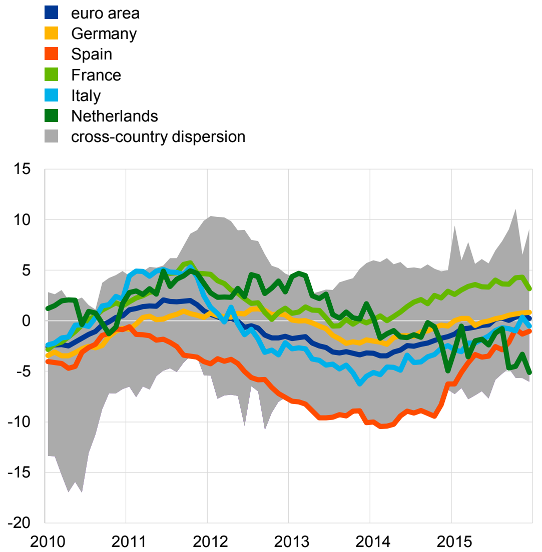


Source: ECB and ECB calculations.
Notes: The indicator for the total cost of bank borrowing is calculated by aggregating short and long-term rates using a 24-month moving average of new business volumes. The cross-country standard deviation is calculated for a fixed sample of 12 euro area countries. The latest observation is for October 2015.

Chart D

MFI loans to non-financial corporations in selected euro area countries

(annual percentage changes)



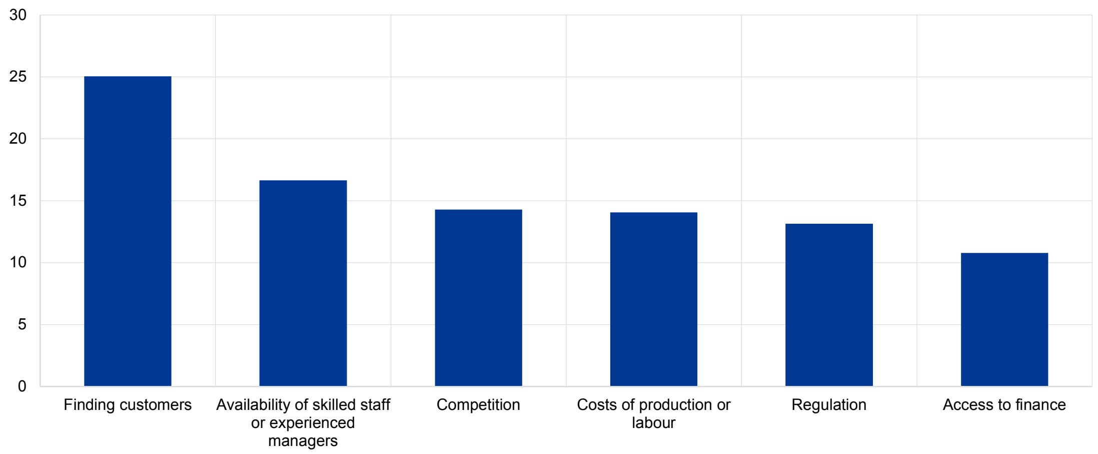
Source: ECB.
Notes: Adjusted for loan sales and securitisation. The country dispersion is calculated as the minimum/maximum range for a fixed sample of 12 euro area countries. The latest observation is for September 2015.

The ECB's measures have even affected smaller firms, which are typically harder for monetary policy to reach. In the ECB's December 2015 survey on the access to finance of enterprises, fewer small and medium-sized companies reported that credit had been a limiting factor for their business, although considerable cross-country differences persisted (see Chart E).

Chart E

The most important problems faced by euro area small and medium-sized enterprises

(percentage of respondents)

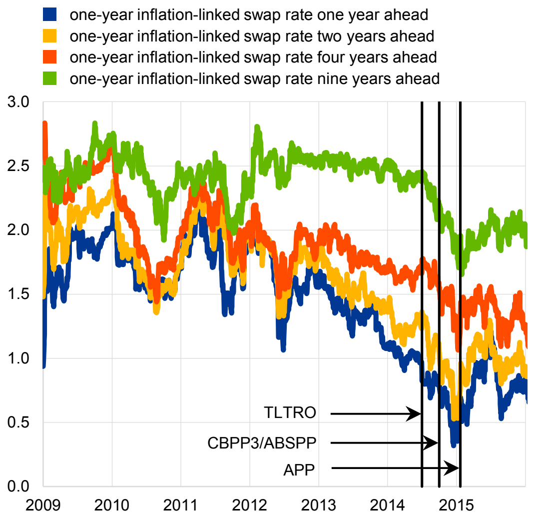


Source: ECB survey on the access to finance of enterprises in the euro area, December 2015.

Chart F

Market-based inflation expectations

(implied forward inflation-linked swap rates in percentages per annum)



Sources: Reuters and ECB calculations.
Note: The last observation is for 19 November 2015.

Impact on the economy

Overall, the evidence confirms that the ECB's policy measures have been delivering tangible benefits. The policy measures announced since June 2014 have triggered a downward revision of market expectations for future short-term interest rates. In an environment where a renewed fall in oil prices has increased the risk of a more persistent downward tendency in inflation over the medium term, the measures have contributed to arresting the decline in market-based measures of inflation expectations (see Chart F). Thus, in conjunction with lower nominal bond yields, the measures have contributed to lower real interest rates and an easier stance of monetary policy in support of the euro area's recovery and to bringing inflation rates to levels below, but close to, 2%.

In fact, empirical estimates made within the Eurosystem[24] suggest that, in the absence of the ECB measures, inflation would be half a percentage point lower in 2016 and about one-third of a percentage point lower in 2017. The impact on GDP is also sizeable: the ECB measures are estimated to raise GDP by almost 1 percentage point in the years 2015 to 2017.

2.2 The asset purchase programme and targeted longer-term refinancing operations were implemented smoothly in 2015

Purchase volume under the expanded asset purchase programme

The asset purchase programme (APP) combines purchases of three types of security: (i) public sector securities under the public sector purchase programme (PSPP), initiated in March 2015; (ii) covered bonds under the third covered bond purchase programme (CBPP3), initiated in October 2014; and (iii) asset-backed securities (ABSs) under the asset-backed securities purchase programme (ABSPP), initiated in November 2014.

The combined average monthly asset purchases under the APP amounted to €60 billion in 2015, in line with the target set by the Governing Council. The overall implementation of the purchase programmes was smooth. Purchases of public

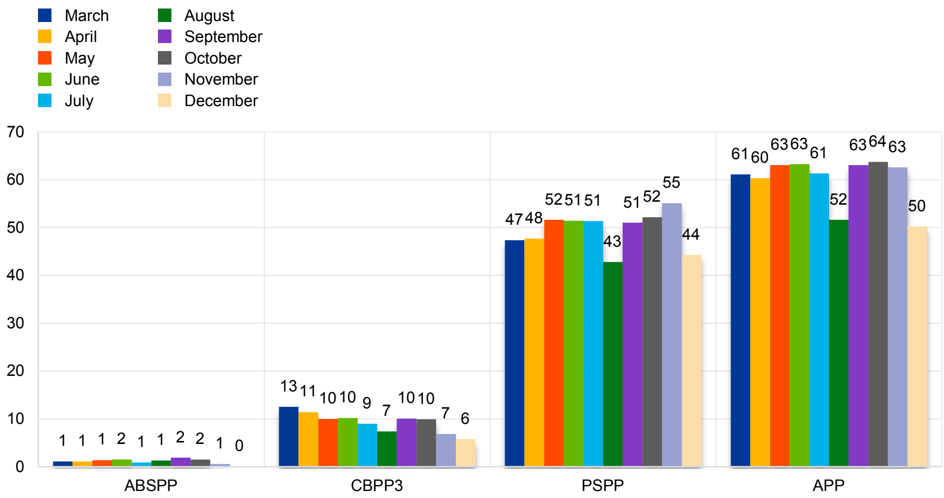
[24] These estimates are based on a suite of models, including time-series, macro-finance and dynamic stochastic general equilibrium models, where the APP affects inflation and growth primarily via the bond duration channel, thereby contributing to a flattening of the yield curve, as well as through the exchange rate and credit channels for a subset of models.

sector securities under the PSPP represent by far the largest share of the overall APP volume (see Chart 23). General market conditions were conducive to reaching the volume targets, although a few episodes of somewhat reduced market liquidity were observed over the summer, most notably in smaller euro area countries.

Chart 23

Monthly APP purchases and the underlying purchase programmes

(EUR billions)



Source: ECB.

The APP's design allows for flexibility in its implementation to avoid the bond purchases interfering with the market's price formation mechanism and to preserve market liquidity. The pattern of monthly purchases reflected this flexibility. For instance, in view of expected lower market liquidity in the summer and towards the year-end, the Eurosystem frontloaded APP purchases, raising them above the €60 billion target for a number of months, and allowing them to be below target in August and December.

In the day-to-day implementation of the programme, the bond purchases are also responsive to signs of scarcity of individual bonds. To the extent possible, the Eurosystem avoids purchasing bonds that are cheapest to deliver under futures contracts, bonds with special features in the repo market, or bonds displaying relatively limited liquidity for other reasons. Further details on the programme's implementation can be found on the ECB's website.

Sovereign bond yields reached historically low levels several times in 2015, with a significant share of PSPP-eligible bonds trading at yields below the level of the deposit facility rate in a number of countries. This reduced the amount of bonds available for purchase under the PSPP, as purchases are not made at yields below the deposit rate. In late November this reflected – among other things – market expectations that the ECB would further lower the deposit rate. The share of bonds unavailable for purchase owing to their low yield declined sharply after the Governing Council decided to lower the rate on the deposit facility to -0.30% in December 2015.

PSPP securities lending

To prevent the PSPP from distorting the functioning of the euro area government bond market, most Eurosystem central banks (including the ECB) have put in place securities lending arrangements. The ECB arrangement allows market participants engaged in market-making to borrow the ECB's securities held under the PSPP and the Securities Markets Programme (SMP). The specific borrowing criteria can be found on the ECB's website. Market participants generally view the Eurosystem's securities lending facilities as a reassuring feature of the APP.

Expansion of the agency list

The Eurosystem expanded the list of agencies whose securities are eligible for purchase under the PSPP twice during 2015, in April and July, from seven agencies to 30 agencies by the year-end, which should facilitate the programme's implementation. The expansion of the list took into account monetary policy as well as risk management considerations.

Increase in the issue share limit

In another step to preserve the flexible and market-neutral implementation of the PSPP, the Eurosystem raised the issue share limit under the PSPP. When the PSPP was first implemented, this limit was set at 25%, meaning that the total aggregate Eurosystem holdings of any individual PSPP-eligible security should not exceed 25% of the nominal amount outstanding. However, in the context of a scheduled review, the Governing Council decided in September 2015 to increase the limit to 33%. In cases where such an increase in the Eurosystem's holdings would permit a blocking minority for the purpose of collective action clauses, the issue share limit remained at 25%.

PSPP eligibility of regional and local government bonds

On 3 December 2015 the Governing Council decided that euro-denominated marketable debt instruments issued by regional and local governments located in the euro area would become eligible for regular PSPP purchases by the respective national central banks. This decision referred only to those regional and local bonds that meet all other eligibility criteria, in particular the minimum rating requirement as stated in the ECB Decision on a secondary markets public sector asset purchase programme (Decision ECB/2015/10). Expanding the set of securities eligible for PSPP purchases by adding regional and local government bonds further enhanced the flexibility of the programme, thereby supporting the continued smooth implementation of purchases. Purchases of such securities under the PSPP started in early 2016, after the relevant legal acts had been amended.

PSPP purchases of sovereign bonds not meeting the rating criterion

In order to be eligible for purchases under the PSPP, securities need to have a rating of at least credit quality step 3 in the Eurosystem's harmonised rating scale, as laid down in Decision ECB/2015/10. In line with these rules, purchases of securities issued by central governments of euro area countries under a financial assistance programme can only be conducted if the application of the Eurosystem's credit quality threshold has been suspended by the Governing Council. In 2015 this only applied to Cypriot government bonds, purchases of which took place during two periods: the first was from 3 to 17 July and the second was from 6 October to 4 November. These bond purchases followed the successful conclusion of the sixth and seventh reviews of Cyprus' EU/IMF financial assistance programme. The suspension dates marked the start of new programme reviews.

No Greek sovereign bonds were purchased under the PSPP in 2015, as these did not qualify for a suspension of the Eurosystem's credit quality threshold.

PSPP reverse auctions

In the course of October the Banque de France, De Nederlandsche Bank and Lietuvos bankas started a trial of reverse auctions to gain experience with the use of such auctions in carrying out purchases of government, agency and supranational securities under the PSPP. The trial period extended into December and it was concluded that reverse auctions can be a useful complementary purchase method in less liquid market segments. The Governing Council thus endorsed the regular use of reverse auctions by some NCBs under the PSPP as a complement to the bilateral purchase approach in specific market segments.[25]

Adjustments to the ABSPP purchase process

In September the ECB announced an increase in the proportion of purchases made by national central banks rather than external asset managers in the ABSPP. Since 27 October 2015 the Banque de France (covering an increased number of jurisdictions) and the Nationale Bank van België/Banque Nationale de Belgique have both been acting as Eurosystem asset managers executing purchases. In addition, the ECB decided to extend the contracts of two of its external asset managers (Amundi and NN Investment Partners).[26]

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25 For more information, see the ECB's website.

26 For more information, see the ECB's website.

ABSPP guiding principles

In the early stages of the implementation of the ABSPP, market participants indicated a need to better understand the Eurosystem's preferences for the ABSs it sought to purchase. In early July the ECB responded to these calls by publishing the "Guiding principles of Eurosystem-preferred eligible ABSs" in order to enhance transparency and explain the Eurosystem's preferences regarding the characteristics of ABSs. Market participants generally responded positively to the publication, which can be found on the ECB's website.

Implementation of TLTROs

The allotment of targeted longer-term refinancing operations (TLTROs) continued, with four operations taking place in 2015. These operations aim to increase bank lending to the euro area non-financial private sector. In June 2014 eight TLTROs were announced, to be allotted on a quarterly basis with the last operation being allotted in June 2016. The initial two operations in September and December 2014 allotted a total amount of €212.4 billion. For the six remaining operations between March 2015 and June 2016, counterparties have the option to borrow additional amounts depending on the evolution of their eligible lending activities in excess of bank-specific benchmarks.[27] The more banks have lent beyond the benchmark, the more they are allowed to borrow (i.e. up to three times the positive difference). The interest rate on these six TLTROs is the rate on the Eurosystem's MRO prevailing at the time of take-up and is hence fixed over the life of the TLTRO. All TLTROs will mature in September 2018, with mandatory and voluntary early repayments starting as of September 2016.

The four operations of 2015 allotted €205.4 billion (€97.8 billion in March, €73.8 billion in June, €15.5 billion in September and €18.3 billion in December), contributing to the increase in the Eurosystem balance sheet as shown in Chart 24. A total of 239 different counterparties participated in the operations in 2015. As banks that lacked the relevant loan book were allowed to team up under certain conditions with banks that did hold eligible loans by forming TLTRO groups, the operations in fact involved 845 credit institutions. In this way, the operations continued to reach a broad range of counterparties across the euro area. By passing on the cheaper funding costs to their lending conditions, participating banks were able to improve their competitive position in the loan market and contributed to an easing of lending conditions.

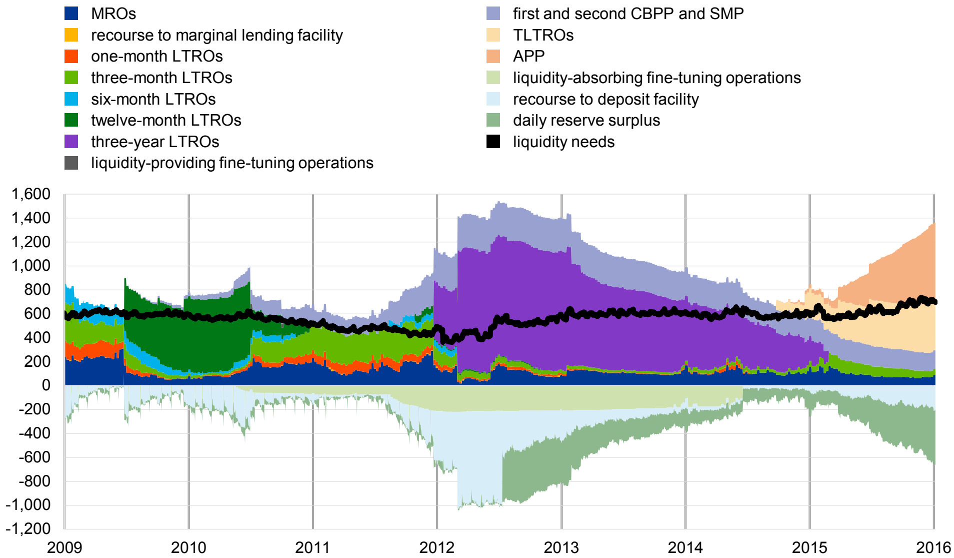
Participation in the TLTROs declined during 2015 as they became less attractive to counterparties for various reasons. First, the decline in market rates as a result of increasing levels of excess liquidity and expectations of further easing by the ECB reduced the price incentive for banks. In addition, given that all of the TLTROs

[27] The benchmarks are determined by taking into account each counterparty's net lending to the euro area non-financial private sector, excluding loans to households for house purchase, recorded in the 12-month period up to 30 April 2014.

mature on the same day in 2018, each new TLTRO has a shorter maturity than the last. Second, banks for which the pricing may still have been attractive had already taken up substantial TLTRO amounts and wanted to put those amounts to use first. Third, the banking sector did not experience the high levels of funding stress that made previous TLTROs attractive.

Chart 24
Eurosystem balance sheet

(EUR billions)



Source: Eurosystem.

The participation in the different TLTROs was not always well anticipated by market participants, which led to small adjustments in forward rates. As regards the March 2015 operation, a Reuters poll predicted a take-up of €40 billion, while the actual take-up turned out to be €97.8 billion. Forward rates dropped slightly following the announcement of the allotment result, suggesting that expectations of the size of future TLTROs and excess liquidity had been revised upwards. According to market participants, the higher take-up was an expression of banks' confidence in future loan demand and was expected to support lending to the real economy. The opposite situation occurred in the September operation, when a take-up of €15.5 billion was significantly below market expectations. The market reaction was muted as TLTRO allotments had started to matter less at a time when the level of excess liquidity was already high (around €470 billion) and interest rates were already low. The downward trend in market rates observed over 2015 was an important reason for the lower take-up as it reduced the attractiveness of the TLTROs relative to market-based funding. Overall, the market surprises seem to have reflected market participants' difficulty in estimating the allowances available to banks and thus also the potential take-up by those banks.

The TLTROs supported the level of excess liquidity and the average maturity of Eurosystem operations and, in this way, exerted additional downward pressure on money market rates. While certain banks substituted participation in the TLTROs for their participation in the MROs, three-month LTROs and three-year LTROs, the amount allotted in the TLTROs significantly exceeded this substitution effect such that the level of excess liquidity was boosted at each TLTRO allotment (see Box 7).

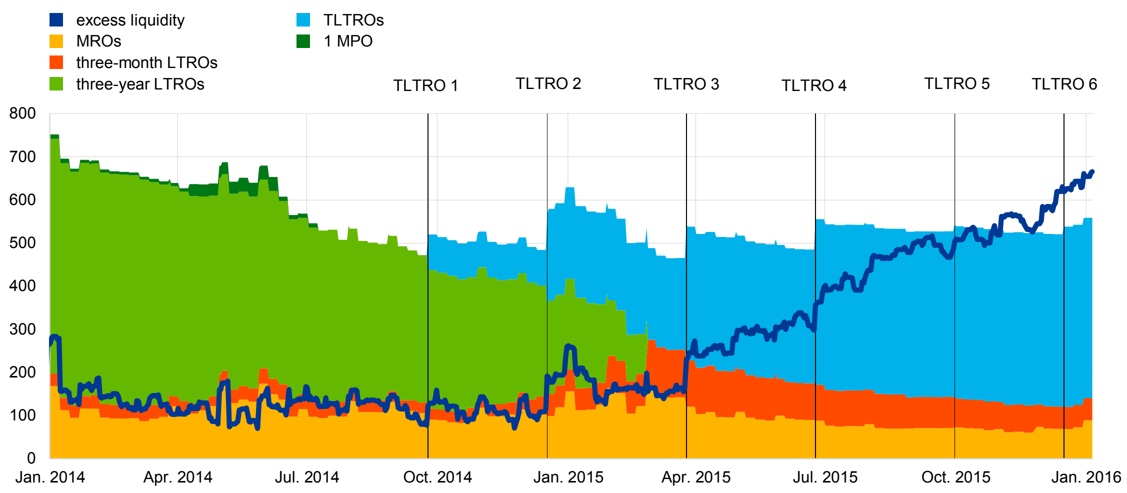
Box 7
Participation in refinancing operations

The Eurosystem continued to offer liquidity by means of the full allotment procedure in its regular refinancing operations, i.e. the main refinancing operations (MROs) and the three-month longer-term refinancing operations (LTROs). Consequently, as in previous years since 2008, the size of outstanding refinancing operations was determined by counterparties' demand for Eurosystem liquidity.

The participation in Eurosystem refinancing operations has fluctuated around the level of €500 billion since mid-2014, but the composition has gradually shifted towards TLTRO participation (see Chart A). Over that period the total amount of outstanding operations reached a maximum of €629 billion at the beginning of 2015 and a minimum of €465 billion in March 2015. By the end of February 2015 the three-year LTROs had matured, but banks with a TLTRO borrowing allowance already started substituting three-year LTRO funds with TLTRO funds as of September 2014. This substitution did not necessarily involve the same institutions, but on aggregate kept the amount of outstanding operations around the €500 billion mark. When the three-year LTROs matured, banks first increased their reliance on the MROs and three-month LTROs to close to €276 billion, before reducing that reliance gradually over time, with the outstanding amount standing at €126 billion in December 2015.

Chart A
Excess liquidity and participation in regular refinancing operations and TLTROs

(EUR billions)



Source: Eurosystem.
Notes: The vertical black lines indicate TLTRO settlement. "1 MPO" stands for the one-maintenance-period operation that was discontinued in June 2014.

The quarterly settlement of new TLTROs raised excess liquidity in net terms each time, but the effect was temporary given the downward trend in regular operations. Indeed, participation in the TLTROs was partly substituted for participation in regular operations and maturing three-year

LTROs, with the result that excess liquidity and the total outstanding amount of refinancing received a temporary boost each time a TLTRO was settled (see Chart A). The rise in excess liquidity which resulted from the asset purchase programme and improved market access for certain banks explained the lower interest in regular operations throughout the year.

The overall volume of collateral pledged in Eurosystem monetary policy operations continued to decline in 2015, reflecting the decreased liquidity needs of Eurosystem counterparties. The decline was most pronounced for uncovered bank bonds, but was also substantial for central and regional government securities and other marketable assets. By contrast, the use of corporate bonds, asset-backed securities and credit claims remained stable.

Box 8
Liquidity provision to the Greek banking system in a period of heightened tensions

In parallel to the normalisation of Greece's funding conditions, the Greek banking system experienced improved funding conditions and market sentiment during most of 2014, leading to a significant reduction in the reliance on central bank funding, including the full repayment of emergency liquidity assistance (ELA).[28] However, political uncertainty led to sharp deposit withdrawals and increased financial market tensions during the first half of 2015. As a result, the reliance on ELA resumed, while recourse to central bank funding rose. Market tensions eased and deposits stabilised during the summer of 2015 following the agreement between Greece and the other euro area countries on a third macroeconomic adjustment programme. The financial market tensions experienced by Greece broadly went through three stages over 2015.

First stage: incremental recourse to Eurosystem operations (from December 2014 to January 2015)

As market concerns about the future of the macroeconomic adjustment programme and political developments in Greece grew, the domestic banking system largely lost access to market-based funding. This loss of funding largely consisted of retail and wholesale deposit outflows, as well as the non-rollover of interbank funding lines with international counterparties. As banks maintained sufficient assets eligible as collateral in Eurosystem operations, they were able to substitute the loss of funding with incremental recourse to Eurosystem credit operations (mostly main refinancing operations).

Second stage: recourse to ELA and related decisions (from February to June 2015)

In late January and early February 2015 concerns over the conclusion of the ongoing review in the context of Greece's second macroeconomic adjustment programme grew rapidly. A two-month extension had been granted in December 2014. With the approach of the expiry of the two-month extension, it was no longer possible to assume that the review would be successfully concluded. Consequently, the Governing Council decided on 4 February 2015 to lift the suspension of the minimum credit rating requirement for marketable instruments issued or guaranteed by the Hellenic

[28] For more information on ELA, see the ECB's website.

Republic, effective as of 11 February 2015. This resulted in the ineligibility of such marketable instruments as collateral in Eurosystem credit operations. Consequently, a large amount of liquidity provided at that time via Eurosystem credit operations was replaced with liquidity provided by the Bank of Greece in the form of ELA.

The Eurogroup decided on 24 February 2015 to extend the validity of the EFSF Master Financial Assistance Facility Agreement up to the end of June 2015, with the purpose of successfully concluding the review. Negotiations between the Greek authorities and the institutions continued thereafter, but Greece's financial prospects and the macroeconomic environment steadily deteriorated, putting additional strains on the banking system, mainly in the form of increased deposit outflows, leading to growing recourse to ELA.

At the end of June 2015 several events, including the decision by the Greek authorities to hold a referendum and the non-prolongation of Greece's second macroeconomic adjustment programme, led to additional tensions. These events had a negative impact on the adequacy and sufficiency of assets used by Greek banks as collateral for ELA operations with the Bank of Greece, as such collateral was closely linked to Greece's ability to honour its financial obligations. In this context, the Governing Council decided on 28 June 2015 to maintain the ELA ceiling for Greek banks at the level set on 26 June 2015, as indicated in the press release published by the ECB on 28 June 2015.

Third stage: stabilisation and improvement of liquidity conditions (from July to December 2015)

To deal with widespread liquidity outflows, the Greek authorities decided on 28 June 2015 to introduce a bank holiday to stabilise the liquidity situation of the banking system.

The financial situation in Greece deteriorated further in the following days, prompting a decision by the Governing Council on 6 July 2015 to adjust the haircuts applied to Greek government-related marketable assets accepted as collateral by the Bank of Greece for ELA, as well as a further decision to maintain the ELA ceiling for Greek banks prevailing since 26 June 2015, as indicated in the press release published by the ECB on 6 July 2015.

The Euro Summit of 12 July 2015 agreed on a third macroeconomic adjustment programme for Greece, spanning three years and financed by the European Stability Mechanism (ESM). Owing to the positive developments with regard to Greece's financial situation in the preceding days, the ceiling for the provision of ELA to Greek banks was increased on 16 July 2015.

Following the improvement in the financial prospects of the Greek government linked to the new ESM programme and its implementation by the Greek authorities, liquidity conditions in the Greek banking system also started to improve. Banks reopened on 20 July 2015, but restrictions on cash withdrawals and capital transfers remained in place. Nevertheless, the Greek authorities soon thereafter started to ease these constraints on banks in steps. In tandem with the restoration of market confidence in the domestic banking system, deposit inflows were observed to some extent and market access for Greek banks was partially restored. The liquidity conditions of Greek banks improved materially following the successful conclusion of the recapitalisation exercise in the last quarter of 2015.

3 The European financial sector: stress contained and progress made towards banking union

Following the establishment of the Single Supervisory Mechanism (SSM) – the first pillar of banking union – on 4 November 2014, 2015 was the first full year in which the ECB performed its macroprudential and microprudential tasks. These tasks were supported by the ECB's regular assessment of emerging risks and the resilience and shock-absorbing capacity of the financial system.

The ECB also contributed to the establishment of the second banking union pillar, namely the Single Resolution Mechanism, and is very supportive of the establishment of the third pillar – a European deposit insurance scheme. It also contributed to other important regulatory initiatives aimed at (i) weakening the sovereign-bank nexus, (ii) reducing risk-taking and building resilience, and (iii) ending the "too big to fail" problem.

This section describes the main developments in the above areas, focusing on how the ECB's activities as well as the institutional and regulatory changes contributed to making banking union a reality in Europe.

3.1 Risks and vulnerabilities in the euro area financial system

The ECB monitors developments in the euro area and the EU financial systems to identify any vulnerabilities and check the resilience of financial intermediaries. It carries out this task together with the other central banks of the Eurosystem and the European System of Central Banks. The emergence of possible systemic risks in the financial system is addressed through macroprudential policies.

The ECB's financial stability analysis is regularly presented in its semi-annual Financial Stability Review (FSR).[29] The ECB also provides analytical support to the European Systemic Risk Board (ESRB) in the area of financial stability analysis.

Low levels of financial system stress in 2015 but risks remained

The overall contained level of financial system stress in the euro area during 2015 reflected an improving real economic outlook supported by ECB action allaying deflation fears that threatened to be harmful to both price and financial stability. Nevertheless, global financial markets experienced intermittent bouts of market tension, spanning foreign exchange, commodity, bond and equity markets, which highlighted that vulnerabilities remained. Most notably, higher political risks surfaced early in the summer in relation to negotiations on a new Greek financial assistance programme. Asset markets experienced periods of high volatility. In particular, sovereign bond yields in the euro area increased sharply in late April and early May,

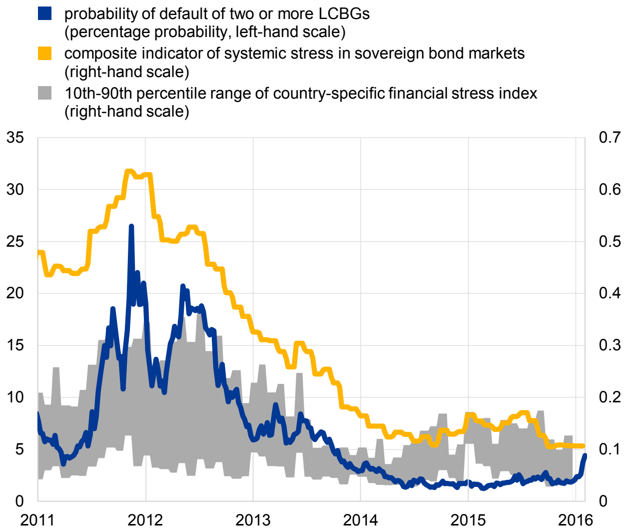
29 See *Financial Stability Review*, ECB, May 2015 and *Financial Stability Review*, ECB, November 2015.

while global equity markets suffered a spillover from a correction in Chinese share prices in late August. The impact of these developments on the euro area financial system was relatively contained, with standard indicators of bank, fiscal and financial stress remaining at low levels (see Chart 25).

Chart 25

Financial stress index, composite indicator of sovereign stress and the probability of default of two or more banking groups

(Jan. 2011 - Feb. 2016)

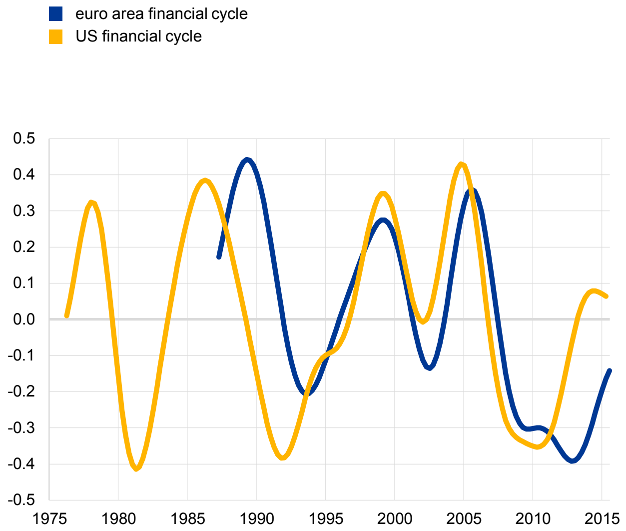


Sources: Bloomberg and ECB calculations.
Notes: "Probability of default of two or more LCBGs" refers to the probability of simultaneous defaults in the sample of 15 large and complex banking groups (LCBGs) over a one-year horizon. The financial stress index measures stress in financial markets at the country level based on three market segments (equities, bonds and foreign exchange) and the cross-correlation among them. For details, see Duprey, T., Klaus, B. and Peltonen, T., "Dating systemic financial stress episodes in the EU countries", *Working Paper Series*, No 1873, ECB, December 2015.

Chart 26

Financial cycles in the euro area and the United States

(Q2 1975 - Q3 2015; normalised scale; euro area series starts in Q2 1988; y-axis: normalised deviation from historical median)



Sources: Bloomberg and ECB calculations.
Notes: The financial cycle is a filtered time-varying linear combination emphasising similar developments in underlying indicators (total credit, residential property prices, equity prices and benchmark bond yields). See Schüler, Y., Hiebert, P. and Peltonen, T., "Characterising the financial cycle: a multivariate and time-varying approach", *Working Paper Series*, No 1846, ECB, 2015. For the United States, the last available data point is Q1 2015.

In this environment, four key risks for euro area financial stability were identified during 2015 (see Table 3). Over the past few years, valuations have been pushed higher across a number of asset classes, which constitutes a key vulnerability in that rising valuations could potentially lead, at some point, to sharp adjustments of risk premia. Partly as a result of increased vulnerabilities stemming from emerging markets, the risk of an abrupt reversal of global risk premia increased during the latter part of 2015. Although there were no evident signs in 2015 of broad-based excessive valuations in the euro area, the prices of some financial assets appeared to be deviating from economic fundamentals. Estimates of the state of the financial cycle for the euro area remain subdued (see Chart 26). Such estimates – encompassing developments in private credit, as well as in main asset market segments – would not support the view of a credit-driven asset price boom in the euro area. Financial cycle estimates for the United States were more elevated during 2015, partly as a result of slightly higher equity price valuations and stronger credit demand.

Table 3
Key risks to euro area financial stability identified in the November 2015 FSR

pronounced systemic risk medium-level systemic risk potential systemic risk	Current level (colour) and recent change (arrow)[1]
Abrupt reversal of compressed global risk premia amplified by low secondary market liquidity	⇧
Weak profitability prospects for banks and insurers in a low nominal growth environment, amid incomplete balance sheet adjustments	⇨
Rising debt sustainability concerns in the public and non-financial private sectors amid low nominal growth	⇨
Prospective stress in a rapidly growing shadow banking sector, amplified by spillovers and liquidity risk	⇧

1) The colour indicates the cumulated level of risk, which is a combination of the probability of materialisation and an estimate of the likely systemic impact of the identified risk over the next 24 months, based on the judgement of the ECB's staff. The arrows indicate whether the risk has increased since the previous FSR.

Domestic challenges in the euro area in 2015 were in many ways a legacy of the bank and sovereign debt crises. The euro area banking system continued to be challenged by low profitability amid a weak economic recovery, while many banks' return on equity continued to stand below their corresponding cost of equity. This, combined with a large stock of non-performing loans in a number of countries, constrained banks' lending capacity and their ability to build up further capital buffers.

Increasingly, financial stability risks stretch beyond traditional entities such as banks and insurers. The shadow banking sector continued to expand robustly at the global and euro area levels (see Box 9). With the rapid growth and interconnectedness of this sector, and in particular of the investment fund industry, vulnerabilities are likely to be accumulating below the surface. Not only did the euro area investment fund industry continue to grow, there were also signs that funds were taking on more risk on their balance sheets.

The Report on financial structures[30] reviews the main structural features and developments in the broader euro area financial sector. In 2015 the report was expanded to cover not only the banking sector, but also other financial intermediaries, in particular insurance corporations and pension funds as well as shadow banking entities.

Financial stability concerns also stemmed from outside the financial sector during 2015. Despite much needed improvement in terms of both fiscal consolidation and the institutional framework since the height of the euro area sovereign debt crisis, debt sustainability challenges remained for euro area governments, especially for those that are highly indebted and therefore vulnerable to economic and financial shocks. Debt concerns also prevail within the private sector. Corporate sector debt remains particularly elevated in the euro area compared with other advanced economies.

Box 9
Shadow banking in the euro area

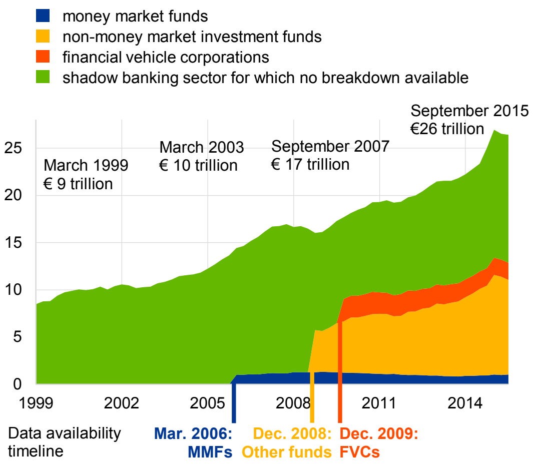
The shadow banking sector has become an increasingly important provider of funding to the euro area economy. However, it also represents a key source of potential risk to the stability of the euro area financial system and thus requires close monitoring.

30 See *Report on financial structures*, ECB, October 2015.

Chart A

Assets of euro area money market funds, investment funds, financial vehicle corporations and other non-monetary financial institutions

(Q1 1999 - Q3 2015, EUR trillions)



Sources: ECB euro area accounts, FVC statistics, investment fund statistics and MFI statistics.
Note: MMFs stands for money market funds and FVCs for financial vehicle corporations.

There are different ways of defining the shadow banking sector,[31] but the term is broadly used to cover a set of institutions which are not banks but which provide credit, issue money-like claims or are funded by short-term liabilities while investing in long-term credit-related assets. These entities include, in particular, financial vehicle corporations, money market funds and other investment funds. While the shadow banking sector is growing at the global level, as indicated in the Financial Stability Board's Global Shadow Banking Monitoring Report[32], the euro area is among the regions with the fastest pace of growth. The total assets of the euro area shadow banking sector, as defined by a broad measure encompassing all non-bank financial institutions except insurance corporations and pension funds, have more than doubled over the past decade. Of the euro area financial system's total assets of approximately €67 trillion, more than €26 trillion are now held by the broad euro area shadow banking sector.

The investment fund sector in particular has undergone a rapid expansion since the global financial crisis amid an intense search for yield among global investors (see Chart A). Growth in this sector has complemented the traditional banking system and acted as an important buffer for the economy as bank credit contracted in recent years. At the same time, the potential impact on the wider financial system and real economy from adverse developments in the shadow banking sector has increased owing to its growing footprint in capital markets and stronger links within the sector as well as with other parts of the financial sector, including banks.

Growing exposures, in addition to signs of increased liquidity and maturity transformation[33] and greater risk-taking, underline the need for close monitoring of the investment fund sector. There is concern that, if investors were to withdraw substantial amounts of funds in the event of financial market stress, certain types of investment fund may amplify market-wide selling pressures and/or trigger market-wide runs. The more funds actively engage in liquidity transformation, the more likely they are to face selling pressures in a severe market downturn. High levels of leverage[34] can intensify liquidity spirals by forcing fund managers to sell a larger share of their invested portfolio for any given amount of outflows.

[31] For a discussion on possible definitions of shadow banking, see the box entitled "Defining the shadow banking perimeter", *Report on financial structures*, ECB, October 2015.

[32] *Global Shadow Banking Monitoring Report 2015*, Financial Stability Board, 12 November 2015.

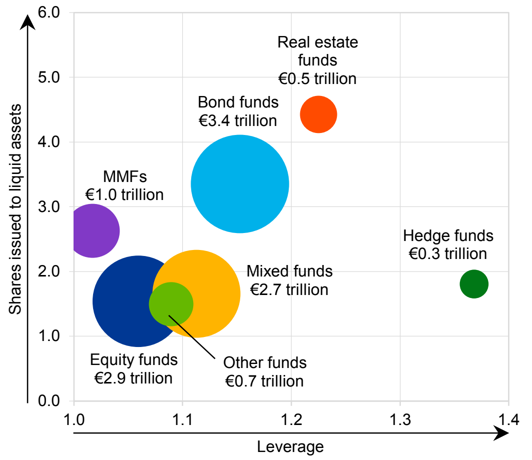
[33] A significant share of investment funds issue daily callable claims to finance assets which are relatively illiquid. Measured by total assets, 99% of the non-real estate investment funds are open-ended, which means that investors can redeem their shares at quite short notice. For the real estate funds, this share is lower (80%) while notice periods are often longer, reflecting the highly illiquid assets these funds hold.

[34] See the box entitled "Synthetic leverage in the investment fund sector", *Financial Stability Review*, ECB, May 2015.

Chart B

Aggregate balance sheet leverage, liquidity transformation and total assets by type of fund

(Q3 2015)



Source: ECB and ECB calculations.
Notes: x-axis: leverage (total assets/shares and units issued); y-axis: liquidity mismatch (shares and units issued/liquid assets); bubble size: total assets in EUR trillions.

The aggregate picture of vulnerabilities (see Chart B) may mask vulnerabilities within individual large and systemically important institutions. The concentration of assets within a limited number of institutions with a particularly large footprint may have an impact on market developments in both stressed and normal conditions. There is evidence of increased risk-taking[35] by investment funds through portfolio shifts towards debt securities which have lower ratings, higher yields and an increased duration risk.

While the statistical coverage of the shadow banking sector has increased over the past few years, shedding some light on the composition of the sector and the drivers of its growth, more information and enhanced disclosure are needed to monitor and address this growing source of potential risk. The paucity of information on measures of liquidity in stressed circumstances and of leverage at the aggregate level outside traditional banking remains an obstacle to fully understanding the nature and extent of risks to financial stability. No statistical breakdown is available for approximately 50% of the sector's total assets, some of which may be accounted for by entities that do not engage in shadow banking activities but some of which may represent other entities engaging in risky activities. Data limitations thus continue to condition the ECB's monitoring of risks and vulnerabilities.

Some factors, such as adequate risk management processes and liquidity buffers, mitigate the risk of shadow banking entities acting as potential amplifiers in an adverse shock scenario. While the investment fund sector is subject to prudential regulation, most existing rules lack a systemic perspective and may not be suited to preventing the build-up of sector-wide risks or addressing financial stability risks in a system-wide event.

3.2 The ECB's macroprudential function

On 4 November 2014 the ECB assumed the macroprudential powers conferred upon it by the SSM Regulation to tackle the emergence of possible systemic risks in the financial system, and 2015 was therefore the first full year in which the ECB

[35] See the box entitled "Debt securities holdings of the financial sector in the current low-yield environment", *Financial Stability Review*, ECB, November 2015.

performed its new tasks in this field. The ECB has two mandates in the field of macroprudential policy in SSM countries.[36]

First, the ECB may apply higher requirements for capital buffers than those applied by the national authorities and apply more stringent measures aimed at addressing systemic or macroprudential risks, subject to the procedures set out in relevant EU law. For example, the ECB may apply higher requirements for banks related to: counter-cyclical capital buffers; systemic risk buffers (if implemented in national law); capital surcharges on systemically important institutions; risk weights on real estate and intra-financial sector exposures; limits on large exposures; and additional disclosure requirements.

Second, national authorities have to notify the ECB when they intend to implement or change a macroprudential measure. The ECB assesses the planned measures and can decide to apply higher requirements (i.e. “top up” the measures). National authorities consider the ECB’s comments before making their decision.

Since macroprudential measures implemented in individual Member States may have cross-border or cross-sectoral repercussions, the ECB monitors reciprocity agreements. These must be applied transparently in order to limit unintended negative cross-border or cross-sectoral spillovers, preferably following ESRB Recommendation 2015/2 on the assessment of cross-border effects of and voluntary reciprocity for macroprudential policy measures (see below).[37] To this end, the ECB also supports the consistent use of macroprudential instruments across SSM countries via the ongoing activities of its Financial Stability Committee and discussions at the level of the ECB’s decision-making bodies.

Macroprudential decisions during 2015

The Governing Council of the ECB is responsible for taking macroprudential decisions. The ECB has established a Macroprudential Forum, which is composed of the Governing Council and the Supervisory Board of the ECB. The Macroprudential Forum met on a quarterly basis during 2015 to discuss risks facing the SSM area and individual SSM countries, as well as other topics relevant from a macroprudential perspective. Macroprudential decisions of the Governing Council are prepared with the involvement of the Financial Stability Committee, which comprises representatives of the ECB, national central banks and supervisory authorities, and an ECB-internal structure which brings together representatives from both the ECB’s macroprudential and microprudential areas.

The euro area-wide risks identified in the ECB’s FSR provide the starting point for the risk identification for macroprudential purposes. The focus of the macroprudential discussion is, however, on those risks most relevant for banks, given the banking

36 Macroprudential policy aims to prevent the excessive build-up of risk, make the financial sector more resilient and limit contagion effects.

37 See the special feature entitled “A framework for analysing and assessing cross-border spillovers from macroprudential policies”, *Financial Stability Review*, ECB, May 2015.

sector focus of available macroprudential policy instruments and the remit of the ECB in the macroprudential sphere.

The Governing Council's assessment during 2015 was that there was no need, given the current stage in the financial cycle, to adopt broad-based counter-cyclical macroprudential measures. The assessment also took into account the actions in the macroprudential field already taken by euro area countries to increase the resilience of the banking system and to prevent the emergence of possible imbalances, in particular in the real estate sector. The ECB also reviewed the macroprudential policies that Member States had activated or can activate in response to the low interest rate environment.

In 2015 the national authorities in the 19 SSM countries notified the ECB of 48 macroprudential policies, of which 28 were related to counter-cyclical capital buffers, 18 to other systemically important institutions and two to the introduction of a systemic risk buffer. In almost all cases, the formal notification was preceded by an informal one in the spirit of collaboration between the ECB and the national authorities.

Once the ECB had been notified of the macroprudential decisions taken by national competent and designated authorities, the Governing Council conducted its assessment of the measures in line with Article 5(1) of the SSM Regulation, and decided not to object to the decisions by these authorities.

Cooperation with the ESRB

The ECB continued to provide analytical, statistical, logistical and administrative support for the ESRB Secretariat, which is in charge of the day-to-day operations of the ESRB. The main mission of the ESRB is to contribute to the prevention and mitigation of systemic risks to financial stability in the EU in the banking sector, the insurance sector, other financial institutions and financial markets. In performing its tasks, the ESRB draws on the expertise of the NCBs, the national supervisors and the European Supervisory Authorities.

In 2015 the ECB and the ESRB launched joint work on the monitoring and assessment of financial stability risks arising in the low interest rate environment and possible macroprudential policy responses. The review of risks is under way. It covers not only banks but also other types of financial institutions, financial markets and market infrastructure, overarching issues across the financial system, and interactions with the broader economy.

At the EU-wide level, the ESRB continued to play an important macroprudential policy coordination role. In January 2016 two recommendations related to cross-border aspects of macroprudential policy were published, one on setting the counter-cyclical capital buffer for exposures to countries outside the European Economic Area and the other on voluntary reciprocity for macroprudential policy measures.

3.3 The SSM – the ECB's microprudential function

The first full year of SSM supervision

2015 was the first full operational year of the Single Supervisory Mechanism. The SSM was the first pillar of the banking union to become fully operational, on 4 November 2014. After the comprehensive assessment in 2014, the ECB's supervision of the significant banks, of which there were 123 in 2015, concentrated on following up on its results. Most importantly, this included the implementation of the asset quality review findings and the monitoring of the capital plans for those banks that were diagnosed as having a capital shortfall in the comprehensive assessment.

The ECB's banking supervision also played a key role in managing the financial turmoil in Greece. After a political agreement was reached in July, the ECB carried out a comprehensive assessment to determine the recapitalisation needs of the Greek significant banks. Together with the Bank of Greece, the ECB monitored the situation of the Greek less significant banks. The ECB will remain actively involved in ensuring that there is a sound and resilient banking system in Greece.

Ensuring a level playing field for the supervision of banks within the euro area was a precondition for the success of the SSM. The SSM has contributed to this level playing field by designing a common methodology for the supervision of banks. A good example of the common approach to supervision was that 2015 was the first year in which all significant banks within the euro area were subject to a single Supervisory Review and Evaluation Process (SREP).

In respect of the supervision of less significant banks, for which the national competent authorities are directly responsible, the primary goal of the ECB was to ensure a consistent application of high supervisory standards across the SSM. For this supervision, several joint supervisory standards providing guidance to the national competent authorities on the conduct of specific processes were developed in 2015, for example joint standards for the supervisory planning process and for recovery planning. In this context, another important strand of ongoing work relates to the development of a common methodology for the risk assessment systems.

In its new role, the ECB worked on Memoranda of Understanding with the other regulatory and supervisory authorities, such as the Single Resolution Board, which should ensure an effective exchange of information and cooperation.

More detailed information on the ECB's microprudential function can be found in the ECB Annual Report on supervisory activities 2015.

3.4 The ECB's contributions to regulatory initiatives

Taking into account both microprudential supervision and financial stability considerations, the ECB is actively contributing to the development of the regulatory framework at the European and international levels. In 2015 the key regulatory issues for the ECB related to policies that aimed to (i) weaken the sovereign-bank nexus, (ii) reduce risk-taking and build resilience and (iii) end the "too big to fail" problem.

3.4.1 Weakening the sovereign-bank nexus

In 2015 the ECB contributed to a number of initiatives that aim to weaken the sovereign-bank nexus. These initiatives fall into two broad policy areas: (i) the establishment of the banking union; and (ii) discussions on a potential revision of the regulatory treatment of sovereign exposures.

Significant progress was made in 2015 in the establishment of the banking union. The setting-up of the Single Resolution Mechanism (SRM) on 1 January 2015, as a necessary complement to the SSM, means that two pillars of the banking union have successfully been put in place. Together, the SSM and the SRM align the levels of responsibility and decision-making for the supervision and resolution of banks within the banking union. The European Commission's proposal for the banking union's third pillar – a European deposit insurance scheme – was published on 24 November 2015.

The second pillar of the banking union: the Single Resolution Mechanism with a Single Resolution Fund

The Single Resolution Board (SRB) started its preparatory work in 2015 with the elaboration of procedures, resolution planning and other related tasks. As of 1 January 2016 the SRB has control over all resolution powers for all entities that fall within its scope as provided for in the SRM Regulation, including the use of the Single Resolution Fund (SRF). A sufficient number of Member States met their obligation to ratify the intergovernmental agreement[38] on the SRF by end-November 2015, which enabled the material provisions of the SRM Regulation to become applicable (in particular the resolution powers) and the SRF to become operational as of 1 January 2016.

[38] The agreement covers: (i) the transfer of the contributions raised by the national resolution authorities to the national compartments; (ii) the progressive mutualisation of the funds available in the national compartments; (iii) the order in which financial resources are mobilised to fund resolution from the compartments and other sources; (iv) the replenishment of the compartments if needed; and (v) temporary lending among national compartments, if needed.

For the SRM to be credible, it is of the utmost importance to ensure effective and sufficient financing of the SRF. For an eight-year transitional period, while the SRF is being filled up to reach its target level[39], the SRF will consist of national compartments. During this period, liability for resolution costs will gradually be mutualised until the compartments are ultimately merged into a single, fully mutualised fund. Given that situations may arise in which the SRF lacks sufficient means and the ex post contributions to be raised in order to cover the necessary additional amounts are not immediately accessible, the SRM Regulation specifies that the SRB should be able to contract alternative funding means for the SRF. In light of this, the participating Member States and the SRB also agreed in 2015 on a system of national credit lines to provide bridge financing to the SRF, if needed, during the transitional period. The overall credit lines amount to €55 billion, which approximately corresponds to the steady-state target level of the SRF. The next step will be to develop a common backstop, replacing the national credit lines. This common backstop should be operational before the end of the transitional period.

The bail-in powers have been fully implemented

Losses and recapitalisation needs of banks in resolution will be borne first and foremost by shareholders and creditors. This will notably be ensured by the bail-in tool applicable to eligible liabilities for which the relevant provisions of the EU Bank Recovery and Resolution Directive (BRRD) and the SRM Regulation entered into force as of 1 January 2016. Capital instruments can be written down or converted into equity under the BRRD and the SRM Regulation, and all liabilities within the scope of the bail-in tool can be bailed in, when and if needed, to absorb losses and provide fresh capital to a bank in resolution. To ensure the efficiency of the tool, the SRB and the national resolution authorities, in consultation with the ECB and competent authorities, will determine appropriate levels of the minimum requirement for own funds and eligible liabilities (MREL) for the banks under their respective responsibility. MREL will be set at a level appropriate to achieve resolution in connection with the resolution plan developed for each bank. Cooperation among authorities within the banking union is necessary and a key priority.

Cooperation between the SRM and the SSM

The EU crisis management framework creates a duty for supervisory and resolution authorities to cooperate. On the one hand, the SSM as a competent authority should cooperate closely with the SRM in recovery planning, the implementation of early intervention measures and the assessment of banks that are failing or likely to fail. On the other hand, the SRM is required to cooperate with the SSM in resolution planning and the assessment of a bank's resolvability, as well as in the

[39] The target level is 1% of the total amount of covered deposits in the banking union, corresponding to approximately €55 billion.

implementation of resolution measures. This interaction is structured around three main pillars: complementary institutional roles, cooperation and strong coordination.

For the cooperation to be achieved, smooth coordination between the SSM and the SRM is needed. To this end, the ECB has designated the Vice-Chair of the Supervisory Board, Sabine Lautenschläger, to be a permanent observer in the executive and plenary sessions of the SRB meetings. In the same vein, the ECB will invite the Chair of the SRB, Elke König, to participate as an observer in the meetings of the Supervisory Board of the ECB for discussions on issues of relevance to the SRB. Furthermore, on 22 December 2015, a Memorandum of Understanding was signed by both authorities, describing the cooperation and information exchange between them.

The third pillar of the banking union: a European deposit insurance scheme

A European deposit insurance scheme is another important pillar, alongside the SSM and the SRM, to ensure that depositor confidence will be equally strong across the entire banking union. This is a prerequisite for achieving a level playing field. On 24 November 2015 the European Commission put forward a proposal for such a scheme as the third pillar of the banking union. The proposal sets out a clear roadmap towards a single European deposit insurance scheme, starting with a reinsurance system and moving, via a progressively increasing share of financing provided at the European level in a coinsurance phase, to a system where all financing for deposit insurance is provided by a European deposit insurance fund. A European deposit insurance scheme is being promoted by the Commission and was put forward in the Five Presidents' Report as an important step towards strengthening the banking union after having elevated responsibility for bank supervision and resolution above the level of participating Member States. A European deposit insurance scheme will also strengthen the other two pillars. On 24 November 2015 the Commission also published a Communication on the completion of banking union, which – in addition to the introduction of such a scheme – includes further measures to reduce remaining obstacles to a true level playing field across banking sectors, such as reducing national options and discretions in the application of prudential rules or promoting convergence in insolvency law.

The regulatory treatment of sovereign exposures

The recent financial crisis demonstrated that the implicit assumption that sovereign debt is risk free is not appropriate, warranting a review of the current regulatory framework for sovereign risk. A financial regulatory change in this domain requires a global solution to ensure a level playing field for banks. The Basel Committee on Banking Supervision is leading the review of the existing regulatory treatment of sovereign risk at the global level and will consider potential policy options. The Basel Committee is conducting its review in a careful, holistic and gradual manner. The aim is to assess also the broader issues related to the role of sovereign debt markets and the impact that changes in the regulatory framework may have on this role and on certain market segments.

The benefits and costs of any revision to the regulatory framework should be carefully assessed. The assessment must reflect the potential impact on market functioning and financial stability, and take into account any potential side-effects on other asset classes impinging on banks' intermediation capacity. Moreover, due consideration should be given to the liquidity function that sovereign bonds perform and any implications for monetary policy transmission.

3.4.2 Reducing risk-taking and building resilience

The ECB contributed to the finalisation of several regulatory reforms during 2015, but a number of key issues remain on the agenda, which primarily relate to the finalisation of the leverage ratio framework and the strategic review of the capital framework.

The finalisation of the leverage ratio framework

Excessive leverage was undoubtedly one of the root causes of the financial crisis. The largest banks in Europe had built up significant leverage before the financial crisis as their median leverage had risen to around 33 times common equity in the run-up to the crisis, with some banks even operating at leverage of 50 times common equity.[40] Hence, a comprehensive and well-calibrated leverage ratio that works alongside the risk-based capital framework is an important tool for addressing risks arising from excessive leverage. Research performed by the ECB suggests that the leverage ratio, which effectively supplements risk-based capital requirements, would lead to a significant decline in the probability of distress of highly leveraged banks.[41] Some aspects of the leverage ratio framework are still under discussion in the Basel Committee and it is expected that the review of its calibration will be finalised at some point next year. A minimum Tier 1 leverage ratio of 3% is being tested until 1 January 2017, by which point any final adjustments must be made to the framework with a view to migrating to a Pillar 1 treatment on 1 January 2018. At the European level, the European Banking Authority has started work on its report on the impact and calibration of the leverage ratio. The report will provide an impact assessment for the leverage ratio, taking into account potential behavioural implications of a leverage ratio requirement, its interaction with other prudential requirements and cyclicality.

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[40] See "Is Europe overbanked?", *Reports of the Advisory Scientific Committee*, No 4, ESRB, June 2014.

[41] See Grill, M., Lang, J. H. and Smith, J., "The impact of the Basel III leverage ratio on risk-taking and bank stability", Special Feature A, *Financial Stability Review*, ECB, November 2015.

The strategic review of the capital framework

A key policy objective of the ECB is to ensure that banks' capital ratios are robust and comparable across jurisdictions. In this regard, several studies undertaken by the Basel Committee and the European Banking Authority identified excessive variation in banks' capital requirements in recent years. As a comprehensive policy response to address the concerns, the Basel Committee embarked on a strategic review of the Basel capital framework. The objective of the ongoing work is to develop an approach that would limit the use of banks' internal models to a set of portfolios that are suitable for modelling. This approach would apply additional restrictions to the modelling of those portfolios, including by setting floors or eliminating the modelling of particular parameters. It would also require that regulatory capital for all remaining portfolios be calculated using alternative methods defined by the Committee. The review aims to improve the balance between simplicity, comparability and risk sensitivity, as well as meet the Committee's objectives of adequacy, robustness and consistency in implementation.

3.4.3 Ending the "too big to fail" problem

The total loss-absorbing capacity standard for global systemically important banks and its implications for the EU

The total loss-absorbing capacity (TLAC) standard for global systemically important banks (G-SIBs), agreed by the Financial Stability Board in November 2015, is designed so that failing G-SIBs will have sufficient loss-absorbing and recapitalisation capacity to implement an orderly resolution strategy. As such, it is an important milestone in overcoming the "too big to fail" problem. This is important for the ECB from both a financial stability and a supervisory perspective, and the ECB has therefore actively contributed to the development of the TLAC standard.

The TLAC standard sets a minimum requirement and defines criteria for instruments and liabilities to be eligible as TLAC, which aim to ensure that these instruments and liabilities are readily available to absorb losses in resolution. Having a minimum TLAC requirement for all G-SIBs will help to ensure a global level playing field. Authorities can, if needed, also require more than the TLAC minimum for a G-SIB on a case-by-case basis. The minimum TLAC requirement is measured against a risk-weighted and a non-risk-weighted benchmark. G-SIBs have to hold TLAC of at least 16% of the resolution group's risk-weighted assets as from 1 January 2019, and at least 18% as from 1 January 2022. In addition, in terms of a non-risk-weighted benchmark, their TLAC must be at least 6% of the Basel III leverage ratio denominator as from 1 January 2019, and at least 6.75% as from 1 January 2022.[42]

[42] TLAC does not limit authorities' powers to bail in other liabilities that are within the scope of bail-in if needed.

The TLAC standard is similar to the minimum requirement for own funds and eligible liabilities (MREL) in the EU resolution framework, although there are some key differences. In particular, TLAC only applies to G-SIBs, while MREL applies to all credit institutions and investment firms, and MREL has no minimum floor in contrast to TLAC. The two standards should be made consistent with each other through the review clause in the BRRD by end-2016, taking into account, however, the difference in their scope of application.

3.5 Capital markets union

The Eurosystem supports the creation of a capital markets union (CMU) for Europe. CMU has the potential to complement banking union and strengthen Economic and Monetary Union by improving cross-border risk-sharing and making the financial system more resilient.[43] CMU will also be crucial to support European growth by diversifying sources of funding and increasing companies' access to financing. On 30 September 2015 the European Commission published an action plan outlining a number of measures to establish the main building blocks of CMU by 2019. The ECB welcomes the action plan and supports the accompanying early actions, in particular the proposal for a European framework for securitisation, which also includes differentiated prudential treatment for simple, transparent and standardised securitisation, including reduced bank capital charges. This will contribute to revitalising securitisation markets.

To reap the benefits of CMU, a high level of financial integration should be pursued. Full integration is achieved if all market participants with the same relevant characteristics face a single set of rules, have equal access to markets and are treated equally when they are active in the market. This requires a long-term vision accompanied by an ambitious agenda for further action. For instance, national laws on insolvency, tax and securities should become more harmonised.

The action plan published by the Commission puts forward a number of early actions. In particular, in addition to the proposal for a European framework for securitisation, the Commission published a consultation on developing a pan-European covered bond framework and a proposal to overhaul prospectus rules. While the first aims to build on national regimes and explore the feasibility of covered bonds for loans to small and medium-sized enterprises, the latter seeks to improve access to finance for companies and simplify information for investors. In particular, barriers to obtaining information about SMEs should be overcome. These measures will contribute to the further integration of capital markets.

In summary, achieving CMU will require a combination of early "quick wins" to maintain momentum as well as a sustained effort over a number of years in a wide range of areas which are crucial to the functioning of capital markets.

[43] "Building a Capital Markets Union – Eurosystem contribution to the European Commission's Green Paper", 21 May 2015.

Other tasks and activities

1 Market infrastructure and payments

Market infrastructures facilitate the clearing and settlement of payments, securities and derivatives. Their safety and efficiency is crucial to maintaining confidence in the currency and supporting monetary policy operations and the stability of the financial system as a whole. The integration of market infrastructures across Europe is a necessary condition for achieving a truly single market.

The Eurosystem plays a central role in post-trade market infrastructures and payments in three functions – as operator, catalyst and overseer. It is the operator of TARGET2, the infrastructure for the real-time settlement of large-value and urgent euro payments in central bank money. To facilitate the cross-border use of collateral for Eurosystem credit operations, it offers the Correspondent Central Banking Model. Furthermore, since June 2015, the Eurosystem's new infrastructure – TARGET2-Securities (T2S) – has been offering securities settlement in central bank money. Looking ahead, the Eurosystem's vision for 2020 outlining its strategy for the future of market infrastructure is discussed in Section 1.1 below.

As a catalyst, the Eurosystem is active in helping the industry to harmonise post-trade processes following the launch of T2S and to find safe and effective payment, clearing and settlement solutions for retail payments in the euro area. The Eurosystem has shaped the implementation of the Single Euro Payments Area (SEPA) from its inception and will continue to be active in the field of retail payments as a driver of innovation. Innovations resulting from the increasing digitalisation of the payments business are discussed in Section 1.2.

In its oversight function, the Eurosystem ensures the efficient management of risks and the establishment of sound governance arrangements for market infrastructures and, where necessary, fosters change. For example, the Eurosystem, as part of its involvement in international standard-setting, is working together with the industry to strengthen financial market infrastructure resilience against cyber attacks. Work is also under way to enhance the efficiency and security of retail payments. With regard to the oversight of securities and derivatives infrastructures, the Eurosystem – in cooperation with the relevant overseers and supervisors – finalised the assessment of the design of T2S before the new platform went live. Furthermore, central counterparty (CCP) risks have been the focus of attention due to their growing systemic importance. This is discussed further in Section 1.3.

1.1 Go-live of T2S and the future of market infrastructure

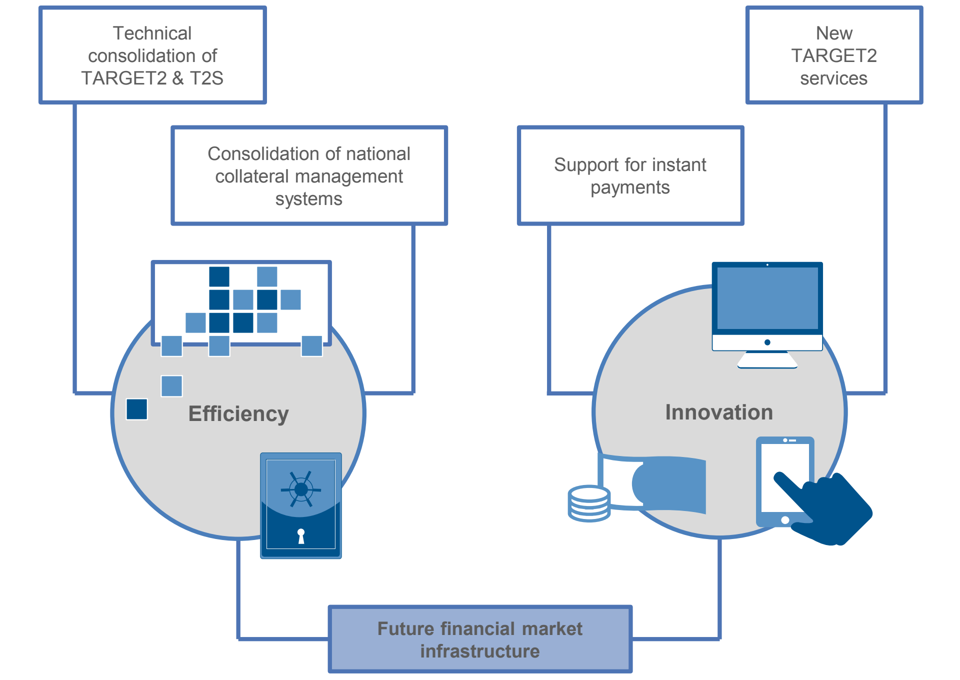
In June 2015 the Eurosystem's new single securities settlement platform, TARGET2-Securities, went live. Five central securities depositories in Greece, Italy, Malta, Romania and Switzerland are connected to the platform and the remaining

16 markets will join over the next two years. The multi-currency dimension of T2S will come into play when the Danish krone can be settled on the platform as of 2018. More countries and currencies are expected to join T2S in the future.

T2S eliminates differences between domestic and cross-border securities settlement, offering a solution to the drawbacks of the previous market fragmentation. T2S has been a key driver of the harmonisation of post-trade services and standards, and contributes to stronger financial integration and a true European single market.

As the migration to T2S continues, the Eurosystem is looking ahead to ensure that market infrastructures and payments keep up with technological developments and reap further efficiency gains. The Eurosystem's vision for 2020 outlines a strategy for market infrastructure that consists of three action points.

Figure 1
Europe's financial market infrastructure – vision for 2020 and beyond



Source: ECB.

The first action point is to explore synergies between TARGET2 and T2S. The technical infrastructure will be consolidated so that TARGET2 can benefit from state-of-the-art features currently available in T2S, for example by further optimising liquidity-saving mechanisms. The second action point is to investigate options to support the development of a pan-European instant payment solution (see Section 1.2). The third is to further harmonise and increase the efficiency of Eurosystem collateral management, including the possible harmonisation of collateralisation techniques and procedures. If the harmonisation work is successful, the business case for a common Eurosystem collateral management system might be considered.

In striving to make its vision for 2020 a reality, the Eurosystem will work closely with the market, benefiting from its viewpoint and ensuring that Europe's market infrastructure is tailored to its needs.

1.2 The digitalisation of the payments business

Following the successful migration to SEPA for credit transfers and direct debits in the euro area, the focus of the payments industry and the Eurosystem has shifted from harmonisation and integration to modernisation and innovation. This shift was necessary given the pervasiveness of digitalisation in everyday life. The payments industry is responding to users' changing experiences and expectations. In some European countries, mobile-based person-to-person payment or contactless payment solutions have been emerging. Some of these solutions are based on instant payments, i.e. payment solutions that ensure the immediate availability of funds to the recipient. However, these services are only available at the national level and lack pan-European interoperability and reach.

In order to avoid a re-fragmentation of SEPA through the emergence of a multitude of stand-alone national solutions, the Eurosystem strongly supports the development of a pan-European instant payment solution. The Euro Retail Payments Board (ERPB), which is chaired by the ECB, invited the payments industry to provide a proposal for the design of an instant SEPA credit transfer scheme in euro. This proposal, which will become the common basis for European instant payment solutions, was endorsed by the ERPB in November 2015, and will be the basis for the rulebook now being prepared by the European Payments Council.

With regard to the clearing and settlement of instant payments, the ECB has started a dialogue with retail market infrastructure providers and is reflecting on its own role in the settlement of such payments as operator of TARGET2.

As a further step, the ECB has been involved in the work of the ERPB on recommendations facilitating pan-European person-to-person mobile payments and mobile and card-based contactless proximity payments. Looking ahead, new payment solutions and new payment service providers emerging in the expanding e-commerce environment will require the attention of the Eurosystem.

In February 2015 the ECB published a second report on virtual currency schemes. Generally, the focus of attention in the industry has shifted from the "value" aspect to the in-built mechanism to transfer that value, i.e. the "blockchain" or distributed ledger technology. The ECB will continue monitoring developments in the technology underlying such schemes.

1.3 Managing risks of central counterparties

The global financial crisis of 2007-08 highlighted significant shortcomings in transparency and risk management in over-the-counter (OTC) derivatives markets, in particular in the segment where transactions are cleared bilaterally. Against this background, the G20 leaders agreed at their 2009 Pittsburgh summit that all standardised OTC derivatives should be centrally cleared.

As a result of the central clearing obligation, CCPs manage a growing share of the financial risk arising from OTC derivatives transactions and their robustness has become increasingly important from a financial stability perspective. Against this background, in February 2015 the G20 finance ministers and central bank governors asked the Financial Stability Board to develop, together with the Committee on Payments and Market Infrastructure, the International Organization of Securities Commissions and the Basel Committee on Banking Supervision, a coordinated work plan to promote CCP resilience, recovery planning and resolvability. The "2015 CCP Work Plan" has four main elements: (i) an evaluation of the adequacy of the existing measures for CCP resilience (including loss-absorption capacity and liquidity, as well as stress testing); (ii) a stock-taking of existing CCP recovery mechanisms, including loss allocation tools, and consideration of whether there is a need for more granular standards; (iii) a review of existing CCP resolution regimes and resolution planning arrangements, and consideration of whether there is a need for more granular standards or for additional pre-funded resources; and (iv) an analysis of the interdependencies between the CCPs, their direct and indirect clearing members and other financial institutions, and of the potential channels for transmission of risk through those interdependencies. The ECB is directly involved in these strands of work via the dedicated international committees.

In a move towards increased cooperation, on 29 March 2015 the ECB and the Bank of England announced[44] measures aimed at enhancing financial stability in relation to centrally cleared markets within the EU by means of a coordinated and shared approach. In this context, the ECB and the Bank of England agreed on enhanced arrangements for information exchange and cooperation regarding UK-based CCPs with significant euro-denominated business.

The ECB, as well as other Eurosystem central banks, continued to be involved in the ongoing work of the colleges of authorities supervising EU-based CCPs with a large euro-denominated central clearing business under the European Market Infrastructure Regulation (EMIR). In 2015 this included the approval of proposed CCP service extensions.

On 2 September 2015 the ECB published its response to the European Commission's public consultation on the review of EMIR. The response put forward a number of proposals to strengthen the collegial supervisory framework for CCPs and improve the quality of derivatives data reporting in order to enhance transparency.

44 See the ECB's press release of 29 March 2015. The announcement followed the judgement on 4 March by the General Court of the European Union (see also Section 6 of Chapter 2).

2 Financial services provided to other institutions

2.1 Administration of borrowing and lending operations

The ECB is responsible for the administration of the borrowing and lending operations of the EU under the medium-term financial assistance facility (MTFA)[45] and the European Financial Stabilisation Mechanism (EFSM)[46]. In 2015 the ECB processed interest payments in relation to the loans under the MTFA. As at 31 December 2015 the total outstanding amount under this facility was €5.7 billion. In 2015 the ECB processed the disbursement and successful repayment of a short-term bridge loan granted to Greece under the EFSM following a decision adopted by the EU Council. The ECB also processed various payments and interest payments in relation to the loans under the EFSM. As at 31 December 2015 the total outstanding amount under this mechanism was €46.8 billion.

Similarly, the ECB is responsible for the administration of payments arising in connection with the operations under the European Financial Stability Facility (EFSF)[47] and the European Stability Mechanism (ESM)[48]. In 2015 the ECB processed various interest and fee payments in relation to loans under the EFSF. In 2015 the ECB processed the disbursement of two tranches of the loan granted to Greece under the ESM following a decision adopted by the EU Council. The ECB also processed ESM member contributions and various interest and fee payments in relation to the loans under this mechanism.

Finally, the ECB is responsible for processing all payments in relation to the loan facility agreement for Greece.[49] As at 31 December 2015 the total outstanding amount under this agreement was €52.9 billion.

2.2 Eurosystem Reserve Management Services

In 2015 a comprehensive set of financial services continued to be offered within the Eurosystem Reserve Management Services (ERMS) framework established in 2005 for the management of customers' euro-denominated reserve assets. Individual

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45 In accordance with Article 141(2) of the Treaty on the Functioning of the European Union, Articles 17, 21.2, 43.1 and 46.1 of the Statute of the ESCB, and Article 9 of Council Regulation (EC) No 332/2002 of 18 February 2002.

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

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

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

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

Eurosystem NCBs (“the Eurosystem service providers”) offer the complete set of services under harmonised terms and conditions in line with general market standards to central banks, to monetary authorities and government agencies located outside the euro area, and to international organisations. The ECB performs an overall coordinating role, promoting the smooth functioning of the framework and reporting to the Governing Council.

The number of customers maintaining an ERMS business relationship with the Eurosystem was 285 in 2015, compared with 296 in 2014. With regard to the services themselves, in the course of 2015 the total aggregated holdings (which include cash assets and securities holdings) managed within the ERMS increased by approximately 6% compared with the end of 2014.

3 Banknotes and coins

The ECB and the euro area NCBs are responsible for issuing euro banknotes within the euro area and for maintaining confidence in the currency.

3.1 The circulation of banknotes and coins

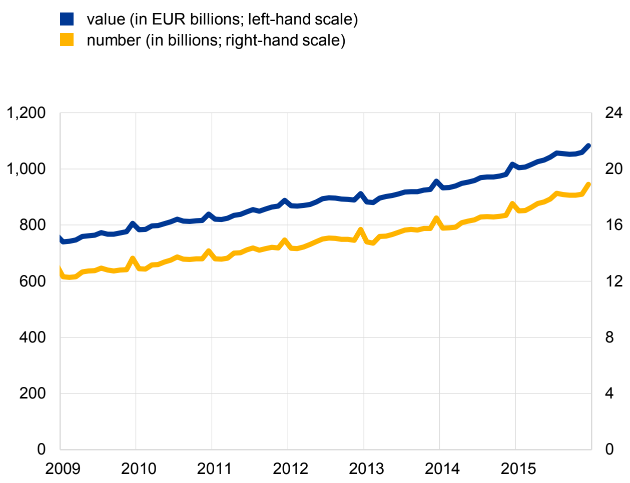
In 2015 the number and value of euro banknotes in circulation grew by around 7.8% and 6.6% respectively. At the end of the year there were 18.9 billion euro banknotes in circulation, with a total value of €1,083 billion (see Charts 27 and 28). The €50 banknote showed the highest annual growth rate, which stood at 11.8% in 2015. Demand for this denomination surged around the middle of the year. The most likely explanation for this is that tourists going to Greece carried more cash with them than usual in view of the cash withdrawal limitations that were introduced in that country (which, however, only applied to residents). The production of euro banknotes is shared between the NCBs, which were altogether allocated 6.0 billion banknotes in 2015.

It is estimated that, in terms of value, around a quarter of the euro banknotes in circulation are held outside the euro area, predominantly in neighbouring countries. Euro banknotes, mainly the denominations €500 and €100, are held outside the euro area as a store of value and for settling transactions on international markets. Cash has the advantage of immediate settlement without the need to assess the solvency of the counterparty.

In 2015 the total number of euro coins in circulation increased by 4.7%, standing at 116.1 billion at end-2015. At the end of 2015 the value of coins in circulation stood at €26.0 billion, 4% higher than at the end of 2014.

Chart 27

Number and value of euro banknotes in circulation

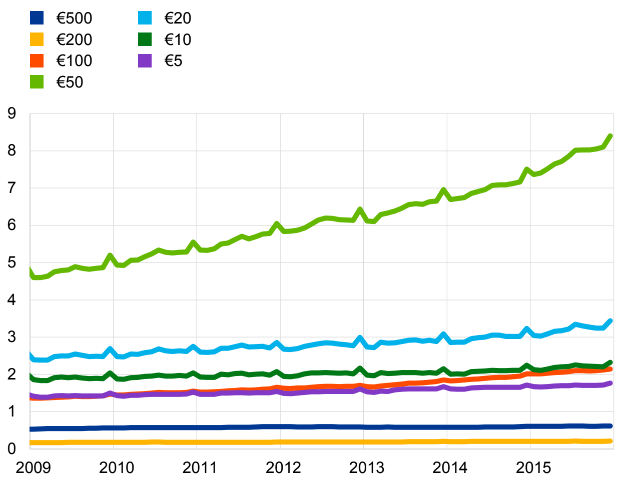


Source: ECB.

Chart 28

Number of euro banknotes in circulation by denomination

(billions)



Source: ECB.

In 2015 the euro area NCBs checked the authenticity and fitness for circulation of some 32.9 billion banknotes, withdrawing around 5.2 billion of them from circulation. The Eurosystem also continued its efforts to help banknote equipment manufacturers to ensure that their machines meet the ECB's standards for checking euro banknotes for authenticity and fitness prior to recirculation. In 2015 credit institutions and other professional cash handlers checked 31 billion euro banknotes for authenticity and fitness using such machines.

3.2 Counterfeit euro banknotes

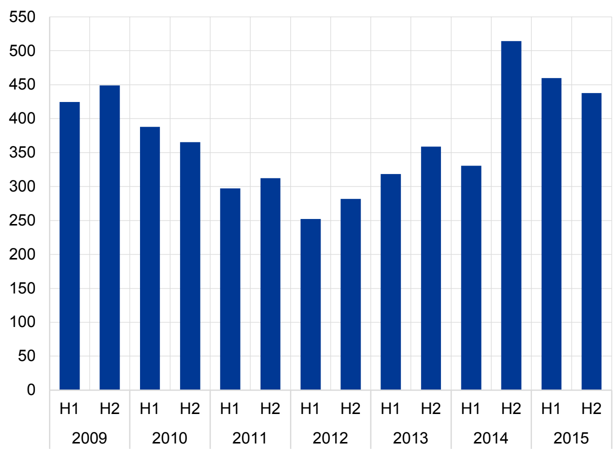
In 2015 the Eurosystem withdrew around 899,000 counterfeit euro banknotes from circulation. When compared with the number of genuine euro banknotes in circulation, the proportion of counterfeits remains at a very low level. Long-term developments in the quantity of counterfeits removed from circulation are shown in Chart 29. Counterfeiters tend to target the €20 and €50 banknotes of the first series of euro banknotes, which in 2015 accounted for 50.5% and 34.2% of the total number of counterfeits respectively. The slight increase in the total number of counterfeits in 2015 was mainly driven by a rise in the share of counterfeit €50 banknotes. Further details of the denominational breakdown are shown in Chart 30.

The ECB continues to advise the public to remain alert to the possibility of fraud, to remember the "feel-look-tilt" test, and never to rely on just one security feature. In addition, training is offered to professional cash handlers on a continuous basis, both in Europe and beyond, and up-to-date information material is made available to support the Eurosystem's fight against counterfeiting. The ECB also cooperates with Europol, Interpol and the European Commission in pursuit of this goal.

Chart 29

Number of counterfeit euro banknotes recovered from circulation

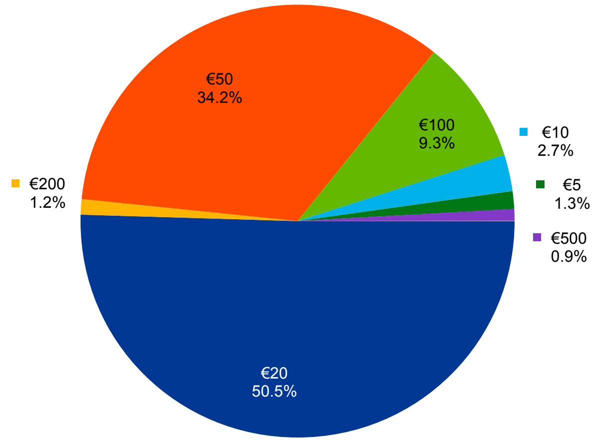
(thousands)



Source: ECB.

Chart 30

Breakdown of counterfeit euro banknotes by denomination in 2015



Source: ECB.

3.3 The second series of euro banknotes

On 25 November 2015 a new €20 banknote began circulating, the third banknote of the Europa series to be introduced. Like the new €5 and €10 banknotes, which entered circulation in May 2013 and September 2014, the new €20 banknote contains enhanced security features, including a portrait watermark and an "emerald number" which displays an effect of the light that moves up and down when the banknote is tilted and also changes colour. The new €20 banknote also contains a new and innovative security feature: the portrait window in the hologram, which shows a portrait of Europa (a figure from Greek mythology) when the banknote is held against the light. In the run-up to the introduction of the new €20 banknote, the ECB and the euro area NCBs conducted a campaign to inform both the public and professional cash handlers about the new banknote and its features. They also took several measures to help the banknote handling machine industry prepare for the introduction of the new banknote.

The other denominations of the Europa series will be introduced over the next few years.

4 Statistics

The ECB, assisted by the NCBs, develops, collects, compiles and disseminates a wide range of statistics which are important to support the monetary policy of the euro area, the supervisory functions of the ECB, various other tasks of the ESCB and the tasks of the European Systemic Risk Board. These statistics are also used by public authorities, financial market participants, the media and the general public.

In 2015 the ESCB continued to provide regular euro area statistics in a smooth and timely manner. In addition, it devoted considerable efforts to completing the implementation of new international statistical standards in all ECB statistics and fulfilling new demands for very timely, high-quality and more granular statistics at the country, sector and instrument levels.[50]

4.1 New and enhanced euro area statistics

Since 1 January 2015 the ECB has been publishing the daily three-month spot interest rate derived from a yield curve estimated from euro area central government bonds with a rating of AA and above. Since its initial publication, this rate has been used by the IMF as the euro component of the special drawing right interest rate, replacing the three-month EUREPO rate.

Since January 2015 statistical releases on securities issues have included enhanced breakdowns by issuer sector and instrument type, consistent with the newly adopted version of the European System of Accounts (ESA 2010).

In April 2015 major improvements were made to balance of payments and international investment position statistics with the release of data back to 2008. These data are in line with the methodology of the sixth edition of the IMF's Balance of Payments Manual and include a detailed breakdown by the geographical area of counterparties.

Moreover, since July 2015 statistical releases on monetary developments, bank retail interest rates, investment funds and financial vehicle corporations have included new breakdowns, e.g. by issuer sector and instrument type, which adhere to the ESA 2010. Investment fund statistics contain additional data on new categories of investment funds, such as private equity funds and exchange-traded funds registered in the euro area. Bank interest rate statistics comprise additional indicators on outstanding loans broken down by residual maturity and the next interest rate reset period. In addition, interest rates referring to renegotiated loans are identified separately within the new business.

In August 2015 consolidated banking data (the ESCB dataset for the EU banking system on a consolidated basis) were improved significantly and their frequency increased from semi-annual to quarterly. This enhancement has benefited from the entry into force of the European Banking Authority's Implementing Technical Standards on Supervisory Reporting, which significantly increased the amount of comparable information across the EU. In particular, the indicators on asset quality have largely been replaced by new data on non-performing exposures, as well as key items for forbearance. New measures of liquidity, funding and encumbered assets are also provided.

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[50] For more information, see www.ecb.europa.eu/pub/conferences.

In September 2015 the ECB published new statistics on loans adjusted for sales and securitisation, providing more complete information on loans that were granted by euro area banks but are no longer recorded on their balance sheets.

In October 2015 the ECB started to publish monthly data on TARGET2 balances, the currency breakdown of data on listed shares issued by euro area residents, and enhanced annual payments statistics, taking into account the implementation of the Single Euro Payments Area and other developments in the payments market in Europe.

In November 2015 the ECB started to publish a new quarterly statistical report on the household sector covering its economic and financial activities and presenting key indicators for the euro area and a comparison across the 19 euro area countries.

In December 2015 the ECB published the Survey of National Practices, which documented in detail the methodologies applied in the euro area countries for the collection of MFI balance sheet statistics.

4.2 Other statistical developments

In March 2015 the ECB published a Regulation[51] on supervisory financial information, which gradually extends reporting requirements to all supervised entities not yet reporting on the basis of supervisory financial reports (FINREP), with the roll-out starting from end-2015.

While institutions applying International Financial Reporting Standards (IFRS) at the consolidated level are already obliged to submit FINREP reports, the Regulation extends mandatory reporting to: (i) significant supervised groups applying national accounting rules; (ii) significant supervised entities reporting on an individual basis under both IFRS and national accounting rules; and (iii) less significant groups applying national accounting rules and less significant supervised entities.

The ESCB continued working on several ongoing projects to enhance over time the availability and quality of statistics on the basis of new or substantially improved micro-databases. In 2015 substantial efforts were devoted to developing the new framework for the collection of granular credit data, with a draft regulation published in December 2015 in view of the high public interest in the project, as well as to extending the collection of data on issues and holdings of individual securities. In particular, the Regulation and Guideline on securities holdings statistics were updated to improve the collection of holdings data from insurance companies. Work is also ongoing to implement new statistics on the euro money market, which will see the daily collection of individual transaction information across the main market segments (i.e. the secured, unsecured, foreign exchange swap and overnight index swap segments) as from April 2016.

[51] Regulation (EU) 2015/534 of the European Central Bank of 17 March 2015 on reporting of supervisory financial information (ECB/2015/13).

At the international level, the ECB – as a member of the Inter-Agency Group on Economic and Financial Statistics – remained highly committed to the goals of the Data Gaps Initiative, which was launched in April 2009 by the G20 finance ministers and central bank governors to close the data gaps that were identified following the global financial crisis. After developing and implementing the 20 initial recommendations of the first phase, the ECB is strongly supporting the second phase of this initiative, adopted in September 2015.

5 Economic research

The production of high-quality scientific research plays an essential role in helping the ECB meet its key objectives and in addressing its shifting priorities. During 2015 the economic research activities were strengthened against the backdrop of the many important new challenges confronting policymakers. Most notably, this work was reorganised into a smaller number (i.e. seven) of specific research clusters. In addition, three important research networks helped foster continued collaboration on important research themes throughout the ESCB.[52]

5.1 ECB research priorities and clusters

During 2015 economic research at the ECB was conducted within seven bank-wide research clusters which together focused on four main priorities: (i) incorporating the impact of changes in the economic and financial structure into business cycle analysis and forecasting; (ii) assessing monetary transmission, including the changing operational framework and its implementation; (iii) launching microprudential and banking supervision research and developing further macroprudential analysis; and (iv) understanding the interaction of the single monetary policy with fiscal, structural and prudential policies amid a changing EU institutional framework.

Related to priorities (i) and (ii), a key focus of research efforts was deepening the understanding of the causes of low inflation and persistent inflation forecasting errors. Results highlighted the relevance of both external and domestic channels. On the external side, the difficulty of forecasting oil prices was identified as a key factor behind recent inflation forecasting errors. Therefore, a number of new models were developed to help better forecast developments in the oil market and also to synthesise different model results. Regarding domestic drivers, research highlighted a possible underestimation of the extent of economic slack and a strengthening link between real activity and inflation as a possible source of overestimation of inflation. In addition, research helped identify new risks associated with a possible unanchoring of inflation expectations and showed how, when nominal interest rates reach the zero lower bound, low inflation may tend to become self-reinforcing.

52 More detailed information on the ECB's research activities, including information on research events, publications and networks, is provided on the ECB's website.

However, research also highlighted how forward guidance and non-standard monetary policy measures can play an important role in this environment by mitigating risks of unanchoring and by supporting aggregate demand.

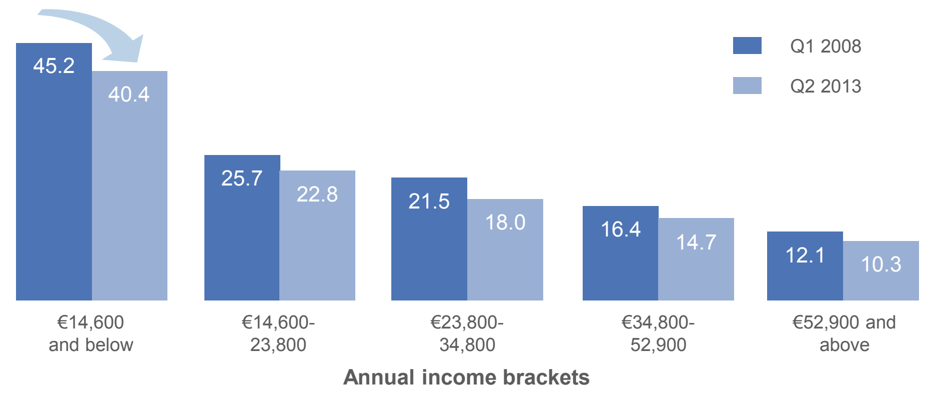
Both micro- and macroprudential policies were also increasingly at the forefront of ECB research during 2015. Following the establishment of the Single Supervisory Mechanism, research focused on the effects of regulation and other government policies on banks' behaviour and their balance sheets. High priority was also assigned to the development of models to analyse macroprudential policies and their interaction with other policies, including monetary policy. The analysis of existing differences and imbalances among euro area countries remained a major focus of research related to priority (iv) above. An important outcome of this work was the identification of structural factors which may explain divergences, including institutional, labour market and product market bottlenecks which can restrain growth. In the area of financial markets, important new research focused on the development of indicators to assess financial integration and banking sector vulnerabilities.

5.2 Eurosystem/ESCB research networks

Eurosystem/ESCB research networks continued to make a significant contribution in 2015. This included the work of the Household Finance and Consumption Network, the Wage Dynamics Network and the Competitiveness Research Network.

The work of the Household Finance and Consumption Network focused on the analysis of data made available by the Eurosystem's Household Finance and Consumption Survey (HFCS). This survey has the ultimate objective of understanding how microeconomic heterogeneity affects macroeconomic outcomes. During the year research continued on various aspects of consumer behaviour and household finance. This included analysis of the effect of changes in household wealth on consumption and the distribution of wealth across households and across countries. The survey data were used to gauge the effects of inflation and deflation on household wealth; an important finding was that young, middle-class households, which tend to borrow to purchase homes, lose most in deflation episodes, while households with accumulated wealth – richer and older households – suffer most from spells of inflation. In addition, the HFCS data were used to estimate how the decline in interest rates translated into lower debt service for individual households, with findings suggesting that debt-service ratios fell particularly strongly for those households with the lowest incomes (see Figure 2).

Figure 2
Percentage of income spent on servicing mortgage debt



Source: ECB.

The Wage Dynamics Network launched a third wave of its survey, with 25 NCBs actively participating. National data were collected in 2014 and early 2015 and a cross-country harmonised dataset was compiled. The survey aims to investigate how firms have adjusted to the various shocks and institutional changes that have taken place since the financial crisis. Several ongoing research projects are using these recently collected firm-level data to conduct a micro-founded analysis of labour market adjustments across EU countries over the period 2010-13. This includes analysis of (i) the timing and persistence of shocks and (ii) the employment and wage response to shocks and their relationship to structural reforms.

In the course of 2015, building on a new EU firm-level dataset, the Competitiveness Research Network extensively researched the drivers of trade and competitiveness, international shock transmission and resource allocation within the EU. A main finding of the network was that European competitiveness also depends heavily on non-price elements related to innovation, technology and organisational capabilities, rather than solely on prices, costs and wages. In addition, the network found that the underlying dispersion of firms' productivity is a critical determinant of aggregate trade outcomes, given for instance the high heterogeneity of exporters' reactions to different shocks. During the year the dataset was further expanded, allowing a more up-to-date assessment of shifts in the productivity distributions over time (e.g. before and after the crisis) and distinguishing between different firm characteristics such as size and country location.

5.3 Conferences and publications

The organisation of research conferences and workshops fosters a critical exchange and discussion of research results. The ECB organised a number of such events in 2015. One of the highlights was the ECB Forum on Central Banking in Sintra, Portugal, on "Inflation and unemployment in Europe". Another important workshop in November 2015 focused on "Challenges for monetary policy in a low inflation environment".

Many of the ECB's research activities also resulted in published papers. The ECB's Working Paper Series helps communicate research findings in a timely manner and, in total, 117 papers were published in this series during 2015. In addition, 67 papers either authored or co-authored by ECB staff were published in refereed journals during 2015. This represented a notable increase on 2014 and included a larger share of publications in top-tier economics and finance journals.

6 Legal activities and duties

In 2015 the ECB took part in several judicial proceedings at the EU level. The ECB also adopted numerous opinions in response to the Treaty-based requirement for the ECB to be consulted on any proposed EU act or draft national legislation falling within its fields of competence, as well as monitoring compliance with the prohibition of monetary financing and privileged access.

6.1 ECB participation in judicial proceedings at the EU level

In relation to the Outright Monetary Transactions (OMTs), following the first request for a preliminary ruling from the German Federal Constitutional Court, the Court of Justice of the European Union followed the opinion of the Advocate General of 14 January 2015 in essence and confirmed the compatibility of the OMTs with the Treaties in its judgement C-62/14 of 16 June 2015. It acknowledged that the ECB enjoys broad discretion in defining and implementing monetary policy. The OMTs, with their aim of preserving the singleness of monetary policy within the euro area and safeguarding an appropriate monetary policy transmission mechanism, fall within the scope of the mandate of the ECB, i.e. maintaining price stability. In particular, the OMTs do not encroach upon the responsibility of the Member States for economic policy. According to the Court, this conclusion was not changed by the fact that the implementation of the OMTs is conditional upon full compliance by the Member States concerned with a European Financial Stability Facility or European Stability Mechanism macroeconomic adjustment programme, as this avoids the risk of monetary policy measures jeopardising the effectiveness of the economic policy conducted by the Member States concerned. The OMTs furthermore comply with the principle of proportionality. In addition, as regards the prohibition of monetary financing, the Court held that purchases of government bonds on secondary markets must not have an effect equivalent to that of a direct purchase of such bonds on the primary market and that such purchases must not be used to circumvent the objective of Article 123 of the Treaty on the Functioning of the European Union. Thus, sufficient safeguards have to be built into a government bond purchase programme. The Court held that the OMTs have such safeguards, in particular through the avoidance of any guarantee that issued bonds will subsequently be bought by the ESCB. It pointed out that the OMTs do not reduce the incentive for the Member States concerned to follow a sound budgetary policy. On the basis of the preliminary ruling, the German Federal Constitutional Court will deliver its final judgement on the compatibility of the OMTs with the German constitution.

In October 2015 the General Court of the EU ruled in favour of the ECB in all four pending disputes with holders of Greek government bonds. The applicants alleged that they had suffered financial loss and been deprived of their fundamental rights to property and economic freedom following a partial restructuring of Greece's sovereign debt in 2012. In Case T-79/13 the Court found, with respect to the alleged damages, that the ECB had not committed any unlawful act that could trigger liability under the Treaty on the Functioning of the European Union. The Court also clarified that while the ECB was involved in the monitoring of economic developments in Greece, it could not be held liable for the private sector involvement in the debt restructuring, as the responsibility for such decisions lay primarily, if not exclusively, with the Greek government. The overall role of the ECB in the context of the private sector involvement was confirmed as being merely advisory and within the boundaries of its mandate under the Treaty on the Functioning of the European Union and the Treaty establishing the European Stability Mechanism. Consistent with the ruling of the Court of Justice of the European Union in the Outright Monetary Transactions case (see above), the Court emphasised that the ECB enjoys broad discretion in the definition and implementation of monetary policy and added that it can only incur liability, in that field, if it has manifestly and gravely disregarded the limits on the exercise of its powers. The remaining three cases, T-350/14, T-38/14 and T-413/14, were dismissed on grounds of inadmissibility.

On 4 March 2015 the Court issued its judgement T-496/11 on the legal validity of the location policy for central clearing counterparties (CCPs) as part of the Eurosystem's oversight policy framework. In 2011 the United Kingdom had lodged an application to annul the oversight policy framework, insofar as it set out a location policy for certain CCPs established in non-euro area Member States. The Court held that the oversight policy framework contained requirements of a regulatory nature and that the ECB's oversight competence did not extend to the setting of such requirements with respect to CCPs. The Court thus annulled the oversight policy framework, to the extent that it set out location requirements with respect to certain CCPs. A revised interim oversight policy framework, no longer containing the location requirements for CCPs, was adopted by the Governing Council on 10 September 2015 and published on the ECB's website.

6.2 ECB opinions and cases of non-compliance

Articles 127(4) and 282(5) of the Treaty on the Functioning of the European Union require that the ECB be consulted on any proposed EU or draft national legislation falling within its fields of competence.[53] All ECB opinions are published on the ECB's website. ECB opinions on proposed EU legislation are also published in the Official Journal of the European Union.

[53] The United Kingdom is exempt from the consultation obligation, pursuant to the Protocol on certain provisions relating to the United Kingdom of Great Britain and Northern Ireland, which is annexed to the Treaty (OJ C 83, 30.3.2010, p. 284).

In 2015 the ECB adopted three opinions on proposed EU legislation and 55 opinions on draft national legislation falling within its fields of competence.

At the EU level, the ECB adopted opinions CON/2015/10 and CON/2015/18 in relation to the Harmonised Index of Consumer Prices and opinion CON/2015/4 on the review of the mission and organisation of the European Systemic Risk Board.

A significant number of consultations by national authorities concerned the conferral of new tasks on national central banks (NCBs), including their role as national resolution authorities[54], in connection with the operation of national resolution arrangements[55], deposit guarantee schemes[56], registers of bank accounts[57], a central credit register, a credit mediator, the regulation of financial leasing and credit-acquiring companies[58], and consumer protection. The ECB adopted opinions on amendments to the statutes of NCBs, addressing, among other things, central bank independence and the appointment and dismissal of the members of NCBs' decision-making bodies.[59] The ECB also adopted opinions on legislation relating to payments, banknotes[60], counterfeiting, reserve ratios, statistics[61], the restructuring of foreign currency loans[62], the prudential supervision of credit institutions and financial stability[63].

17 cases of non-compliance with the obligation to consult the ECB on draft national legislation were recorded, with the following cases being considered clear and important[64].

The ECB was not consulted by the Bulgarian National Assembly on the amendment to the Law on credit institutions and other laws[65], raising concerns about a possible breach of central bank independence.

The ECB was not consulted by the Croatian authorities on a Law fixing the exchange rate of the monthly instalments of Swiss franc-denominated or linked loans.[66] The ECB was also not consulted on a follow-up Law that provided for the conversion of such loans into euro-denominated or linked loans. Given the importance of the latter

54 See CON/2015/2, CON/2015/22, CON/2015/25, CON/2015/33, CON/2015/35 and CON/2015/42.

55 See CON/2015/3, CON/2015/17, CON/2015/19, CON/2015/28, CON/2015/47 and CON/2015/48.

56 See CON/2015/40 and CON/2015/52.

57 See CON/2015/36 and CON/2015/46.

58 See CON/2015/37 and CON/2015/45.

59 See CON/2015/6, CON/2015/8, CON/2015/9, CON/2015/41 and CON/2015/44.

60 See CON/2015/29 and CON/2015/51.

61 See CON/2015/5, CON/2015/24, CON/2015/27 and CON/2015/30.

62 See CON/2015/26 and CON/2015/32.

63 See CON/2015/1, CON/2015/7, CON/2015/11, CON/2015/12, CON/2015/13, CON/2015/14, CON/2015/15, CON/2015/16, CON/2015/23, CON/2015/31, CON/2015/34, CON/2015/38, CON/2015/43, CON/2015/47 and CON/2015/53.

64 These include: (i) cases where a national authority failed to submit draft legislative provisions within the ECB's field of competence for consultation to the ECB; and (ii) cases where a national authority formally consulted the ECB, but did not afford it sufficient time to examine the draft legislative provisions and to adopt its opinion prior to adoption of these provisions.

65 Law amending and supplementing the Law on Credit Institutions, published in Darjaven Vestnik, Issue 50, 3 July 2015.

66 Published in the Croatian Official Gazette No 9/2015.

measure, the ECB decided to issue an own-initiative opinion (CON/2015/32) on the matter, but the Law was adopted by the Croatian parliament before the ECB had adopted its opinion.

The ECB was not consulted by the Greek authorities on the Act of Legislative Content on a bank holiday of short duration and on the restrictions on cash withdrawals and capital transfers. The extraordinary and temporary nature of this piece of Greek legislation, which was adopted on an urgent basis for overriding reasons of general public interest ensuring that capital controls were adjusted as necessary, was acknowledged by the ECB.

The ECB was not consulted by the Hungarian authorities on new legal acts related to: (i) the establishment of an extraordinary investment guarantee fund;[67] (ii) personal insolvency measures;[68] and (iii) the conversion of certain consumer loans denominated in foreign currency to Hungarian forints[69].

The ECB decided to issue an own-initiative opinion (CON/2015/55) on the Irish draft legislation relating to stamp duty on cash withdrawals from automated teller machines given its general significance to the ESCB, as it has the potential to make the use of euro banknotes more expensive than electronic methods of payment, thus putting the legal tender at a disadvantage.

The Portuguese authorities failed to consult the ECB on amendments to the procedure for appointing executives of the Banco de Portugal.

The Slovakian authorities also failed to consult the ECB on amendments to the commercial code and related acts[70] which enabled the government to use a special levy on financial institutions to strengthen the own funds of legal entities with 100% state ownership.

The Slovenian authorities did not consult the ECB on an Act on the systematic investigation of projects of national significance, which, among other things, covered the safeguards to preserve the independence of Banka Slovenije and its decision-making bodies.

The ECB decided to issue an own-initiative opinion (CON/2015/56) on the Romanian draft law regarding the discharge of mortgage-backed debts through the transfer of title over immovable property given its general significance to the ESCB with regard to the stability of the Romanian financial system and the broad potential negative spillover effect on the economy and the banking sector.

The failures to consult the ECB by Cyprus, Greece, Hungary, Ireland and Italy were considered to be clear and repetitive cases.

67 Law XXXIX of 2015, published in Magyar Közlöny 2015/53.

68 Law CV of 2015, published in Magyar Közlöny 2015/100.

69 Law CXLV of 2015, published in Magyar Közlöny 2015/142.

70 Act No 87/2015.

6.3 Legal developments related to the Single Supervisory Mechanism: the Administrative Board of Review

The Administrative Board of Review, composed of five members and two alternates, carries out internal administrative reviews of the ECB's supervisory decisions. It began its activities in September 2014 and has since then reviewed a number of contested decisions upon the request of addressees of supervisory decisions.

6.4 Compliance with the prohibition of monetary financing and privileged access

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

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

The monitoring exercise conducted for 2015 confirms that the provisions of Articles 123 and 124 of the Treaty and the related Council Regulations were in general respected.

The monitoring exercise revealed that not all EU NCBs in 2015 had remuneration policies for public sector deposits in place that fully complied with the remuneration ceilings. In particular, a few NCBs need to ensure that the ceiling for the remuneration of public sector deposits is the unsecured overnight interest rate even when the latter is negative.

The reduction of IBRC-related assets by the Central Bank of Ireland during 2015, including through sales of long-duration floating rate notes, is a step in the direction of the necessary full disposal of these assets. However, a more ambitious sales schedule would further mitigate the persisting serious monetary financing concerns.

Following up on the concerns raised in the ECB's Annual Report of 2014, the ECB has continued to monitor several programmes launched by the Magyar Nemzeti

Bank in 2014, which were not related to monetary policy and which could be perceived as being potentially in conflict with the monetary financing prohibition, to the extent that they could be viewed as the Magyar Nemzeti Bank taking over state tasks or otherwise conferring financial benefits on the state. The programmes included real estate investment purchases, a programme to promote financial literacy run through a network of six foundations, the transfer to the central bank of staff formerly employed by the Hungarian Financial Supervisory Authority, and a programme of purchases of Hungarian artworks and cultural properties. As the ECB's concerns were not dispelled in the course of 2015, the ECB will continue to closely monitor these operations with a view to ensuring that their implementation does not result in a conflict with the prohibition of monetary financing. The Magyar Nemzeti Bank should also ensure that the central bank resources that it conferred on its network of foundations are not used, directly or indirectly, for state financing purposes.

In 2015 the Magyar Nemzeti Bank purchased majority ownership of the Budapest Stock Exchange, which may be seen as giving rise to monetary financing concerns as the Magyar Nemzeti Bank effectively used central bank resources to support an economic policy goal that is typically seen as a government competence. The Magyar Nemzeti Bank also decided on several changes to its monetary policy instruments to support its self-financing programme. Given the resulting incentives for banks to purchase forint-denominated government securities, some of the changes, taken together, could be seen as a means of circumventing the prohibition of privileged access under Article 124 of the Treaty. The ECB invites the Magyar Nemzeti Bank to carefully review these operations with a view to avoiding any conflicts with the monetary financing and privileged access prohibitions.

The Bank of Greece repaid a loan obligation of the Greek state under the IMF's Stand-By Arrangement using SDR holdings for which the Bank of Greece carried the risks and rewards. The repayment raised serious monetary financing concerns as it effectively resulted in the Bank of Greece financing an obligation of the public sector vis-à-vis a third party. The agreement regarding the holding and operation procedures of accounts in SDRs allocated by the IMF, signed with the Greek government in December 2015, avoids the recurrence of similar situations in the future.

7 International and European relations

7.1 European relations

Drawing the lessons from the crisis, further steps were taken in the course of the year to complete banking union, address financial sector fragmentation and continue the repair of the financial sector in the euro area, with the European Commission's proposal for a European deposit insurance scheme and the establishment of the Single Resolution Mechanism. The economic situation in the euro area and the negotiations on financial assistance for Greece also shaped the agendas of

Eurogroup and ECOFIN Council meetings, in which the President of the ECB and other members of its Executive Board participated. The need for a coherent strategy for fiscal, financial and structural policies to foster the recovery in Europe featured prominently in the European Council meetings and Euro Summits to which the President of the ECB was invited. In 2015 the ECB maintained its close dialogue with European institutions and fora, in particular with the European Parliament, the European Council, the ECOFIN Council, the Eurogroup and the European Commission.

7.1.1 Completing Europe's Economic and Monetary Union

The President of the ECB – together with the President of the European Commission, the President of the Euro Summit, the President of the Eurogroup and the President of the European Parliament – contributed to a report entitled "Completing Europe's Economic and Monetary Union", which was published on 22 June 2015. In line with the mandate of the Euro Summit of October 2014 "to prepare the next steps on better economic governance in the euro area", the report contains a three-stage roadmap towards a deep and genuine Economic and Monetary Union.

As a follow-up to the report, the European Commission adopted on 21 October 2015 a package setting out the way forward in the implementation of the short-term proposals of the report, notably as regards national competitiveness boards, the setting-up of the European Fiscal Board and progress towards a unified euro area external representation in international fora, notably the IMF.

These are first steps towards improving the economic governance framework. Looking ahead, the mandate and institutional independence of the European Fiscal Board should be clarified and strengthened to ensure that it can play an important role in increasing transparency and improving compliance with the fiscal rules.[71] Competitiveness boards, in turn, could provide new impetus to the implementation of structural reforms in euro area countries, but they will need to be set up in such a way as to ensure their independence, both at the national level and as a network at the euro area level.[72] On its part, the ECB continued to advocate decisive steps to complete the banking union, which should include the creation of a credible common backstop to the Single Resolution Fund and the launch of a European deposit insurance scheme. In this context, the ECB welcomes the Commission's draft regulation on establishing such a scheme. Alongside banking union, a European capital markets union has the potential to strengthen Economic and Monetary Union by improving cross-border risk-sharing and making the financial system more

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71 For more details, see the box entitled "The creation of a European Fiscal Board", *Economic Bulletin*, Issue 7, ECB, 2015.

72 For more details, see the box entitled "The creation of competitiveness boards in the context of striving towards a genuine economic union", *Economic Bulletin*, Issue 8, ECB, 2015.

resilient, but also to foster broader and easier access to finance and the further development of European financial integration.[73]

Looking ahead, these short-term steps need to be implemented swiftly, as stated in the report. Thereafter, the work on detailing the long-term vision for Economic and Monetary Union should start as soon as possible. The ECB has frequently underlined the need for the consistent and thorough application of the provisions of the current framework and for greater shared sovereignty in the medium to long run, for example through enhanced governance by moving from rules towards institutions. The Eurosystem stands ready to support this work.

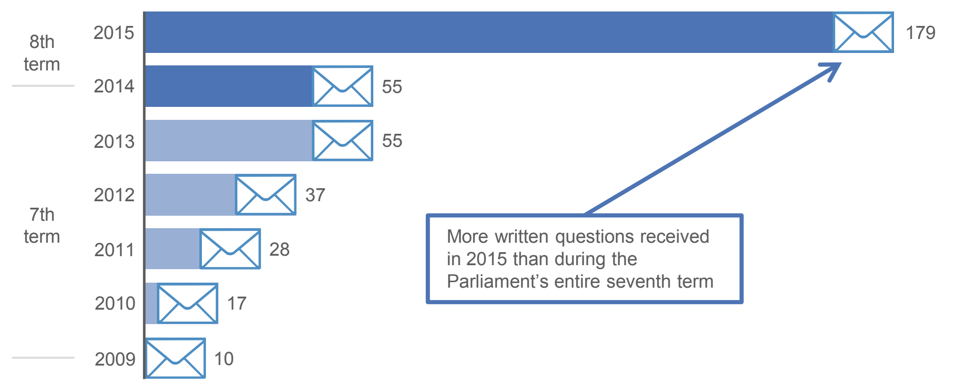
7.1.2 Discharging democratic accountability

The ECB is held accountable for its actions by the European Parliament, as the body composed of the elected representatives of the EU's citizens. In 2015 the President of the ECB attended four regular hearings of the Committee on Economic and Monetary Affairs of the European Parliament, which took place on 23 March, 15 June, 23 September and 12 November. At these hearings, Members of the European Parliament (MEPs) focused in particular on the economic situation of the euro area, the ECB's expanded asset purchase programme, macroeconomic adjustment programmes and the reform of euro area governance. In addition to the regular hearings, on 25 February the President participated in the plenary debate on the European Parliament resolution on the ECB's Annual Report for 2013. Furthermore, the Vice-President of the ECB presented the ECB's Annual Report for 2014 to the committee on 20 April, and Executive Board member Yves Mersch participated in a public hearing on TARGET2-Securities before the same committee on 16 June.

The ECB also discharges its accountability obligations through regular reporting and by answering written questions from MEPs, the number of which has considerably increased: the 179 received in 2015 exceeded the number of letters received during the entire previous parliamentary term (see Figure 3). The replies to these letters are published on the ECB's website. Most of the questions focused on the implementation of the ECB's non-standard monetary policy measures, the economic outlook and macroeconomic adjustment programmes.

73 See Section 3.5 of Chapter 1.

Figure 3
Number of letters from MEPs



Source: ECB.

As in the past, the ECB provided input into the discussions of the European Parliament and the EU Council on legislative proposals within its competency.

The ECB is also held accountable for its banking supervision activities by both the European Parliament and the EU Council. In this context, the Chair of the Supervisory Board of the ECB appeared before the Committee on Economic and Monetary Affairs of the European Parliament on five occasions and attended selected ECOFIN and Eurogroup meetings. More detailed information is provided in the ECB Annual Report on supervisory activities 2015.

7.2 International relations

In a challenging international environment, the ECB participated in discussions in international fora, gathered information and communicated on its own policy, thus strengthening relations with key international counterparts. This was especially important in a year when monetary authorities across the globe were set to adjust their policy stance.

7.2.1 G20

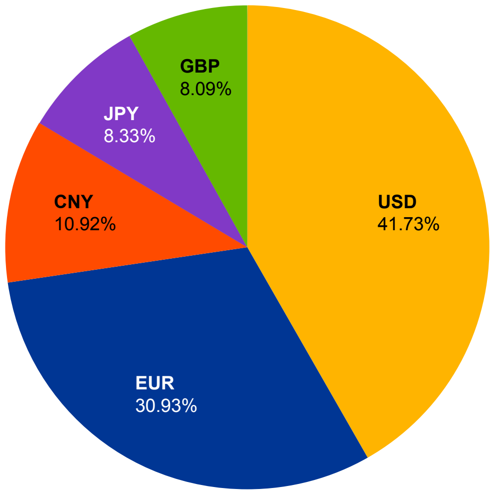
Amid the subdued global economic recovery and heightened volatility in some emerging market economies, the ECB actively contributed to G20 discussions which focused on fostering global growth and economic resilience and emphasised the rigorous implementation of reform plans. Against the backdrop of major monetary and other policy decisions, the issue of global spillovers from national economic policies was also addressed. To mitigate uncertainty and negative spillovers, it was stressed that policy decisions and actions should be carefully calibrated and clearly communicated.

At their summit in Antalya, the G20 leaders reported on the progress made on implementing growth strategies aimed at raising their aggregate GDP level by (at least) 2% by 2018. The completion of core elements of the financial reform agenda was welcomed, with an emphasis on the need for consistent implementation. The G20 leaders also reviewed progress on other global initiatives, most notably the Base Erosion and Profit Shifting project aimed at modernising international tax rules. Overall, G20 action should lift actual and potential growth, support job creation, strengthen resilience, promote development and enhance the inclusiveness of policies.

7.2.2 Policy issues related to the IMF and the international financial architecture

The ECB played an active role in the discussions at the IMF on the international financial architecture. To help strengthen the voice of the EU and the euro area, it supported the coordination of common positions. In 2015 the IMF conducted its five-yearly review of the valuation method for the special drawing right (SDR) to ensure that the SDR basket continues to reflect the relative importance of major currencies in the world's trading and financial systems. A key point of discussion in the 2015 review was whether to expand the set of currencies in the SDR basket to include the Chinese renminbi. In the run-up to the 2015 review, the Chinese authorities undertook a number of reforms to enhance the free use of the renminbi. The IMF's Executive Board on 30 November 2015 approved the inclusion of the renminbi in the SDR basket, which will come into effect on 1 October 2016.

Figure 4
Composition of the SDR currency basket as of October 2016



Source: IMF.

The IMF's quota and governance reform, agreed in 2010, remained pending throughout 2015 owing to the fact that it had not been ratified by the United States, the IMF's biggest member. However, at the end of the year, US Congress authorised the ratification of the reforms under certain conditions. Once the reforms are effective, the IMF's governance will be improved as it will better reflect the role of emerging market economies, and the quota resources of the IMF will be significantly increased. The ECB supports maintaining a strong, adequately resourced and quota-based IMF, making it less reliant on borrowed resources. Work continued in 2015 on possible reforms to enhance the flexibility of the IMF's lending framework. The IMF also undertook a comprehensive review of its programmes for 27 countries (involving 23 financing arrangements) between 2008 and 2015. The review examined, among other things, the adjustment strategy for members of a currency union and the role of regional financing for euro area programmes.

7.2.3 Technical cooperation

The ECB continued to broaden its technical cooperation with central banks outside the EU. The ECB's cooperation with central banks in countries that have the prospect of joining the EU comprised two cooperation programmes and activities conducted as part of a regional workshop series. The two cooperation programmes were implemented jointly with NCBs, funded by the EU, and benefited the Central Bank of Montenegro, the Central Bank of the Republic of Kosovo, the Bank of Albania and the National Bank of the Republic of Macedonia. Regional workshops focused on institutional challenges in the context of EU accession, macroprudential and microprudential supervision and the strengthening of local currency use in domestic financial systems. Technical cooperation complements the ECB's regular monitoring and analysis of economic and financial developments in EU candidate and potential candidate countries and the policy dialogue with their central banks. The ECB also continued to cooperate with central banks of G20 emerging market economies with a view to sharing technical expertise and best practices. In this context, the ECB signed a new Memorandum of Understanding with the Reserve Bank of India in 2015.

8 External communication

Explaining monetary policy to European citizens

Communication is a vital tool to support the effectiveness of the ECB's monetary policy and to build trust among euro area citizens. The ECB has striven for a high degree of transparency from the outset; it was, for example, the first major central bank to hold regular press conferences after monetary policy meetings.

In the years following the onset of the financial crisis, it became even more important for the ECB to explain its monetary policy decisions, including a range of non-standard measures, in a clear and transparent manner. If the general public and financial markets can understand how the ECB is likely to respond in a given situation, they can form reasonable expectations about future monetary policy. The better the understanding, the faster the changes in monetary policy feed through to financial variables. This can speed up the transmission of monetary policy to investment and consumption decisions and accelerate any necessary economic adjustment.

The ECB's communication efforts in 2015 were led by a push for more transparency to increase the institution's accountability. The ECB conducts monetary policy for 338 million euro area citizens using 16 different languages. The way it deals with this plurality is by making use of the inherent advantage of having 19 national central banks in the Eurosystem. Colleagues in each country ensure that the ECB's messages are heard and understood in the local context.

In 2015 the ECB had to resort to further unconventional measures to meet its mandate in an increasingly uncertain environment. With this came a greater obligation to explain to the public why one course of action was chosen over another.

Publishing monetary policy accounts

In 2014 the ECB's Governing Council decided to publish accounts of its monetary policy meetings from the beginning of 2015. The accounts, which are generally released four weeks after each monetary policy meeting, make it easier to understand the Governing Council's assessment of the economy and its policy responses. They summarise the discussions on the economic and monetary analysis and the monetary policy stance in an unattributed form. The publication of the accounts strengthens the ECB's accountability and effectiveness and helps deal with the challenge of setting monetary policy in a multi-country monetary union, fulfilling the Eurosystem and SSM strategic intents of accountability, independence, credibility and closeness to the citizens.

Guiding principles for external communication

In a further effort to improve transparency, the ECB's Executive Board also decided to publish the calendars of each Board member on a regular basis with a three-month lag from November 2015. The publication of the calendars also underscores the ECB's commitment to transparency and accountability.

During 2015 the ECB's communication focused mainly on the expansion of its accommodative monetary policy, specifically on the implementation of the expanded asset purchase programme. In November the ECB marked its first year as banking supervisor. The vast majority of public speeches delivered by members of the Executive Board and the Supervisory Board and their media engagements were related to these topics.

In addition, Executive Board members gave testimony before the European Parliament, explaining their actions to lawmakers and thereby enhancing public knowledge and understanding of the Eurosystem's tasks and policies (see Section 7 of this chapter for more details).

Executive Board members follow a set of guiding principles for public and non-public speaking engagements as well as bilateral meetings, which aim to ensure the integrity of the institution.

These recent decisions represent further steps along the path towards greater transparency.

New website: explaining how the ECB works

One way to connect to citizens across the euro area is via the internet. In 2015 the ECB introduced a new website to improve navigation and make its content more accessible. A new section explains relevant topics in simple language and by using multimedia. A video, for instance, shows how the T2S platform for securities settlement works. Speeches, press releases and interviews by Executive Board members feature prominently on the ECB's homepage. The ECB's Twitter account now has more than 300,000 followers and is used to highlight publications and key messages from speeches, while YouTube is used to publish video content and Flickr for photographs. The ECB is now also present on LinkedIn.

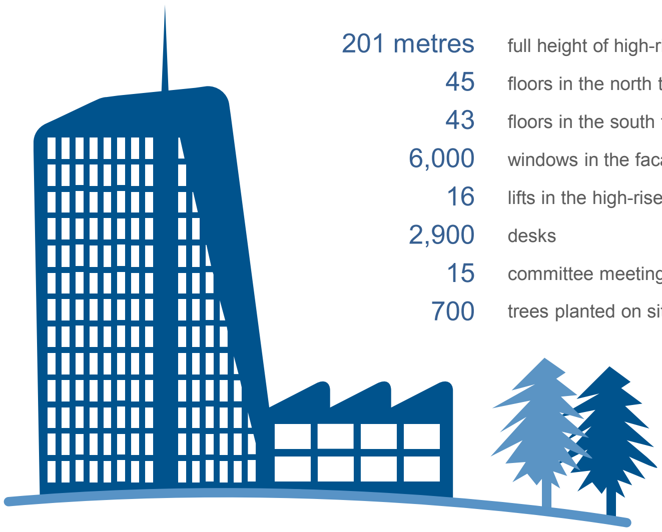
Two new tools make statistics more accessible. The website "Our statistics" was developed in cooperation with the national central banks of the Eurosystem to provide easier access to euro area and national statistics. The ECBstatsApp gives quick and easy access to data published in the ECB's Statistical Data Warehouse.

New building: inauguration of the ECB premises

The ECB's new building on the site of Frankfurt's former wholesale market hall was officially opened in March. The inauguration ceremony went ahead despite anti-capitalism protests in front of the main building and throughout the city of Frankfurt. The building provides office space for up to 2,900 staff as well as the Governing Council meeting room on the top floor. The ECB accompanied the building's construction and opening with a broad range of media activities and events, for instance by offering guided tours of the building and inviting neighbours to an open day.

In the basement of the eastern wing building, the premises incorporate a memorial commemorating the deportation of Jewish citizens between 1941 and 1945. The memorial, a joint project with the Jewish Community of Frankfurt and the City of Frankfurt am Main, was officially inaugurated in November 2015.

Figure 5
The new building – key facts



201 metres	full height of high-rise (incl. antenna)
45	floors in the north tower
43	floors in the south tower
6,000	windows in the facade
16	lifts in the high-rise
2,900	desks
15	committee meeting rooms
700	trees planted on site

Source: ECB.

Annex 1
Institutional framework

1 Decision-making bodies and corporate governance of the ECB

The Eurosystem and the European System of Central Banks (ESCB) are governed by the decision-making bodies of the ECB: the Governing Council and the Executive Board. The General Council is constituted as a third decision-making body of the ECB, for as long as there are EU Member States which have not yet adopted the euro. The functioning of the decision-making bodies is governed by the Treaty on the Functioning of the European Union, the Statute of the ESCB and the relevant Rules of Procedure.[74] Decision-making within the Eurosystem and the ESCB is centralised. However, the ECB and the euro area national central banks (NCBs) jointly contribute, strategically and operationally, to attaining the common goals of the Eurosystem, with due respect to the principle of decentralisation in accordance with the Statute of the ESCB.

1.1 The Governing Council

The Governing Council is the main decision-making body of the ECB. It comprises the members of the Executive Board of the ECB and the governors of the NCBs of the euro area countries. The enlargement of the euro area to include Lithuania as its 19th member country on 1 January 2015 triggered the implementation of a rotation scheme for the voting rights of the members of the Governing Council.

As of January 2015 meetings dedicated to monetary policy are held every six weeks. An account of these monetary policy meetings is published, generally with a four-week time lag.

The Governing Council

Mario Draghi President of the ECB

Vítor Constâncio Vice-President of the ECB

Josef Bonnici Governor of the Central Bank of Malta

[74] For the ECB's Rules of Procedure, see: Decision ECB/2014/1 of 22 January amending Decision ECB/2004/2 of 19 February 2004 adopting the Rules of Procedure of the European Central Bank; Decision ECB/2004/2 of 19 February 2004 adopting the Rules of Procedure of the European Central Bank, OJ L 80, 18.3.2004, p. 33; Decision ECB/2004/12 of 17 June 2004 adopting the Rules of Procedure of the General Council of the ECB, OJ L 230, 30.6.2004, p. 61; and Decision ECB/1999/7 of 12 October 1999 concerning the Rules of Procedure of the Executive Board of the ECB, OJ L 314, 8.12.1999, p. 34. These rules are also available on the ECB's website.

Luc Coene Governor of the Nationale Bank van België/
Banque Nationale de Belgique (until 10 March 2015)

Benoît Cœuré Member of the Executive Board of the ECB

Carlos Costa Governor of the Banco de Portugal

Chrystalla Georghadji Governor of the Central Bank of Cyprus

Ardo Hansson Governor of Eesti Pank

Patrick Honohan Governor of the Central Bank of Ireland (until 25 November 2015)

Boštjan Jazbec Governor of Banka Slovenije

Klaas Knot President of De Nederlandsche Bank

Philip R. Lane Governor of the Central Bank of Ireland (from 26 November 2015)

Sabine Lautenschläger Member of the Executive Board of the ECB

Erkki Liikanen Governor of Suomen Pankki – Finlands Bank

Luis M. Linde Governor of the Banco de España

Jozef Makúch Governor of Národná banka Slovenska

Yves Mersch Member of the Executive Board of the ECB

Ewald Nowotny Governor of the Oesterreichische Nationalbank

Christian Noyer Governor of the Banque de France (until 31 October 2015)

Peter Praet Member of the Executive Board of the ECB

Gaston Reinesch Governor of the Banque centrale du Luxembourg

Ilmārs Rimšēvičs Governor of Latvijas Banka

Jan Smets Governor of the Nationale Bank van België/
Banque Nationale de Belgique (from 11 March 2015)

Yannis Stournaras Governor of the Bank of Greece

Vitas Vasiliauskas Chairman of the Board of Lietuvos bankas

François Villeroy de Galhau Governor of the Banque de France
(from 1 November 2015)

Ignazio Visco Governor of the Banca d'Italia

Jens Weidmann President of the Deutsche Bundesbank

Front row (from left to right): Carlos Costa, Ignazio Visco, Sabine Lautenschläger, Vítor Constâncio, Mario Draghi, Chrystalla Georghadji, Yannis Stournaras, Philip R. Lane, Yves Mersch

Middle row (from left to right): Benoît Cœuré, Ewald Nowotny, Josef Bonnici, Jozef Makúch, Luis M. Linde, Ilmārs Rimšēvičs, Erkki Liikanen

Back row (from left to right): Boštjan Jazbec, Peter Praet, François Villeroy de Galhau, Jan Smets, Gaston Reinesch, Klaas Knot, Ardo Hansson, Vitas Vasiliauskas

Note: Jens Weidmann was not available at the time the photograph was taken.

1.2 The Executive Board

The Executive Board comprises the President and the Vice-President of the ECB and four other members appointed by the European Council, acting by qualified majority, after consultation with the European Parliament and the ECB.

The Executive Board

Mario Draghi President of the ECB

Vítor Constâncio Vice-President of the ECB

Benoît Cœuré Member of the Executive Board of the ECB

Sabine Lautenschläger Member of the Executive Board of the ECB

Yves Mersch Member of the Executive Board of the ECB

Peter Praet Member of the Executive Board of the ECB

Front row (left to right): Sabine Lautenschläger, Mario Draghi (President), Vítor Constâncio (Vice-President)

Back row (left to right): Yves Mersch, Peter Praet, Benoît Cœuré

1.3 The General Council

The General Council is composed of the President and the Vice-President of the ECB and the governors of the NCBs of all 28 EU Member States.

The General Council

Mario Draghi President of the ECB

Vítor Constâncio Vice-President of the ECB

Marek Belka President of Narodowy Bank Polski

Josef Bonnici Governor of the Central Bank of Malta

Mark Carney Governor of the Bank of England

Luc Coene Governor of the Nationale Bank van België/
Banque Nationale de Belgique (until 10 March 2015)

Carlos Costa Governor of the Banco de Portugal

Chrystalla Georghadji Governor of the Central Bank of Cyprus

Ardo Hansson Governor of Eesti Pank

Patrick Honohan Governor of the Central Bank of Ireland (until 25 November 2015)

Stefan Ingves Governor of Sveriges Riksbank

Mugur Constantin Isărescu Governor of Banca Naţională a României

Ivan Iskrov Governor of Българска народна банка (Bulgarian National Bank) (until 14 July 2015)

Boštjan Jazbec Governor of Banka Slovenije

Klaas Knot President of De Nederlandsche Bank

Philip R. Lane Governor of the Central Bank of Ireland (from 26 November 2015)

Erkki Liikanen Governor of Suomen Pankki – Finlands Bank

Luis M. Linde Governor of the Banco de España

Jozef Makúch Governor of Národná banka Slovenska

György Matolcsy Governor of the Magyar Nemzeti Bank

Ewald Nowotny Governor of the Oesterreichische Nationalbank

Christian Noyer Governor of the Banque de France (until 31 October 2015)

Dimitar Radev Governor of Българска народна банка (Bulgarian National Bank) (from 15 July 2015)

Gaston Reinesch Governor of the Banque centrale du Luxembourg

Ilmārs Rimšēvičs Governor of Latvijas Banka

Lars Rohde Governor of Danmarks Nationalbank

Miroslav Singer Governor of Česká národní banka

Jan Smets Governor of the Nationale Bank van België/ Banque Nationale de Belgique (from 11 March 2015)

Yannis Stournaras Governor of the Bank of Greece

Vitas Vasiliauskas Chairman of the Board of Lietuvos bankas

François Villeroy de Galhau Governor of the Banque de France (from 1 November 2015)

Ignazio Visco Governor of the Banca d’Italia

Boris Vujčić Governor of Hrvatska narodna banka

Jens Weidmann President of the Deutsche Bundesbank

Front row (left to right): Marek Belka, Carlos Costa, Ignazio Visco, Vítor Constâncio, Mario Draghi, Chrystalla Georghadji, Yannis Stournaras, Philip R. Lane, Erkki Liikanen

Middle row (left to right): Mugur Constantin Isărescu, Ewald Nowotny, Josef Bonnici, Jozef Makúch, Boris Vujčić, Lars Rohde, Luis M. Linde, Ilmārs Rimšēvičs, Dimitar Radev

Back row (left to right): Boštjan Jazbec, Sir Jon Cunliffe (Deputy Governor of the Bank of England), François Villeroy de Galhau, Jan Smets, Gaston Reinesch, Klaas Knot, Ardo Hansson, Vitas Vasiliauskas, Miroslav Singer, Stefan Ingves

Note: Mark Carney, Jens Weidmann and György Matolcsy were not available at the time the photograph was taken.

1.4 Corporate governance

In addition to the decision-making bodies, the corporate governance structure of the ECB encompasses two high-level committees – the Audit Committee and the Ethics Committee – as well as a number of further external and internal control layers. It is complemented by the Ethics Framework, the ECB Decision (ECB/2004/11) providing the terms and conditions for anti-fraud investigations, and the rules concerning access to ECB documents. Following the establishment of the Single Supervisory Mechanism (SSM), corporate governance issues have gained even further significance for the ECB.

Audit Committee

The ECB Audit Committee supports the Governing Council by providing advice and opinions in respect of (i) the integrity of financial information, (ii) the oversight of internal controls, (iii) compliance with applicable laws, regulations and codes of conduct, and (iv) the performance of the audit functions. Its mandate is available on the ECB's website. The Audit Committee is chaired by Erkki Liikanen and in 2015 comprised four other members: Vítor Constâncio, Ewald Nowotny, Hans Tietmeyer and Jean-Claude Trichet.

Ethics Committee

In order to ensure the adequate and coherent implementation of the different codes of conduct of the bodies involved in the ECB's decision-making processes, the Ethics Committee, which became operational after the appointment of its members in the second quarter of 2015, provides advice and guidance on questions of ethics to the members of the Governing Council, the Executive Board and the Supervisory Board. Its mandate is available on the ECB's website. The Ethics Committee is chaired by Jean-Claude Trichet and comprises two other external members: Klaus Liebscher and Hans Tietmeyer.

External and internal control layers

External control layers

The Statute of the ESCB provides for two external control layers, namely the external auditor, appointed on a rotating basis for a five-year term to audit the annual accounts of the ECB, and the European Court of Auditors, which examines the operational efficiency of the management of the ECB.

Internal control layers

A three-tier system of internal controls has been established at the ECB consisting of (i) management controls, (ii) various risk and compliance oversight functions, and (iii) independent audit assurance.

The internal control structure of the ECB is based on a functional approach in which each organisational unit (section, division, directorate or directorate general) has primary responsibility for managing its own risks, as well as for ensuring the effectiveness and efficiency of its operations.

Oversight functions comprise monitoring mechanisms and effective processes to achieve adequate control of financial and operational risks. These second-level control functions are performed by ECB internal functions (such as the budget and controlling function, the operational and financial risk management functions, the quality assurance function for banking supervision or the compliance function) and/or – as relevant – by Eurosystem/ESCB Committees (e.g. the Organisational Development Committee, the Risk Management Committee and the Budget Committee).

In addition, and independently from the internal control structure and risk monitoring of the ECB, audit missions are performed by the ECB internal audit function under the direct responsibility of the Executive Board, in accordance with the ECB Audit Charter. The ECB's internal audit activities conform to the International Standards for the Professional Practice of Internal Auditing of the Institute of Internal Auditors. Furthermore, the Internal Auditors Committee, which is composed of internal audit experts from the ECB, the NCBs and the national competent authorities, assists in the achievement of the Eurosystem and SSM objectives.

ECB Ethics Framework

The ECB Ethics Framework consists of the Code of Conduct for the members of the Governing Council, the Supplementary Code of Ethics Criteria for the members of the Executive Board, the Code of Conduct for the members of the Supervisory Board and the ECB Staff Rules. The Ethics Framework establishes ethical rules and guiding principles to ensure that the highest levels of integrity, competence, efficiency and transparency are met in the performance of ECB tasks.

Anti-fraud/anti-money laundering measures

The European Parliament and the EU Council adopted a Regulation to allow for, inter alia, internal investigations by the European Anti-Fraud Office (OLAF) of suspected fraud within the EU institutions, bodies, offices and agencies. In 2004 the Governing Council endorsed the legal framework covering the terms and conditions for investigations by OLAF of the ECB in relation to the prevention of fraud, corruption and any other illegal activities. Furthermore, in 2007 the ECB established its internal anti-money laundering (AML) and counter-terrorist financing (CTF) schemes. An internal reporting system complements the ECB's AML/CTF framework to ensure that all relevant information is systematically collected and duly communicated to the Executive Board.

Access to ECB documents

The ECB's Decision on public access to ECB documents[75] is in line with the objectives and standards applied by other EU institutions and bodies with regard to public access to their documents. It enhances transparency, while at the same time taking into account the independence of the ECB and of the NCBs and ensuring the confidentiality of certain matters specific to the performance of the ECB's tasks. In 2015 the ECB's public access regime was further amended in order to take into account the new SSM-related activities.

In order to further confirm its commitment to transparency and accountability, the ECB decided to release as of February 2016 the meeting calendars of each of the Executive Board members with a three-month lag. Moreover, the members of the Executive Board committed themselves to adhere to guiding principles for external communication in order to ensure a level playing field and equal treatment among stakeholders (see Section 8 of Chapter 2 for more details).

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75 Decision ECB/2004/3 of 4 March 2004 on public access to European Central Bank documents, OJ L 80, 18.3.2004, p. 42, as amended.

Compliance and Governance Office

As a further sign of the ECB's firm commitment to good governance and the highest levels of professional ethics, the Executive Board established a dedicated Compliance and Governance Office (CGO) in January 2015. Reporting directly to the President of the ECB, the CGO supports the Executive Board in protecting the integrity and reputation of the ECB, promotes ethical standards of behaviour and strengthens the ECB's accountability and transparency. To enhance both the overall coherence and the effectiveness of the ECB corporate governance framework, the CGO moreover provides the secretariat to the ECB Audit and Ethics Committees and acts as the liaison point for the European Ombudsman and OLAF.

Annex 2
Eurosystem/ESCB committees

The Eurosystem/ESCB committees have continued to play an important role in assisting the ECB's decision-making bodies in the performance of their tasks. At the request of both the Governing Council and the Executive Board, the committees have provided expertise in their fields of competence and have facilitated the decision-making process. Membership of the committees is usually restricted to staff of the Eurosystem central banks. However, the NCBs of the Member States which have not yet adopted the euro take part in the meetings of a committee whenever it deals with matters that fall within the field of competence of the General Council. In addition, some of the committees meet in an SSM composition (i.e. one member from the central bank and one member from the national competent authority of each participating Member State) when dealing with matters related to banking supervision. Where appropriate, other competent bodies may also be invited to committee meetings.

Eurosystem/ESCB Committees, Budget Committee, Human Resources Conference and their chairpersons (as at 1 January 2016)

Accounting and Monetary Income Committee (AMICO) Werner Studener	Market Operations Committee (MOC) Ulrich Bindseil
Banknote Committee (BANCO) Ton Roos	Monetary Policy Committee (MPC) Wolfgang Schill
Committee on Controlling (COMCO) Joachim Nagel	Organisational Development Committee (ODC) Steven Keuning
Eurosystem/ESCB Communications Committee (ECCO) Christine Graeff	Payment and Settlement Systems Committee (PSSC) Marc Bayle/Daniela Russo
Financial Stability Committee (FSC) Vítor Constâncio	Risk Management Committee (RMC) Carlos Bernadell
Information Technology Committee (ITC) Koenraad de Geest	Statistics Committee (STC) Aurel Schubert
Internal Auditors Committee (IAC) Klaus Gressenbauer	Budget Committee (BUCOM) Pentti Hakkarainen
International Relations Committee (IRC) Frank Moss	Human Resources Conference (HRC) Steven Keuning
Legal Committee (LEGCO) Chiara Zilioli	

Two further committees exist. The Budget Committee assists the Governing Council in matters related to the ECB's budget, while the Human Resources Conference is a forum for the exchange of experience, expertise and information among Eurosystem/ESCB central banks in the field of human resources management.

Annex 3
Organisational and human resources developments

The organisational chart of the ECB (as at 1 January 2016)

Executive Board

Chief Services Officer[1)], Directorates General & Directorates

Divisions

Directorate General Administration
Werner Studener
Deputy: Klaus Riemke
Divisions:
· Accounting & Procurement
· Administrative Services
· Financial Reporting & Policy
· Premises
· Security & Safety

Directorate Banknotes
Ton Roos
Divisions:
· Currency Development
· Currency Management

Directorate General Communications
Christine Graeff
Deputy: Thierry Bracke
Deputy: Cornelia Lotze
Divisions:
· Global Media Relations
· Language Services
· Outreach
· Web & Digital

Counsel to the Executive Board
Frank Smets

Directorate General Economics
Wolfgang Schill
Deputy: Hans-Joachim Klöckers
- **Directorate Economic Developments**
  Hans-Joachim Klöckers
  Divisions:
  · Convergence & Competitiveness
  · Country Surveillance
  · Fiscal Policies
  · Output & Demand
  · Prices & Costs
- **Directorate Monetary Policy**
  Massimo Rostagno
  Divisions:
  · Capital Markets/Financial Structure
  · Monetary Analysis
  · Monetary Policy Strategy

ESRB Secretariat
Francesco Mazzaferro[2)]
Deputy: Tuomas Peltonen

Directorate General HR, Budget & Organisation
Steven Keuning
Deputy: Peter Rennpferdt
Divisions:
· Budget, Controlling & Organisation
· HR Policies & Staff Relations
· Recruitment & Compensation

Directorate General Information Systems
Koenraad De Geest
Deputy: Magí Clavé Badia
Deputy: Dirk Robijns
Divisions:
· Analytical Domain Applications
· Enterprise Systems
· Exectutional Domain Applications
· Infrastructure & Operations
· IT Governance & Business Relations
· Security & Architecture

Directorate Internal Audit
Klaus Gressenbauer
Divisions:
· Audit Missions 1
· Audit Missions 2

Directorate General International & European Relations
Frank Moss
Deputy: Gilles Noblet
Divisions:
· ECB Representation in Washington, D.C.
· EU Institutions & Fora (includes the ECB Representative Office in Brussels)
· External Developments
· International Policy Analysis
· International Relations & Cooperation

Directorate General Legal Services
Chiara Zilioli
Deputy: Christian Kroppenstedt
Divisions:
· Financial Law
· Institutional Law[3)]
· Legislation
· Supervisory Law

Directorate General Macroprudential Policy & Financial Stability
Sergio Nicoletti Altimari
Deputy: John Fell
Divisions:
· Financial Regulation
· Financial Stability Surveillance
· Macro-Financial Linkages
· Macro-Financial Policies

Directorate General Market Infrastructure & Payments
Marc Bayle
Deputy: Pierre Petit
Divisions:
· Market Infrastructure Development
· Market Infrastructure Management
· Market Integration
· Oversight

Directorate General Market Operations
Ulrich Bindseil
Deputy: Roberto Schiavi
Divisions:
· Bond Markets & International Operations
· Financial Operations Services
· Market Operations Analysis
· Market Operations Systems
· Money Market & Liquidity

Directorate General Research
Luc Laeven
Deputy: Philipp Hartmann
Divisions:
· Financial Research
· Monetary Policy Research

Directorate Risk Management
Carlos Bernadell
Divisions:
· Risk Analysis
· Risk Strategy

Directorate General Secretariat
Pedro Gustavo Teixeira[4)]
Divisions:
· Information Management Services
· Secretariat
- **Compliance and Governance Office**
  Roman Schremser[5)]

Directorate General Statistics
Aurel Schubert
Deputy: Werner Bier
Divisions:
· External Statistics
· Macroeconomic Statistics
· Monetary & Financial Statistics
· Statistical Information Services
· Statistics Development/ Coordination
· Supervisory Statistics

Directorate Secretariat to the Supervisory Board
Petra Senkovic

Directorate General Microprudential Supervision I
Stefan Walter
Deputy: Patrick Amis
Deputy: Margarita Delgado
Divisions:
· Significant Bank Supervision I
· Significant Bank Supervision II
· Significant Bank Supervision III
· Significant Bank Supervision IV
· Significant Bank Supervision V
· Significant Bank Supervision VI
· Significant Bank Supervision VII

Directorate General Microprudential Supervision II
Ramón Quintana
Deputy: Paolo Corradino
Deputy: Rolf Klug
Divisions:
· Significant Bank Supervision VIII
· Significant Bank Supervision IX
· Significant Bank Supervision X
· Significant Bank Supervision XI
· Significant Bank Supervision XII
· Significant Bank Supervision XIII
· Significant Bank Supervision XIV
· Significant Bank Supervision XV

Directorate General Microprudential Supervision III
Jukka Vesala
Deputy: Linette Field
Divisions:
· Analysis & Methodological Support
· Institutional & Sectoral Oversight
· Supervisory Oversight & NCA Relations

Directorate General Microprudential Supervision IV
Korbinian Ibel
Deputy: François-Louis Michaud
Deputy: Giuseppe Siani
Divisions:
· Authorisation
· Centralised On-site Inspections
· Crisis Management
· Enforcement & Sanctions
· Internal Models
· Methodology & Standards Development
· Planning & Coordination of SEP
· SSM Risk Analysis
· Supervisory Policies
· Supervisory Quality Assurance

1) Reports to the Executive Board via the President.
2) Reports to the President of the ECB in his capacity as Chair of the European Systemic Risk Board (ESRB).
3) Includes the data protection function.
4) Secretary to the Executive Board, the Governing Council and the General Council.
5) Reports to the Executive Board via the President on compliance matters.

ECB human resources

Following the introduction of the Single Supervisory Mechanism (SSM) in 2014, the ECB performed a comprehensive review of its internal organisational processes and practices in 2015. The views of staff members were collected via an ECB-wide staff survey. The role of Chief Services Officer (CSO) was created to improve coordination across support functions and better facilitate the orientation of support services towards the needs of the institution as a whole. The CSO is responsible for matters pertaining to administrative services, IT services, human resources, budget and finance. The CSO reports to the Executive Board via the President and will regularly attend Executive Board meetings.

As at 31 December 2015 the ECB had 2,650 full-time equivalent approved headcount positions, compared with 2,622 positions at the end of 2014. The number of actual full-time equivalent staff holding employment contracts with the ECB stood at 2,871 (compared with 2,577 on 31 December 2014).[76] A total of 279 new fixed-term contracts (limited in nature or convertible to permanent contracts) were offered in 2015 and 246 short-term contracts were issued during the year, in addition to a number of contract extensions, to cover absences of less than one year. Throughout 2015 the ECB continued to offer short-term contracts for periods of up to 36 months to staff from NCBs and international organisations. On 31 December 2015 226 employees from NCBs and international organisations were working at the ECB on various assignments, 50% more than at the end of 2014. In September 2015 the ECB welcomed ten participants in the tenth intake of its Graduate Programme and on 31 December 2015 273 trainees were being hosted by the ECB (76% more than in 2014). The ECB also awarded four fellowships as part of the Wim Duisenberg Research Fellowship Programme, which is open to leading economists, and five fellowships to young researchers under its Lamfalussy Fellowship Programme.

An ECB-wide staff survey was conducted in May 2015 with a 90% participation rate. As a result, action plans were developed at both the ECB-wide and business area levels. The key areas of follow-up activity were “career development”, “performance management”, “collaboration and information sharing”, “resources and workload, work pressure and stress” and “openness and fairness”. The ECB-wide action plan was closely linked to a review of the ECB’s internal operations aimed at optimising processes, procedures and structures to make the ECB stronger and more agile, and sought to ensure a sustainable working culture.

The ECB continued to support the needs of staff in achieving a work-life balance. At the end of 2015 257 staff members were working part time (259 at end-2014) and 36 staff members were on unpaid parental leave (29 at end-2014). In 2015, on average, around 846 staff members teleworked at least once a month.

Staff development remained high on the ECB’s human resources agenda in 2015, with the launch of the SSM traineeship programme, the continued roll-out of SSM

[76] In addition to contracts based on full-time equivalent positions, this figure includes short-term contracts awarded to staff seconded from NCBs and international organisations and contracts awarded to Graduate Programme participants.

training programmes, and the commitment to a permanent and inclusive mentoring programme to support the development of staff who have reached the top of their salary band and to help the organisation reach its gender diversity targets.

After having already achieved a share of 24% of women in management level positions and 19% of women in senior management level positions at the end of 2014, the ECB reached its interim end-2015 gender targets. Since the introduction of gender targets (35% of women at management level and 28% of women at senior management level by the end of 2019) in June 2013 and of a dedicated action plan, the topic of gender diversity has been high on the ECB's agenda, with the aim of identifying, developing and promoting female talent.

Figure 6
Share of women in management level positions

Women in leadership programme
100

Mentoring programme
112 mentees
81 mentors

Diversity ambassadors
24 women
24 men

Share of successful candidates in ECB recruitment campaigns
48% female
52% male

ECB

	All managers	Senior managers
Target end-2019	35%	28%
Interim target end-2017	29%	24%
Actual figure end-2015	**24%**	**19%**
Interim target end-2015	23%	19%

Source: ECB.

While the organisation grew slightly in size, 53 members of staff employed on a fixed-term or permanent basis resigned or retired in 2015 (the same number as in 2014), and 217 short-term contracts expired in the course of the year.

Annual Accounts

2015

Management report for the year ending 31 December 2015

1 Purpose of the ECB's management report

This management report is an integral part of the ECB's annual financial reporting. It provides readers with contextual information on the business of the ECB, its operational framework and the impact of the ECB's operations on its financial statements.

This report provides information on the key processes related to the production of the ECB's financial statements. Given that the ECB's activities and operations are undertaken in support of its monetary policy objectives, its financial outcome should be viewed in conjunction with its policy actions. This report therefore also provides information on the ECB's main risks and how they are affected by its operations, as well as on the available financial resources and the impact of the ECB's key activities on its financial statements.

2 Key objectives and tasks

The ECB's primary objective is to maintain price stability. Its main tasks, as described in the Statute of the ESCB, comprise the implementation of the monetary policy of the European Union, the conduct of foreign exchange operations, the management of the official foreign reserves of the euro area countries and the promotion of the smooth operation of payment systems.

Furthermore, the ECB is responsible for the effective and consistent functioning of the Single Supervisory Mechanism (SSM), with a view to carrying out intrusive and effective banking supervision, contributing to the safety and soundness of the banking system and the stability of the financial system of the European Union.

3 Key processes

The ECB's Annual Accounts process is associated with a number of key activities.

3.1 Controls within organisational units

Within the ECB's internal control structure, each business area is responsible for managing its own operational risks and implementing controls in order to ensure the effectiveness and efficiency of its operations and the accuracy of the information to be included in the financial statements of the ECB. Budget matters also fall primarily under the responsibility and accountability of the individual business areas.

3.2 Budgetary processes

The Budget, Controlling and Organisation Division (BCO) of the Directorate General Human Resources, Budget and Organisation[1] develops the framework for and prepares and monitors strategic planning in respect of the ECB's resources, as well as the related operating budget. These tasks are carried out in cooperation with the business areas, while applying the separation principle,[2] and the outcome is reflected in the annual work programmes of the divisions. BCO also provides planning and resource controlling, cost-benefit analysis and investment analysis for the ECB and for ESCB projects. Expenditure against agreed budgets is monitored at regular intervals by the Executive Board,[3] taking into account the advice of BCO, and by the Governing Council with the assistance of the Budget Committee (BUCOM). In accordance with Article 15 of the ECB's Rules of Procedure, BUCOM supports the Governing Council by evaluating the ECB's annual budget proposals and the Executive Board's requests for supplementary budget funding, prior to their submission to the Governing Council for approval.

3.3 Financial risk oversight functions

The ECB's Directorate Risk Management is responsible for proposing policies and procedures that ensure an appropriate level of protection against financial risks for (a) the Eurosystem, including the ECB, in the conduct of monetary policy operations, and (b) the ECB in the management of its foreign reserves, gold holdings and euro-denominated investment portfolios. The Directorate Risk Management also assesses and proposes improvements to the Eurosystem's monetary and foreign exchange policy operational frameworks from a risk management perspective. Furthermore, the Risk Management Committee (RMC), which comprises experts from Eurosystem central banks, assists the decision-making bodies in ensuring an appropriate level of protection for the Eurosystem. This is achieved by managing and controlling the financial risks originating from market operations, in the context of both the Eurosystem's monetary policy operations and the ECB's foreign reserves portfolio. With regard to these activities, the RMC contributes, inter alia, to the monitoring, measuring and reporting of financial risks on the Eurosystem balance sheet and the definition and review of the associated methodologies and frameworks.

3.4 Portfolio management

The ECB holds two types of investment portfolio, namely the foreign reserves investment portfolio, denominated in US dollars and Japanese yen, and an own

1 In 2016 BCO will become part of the newly created Directorate General Budget and Finance.

2 The separation principle refers to the requirement laid down in the SSM Regulation for the ECB to carry out its supervisory tasks without prejudice to and separately from its tasks relating to monetary policy and any other tasks.

3 From 2016 the newly appointed Chief Services Officer will also play an active role in the monitoring of budgets.

funds investment portfolio, denominated in euro. In addition, the funds relating to the ECB's pension plans are invested in an externally managed portfolio. The ECB also holds euro-denominated securities for monetary policy purposes, acquired in the context of the Securities Markets Programme (SMP), the asset-backed securities purchase programme (ABSPP), the public sector asset purchase programme (PSPP) and the three covered bond purchase programmes (CBPPs).

3.5 Production of the ECB's financial accounts

The Annual Accounts of the ECB are drawn up by the Executive Board, in accordance with the accounting policies established by the Governing Council.[4]

The Financial Reporting and Policy Division of the Directorate General Administration[5] is responsible for producing the Annual Accounts in cooperation with other business areas and for ensuring that all related documentation is made available in a timely manner to the external auditors and to the decision-making bodies. The financial reporting processes and the ECB's Annual Accounts may be subject to internal audits. The ECB's internal audit activities conform to the Institute of Internal Auditors' International Standards for the Professional Practice of Internal Auditing. All reports by the Directorate Internal Audit, which may include audit recommendations addressed to the business areas concerned, are submitted to the Executive Board.

Furthermore, the Annual Accounts of the ECB are audited by independent external auditors recommended by the Governing Council and approved by the EU Council. The external auditors examine the books and accounts of the ECB and have full access to all information about its transactions.[6] The responsibility of the external auditors is to express an opinion as to whether the Annual Accounts give a true and fair view of the financial position of the ECB and of the results of its operations, in accordance with the accounting policies established by the Governing Council. In this regard, the external auditors evaluate the adequacy of internal controls applied to the preparation and presentation of the Annual Accounts and assess the appropriateness of the accounting policies used.

The ECB's Assets and Liabilities Committee, which is composed of representatives from the ECB's market operations, accounting, financial reporting, risk management and budget functions, systematically monitors and assesses all factors that may have an impact on the ECB's Balance Sheet and Profit and Loss Account. It reviews the Annual Accounts and the related documentation before they are submitted to the Executive Board for endorsement.

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4 See the notes on accounting policies.

5 From 2016 the Financial Reporting and Policy Division will become part of the newly created Directorate General Budget and Finance.

6 In order to reinforce public assurance as to the independence of the ECB's external auditors, the principle of audit firm rotation every five years is applied.

After the Executive Board has authorised their issuance, the Annual Accounts, together with the external auditor's opinion and all relevant documentation, are submitted to the Audit Committee for review prior to their approval by the Governing Council. The Audit Committee provides assistance to the Governing Council regarding its responsibilities concerning, inter alia, the integrity of financial information and the oversight of internal controls. In this context, the Audit Committee assesses the ECB's Annual Accounts and considers whether they provide a true and fair view and were drawn up in accordance with approved accounting rules. It also reviews any significant accounting or financial reporting issues that could have an impact on the ECB's financial statements.

The ECB's Annual Accounts are approved by the Governing Council in February of each year and published immediately thereafter. They are published together with the management report and the consolidated annual balance sheet of the Eurosystem.

4 Risk management

Risk management is a critical component of the ECB's activities and is conducted through a continuous process of risk identification, assessment, mitigation and monitoring. The table below presents the main risks to which the ECB is exposed, as well as their sources and the risk management strategies applied by the ECB.

Risks to which the ECB is exposed

Risk	Component	Type of risk	Source of risk	Risk control framework
Financial risks	Credit risk	**Credit default risk** *Risk of incurring financial losses owing to a "default event" which stems from the failure of an obligor (counterparty or issuer) to meet its financial obligations in a timely manner*	• foreign reserves holdings • euro-denominated investment portfolio • monetary policy securities holdings	✓ eligibility criteria ✓ due diligence assessment ✓ exposure limits ✓ collateralisation ✓ diversification ✓ financial risk monitoring
		Credit migration risk *Risk of incurring financial losses owing to a re-pricing of financial assets following a deterioration in their credit quality and ratings*	• foreign reserves holdings • euro-denominated investment portfolio	
	Market risk	**Currency and commodity risks** *Risks of incurring financial losses on (a) positions denominated in foreign currency, owing to fluctuations in exchange rates, and (b) on holdings of commodities, owing to fluctuations in their market prices*	• foreign reserves holdings • gold holdings	✓ diversification of holdings across currencies and gold ✓ gold and foreign currency revaluation accounts ✓ financial risk monitoring
		Interest rate risk *Risk of incurring financial losses as a result of adverse changes in interest rates giving rise to either (a) a mark-to-market decline in the value of financial instruments or (b) a negative impact on net interest income*	• foreign reserves holdings • euro-denominated investment portfolio • monetary policy securities holdings	✓ asset allocation policies ✓ price revaluation accounts ✓ market risk limits ✓ financial risk monitoring
	Liquidity risk *Risk of incurring financial losses owing to the inability to liquidate an asset at its prevailing market value within an appropriate time frame*		• foreign reserves holdings	✓ asset allocation policies ✓ liquidity limits ✓ financial risk monitoring
Operational risk *Risk of a negative financial, business or reputational impact resulting from people's actions or omissions, deficient personnel resourcing or policies, the inadequate implementation or failure of internal governance and business processes, the failure of systems on which processes rely, or external events (e.g. natural disasters or external attacks)*			• workforce, personnel resourcing, personnel policies • internal governance and business processes • systems • external events	✓ identifying, assessing, responding, reporting and monitoring operational risks ✓ risk tolerance policy guidance ✓ risk matrix ✓ business continuity management framework

4.1 Financial risks

Financial risks arise from the ECB's core activities and associated exposures. The ECB decides its asset allocation and implements appropriate risk management and due diligence frameworks, taking into account the objectives and purposes of the various portfolios and the financial exposures, as well as the risk preferences of its decision-making bodies.

Financial risks can be quantified using a variety of risk measures. The ECB applies risk estimation techniques developed in-house, which rely on a joint market and credit risk simulation framework. The core modelling concepts, techniques and assumptions underlying the risk measures draw on market standards. In order to obtain a comprehensive understanding of potential risk events that could occur at different frequencies with different degrees of severity, the ECB uses two types of statistical measure, Value at Risk (VaR) and Expected Shortfall,[7] which are calculated for a number of confidence levels. Furthermore, sensitivity and stress scenario analyses are used to better understand and complement the statistical risk estimates.

Measured as VaR at a 95% confidence level over a one-year horizon (VaR95%), as at 31 December 2015 the financial risks to which the ECB was exposed through its financial assets amounted to a total of €10 billion, which was €1.4 billion higher than the aggregate risks estimated as at 31 December 2014. This increase is mainly associated with the rise in the market value of the ECB's foreign reserve assets and thus of the ECB's exposure to currency risk, following the appreciation of the US dollar and Japanese yen against the euro in 2015.

4.1.1 Credit risk

The risk controls and limits that the ECB uses to determine its credit risk exposure differ across types of operation, reflecting the policy or investment objectives of the different portfolios and the risk characteristics of the underlying assets.

The credit risk arising from the ECB's foreign reserves holdings is minimal, as the reserves are invested in assets with a high credit quality.

The ECB's holdings of gold are not subject to credit risk, as gold is not lent to third parties.

The purpose of the euro-denominated investment portfolio is to provide the ECB with income to help cover its operating expenses, while preserving the invested capital. Return considerations therefore play a relatively greater role in the asset allocation and risk control framework for these holdings than they do for the ECB's foreign reserves. Notwithstanding, the credit risk in respect of these holdings is kept at moderate levels.

The credit risk associated with securities held for monetary policy purposes is within the risk tolerance levels of the ECB as a result of the risk management techniques that are applied. The credit migration risk associated with the securities acquired for

7 Value at Risk (VaR) is defined as the maximum potential loss threshold for the portfolio of financial assets that, according to a statistical model, will not be exceeded with a given probability (confidence level) over a specified risk horizon. Expected Shortfall is a coherent risk measure that is more conservative than VaR when using the same horizon and the same confidence level, as it measures the probability-weighted average losses that could occur in the worst-case scenarios that exceed the VaR threshold. Losses, in this context, are defined as differences between the net worth of the ECB's portfolios as stated on the Balance Sheet at the beginning of the horizon, compared with simulated values at the end of the horizon.

monetary policy purposes does not directly affect the financial accounts of the ECB, as these securities are valued at amortised cost subject to impairment and are therefore not revalued at market prices. However, they may be subject to credit default risk, and a deterioration in their credit quality can affect the financial accounts of the ECB through the regular process of analysis and recognition of impairments.

4.1.2 Market risk

The main types of market risk to which the ECB is subject in managing its holdings are currency and commodity (gold price) risks. The ECB is also exposed to interest rate risk.

Currency and commodity risks

Currency and commodity risks dominate the ECB's financial risk profile. This is due to the size of its foreign reserves (mainly comprising US dollars) and gold holdings, as well as the high degree of volatility in exchange rates and gold prices.

In view of the policy role of gold and foreign reserves, the ECB does not seek to eliminate currency and commodity risks. These risks are in effect mitigated by the diversification of the holdings across different currencies and gold.

In line with the Eurosystem rules, the gold and US dollar revaluation accounts, which amounted to €11.9 billion (2014: €12.1 billion) and €10.6 billion (2014: €6.2 billion) respectively as at 31 December 2015, can be used to absorb the impact of future unfavourable movements in the gold price and the US dollar foreign exchange rate, thereby mitigating or even preventing any impact on the ECB's Profit and Loss Account.

Interest rate risk

The ECB's foreign reserves and euro-denominated investment portfolios are mainly invested in fixed income securities which are revalued at market prices and are therefore exposed to market risk arising from interest rate movements. This mark-to-market interest rate risk is managed through asset allocation policies and market risk limits which ensure that the market risk remains contained at levels that reflect the ECB's risk-return preferences for the different portfolios. When expressed in terms of the modified duration[8] of the fixed income portfolios, the different risk-return preferences result in a longer modified duration for the euro-denominated investment portfolio than for the foreign reserves holdings.

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8 Modified duration is a measure of the sensitivity of the value of the portfolios to parallel shifts in yield curves.

The mark-to-market interest rate risk to which the ECB is exposed remained limited over the course of 2015.

Securities acquired within the scope of the asset purchase programmes (the three CBPPs, the SMP, the ABSPP and the PSPP) are valued at amortised cost subject to impairment and are therefore not revalued at market prices. Thus, holdings of these securities are not exposed to mark-to-market interest rate risk. However, the mismatch between the interest rate sensitivity of the income generated by these securities and that of the expenses associated with the corresponding liabilities gives rise to interest rate risk that could have a negative impact on the net interest income of the ECB. Asset allocation policies, including policies and procedures that ensure that purchases are conducted at appropriate prices, are used to manage this type of risk, which is further mitigated by the existence of unremunerated liabilities and the overall asset and liability structure of the ECB's Balance Sheet. The interest rate risk associated with securities acquired for monetary policy purposes grew in the course of 2015, mainly owing to purchases under the PSPP. However, it is expected that the ECB will earn an overall positive net interest income in the coming years, even in the unlikely event that extremely adverse interest rate risk scenarios materialise.

4.1.3 Liquidity risk

In view of the role of the euro as a major reserve currency, the ECB's role as a central bank and its asset and liability structure, the ECB's main exposure to liquidity risk stems from its foreign reserves, as, in order to carry out foreign exchange interventions, large amounts of these holdings may have to be liquidated within short periods of time. To manage this risk, the asset allocation and limits ensure that a sufficiently large share of the ECB's holdings is invested in assets that can be liquidated quickly with a negligible impact on the price.

The liquidity risk profile of the ECB's portfolios remained broadly stable in 2015.

4.2 Operational risk

The main objectives of the ECB's operational risk management (ORM) framework are (a) to contribute to ensuring that the ECB achieves its mission and objectives; and (b) to protect its reputation and other assets against loss, misuse and damage.

Under the ORM framework, each business area is responsible for identifying, assessing, responding to, reporting on and monitoring its operational risks and controls. Business areas with a transversal role provide specific controls at a bank-wide level. In this context, the ECB's risk tolerance policy provides guidance with regard to risk response strategies and risk acceptance procedures. It is linked to a risk matrix based on the ECB's impact and likelihood grading scales (which apply quantitative and qualitative criteria).

The ORM/BCM function is responsible for maintaining the ORM and business continuity management (BCM) frameworks and providing methodological assistance in respect of ORM and BCM activities to risk and control owners. Moreover, it provides annual and ad-hoc reports on operational risks to the Operational Risk Committee and the Executive Board and it supports the decision-making bodies in their oversight role regarding the management of the ECB's operational risks and controls. It coordinates and implements the BCM programme, conducts regular business continuity tests and reviews of business continuity arrangements for the ECB's time-critical operations and supports the Crisis Management Team, including its support structures, as well as business areas, in the event of severe business disruption.

5 Financial resources

Capital

As a consequence of Lithuania's adoption of the single currency on 1 January 2015, Lietuvos bankas paid an amount of €43 million as at that date. As a result of this payment, the ECB's paid-up capital amounted to €7,740 million on 31 December 2015. Detailed information on the capital of the ECB is provided in note 15.1, "Capital", of the Annual Accounts.

Provision for foreign exchange rate, interest rate, credit and gold price risks

In view of the ECB's considerable exposure to financial risks as described in Section 4, the ECB maintains a provision for foreign exchange rate, interest rate, credit and gold price risks. The size of and continuing requirement for this provision is reviewed annually, taking a range of factors into account, including in particular the level of holdings of risk-bearing assets, the extent of materialised risk exposures in the current financial year, projected results for the coming year and a risk assessment involving calculations of Values at Risk (VaR) on risk-bearing assets, which is applied consistently over time. The risk provision, together with any amounts held in the ECB's general reserve fund, may not exceed the value of the capital paid up by the euro area NCBs.

As at 31 December 2014 the provision for foreign exchange rate, interest rate, credit and gold price risks amounted to €7,575 million. Lietuvos bankas contributed an amount of €45 million with effect from 1 January 2015, increasing the size of the risk provision to €7,620 million. This amount equates to the value of the ECB's capital paid up by the euro area NCBs as at 31 December 2015.

Revaluation accounts

Unrealised gains on gold, foreign currencies and securities that are subject to price revaluation are not recognised as income in the Profit and Loss Account but are recorded directly in revaluation accounts shown on the liability side of the ECB's Balance Sheet. These balances can be used to absorb the impact of any future unfavourable movements in the prices and/or exchange rates, and therefore constitute a financial buffer that strengthens the ECB's resilience to the underlying risks.

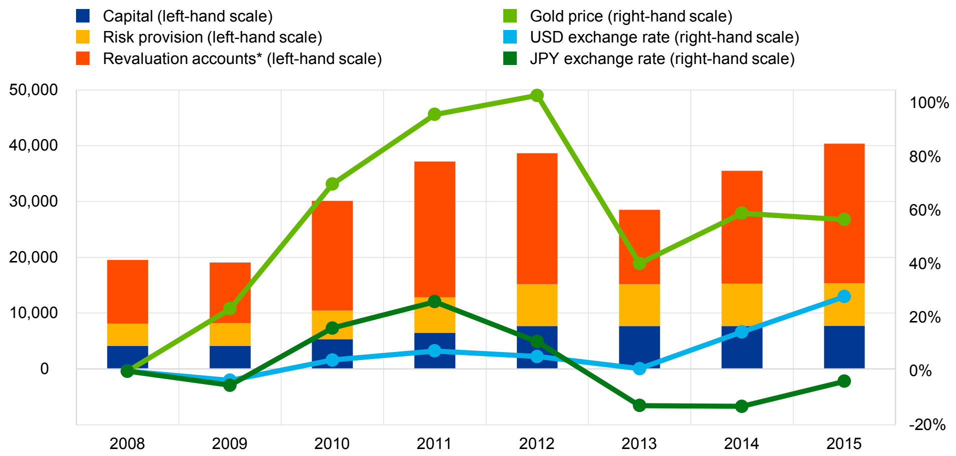
The total amount of revaluation accounts for gold, foreign currencies and securities as at the end of December 2015 stood at €25.0 billion[9] (2014: €20.2 billion). For further information, see the notes on accounting policies and note 14, "Revaluation accounts", in the notes on the Balance Sheet.

Chart 1 presents the evolution of the above-mentioned financial resources of the ECB and of the main foreign exchange rates and the gold price for the period 2008-15[10]. During this period (a) the paid-up capital of the ECB almost doubled, mainly as a result of the decision taken by the Governing Council in 2010 to increase the subscribed capital; (b) the risk provision rose to an amount equal to the paid-up capital of the euro area NCBs; and (c) the revaluation accounts exhibited a notable degree of volatility, which was mainly due to movements in foreign exchange rates and the gold price.

Chart 1

The ECB's financial resources, the main foreign exchange rates and the gold price over the period 2008-15

(EUR millions; percentage changes compared with 2008)



* This includes total revaluation gains on gold, foreign currency and securities.
Source: ECB.

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9 In addition, the balance sheet item "Revaluation accounts" includes remeasurements in respect of post-employment benefits.

10 Developments in the main foreign exchange rates and the gold price are presented as the percentage change compared with the exchange rates and gold price prevailing at the end of 2008.

6 The impact of key activities on the financial statements

The table provides an overview of the main operations and functions of the ECB in pursuit of its mandate, and their impact on the ECB's financial statements.

Operation/Function	Impact on the ECB's Annual Accounts
Monetary policy operations	Standard monetary policy operations are implemented in a decentralised manner by the NCBs of the Eurosystem. Consequently, these operations do not have a direct impact on the ECB's Annual Accounts.
Securities held for monetary policy purposes (under the CBPPs, SMP, ABSPP and PSPP)	Securities purchased by the ECB are recorded under the item "Securities held for monetary policy purposes". Holdings in these portfolios are accounted for at amortised cost and an impairment test is conducted at least annually. Coupon accruals and amortisation of discounts and premiums are included in the Profit and Loss Account.[11]
Investment activities (management of foreign reserves and own funds)	The foreign reserves of the ECB are presented on-balance sheet[12] or are reflected in off-balance-sheet accounts until the settlement date. The own funds portfolio of the ECB is presented on-balance sheet, mainly under the item "Other financial assets". Net interest income, including coupon accruals and the amortisation of discounts and premiums, is included in the Profit and Loss Account.[13] Unrealised price and exchange rate losses exceeding previously recorded unrealised gains, as well as realised gains and losses arising from the sale of securities, are also included in the Profit and Loss Account,[14] while unrealised gains are recorded on-balance sheet under the item "Revaluation accounts".
Payment systems (TARGET2)	Intra-Eurosystem balances of euro area NCBs vis-à-vis the ECB arising from TARGET2 are presented on the Balance Sheet of the ECB as a single net asset or liability position. The remuneration of those balances is included in the Profit and Loss Account under the items "Other interest income" and "Other interest expense".
Banknotes in circulation	The ECB has been allocated a share of 8% of the total value of euro banknotes in circulation. This share is backed by claims on the NCBs, which bear interest at the rate on the main refinancing operations. This interest is included in the Profit and Loss Account under the item "Interest income arising from the allocation of euro banknotes within the Eurosystem". Expenses arising from the cross-border transportation of euro banknotes between banknote printing works and NCBs, for the delivery of new banknotes, and between NCBs, for the compensation of shortages with surplus stocks, are borne centrally by the ECB. These expenses are presented in the Profit and Loss Account under the heading "Banknote production services".
Banking supervision	The annual costs of the ECB in relation to its supervisory tasks are recovered via the annual supervisory fees levied on the supervised entities. The supervisory fees are included in the Profit and Loss Account under the heading "Net income from fees and commissions".

11 Recorded under the items "Other interest Income" and "Other interest Expense".

12 Mainly recorded under "Gold and gold receivables", "Claims on non-euro area residents denominated in foreign currency", "Claims on euro area residents denominated in foreign currency" and "Liabilities to non-euro area residents denominated in foreign currency".

13 Income related to the ECB's foreign reserves is disclosed under the item "Interest income on foreign reserve assets", while the interest income and expenses on its own funds are reflected in "Other interest income" and "Other interest expense".

14 Recorded under the items "Write-downs on financial assets and positions" and "Realised gains/losses arising from financial operations" respectively.

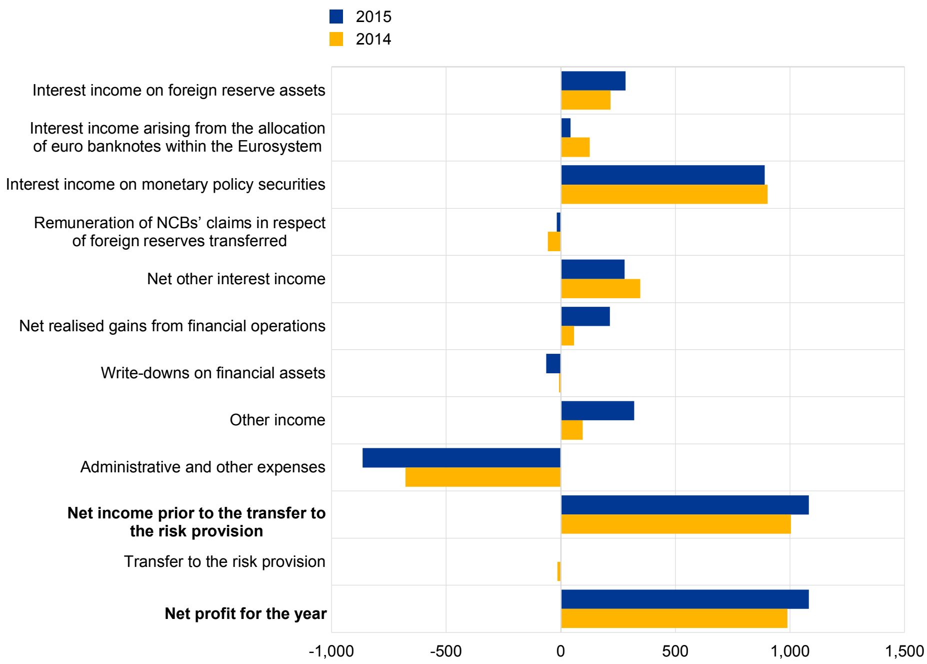
7 Financial result for 2015

In 2015 the ECB's net profit was €1,082 million (2014: €989 million).

Chart 2 presents the components of the ECB's Profit and Loss Account in 2015 and a comparison with 2014.

Chart 2
Breakdown of the ECB's Profit and Loss Account in 2015 and 2014

(EUR millions)



Source: ECB.

Key highlights

- In 2015 net interest income decreased to €1,475 million, compared with €1,536 million in 2014. Lower interest income on the ECB's share of the total euro banknotes in circulation as a result of the lower average rate on the main refinancing operations in 2015, as well as lower interest income on the own funds portfolio, contributed to this decrease. The effects of these factors were only partially offset by (a) the higher interest income earned on foreign reserve assets as a result of both the appreciation of the US dollar against the euro and the higher interest income received from the portfolio of securities denominated in US dollars; and (b) the lower interest expense arising from the euro area NCBs' claims in respect of the foreign reserve assets transferred by them to the ECB.

- Interest income generated on the securities purchased for monetary policy purposes decreased marginally from €903 million in 2014 to €890 million in 2015. The reduction of interest income as a result of the maturing of securities purchased under the SMP and the first and second covered bond purchase programmes was almost fully offset by interest income arising from the expanded asset purchase programme.[15]

- Write-downs on financial assets increased by €56 million to €64 million in 2015, mainly owing to the overall decrease in the market price of securities held in the US dollar portfolio.

- The total administrative expenses of the ECB, including depreciation, amounted to €864 million in 2015, compared with €677 million in 2014. This increase was mainly due to the commencement of the depreciation of the ECB's main building and higher costs incurred in connection with the Single Supervisory Mechanism (SSM). However, while for 2014 the ECB recovered its SSM-related costs via fees charged to the supervised entities only for November and December, the full costs for 2015 were recovered via such fees. As a result, other income increased in 2015 to €320 million (2014: €96 million).

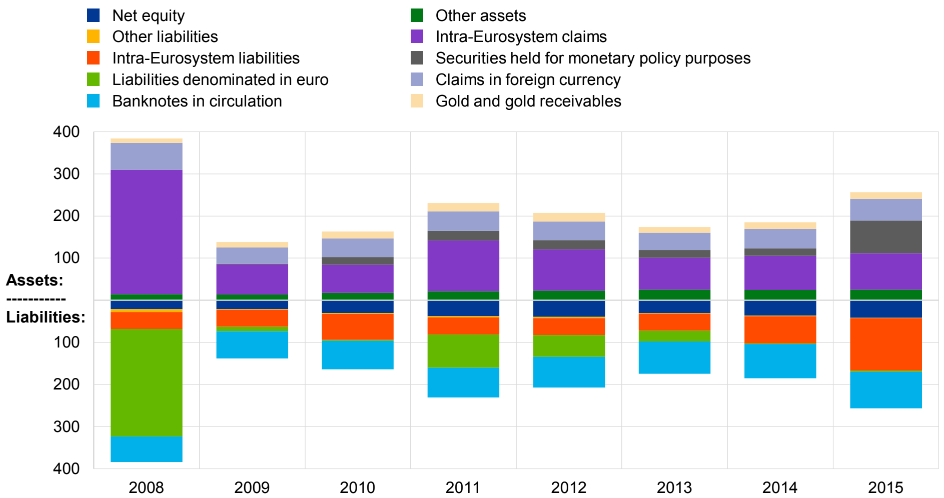
8 Long-term developments in the ECB's financial statements

Charts 3 and 4 present the evolution of the Balance Sheet and Profit and Loss Account of the ECB, as well as their components, over the period 2008-15.

Chart 3

Evolution of the ECB's Balance Sheet in the period 2008-15[16]

(EUR billions)



Source: ECB.

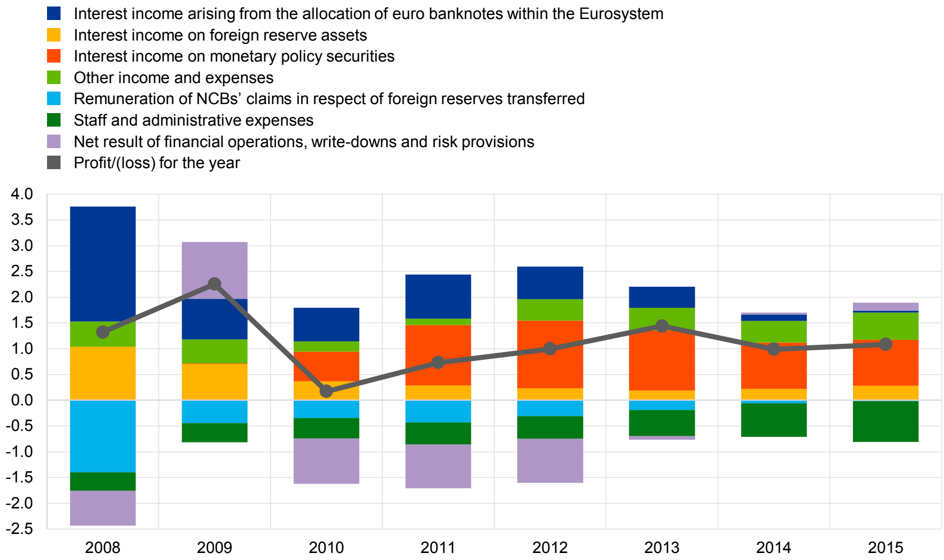
15 The expanded asset purchase programme (APP) consists of the CBPP3, ABSPP and PSPP. Further details on the APP can be found on the ECB's website.

16 The chart is based on year-end values.

Chart 4

Evolution of the ECB's Profit and Loss Account in the period 2008-15

(EUR billions)



Source: ECB.

The contraction of the ECB's Balance Sheet compared with 2008 has mainly been due to the improvement in the US dollar funding conditions for Eurosystem counterparties and the resulting gradual reduction in US dollar liquidity-providing operations offered by the Eurosystem. This was reflected in the reduction in the intra-Eurosystem claims of the ECB and in its liabilities denominated in euro. However, in the fourth quarter of 2014 the ECB's Balance Sheet started to expand with the acquisition of covered bonds and asset-backed securities under the third covered bond purchase programme (CBPP3) and the ABSPP. This balance sheet expansion continued in 2015, with the acquisition of securities issued by euro area central governments following the introduction of the PSPP. The purchases of securities under all of these programmes were settled via TARGET2 accounts and therefore resulted in a corresponding increase in the intra-Eurosystem liabilities of the ECB.

The ECB's net profit over the same period was influenced by the following factors.

- The rate on the main refinancing operations decreased, significantly reducing the seigniorage income of the ECB. The average rate for 2015 was 0.05%, compared with 4% for 2008, and, as a result, interest income on banknotes in circulation fell from €2.2 billion in 2008 to €0.04 billion in 2015.
- Transfers were made to the general risk provision for foreign exchange rate, interest rate, credit and gold price risks, particularly in the period 2010-12. In this period a cumulative amount of €3.5 billion was transferred to the risk provision, reducing the reported profits by an equal amount.
- Interest income earned on foreign reserve assets declined gradually from €1.0 billion in 2008 to €0.2 billion in 2013, mainly owing to the reduction in US

dollar yields and the resulting decrease in interest income generated on the US dollar portfolio. However, this trend has been reversed over the past two years and in 2015 this income amounted to €0.3 billion.

- Security holdings acquired under the asset purchase programmes have generated, on average, 54% of the ECB's overall net interest income over the last six years.
- The establishment and functioning of the SSM in the past two years has contributed to a significant increase in staff and administrative expenses. However, the SSM-related costs have been recovered since November 2014 via the fees charged to the supervised entities.

Financial statements of the ECB

Balance Sheet as at 31 December 2015

ASSETS	Note number	2015 €	2014 €
Gold and gold receivables	1	**15,794,976,324**	**15,980,317,601**
Claims on non-euro area residents denominated in foreign currency	2		
Receivables from the IMF	2.1	714,825,534	669,336,060
Balances with banks and security investments, external loans and other external assets	2.2	49,030,207,257	43,730,904,005
		49,745,032,791	**44,400,240,065**
Claims on euro area residents denominated in foreign currency	2.2	**1,862,714,832**	**1,783,727,949**
Other claims on euro area credit institutions denominated in euro	3	**52,711,983**	**2,120,620**
Securities of euro area residents denominated in euro	4		
Securities held for monetary policy purposes	4.1	**77,808,651,858**	**17,787,948,367**
Intra-Eurosystem claims	5		
Claims related to the allocation of euro banknotes within the Eurosystem	5.1	**86,674,472,505**	**81,322,848,550**
Other assets	6		
Tangible and intangible fixed assets	6.1	1,263,646,830	1,249,596,659
Other financial assets	6.2	20,423,917,583	20,626,359,858
Off-balance-sheet instruments revaluation differences	6.3	518,960,866	319,624,726
Accruals and prepaid expenses	6.4	1,320,068,350	725,224,031
Sundry	6.5	1,180,224,603	1,092,627,246
		24,706,818,232	**24,013,432,520**
Total assets		**256,645,378,525**	**185,290,635,672**

LIABILITIES	Note number	2015 €	2014 €
Banknotes in circulation	7	**86,674,472,505**	**81,322,848,550**
Liabilities to other euro area residents denominated in euro	8		
Other liabilities	8.1	**1,026,000,000**	**1,020,000,000**
Liabilities to non-euro area residents denominated in euro	9	**2,330,804,192**	**900,216,447**
Liabilities to non-euro area residents denominated in foreign currency	10		
Deposits, balances and other liabilities	10.1	**0**	**458,168,063**
Intra-Eurosystem liabilities	11		
Liabilities equivalent to the transfer of foreign reserves	11.1	40,792,608,418	40,553,154,708
Other liabilities within the Eurosystem (net)	11.2	83,083,520,309	23,579,372,965
		123,876,128,727	**64,132,527,673**
Other liabilities	12		
Off-balance-sheet instruments revaluation differences	12.1	392,788,148	178,633,615
Accruals and income collected in advance	12.2	95,543,989	96,191,651
Sundry	12.3	891,555,907	869,549,503
		1,379,888,044	**1,144,374,769**
Provisions	13	**7,703,394,185**	**7,688,997,634**
Revaluation accounts	14	**24,832,823,174**	**19,937,644,696**
Capital and reserves	15		
Capital	15.1	**7,740,076,935**	**7,697,025,340**
Profit for the year		**1,081,790,763**	**988,832,500**
Total liabilities		**256,645,378,525**	**185,290,635,672**

Profit and Loss Account for the year ending 31 December 2015

	Note number	2015 €	2014 €
Interest income on foreign reserve assets	22.1	283,205,941	217,003,159
Interest income arising from the allocation of euro banknotes within the Eurosystem	22.2	41,991,105	125,806,228
Other interest income	22.4	2,168,804,955	2,512,243,088
Interest income		*2,494,002,001*	*2,855,052,475*
Remuneration of NCBs' claims in respect of foreign reserves transferred	22.3	(17,576,514)	(57,015,146)
Other interest expense	22.4	(1,001,272,846)	(1,262,336,836)
Interest expense		*(1,018,849,360)*	*(1,319,351,982)*
Net interest income	22	**1,475,152,641**	**1,535,700,493**
Realised gains/losses arising from financial operations	23	214,433,730	57,260,415
Write-downs on financial assets and positions	24	(64,053,217)	(7,863,293)
Transfer to/from provisions for foreign exchange rate, interest rate, credit and gold price risks		0	(15,009,843)
Net result of financial operations, write-downs and risk provisions		**150,380,513**	**34,387,279**
Net income/expense from fees and commissions	25, 26	**268,332,261**	**28,158,654**
Income from equity shares and participating interests	27	**908,109**	**780,935**
Other income	28	**51,023,378**	**67,253,502**
Total net income		**1,945,796,902**	**1,666,280,863**
Staff costs	29	(440,844,142)	(301,142,390)
Administrative expenses	30	(351,014,617)	(353,579,537)
Depreciation of tangible and intangible fixed assets		(64,017,361)	(15,312,728)
Banknote production services	31	(8,130,019)	(7,413,708)
Profit for the year		**1,081,790,763**	**988,832,500**

Frankfurt am Main, 9 February 2016

European Central Bank

Mario Draghi
President

Accounting policies[17]

Form and presentation of the financial statements

The financial statements of the ECB have been designed to present fairly the financial position of the ECB and the results of its operations. They have been drawn up in accordance with the following accounting policies,[18] which the Governing Council of the ECB considers to be appropriate to the nature of central bank activity.

Accounting principles

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

Recognition of assets and liabilities

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

Basis of accounting

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

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

With the exception of spot transactions in securities, transactions in financial instruments denominated in foreign currency are recorded in off-balance-sheet accounts on the trade date. At the settlement date the off-balance-sheet entries are reversed and transactions are booked on-balance-sheet. Purchases and sales of foreign currency affect the net foreign currency position on the trade date, and realised results arising from sales are also calculated on that date. Accrued interest,

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17 The detailed accounting policies of the ECB are laid down in Decision ECB/2010/21 of 11 November 2010, OJ L 35, 9.2.2011, p. 1. This Decision was last amended by Decision ECB/2015/26 of 2 July 2015, OJ L 193, 21.7.2015, p. 134.

18 These policies are consistent with the provisions of Article 26.4 of the Statute of the ESCB, which require a harmonised approach to the rules governing the accounting and financial reporting of Eurosystem operations.

premiums and discounts related to financial instruments denominated in foreign currency are calculated and recorded daily, and the foreign currency position is also affected daily by these accruals.

Gold and foreign currency assets and liabilities

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

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

Gold is valued at the market price prevailing at the year-end. No distinction is made between the price and currency revaluation differences for gold. Instead, a single gold valuation is accounted for on the basis of the price in euro per fine ounce of gold, which, for the year ending 31 December 2015, was derived from the exchange rate of the euro against the US dollar on 31 December 2015.

The special drawing right (SDR) is defined in terms of a basket of currencies. To revalue the ECB's holdings of SDRs, the value of the SDR was calculated as the weighted sum of the exchange rates of four major currencies (the US dollar, euro, Japanese yen and pound sterling) converted into euro as at 31 December 2015.

Securities

Securities held for monetary policy purposes

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

Other securities

Marketable securities (other than securities held for monetary policy purposes) and similar assets are valued either at the mid-market prices or on the basis of the relevant yield curve prevailing on the balance sheet date, on a security-by-security basis. Options embedded in securities are not separated for valuation purposes. For the year ending 31 December 2015, mid-market prices on 30 December 2015 were used. Illiquid equity shares are valued at cost subject to impairment.

Income recognition

Income and expenses are recognised in the period in which they are earned or incurred.[19] Realised gains and losses arising from the sale of foreign currency, gold and securities are taken to the Profit and Loss Account. Such realised gains and losses are calculated by reference to the average cost of the respective asset.

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

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

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

Premiums or discounts arising on securities are calculated and presented as part of interest income and are amortised over the remaining contractual life of the securities.

Reverse transactions

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

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

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

Reverse transactions (including security lending transactions) conducted under an automated security lending programme are recorded on the Balance Sheet only

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

where collateral is provided in the form of cash placed on an account of the ECB. In 2015 the ECB did not receive any collateral in the form of cash in connection with such transactions.

Off-balance-sheet instruments

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

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

Post-balance-sheet events

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

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

Intra-ESCB balances/intra-Eurosystem balances

Intra-ESCB balances result primarily from cross-border payments in the EU that are settled in central bank money in euro. These transactions are for the most part initiated by private entities (i.e. credit institutions, corporations and individuals). They are settled in TARGET2 – the Trans-European Automated Real-time Gross settlement Express Transfer system – and give rise to bilateral balances in the TARGET2 accounts of EU central banks. These bilateral balances are netted out and then assigned to the ECB on a daily basis, leaving each NCB with a single net bilateral position vis-à-vis the ECB only. This position in the books of the ECB represents the net claim or liability of each NCB against the rest of the ESCB. Intra-Eurosystem balances of euro area NCBs vis-à-vis the ECB arising from TARGET2, as well as other intra-Eurosystem balances denominated in euro (e.g. interim profit distributions to NCBs), are presented on the Balance Sheet of the ECB as a single net asset or liability position and disclosed under “Other claims within the

Eurosystem (net)” or “Other liabilities within the Eurosystem (net)”. Intra-ESCB balances of non-euro area NCBs vis-à-vis the ECB, arising from their participation in TARGET2,[20] are disclosed under “Liabilities to non-euro area residents denominated in euro”.

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

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

Treatment of fixed assets

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

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

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

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

Fixed assets that comply with the capitalisation criteria but are still under construction or development are recorded under the heading “Assets under construction”. The related costs are transferred to the relevant fixed asset headings once the assets are available for use.

[20] As at 31 December 2015 the non-euro area NCBs participating in TARGET2 were Българска народна банка (Bulgarian National Bank), Danmarks Nationalbank, Narodowy Bank Polski and Banca Naţională a României.

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

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

The staff pension plan is funded by assets held in a long-term employee benefit fund. The compulsory contributions made by the ECB and the staff are 19.5% and 6.7% of basic salary respectively and are reflected in the defined benefit pillar of the plan. Staff can make additional contributions on a voluntary basis in a defined contribution pillar that can be used to provide additional benefits.[21] These additional benefits are determined by the amount of voluntary contributions together with the investment returns arising from these contributions.

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

Net defined benefit liability

The liability recognised in the Balance Sheet under "Other liabilities" in respect of the defined benefit plans is the present value of the defined benefit obligation at the balance sheet date, less the fair value of plan assets used to fund the obligation.

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

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

Net defined benefit cost

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

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

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

(a) the current service cost of the defined benefits accruing for the year;

(b) net interest at the discount rate on the net defined benefit liability;

(c) remeasurements in respect of other long-term benefits, in their entirety.

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

(a) actuarial gains and losses on the defined benefit obligation;

(b) the actual return on plan assets, excluding amounts included in the net interest on the net defined benefit liability;

(c) any change in the effect of the asset ceiling, excluding amounts included in the net interest on the net defined benefit liability.

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

Banknotes in circulation

The ECB and the euro area NCBs, which together comprise the Eurosystem, issue euro banknotes.[22] The total value of euro banknotes in circulation is allocated to the Eurosystem central banks on the last working day of each month in accordance with the banknote allocation key.[23]

The ECB has been allocated a share of 8% of the total value of euro banknotes in circulation, which is disclosed in the Balance Sheet under the liability item “Banknotes in circulation”. The ECB’s share of the total euro banknote issue is backed by claims on the NCBs. These claims, which bear interest,[24] are disclosed under the sub-item “Intra-Eurosystem claims: claims related to the allocation of euro banknotes within the Eurosystem” (see “Intra-ESCB balances/intra-Eurosystem balances” in the notes on accounting policies). Interest income on these claims is included in the Profit and Loss Account under the item “Interest income arising from the allocation of euro banknotes within the Eurosystem”.

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22 Decision ECB/2010/29 of 13 December 2010 on the issue of euro banknotes (recast), OJ L 35, 9.2.2011, p. 26, as amended.

23 “Banknote allocation key” means the percentages that result from taking into account the ECB’s share in the total euro banknote issue and applying the subscribed capital key to the NCBs’ share in that total.

24 Decision ECB/2010/23 of 25 November 2010 on the allocation of monetary income of the national central banks of Member States whose currency is the euro (recast), OJ L 35, 9.2.2011, p. 17, as amended.

Interim profit distribution

An amount that is equal to the sum of the ECB's income on euro banknotes in circulation and income arising from the securities held for monetary policy purposes purchased under (a) the Securities Markets Programme; (b) the third covered bond purchase programme; (c) the asset-backed securities purchase programme; and (d) the public sector asset purchase programme is due to the euro area NCBs in the financial year in which it accrues. Unless otherwise decided by the Governing Council, the ECB distributes this amount in January of the following year by means of an interim profit distribution.[25] It is distributed in full unless it is higher than the ECB's net profit for the year, and subject to any decisions by the Governing Council to make transfers to the provision for foreign exchange rate, interest rate, credit and gold price risks. The Governing Council may also decide to charge costs incurred by the ECB in connection with the issue and handling of euro banknotes against income earned on euro banknotes in circulation.

Other issues

Taking account of the ECB's role as a central bank, the Executive Board considers that the publication of a cash-flow statement would not provide the readers of the financial statements with any additional relevant information.

In accordance with Article 27 of the Statute of the ESCB, and on the basis of a recommendation of the Governing Council, the EU Council has approved the appointment of Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft as the external auditors of the ECB for a five-year period up to the end of the financial year 2017.

[25] Decision (EU) 2015/298 of the ECB of 15 December 2014 on the interim distribution of the income of the ECB (recast) (ECB/2014/57), OJ L 53, 25.2.2015, p. 24, as amended.

Notes on the Balance Sheet

1 Gold and gold receivables

As at 31 December 2015 the ECB held 16,229,522 ounces[26] of fine gold (2014: 16,178,193 ounces). The increase was due to the transfer by Lietuvos bankas to the ECB of 51,329 ounces of fine gold[27] upon the adoption of the single currency by Lithuania. Despite this increase in the ECB's holdings of fine gold, the euro equivalent value of these holdings decreased owing to the fall in the price of gold in 2015 (see "Gold and foreign currency assets and liabilities" in the notes on accounting policies and note 14, "Revaluation accounts").

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

2.1 Receivables from the IMF

This asset represents the ECB's holdings of SDRs as at 31 December 2015. It arises as the result of a two-way SDR buying and selling arrangement with the International Monetary Fund (IMF), whereby the IMF is authorised to arrange sales or purchases of SDRs against euro, on behalf of the ECB, within minimum and maximum holding levels. For accounting purposes, SDRs are treated as a foreign currency (see "Gold and foreign currency assets and liabilities" in the notes on accounting policies). The increase in the euro equivalent value of the ECB's holdings of SDRs was mainly due to the appreciation of the SDR against the euro in 2015.

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

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

Claims on non-euro area residents	2015 €	2014 €	Change €
Current accounts	4,398,616,340	2,618,332,591	1,780,283,749
Money market deposits	1,666,345,182	1,035,952,558	630,392,624
Reverse repurchase agreements	831,266,648	986,131,163	(154,864,515)
Security investments	42,133,979,087	39,090,487,693	3,043,491,394
Total	**49,030,207,257**	**43,730,904,005**	**5,299,303,252**

26 This corresponds to 504.8 tonnes.

27 The transfer, with a value equivalent to €50.7 million, was made with effect from 1 January 2015.

Claims on euro area residents	2015 €	2014 €	Change €
Current accounts	953,098	4,035,172	(3,082,074)
Money market deposits	1,861,761,734	1,599,827,033	261,934,701
Reverse repurchase agreements	0	179,865,744	(179,865,744)
Total	**1,862,714,832**	**1,783,727,949**	**78,986,883**

The increase in these items in 2015 was mainly due to the appreciation of both the US dollar and the Japanese yen against the euro.

Additionally, upon the adoption of the single currency by Lithuania with effect from 1 January 2015, Lietuvos bankas transferred foreign reserve assets denominated in US dollars with a value of €287.9 million to the ECB.

The ECB's net foreign currency holdings of US dollars and Japanese yen,[28] as at 31 December 2015, were as follows:

	2015 Currency in millions	2014 Currency in millions
US dollars	46,382	45,649
Japanese yen	1,085,596	1,080,094

3 Other claims on euro area credit institutions denominated in euro

As at 31 December 2015 this item consisted of current accounts with euro area residents.

4 Securities of euro area residents denominated in euro

4.1 Securities held for monetary policy purposes

As at 31 December 2015 this item consisted of securities acquired by the ECB within the scope of the three covered bond purchase programmes, the Securities Markets Programme (SMP), the asset-backed securities purchase programme (ABSPP) and the public sector asset purchase programme (PSPP).

Purchases under the first covered bond purchase programme were completed on 30 June 2010, while the second covered bond purchase programme ended on 31 October 2012. The SMP was terminated on 6 September 2012.

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28 These holdings comprise assets minus liabilities denominated in the given foreign currency that are subject to foreign currency revaluation. They are included under the headings "Claims on non-euro area residents denominated in foreign currency", "Claims on euro area residents denominated in foreign currency", "Accruals and prepaid expenses", "Liabilities to non-euro area residents denominated in foreign currency", "Off-balance-sheet instruments revaluation differences" (liabilities side) and "Accruals and income collected in advance" and take into account foreign exchange forward and swap transactions included in off-balance-sheet items. Price gains on financial instruments denominated in foreign currency arising as a result of revaluations are not included.

In 2015 the asset purchases under the third covered bond purchase programme (CBPP3) and the ABSPP were expanded to include the PSPP.[29] The CBPP3, ABSPP and PSPP together constitute the expanded asset purchase programme (APP).[30] Combined monthly APP purchases by the NCBs and the ECB amount to €60 billion on average and are intended to be carried out until the end of March 2017 and, in any case, until the Governing Council sees a sustained adjustment in the path of inflation that is consistent with its aim of achieving inflation rates below, but close to, 2% over the medium term.

Securities purchased under all six programmes are valued on an amortised cost basis subject to impairment (see "Securities" in the notes on accounting policies). Annual impairment tests are conducted on the basis of the estimated recoverable amounts as at the year-end and are approved by the Governing Council. Based on the outcome of this year's impairment tests, only one impairment indicator, relating to the SMP portfolio, was triggered. However, this indicator did not affect the future cash flows expected to be received by the ECB and consequently no losses were recorded in 2015.

The amortised cost of the securities held by the ECB, as well as their market value[31] (which is not recorded on the Balance Sheet or in the Profit and Loss Account but is provided for comparison purposes only), are as follows:

	2015 €		2014 €		Change €	
	Amortised cost	Market value	Amortised cost	Market value	Amortised cost	Market value
First covered bond purchase programme	1,786,194,503	1,898,990,705	2,395,178,568	2,576,479,183	(608,984,065)	(677,488,478)
Second covered bond purchase programme	933,230,549	1,013,540,352	1,249,397,951	1,367,880,767	(316,167,402)	(354,340,415)
Third covered bond purchase programme	11,457,444,451	11,396,084,370	2,298,798,185	2,314,787,199	9,158,646,266	9,081,297,171
Securities Markets Programme	8,872,443,668	10,045,312,608	10,100,343,269	11,247,795,991	(1,227,899,601)	(1,202,483,383)
Asset-backed securities purchase programme	15,321,905,622	15,220,939,054	1,744,230,394	1,742,441,349	13,577,675,228	13,478,497,705
Public sector asset purchase programme	39,437,433,065	39,372,318,024	-	-	39,437,433,065	39,372,318,024
Total	**77,808,651,858**	**78,947,185,113**	**17,787,948,367**	**19,249,384,489**	**60,020,703,491**	**59,697,800,624**

The decrease in the amortised cost of the portfolios held under (a) the first and second covered bond purchase programmes, and (b) the SMP was due to redemptions.

The Governing Council assesses on a regular basis the financial risks associated with the securities held under all these programmes.

29 Under this programme, the ECB and the NCBs may purchase, in the secondary market, euro-denominated securities issued by euro area central, regional or local governments, recognised agencies located in the euro area and international organisations and multilateral development banks located in the euro area.

30 Further details for the APP can be found on the ECB's website.

31 Market values are indicative and are derived on the basis of market quotes. When market quotes are not available, market prices are estimated using internal Eurosystem models.

5 Intra-Eurosystem claims

5.1 Claims related to the allocation of euro banknotes within the Eurosystem

This item consists of the claims of the ECB vis-à-vis the euro area NCBs relating to the allocation of euro banknotes within the Eurosystem (see “Banknotes in circulation” in the notes on accounting policies). The remuneration of these claims is calculated daily at the latest available marginal interest rate used by the Eurosystem in its tenders for main refinancing operations (see note 22.2, “Interest income arising from the allocation of euro banknotes within the Eurosystem”).

6 Other assets

6.1 Tangible and intangible fixed assets

These assets comprised the following items on 31 December 2015:

	2015 €	2014 €	Change €
Cost			
Land and buildings	1,027,242,937	997,154,850	30,088,087
Plant in building	219,897,386	212,838,181	7,059,205
Computer hardware and software	77,350,193	71,812,322	5,537,871
Equipment, furniture and motor vehicles	92,000,437	82,854,876	9,145,561
Assets under construction	244,590	16,163,065	(15,918,475)
Other fixed assets	9,453,181	8,241,408	1,211,773
Total cost	**1,426,188,724**	**1,389,064,702**	**37,124,022**
Accumulated depreciation			
Land and buildings	(79,468,891)	(88,477,513)	9,008,622
Plant in building	(15,827,521)	(72,342)	(15,755,179)
Computer hardware and software	(45,530,493)	(38,380,961)	(7,149,532)
Equipment, furniture and motor vehicles	(20,831,615)	(11,908,686)	(8,922,929)
Other fixed assets	(883,374)	(628,541)	(254,833)
Total accumulated depreciation	**(162,541,894)**	**(139,468,043)**	**(23,073,851)**
Net book value	**1,263,646,830**	**1,249,596,659**	**14,050,171**

In November 2014 the ECB’s new premises became available for use. Therefore, in line with the ECB’s accounting policy (see “Treatment of fixed assets” in the notes on accounting policies), the depreciation of the new premises commenced in January 2015.

The decrease in “Assets under construction” was due mainly to the completion of assets related to the ECB’s new premises, which were still under development as at 31 December 2014, and the consequent transfers of the related costs to the relevant fixed asset headings in 2015. These transfers, as well as further activities related to the ECB’s new premises, resulted in an increase in the “Land and buildings” cost category in 2015.

The decrease in the accumulated depreciation of land and buildings in 2015 was due to the write-off of capitalised refurbishment expenditure relating to items that were no longer in use.

6.2 Other financial assets

This item consists of the investment of the ECB's own funds[32] held as a direct counterpart to the capital and reserves of the ECB, as well as other financial assets which include 3,211 shares in the Bank for International Settlements (BIS) at the acquisition cost of €41.8 million.

The components of this item are as follows:

	2015 €	2014 €	Change €
Current accounts in euro	30,000	4,684,410	(4,654,410)
Securities denominated in euro	19,192,975,459	19,091,635,302	101,340,157
Reverse repurchase agreements in euro	1,188,997,789	1,488,138,078	(299,140,289)
Other financial assets	41,914,335	41,902,068	12,267
Total	**20,423,917,583**	**20,626,359,858**	**(202,442,275)**

The settlement in 2015 of the repurchase transactions that were outstanding on 31 December 2014 (see note 12.3, "Sundry") contributed to the overall decrease in this item.

6.3 Off-balance-sheet instruments revaluation differences

This item is composed mainly of valuation changes in swap and forward transactions in foreign currency that were outstanding on 31 December 2015 (see note 19, "Foreign exchange swap and forward transactions"). These valuation changes are the result of the conversion of such transactions into their euro equivalents at the exchange rates prevailing on the balance sheet date, compared with the euro values resulting from the conversion of the transactions at the average cost of the respective foreign currency on that date (see "Off-balance-sheet instruments" and "Gold and foreign currency assets and liabilities" in the notes on accounting policies).

Valuation gains on outstanding interest rate swap transactions are also included in this item (see note 18, "Interest rate swaps").

6.4 Accruals and prepaid expenses

In 2015 this item included accrued coupon interest on securities, including outstanding interest paid at acquisition, amounting to €1,186.6 million

32 Repurchase agreements conducted in the context of the management of the own funds portfolio are reported under "Sundry" on the liabilities side (see note 12.3, "Sundry").

(2014: €603.9 million) (see note 2.2, “Balances with banks and security investments, external loans and other external assets; and Claims on euro area residents denominated in foreign currency”, note 4, “Securities of euro area residents denominated in euro”, and note 6.2, “Other financial assets”).

It also included accrued interest receivable on TARGET2 balances for December 2015, amounting to €33.2 million (2014: €25.5 million), and accrued interest receivable on the ECB’s claims related to the allocation of euro banknotes within the Eurosystem for the final quarter of the year (see “Banknotes in circulation” in the notes on accounting policies), amounting to €10.8 million (2014: €10.0 million).

Moreover, this item includes (a) accrued income from common Eurosystem projects (see note 28, “Other income”); (b) accrued interest income on other financial assets; and (c) miscellaneous prepayments.

6.5 Sundry

This item consisted mainly of the accrued amounts of the ECB’s interim profit distribution (see “Interim profit distribution” in the notes on accounting policies and note 11.2, “Other liabilities within the Eurosystem (net)”).

It also included balances related to swap and forward transactions in foreign currency outstanding on 31 December 2015 that arose from the conversion of such transactions into their euro equivalents at the respective currency’s average cost on the balance sheet date, compared with the euro values at which the transactions were initially recorded (see “Off-balance-sheet instruments” in the notes on accounting policies).

7 Banknotes in circulation

This item consists of the ECB’s share (8%) of the total euro banknotes in circulation (see “Banknotes in circulation” in the notes on accounting policies).

8 Liabilities to other euro area residents denominated in euro

8.1 Other liabilities

This item comprises deposits by members of the Euro Banking Association (EBA) which are used in order to provide the ECB with collateral in respect of the EBA’s payments settled through the TARGET2 system.

9 Liabilities to non-euro area residents denominated in euro

As at 31 December 2015 this item comprised an amount of €1.5 billion (2014: €0.9 billion), consisting of balances held with the ECB by non-euro area central banks that arise from, or are the counterpart of, transactions processed via the TARGET2 system. The increase in these balances in 2015 was due to payments from euro area residents to non-euro area residents (see note 11.2, “Other liabilities within the Eurosystem (net)”).

The remainder of this item consisted of an amount of €0.8 billion (2014: €0) arising from the standing reciprocal currency arrangement with the Federal Reserve. Under this arrangement, US dollars are provided by the Federal Reserve to the ECB by means of swap transactions, with the aim of offering short-term US dollar funding to Eurosystem counterparties. The ECB simultaneously enters into back-to-back swap transactions with euro area NCBs, which use the resulting funds to conduct US dollar liquidity-providing operations with Eurosystem counterparties in the form of reverse transactions. The back-to-back swap transactions result in intra-Eurosystem balances between the ECB and the NCBs (see note 11.2, “Other liabilities within the Eurosystem (net)”). Furthermore, the swap transactions conducted with the Federal Reserve and the euro area NCBs result in forward claims and liabilities that are recorded in off-balance-sheet accounts (see note 19, “Foreign exchange swap and forward transactions”).

10 Liabilities to non-euro area residents denominated in foreign currency

10.1 Deposits, balances and other liabilities

As at 31 December 2014 this item consisted of liabilities that arose under repurchase agreements conducted with non-euro area residents in connection with the management of the foreign currency reserves of the ECB.

No related liabilities remained outstanding as at 31 December 2015.

11 Intra-Eurosystem liabilities

11.1 Liabilities equivalent to the transfer of foreign reserves

These represent the liabilities to the euro area NCBs that arose from the transfer of foreign reserve assets to the ECB when they joined the Eurosystem.

	Since 1 January 2015 €	As at 31 December 2014 €
Nationale Bank van België/Banque Nationale de Belgique	1,435,910,943	1,435,910,943
Deutsche Bundesbank	10,429,623,058	10,429,623,058
Eesti Pank	111,729,611	111,729,611
Central Bank of Ireland	672,637,756	672,637,756
Bank of Greece	1,178,260,606	1,178,260,606
Banco de España	5,123,393,758	5,123,393,758
Banque de France	8,216,994,286	8,216,994,286
Banca d'Italia	7,134,236,999	7,134,236,999
Central Bank of Cyprus	87,679,928	87,679,928
Latvijas Banka	163,479,892	163,479,892
Lietuvos bankas	239,453,710	-
Banque centrale du Luxembourg	117,640,617	117,640,617
Central Bank of Malta	37,552,276	37,552,276
De Nederlandsche Bank	2,320,070,006	2,320,070,006
Oesterreichische Nationalbank	1,137,636,925	1,137,636,925
Banco de Portugal	1,010,318,483	1,010,318,483
Banka Slovenije	200,220,853	200,220,853
Národná banka Slovenska	447,671,807	447,671,807
Suomen Pankki – Finlands Bank	728,096,904	728,096,904
Total	**40,792,608,418**	**40,553,154,708**

Lietuvos bankas' claim was set at €239,453,710 in order to ensure that the ratio between this claim and the aggregate claim credited to the other NCBs of Member States whose currency is the euro will be equal to the ratio between Lietuvos bankas' weighting in the ECB's capital key and the other euro area NCBs' aggregate weighting in this key. The difference between the claim and the value of the assets transferred (see note 1, "Gold and gold receivables", and note 2.2, "Balances with banks and security investments, external loans and other external assets; and Claims on euro area residents denominated in foreign currency") was treated as part of the contributions of Lietuvos bankas, due under Article 48.2 of the Statute of the ESCB, to the reserves and provisions equivalent to reserves of the ECB existing as at 31 December 2014 (see note 13, "Provisions", and note 14, "Revaluation accounts").

The remuneration of these liabilities is calculated daily at the latest available marginal interest rate used by the Eurosystem in its tenders for main refinancing operations, adjusted to reflect a zero return on the gold component (see note 22.3, "Remuneration of NCBs' claims in respect of foreign reserves transferred").

11.2 Other liabilities within the Eurosystem (net)

In 2015 this item consisted mainly of the TARGET2 balances of the euro area NCBs vis-à-vis the ECB (see "Intra-ESCB balances/intra-Eurosystem balances" in the notes on accounting policies). The net increase in this position resulted mainly from purchases of securities under the expanded APP (see note 4, "Securities of euro area residents denominated in euro"), which were settled via TARGET2 accounts. The impact of the purchases was partially offset by (a) redemptions of securities purchased under the SMP and the first two covered bond purchase programmes, which were also settled via TARGET2 accounts, (b) the increase in the amounts related to the back-to-back swap transactions conducted with NCBs in connection with US dollar liquidity-providing operations, and (c) the settlement in TARGET2 of payments from euro area residents to non-euro area residents (see note 9, “Liabilities to non-euro area residents denominated in euro”).

The remuneration of TARGET2 positions, with the exception of balances arising from back-to-back swap transactions in connection with US dollar liquidity-providing operations, is calculated daily at the latest available marginal interest rate used by the Eurosystem in its tenders for main refinancing operations.

This item also included the amount due to euro area NCBs in respect of the ECB’s interim profit distribution (see “Interim profit distribution” in the notes on accounting policies).

	2015 €	2014 €
Due to euro area NCBs in respect of TARGET2	812,734,808,529	612,892,597,646
Due from euro area NCBs in respect of TARGET2	(730,463,422,714)	(590,153,944,468)
Due to euro area NCBs in respect of the ECB’s interim profit distribution	812,134,494	840,719,787
Other liabilities within the Eurosystem (net)	**83,083,520,309**	**23,579,372,965**

12 Other liabilities

12.1 Off-balance-sheet instruments revaluation differences

This item is composed mainly of valuation changes in swap and forward transactions in foreign currency that were outstanding on 31 December 2015 (see note 19, “Foreign exchange swap and forward transactions”). These valuation changes are the result of the conversion of such transactions into their euro equivalents at the exchange rates prevailing on the balance sheet date, compared with the euro values resulting from the conversion of the transactions at the average cost of the respective foreign currency on that date (see “Off-balance-sheet instruments” and “Gold and foreign currency assets and liabilities” in the notes on accounting policies).

Valuation losses on outstanding interest rate swaps are also included in this item (see note 18, “Interest rate swaps”).

12.2 Accruals and income collected in advance

As at 31 December 2015 this item included accrued interest payable to the NCBs for the whole of 2015 in respect of their claims relating to foreign reserves transferred to the ECB (see note 11.1, “Liabilities equivalent to the transfer of foreign reserves”) and accrued interest payable on TARGET2 balances due to NCBs for the final month of 2015. These amounts were settled in January 2016.

This item also included (a) income collected in advance in connection with the Single Supervisory Mechanism (see note 26, “Income and expenses related to supervisory tasks”); (b) administrative accruals; and (c) accruals on financial instruments.

	2015 €	2014 €	Change €
Foreign reserves transferred to the ECB	17,576,514	57,015,146	(39,438,632)
TARGET2	36,393,921	26,309,091	10,084,830
Other accruals	41,573,554	12,867,414	28,706,140
Total	**95,543,989**	**96,191,651**	**(647,662)**

12.3 Sundry

In 2015 this item included balances related to swap and forward transactions in foreign currency that were outstanding on 31 December 2015 (see note 19, “Foreign exchange swap and forward transactions”). These balances arose from the conversion of such transactions into their euro equivalents at the respective currency’s average cost on the balance sheet date, compared with the euro values at which the transactions were initially recorded (see “Off-balance-sheet instruments” in the notes on accounting policies).

As at 31 December 2014 this item included outstanding repurchase transactions of €150.1 million conducted in connection with the management of the ECB’s own funds. No related transactions remained outstanding as at 31 December 2015.

The ECB’s pension plans, other post-employment benefits and other long-term benefits[33]

In addition, this item included the ECB’s net defined benefit liability in respect of the post-employment and other long-term benefits of its staff and the members of the Executive Board, as well as the members of the Supervisory Board employed by the ECB, amounting to €385.5 million (2014: €459.7 million).

33 In all the tables of this note, the columns labelled “Boards” report the amounts in respect of both the Executive Board and the Supervisory Board.

Balance Sheet

The amounts recognised in the Balance Sheet in respect of post-employment and other long-term employee benefits were as follows:

	2015 Staff € millions	2015 Boards € millions	2015 Total € millions	2014 Staff € millions	2014 Boards € millions	2014 Total € millions
Present value of obligation	1,116.7	24.1	1,140.8	1,087.1	24.5	1,111.6
Fair value of plan assets	(755.3)	-	(755.3)	(651.9)	-	(651.9)
Net defined benefit liability recognised in the Balance Sheet	**361.4**	**24.1**	**385.5**	**435.2**	**24.5**	**459.7**

In 2015 the present value of the obligation vis-à-vis staff of €1,116.7 million (2014: €1,087.1 million) included unfunded benefits amounting to €155.9 million (2014: €170.3 million) relating to post-employment benefits other than pensions and to other long-term benefits. Unfunded arrangements are also in place for the post-employment and other long-term benefits of members of the Executive Board and members of the Supervisory Board.

Profit and Loss Account

The amounts recognised in the Profit and Loss Account in 2015 were as follows:

	2015 Staff € millions	2015 Boards € millions	2015 Total € millions	2014 Staff € millions	2014 Boards € millions	2014 Total € millions
Current service cost	120.0	1.9	121.9	41.7	1.2	42.9
Net interest on the net defined benefit liability	9.5	0.5	10.0	4.5	0.7	5.2
of which:						
Cost on the obligation	*22.9*	*0.5*	*23.4*	*25.1*	*0.7*	*25.8*
Income on plan assets	*(13.4)*	*-*	*(13.4)*	*(20.6)*	*-*	*(20.6)*
Remeasurement (gains)/losses on other long-term benefits	2.6	(0.1)	2.5	7.8	0.3	8.1
Total included in "Staff costs"	**132.1**	**2.3**	**134.4**	**54.0**	**2.2**	**56.2**

The current service cost increased in 2015 to €121.9 million (2014: €42.9 million), owing to (a) the reduction in the discount rate from 3.75% in 2013 to 2% in 2014;[34] and (b) the higher average number of plan members in 2015.

[34] The current service cost is estimated using the discount rate that applied in the previous year.

Changes in the defined benefit obligation, plan assets and remeasurement results

Changes in the present value of the defined benefit obligation were as follows:

	2015 Staff € millions	2015 Boards € millions	2015 Total € millions	2014 Staff € millions	2014 Boards € millions	2014 Total € millions
Opening defined benefit obligation	1,087.1	24.5	1,111.6	650.6	17.8	668.4
Current service cost	120.0	1.9	121.9	41.7	1.2	42.9
Interest cost on the obligation	22.9	0.5	23.4	25.1	0.7	25.8
Contributions paid by plan participants	21.7	0.2	21.9	14.0	0.1	14.1
Benefits paid	(7.5)	(0.8)	(8.3)	(7.1)	(0.8)	(7.9)
Remeasurement (gains)/losses	(127.5)	(2.2)	(129.7)	362.8	5.5	368.3
Closing defined benefit obligation	**1,116.7**	**24.1**	**1,140.8**	**1,087.1**	**24.5**	**1,111.6**

The total remeasurement gains of €129.7 million for 2015 on the defined benefit obligation arose primarily owing to the increase in the discount rate from 2.0% in 2014 to 2.5% in 2015. This compares with remeasurement losses of €368.3 million for 2014 which arose primarily owing to the decrease in the discount rate from 3.75% in 2013 to 2.0% in 2014.

Changes in 2015 in the fair value of plan assets in the defined benefit pillar relating to staff were as follows:

	2015 € millions	2014 € millions
Opening fair value of plan assets	651.9	536.5
Interest income on plan assets	13.4	20.6
Remeasurement gains	26.8	49.7
Contributions paid by employer	46.9	36.4
Contributions paid by plan participants	21.7	14.0
Benefits paid	(5.4)	(5.3)
Closing fair value of plan assets	**755.3**	**651.9**

Remeasurement gains on plan assets in both 2015 and 2014 reflected the fact that actual returns on the fund units were higher than the estimated interest income on plan assets.

The increase in the contributions made both by the ECB and by plan participants in 2015 was due mainly to the increase in the number of plan participants in that year (see note 29, “Staff costs”).

Changes in 2015 in the remeasurement results (see note 14, "Revaluation accounts") were as follows:

	2015 € millions	2014 € millions
Opening remeasurement gains/(losses)	(305.6)	4.8
Contributions by NCBs joining the Eurosystem[35]	(1.8)	0.0
Gains on plan assets	26.8	49.7
Gains/(losses) on obligation	129.7	(368.3)
Losses/(gains) recognised in the Profit and Loss Account	2.5	8.1
Closing remeasurement losses included under "Revaluation accounts" [36]	**(148.4)**	**(305.6)**

Key assumptions

In preparing the valuations referred to in this note, the actuaries have used assumptions which the Executive Board has accepted for the purposes of accounting and disclosure. The principal assumptions used for the purposes of calculating the benefits scheme liability are as follows:

	2015 %	2014 %
Discount rate	2.50	2.00
Expected return on plan assets[37]	3.50	3.00
General future salary increases[38]	2.00	2.00
Future pension increases[39]	1.40	1.40

Furthermore, voluntary contributions made by staff in a defined contribution pillar in 2015 amounted to €123.3 million (2014: €110.6 million). These contributions are invested in the plan assets but also give rise to a corresponding obligation of equal value.

13 Provisions

This item consists mainly of a provision for foreign exchange rate, interest rate, credit and gold price risks.

[35] Upon the adoption of the single currency by Lithuania, Lietuvos bankas contributed to the balances of all the revaluation accounts of the ECB. The outstanding remeasurement losses that were included in the revaluation accounts as at 31 December 2014 resulted in a reduction in the contributions by Lietuvos bankas.

[36] Totals may not add up due to rounding.

[37] These assumptions were used for calculating the part of the ECB's defined benefit obligation which is funded by assets with an underlying capital guarantee.

[38] In addition, allowance is made for prospective individual salary increases of up to 1.8% per annum, depending on the age of the plan participants.

[39] In accordance with the ECB's pension plan rules, pensions will be increased annually. If general salary adjustments for ECB employees are below price inflation, any increase in pensions will be in line with the general salary adjustments. If the general salary adjustments exceed price inflation, they will be applied to determine the increase in pensions, provided that the financial position of the ECB's pension plans permits such an increase.

The provision for foreign exchange rate, interest rate, credit and gold price risks will be used to the extent deemed necessary by the Governing Council to offset future realised and unrealised losses, in particular valuation losses not covered by the revaluation accounts. The size of and continuing requirement for this provision is reviewed annually, based on the ECB's assessment of its exposure to these risks and taking a range of factors into account. Its size, together with any amount held in the general reserve fund, may not exceed the value of the ECB's capital paid up by the euro area NCBs.

Upon Lithuania's adoption of the single currency, Lietuvos bankas contributed an amount of €44,728,929 to the provision for foreign exchange rate, interest rate, credit and gold price risks with effect from 1 January 2015,[40] increasing the size of the provision to €7,619,884,851. Following the increase in the ECB's paid-up capital in 2015 (see note 15, "Capital and reserves"), this amount corresponds to the value of the ECB's capital paid up by the euro area NCBs as at 31 December 2015.

14 Revaluation accounts

This item consists mainly of revaluation balances arising from unrealised gains on assets, liabilities and off-balance-sheet instruments (see "Income recognition", "Gold and foreign currency assets and liabilities", "Securities" and "Off-balance-sheet instruments" in the notes on accounting policies). It also includes the remeasurements of the ECB's net defined benefit liability in respect of post-employment benefits (see "The ECB's pension plans, other post-employment benefits and other long-term benefits" in the notes on accounting policies and note 12.3, "Sundry").

Upon the adoption of the single currency by Lithuania, Lietuvos bankas contributed an amount of €117.7 million to these balances with effect from 1 January 2015.

	2015 €	2014 €	Change €
Gold	11,900,595,095	12,065,394,836	(164,799,741)
Foreign currency	12,272,562,352	7,046,435,041	5,226,127,311
Securities and other instruments	808,078,836	1,131,424,399	(323,345,563)
Net defined benefit liability in respect of post-employment benefits	(148,413,109)	(305,609,580)	157,196,471
Total	**24,832,823,174**	**19,937,644,696**	**4,895,178,478**

The increase in the size of the revaluation accounts is predominately due to the depreciation of the euro against the US dollar and Japanese yen in 2015.

40 This contribution was paid in accordance with Article 48.2 of the Statute of the ESCB.

The foreign exchange rates used for the year-end revaluation were as follows:

Exchange rates	2015	2014
US dollars per euro	1.0887	1.2141
Japanese yen per euro	131.07	145.23
Euro per SDR	1.2728	1.1924
Euro per fine ounce of gold	973.225	987.769

15 Capital and reserves

15.1 Capital

Lithuania adopted the single currency on 1 January 2015. In accordance with Article 48.1 of the Statute of the ESCB, Lietuvos bankas paid up an amount of €43,051,594 as at 1 January 2015,[41] representing the remainder of its capital subscription to the ECB. As a consequence, the ECB's paid-up capital increased from €7,697,025,340 on 31 December 2014 to €7,740,076,935 on 1 January 2015, as shown in the table.[42]

41 Decision (EU) 2015/287 of the ECB of 31 December 2014 on the paying-up of capital, transfer of foreign reserve assets and contributions by Lietuvos bankas to the ECB's reserves and provisions (ECB/2014/61), OJ L 50, 21.2.2015, p. 44.

42 Individual amounts are shown rounded to the nearest euro. Consequently, totals and subtotals in the table may not add up due to rounding.

	Capital key since 1 January 2015 %	Paid-up capital since 1 January 2015 €	Capital key as at 31 December 2014 %	Paid-up capital as at 31 December 2014 €
Nationale Bank van België/ Banque Nationale de Belgique	2.4778	268,222,025	2.4778	268,222,025
Deutsche Bundesbank	17.9973	1,948,208,997	17.9973	1,948,208,997
Eesti Pank	0.1928	20,870,614	0.1928	20,870,614
Central Bank of Ireland	1.1607	125,645,857	1.1607	125,645,857
Bank of Greece	2.0332	220,094,044	2.0332	220,094,044
Banco de España	8.8409	957,028,050	8.8409	957,028,050
Banque de France	14.1792	1,534,899,402	14.1792	1,534,899,402
Banca d’Italia	12.3108	1,332,644,970	12.3108	1,332,644,970
Central Bank of Cyprus	0.1513	16,378,236	0.1513	16,378,236
Latvijas Banka	0.2821	30,537,345	0.2821	30,537,345
Lietuvos bankas	0.4132	44,728,929	-	-
Banque centrale du Luxembourg	0.2030	21,974,764	0.2030	21,974,764
Central Bank of Malta	0.0648	7,014,605	0.0648	7,014,605
De Nederlandsche Bank	4.0035	433,379,158	4.0035	433,379,158
Oesterreichische Nationalbank	1.9631	212,505,714	1.9631	212,505,714
Banco de Portugal	1.7434	188,723,173	1.7434	188,723,173
Banka Slovenije	0.3455	37,400,399	0.3455	37,400,399
Národná banka Slovenska	0.7725	83,623,180	0.7725	83,623,180
Suomen Pankki – Finlands Bank	1.2564	136,005,389	1.2564	136,005,389
Subtotal for euro area NCBs	**70.3915**	**7,619,884,851**	**69.9783**	**7,575,155,922**
Българска народна банка (Bulgarian National Bank)	0.8590	3,487,005	0.8590	3,487,005
Česká národní banka	1.6075	6,525,450	1.6075	6,525,450
Danmarks Nationalbank	1.4873	6,037,512	1.4873	6,037,512
Hrvatska narodna banka	0.6023	2,444,963	0.6023	2,444,963
Lietuvos bankas	-	-	0.4132	1,677,335
Magyar Nemzeti Bank	1.3798	5,601,129	1.3798	5,601,129
Narodowy Bank Polski	5.1230	20,796,192	5.1230	20,796,192
Banca Naţională a României	2.6024	10,564,124	2.6024	10,564,124
Sveriges Riksbank	2.2729	9,226,559	2.2729	9,226,559
Bank of England	13.6743	55,509,148	13.6743	55,509,148
Subtotal for non-euro area NCBs	**29.6085**	**120,192,083**	**30.0217**	**121,869,418**
Total	**100.0000**	**7,740,076,935**	**100.0000**	**7,697,025,340**

The non-euro area NCBs are required to pay up 3.75% of their subscribed capital as a contribution to the operational costs of the ECB. This contribution amounted to a total of €120,192,083 at the end of 2015. The non-euro area NCBs are not entitled to receive any share of the distributable profits of the ECB, including income arising from the allocation of euro banknotes within the Eurosystem, nor are they liable to fund any loss of the ECB.

Off-balance-sheet instruments

16 Automated security lending programme

As part of the management of the ECB's own funds, the ECB has an automated security lending programme agreement in place, whereby an appointed agent enters into security lending transactions on behalf of the ECB with a number of designated eligible counterparties.

In addition, in accordance with the Governing Council's decisions, the ECB has made available for lending its holdings of securities purchased under the first, second and third covered bond purchase programmes, as well as its holdings of securities purchased under the PSPP and those purchased under the SMP that are also eligible for purchase under the PSPP.

As a result of the ECB's security lending arrangements, reverse transactions with a value of €4.5 billion (2014: €4.8 billion) were outstanding as at 31 December 2015. Of this amount, €0.3 billion (2014: €0) related to the lending of securities held for monetary policy purposes.

17 Interest rate futures

As at 31 December 2015 the following foreign currency transactions, presented at year-end market rates, were outstanding:

Foreign currency interest rate futures	2015 Contract value €	2014 Contract value €	Change €
Purchases	694,406,172	911,374,681	(216,968,509)
Sales	690,554,100	1,001,647,311	(311,093,211)

These transactions were conducted in the context of the management of the ECB's foreign reserves.

18 Interest rate swaps

Interest rate swap transactions with a notional value of €274.5 million (2014: €270.8 million), presented at year-end market rates, were outstanding as at 31 December 2015. These transactions were conducted in the context of the management of the ECB's foreign reserves.

19 Foreign exchange swap and forward transactions

Management of foreign reserves

Foreign exchange swap and forward transactions were conducted in 2015 in the context of the management of the ECB's foreign reserves. Claims and liabilities resulting from these transactions that were outstanding as at 31 December 2015 with a settlement date in 2016 are presented at year-end market rates as follows:

Foreign exchange swap and forward transactions	2015 €	2014 €	Change €
Claims	2,467,131,004	1,899,819,430	567,311,574
Liabilities	2,484,517,472	1,777,894,537	706,622,935

Liquidity-providing operations

US dollar-denominated claims and liabilities with a settlement date in 2016, which arose in connection with the provision of US dollar liquidity to Eurosystem counterparties (see note 9, "Liabilities to non-euro area residents denominated in euro"), were outstanding on 31 December 2015.

20 Administration of borrowing and lending operations

In 2015 the ECB continued to be responsible for the administration of the borrowing and lending operations of the EU under the medium-term financial assistance facility, the European Financial Stabilisation Mechanism, the European Financial Stability Facility and the European Stability Mechanism (ESM), as well as for the loan facility agreement for Greece. In 2015 the ECB processed payments related to these operations, as well as payments in the form of member subscriptions to the ESM's authorised capital stock.

21 Contingent liabilities from pending lawsuits

Three lawsuits were filed against the ECB and other EU institutions by a number of depositors, shareholders and bondholders of Cypriot credit institutions. The applicants alleged that they had suffered financial losses as a result of acts that they deemed to have led to the restructuring of these credit institutions in the context of the financial assistance programme for Cyprus. The General Court of the EU found twelve similar cases inadmissible in their entirety in 2014. Appeals were brought against eight of these verdicts. The ECB's involvement in the process leading up to the conclusion of the financial assistance programme was limited to the provision of technical advice, pursuant to the Treaty establishing the European Stability Mechanism, acting in liaison with the European Commission, as well as the issuance of a non-binding opinion on the Cypriot draft resolution law. It is therefore considered that no losses will be incurred by the ECB as a result of these cases.

Notes on the Profit and Loss Account

22 Net interest income

22.1 Interest income on foreign reserve assets

This item includes interest income, net of interest expense, in respect of the ECB's net foreign reserve assets, as follows:

	2015 €	2014 €	Change €
Interest income on current accounts	552,459	548,634	3,825
Interest income on money market deposits	6,306,443	4,234,448	2,071,995
Interest income on repurchase agreements	38,311	208,426	(170,115)
Interest income on reverse repurchase agreements	2,920,201	867,860	2,052,341
Interest income on securities	261,121,900	206,165,493	54,956,407
Interest income/(expense) on interest rate swaps	(861,355)	407,588	(1,268,943)
Interest income on forward and swap transactions in foreign currencies	13,127,982	4,570,710	8,557,272
Interest income on foreign reserve assets (net)	**283,205,941**	**217,003,159**	**66,202,782**

The overall increase in net interest income in 2015 was due mainly to both higher interest income generated on the US dollar portfolio and the appreciation of the US dollar against the euro.

22.2 Interest income arising from the allocation of euro banknotes within the Eurosystem

This item consists of the interest income relating to the ECB's 8% share of the total euro banknote issue (see "Banknotes in circulation" in the notes on accounting policies and note 5.1, "Claims related to the allocation of euro banknotes within the Eurosystem"). Despite an 8.1% increase in the average value of banknotes in circulation, there was a decrease in income in 2015 owing to the fact that the average rate on the main refinancing operations was lower than in 2014 (at 0.05% in 2015, compared with 0.16% in 2014).

22.3 Remuneration of NCBs' claims in respect of foreign reserves transferred

Remuneration paid to euro area NCBs on their claims on the ECB in respect of the foreign reserve assets transferred under Article 30.1 of the Statute of the ESCB (see note 11.1, "Liabilities equivalent to the transfer of foreign reserves") is disclosed under this heading. The decrease in this remuneration in 2015 reflected the fact that the average rate on the main refinancing operations was lower than in 2014.

22.4 Other interest income; and other interest expense

In 2015 these items included net interest income of €608.7 million (2014: €727.7 million) on the securities purchased by the ECB under the SMP, while the net interest income on the remaining securities purchased for monetary policy purposes amounted to €280.9 million (2014: €174.9 million).

They also included interest income of €0.4 billion (2014: €1.1 billion) and expenses of €0.4 billion (2014: €1.1 billion) arising from TARGET2 balances (see note 11.2, "Other liabilities within the Eurosystem (net)", and note 9, "Liabilities to non-euro area residents denominated in euro"). Interest income and expense in respect of other assets and liabilities denominated in euro are also shown under these headings.

23 Realised gains/losses arising from financial operations

Net realised gains arising from financial operations in 2015 were as follows:

	2015 €	2014 €	Change €
Net realised price gains	175,959,137	47,223,558	128,735,579
Net realised exchange rate and gold price gains	38,474,593	10,036,857	28,437,736
Net realised gains arising from financial operations	**214,433,730**	**57,260,415**	**157,173,315**

Net realised price gains included realised gains and losses on securities, interest rate futures and interest rate swaps. The overall increase in net realised price gains in 2015 was due mainly to higher realised price gains generated on securities in the US dollar portfolio.

24 Write-downs on financial assets and positions

Write-downs on financial assets and positions in 2015 were as follows:

	2015 €	2014 €	Change €
Unrealised price losses on securities	(63,827,424)	(7,664,489)	(56,162,935)
Unrealised price losses on interest rate swaps	(223,892)	(198,804)	(25,088)
Unrealised exchange rate losses	(1,901)	-	(1,901)
Total write-downs	**(64,053,217)**	**(7,863,293)**	**(56,189,924)**

The higher write-downs compared with 2014 were mainly the result of the overall decrease in the market prices of the securities held in the US dollar portfolio.

25 Net income/expense from fees and commissions

	2015 €	2014 €	Change €
Income from fees and commissions	277,324,169	30,024,834	247,299,335
Expenses relating to fees and commissions	(8,991,908)	(1,866,180)	(7,125,728)
Net income from fees and commissions	**268,332,261**	**28,158,654**	**240,173,607**

In 2015 income under this heading consisted mainly of supervisory fees (see note 26, "Income and expenses related to supervisory tasks") and also included penalties imposed on credit institutions for non-compliance with the minimum reserve requirements. Expenses consisted mainly of fees payable to the external asset managers conducting purchases of eligible asset-backed securities on explicit instructions from, and on behalf of, the Eurosystem. They also included fees relating to current accounts and to interest rate futures transactions (see note 17, "Interest rate futures").

26 Income and expenses related to supervisory tasks

The expenditure incurred by the ECB in relation to its supervisory tasks is recovered via annual fees levied on supervised entities. This expenditure primarily consists of costs that are directly related to the ECB's supervisory tasks, such as the direct supervision of significant entities, the oversight of the supervision of less significant entities and the performance of horizontal tasks and specialised services. It also includes costs that are indirectly related to the ECB's supervisory tasks, such as services provided by the ECB's support areas, including premises, human resources management and information technology services.

The related income of the ECB for supervisory tasks in 2015 was as follows:

	2015 €	2014[43] €
Supervisory fees	277,086,997	29,973,012
of which:		
Fees levied on significant entities or significant groups	*245,620,964*	*25,622,812*
Fees levied on less significant entities or less significant groups	*31,466,033*	*4,350,200*
Total income from banking supervision tasks	**277,086,997**	**29,973,012**

Income from supervisory fees is included under "Net income from fees and commissions" (see note 25, "Net income/expense from fees and commissions").

Based on the estimated annual expenditure, the ECB announced in April 2015 that the annual supervisory fees for 2015 would amount to €296.0 million.[44] The surplus of €18.9 million compared with the actual expenditure of €277.1 million is shown under the heading "Accruals and income collected in advance" (see note 12.2,

[43] For 2014 the ECB recovered via supervisory fees its banking supervision-related costs for the period commencing in November 2014, which is when it assumed its supervisory tasks.

[44] This amount, together with the costs incurred in the last two months of 2014 amounting to €30.0 million, was invoiced in 2015 with a due date of 20 November 2015.

“Accruals and income collected in advance”) and will reduce the supervisory fees to be levied in 2016.

As at the end of 2015 minor amounts in respect of fees, as well as interest charged to the supervised entities for late payments, were still to be received. The ECB takes all necessary action to collect outstanding amounts from the supervised entities.

Furthermore, the ECB is entitled to impose fines or periodic penalty payments on undertakings for failure to comply with obligations under its regulations and decisions. No such fines or penalties were imposed in 2015.

The expenditure incurred by the ECB for 2015 was as follows:

	2015 €	2014[45] €
Salaries and benefits	141,262,893	18,456,945
Rent and building maintenance	25,513,220	2,199,243
Other operating expenditure	110,310,884	9,316,824
Total expenditure related to banking supervision tasks	**277,086,997**	**29,973,012**

27 Income from equity shares and participating interests

Dividends received on shares which the ECB holds in the BIS (see note 6.2, “Other financial assets”) are shown under this heading.

28 Other income

Other miscellaneous income during 2015 mainly arose from the accrued contributions of the euro area NCBs to the costs incurred by the ECB in connection with joint Eurosystem projects.

29 Staff costs

Staff costs increased in 2015, mainly owing to the higher average number of staff employed by the ECB, as well as the higher net expense in relation to post-employment benefits and other long-term benefits.

Salaries, allowances, staff insurance and other miscellaneous costs of €306.4 million (2014: €244.9 million) are included under this heading. Also included in this item is an amount of €134.4 million (2014: €56.2 million) recognised in connection with the ECB’s pension plans, other post-employment benefits and other long-term benefits (see note 12.3, “Sundry”). Staff costs of €0.8 million (2014: €1.2 million) incurred in

45 The figures for 2014 relate to the expenditure incurred for the last two months of that year, as the ECB assumed operational responsibility for banking supervision in November 2014.

connection with the construction of the ECB's new premises have been capitalised and are excluded from this item.

Salaries and allowances, including the emoluments of holders of senior management positions, are modelled in essence on, and are comparable with, the remuneration scheme of the European Union.

Members of the Executive Board and the members of the Supervisory Board employed by the ECB receive a basic salary, while part-time members of the Supervisory Board employed by the ECB are also remunerated, based on the number of meetings attended. In addition, the members of the Executive Board and the full-time members of the Supervisory Board employed by the ECB receive additional allowances for residence and representation. In the case of the President, an official residence owned by the ECB is provided in lieu of a residence allowance. Subject to the Conditions of Employment for Staff of the European Central Bank, members of both boards are entitled to household, child and education allowances, depending on their individual circumstances. Salaries are subject to a tax for the benefit of the European Union, as well as to deductions in respect of contributions to the pension, medical and accident insurance schemes. Allowances are non-taxable and non-pensionable.

In 2015 the basic salaries of the members of the Executive Board and members of the Supervisory Board employed by the ECB (i.e. excluding representatives of national supervisors) were as follows:[46]

	2015 €	2014 €
Mario Draghi (President)	385,860	379,608
Vítor Constâncio (Vice-President)	330,744	325,392
Peter Praet (Board Member)	275,604	271,140
Jörg Asmussen (Board Member until January 2014)	-	*4,912*
Benoît Cœuré (Board Member)	275,604	271,140
Yves Mersch (Board Member)	275,604	271,140
Sabine Lautenschläger (Board Member)	275,604	253,457
Total Executive Board	**1,819,020**	**1,776,789**
Total Supervisory Board (members employed by the ECB)[47]	**635,385**	**508,589**
of which:		
Danièle Nouy (Chair of the Supervisory Board)	275,604	271,140
Total	**2,454,405**	**2,285,378**

Furthermore, the remuneration of the part-time members of the Supervisory Board amounted to €352,256 (2014: €74,776).

The total allowances paid to members of both boards and the ECB's contributions to the medical and accident insurance schemes on their behalf amounted to €625,021 (2014: €674,470).

46 Amounts are presented gross, i.e. before any tax deductions for the benefit of the European Union.

47 This total excludes the salary of Sabine Lautenschläger, which is reported with those of the other members of the Executive Board.

In 2015 no benefits on appointment or termination of service were paid to the members of either board (2014: €68,616).

Transitional payments may be made to former members of the Executive Board and the Supervisory Board for a limited period after the end of their terms of office. In 2015 these payments, the related family allowances and the ECB's contributions to the medical and accident insurance schemes of former members amounted to €9,730 (2014: €243,178). Pension payments, including related allowances, to former board members or their dependents and contributions to the medical and accident insurance schemes amounted to €783,113 (2014: €599,589).

At the end of 2015 the actual full-time equivalent number of staff holding contracts with the ECB was 2,871,[48] including 293 with managerial positions. The change in the number of staff during 2015 was as follows:

	2015	2014
Total staff as at 1 January	2,577	1,790
Newcomers/change of contractual status	648	1,458
Resignations/end of contract	(299)	(681)
Net increase/(decrease) due to changes in part-time working patterns	(55)	10
Total staff as at 31 December	**2,871**	**2,577**
Average number of staff employed	**2,722**	**2,155**

30 Administrative expenses

These cover all other current expenses relating to the renting and maintenance of premises, goods and equipment of a non-capital nature, professional fees and other services and supplies, together with staff-related expenses including recruitment, relocation, installation, training and resettlement expenses.

31 Banknote production services

This expense arises predominantly owing to the cross-border transportation of euro banknotes between banknote printing works and NCBs, for the delivery of new banknotes, and between NCBs, for the compensation of shortages with surplus stocks. These costs are borne centrally by the ECB.

48 Staff on unpaid leave are excluded. This number includes staff with permanent, fixed or short-term contracts and the participants in the ECB's Graduate Programme. Staff on maternity or long-term sick leave are also included.

Building a better
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President and Governing Council
of the European Central Bank
Frankfurt am Main

10 February 2016

Independent auditor's report

We have audited the accompanying annual accounts of the European Central Bank, which comprise the balance sheet as at 31 December 2015, the profit and loss account for the year then ended, and a summary of significant accounting policies and other explanatory notes (the "Annual Accounts").

The responsibility of the European Central Bank's Executive Board for the Annual Accounts
The Executive Board is responsible for the preparation and fair presentation of these Annual Accounts in accordance with the principles established by the Governing Council, which are set out in Decision ECB/2010/21 on the annual accounts of the European Central Bank, as amended, and for such internal control as the Executive Board determines is necessary to enable the preparation of the Annual Accounts that are free from material misstatement, whether due to fraud or error.

Auditor's responsibility
Our responsibility is to express an opinion on these Annual Accounts based on our audit. We conducted our audit in accordance with International Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the Annual Accounts are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the Annual Accounts. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the Annual Accounts, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the Annual Accounts in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the Executive Board, as well as evaluating the overall presentation of the Annual Accounts.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion
In our opinion, the Annual Accounts give a true and fair view of the financial position of the European Central Bank as at 31 December 2015 and of the results of its operations for the year then ended, in accordance with the principles established by the Governing Council, which are set out in Decision ECB/2010/21 on the annual accounts of the European Central Bank, as amended.

Yours sincerely,

Ernst & Young GmbH
Wirtschaftsprüfungsgesellschaft

Victor Veger
Certified Public Accountant

Claus-Peter Wagner
Wirtschaftsprüfer

Note on profit distribution/allocation of losses

This note is not part of the financial statements of the ECB for the year 2015.

Pursuant to Article 33 of the Statute of the ESCB, the net profit of the ECB shall be transferred in the following order:

(a) an amount to be determined by the Governing Council, which may not exceed 20% of the net profit, shall be transferred to the general reserve fund, subject to a limit equal to 100% of the capital; and

(b) the remaining net profit shall be distributed to the shareholders of the ECB in proportion to their paid-up shares.

In the event of a loss incurred by the ECB, the shortfall may be offset against the general reserve fund of the ECB and, if necessary, following a decision by the Governing Council, against the monetary income of the relevant financial year in proportion and up to the amounts allocated to the NCBs in accordance with Article 32.5 of the Statute of the ESCB.[49]

The ECB's net profit for 2015 was €1,081.8 million. Following a decision by the Governing Council, an interim profit distribution, amounting to €812.1 million, was paid out to the euro area NCBs on 29 January 2016. Furthermore, the Governing Council decided to distribute the remaining profit of €269.7 million to the euro area NCBs.

Profits are distributed to the NCBs in proportion to their paid-up shares in the subscribed capital of the ECB. Non-euro area NCBs are not entitled to receive any share of the ECB's distributable profits, nor are they liable to fund any loss of the ECB.

	2015 €	2014 €
Profit for the year	1,081,790,763	988,832,500
Interim profit distribution	(812,134,494)	(840,719,787)
Profit for the year after the interim profit distribution	269,656,269	148,112,713
Distribution of the remaining profit	(269,656,269)	(148,112,713)
Total	**0**	**0**

[49] Under Article 32.5 of the Statute of the ESCB, the sum of the NCBs' monetary income shall be allocated to the NCBs in proportion to their paid-up shares in the capital of the ECB.

Consolidated balance sheet of the Eurosystem as at 31 December 2015[1]

(EUR millions)[2]

	ASSETS	31 December 2015	31 December 2014
1	**Gold and gold receivables**	**338,713**	**343,630**
2	**Claims on non-euro area residents denominated in foreign currency**	**307,115**	**270,250**
	2.1 Receivables from the IMF	80,384	81,298
	2.2 Balances with banks and security investments, external loans and other external assets	226,732	188,951
3	**Claims on euro area residents denominated in foreign currency**	**31,109**	**27,940**
4	**Claims on non-euro area residents denominated in euro**	**20,242**	**18,905**
	4.1 Balances with banks, security investments and loans	20,242	18,905
	4.2 Claims arising from the credit facility under ERM II	0	0
5	**Lending to euro area credit institutions related to monetary policy operations denominated in euro**	**558,989**	**630,341**
	5.1 Main refinancing operations	88,978	156,129
	5.2 Longer-term refinancing operations	469,543	473,285
	5.3 Fine-tuning reverse operations	0	0
	5.4 Structural reverse operations	0	0
	5.5 Marginal lending facility	468	924
	5.6 Credits related to margin calls	0	2
6	**Other claims on euro area credit institutions denominated in euro**	**107,863**	**59,942**
7	**Securities of euro area residents denominated in euro**	**1,161,159**	**590,265**
	7.1 Securities held for monetary policy purposes	803,135	217,242
	7.2 Other securities	358,023	373,022
8	**General government debt denominated in euro**	**25,145**	**26,715**
9	**Other assets**	**230,810**	**240,252**
	Total assets	**2,781,145**	**2,208,238**

1 Based on provisional unaudited data. The annual accounts of all the NCBs will be finalised by the end of May 2016 and the final consolidated annual balance sheet of the Eurosystem will be published thereafter.

2 Totals/subtotals may not add up due to rounding.

LIABILITIES		31 December 2015	31 December 2014
1	**Banknotes in circulation**	**1,083,539**	**1,016,616**
2	**Liabilities to euro area credit institutions related to monetary policy operations denominated in euro**	**768,419**	**366,511**
	2.1 Current accounts (covering the minimum reserve system)	555,864	318,245
	2.2 Deposit facility	212,415	48,266
	2.3 Fixed-term deposits	0	0
	2.4 Fine-tuning reverse operations	0	0
	2.5 Deposits related to margin calls	140	0
3	**Other liabilities to euro area credit institutions denominated in euro**	**5,202**	**4,635**
4	**Debt certificates issued**	**0**	**0**
5	**Liabilities to other euro area residents denominated in euro**	**141,805**	**64,519**
	5.1 General government	59,295	36,738
	5.2 Other liabilities	82,510	27,781
6	**Liabilities to non-euro area residents denominated in euro**	**54,529**	**47,927**
7	**Liabilities to euro area residents denominated in foreign currency**	**2,803**	**1,271**
8	**Liabilities to non-euro area residents denominated in foreign currency**	**3,677**	**4,753**
	8.1 Deposits, balances and other liabilities	3,677	4,753
	8.2 Liabilities arising from the credit facility under ERM II	0	0
9	**Counterpart of special drawing rights allocated by the IMF**	**59,179**	**56,211**
10	**Other liabilities**	**218,618**	**219,328**
11	**Revaluation accounts**	**346,172**	**331,398**
12	**Capital and reserves**	**97,201**	**95,070**
	Total liabilities	**2,781,145**	**2,208,238**

Statistical section

Further information

ECB statistics:	http://sdw.ecb.europa.eu/
Methodological definitions can be found in the General Notes to the Statistics Bulletin:	http://sdw.ecb.europa.eu/reports.do?node=10000023
Details on calculations can be found in the Technical Notes to the Statistics Bulletin:	http://sdw.ecb.europa.eu/reports.do?node=10000022
Explanations of terms and abbreviations can be found in the ECB's statistics glossary:	http://www.ecb.europa.eu/home/glossary/html/glossa.en.html

Specific methodological note

Multi-annual averages of growth rates are calculated using the geometric mean. For all the other indicators included in this section, the multi-annual averages are computed using the arithmetic mean.

Conventions used in the table

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

1. Financial and monetary developments

1.1 Key ECB interest rates

(levels in percentages per annum; changes in percentage points)

With effect from: [1]	Deposit facility		Main refinancing operations			Marginal lending facility	
			Fixed rate tenders	Variable rate tenders			
			Fixed rate	Minimum bid rate			
	Level	Change	Level	Level	Change	Level	Change
	1	2	3	4	5	6	7
1999 1 Jan.	2.00	-	3.00	-	-	4.50	-
4 Jan. [2]	2.75	0.75	3.00	-	...	3.25	-1.25
22 Jan.	2.00	-0.75	3.00	-	...	4.50	1.25
9 Apr.	1.50	-0.50	2.50	-	-0.50	3.50	-1.00
5 Nov.	2.00	0.50	3.00	-	0.50	4.00	0.50
2000 4 Feb.	2.25	0.25	3.25	-	0.25	4.25	0.25
17 Mar.	2.50	0.25	3.50	-	0.25	4.50	0.25
28 Apr.	2.75	0.25	3.75	-	0.25	4.75	0.25
9 June	3.25	0.50	4.25	-	0.50	5.25	0.50
28 June [3]	3.25	...	-	4.25	...	5.25	...
1 Sep.	3.50	0.25	-	4.50	0.25	5.50	0.25
6 Oct.	3.75	0.25	-	4.75	0.25	5.75	0.25
2001 11 May	3.50	-0.25	-	4.50	-0.25	5.50	-0.25
31 Aug.	3.25	-0.25	-	4.25	-0.25	5.25	-0.25
18 Sep.	2.75	-0.50	-	3.75	-0.50	4.75	-0.50
9 Nov.	2.25	-0.50	-	3.25	-0.50	4.25	-0.50
2002 6 Dec.	1.75	-0.50	-	2.75	-0.50	3.75	-0.50
2003 7 Mar.	1.50	-0.25	-	2.50	-0.25	3.50	-0.25
6 June	1.00	-0.50	-	2.00	-0.50	3.00	-0.50
2005 6 Dec.	1.25	0.25	-	2.25	0.25	3.25	0.25
2006 8 Mar.	1.50	0.25	-	2.50	0.25	3.50	0.25
15 June	1.75	0.25	-	2.75	0.25	3.75	0.25
9 Aug.	2.00	0.25	-	3.00	0.25	4.00	0.25
11 Oct.	2.25	0.25	-	3.25	0.25	4.25	0.25
13 Dec.	2.50	0.25	-	3.50	0.25	4.50	0.25
2007 14 Mar.	2.75	0.25	-	3.75	0.25	4.75	0.25
13 June	3.00	0.25	-	4.00	0.25	5.00	0.25
2008 9 July	3.25	0.25	-	4.25	0.25	5.25	0.25
8 Oct.	2.75	-0.50	-	-	-	4.75	-0.50
9 Oct. [4]	3.25	0.50	-	-	-	4.25	-0.50
15 Oct. [5]	3.25	...	3.75	-	-0.50	4.25	...
12 Nov.	2.75	-0.50	3.25	-	-0.50	3.75	-0.50
10 Dec.	2.00	-0.75	2.50	-	-0.75	3.00	-0.75
2009 21 Jan.	1.00	-1.00	2.00	-	-0.50	3.00	...
11 Mar.	0.50	-0.50	1.50	-	-0.50	2.50	-0.50
8 Apr.	0.25	-0.25	1.25	-	-0.25	2.25	-0.25
13 May	0.25	...	1.00	-	-0.25	1.75	-0.50
2011 13 Apr.	0.50	0.25	1.25	-	0.25	2.00	0.25
13 July	0.75	0.25	1.50	-	0.25	2.25	0.25
9 Nov.	0.50	-0.25	1.25	-	-0.25	2.00	-0.25
14 Dec.	0.25	-0.25	1.00	-	-0.25	1.75	-0.25
2012 11 July	0.00	-0.25	0.75	-	-0.25	1.50	-0.25
2013 8 May	0.00	...	0.50	-	-0.25	1.00	-0.50
13 Nov.	0.00	...	0.25	-	-0.25	0.75	-0.25
2014 11 June	-0.10	-0.10	0.15	-	-0.10	0.40	-0.35
10 Sep.	-0.20	-0.10	0.05	-	-0.10	0.30	-0.10
2015 9 Dec.	-0.30	-0.10	0.05	-	...	0.30	...

Source: ECB.

1) From 1 January 1999 to 9 March 2004, the date refers to the deposit and marginal lending facilities. For main refinancing operations, changes in the rate are effective from the first operation following the date indicated. The change on 18 September 2001 was effective on that same day. From 10 March 2004 the date refers both to the deposit and marginal lending facilities, and to the main refinancing operations (with changes effective from the first main refinancing operation following the Governing Council decision), unless otherwise indicated.

2) On 22 December 1998 the ECB announced that, as an exceptional measure between 4 and 21 January 1999, a narrow corridor of 50 basis points would be applied between the interest rates for the marginal lending facility and the deposit facility, aimed at facilitating the transition to the new monetary regime by market participants.

3) On 8 June 2000 the ECB announced that, starting from the operation to be settled on 28 June 2000, the main refinancing operations of the Eurosystem would be conducted as variable rate tenders. The minimum bid rate refers to the minimum interest rate at which counterparties may place their bids.

4) As of 9 October 2008 the ECB reduced the standing facilities corridor from 200 basis points to 100 basis points around the interest rate on the main refinancing operations. The standing facilities corridor was restored to 200 basis points as of 21 January 2009.

5) On 8 October 2008 the ECB announced that, starting from the operation to be settled on 15 October, the weekly main refinancing operations would be carried out through a fixed rate tender procedure with full allotment at the interest rate on the main refinancing operations. This change overrode the previous decision (made on the same day) to cut by 50 basis points the minimum bid rate on the main refinancing operations conducted as variable rate tenders.

1. Financial and monetary developments

1.2 Eurosystem monetary policy operations allotted through tender procedures [1)]

(EUR millions; interest rates in percentages per annum)

1.2.1 Main and longer-term refinancing operations [2), 3)]

Date of settlement	Bids (amount)	Number of participants	Allotment (amount)	Fixed rate tender procedures	Variable rate tender procedures			Running for (...) days
				Fixed rate	Minimum bid rate	Marginal rate [4)]	Weighted average rate	
	1	2	3	4	5	6	7	8
				Main refinancing operations				
2015 21 Oct.	65,908	123	65,908	0.05	-	-	-	7
28 Oct.	68,451	129	68,451	0.05	-	-	-	7
4 Nov.	61,468	114	61,468	0.05	-	-	-	7
11 Nov.	62,532	120	62,532	0.05	-	-	-	7
18 Nov.	60,527	113	60,527	0.05	-	-	-	7
25 Nov.	73,774	123	73,774	0.05	-	-	-	7
9 Dec.	69,094	111	69,094	0.05	-	-	-	7
16 Dec.	68,571	113	68,571	0.05	-	-	-	7
23 Dec.	72,908	115	72,908	0.05	-	-	-	7
30 Dec.	88,978	149	88,978	0.05	-	-	-	7
				Longer-term refinancing operations [5)]				
2015 24 June [6)]	73,789	128	73,789	0.05	-	-	-	1,190
25 June	17,269	102	17,269	0.05	-	-	-	98
30 July	21,752	126	21,752	0.05	-	-	-	91
27 Aug.	33,127	123	33,127	0.05	-	-	-	91
30 Sep. [6)]	15,548	88	15,548	0.05	-	-	-	1,092
1 Oct.	11,842	92	11,842	0.05	-	-	-	77
29 Oct.	18,125	109	18,125	0.05	-	-	-	91
26 Nov.	21,777	112	21,777	0.05	-	-	-	91
16 Dec. [6)]	18,304	55	18,304	0.05	-	-	-	1,015
17 Dec. [7)]	11,710	84	11,710	.	-	-	-	105

Source: ECB.

1) Only the 10 last operations until the end of 2015 are displayed in each category.

2) With effect from April 2002, split tender operations (i.e. operations with a one-week maturity conducted as standard tender procedures in parallel with a main refinancing operation) are classified as main refinancing operations.

3) On 8 June 2000 the ECB announced that, starting from the operation to be settled on 28 June 2000, the main refinancing operations of the Eurosystem would be conducted as variable rate tender procedures. The minimum bid rate refers to the minimum interest rate at which counterparties may place their bids. On 8 October 2008 the ECB announced that, starting from the operation to be settled on 15 October 2008, the weekly main refinancing operations would be carried out through a fixed rate tender procedure with full allotment at the interest rate on the main refinancing operations. On 4 March 2010 the ECB decided to return to variable rate tender procedures in the regular three-month longer-term refinancing operations, starting with the operation to be allotted on 28 April 2010 and settled on 29 April 2010.

4) In liquidity-providing (absorbing) operations, the marginal rate refers to the lowest (highest) rate at which bids were accepted.

5) For the operations settled on 22 December 2011 and 1 March 2012, after one year counterparties have the option to repay any part of the liquidity that they have been allotted in these operations, on any day that coincides with the settlement day of a main refinancing operation.

6) Targeted longer-term refinancing operation. Further information can be found in the "Monetary Policy" section of the ECB's website (https://www.ecb.europa.eu) under "Instruments" then "Open market operations".

7) In this longer-term refinancing operation, the rate at which all bids are satisfied is indexed to the average minimum bid rate in the main refinancing operations over the life of the operation. The interest rates displayed for these indexed longer-term refinancing operations have been rounded to two decimal places. For the precise calculation method, please refer to the Technical Notes.

1.2.2 Other tender operations

Date of settlement	Type of operation	Bids (amount)	Number of participants	Allotment (amount)	Fixed rate tender procedures	Variable rate tender procedures				Running for (...) days
					Fixed rate	Minimum bid rate	Maximum bid rate	Marginal rate [2)]	Weighted average rate	
	1	2	3	4	5	6	7	8	9	10
2014 9 Apr.	Collection of fixed-term deposits	192,515	156	172,500	-	-	0.25	0.24	0.22	7
16 Apr.	Collection of fixed-term deposits	153,364	139	153,364	-	-	0.25	0.25	0.23	7
23 Apr.	Collection of fixed-term deposits	166,780	139	166,780	-	-	0.25	0.25	0.23	7
30 Apr.	Collection of fixed-term deposits	103,946	121	103,946	-	-	0.25	0.25	0.24	7
7 May	Collection of fixed-term deposits	165,533	158	165,533	-	-	0.25	0.25	0.23	7
14 May	Collection of fixed-term deposits	144,281	141	144,281	-	-	0.25	0.25	0.24	7
21 May	Collection of fixed-term deposits	137,465	148	137,465	-	-	0.25	0.25	0.24	7
28 May	Collection of fixed-term deposits	102,878	119	102,878	-	-	0.25	0.25	0.25	7
4 June	Collection of fixed-term deposits	119,200	140	119,200	-	-	0.25	0.25	0.24	7
11 June	Collection of fixed-term deposits	108,650	122	108,650	-	-	0.15	0.15	0.13	7

Source: ECB.

1) Only the 10 last operations until the end of 2015 are displayed in each category.

2) In liquidity-providing (absorbing) operations, the marginal rate refers to the lowest (highest) rate at which bids were accepted.

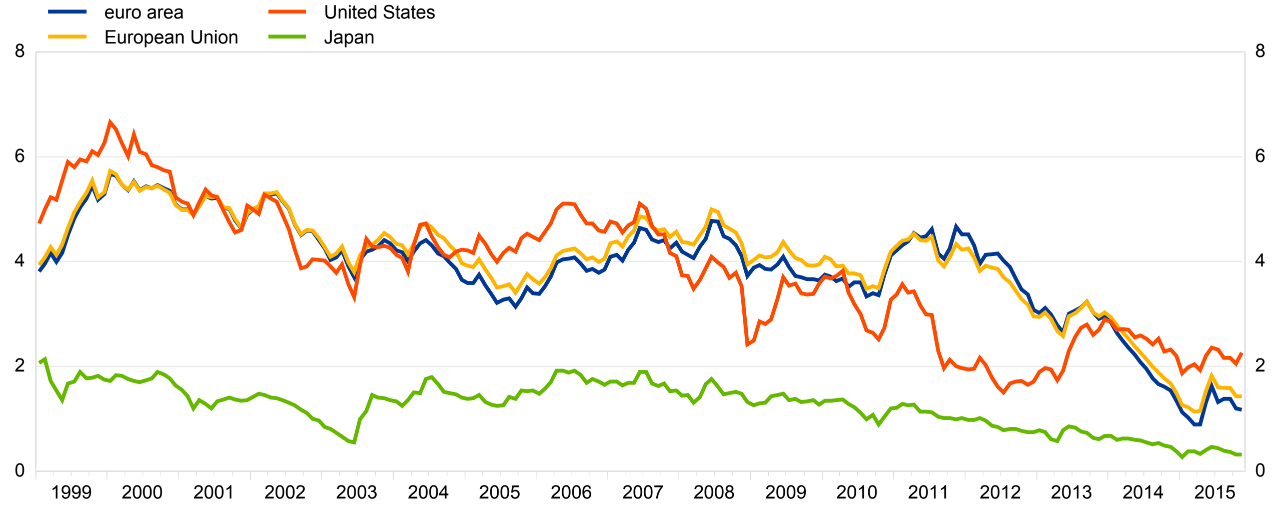
1. Financial and monetary developments

1.3 Long-term government bond yields
(percentages per annum; period averages)

	1999-2015 [1]	1999-2008 [1]	2009-2015	2012	2013	2014	2015
Belgium	3.8	4.5	2.8	3.0	2.4	1.7	0.8
Germany	3.3	4.3	1.9	1.5	1.6	1.2	0.5
Estonia [2]	.	.	.	.	.	.	.
Ireland	4.6	4.4	4.9	6.2	3.8	2.4	1.2
Greece	7.5	4.8	11.3	22.5	10.1	6.9	9.7
Spain	4.3	4.4	4.1	5.8	4.6	2.7	1.7
France	3.6	4.4	2.5	2.5	2.2	1.7	0.8
Italy	4.4	4.6	4.0	5.5	4.3	2.9	1.7
Cyprus	5.4	5.3	5.6	7.0	6.5	6.0	4.5
Latvia	5.5	5.3	5.7	4.6	3.3	2.5	1.0
Lithuania	5.3	5.2	5.4	4.8	3.8	2.8	1.4
Luxembourg	3.3	4.1	2.2	1.8	1.9	1.3	0.4
Malta	4.3	5.0	3.5	4.1	3.4	2.6	1.5
Netherlands	3.5	4.4	2.2	1.9	2.0	1.5	0.7
Austria	3.6	4.4	2.4	2.4	2.0	1.5	0.7
Portugal	5.2	4.5	6.1	10.5	6.3	3.8	2.4
Slovenia	4.7	5.1	4.3	5.8	5.8	3.3	1.7
Slovakia	4.4	5.3	3.4	4.6	3.2	2.1	0.9
Finland	3.5	4.4	2.2	1.9	1.9	1.4	0.7
Euro area	3.9	4.4	3.1	3.9	3.0	2.0	1.2
Bulgaria	4.8	5.0	4.6	4.5	3.5	3.3	2.5
Czech Republic	3.7	4.6	2.8	2.8	2.1	1.6	0.6
Denmark	3.5	4.5	2.1	1.4	1.7	1.3	0.7
Croatia	5.4	5.1	5.6	6.1	4.7	4.1	3.6
Hungary	7.0	7.3	6.6	7.9	5.9	4.8	3.4
Poland	5.7	6.6	4.7	5.0	4.0	3.5	2.7
Romania	6.7	7.3	6.3	6.7	5.4	4.5	3.5
Sweden	3.5	4.5	2.1	1.6	2.1	1.7	0.7
United Kingdom	3.9	4.8	2.5	1.7	2.0	2.1	1.8
European Union	4.0	4.6	3.2	3.7	3.0	2.2	1.4
United States	3.8	4.7	2.6	1.8	2.3	2.5	2.1
Japan	1.2	1.5	0.9	0.9	0.7	0.6	0.4

Source: ECB calculations based on daily data from national central banks. Thomson Reuters data for the United States and Japan.
1) Data for Cyprus, Latvia, Lithuania, Malta, Slovenia, Slovakia, Czech Republic, Hungary and Poland available since January 2001. Data for Bulgaria available since January 2003; for Croatia since December 2005; and for Romania since April 2005.
2) There are no Estonian sovereign debt securities that comply with the definition of long-term interest rates for convergence purposes. No suitable proxy indicator has been identified.

Chart 1.3 Long-term government bond yields [1]
(percentages per annum; monthly averages)



Source: ECB calculations based on daily data from national central banks. Thomson Reuters data for the United States and Japan.
1) Data for Cyprus, Latvia, Lithuania, Malta, Slovenia, Slovakia, Czech Republic, Hungary and Poland available since January 2001. Data for Bulgaria available since January 2003; for Croatia since December 2005; and for Romania since April 2005.

1. Financial and monetary developments

1.4 Selected stock market indices

(percentage changes)

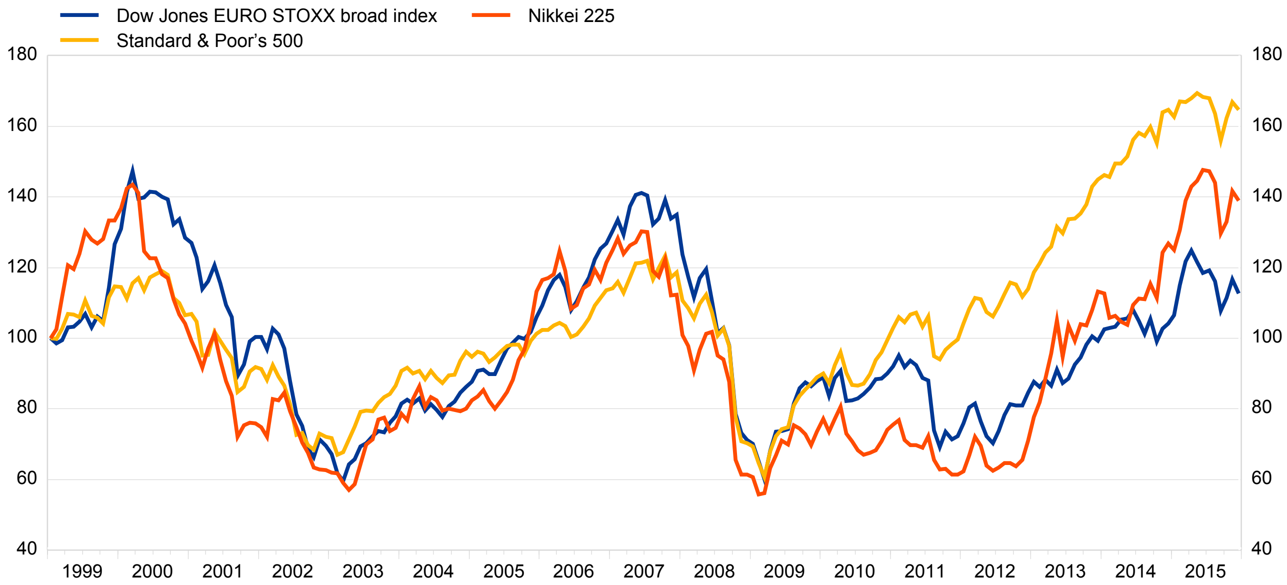
	1999-2015 1)	1999-2008 1)	2009-2015	2012	2013	2014	2015
Belgium - BEL 20 Index	10.8	-42.9	47.3	18.8	18.1	12.4	12.6
Germany - DAX 30 Index	54.4	-30.9	80.3	29.1	25.5	2.7	9.6
Estonia - OMXT Index	616.3	119.0	122.2	38.2	11.4	-7.7	19.1
Ireland - ISEQ Index	35.4	-53.3	128.3	17.1	33.6	15.1	30.0
Greece - ASE Index	-88.9	-68.7	-71.3	33.4	28.1	-28.9	-23.6
Spain - IBEX 35 Index	-18.0	-21.0	-20.1	-4.7	21.4	3.7	-7.2
France - CAC 40 Index	-22.2	-46.0	17.8	15.2	18.0	-0.5	8.5
Italy - FTSEMIB Index	-49.7	-54.3	-7.9	7.8	16.6	0.2	12.7
Cyprus - CSE Index	-93.3	9.4	-95.8	-61.2	-10.1	-17.0	-20.9
Latvia - OMXR Index	281.5	74.1	113.1	6.7	16.2	-11.3	45.7
Lithuania - OMXV Index	386.0	79.3	85.7	18.8	18.7	7.3	7.4
Luxembourg - LuxX Index	-0.5	-29.8	1.4	9.9	16.1	4.9	-8.5
Malta - MSE Index	35.2	-2.1	28.0	3.8	14.8	-9.6	33.0
Netherlands - AEX Index	-34.2	-63.4	31.8	9.7	17.2	5.6	4.1
Austria - ATX Index	100.1	46.2	-4.0	26.9	6.1	-15.2	11.0
Portugal - PSI 20 Index	-55.6	-47.0	-37.2	2.9	16.0	-26.8	10.7
Slovenia - SBITOP Index	-52.7	-42.0	-29.2	7.8	3.2	19.6	-11.2
Slovakia - SAX Index	279.3	366.0	9.5	-10.8	2.9	12.4	31.5
Finland - OMXH Index	-41.0	-62.9	33.1	8.3	26.5	5.7	10.8
Euro area - DJ EURO STOXX Broad Index	-17.1	-46.5	25.6	15.5	20.5	1.7	8.0
Bulgaria - SOFIX Index	331.8	236.0	7.9	7.2	42.3	6.2	-11.7
Czech Republic - PX 50 Index	95.3	75.3	-14.4	14.0	-4.8	-4.3	1.0
Denmark - OMXC 20 Index	296.6	-3.1	201.2	27.2	24.1	20.9	36.2
Croatia - CROBEX Index	44.1	46.9	-15.7	0.0	3.1	-2.7	-3.2
Hungary - BUX Index	171.2	38.8	12.7	7.1	2.2	-10.4	43.8
Poland - WIG Index	157.0	50.6	16.2	26.2	8.1	0.3	-9.6
Romania - BET Index	1,461.6	546.8	49.3	18.7	26.1	9.1	-1.1
Sweden - OMXS 30 Index	20.7	-44.8	52.0	11.8	20.7	9.9	-1.2
United Kingdom - FTSE 100 Index	-9.9	-36.0	15.3	5.8	14.4	-2.7	-4.9
United States - S&P 500 Index	39.1	-38.5	83.3	13.4	29.6	11.4	-0.7
Japan - Nikkei 225 Index	0.5	-53.2	80.5	22.9	56.7	7.1	9.1

Source: ECB calculations based on Thomson Reuters Datastream and Bloomberg daily data.

1) Data for Bulgaria and Latvia available since 2000; for Cyprus since 2004; for Croatia since 2002; and for Slovenia since 2007.

Chart 1.4 Dow Jones EURO STOXX broad index, Standard & Poor's 500 and Nikkei 225

(index: January 1999 = 100; monthly averages)



Source: ECB calculations based on Thomson Reuters Datastream and Bloomberg daily data.

1. Financial and monetary developments

1.5 Money markets: 3-month interbank offered rates [1)]

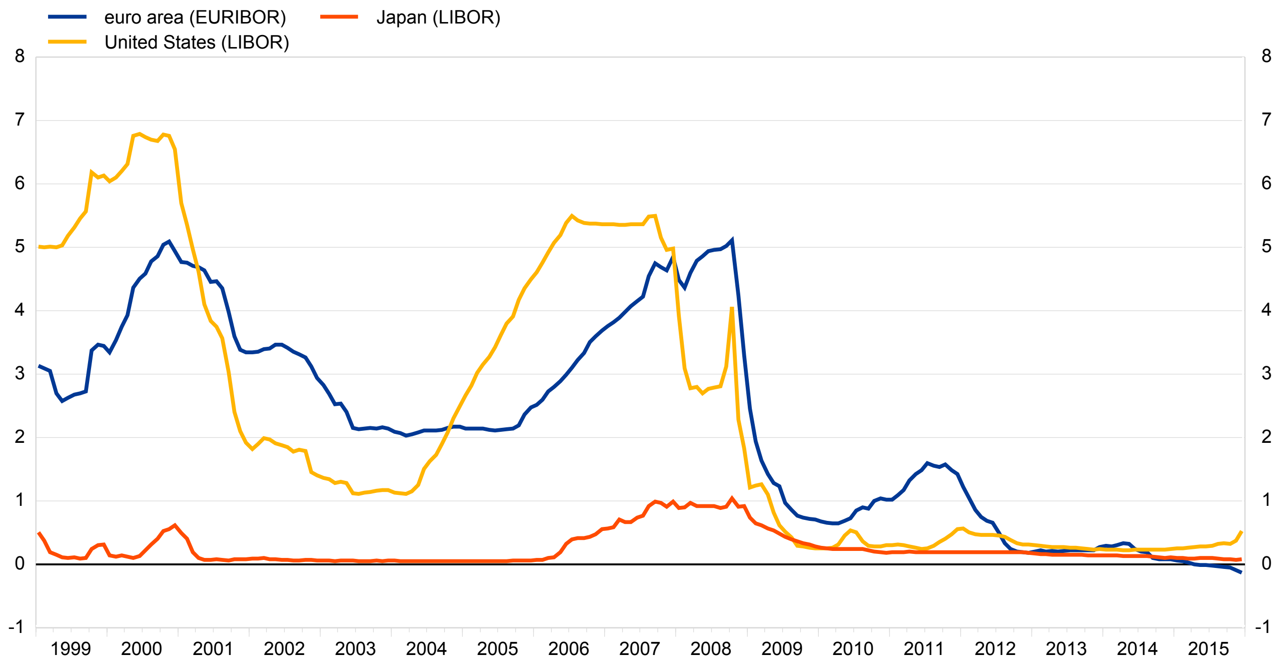
(percentages per annum; period averages)

	1999-2015 [2)]	1999-2008 [2)]	2009-2015	2012	2013	2014	2015
Euro area - EURIBOR	2.23	3.35	0.63	0.57	0.22	0.21	-0.02
Bulgaria - SOFIBOR	3.44	4.57	2.61	2.26	1.14	0.78	0.54
Czech Republic - PRIBOR	2.58	3.70	0.97	1.00	0.46	0.36	0.31
Denmark - CIBOR	2.52	3.64	0.90	0.62	0.27	0.31	-0.12
Croatia - ZIBOR	5.71	7.54	3.09	3.42	1.52	0.97	1.23
Hungary - BUBOR	7.80	9.70	5.10	7.00	4.32	2.41	1.61
Poland - WIBOR	6.83	9.11	3.58	4.91	3.03	2.52	1.75
Romania - ROBOR	16.36	24.65	5.40	5.34	4.23	2.54	1.33
Sweden - STIBOR	2.52	3.44	1.14	2.00	1.19	0.66	-0.20
United Kingdom - LIBOR	2.22	3.36	0.59	0.49	0.15	0.18	-0.02
United States - LIBOR	2.35	3.73	0.37	0.43	0.27	0.23	0.31
Japan - LIBOR	0.26	0.29	0.21	0.19	0.15	0.13	0.09

Source: ECB calculations based on Thomson Reuters and Thomson Reuters Datastream daily data.
1) Interbank offered rates for the currency of each reference area.
2) Data for Bulgaria available since 2003.

Chart 1.5 Money markets: 3-month interbank offered rates

(percentages per annum; monthly averages)



Source: ECB calculation based on Thomson Reuters daily data.

1. Financial and monetary developments

1.6 Composite cost of borrowing

(percentages per annum; new business; period averages)

1.6.1 Non-financial corporations 1)

	2003-2015	2003-2008	2009-2015	2012	2013	2014	2015
Belgium	3.24	4.24	2.38	2.40	2.28	2.26	2.00
Germany	3.76	4.75	2.91	2.94	2.57	2.48	2.09
Estonia	-	-	3.77	3.71	3.16	2.97	2.51
Ireland	4.27	5.10	3.55	3.68	3.60	3.69	3.06
Greece	5.77	5.78	5.77	6.57	6.25	5.83	5.13
Spain	3.69	4.21	3.24	3.59	3.58	3.36	2.63
France	3.21	4.11	2.43	2.59	2.17	2.10	1.74
Italy	4.14	4.90	3.50	4.13	4.00	3.56	2.59
Cyprus	-	-	6.17	6.95	6.30	5.82	4.78
Latvia	-	-	-	-	-	3.51	3.33
Lithuania	-	-	-	-	-	-	2.49
Luxembourg	2.99	4.03	2.09	1.99	1.77	1.65	1.38
Malta	-	-	4.52	4.50	4.48	4.26	3.94
Netherlands	3.34	4.30	2.52	2.52	2.36	2.32	1.84
Austria	3.19	4.26	2.27	2.27	2.01	1.97	1.82
Portugal	5.25	5.34	5.17	6.25	5.64	5.00	3.96
Slovenia	4.56	4.36	4.74	4.97	4.85	4.39	3.12
Slovakia	-	-	2.96	2.82	2.62	2.66	2.41
Finland	3.06	4.05	2.21	2.22	2.08	2.13	1.85
Euro area 2)	3.69	4.51	2.98	3.21	2.97	2.78	2.23

Source: ECB MFI interest rate statistics.

1) The composite cost of borrowing indicator for non-financial corporations combines interest rates on all loans to corporations, including overdrafts. This indicator is derived from the MFI interest rate statistics.

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

1.6.2 Households for house purchase 1)

	2003-2015	2003-2008	2009-2015	2012	2013	2014	2015
Belgium	3.24	4.24	2.38	3.63	3.45	3.17	2.51
Germany	3.76	4.75	2.91	3.07	2.76	2.50	1.96
Estonia	-	-	3.77	2.96	2.72	2.52	2.30
Ireland	4.27	5.10	3.55	3.36	3.42	3.44	3.42
Greece	5.77	5.78	5.77	3.21	2.81	2.93	2.63
Spain	3.69	4.21	3.24	3.27	2.99	2.93	2.23
France	3.21	4.11	2.43	3.76	3.18	2.95	2.31
Italy	4.14	4.90	3.50	3.96	3.69	3.20	2.51
Cyprus	-	-	6.17	5.18	4.88	4.42	3.63
Latvia	-	-	-	-	-	3.33	3.08
Lithuania	-	-	-	-	-	-	1.87
Luxembourg	2.99	4.03	2.09	2.23	2.13	2.02	1.86
Malta	-	-	4.52	3.38	3.22	2.93	2.78
Netherlands	3.34	4.30	2.52	4.29	3.78	3.35	2.90
Austria	3.19	4.26	2.27	2.72	2.39	2.29	2.01
Portugal	5.25	5.34	5.17	3.89	3.25	3.19	2.38
Slovenia	4.56	4.36	4.74	3.37	3.20	3.21	2.53
Slovakia	-	-	2.96	4.74	4.10	3.42	2.74
Finland	3.06	4.05	2.21	1.97	2.01	1.81	1.36
Euro area 2)	3.69	4.51	2.98	3.47	3.07	2.80	2.26

Source: ECB MFI interest rate statistics.

1) The cost of borrowing indicator for new loans to households combines interest rates on loans to households for house purchase. This indicator is derived from the MFI interest rate statistics.

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

1. Financial and monetary developments

1.7 Aggregated deposit rate

(percentages per annum; period averages)

1.7.1 Non-financial corporations [1)]

	2003-2015	2003-2008	2009-2015	2012	2013	2014	2015
Belgium	1.53	2.79	0.46	0.42	0.34	0.35	0.15
Germany	1.61	2.86	0.53	0.49	0.24	0.24	0.16
Estonia	-	-	0.72	0.57	0.30	0.31	0.23
Ireland	1.80	2.75	0.99	1.38	0.57	0.41	0.15
Greece	-	-	-	-	-	-	-
Spain	2.13	2.90	1.48	1.90	1.55	0.80	0.36
France	1.88	2.89	1.02	1.35	0.81	0.74	0.31
Italy	2.07	2.88	1.37	1.81	1.80	1.22	0.88
Cyprus	-	-	2.93	3.93	2.68	2.44	1.72
Latvia	-	-	-	-	-	-	-
Lithuania	-	-	0.68	0.65	0.36	0.22	0.17
Luxembourg	-	-	-	-	-	-	-
Malta	-	-	-	-	-	-	-
Netherlands	-	-	-	0.46	0.19	0.17	0.06
Austria	1.78	2.92	0.80	0.85	0.45	0.44	0.32
Portugal	2.25	2.97	1.63	1.79	1.57	0.96	0.46
Slovenia	-	-	1.46	2.21	1.66	0.72	0.27
Slovakia	-	-	0.61	0.64	0.44	0.39	0.24
Finland	1.57	2.80	0.51	0.45	0.29	0.42	0.30
Euro area [2)]	1.84	2.86	0.97	1.21	0.94	0.61	0.32

Source: ECB MFI interest rate statistics.
1) New deposits with agreed maturity excluding overnight deposits and deposits redeemable at notice.
2) Data refer to the changing composition of the euro area.

1.7.2 Households [1)]

	2003-2015	2003-2008	2009-2015	2012	2013	2014	2015
Belgium	1.94	2.75	1.24	1.25	1.30	1.17	1.00
Germany	1.90	2.80	1.13	1.33	0.86	0.69	0.47
Estonia	1.79	2.75	0.97	0.92	0.53	0.55	0.58
Ireland	1.93	2.64	1.32	1.90	0.94	0.64	0.33
Greece	-	-	-	-	-	-	-
Spain	2.38	2.89	1.94	2.60	1.83	0.99	0.46
France	2.48	2.89	2.12	2.44	2.18	2.19	1.68
Italy	1.94	2.07	1.83	2.98	2.14	1.59	1.20
Cyprus	-	-	3.45	4.39	2.95	2.56	1.77
Latvia	-	-	1.33	0.90	0.49	0.50	0.56
Lithuania	-	-	1.12	0.96	0.54	0.43	0.28
Luxembourg	-	-	-	0.68	-	-	-
Malta	-	-	2.13	2.42	2.26	1.83	1.33
Netherlands	-	-	-	3.01	2.33	2.09	1.92
Austria	1.99	2.89	1.22	1.45	0.89	0.74	0.45
Portugal	2.40	2.67	2.16	3.13	2.16	1.59	0.75
Slovenia	-	-	2.01	2.70	2.25	1.25	0.58
Slovakia	-	-	1.94	2.40	1.71	1.67	1.68
Finland	2.14	2.97	1.43	1.56	1.10	1.09	0.96
Euro area [2)]	2.37	2.81	1.98	2.76	1.99	1.35	0.82

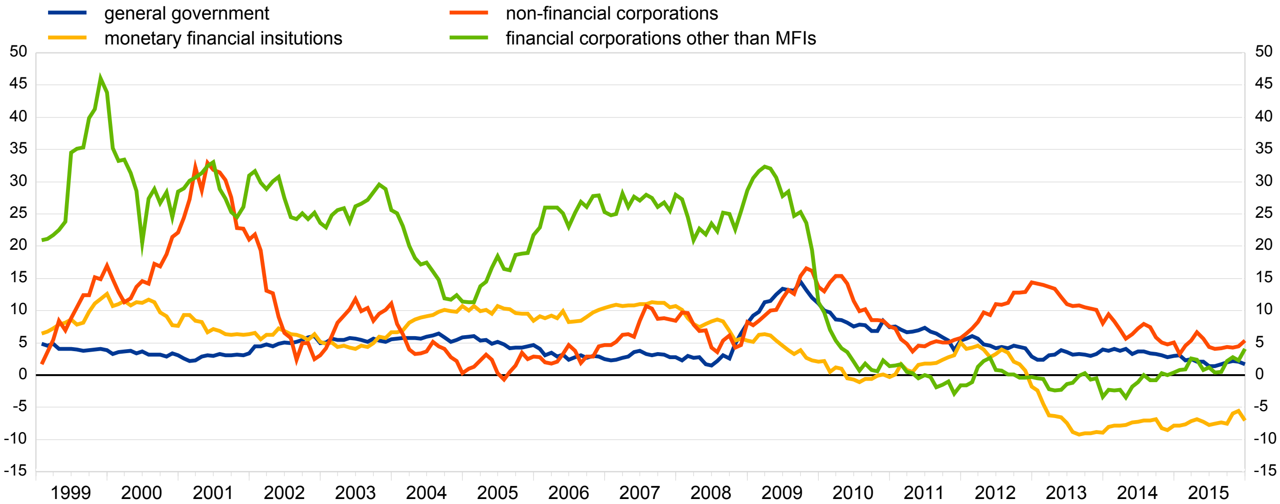
Source: ECB MFI interest rate statistics.
1) New deposits with agreed maturity excluding overnight deposits and deposits redeemable at notice.
2) Data refer to the changing composition of the euro area.

1.8 Debt securities issued by euro area residents in all currencies
(annual percentage changes; period averages)

	1999-2015	1999-2008	2009-2015	2012	2013	2014	2015
Belgium	3.3	2.6	2.5	5.6	1.4	1.4	1.3
Germany	2.2	4.8	-1.5	-1.1	-4.1	-2.6	-0.6
Estonia	-	-	7.8	30.8	9.9	10.4	-0.6
Ireland	5.8	9.9	-1.6	-2.1	-3.0	-3.5	-0.5
Greece	4.9	12.6	-7.2	-9.0	-25.6	-11.4	-4.6
Spain	9.0	15.6	-0.7	5.1	-4.1	-6.9	-4.5
France	6.4	8.4	3.4	6.7	0.1	2.7	0.7
Italy	4.4	6.4	0.7	6.5	1.5	-1.3	-3.8
Cyprus	-	-	-2.9	-0.3	2.5	-5.6	-2.9
Latvia	-	-	22.1	48.0	34.4	34.9	9.1
Lithuania	-	-	1.9	-	-	3.7	-2.1
Luxembourg	6.4	0.2	14.7	33.6	20.8	13.3	16.1
Malta	-	-	10.2	7.4	6.8	14.3	13.1
Netherlands	7.6	12.6	0.8	0.2	-0.8	-0.4	1.6
Austria	5.0	9.6	-1.3	-0.3	-2.1	-1.8	-3.1
Portugal	7.2	10.4	0.1	-1.8	-2.0	-7.4	-6.5
Slovenia	-	-	10.5	-1.6	11.9	29.6	3.6
Slovakia	12.3	13.7	10.4	17.5	13.7	7.7	1.6
Finland	5.2	3.6	6.6	11.4	8.5	7.2	-1.3
Euro area	5.2	7.7	1.1	3.6	-0.6	-0.7	-0.5

Source: ECB.

Chart 1.8 Debt securities issued by euro area residents, by sector
(annual percentage changes)



Source: ECB.

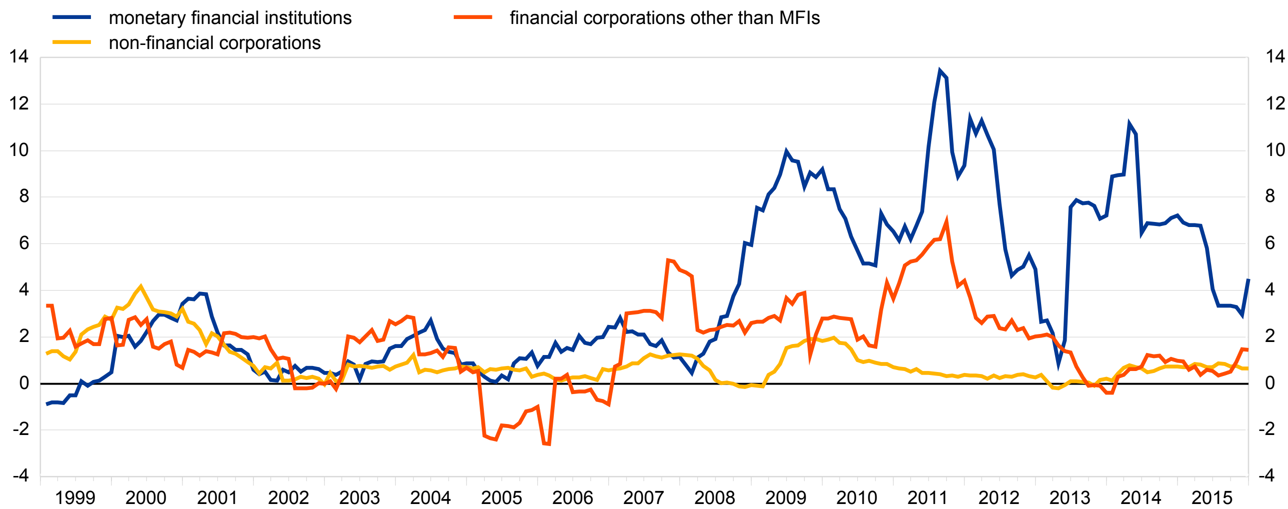
1. Financial and monetary developments

1.9 Listed shares issued by euro area residents
(annual percentage changes; period averages)

	1999-2015	1999-2008	2009-2015	2012	2013	2014	2015
Belgium	-0.3	-0.9	0.4	-0.7	1.0	1.3	1.0
Germany	1.3	1.4	1.0	0.9	0.3	0.7	0.9
Estonia	-	-	-8.0	-5.8	-4.5	-3.8	-4.8
Ireland	2.8	1.0	0.8	5.2	-6.1	-0.7	0.3
Greece	8.1	1.5	19.5	1.8	39.6	35.1	6.8
Spain	1.2	1.1	1.3	1.1	0.8	0.3	2.5
France	0.9	0.7	0.7	0.8	0.9	0.7	0.8
Italy	1.6	1.1	1.9	3.7	0.7	1.4	1.8
Cyprus	-	-	16.0	13.8	9.3	13.8	23.1
Latvia	-	-	0.3	0.0	0.0	0.1	0.6
Lithuania	-	-	-0.5	-	-	-0.7	-3.9
Luxembourg	5.3	5.7	5.5	4.7	1.2	5.8	4.2
Malta	-	-	4.1	0.4	2.2	5.1	8.0
Netherlands	0.3	0.3	0.3	-0.7	-0.6	0.7	0.0
Austria	5.9	8.7	2.4	1.4	1.2	5.2	2.3
Portugal	2.4	2.3	2.5	4.0	2.3	3.2	3.4
Slovenia	-	-	1.0	0.6	2.8	1.1	0.5
Slovakia	-	-	0.6	4.0	-0.1	0.0	-0.1
Finland	0.1	-0.5	1.1	0.9	1.4	2.3	0.9
Euro area	1.2	1.0	1.2	1.2	0.6	1.3	1.2

Source: ECB.

Chart 1.9 Listed shares issued by euro area residents, by sector
(annual percentage changes)



Source: ECB.

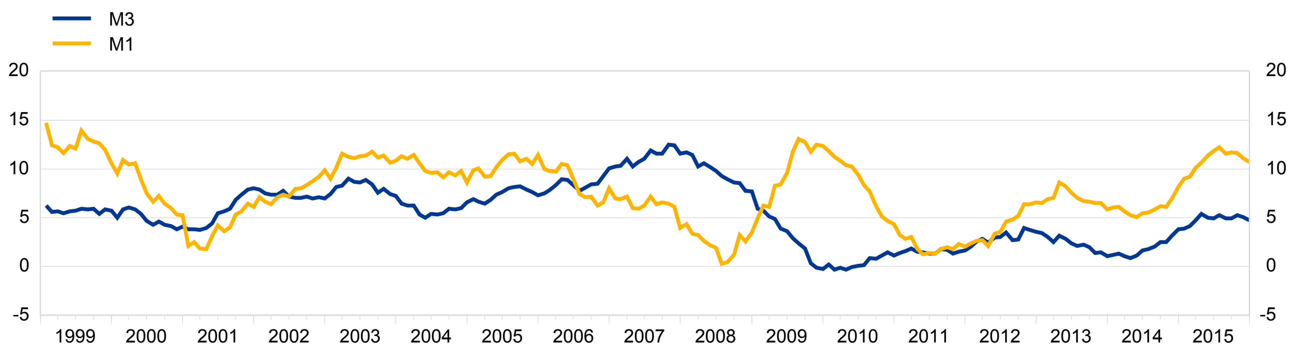
1. Financial and monetary developments

1.10 Monetary aggregates, components and counterparts [1)]
(annual percentage changes at the end of each year; period averages; seasonally adjusted)

	1999-2015	1999-2008	2009-2015	2012	2013	2014	2015
Components of M3							
M3	5.3	7.5	2.2	3.5	1.0	3.8	4.7
M2	5.6	7.3	3.1	4.5	2.5	3.8	5.2
M1	7.5	7.8	7.1	6.5	5.8	8.1	10.7
Currency in circulation	7.5	9.0	5.5	2.4	5.3	6.4	6.7
Overnight deposits	7.5	7.6	7.4	7.4	5.9	8.4	11.5
M2-M1 (other short-term deposits)	3.3	7.1	-1.9	2.0	-1.8	-2.3	-3.5
Deposits with an agreed maturity of up to two years	2.5	10.3	-7.7	-2.1	-6.4	-5.4	-9.1
Deposits redeemable at notice of up to three months	3.8	3.3	4.5	5.9	2.2	0.1	0.5
M3-M2 (marketable instruments)	2.3	8.8	-6.2	-6.5	-16.1	4.0	-2.8
Repurchase agreements	0.1	6.2	-8.2	-11.4	-9.2	0.8	-35.1
Money market fund shares	3.9	9.4	-3.5	-3.9	-10.4	2.6	11.9
Debt securities issued with a maturity of up to two years	-1.2	11.9	-17.2	-9.7	-38.0	18.7	-25.5
Counterparts of M3 [2)]							
MFI liabilities:							
Central government holdings	3.4	7.2	-1.8	-1.2	-14.7	-2.2	3.0
Longer-term financial liabilities vis-a-vis other euro area residents	4.1	6.6	0.7	-1.5	-1.2	-2.2	-3.0
Deposits with an agreed maturity of over two years	3.3	5.8	-0.2	-6.1	-0.8	-5.2	-4.6
Deposits redeemable at notice of over three months	-2.7	-0.9	-5.3	-8.8	-13.5	2.2	-14.5
Debt securities issued with a maturity of over two years	3.1	7.3	-2.6	-3.8	-5.1	-5.9	-8.4
Capital and reserves	6.7	7.4	5.7	7.1	3.4	4.6	4.3
MFI assets:							
Credit to euro area residents	4.5	6.9	1.0	0.5	-2.0	-0.2	2.3
Credit to general government	2.8	0.6	5.9	5.8	-0.7	2.1	7.8
of which: loans	0.5	-0.1	1.3	-0.3	-6.3	1.5	-1.9
Credit to the private sector [3)]	5.0	8.7	-0.1	-0.7	-2.3	-0.8	0.8
of which: loans [4)]	4.8	8.4	0.0	-0.5	-2.4	-0.3	0.4

Source: ECB.
1) Data refer to the changing composition of the euro area.
2) The table presents only selected counterparts to M3; i.e. net external assets and "other counterparts" (residual) are not included.
3) Private sector refers to euro area non-MFIs excluding general government.
4) Adjusted for loan sales and securitisation.

Chart 1.10 Monetary aggregates [1)]
(annual percentage changes at the end of each month; seasonally adjusted)



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

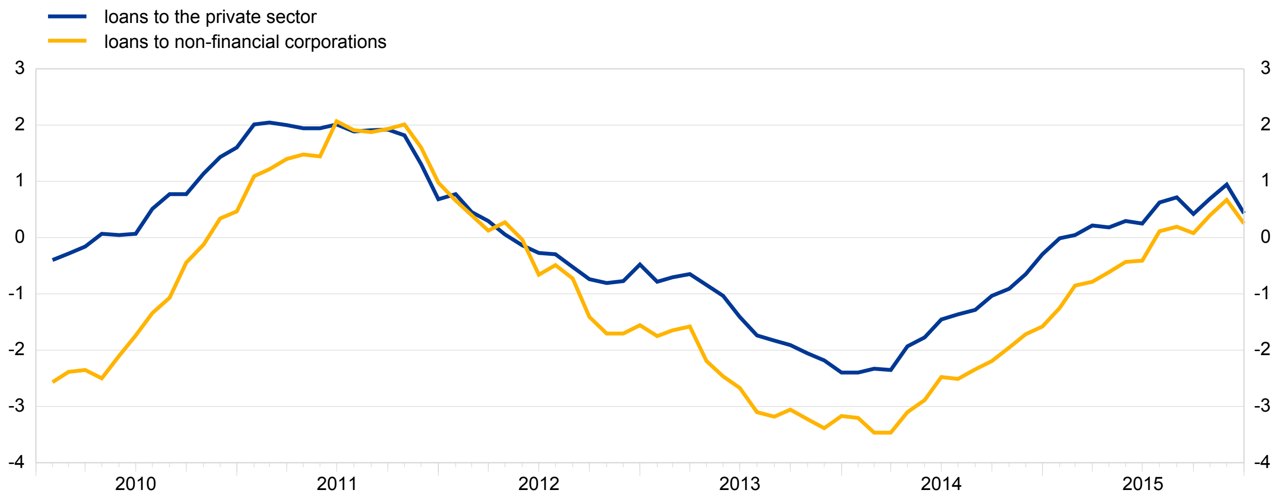
1. Financial and monetary developments

1.11 MFI loans to non-financial corporations [1)]
(annual percentage changes at the end of each year; period averages; not seasonally adjusted)

	2010-2015	2010	2011	2012	2013	2014	2015
Belgium	2.2	4.9	2.1	1.3	1.1	0.6	3.0
Germany	-0.2	-0.8	0.3	0.6	-1.9	-0.5	0.8
Estonia	1.0	-5.1	-4.9	3.1	3.6	3.6	6.4
Ireland	-5.2	-6.4	-2.4	-4.0	-5.7	-6.6	-6.0
Greece	-2.7	0.0	-2.4	-6.2	-3.2	-2.8	-1.3
Spain	-5.0	-0.9	-4.0	-7.6	-10.1	-6.3	-1.0
France	2.2	1.5	4.7	1.3	-0.2	2.9	3.2
Italy	-1.0	2.1	2.5	-2.2	-5.5	-2.5	-0.5
Cyprus	1.5	2.6	8.2	4.6	-5.7	-0.8	0.7
Latvia	-1.7	-	-5.3	3.3	-0.6	-6.7	1.1
Lithuania	-1.4	-9.5	0.3	2.5	-3.2	-1.2	3.3
Luxembourg	-2.0	-6.8	-5.4	-7.5	-3.0	2.9	9.1
Malta	-3.5	-2.0	2.8	-1.7	-9.1	4.9	-14.7
Netherlands	-0.1	1.7	3.7	2.8	1.7	-5.0	-5.1
Austria	1.3	1.9	3.8	0.5	-0.2	1.0	0.8
Portugal	-2.9	1.7	-2.7	-5.2	-3.0	-6.8	-1.3
Slovenia	-6.4	-0.1	-3.4	-4.8	-7.8	-13.9	-7.5
Slovakia	2.9	1.6	7.6	-2.3	1.7	1.9	7.3
Finland	5.8	4.2	9.9	4.7	5.7	5.0	5.2
Euro area	-0.8	0.5	1.0	-1.6	-3.2	-1.6	0.2
Bulgaria	2.9	2.7	6.0	5.4	1.4	2.4	-0.5
Czech Republic	3.4	1.7	6.3	2.4	2.4	1.7	6.3
Denmark	-1.2	-1.9	-4.5	-2.0	1.1	0.5	-0.2
Croatia	-4.7	-	-	-12.3	0.5	-3.4	-3.1
Hungary	-3.2	-3.0	-5.9	-3.6	-1.3	1.8	-7.1
Poland	5.4	-1.2	14.0	5.8	1.5	5.1	7.9
Romania	1.3	9.4	9.9	1.2	-5.7	-3.5	-2.6
Sweden	3.1	3.4	6.6	2.3	1.0	2.6	2.8
United Kingdom	-4.6	-7.1	-5.7	-5.1	-5.6	-3.4	-0.4

Source: ECB.
1) Data for euro area countries refer to loans granted by other MFIs to euro area non-financial corporations, while data for non-euro area EU countries refer to loans granted to domestic non-financial corporations. Data for euro area countries are adjusted for loan sales and securitisation.

Chart 1.11 MFI loans to the private sector and to non-financial corporations [1)]
(annual percentage changes at the end of each month; seasonally adjusted and, for loan sales and securitisation adjusted)



Source: ECB.
1) Private sector refers to euro area non-MFIs excluding general government.

1. Financial and monetary developments

1.12 MFI loans to households 1)

(annual percentage changes at the end of each year; period averages; not seasonally adjusted)

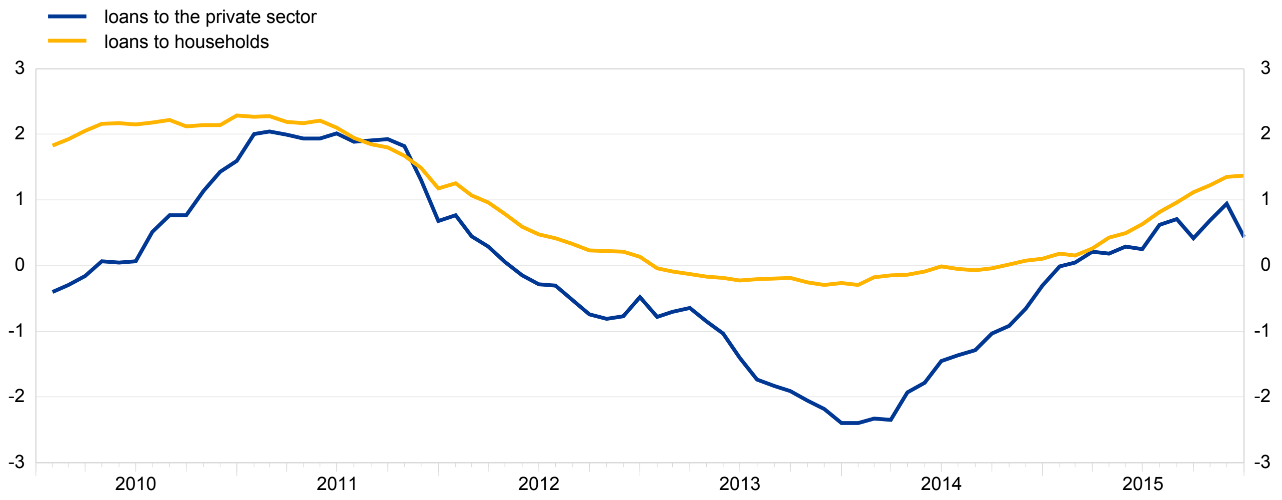
	2010-2015	2010	2011	2012	2013	2014	2015
Belgium	4.3	6.3	5.3	4.1	2.2	3.8	4.3
Germany	1.3	0.7	0.7	1.3	1.2	1.5	2.8
Estonia	-0.1	-3.0	-2.2	-2.3	0.4	2.5	3.9
Ireland	-4.0	-5.4	-3.8	-3.8	-3.9	-3.6	-3.6
Greece	-3.0	-0.6	-4.3	-4.2	-3.0	-3.0	-2.8
Spain	-2.9	-0.1	-2.7	-3.8	-4.7	-3.8	-2.2
France	3.5	6.1	4.5	2.5	2.6	1.9	3.5
Italy	1.1	5.0	3.4	-0.5	-1.3	-0.5	0.8
Cyprus	1.1	9.1	4.7	1.7	-4.6	-2.7	-1.0
Latvia	-4.5	-	-6.2	-5.3	-4.8	-3.9	-2.5
Lithuania	-0.4	-5.2	-1.7	-1.5	0.0	1.5	4.9
Luxembourg	4.3	2.2	5.2	5.6	3.9	4.1	4.9
Malta	5.8	6.5	6.2	4.4	4.3	6.8	6.5
Netherlands	-0.3	1.6	0.8	-0.4	-1.7	-1.4	-0.7
Austria	1.1	0.7	1.5	0.6	0.6	1.1	1.9
Portugal	-2.5	2.1	-2.2	-4.4	-4.1	-3.5	-2.6
Slovenia	0.7	8.0	1.7	-1.7	-2.8	-1.5	0.6
Slovakia	11.7	12.5	11.1	10.3	10.3	13.2	13.1
Finland	3.9	6.1	5.6	4.9	2.1	1.9	2.7
Euro area	0.8	2.3	1.2	0.1	-0.3	0.1	1.4
Bulgaria	-0.1	0.2	0.3	-0.3	0.4	-1.0	-0.3
Czech Republic	5.7	7.2	6.4	4.5	5.0	4.5	6.8
Denmark	0.4	1.4	0.8	0.6	-1.6	0.2	0.8
Croatia	-1.4	-	-	-1.5	-1.3	-1.0	-1.7
Hungary	-8.7	-4.4	-16.7	-6.0	-5.8	-7.1	-12.0
Poland	5.4	10.3	2.7	7.0	3.9	4.1	4.6
Romania	1.5	3.6	4.6	-2.0	-1.4	0.3	4.1
Sweden	6.0	8.0	5.3	4.4	4.9	5.8	7.5
United Kingdom	0.2	-5.6	-0.2	0.6	0.6	2.8	3.3

Source: ECB.

1) Data for euro area countries refer to loans granted by other MFIs to euro area households, while data for non-euro area EU countries refer to loans granted to domestic households. Data for euro area countries are adjusted for loan sales and securitisation.

Chart 1.12 MFI loans to the private sector and to households 1)

(annual percentage changes at the end of each month; seasonally adjusted and, for loan sales and securitisation adjusted)



Source: ECB.

1) Private sector refers to euro area non-MFIs excluding general government.

2. Economic activity

2.1 GDP

(chain-linked volumes; annual percentage changes)

	1999-2015 [1),2)]	1999-2008 [1)]	2009-2015 [2)]	2012	2013	2014	2015
Belgium	1.7	2.3	0.6	0.2	0.0	1.3	.
Germany	1.3	1.6	0.8	0.4	0.3	1.6	1.7
Estonia	3.7	5.7	0.5	5.2	1.6	2.9	.
Ireland	3.7	5.6	0.6	0.2	1.4	5.2	.
Greece	0.3	3.5	-4.8	-7.3	-3.2	0.7	.
Spain	1.7	3.6	-1.3	-2.6	-1.7	1.4	.
France	1.4	2.0	0.5	0.2	0.7	0.2	1.1
Italy	0.2	1.2	-1.4	-2.8	-1.7	-0.4	.
Cyprus	1.9	4.2	-1.9	-2.4	-5.9	-2.5	.
Latvia	3.8	6.6	-0.7	4.0	3.0	2.4	.
Lithuania	3.8	6.1	0.5	3.8	3.5	3.0	1.6
Luxembourg	2.7	3.4	1.7	-0.8	4.3	4.1	.
Malta	2.4	2.4	2.3	2.9	4.0	4.1	.
Netherlands	1.5	2.5	0.1	-1.1	-0.5	1.0	1.9
Austria	1.6	2.4	0.4	0.8	0.3	0.4	0.9
Portugal	0.5	1.6	-1.2	-4.0	-1.1	0.9	.
Slovenia	2.2	4.3	-1.2	-2.7	-1.1	3.0	.
Slovakia	3.6	5.0	1.3	1.5	1.4	2.5	.
Finland	1.7	3.3	-1.0	-1.4	-0.8	-0.7	.
Euro area	1.2	2.1	-0.2	-0.9	-0.3	0.9	.
Bulgaria	3.0	4.8	0.1	0.2	1.3	1.5	.
Czech Republic	2.5	4.0	0.0	-0.9	-0.5	2.0	.
Denmark	1.0	1.7	-0.3	-0.1	-0.2	1.3	.
Croatia	1.5	3.7	-2.2	-2.2	-1.1	-0.4	.
Hungary	2.1	3.4	-0.1	-1.7	1.9	3.7	.
Poland	3.7	4.2	2.9	1.6	1.3	3.3	.
Romania	3.3	5.4	0.0	0.6	3.5	3.0	.
Sweden	2.3	3.0	1.1	-0.3	1.2	2.3	.
United Kingdom	2.0	2.6	1.1	1.2	2.2	2.9	2.2
European Union	1.5	2.3	0.1	-0.5	0.2	1.4	.
United States	2.1	2.6	1.4	2.2	1.5	2.4	2.4
Japan	0.8	1.1	0.3	1.7	1.4	0.0	.

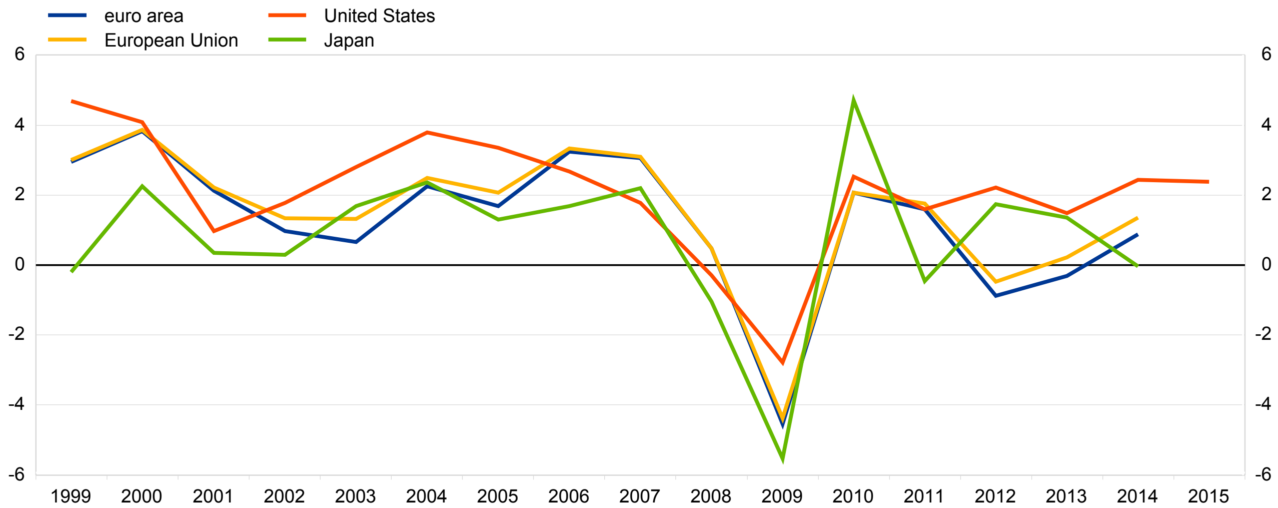
Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.

1) Data for Luxembourg and Malta available since 2001.

2) Where data are not available for 2015, the average indicated is for the periods 1999-2014 and 2009-2014.

Chart 2.1 GDP

(chain-linked volumes; annual percentage changes)



Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.

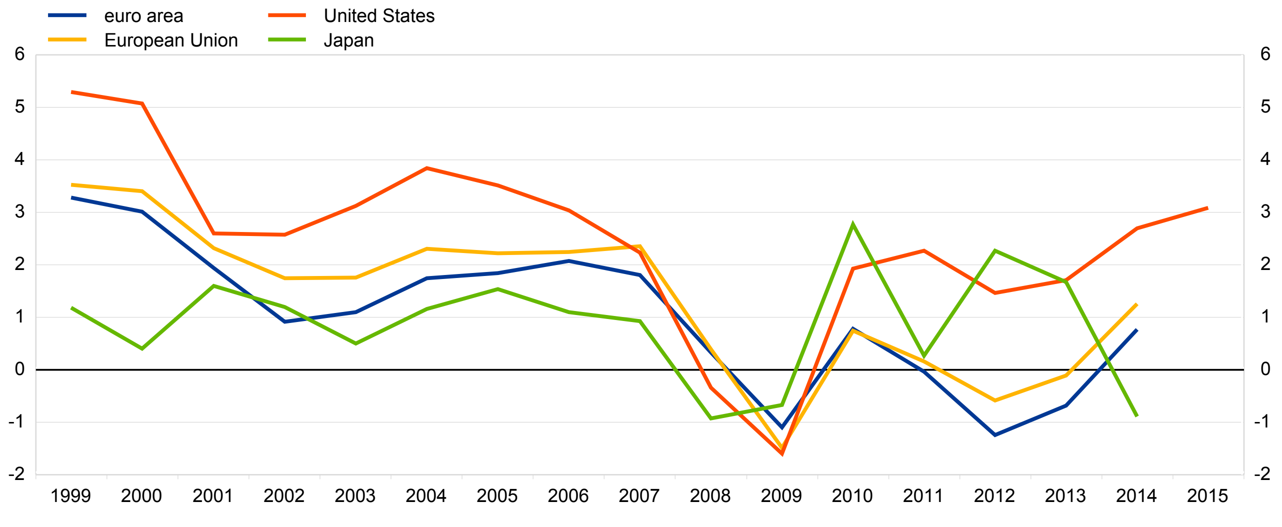
2. Economic activity

2.2 Private consumption
(chain-linked volumes; annual percentage changes)

	1999-2015 1),2)	1999-2008 1)	2009-2015 2)	2012	2013	2014	2015
Belgium	1.2	1.4	0.9	0.6	0.9	0.4	.
Germany	0.9	0.9	0.9	1.0	0.6	0.9	1.9
Estonia	3.9	6.6	-0.5	4.4	3.8	3.5	.
Ireland	3.1	5.5	-0.8	-1.0	0.1	2.1	.
Greece	0.4	3.7	-4.7	-8.0	-2.3	0.5	.
Spain	1.3	3.3	-1.9	-3.5	-3.1	1.2	.
France	1.6	2.3	0.7	-0.2	0.4	0.6	1.4
Italy	0.2	1.0	-1.1	-3.9	-2.7	0.4	.
Cyprus	2.7	5.4	-1.6	-0.8	-5.9	0.6	.
Latvia	3.9	6.5	-0.3	3.2	5.1	2.3	.
Lithuania	4.6	8.1	-1.0	3.6	4.3	4.1	.
Luxembourg	2.2	2.3	2.0	2.7	0.9	3.7	.
Malta	1.6	1.7	1.5	-0.2	2.0	2.8	.
Netherlands	0.8	1.6	-0.4	-1.2	-1.4	0.0	1.6
Austria	1.3	1.8	0.6	0.6	0.1	0.0	0.4
Portugal	0.7	2.0	-1.4	-5.5	-1.2	2.2	.
Slovenia	1.7	3.1	-0.7	-2.5	-4.1	0.7	.
Slovakia	2.9	4.6	0.1	-0.4	-0.8	2.3	.
Finland	2.2	3.2	0.6	0.3	-0.5	0.6	.
Euro area	1.0	1.8	-0.3	-1.2	-0.7	0.8	.
Bulgaria	4.6	7.3	0.2	3.3	-1.4	2.7	.
Czech Republic	2.1	3.3	0.2	-1.5	0.7	1.5	.
Denmark	0.9	1.7	-0.3	0.4	-0.1	0.5	.
Croatia	1.2	3.5	-2.4	-3.0	-1.8	-0.7	.
Hungary	1.7	3.7	-1.5	-2.2	0.3	1.8	.
Poland	3.3	4.0	2.1	0.7	0.2	2.5	.
Romania	4.7	7.9	-0.5	1.2	0.7	3.8	.
Sweden	2.4	2.7	1.8	0.8	1.9	2.2	.
United Kingdom	2.2	3.2	0.5	1.8	1.9	2.5	.
European Union	1.4	2.2	0.0	-0.6	-0.1	1.3	.
United States	2.5	3.1	1.6	1.5	1.7	2.7	3.1
Japan	0.9	0.9	0.9	2.3	1.7	-0.9	.

Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.
1) Data for Luxembourg and Malta available since 2001.
2) Where data are not available for 2015, the average indicated is for the periods 1999-2014 and 2009-2014.

Chart 2.2 Private consumption
(chain-linked volumes; annual percentage changes)



Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.

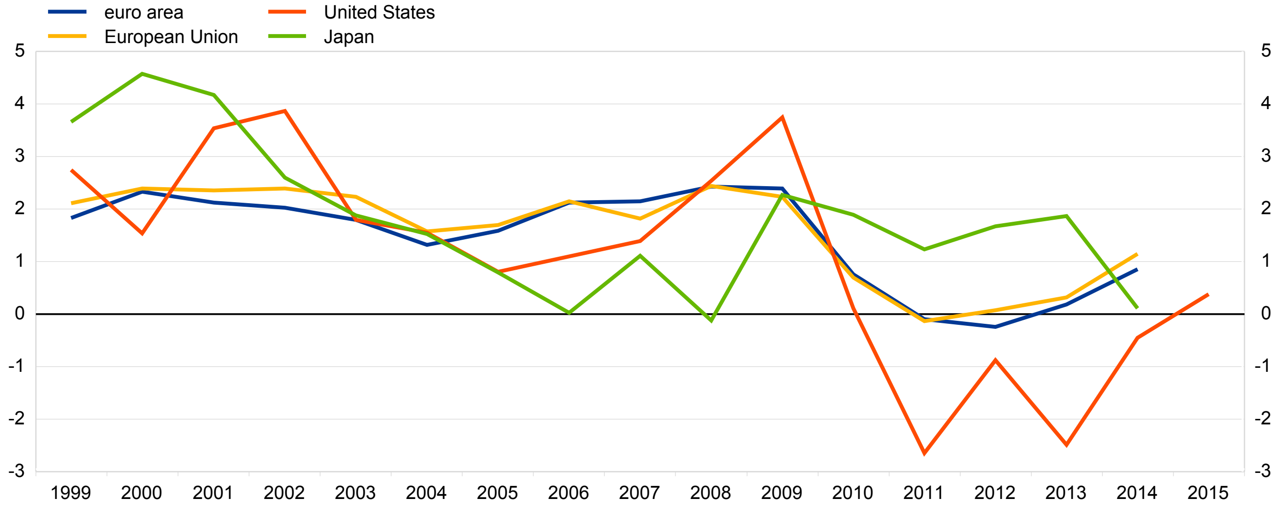
2. Economic activity

2.3 Government consumption
(chain-linked volumes; annual percentage changes)

	1999-2015 1),2)	1999-2008 1)	2009-2015 2)	2012	2013	2014	2015
Belgium	1.5	1.9	0.9	1.5	-0.1	0.6	.
Germany	1.3	1.0	1.7	1.3	0.8	1.7	2.8
Estonia	2.2	3.0	1.0	3.6	1.5	3.0	.
Ireland	2.8	5.3	-1.1	-1.2	0.0	4.0	.
Greece	0.6	3.5	-4.1	-6.0	-6.5	-2.6	.
Spain	2.9	5.0	-0.4	-4.5	-2.8	0.0	.
France	1.6	1.6	1.6	1.6	1.7	1.5	1.5
Italy	0.7	1.4	-0.5	-1.4	-0.3	-0.7	.
Cyprus	1.6	3.8	-2.0	-3.7	-4.1	-9.0	.
Latvia	1.1	2.8	-1.7	0.3	1.6	4.9	.
Lithuania	0.8	1.4	-0.2	1.3	1.0	1.3	.
Luxembourg	3.4	3.3	3.4	3.6	3.9	4.5	.
Malta	2.7	2.8	2.7	6.3	0.2	7.8	.
Netherlands	2.3	3.4	0.6	-1.3	0.1	0.3	0.0
Austria	1.3	1.7	0.7	0.2	0.6	0.8	1.0
Portugal	0.8	2.2	-1.4	-3.3	-2.0	-0.5	.
Slovenia	1.8	3.2	-0.5	-2.3	-1.5	-0.1	.
Slovakia	2.6	3.0	1.9	-2.6	2.2	5.9	.
Finland	1.2	1.6	0.4	0.5	1.1	-0.3	.
Euro area	1.5	2.0	0.6	-0.2	0.2	0.9	.
Bulgaria	2.2	4.5	-1.5	-0.5	2.3	0.1	.
Czech Republic	1.4	2.1	0.5	-1.8	2.4	1.8	.
Denmark	1.4	2.0	0.4	0.0	-0.7	0.2	.
Croatia	1.1	2.0	-0.4	-1.0	0.3	-1.9	.
Hungary	1.5	1.9	0.8	-1.5	2.4	2.9	.
Poland	3.3	4.1	1.9	-0.4	2.2	4.9	.
Romania	0.4	1.2	-0.8	0.4	-4.6	0.3	.
Sweden	1.0	0.7	1.4	1.1	1.3	1.3	.
United Kingdom	2.2	2.9	1.0	1.8	0.5	2.5	.
European Union	1.6	2.1	0.7	0.1	0.3	1.1	.
United States	1.1	2.1	-0.3	-0.9	-2.5	-0.5	0.4
Japan	1.8	2.0	1.5	1.7	1.9	0.1	.

Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.
1) Data for Luxembourg and Malta available since 2001.
2) Where data are not available for 2015, the average indicated is for the periods 1999-2014 and 2009-2014.

Chart 2.3 Government consumption
(chain-linked volumes; annual percentage changes)



Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.

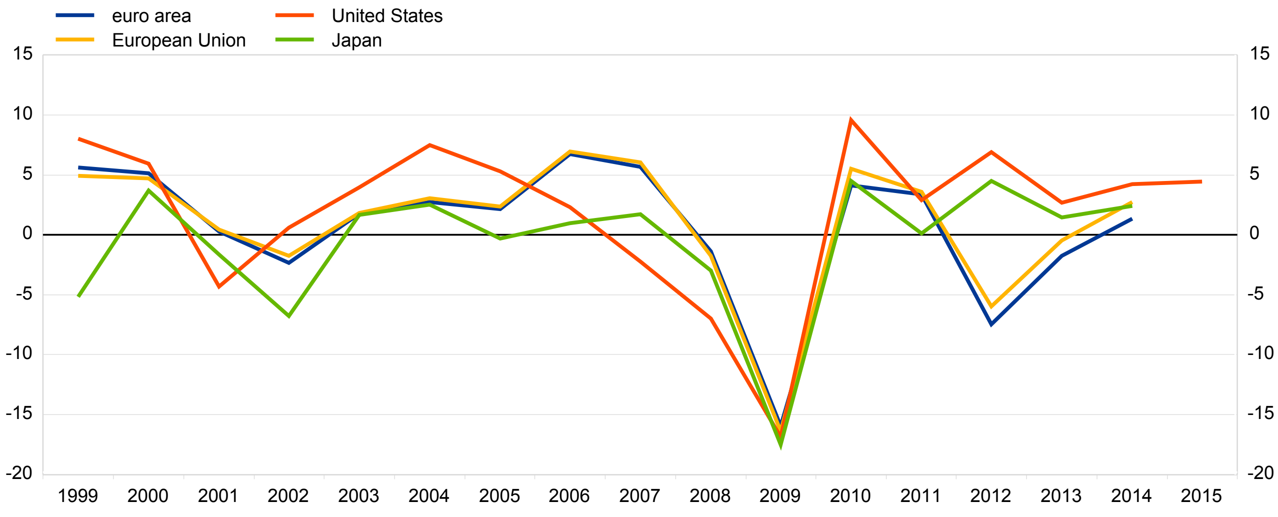
2. Economic activity

2.4 Gross capital formation
(chain-linked volumes; annual percentage changes)

	1999-2015 1),2)	1999-2008 1)	2009-2015 2)	2012	2013	2014	2015
Belgium	1.9	3.6	-0.7	-3.5	-4.7	6.2	.
Germany	0.2	0.8	-0.5	-8.2	1.5	2.0	-0.5
Estonia	4.7	7.7	-0.1	18.5	-0.8	5.9	.
Ireland	2.4	5.1	-2.0	6.8	-5.1	16.5	.
Greece	-3.3	4.4	-14.9	-24.0	-10.8	9.9	.
Spain	0.9	5.3	-6.1	-8.1	-3.6	4.8	.
France	1.6	3.4	-0.8	-2.5	0.4	-0.3	1.1
Italy	-0.9	2.4	-6.2	-14.9	-5.3	-4.1	.
Cyprus	-0.1	8.3	-12.7	-16.2	-23.5	1.5	.
Latvia	3.8	11.1	-7.3	-1.1	-4.3	-5.5	.
Lithuania	2.7	8.9	-6.7	-12.2	1.8	0.4	.
Luxembourg	2.9	4.3	1.2	-2.1	-3.0	10.0	.
Malta	0.0	0.9	-1.1	-4.4	1.1	4.9	.
Netherlands	0.6	2.3	-1.7	-6.2	-5.2	2.7	6.8
Austria	0.6	1.7	-1.0	-0.3	-2.2	-1.6	-0.8
Portugal	-2.5	0.4	-7.2	-18.1	-5.1	5.5	.
Slovenia	0.5	6.9	-9.2	-17.5	2.7	5.7	.
Slovakia	0.9	3.6	-3.4	-14.0	1.5	2.6	.
Finland	0.9	3.2	-2.8	-6.4	-4.9	-0.4	.
Euro area	0.5	2.6	-3.0	-7.5	-1.8	1.3	.
Bulgaria	5.8	14.7	-7.6	2.5	-3.3	4.4	.
Czech Republic	2.2	5.4	-3.1	-4.1	-5.0	4.4	.
Denmark	0.8	2.5	-2.0	1.6	0.4	4.6	.
Croatia	1.3	7.9	-8.9	-6.5	-0.4	-4.7	.
Hungary	0.2	2.2	-3.1	-7.2	3.8	11.3	.
Poland	3.5	4.7	1.6	-3.9	-5.8	12.6	.
Romania	5.5	12.2	-4.7	-4.8	0.5	3.2	.
Sweden	3.0	4.3	0.8	-5.0	1.6	8.0	.
United Kingdom	1.7	1.1	2.8	2.1	8.4	6.7	.
European Union	0.8	2.6	-2.1	-6.0	-0.4	2.7	.
United States	1.6	1.9	1.6	6.9	2.7	4.3	4.4
Japan	-0.8	-0.7	-1.1	4.5	1.4	2.4	.

Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.
1) Data for Luxembourg and Malta available since 2001.
2) Where data are not available for 2015, the average indicated is for the periods 1999-2014 and 2009-2014.

Chart 2.4 Gross capital formation
(chain-linked volumes; annual percentage changes)



Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.

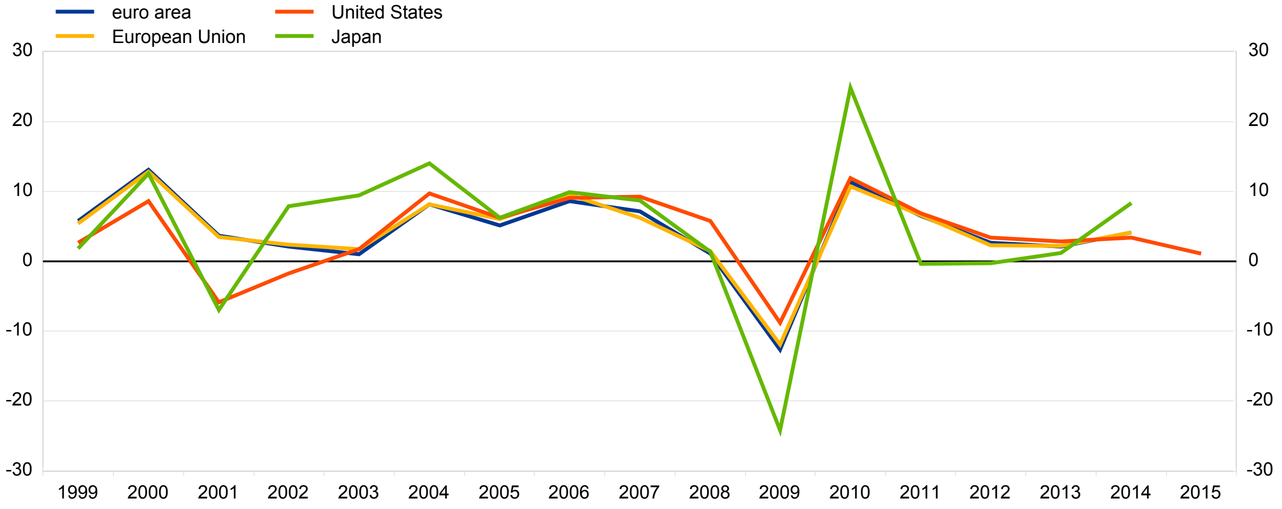
2. Economic activity

2.5 Exports of goods and services
(chain-linked volumes; annual percentage changes)

	1999-2015 1),2)	1999-2008 1)	2009-2015 2)	2012	2013	2014	2015
Belgium	3.8	4.6	2.5	1.8	1.6	5.4	.
Germany	5.4	7.2	2.8	2.8	1.6	4.0	5.4
Estonia	6.5	7.0	5.6	6.2	4.7	1.8	.
Ireland	6.5	8.0	3.9	2.1	2.5	12.1	.
Greece	4.3	7.5	-0.9	1.2	2.2	7.5	.
Spain	3.7	4.5	2.5	1.1	4.3	5.1	.
France	3.2	3.8	2.3	2.5	1.7	2.4	5.9
Italy	2.0	2.9	0.4	2.3	0.8	3.1	.
Cyprus	1.4	1.8	0.7	-1.1	1.8	-0.5	.
Latvia	6.7	8.4	4.0	9.8	1.1	3.1	.
Lithuania	8.7	9.6	7.1	12.2	9.6	3.0	.
Luxembourg	4.8	6.8	2.3	0.2	6.9	6.8	.
Malta	4.7	6.2	2.7	6.7	0.8	0.0	.
Netherlands	4.3	5.3	2.7	3.8	2.1	4.0	4.2
Austria	4.1	6.2	1.3	1.7	0.8	2.1	1.8
Portugal	4.0	4.4	3.2	3.4	7.0	3.9	.
Slovenia	5.9	8.8	1.2	0.6	3.1	5.8	.
Slovakia	9.5	12.6	4.4	9.3	6.2	3.6	.
Finland	3.6	7.1	-2.1	1.2	1.1	-0.9	.
Euro area	4.2	5.5	2.1	2.6	2.1	4.1	.
Bulgaria	3.8	3.7	4.0	0.8	9.2	-0.1	.
Czech Republic	8.7	11.4	4.3	4.3	0.0	8.9	.
Denmark	3.7	5.7	0.6	0.6	0.9	3.1	.
Croatia	4.2	6.5	0.5	-0.1	3.1	7.3	.
Hungary	9.0	13.0	2.8	-1.8	6.4	7.6	.
Poland	7.4	8.8	5.1	4.6	6.1	6.4	.
Romania	9.8	10.9	8.2	1.0	19.7	8.6	.
Sweden	3.9	5.7	0.9	1.0	-0.8	3.5	.
United Kingdom	3.1	4.4	0.9	0.7	1.2	1.2	.
European Union	4.3	5.7	2.1	2.3	2.2	4.1	.
United States	3.7	4.4	2.8	3.4	2.8	3.4	1.1
Japan	4.1	6.3	0.5	-0.2	1.2	8.3	.

Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.
1) Data for Luxembourg and Malta available since 2001.
2) Where data are not available for 2015, the average indicated is for the periods 1999-2014 and 2009-2014.

Chart 2.5 Exports of goods and services
(chain-linked volumes; annual percentage changes)



Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.

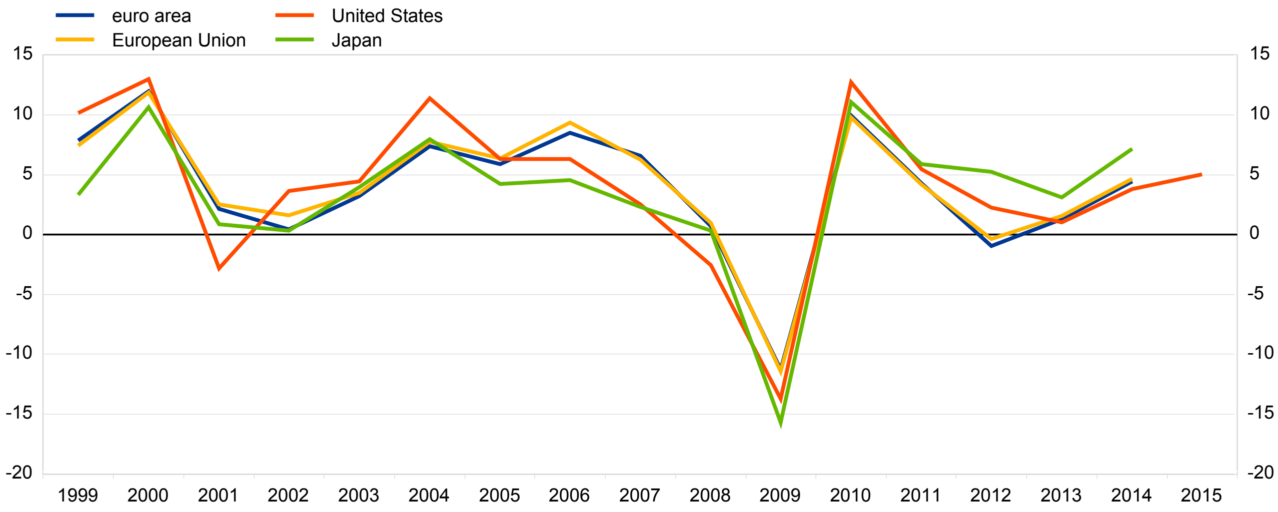
2. Economic activity

2.6 Imports of goods and services
(chain-linked volumes; annual percentage changes)

	1999-2015 [1),2)]	1999-2008 [1)]	2009-2015 [2)]	2012	2013	2014	2015
Belgium	3.7	4.4	2.5	1.4	0.8	5.9	.
Germany	4.5	5.6	3.0	-0.3	3.1	3.7	5.7
Estonia	6.8	8.4	4.0	11.7	4.5	1.4	.
Ireland	5.7	7.5	2.6	2.9	0.0	14.7	.
Greece	1.9	7.2	-6.5	-9.1	-1.9	7.7	.
Spain	3.0	6.3	-2.4	-6.2	-0.3	6.4	.
France	4.1	5.2	2.5	0.7	1.7	3.8	6.4
Italy	1.6	3.5	-1.6	-8.1	-2.5	2.9	.
Cyprus	1.7	4.6	-3.1	-4.4	-3.0	2.0	.
Latvia	5.4	8.8	-0.1	5.4	-0.2	0.8	.
Lithuania	7.8	11.0	2.6	6.6	9.3	2.9	.
Luxembourg	5.3	7.2	2.7	1.5	5.7	8.0	.
Malta	4.0	5.6	1.9	5.2	-0.8	-0.1	.
Netherlands	4.1	5.3	2.4	2.7	0.9	4.0	4.9
Austria	3.4	4.9	1.2	1.1	0.0	1.3	1.6
Portugal	2.2	4.0	-0.7	-6.3	4.7	7.2	.
Slovenia	4.7	8.4	-1.3	-3.7	1.7	4.0	.
Slovakia	7.2	10.2	2.3	2.5	5.1	4.3	.
Finland	4.0	7.0	-0.7	1.6	0.5	0.0	.
Euro area	3.8	5.4	1.1	-1.0	1.3	4.5	.
Bulgaria	7.3	12.0	-0.2	4.5	4.9	1.5	.
Czech Republic	8.0	10.9	3.5	2.7	0.1	9.8	.
Denmark	4.1	6.5	0.1	1.8	1.1	3.3	.
Croatia	3.3	7.3	-3.1	-3.0	3.1	4.3	.
Hungary	7.9	12.0	1.5	-3.5	6.3	8.5	.
Poland	6.0	7.9	2.8	-0.3	1.7	10.0	.
Romania	10.6	16.0	2.3	-1.8	8.8	8.9	.
Sweden	3.8	5.0	1.7	0.5	-0.1	6.3	.
United Kingdom	3.5	5.0	1.2	2.9	2.8	2.4	.
European Union	4.0	5.7	1.2	-0.3	1.6	4.7	.
United States	3.9	5.1	2.1	2.2	1.1	3.8	5.0
Japan	3.3	3.8	2.4	5.3	3.1	7.2	.

Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.
1) Data for Luxembourg and Malta available since 2001.
2) Where data are not available for 2015, the average indicated is for the periods 1999-2014 and 2009-2014.

Chart 2.6 Imports of goods and services
(chain-linked volumes; annual percentage changes)



Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.

2. Economic activity

2.7 Nominal GDP

(current prices; EUR billions)

	1999-2015 [1),2)]	1999-2008 [1)]	2009-2015 [2)]	2012	2013	2014	2015
Belgium	327.2	296.2	379.0	387.4	392.7	400.6	.
Germany	2,476.0	2,283.0	2,751.6	2,754.9	2,820.8	2,915.7	3,026.6
Estonia	12.8	10.2	17.1	18.0	19.0	20.0	.
Ireland	159.6	150.0	175.5	174.8	179.4	189.0	.
Greece	192.7	186.3	203.3	191.2	180.4	177.6	.
Spain	927.2	849.0	1,057.6	1,042.9	1,031.3	1,041.2	.
France	1,850.8	1,694.7	2,073.7	2,086.9	2,116.6	2,132.4	2,183.3
Italy	1,489.7	1,418.1	1,608.9	1,614.7	1,606.9	1,613.9	.
Cyprus	15.6	13.8	18.7	19.5	18.1	17.4	.
Latvia	16.3	13.5	20.8	22.0	22.8	23.6	.
Lithuania	24.8	19.3	32.6	33.3	35.0	36.4	37.2
Luxembourg	34.6	29.2	42.8	43.6	46.5	48.9	.
Malta	5.9	5.1	7.1	7.2	7.7	8.1	.
Netherlands	574.7	524.2	646.9	645.2	650.9	662.8	677.8
Austria	272.1	242.9	313.7	317.1	322.9	329.3	337.1
Portugal	159.2	150.4	173.9	168.4	170.3	173.4	.
Slovenia	31.1	27.9	36.4	36.0	35.9	37.3	.
Slovakia	49.2	36.4	70.6	72.4	73.8	75.6	.
Finland	172.2	158.3	195.5	199.8	202.7	205.2	.
Euro area	8,724.2	8,107.7	9,751.8	9,835.2	9,933.5	10,108.1	.
Bulgaria	29.0	22.1	40.4	41.7	41.9	42.8	.
Czech Republic	121.7	100.6	156.8	160.7	156.9	154.7	.
Denmark	219.6	202.8	247.8	252.9	255.2	260.6	.
Croatia	38.4	34.6	44.2	43.9	43.5	43.0	.
Hungary	86.0	77.9	99.6	99.1	101.3	104.2	.
Poland	312.1	257.9	375.3	389.6	394.7	410.8	.
Romania	96.0	72.8	134.6	133.5	144.2	150.2	.
Sweden	338.6	304.3	395.7	423.4	435.8	430.7	.
United Kingdom	1,876.1	1,831.7	1,950.1	2,054.3	2,043.2	2,254.7	.
European Union	11,816.0	10,988.4	13,195.4	13,433.2	13,549.9	13,958.4	.
United States	11,049.8	10,584.4	11,825.5	12,574.2	12,546.4	13,058.4	16,167.3
Japan	3,947.7	3,934.3	3,970.1	4,637.8	3,694.8	3,470.5	.

Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.

1) Data for Croatia, Luxembourg and Malta available since 2000; and for Poland since 2002.

2) Where data are not available for 2015, the average indicated is for the periods 1999-2014 and 2009-2014.

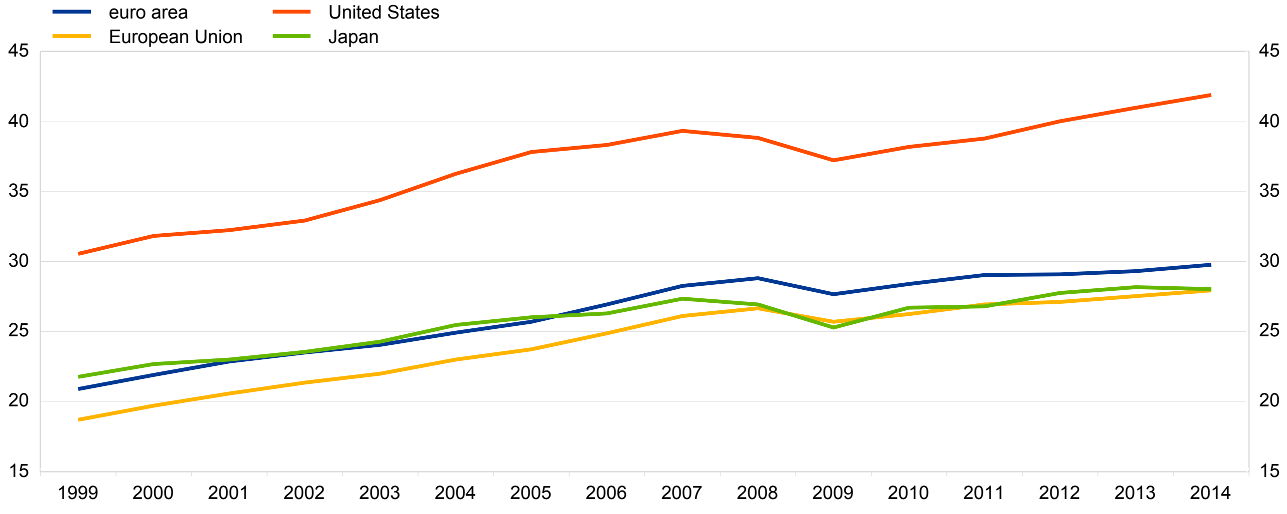
2. Economic activity

2.8 GDP per capita
(current prices; PPPs [1] in EUR thousands)

	1999-2014 [2]	1999-2008 [2]	2009-2014	2011	2012	2013	2014
Belgium	28.5	26.7	31.7	32.2	32.4	32.4	33.0
Germany	28.7	26.3	32.9	33.5	34.0	34.3	35.3
Estonia	14.4	12.1	18.6	18.7	19.6	20.4	20.7
Ireland	32.3	30.6	35.4	35.6	35.6	36.5	37.6
Greece	20.7	20.4	21.8	20.8	19.8	19.9	20.0
Spain	23.3	22.1	25.8	25.4	25.2	25.4	25.6
France	26.2	24.7	28.8	29.1	29.1	29.3	30.0
Italy	25.6	24.8	27.3	27.7	27.3	27.1	27.0
Cyprus	23.0	21.6	25.9	25.8	25.4	24.2	23.7
Latvia	12.8	11.3	15.6	15.1	16.3	17.2	17.6
Lithuania	13.2	10.6	17.7	17.6	18.8	20.0	20.6
Luxembourg	62.4	57.3	69.8	70.9	71.1	72.7	75.0
Malta	19.9	18.3	22.8	22.6	23.0	23.9	24.1
Netherlands	32.3	30.3	36.2	36.2	36.2	36.4	36.7
Austria	30.3	28.2	34.1	34.4	35.0	35.2	35.6
Portugal	18.8	17.5	21.2	21.0	20.6	21.6	21.9
Slovenia	20.7	19.8	22.5	22.2	22.2	22.4	23.1
Slovakia	13.6	10.2	19.7	19.6	20.1	20.7	21.4
Finland	27.6	25.8	31.0	31.4	31.3	31.3	30.8
Euro area	25.9	24.3	28.9	29.1	29.1	29.3	29.8
Bulgaria	9.3	7.7	12.1	12.2	12.4	12.5	12.8
Czech Republic	19.0	17.3	22.1	22.3	22.3	22.6	23.4
Denmark	30.0	27.9	33.5	33.8	34.3	34.5	35.0
Croatia	14.3	13.1	16.2	16.0	16.4	16.6	16.4
Hungary	14.8	13.2	17.6	17.6	17.6	18.3	19.0
Poland	13.2	11.0	16.9	17.4	18.0	18.4	18.8
Romania	9.7	7.5	13.8	13.7	14.3	14.9	15.0
Sweden	30.1	28.1	33.7	34.1	34.2	34.8	34.8
United Kingdom	27.8	26.9	29.5	28.5	29.3	30.2	30.6
European Union	23.9	22.2	26.9	26.9	27.1	27.5	28.0
United States	36.4	34.7	39.4	38.8	40.0	41.0	41.9
Japan	25.4	24.4	27.1	26.8	27.8	28.2	28.0

Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.
1) GDP in Purchasing Power Standards (PPSs) in euro, calculated on the basis of PPP rates relative to the euro area (Euro 19 = 1).
2) Data for Luxembourg and Croatia available since 2000.

Chart 2.8 GDP per capita
(current prices; PPPs [1] in EUR thousands)



Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.
1) GDP in Purchasing Power Standards (PPSs) in euro, calculated on the basis of PPP rates relative to the euro area (Euro 19 = 1).

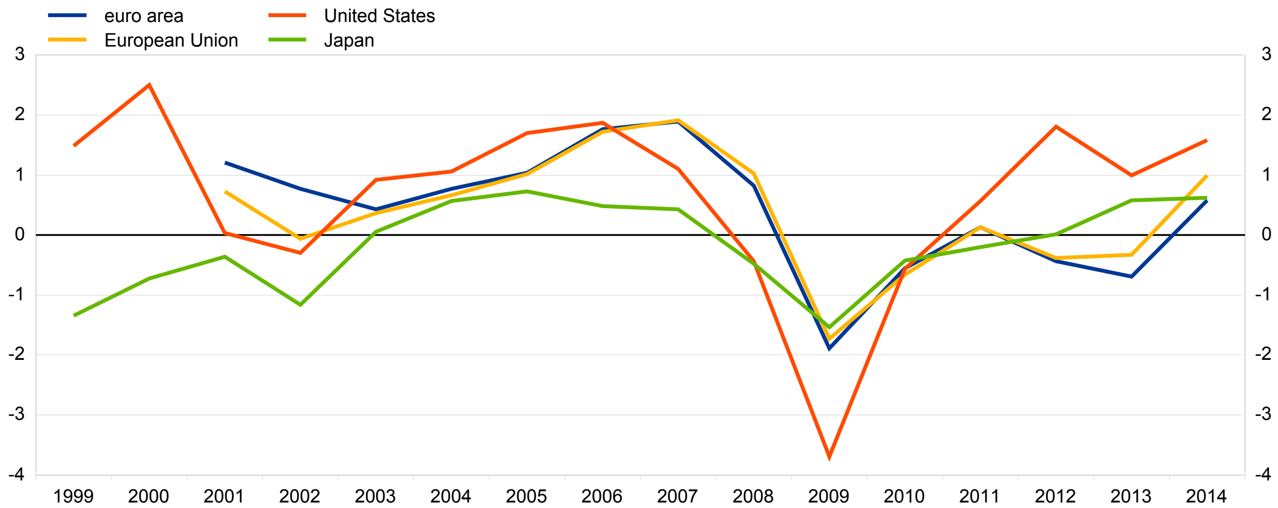
2. Economic activity

2.9 Employment
(persons employed; annual percentage changes)

	1999-2015 1),2)	1999-2008 1)	2009-2015 2)	2012	2013	2014	2015
Belgium	0.9	1.1	0.4	0.4	-0.4	0.3	.
Germany	0.7	0.6	0.7	1.2	0.6	0.9	0.8
Estonia	0.0	0.6	-1.0	1.6	1.2	0.8	.
Ireland	1.4	3.4	-1.8	-0.6	2.4	1.7	.
Greece	-0.5	1.2	-3.3	-6.3	-3.6	0.1	.
Spain	1.0	3.4	-2.8	-4.1	-2.9	0.9	.
France	0.7	1.1	0.1	0.3	0.0	0.3	.
Italy	0.5	1.3	-0.7	-0.3	-1.8	0.1	.
Cyprus	1.1	2.7	-1.5	-3.2	-6.0	-1.1	.
Latvia	-0.4	1.7	-3.0	1.4	2.3	-1.3	.
Lithuania	-0.8	-0.5	-1.3	1.8	1.3	2.0	.
Luxembourg	2.9	3.6	2.1	2.4	1.8	2.5	.
Malta	1.6	0.9	2.7	2.5	3.7	5.0	.
Netherlands	0.7	1.3	-0.2	-0.2	-0.9	-0.2	0.8
Austria	1.0	1.1	0.7	1.1	0.5	0.9	.
Portugal	-0.5	0.4	-2.0	-4.1	-2.9	1.4	.
Slovenia	0.3	1.2	-1.2	-0.9	-1.4	0.6	.
Slovakia	0.3	0.6	-0.2	0.1	-0.8	1.4	.
Finland	0.8	1.6	-0.4	0.9	-0.7	-0.9	.
Euro area	0.4	1.1	-0.5	-0.4	-0.7	0.6	.
Bulgaria	-0.1	1.0	-1.7	-2.5	-0.4	0.4	.
Czech Republic	0.1	0.4	-0.3	0.4	0.3	0.6	.
Denmark	0.2	0.8	-0.8	-0.6	0.1	0.8	.
Croatia	0.8	3.0	-2.0	-3.7	-2.6	2.7	.
Hungary	0.2	0.1	0.5	0.1	0.9	4.6	.
Poland	0.6	1.0	0.0	0.1	-0.1	1.7	.
Romania	-1.5	-1.6	-1.3	-4.8	-0.9	0.8	.
Sweden	0.9	1.1	0.6	0.7	1.0	1.4	.
United Kingdom	0.9	1.0	0.6	1.1	1.2	2.3	.
European Union	0.4	0.9	-0.3	-0.4	-0.3	1.0	.
United States	0.7	1.0	0.1	1.8	1.0	1.6	.
Japan	-0.3	-0.2	-0.3	0.0	0.6	0.6	.

Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.
1) Data for the euro area, the European Union, Hungary, Latvia, Luxembourg and Poland available since 2001.
2) Where data are not available for 2015, the average indicated is for the periods 1999-2014 and 2009-2014.

Chart 2.9 Employment
(persons employed; annual percentage changes)



Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.

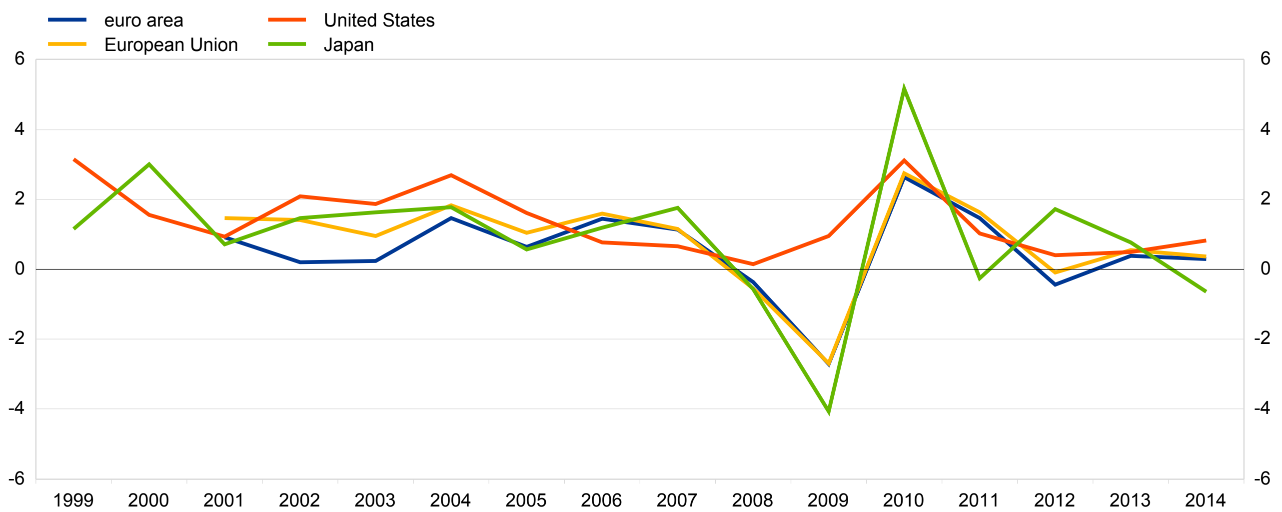
2. Economic activity

2.10 Labour productivity
(per persons employed; annual percentage changes)

	1999-2015 1),2)	1999-2008 1)	2009-2015 2)	2012	2013	2014	2015
Belgium	0.8	1.1	0.2	-0.2	0.4	1.0	.
Germany	0.6	1.0	0.1	-0.7	-0.3	0.7	0.9
Estonia	3.7	5.1	1.5	3.4	0.3	2.1	.
Ireland	2.3	2.2	2.4	0.7	-0.9	3.4	.
Greece	0.8	2.2	-1.6	-1.1	0.4	0.5	.
Spain	0.7	0.1	1.6	1.5	1.3	0.4	.
France	0.7	1.0	0.3	-0.1	0.7	-0.2	.
Italy	-0.3	0.0	-0.7	-2.5	0.0	-0.5	.
Cyprus	0.7	1.4	-0.4	0.8	0.1	-1.4	.
Latvia	4.2	5.5	2.4	2.5	0.7	3.8	.
Lithuania	4.7	6.6	1.6	2.0	2.2	1.0	.
Luxembourg	-0.3	-0.2	-0.4	-3.2	2.5	1.5	.
Malta	0.6	1.2	-0.3	0.4	0.2	-0.9	.
Netherlands	0.8	1.2	0.2	-0.9	0.4	1.2	1.1
Austria	0.7	1.3	-0.3	-0.3	-0.1	-0.5	.
Portugal	1.0	1.2	0.8	0.1	1.8	-0.5	.
Slovenia	1.9	3.1	0.1	-1.8	0.3	2.5	.
Slovakia	3.3	4.4	1.4	1.5	2.2	1.1	.
Finland	0.8	1.7	-0.6	-2.3	-0.4	0.4	.
Euro area	0.5	0.7	0.3	-0.4	0.4	0.3	.
Bulgaria	3.0	3.8	1.8	2.8	1.7	1.2	.
Czech Republic	2.4	3.6	0.3	-1.3	-0.8	1.4	.
Denmark	0.8	0.9	0.6	0.6	-0.4	0.4	.
Croatia	0.6	1.2	-0.2	1.5	1.6	-3.0	.
Hungary	1.8	3.3	-0.6	-1.8	0.9	-1.1	.
Poland	2.8	2.6	2.9	1.4	1.3	1.6	.
Romania	4.9	7.1	1.3	5.7	4.4	2.2	.
Sweden	1.4	1.9	0.4	-1.0	0.3	0.9	.
United Kingdom	1.1	1.5	0.3	0.1	1.0	0.6	.
European Union	0.8	1.1	0.4	-0.1	0.6	0.4	.
United States	1.4	1.5	1.1	0.4	0.5	0.8	.
Japan	0.9	1.3	0.4	1.7	0.8	-0.6	.

Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.
1) Data for Croatia, the euro area, the European Union, Luxembourg and Malta avialable since 2001; and for Poland since 2003.
2) Where data are not available for 2015, the average indicated is for the periods 1999-2014 and 2009-2014.

Chart 2.10 Labour productivity
(per persons employed; annual percentage changes)



Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.

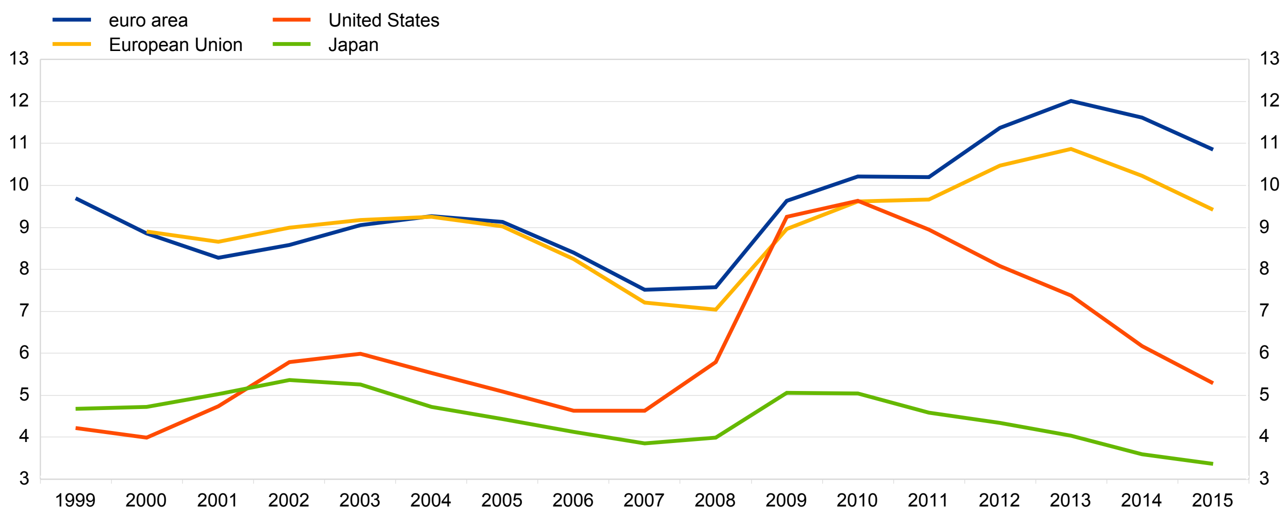
2. Economic activity

2.11 Unemployment
(percentage of the labour force)

	1999-2015 1),2)	1999-2008 1)	2009-2015 2)	2012	2013	2014	2015
Belgium	7.8	7.7	8.0	7.6	8.4	8.5	8.3
Germany	7.7	9.1	5.8	5.4	5.2	5.0	4.6
Estonia	10.1	9.3	11.4	10.0	8.6	7.4	.
Ireland	8.0	4.7	12.7	14.7	13.1	11.3	9.4
Greece	13.7	10.0	19.8	24.5	27.5	26.5	.
Spain	15.5	10.7	22.4	24.8	26.1	24.5	22.1
France	9.2	8.9	9.8	9.8	10.3	10.3	10.4
Italy	9.0	8.2	10.3	10.7	12.1	12.7	11.9
Cyprus	7.4	4.3	11.3	11.8	15.9	16.1	15.6
Latvia	12.3	10.9	14.4	15.1	11.9	10.8	9.9
Lithuania	11.9	11.0	13.2	13.4	11.8	10.7	9.1
Luxembourg	4.3	3.6	5.4	5.1	5.9	6.0	6.1
Malta	6.7	7.0	6.3	6.3	6.4	5.8	5.3
Netherlands	5.0	4.4	6.0	5.8	7.3	7.4	6.9
Austria	4.9	4.7	5.2	4.9	5.4	5.6	5.7
Portugal	9.8	7.3	13.5	15.8	16.4	14.1	12.6
Slovenia	7.1	6.1	8.5	8.9	10.1	9.7	9.1
Slovakia	14.9	16.0	13.3	14.0	14.2	13.2	11.5
Finland	8.4	8.5	8.3	7.7	8.2	8.7	9.4
Euro area	9.5	8.6	10.8	11.4	12.0	11.6	10.9
Bulgaria	11.6	12.4	10.6	12.3	13.0	11.4	9.4
Czech Republic	7.0	7.3	6.5	7.0	7.0	6.1	5.1
Denmark	5.5	4.5	6.9	7.5	7.0	6.5	6.1
Croatia	13.7	13.1	14.6	16.0	17.3	17.3	16.6
Hungary	7.9	6.6	10.2	11.0	10.1	7.7	.
Poland	12.9	15.5	9.2	10.1	10.4	9.0	7.5
Romania	7.1	7.2	6.9	6.8	7.1	6.8	6.8
Sweden	7.1	6.5	8.0	8.0	8.0	7.9	7.4
United Kingdom	6.1	5.2	7.5	7.9	7.6	6.1	.
European Union	9.1	8.5	9.9	10.5	10.9	10.2	9.4
United States	6.2	5.0	7.8	8.1	7.4	6.2	5.3
Japan	4.5	4.6	4.3	4.3	4.0	3.6	3.4

Source: Eurostat.
1) Data for Bulgaria, Croatia, Cyprus, Estonia, Malta and the European Union available since 2000.
2) Where data are not available for 2015, the average indicated is for the periods 1999-2014 and 2009-2014.

Chart 2.11 Unemployment
(percentage of the labour force)



Source: Eurostat.

2. Economic activity

2.12 Household debt 1)

(percentages of GDP)

	1999-2014 2)	1999-2008 2)	2009-2014	2011	2012	2013	2014
Belgium	46.3	41.4	54.5	54.1	55.2	56.2	58.4
Germany	63.5	67.3	57.3	56.9	56.4	55.5	54.4
Estonia	33.2	25.4	46.1	45.6	42.1	39.8	38.9
Ireland	87.2	76.6	101.3	102.7	99.3	93.8	83.8
Greece	40.8	28.3	61.6	63.7	64.6	65.2	63.5
Spain	68.3	61.4	79.8	81.8	80.4	76.7	72.4
France	45.1	39.4	54.7	54.8	55.2	55.6	56.1
Italy	34.8	29.7	43.4	43.8	43.9	43.5	42.9
Cyprus	97.8	83.0	122.4	122.4	124.8	125.8	128.6
Latvia	36.7	34.6	38.4	40.5	33.3	29.8	26.6
Lithuania	23.1	19.6	25.9	25.8	23.7	22.4	21.5
Luxembourg	49.5	44.3	55.7	54.3	56.1	55.3	56.7
Malta	54.4	48.3	59.4	59.5	59.8	59.0	59.3
Netherlands	106.3	100.0	116.8	118.3	118.3	114.8	112.5
Austria	50.2	48.6	52.8	53.5	52.1	51.2	51.4
Portugal	78.8	72.9	88.6	90.5	90.7	86.0	81.5
Slovenia	25.9	21.3	29.7	30.0	30.9	30.0	28.5
Slovakia	16.5	10.0	27.4	26.5	27.8	29.7	31.6
Finland	49.2	41.2	62.5	61.3	63.6	64.2	65.5
Euro area	58.3	55.1	63.8	64.2	63.9	62.7	61.9
Bulgaria	16.8	11.8	24.4	24.0	23.3	23.2	22.6
Czech Republic	20.4	14.4	30.3	30.1	31.1	31.5	31.3
Denmark	117.6	105.9	137.2	138.8	136.6	134.6	132.3
Croatia	34.1	29.0	40.9	41.5	41.2	40.4	40.4
Hungary	24.0	18.3	33.5	37.6	31.8	28.2	25.9
Poland	26.6	18.8	34.3	35.1	34.1	35.1	35.6
Romania	12.7	7.9	20.7	21.5	20.6	19.2	18.1
Sweden	65.2	56.6	79.7	78.0	80.5	82.3	83.6
United Kingdom	86.4	83.2	91.7	91.7	90.6	87.8	86.0
European Union	-	-	-	-	-	-	-
United States	84.8	84.2	85.8	85.7	82.7	81.0	80.0
Japan	68.3	69.5	66.3	66.4	65.7	66.2	66.0

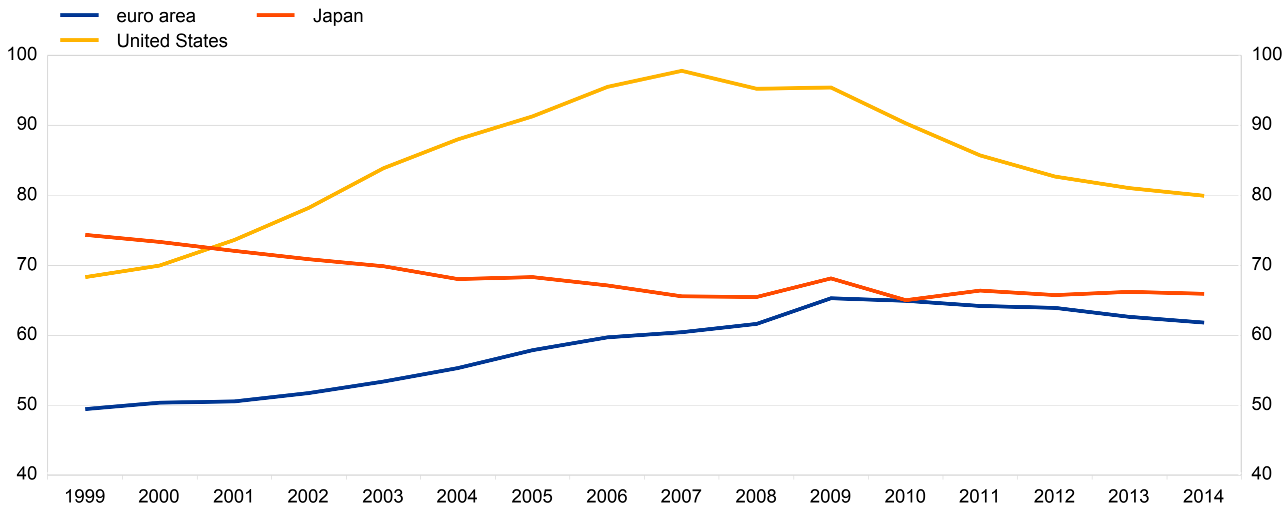
Sources: ECB, Eurostat, US Bureau of Economic Analysis, Federal Reserve Board and Bank of Japan.

1) Defined as outstanding amounts of loans received by households.

2) Data for the European Union are not available. Data for Bulgaria available since 2000; for Greece since 1999; for Croatia since 2001; for Ireland since 2001; for Lithuania since 2004; for Luxembourg since 2002; for Malta since 2004; for Latvia since 2004; for Poland since 2003; and for Slovenia since 2004.

Chart 2.12 Household debt

(percentages of GDP)



Sources: ECB, Eurostat, US Bureau of Economic Analysis, Federal Reserve Board and Bank of Japan.

2. Economic activity

2.13 Household savings ratio

(percentages of adjusted disposable income [1])

	1999-2014 [2]	1999-2008 [2]	2009-2014	2011	2012	2013	2014
Belgium	15.3	16.0	14.1	13.6	13.5	12.3	12.6
Germany	16.3	16.1	16.6	16.5	16.4	16.4	16.8
Estonia	4.3	1.1	9.5	10.2	7.1	8.9	8.2
Ireland	7.5	6.8	8.8	8.4	8.3	6.1	5.0
Greece	-	-	-	-	-	-	-
Spain	9.8	9.5	10.4	10.8	8.8	10.0	9.6
France	15.0	14.9	15.1	15.2	14.7	14.3	14.8
Italy	13.0	14.2	11.1	10.7	9.4	11.3	10.8
Cyprus	5.4	7.9	1.3	5.4	0.6	-4.1	-10.8
Latvia	2.0	2.3	1.6	-3.2	-3.8	-3.0	-0.8
Lithuania	3.3	2.8	3.6	4.8	1.6	1.8	0.1
Luxembourg	-	-	-	-	-	-	-
Malta	-	-	-	-	-	-	-
Netherlands	13.0	12.4	13.8	13.1	13.8	14.2	14.8
Austria	15.0	15.6	14.1	13.3	14.5	12.9	13.3
Portugal	8.9	9.5	8.1	7.5	7.7	7.8	5.9
Slovenia	14.3	16.0	13.1	12.7	10.9	13.4	14.1
Slovakia	8.1	7.9	8.3	8.1	7.1	8.3	9.3
Finland	8.5	8.5	8.6	8.1	7.8	8.4	7.0
Euro area	13.5	13.8	13.0	12.8	12.4	12.7	12.7
Bulgaria	-8.4	-10.8	-3.7	-3.0	-8.2	-0.2	.
Czech Republic	11.4	11.3	11.6	11.1	11.3	10.8	10.9
Denmark	6.1	5.3	7.4	7.8	7.5	7.9	4.4
Croatia	9.6	7.9	11.6	11.7	12.1	10.5	11.8
Hungary	9.5	9.6	9.4	9.7	8.2	9.3	10.2
Poland	5.0	6.8	3.0	1.5	1.5	2.5	1.9
Romania	-	-	-	-	-	-	-
Sweden	12.1	9.6	16.2	15.4	17.9	17.6	17.7
United Kingdom	8.3	8.2	8.5	9.1	8.7	6.3	5.4
European Union	11.6	11.7	11.4	11.1	11.0	11.0	10.3
United States	7.9	7.2	9.0	9.2	10.7	7.9	8.1
Japan	9.2	10.1	7.9	9.2	7.7	6.5	5.8

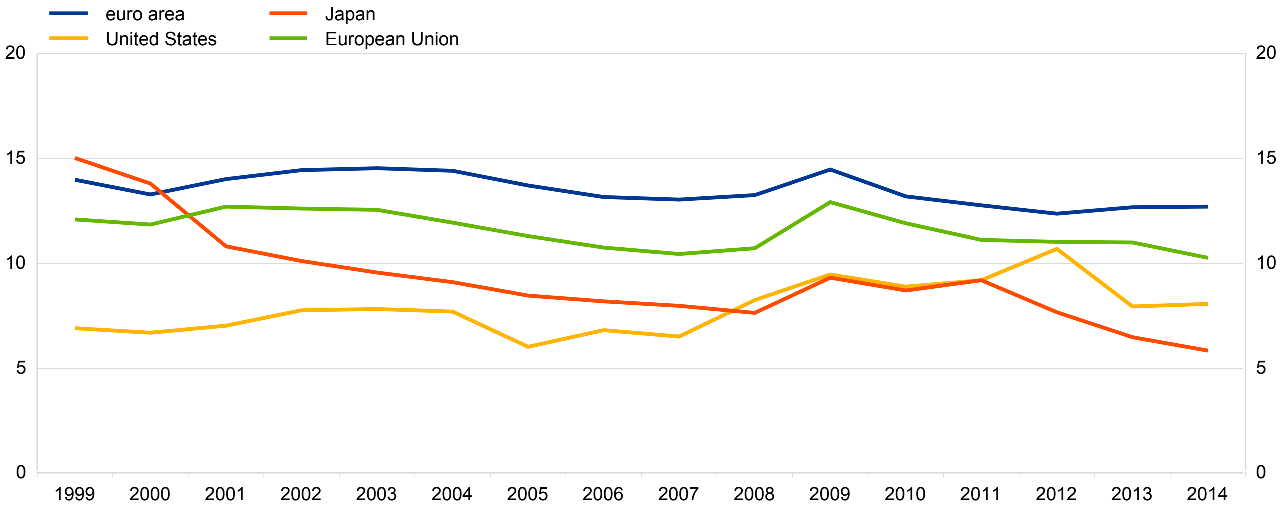
Sources: ECB, Eurostat, US Bureau of Economic Analysis, Federal Reserve Board and Bank of Japan.

1) Disposable income adjusted for the change in the net equity of households in pension fund reserves.

2) Data for the Greece, Malta, Luxembourg and Romania are not available. Data for Croatia available since 1999; for Ireland since 1999; for Lithuania since 1999; for Poland since 2002; and for Slovenia since 2005.

Chart 2.13 Household savings

(percentages of adjusted disposable income)



Sources: ECB, Eurostat, US Bureau of Economic Analysis, Federal Reserve Board and Bank of Japan.

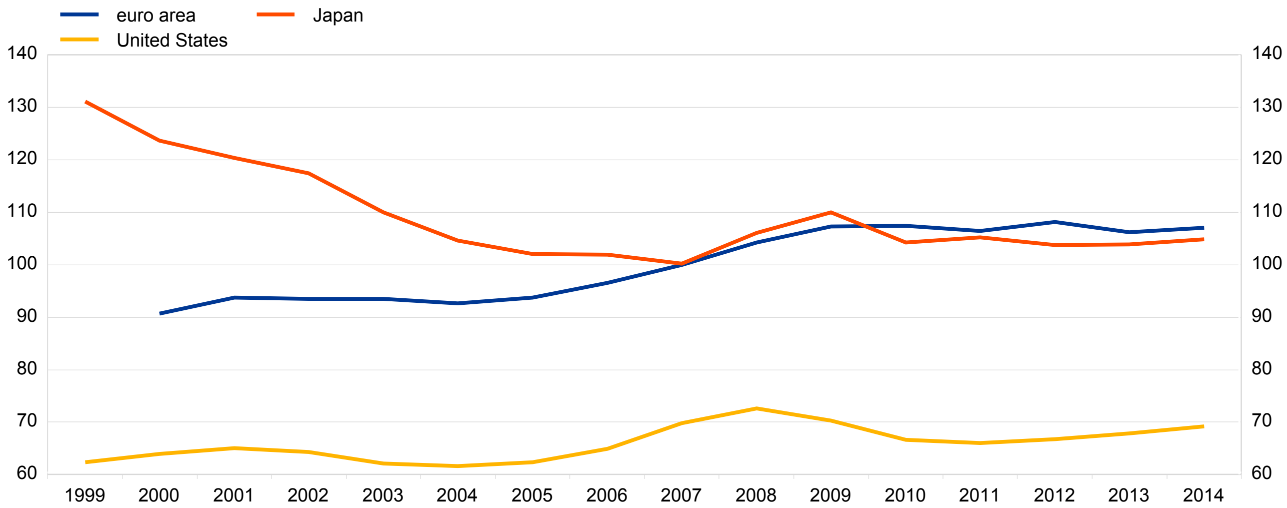
2. Economic activity

2.14 Non-financial corporations' debt [1)]
(percentages of GDP)

	1999-2014 [2)]	1999-2008 [2)]	2009-2014	2011	2012	2013	2014
Belgium	125.8	114.2	145.2	143.1	148.0	148.8	147.8
Germany	64.9	65.8	63.3	61.3	61.5	63.7	62.1
Estonia	90.3	85.0	99.1	95.7	99.1	94.1	96.3
Ireland	137.2	97.7	189.8	194.6	208.4	197.6	200.4
Greece	55.1	47.9	67.0	67.4	68.0	66.0	67.0
Spain	106.1	94.4	125.6	132.4	125.8	119.9	112.3
France	107.4	101.1	117.9	116.8	120.8	120.5	124.8
Italy	76.4	70.5	86.3	85.4	87.7	85.5	84.4
Cyprus	200.2	195.1	208.7	207.9	203.5	215.1	221.2
Latvia	78.2	66.7	87.8	91.3	84.9	79.6	73.9
Lithuania	43.8	44.2	43.4	42.7	41.6	38.3	35.2
Luxembourg	310.8	266.0	363.1	354.9	368.4	364.6	346.9
Malta	140.4	121.5	156.2	160.9	159.3	153.8	157.4
Netherlands	121.6	119.2	125.6	127.0	125.3	123.8	128.2
Austria	93.2	90.9	97.2	95.8	96.8	99.1	98.7
Portugal	112.5	101.3	131.3	131.9	139.6	135.2	127.0
Slovenia	82.7	71.8	91.8	95.3	93.7	89.4	81.6
Slovakia	44.7	43.4	47.0	47.5	46.6	48.2	46.5
Finland	96.8	89.4	109.1	107.5	109.0	113.4	110.3
Euro area	100.1	95.4	107.1	106.4	108.1	106.2	107.1
Bulgaria	85.9	66.3	115.5	110.7	112.3	119.7	114.8
Czech Republic	45.6	44.7	47.3	44.6	46.2	52.7	53.8
Denmark	86.1	80.5	95.3	94.8	98.1	93.4	92.1
Croatia	79.6	63.9	100.6	101.3	102.0	103.5	101.8
Hungary	74.4	62.2	94.8	97.0	94.0	91.9	90.7
Poland	37.4	33.1	41.7	41.5	42.5	43.7	45.9
Romania	49.6	44.5	58.2	52.4	52.1	48.5	45.1
Sweden	133.5	122.5	151.8	150.2	149.9	150.5	152.3
United Kingdom	117.8	114.9	122.6	129.1	130.1	109.8	123.6
European Union	-	-	-	-	-	-	-
United States [3)]	66.0	64.9	67.8	66.1	66.7	67.8	69.2
Japan [4)]	109.3	111.7	105.3	105.2	103.7	103.9	104.9

Sources: ECB, Eurostat, US Bureau of Economic Analysis, Federal Reserve Board and Bank of Japan.
1) Defined as outstanding amounts of loans taken, debt securities issued and pension scheme liabilities.
2) Data for the European Union are not available. Data for Austria available since 1999; for Bulgaria since 2000; for Denmark since 1999; for Croatia since 2001; for Ireland since 2001; for Lithuania since 2004; for Luxembourg since 2002; for Latvia since 2004; for Malta since 2004; for Poland since 2003; and for Slovenia since 2004.
3) Figures for the United States do not include inter-company loans and pension scheme liabilities.
4) Figures for Japan do not include pension scheme liabilities.

Chart 2.14 Non-financial corporations' debt
(percentages of GDP)



Sources: ECB, Eurostat, US Bureau of Economic Analysis, Federal Reserve Board and Bank of Japan.

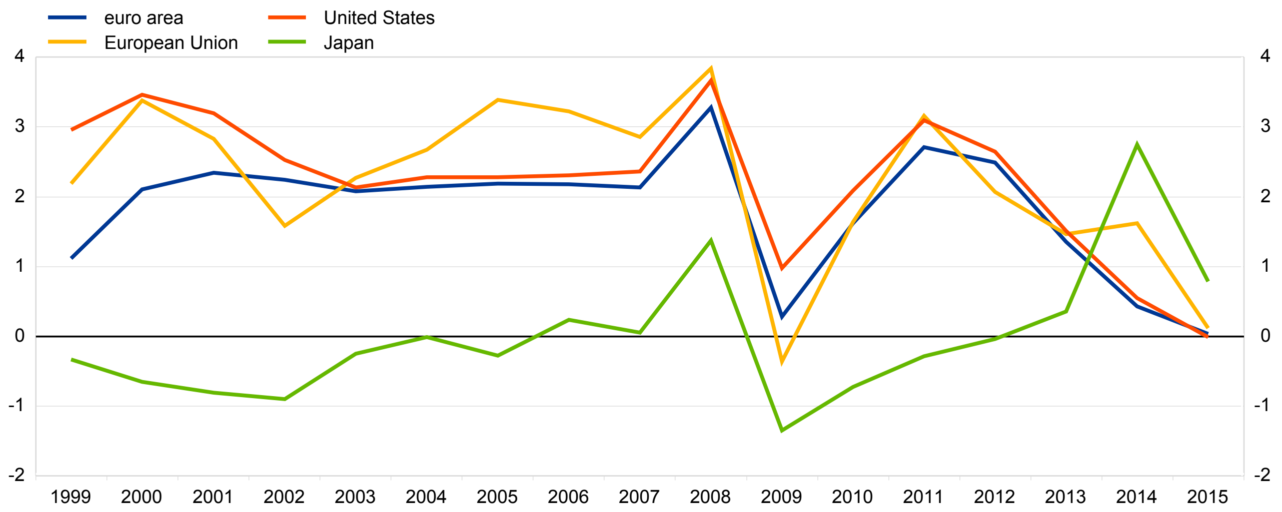
3. Prices and costs

3.1 HICP
(annual percentage changes)

	1999-2015	1999-2008	2009-2015	2012	2013	2014	2015
Belgium	1.9	2.2	1.5	2.6	1.2	0.5	0.6
Germany	1.5	1.7	1.2	2.1	1.6	0.8	0.1
Estonia	3.7	4.6	2.3	4.2	3.2	0.5	0.1
Ireland	2.0	3.4	0.1	1.9	0.5	0.3	0.0
Greece	2.3	3.3	1.0	1.0	-0.9	-1.4	-1.1
Spain	2.4	3.2	1.1	2.4	1.5	-0.2	-0.6
France	1.6	1.9	1.1	2.2	1.0	0.6	0.1
Italy	2.0	2.4	1.5	3.3	1.3	0.2	0.1
Cyprus	2.1	2.7	1.1	3.1	0.4	-0.3	-1.6
Latvia	3.8	5.6	1.3	2.3	0.0	0.7	0.2
Lithuania	2.4	2.7	1.9	3.2	1.2	0.2	-0.7
Luxembourg	2.4	2.8	1.7	2.9	1.7	0.7	0.1
Malta	2.2	2.6	1.8	3.2	1.0	0.8	1.2
Netherlands	2.0	2.4	1.5	2.8	2.6	0.3	0.2
Austria	1.9	1.9	1.8	2.6	2.1	1.5	0.8
Portugal	2.1	2.9	1.1	2.8	0.4	-0.2	0.5
Slovenia	3.7	5.4	1.3	2.8	1.9	0.4	-0.8
Slovakia	4.2	6.2	1.5	3.7	1.5	-0.1	-0.3
Finland	1.8	1.8	1.9	3.2	2.2	1.2	-0.2
Euro area	1.8	2.2	1.3	2.5	1.4	0.4	0.0
Bulgaria	4.4	6.7	1.3	2.4	0.4	-1.6	-1.1
Czech Republic	2.1	2.7	1.4	3.5	1.4	0.4	0.3
Denmark	1.8	2.1	1.3	2.4	0.5	0.3	0.2
Croatia	2.7	3.4	1.6	3.4	2.3	0.2	-0.3
Hungary	5.1	6.7	2.9	5.7	1.7	0.0	0.1
Poland	3.1	3.9	2.0	3.7	0.8	0.1	-0.7
Romania	12.7	19.5	3.6	3.4	3.2	1.4	-0.4
Sweden	1.4	1.7	1.1	0.9	0.4	0.2	0.7
United Kingdom	2.0	1.8	2.4	2.8	2.6	1.5	0.0
European Union	2.2	2.7	1.5	2.6	1.5	0.5	0.0
United States[1)]	2.2	2.8	1.4	2.1	1.5	1.6	0.1
Japan[1)]	0.0	-0.2	0.2	0.0	0.4	2.7	0.8

Sources: Eurostat, BIS (for the United States and Japan) and ECB calculations.
1) Data refer to the consumer price index.

Chart 3.1 HICP [1)]
(annual percentage changes)



Sources: Eurostat, BIS (for the United States and Japan) and ECB calculations.
1) Data for Japan and the United States refer to the consumer price index.

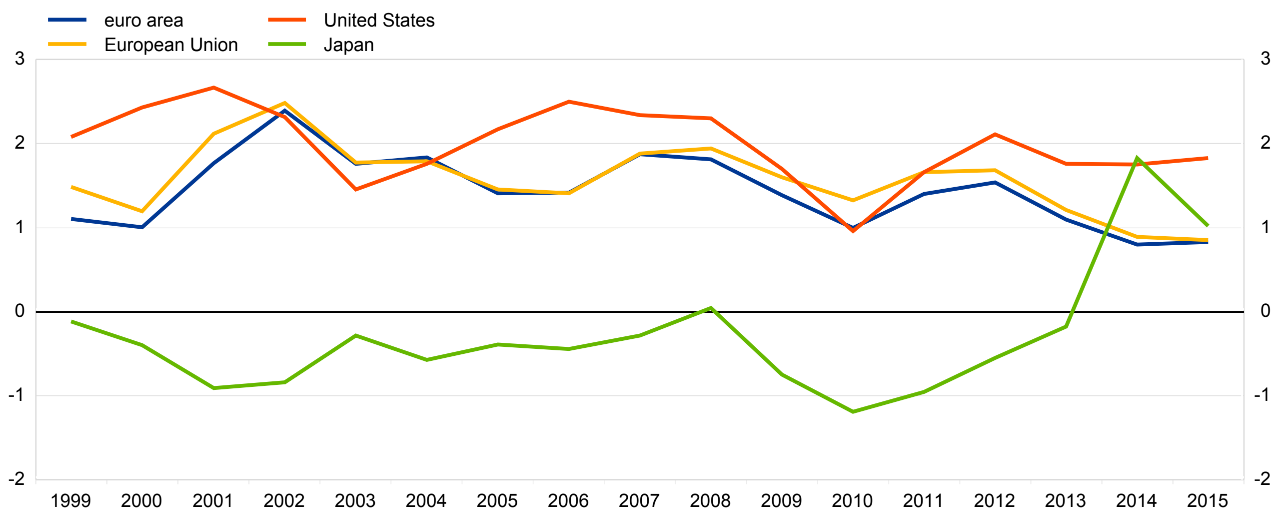
3. Prices and costs

3.2 HICP excluding food and energy
(annual percentage changes)

	1999-2015 1)	1999-2008 1)	2009-2015	2012	2013	2014	2015
Belgium	1.6	1.5	1.6	1.9	1.5	1.5	1.6
Germany	1.0	1.0	1.1	1.3	1.2	1.1	1.1
Estonia	2.9	3.8	1.5	2.8	1.9	1.3	1.2
Ireland	1.7	3.0	-0.1	0.7	0.1	0.7	1.6
Greece	1.8	2.9	0.2	-0.3	-2.4	-1.5	-0.4
Spain	1.9	2.7	0.8	1.3	1.3	-0.1	0.3
France	1.3	1.4	1.0	1.5	0.7	1.0	0.6
Italy	1.8	2.1	1.4	2.0	1.3	0.7	0.7
Cyprus	1.0	1.3	0.6	1.7	-0.3	0.1	-0.4
Latvia	2.6	4.3	0.2	0.3	-0.1	1.7	1.5
Lithuania	1.4	1.7	1.0	2.0	1.4	0.7	1.9
Luxembourg	1.9	1.9	1.8	2.1	2.0	1.3	1.7
Malta	1.7	2.1	1.2	2.5	0.1	1.5	1.5
Netherlands	1.7	1.9	1.5	2.2	2.5	0.6	0.9
Austria	1.7	1.5	1.9	2.2	2.2	1.7	1.8
Portugal	1.9	2.7	0.7	1.2	0.1	0.2	0.6
Slovenia	2.5	4.3	0.5	0.7	0.9	0.6	0.3
Slovakia	3.5	5.1	1.4	3.0	1.4	0.5	0.5
Finland	1.6	1.5	1.7	2.1	1.8	1.6	0.8
Euro area	1.4	1.6	1.1	1.5	1.1	0.8	0.8
Bulgaria	4.1	6.5	0.8	1.0	0.0	-1.6	-0.6
Czech Republic	1.3	1.9	0.5	1.6	0.3	0.5	0.7
Denmark	1.5	1.8	1.2	1.6	0.6	0.6	1.2
Croatia	1.6	3.2	0.9	1.1	0.9	0.5	0.8
Hungary	3.4	4.3	2.5	3.5	2.3	1.4	1.7
Poland	2.6	3.5	1.3	2.2	0.7	0.2	0.4
Romania	6.2	9.3	3.2	3.2	2.3	2.3	1.6
Sweden	1.1	1.1	1.0	0.7	0.3	0.4	0.9
United Kingdom	1.5	1.1	2.0	2.2	2.0	1.6	1.0
European Union	1.6	1.8	1.3	1.7	1.2	0.9	0.9
United States 2)	2.0	2.2	1.7	2.1	1.8	1.7	1.8
Japan 2)	-0.3	-0.4	-0.1	-0.6	-0.2	1.8	1.0

Sources: Eurostat, BIS (for the United States and Japan) and ECB calculations.
1) Data for the Czech Republic and Slovenia available since 2000; for Hungary and Romania since 2002; for Croatia since 2006.
2) Data refer to the consumer price index.

Chart 3.2 HICP excluding food and energy 1)
(annual percentage changes)



Sources: Eurostat, BIS (for the United States and Japan) and ECB calculations.
1) Data for Japan and the United States refer to the consumer price index.

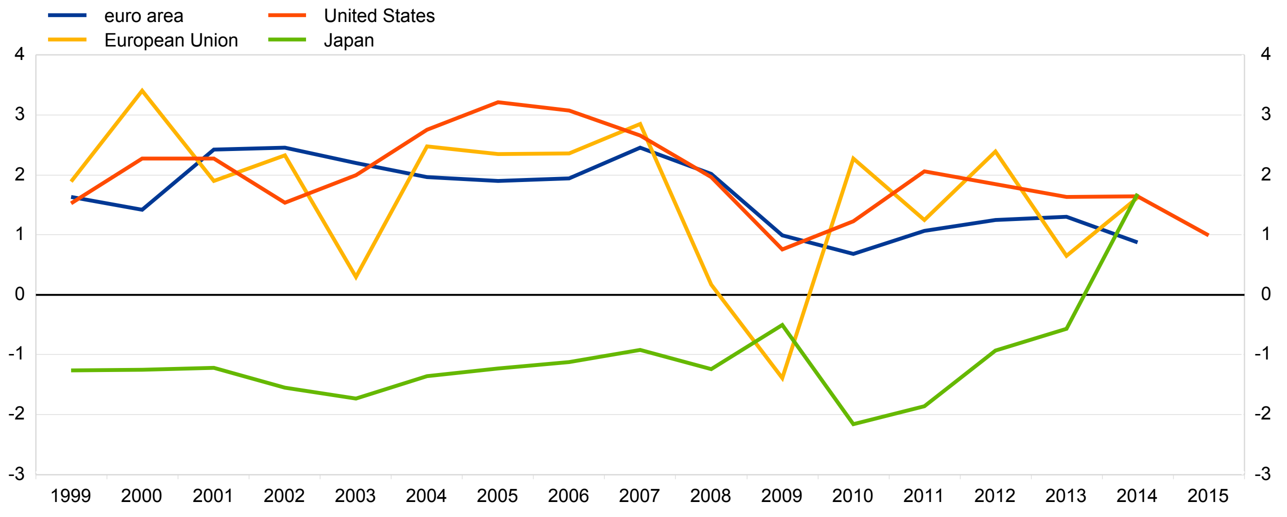
3. Prices and costs

3.3 GDP deflator
(annual percentage changes)

	1999-2015 [1),2)]	1999-2008 [1)]	2009-2015 [2)]	2012	2013	2014	2015
Belgium	1.7	1.9	1.5	2.0	1.3	0.7	.
Germany	1.1	0.8	1.6	1.5	2.1	1.7	2.1
Estonia	5.1	6.6	2.6	2.7	4.0	2.0	.
Ireland	1.7	3.0	-0.5	0.4	1.2	0.1	.
Greece	1.9	3.2	-0.2	-0.4	-2.5	-2.3	.
Spain	2.3	3.6	0.1	0.1	0.6	-0.4	.
France	1.4	1.8	0.8	1.2	0.8	0.6	1.2
Italy	2.0	2.4	1.2	1.4	1.3	0.9	.
Cyprus	2.3	3.3	0.6	2.1	-1.4	-1.3	.
Latvia	4.9	7.8	0.2	3.5	1.3	1.2	.
Lithuania	2.5	3.3	1.4	2.8	1.2	1.2	0.5
Luxembourg	2.7	2.8	2.7	4.0	2.4	0.9	.
Malta	2.5	2.5	2.4	2.0	1.8	1.7	.
Netherlands	1.8	2.5	0.8	1.4	1.4	0.8	0.3
Austria	1.6	1.6	1.6	2.0	1.5	1.6	1.5
Portugal	2.2	3.2	0.7	-0.4	2.2	0.9	.
Slovenia	3.4	5.0	0.9	0.3	0.8	0.8	.
Slovakia	3.0	4.6	0.4	1.3	0.5	-0.2	.
Finland	1.7	1.5	2.0	3.0	2.6	1.6	.
Euro area	1.7	2.0	1.0	1.2	1.3	0.9	.
Bulgaria	4.5	5.9	2.2	1.2	-0.5	0.2	.
Czech Republic	1.9	2.4	1.0	1.4	1.4	2.5	.
Denmark	2.1	2.5	1.6	2.8	1.4	0.8	.
Croatia	2.9	4.1	1.3	1.6	0.8	0.0	.
Hungary	5.1	6.4	3.0	3.5	3.1	3.2	.
Poland	2.5	2.8	2.1	2.4	0.4	0.5	.
Romania	16.0	23.7	4.2	4.8	3.5	1.9	.
Sweden	1.6	1.8	1.4	1.1	1.1	1.6	.
United Kingdom	2.3	2.4	2.1	1.6	2.0	1.8	.
European Union	1.7	2.0	1.1	2.4	0.6	1.6	.
United States	2.0	2.3	1.4	1.8	1.6	1.6	1.0
Japan	-1.1	-1.3	-0.7	-0.9	-0.6	1.7	.

Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.
1) Data for Luxembourg, Croatia and Malta available since 2001; for Poland since 2003.
2) Where data are not available for 2015, the average indicated is for the periods 1999-2014 and 2009-2014.

Chart 3.3 GDP deflator
(annual percentage changes)



Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.

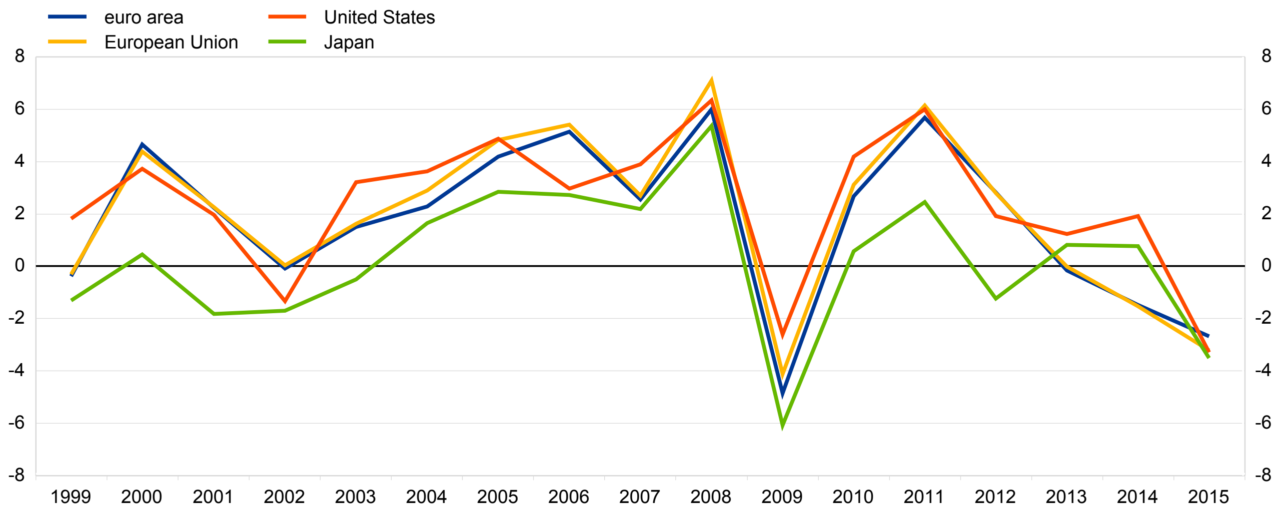
3. Prices and costs

3.4 Industrial producer prices
(annual percentage changes)

	1999-2015 1),2)	1999-2008 1)	2009-2015 2)	2012	2013	2014	2015
Belgium	2.0	3.4	0.1	3.5	0.6	-4.6	-4.2
Germany	1.5	2.4	0.2	1.7	0.0	-0.9	-1.8
Estonia	3.2	4.7	1.9	3.4	9.9	-2.3	-2.8
Ireland	1.6	4.0	0.6	3.1	1.5	-0.3	-4.4
Greece	3.0	4.7	0.6	4.9	-0.7	-0.8	-5.8
Spain	2.4	3.3	1.1	3.8	0.6	-1.3	-2.1
France	1.5	2.4	0.3	2.8	0.3	-1.3	-2.2
Italy	1.8	3.0	0.0	4.1	-1.2	-1.8	-3.4
Cyprus	2.8	4.8	0.6	8.1	-2.1	-3.1	-5.7
Latvia	5.0	8.4	1.7	5.3	1.1	0.1	-1.4
Lithuania	2.6	4.8	-0.4	5.6	-0.3	-5.1	-9.2
Luxembourg	2.9	5.5	-0.6	3.6	1.3	-4.8	-0.5
Malta	4.2	5.2	3.0	2.3	0.9	-1.2	-3.2
Netherlands	2.4	4.7	-0.9	3.8	-1.3	-3.2	-7.4
Austria	1.3	1.8	0.4	0.9	-1.0	-1.5	-2.1
Portugal	2.6	4.1	0.5	2.9	0.1	-1.2	-3.0
Slovenia	3.0	4.7	0.7	1.0	0.3	-1.1	-0.5
Slovakia	2.5	5.1	-1.1	3.8	-0.2	-3.6	-4.3
Finland	1.8	2.6	0.8	2.3	0.9	-0.9	-2.2
Euro area	1.7	2.8	0.2	2.8	-0.2	-1.5	-2.7
Bulgaria	4.2	6.3	1.7	5.3	-1.3	-0.9	-1.7
Czech Republic	1.7	2.6	0.3	2.1	0.8	-0.8	-3.2
Denmark	3.3	5.3	0.4	2.5	2.2	-2.3	-6.5
Croatia	2.8	3.8	1.5	7.0	0.4	-2.7	-3.9
Hungary	5.5	8.0	2.0	5.3	-0.5	-2.1	-3.0
Poland	2.6	3.5	1.7	3.6	-1.2	-1.4	-2.4
Romania	10.6	18.0	2.8	4.8	3.7	0.2	-1.8
Sweden	1.9	3.1	0.2	-0.3	-0.7	0.1	-1.1
United Kingdom	2.8	4.3	0.7	2.2	1.0	-2.3	-7.5
European Union	2.0	3.1	0.4	2.8	0.0	-1.5	-3.2
United States 3)	2.3	3.1	1.3	1.9	1.2	1.9	-3.3
Japan 4)	0.2	1.0	-0.9	-1.2	0.8	0.8	-3.5

Sources: Eurostat, BIS (for the United States and Japan) and ECB calculations.
1) Data for Bulgaria, Cyprus, Poland, Malta and Romania available since 2001; data for Latvia since 2002; for Estonia since 2003; and for Ireland since 2006.
2) Where data are not available for 2015, the average indicated is for the periods 1999-2014 and 2009-2014.
3) Data refer to finished goods.
4) Data refer to the output price index in the manufacturing sector.

Chart 3.4 Industrial producer prices 1)
(annual percentage changes)



Sources: Eurostat, BIS (for the United States and Japan) and ECB calculations.
1) Data for Japan refer to the output price index in the manufacturing sector; data for the United States refer to finished goods.

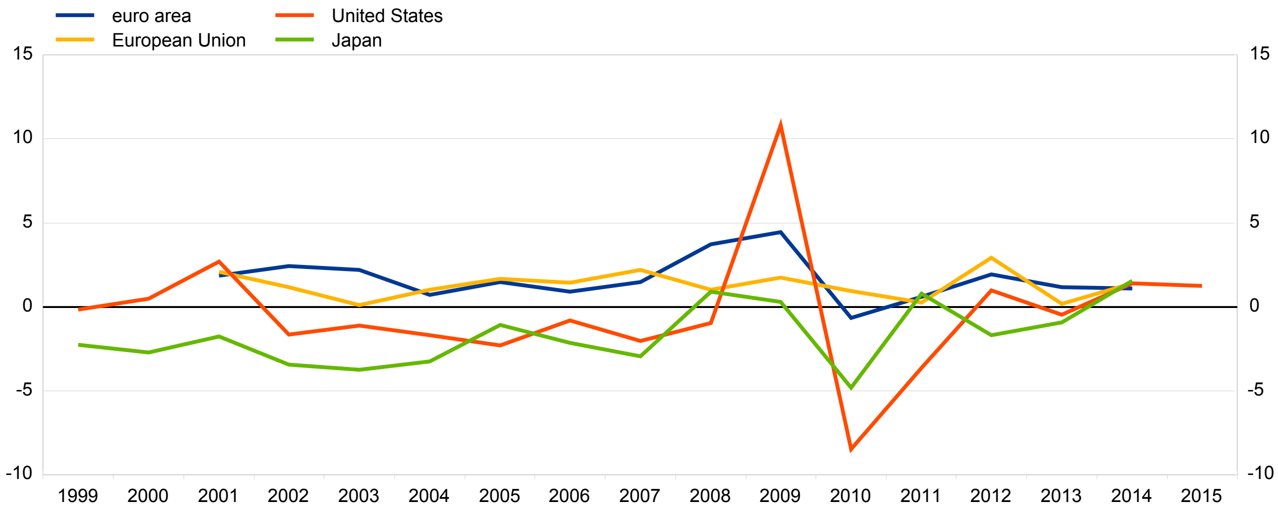
3. Prices and costs

3.5 Unit labour costs
(annual percentage changes)

	1999-2015 1),2)	1999-2008 1)	2009-2015 2)	2012	2013	2014	2015
Belgium	1.8	1.8	1.8	3.4	2.2	-0.1	.
Germany	1.0	0.2	2.1	3.3	2.2	1.9	1.8
Estonia	4.9	7.0	1.6	3.3	5.5	3.7	.
Ireland	1.0	3.4	-3.0	-0.8	0.2	-1.6	.
Greece	1.9	3.6	-1.0	-2.0	-7.4	-2.6	.
Spain	1.7	3.3	-0.9	-2.9	-0.4	-0.9	.
France	1.8	1.9	1.7	2.3	0.9	1.5	.
Italy	2.2	2.7	1.5	1.4	0.9	1.3	.
Cyprus	2.0	3.1	0.1	0.0	-3.4	-3.3	.
Latvia	5.0	10.3	-1.6	3.5	4.3	4.6	.
Lithuania	1.7	2.8	0.0	2.2	3.1	2.8	.
Luxembourg	3.2	3.6	2.7	4.9	1.1	1.4	.
Malta	2.6	2.6	2.6	3.2	1.1	1.5	.
Netherlands	1.9	2.0	1.7	3.0	1.5	0.8	.
Austria	1.5	1.0	2.2	3.0	2.3	2.3	.
Portugal	1.4	2.6	-0.5	-3.2	1.8	-0.9	.
Slovenia	3.4	4.6	1.3	0.8	0.2	-1.3	.
Slovakia	2.8	3.6	1.4	1.1	0.3	0.7	.
Finland	2.0	1.6	2.8	5.2	1.8	0.9	.
Euro area	1.7	1.8	1.4	1.9	1.2	1.1	.
Bulgaria	5.4	5.1	5.9	4.8	7.0	4.4	.
Czech Republic	2.2	2.8	1.1	3.1	0.6	0.1	.
Denmark	2.2	2.7	1.4	1.2	1.5	1.3	.
Croatia	2.4	4.0	0.2	-1.3	-2.2	-2.4	.
Hungary	4.4	6.1	1.6	4.0	0.9	2.0	.
Poland	1.1	0.9	1.3	2.1	0.3	0.0	.
Romania	13.1	21.6	0.3	3.5	-1.3	0.1	.
Sweden	2.1	2.2	2.1	4.1	1.7	1.3	.
United Kingdom	2.2	2.8	1.3	1.6	0.4	-0.6	.
European Union	1.2	1.3	1.2	2.9	0.2	1.4	.
United States	-0.4	-0.8	0.1	1.0	-0.5	1.4	1.3
Japan	-1.9	-2.2	-1.3	-1.7	-0.9	1.5	.

Sources: Eurostat, BIS (for the United States) and ECB calculations.
1) Data for Croatia, the euro area, the European Union, Luxembourg and Malta available since 2001; for Poland since 2003.
2) Where data are not available for 2015, the average indicated is for the periods 1999-2014 and 2009-2014.

Chart 3.5 Unit labour costs
(annual percentage changes)



Sources: Eurostat, BIS (for the United States) and ECB calculations.

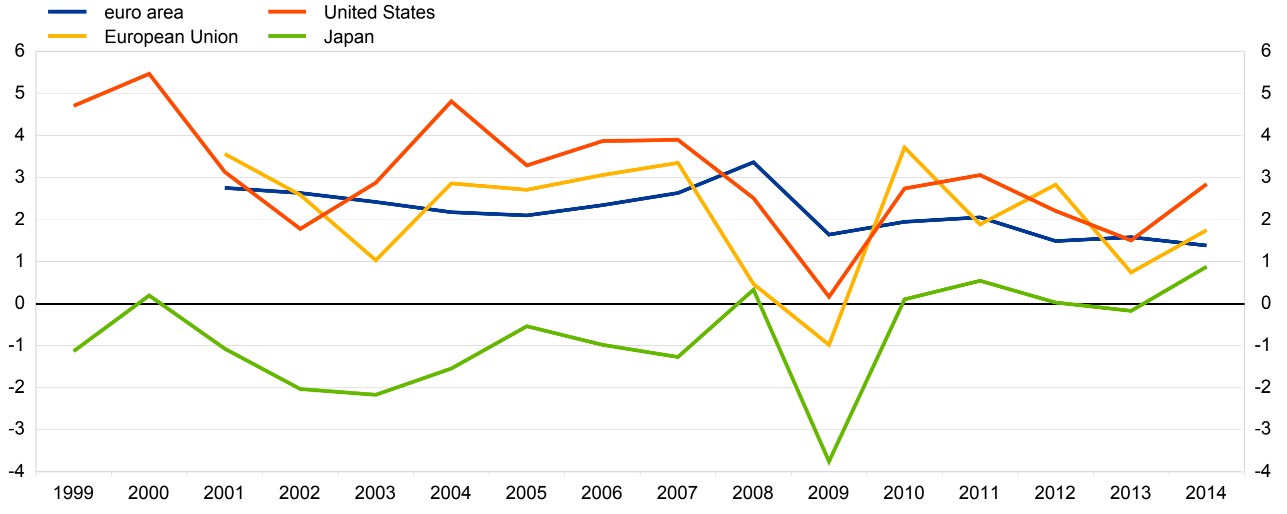
3. Prices and costs

3.6 Compensation per employee
(annual percentage changes)

	1999-2015 [1),2)]	1999-2008 [1)]	2009-2015 [2)]	2012	2013	2014	2015
Belgium	2.6	2.9	2.1	3.2	2.6	0.9	.
Germany	1.6	1.2	2.2	2.5	1.8	2.6	2.7
Estonia	8.9	12.4	3.1	6.8	5.9	5.9	.
Ireland	3.3	5.7	-0.6	0.0	-0.7	1.8	.
Greece	2.7	6.0	-2.5	-3.0	-7.0	-2.1	.
Spain	2.4	3.5	0.7	-1.5	0.9	-0.4	.
France	2.5	2.8	2.0	2.2	1.6	1.3	.
Italy	1.9	2.6	0.7	-1.1	0.9	0.8	.
Cyprus	2.7	4.6	-0.3	0.8	-3.3	-4.7	.
Latvia	9.4	16.4	0.8	6.1	5.0	8.5	.
Lithuania	6.5	9.6	1.6	4.2	5.4	3.9	.
Luxembourg	3.0	3.5	2.3	1.6	3.6	2.9	.
Malta	3.2	3.9	2.3	3.7	1.3	0.6	.
Netherlands	2.7	3.2	1.8	2.1	2.0	2.0	.
Austria	2.2	2.3	1.9	2.7	2.2	1.7	.
Portugal	2.4	3.8	0.3	-3.1	3.6	-1.4	.
Slovenia	5.4	7.9	1.3	-1.0	0.6	1.1	.
Slovakia	6.2	8.2	2.8	2.6	2.6	1.8	.
Finland	2.9	3.3	2.2	2.8	1.3	1.4	.
Euro area	2.2	2.6	1.7	1.5	1.6	1.4	.
Bulgaria	8.6	9.1	7.8	7.7	8.8	5.6	.
Czech Republic	4.6	6.5	1.4	1.7	-0.3	1.5	.
Denmark	3.0	3.7	2.0	1.7	1.2	1.8	.
Croatia	3.0	5.3	0.0	0.2	-0.7	-5.3	.
Hungary	6.3	9.6	1.0	2.1	1.8	0.9	.
Poland	3.9	3.5	4.2	3.6	1.7	1.6	.
Romania	18.6	30.2	1.6	9.4	3.0	2.3	.
Sweden	3.5	4.1	2.5	3.1	2.0	2.2	.
United Kingdom	3.3	4.4	1.6	1.7	1.4	-0.1	.
European Union	2.1	2.5	1.6	2.8	0.7	1.8	.
United States	3.0	3.6	2.1	2.2	1.5	2.8	.
Japan	-0.9	-1.0	-0.5	0.0	-0.2	0.9	.

Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.
1) Data for Croatia, the euro area, the European Union, Luxembourg and Malta available since 2001; for Poland since 2003.
2) Where data are not available for 2015, the average indicated is for the periods 1999-2014 and 2009-2014.

Chart 3.6 Compensation per employee
(annual percentage changes)



Sources: Eurostat, OECD (for the United States and Japan) and ECB calculations.

3. Prices and costs

3.7 Residential property prices

(annual percentage changes)

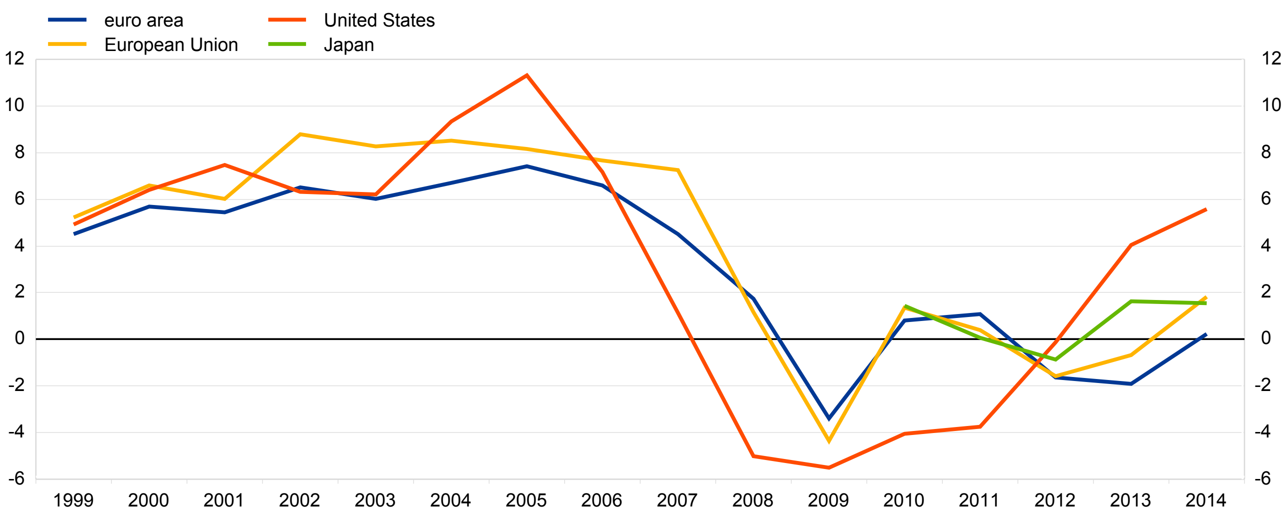
	1999-2014 1)	1999-2008 1)	2009-2014	2011	2012	2013	2014
Belgium	5.6	7.8	2.1	3.1	2.5	1.7	0.6
Germany	1.7	1.4	2.0	2.6	3.0	3.2	3.1
Estonia	6.2	18.1	-1.1	9.9	8.0	10.7	11.0
Ireland	3.5	10.8	-7.5	-13.9	-11.4	2.1	13.0
Greece	2.3	8.6	-7.4	-5.5	-11.7	-10.8	-7.5
Spain	3.7	10.5	-6.8	-7.4	-13.7	-10.6	0.3
France	5.7	9.3	-0.2	5.9	-0.5	-2.1	-1.8
Italy	2.5	5.6	-2.4	0.8	-2.8	-5.7	-4.4
Cyprus	0.4	19.5	-5.2	-4.1	-5.3	-6.8	-9.0
Latvia	-0.1	17.4	-5.4	10.4	3.0	6.8	6.0
Lithuania	8.8	20.6	-6.8	1.3	-3.3	3.6	7.6
Luxembourg	3.5	3.3	3.6	3.7	4.2	5.0	4.4
Malta	4.7	6.9	1.1	1.3	0.4	2.1	7.0
Netherlands	3.2	7.4	-3.4	-2.4	-6.5	-6.5	0.9
Austria	2.8	1.0	5.8	4.2	12.4	4.7	3.4
Portugal	-1.7	-	-1.7	-4.9	-7.1	-1.9	4.3
Slovenia	1.6	14.4	-4.3	2.7	-6.9	-5.2	-6.6
Slovakia	3.0	9.9	-3.6	-3.1	-1.1	-0.9	-0.8
Finland	4.3	5.5	2.2	2.7	1.6	1.6	-0.6
Euro area	3.1	5.5	-0.8	1.1	-1.6	-1.9	0.2
Bulgaria	-3.8	-	-3.8	-5.5	-1.9	-2.2	1.4
Czech Republic	-0.8	-	-0.8	0.0	-1.4	0.0	2.6
Denmark	3.8	10.0	-1.1	-1.7	-2.7	3.9	3.7
Croatia	-3.1	-	-3.1	0.2	-1.6	-4.0	-1.6
Hungary	-1.6	2.3	-2.2	-3.4	-3.8	-2.6	4.3
Poland	-1.6	1.9	-2.2	-1.3	-4.4	-5.5	1.8
Romania	-6.3	-	-6.3	-14.2	-6.5	-0.2	-2.3
Sweden	7.2	8.5	4.9	2.5	1.2	5.5	9.4
United Kingdom	6.9	9.8	2.1	-1.0	1.7	3.5	10.0
European Union	4.0	6.7	-0.5	0.4	-1.6	-0.7	1.8
United States	3.1	5.4	-0.7	-3.8	-0.1	4.0	5.6
Japan	0.8	-	0.8	0.1	-0.9	1.6	1.6

Sources: National sources and ECB.

1) Data for Lithuania available since 2000; for Slovakia since 2003; for Germany and Denmark since 2004; for Estonia since 2005; for Slovenia since 2006; for Cyprus, Latvia and Poland since 2007; for Hungary and Luxembourg since 2008; for Croatia, the Czech Republic, Japan and Portugal since 2009; and for Bulgaria and Romania since 2010.

Chart 3.7 Residential property prices

(annual percentage changes)



Sources: National sources and ECB.

4. Exchange rates and balance of payments

4.1 Effective exchange rates

(period averages; index: 1999 Q1=100)

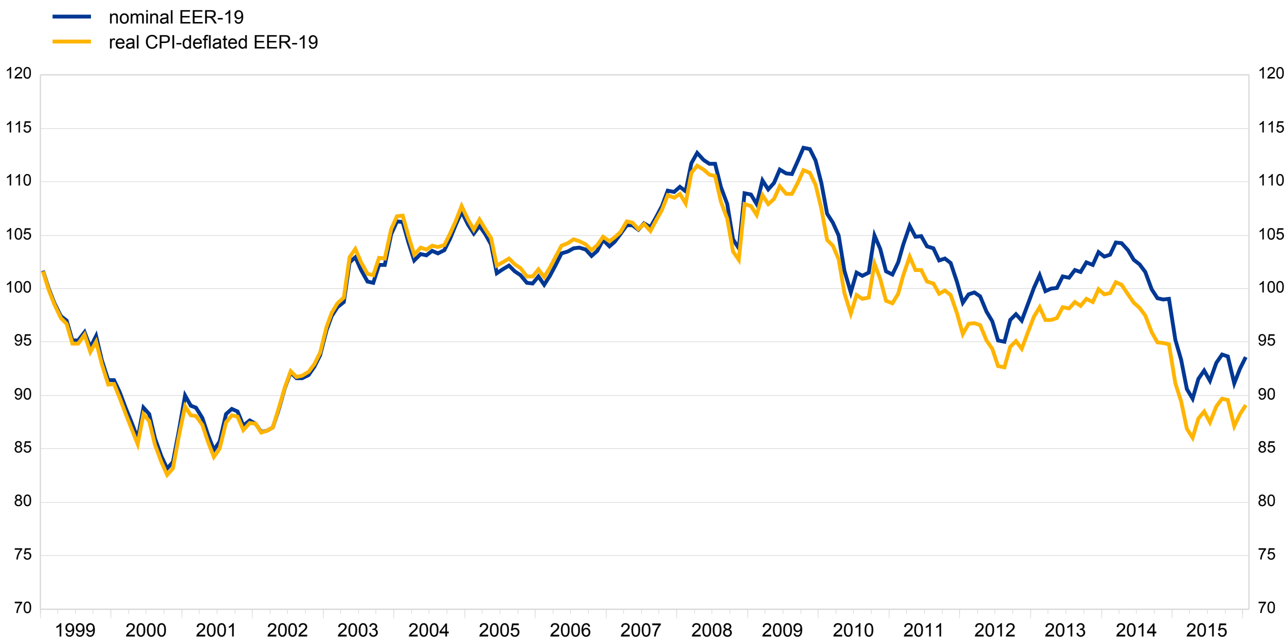
	1999-2015	1999-2008	2009-2015	2012	2013	2014	2015
EER-19							
Nominal	99.9	98.8	101.5	97.6	101.2	101.8	92.4
Real CPI	98.7	98.8	98.6	95.0	98.2	97.9	88.4
Real PPI	97.7	98.4	96.7	93.3	96.7	96.7	89.2
Real GDP deflator	95.6	96.7	93.9	88.0	91.1	91.3	
Real ULCM [1]	102.3	99.4	107.0	99.8	102.0	102.2	
Real ULCT	99.0	97.3	101.8	95.6	98.8	100.4	
EER-38							
Nominal	107.1	103.7	112.0	107.0	111.9	114.7	106.5
Real CPI	97.3	98.0	96.3	92.5	95.6	96.1	87.9

Source: ECB.

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

Chart 4.1 Effective exchange rates

(monthly averages; index: 1999 Q1=100)



Source: ECB.

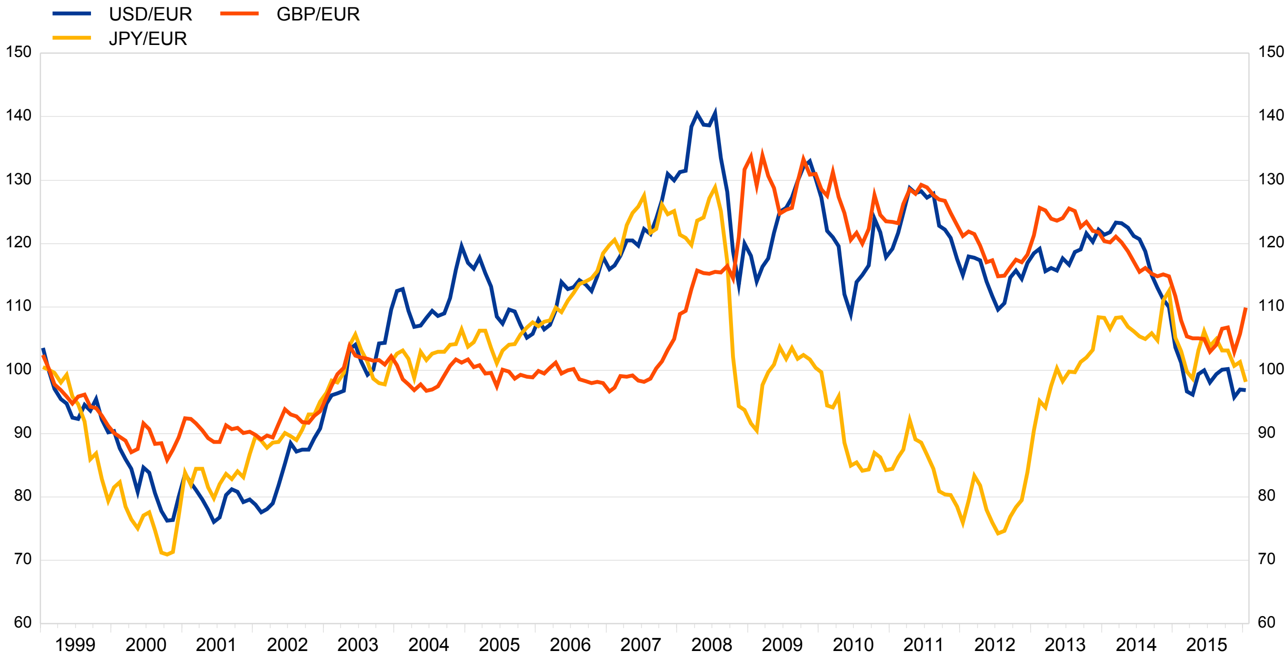
4. Exchange rates and balance of payments

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

	1999-2015 [1]	1999-2008 [1]	2009-2015	2012	2013	2014	2015
Chinese renminbi	8.978	9.468	8.418	8.105	8.165	8.186	6.973
Croatian kuna	7.444	7.406	7.488	7.522	7.579	7.634	7.614
Czech koruna	29.069	31.193	26.036	25.149	25.980	27.536	27.279
Danish krone	7.448	7.446	7.451	7.444	7.458	7.455	7.459
Hungarian forint	268.989	253.282	291.429	289.249	296.873	308.706	309.996
Japanese yen	127.872	130.952	123.473	102.492	129.663	140.306	134.314
Polish zloty	4.065	3.991	4.170	4.185	4.197	4.184	4.184
Pound sterling	0.738	0.674	0.830	0.811	0.849	0.806	0.726
Romanian leu	3.634	3.132	4.351	4.459	4.419	4.444	4.445
Swedish krona	9.195	9.132	9.285	8.704	8.652	9.099	9.353
Swiss franc	1.435	1.555	1.263	1.205	1.231	1.215	1.068
US dollar	1.218	1.155	1.309	1.285	1.328	1.329	1.110

Source: ECB.
1) Data for Chinese renminbi and Croatian kuna available since 2001.

Chart 4.2 Bilateral exchange rates
(monthly averages; index: 1999 Q1=100)



Source: ECB.

4. Exchange rates and balance of payments

4.3 Real effective exchange rates 1)

(deflated by consumer price indices; period averages; index: 1999 Q1 = 100)

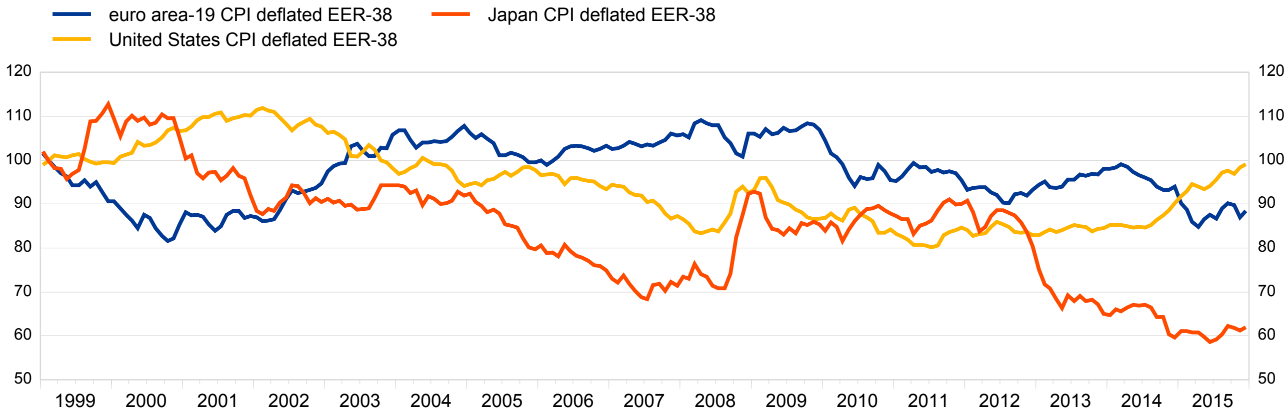
	1999-2015	1999-2008	2009-2015	2012	2013	2014	2015
Belgium	99.7	99.2	100.5	98.9	100.5	100.7	96.6
Germany	93.5	95.3	95.3	88.3	90.3	91.0	86.3
Estonia	113.5	106.5	123.4	121.1	124.5	126.4	125.1
Ireland	108.7	108.9	108.4	105.1	106.8	106.0	97.9
Greece	101.4	99.7	103.9	103.7	102.5	100.8	95.7
Spain	106.3	104.8	108.4	107.0	108.7	108.1	102.8
France	96.6	97.6	95.2	93.3	94.4	94.7	90.5
Italy	100.1	100.2	99.8	98.3	99.8	99.9	95.1
Cyprus	104.8	104.0	106.0	105.8	106.3	105.6	100.0
Latvia	109.0	104.7	115.0	113.9	112.5	113.9	113.2
Lithuania	121.5	115.7	129.7	127.6	128.7	130.1	127.5
Luxembourg	106.1	104.4	108.5	107.6	109.0	109.2	104.7
Malta	105.9	105.1	107.1	104.9	106.7	106.7	101.4
Netherlands	101.7	102.5	100.4	97.6	100.7	100.7	95.3
Austria	96.5	97.0	95.6	93.8	95.7	97.0	94.5
Portugal	102.9	103.1	102.5	102.2	102.2	101.6	99.2
Slovenia	100.1	99.4	101.1	99.6	101.1	101.4	97.7
Slovakia	161.1	139.4	192.1	190.7	193.2	193.4	187.2
Finland	96.3	96.9	95.3	92.6	94.8	96.6	93.3
Euro area	97.3	98.0	96.3	92.5	95.6	96.1	87.9
Bulgaria	132.4	120.8	148.8	148.5	148.7	146.8	140.7
Czech Republic	132.3	122.4	146.5	149.1	146.2	138.1	134.5
Denmark	99.1	99.4	98.5	96.5	97.1	97.7	93.8
Croatia	104.9	103.7	106.6	103.9	105.5	105.0	100.6
Hungary	129.2	125.3	134.8	135.7	134.4	129.1	123.5
Poland	117.7	117.4	118.1	117.1	117.6	118.1	113.3
Romania	132.8	127.4	140.5	135.9	141.4	142.8	137.7
Sweden	93.7	95.2	91.5	94.5	96.1	91.6	85.8
United Kingdom	90.9	97.9	81.0	80.6	79.4	84.9	88.8
European Union	-	-	-	-	-	-	-
United States	94.3	99.3	87.0	84.0	84.2	86.1	95.5
Japan	84.4	89.4	77.3	86.4	68.9	64.9	60.7

Source: ECB.

1) For the euro area as a whole, the real effective exchange rate of the euro vis-à-vis 38 trading partners is displayed.
For individual euro area countries, the table shows the harmonised competitiveness indicators calculated vis-à-vis these same trading partners plus the other euro area countries.
For the non-euro area countries, the real effective exchange rate of the euro vis-à-vis 38 trading partners is displayed. A positive change points to a decrease in price competitiveness.

Chart 4.3 Real effective exchange rates

(deflated by consumer price indices; monthly averages; index: 1999 Q1=100)



Source: ECB.

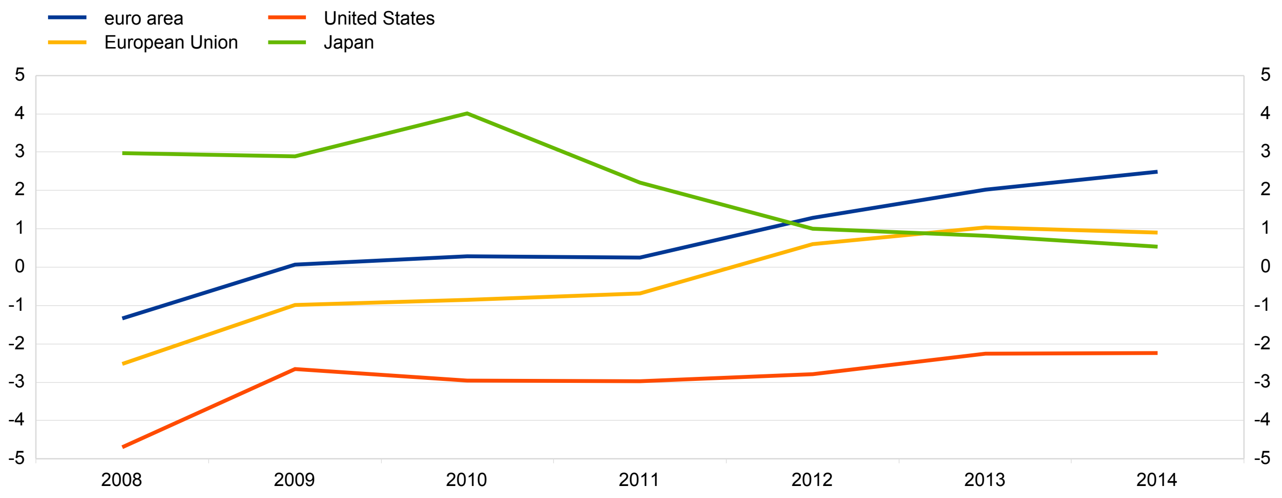
4. Exchange rates and balance of payments

4.4 Balance of payments: net current account
(percentages of GDP; period averages; non-working day and non-seasonally adjusted)

	2008-2014	2008-2011	2012-2014	2011	2012	2013	2014
Belgium	-0.3	-0.3	-0.2	-1.1	-0.1	-0.2	-0.2
Germany	6.3	5.7	7.1	6.2	7.0	6.7	7.8
Estonia	-0.6	-0.7	-0.5	1.4	-2.6	-0.1	1.2
Ireland	-0.3	-1.8	1.8	0.9	-1.6	3.2	3.8
Greece	-7.3	-11.2	-2.2	-10.0	-2.4	-2.0	-2.0
Spain	-2.6	-5.1	0.8	-3.2	-0.2	1.5	1.0
France	-0.9	-0.9	-1.0	-1.0	-1.2	-0.8	-1.0
Italy	-1.3	-2.8	0.8	-3.1	-0.4	0.9	2.0
Cyprus	-7.5	-9.4	-5.0	-4.0	-5.9	-4.6	-4.6
Latvia	-2.1	-1.6	-2.9	-3.0	-3.7	-2.7	-2.3
Lithuania	-1.6	-4.0	1.5	-4.1	-1.3	1.7	4.0
Luxembourg	6.7	6.9	6.3	6.4	6.6	6.3	6.2
Malta	-0.7	-3.6	3.1	-2.4	1.4	3.8	4.2
Netherlands	8.5	6.6	11.1	9.1	11.0	11.3	11.0
Austria	2.5	2.9	1.9	1.7	1.5	2.1	2.1
Portugal	-5.5	-9.6	0.0	-6.0	-2.0	1.4	0.6
Slovenia	1.4	-1.4	5.2	0.2	2.6	5.8	7.2
Slovakia	-2.4	-4.9	0.9	-5.0	1.0	1.6	0.1
Finland	-0.2	0.9	-1.6	-1.8	-2.0	-1.8	-1.0
Euro area	0.7	-0.2	1.9	0.2	1.3	2.0	2.5
Bulgaria	-3.7	-7.2	1.0	1.0	-0.3	2.0	1.3
Czech Republic	-1.6	-2.5	-0.5	-2.2	-1.6	-0.5	0.6
Denmark	5.5	4.3	7.2	5.8	5.9	7.5	8.2
Croatia	-2.0	-3.9	0.4	-0.8	-0.2	0.9	0.6
Hungary	0.2	-1.7	2.7	0.8	1.8	4.0	2.2
Poland	-4.0	-5.3	-2.4	-5.2	-3.7	-1.3	-2.1
Romania	-4.6	-6.4	-2.1	-4.8	-4.7	-1.2	-0.5
Sweden	6.9	6.7	7.1	7.4	7.4	7.6	6.3
United Kingdom	-3.6	-2.8	-4.8	-1.7	-3.6	-4.8	-5.9
European Union	-0.4	-1.3	0.8	-0.7	0.6	1.0	0.9
United States	-2.9	-3.3	-2.4	-3.0	-2.8	-2.3	-2.2
Japan	2.1	3.0	0.8	2.2	1.0	0.8	0.5

Sources: ECB, BIS and Eurostat.

Chart 4.4 Balance of payments: net current account
(percentages of GDP, non-working day and non-seasonally adjusted)



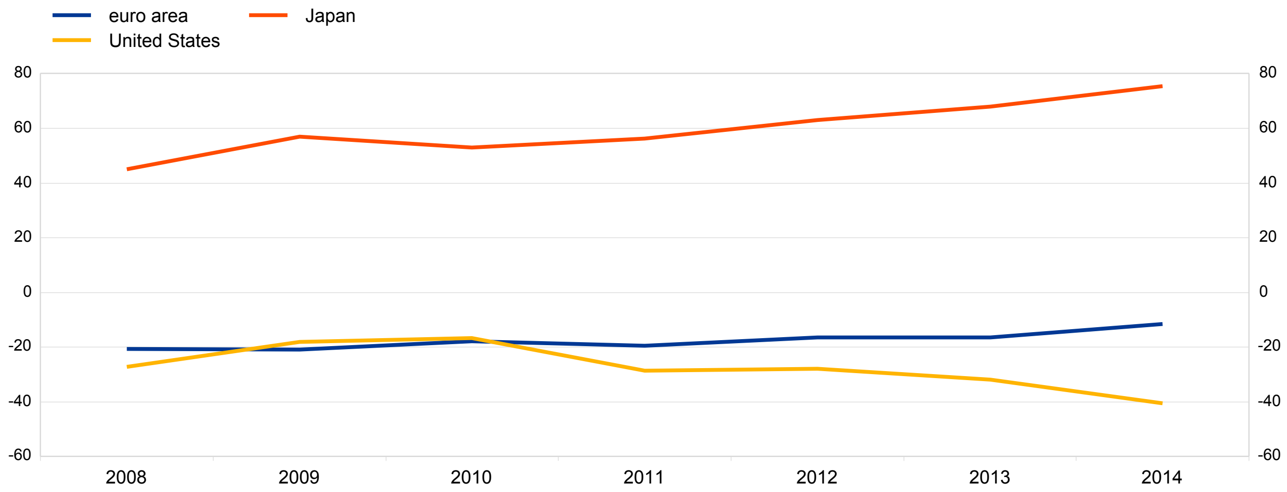
Sources: ECB, BIS and Eurostat.

4.5 Net international investment position
(percentages of GDP; end-of-period averages)

	2008-2014 1)	2008-2011 1)	2012-2014	2011	2012	2013	2014
Belgium	58.0	58.5	57.2	62.1	53.9	54.7	63.0
Germany	29.0	23.0	36.9	23.6	29.5	36.4	44.9
Estonia	-62.6	-70.4	-52.2	-57.6	-55.1	-52.7	-48.9
Ireland	-104.2	-89.8	-123.5	-107.0	-133.1	-128.8	-108.6
Greece	-98.7	-84.8	-117.3	-85.9	-111.1	-120.9	-119.8
Spain	-90.9	-88.5	-94.3	-92.0	-90.1	-96.8	-95.9
France	-13.5	-10.8	-17.1	-7.6	-13.2	-18.0	-20.3
Italy	-25.8	-23.3	-29.1	-22.2	-27.6	-30.3	-29.4
Cyprus	-120.2	-106.2	-138.7	-134.6	-133.4	-140.3	-142.5
Latvia	-78.8	-82.6	-73.8	-79.7	-75.6	-74.9	-70.8
Lithuania	-54.4	-55.1	-53.4	-55.3	-57.7	-51.4	-51.2
Luxembourg	16.5	-0.7	39.5	30.8	38.7	39.0	40.7
Malta	16.5	8.6	27.1	8.9	22.1	21.7	37.4
Netherlands	21.4	5.7	42.2	19.8	31.4	32.8	62.4
Austria	-3.1	-5.5	0.2	-2.0	-3.2	1.4	2.3
Portugal	-107.6	-101.4	-115.9	-100.5	-113.5	-118.2	-115.9
Slovenia	-45.4	-43.8	-47.6	-45.7	-50.6	-47.2	-44.9
Slovakia	-64.5	-62.7	-67.0	-65.7	-63.9	-65.8	-71.3
Finland	6.5	7.7	5.0	15.5	12.4	5.8	-3.3
Euro area	-17.7	-19.8	-14.9	-19.5	-16.5	-16.6	-11.6
Bulgaria	-84.9	-91.2	-80.8	-89.2	-85.1	-79.2	-78.0
Czech Republic	-41.3	-42.3	-40.1	-44.3	-46.9	-39.3	-34.2
Denmark	23.3	9.3	42.1	28.2	37.6	39.6	49.0
Croatia	-87.1	-85.8	-88.7	-90.7	-90.0	-88.7	-87.5
Hungary	-95.4	-104.5	-83.4	-95.2	-93.9	-84.4	-71.9
Poland	-62.2	-57.2	-68.8	-57.7	-67.7	-70.4	-68.2
Romania	-62.4	-59.4	-66.4	-66.7	-70.1	-66.9	-62.2
Sweden	-6.9	-2.2	-13.1	-11.1	-16.2	-16.8	-6.3
United Kingdom	-13.2	-6.5	-22.1	-7.9	-22.8	-15.3	-28.2
European Union	-	-	-	-	-	-	-
United States	-27.3	-22.7	-33.5	-28.7	-28.0	-32.0	-40.5
Japan	59.7	52.8	68.8	56.4	63.0	68.0	75.3

Sources: ECB and BIS.
1) Data for Bulgaria available since 2010.

Chart 4.5 Net international investment position
(percentages of GDP)



Sources: ECB and BIS.

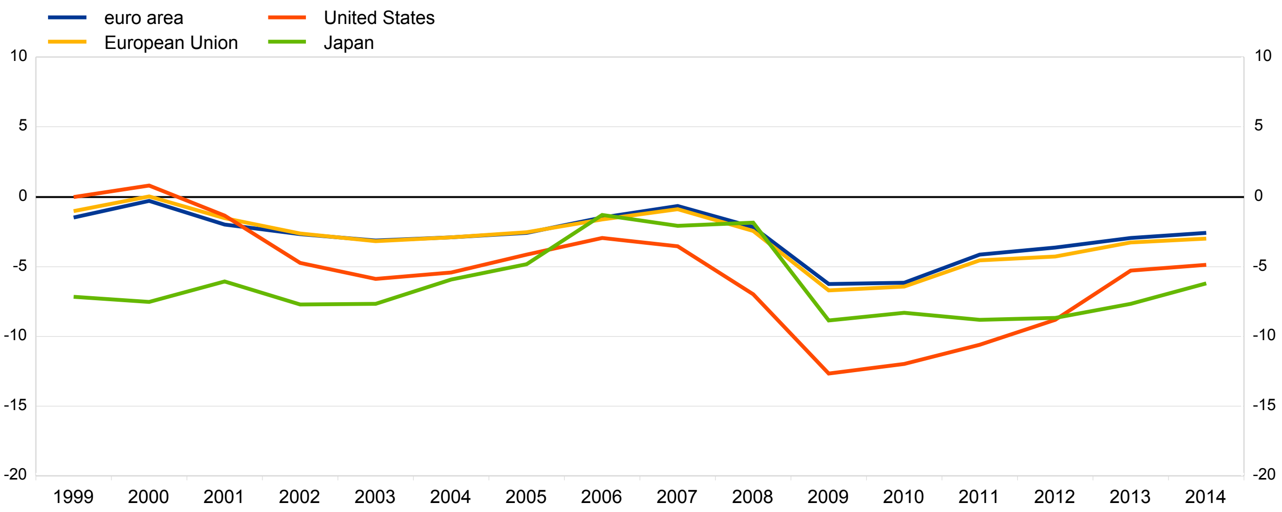
5. Fiscal developments

5.1 General government balance
(percentages of GDP)

	1999-2014 1)	1999-2008 1)	2009-2014	2011	2012	2013	2014
Belgium	-1.8	-0.6	-3.9	-4.1	-4.1	-2.9	-3.1
Germany	-1.8	-2.1	-1.4	-1.0	-0.1	-0.1	0.3
Estonia	0.3	0.6	-0.1	1.2	-0.3	-0.1	0.7
Ireland	-7.0	-0.2	-12.7	-12.5	-8.0	-5.7	-3.9
Greece	-9.4	-7.6	-10.2	-10.2	-8.8	-12.4	-3.6
Spain	-3.5	-0.3	-8.8	-9.5	-10.4	-6.9	-5.9
France	-3.6	-2.6	-5.3	-5.1	-4.8	-4.1	-3.9
Italy	-3.2	-2.9	-3.7	-3.5	-3.0	-2.9	-3.0
Cyprus	-3.5	-2.1	-5.9	-5.7	-5.8	-4.9	-8.9
Latvia	-2.7	-1.9	-4.0	-3.4	-0.8	-0.9	-1.6
Lithuania	-3.1	-1.9	-5.2	-8.9	-3.1	-2.6	-0.7
Luxembourg	0.9	1.6	0.3	0.5	0.2	0.7	1.4
Malta	-3.0	-3.2	-2.9	-2.6	-3.6	-2.6	-2.1
Netherlands	-1.7	-0.5	-3.9	-4.3	-3.9	-2.4	-2.4
Austria	-2.5	-2.1	-3.1	-2.6	-2.2	-1.3	-2.7
Portugal	-5.5	-4.2	-7.7	-7.4	-5.7	-4.8	-7.2
Slovenia	-4.0	-2.2	-7.0	-6.6	-4.1	-15.0	-5.0
Slovakia	-4.9	-4.9	-4.8	-4.1	-4.2	-2.6	-2.8
Finland	1.5	3.8	-2.4	-1.0	-2.1	-2.5	-3.3
Euro area	-2.8	-1.9	-4.3	-4.2	-3.7	-3.0	-2.6
Bulgaria	-0.6	0.6	-2.7	-2.0	-0.6	-0.8	-5.8
Czech Republic	-3.5	-3.6	-3.3	-2.7	-4.0	-1.3	-1.9
Denmark	0.8	2.4	-1.8	-2.1	-3.6	-1.3	1.5
Croatia	-4.7	-3.6	-6.0	-7.8	-5.3	-5.4	-5.6
Hungary	-5.1	-6.0	-3.7	-5.5	-2.3	-2.5	-2.5
Poland	-4.4	-3.9	-5.1	-4.9	-3.7	-4.0	-3.3
Romania	-3.6	-2.9	-4.7	-5.4	-3.2	-2.2	-1.4
Sweden	0.5	1.2	-0.8	-0.1	-0.9	-1.4	-1.7
United Kingdom	-4.3	-2.1	-8.0	-7.7	-8.3	-5.7	-5.7
European Union	-2.9	-1.9	-4.7	-4.5	-4.3	-3.3	-3.0
United States	-5.5	-3.4	-9.0	-10.6	-8.8	-5.3	-4.9
Japan	-6.3	-5.2	-8.1	-8.8	-8.7	-7.7	-6.2

Sources: ESCB and OECD.
1) Data for Greece available since 2006; for Croatia since 2002; for Luxembourg since 2000.

Chart 5.1 General government balance
(percentages of GDP)



Sources: ESCB and OECD.

5. Fiscal developments

5.2 Primary general government balance 1)

(percentages of GDP)

	1999-2014 2)	1999-2008 2)	2009-2014	2011	2012	2013	2014
Belgium	2.8	4.7	-0.4	-0.5	-0.6	0.4	0.0
Germany	0.8	0.8	0.9	1.5	2.2	1.9	2.1
Estonia	0.5	0.8	0.1	1.3	-0.1	0.0	0.8
Ireland	-2.2	2.1	-9.3	-9.1	-4.0	-1.4	0.1
Greece	-4.4	-3.0	-5.0	-3.0	-3.7	-8.4	0.4
Spain	-1.1	2.0	-6.2	-7.0	-7.5	-3.5	-2.5
France	-1.0	0.1	-2.9	-2.5	-2.2	-1.8	-1.8
Italy	1.9	2.4	1.0	1.2	2.2	1.9	1.6
Cyprus	-0.7	0.9	-3.4	-3.5	-2.9	-1.8	-6.0
Latvia	-1.7	-1.3	-2.4	-1.6	0.8	0.6	-0.1
Lithuania	-1.8	-0.8	-3.5	-7.1	-1.2	-0.9	0.9
Luxembourg	1.9	2.8	0.7	1.0	0.6	1.1	1.8
Malta	-0.7	-1.2	0.2	0.6	-0.6	0.3	0.8
Netherlands	0.5	2.1	-2.2	-2.5	-2.2	-0.9	-0.9
Austria	0.6	1.2	-0.3	0.2	0.5	1.3	-0.2
Portugal	-2.2	-1.4	-3.5	-3.1	-0.8	0.0	-2.3
Slovenia	-2.1	-0.4	-4.9	-4.7	-2.1	-12.4	-1.9
Slovakia	-2.7	-2.4	-3.2	-2.6	-2.4	-0.8	-0.9
Finland	3.2	5.8	-1.0	0.4	-0.7	-1.3	-2.1
Euro area	0.3	1.3	-1.5	-1.2	-0.6	-0.2	0.1
Bulgaria	1.1	2.9	-2.0	-1.3	0.2	0.0	-4.9
Czech Republic	-2.4	-2.6	-2.0	-1.4	-2.5	0.1	-0.6
Denmark	3.2	5.0	0.0	-0.1	-1.8	0.5	3.1
Croatia	-2.3	-1.7	-2.9	-4.7	-2.0	-1.9	-2.1
Hungary	-0.7	-1.5	0.7	-1.3	2.3	2.0	1.5
Poland	-1.8	-1.2	-2.7	-2.3	-1.0	-1.5	-1.4
Romania	-1.6	-0.8	-3.1	-3.8	-1.4	-0.4	0.3
Sweden	2.3	3.5	0.2	1.0	0.0	-0.6	-1.0
United Kingdom	-1.9	0.1	-5.2	-4.5	-5.4	-2.8	-3.0
European Union	0.0	1.1	-2.0	-1.6	-1.4	-0.6	-0.5
United States	-1.9	0.1	-5.3	-6.7	-5.0	-1.7	-1.4
Japan	-4.1	-2.9	-6.0	-6.7	-6.6	-5.6	-4.1

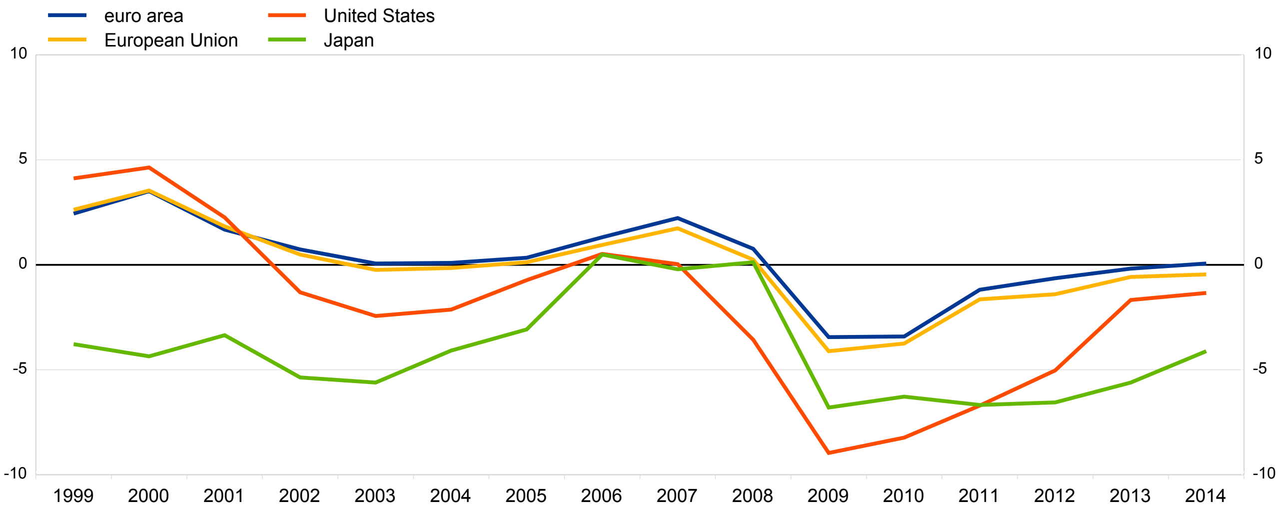
Sources: ESCB and OECD.

1) General government balance excluding the interest expenditure.

2) Data for Greece available since 2006; for Luxembourg since 2000; for Croatia since 2002.

Chart 5.2 Primary general government balance

(percentages of GDP)



Sources: ESCB and OECD.

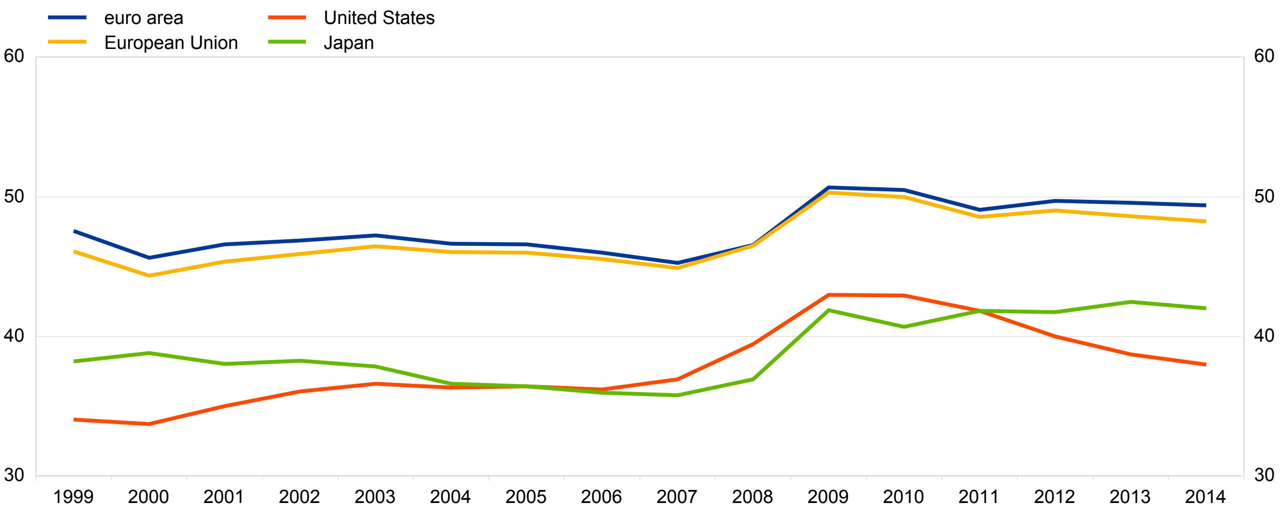
5. Fiscal developments

5.3 General government expenditure
(percentages of GDP)

	1999-2014 [1]	1999-2008 [1]	2009-2014	2011	2012	2013	2014
Belgium	51.5	49.6	54.7	54.4	55.8	55.6	55.1
Germany	45.7	45.8	45.5	44.7	44.4	44.5	44.3
Estonia	37.4	35.9	39.9	37.4	39.1	38.3	38.0
Ireland	38.7	34.1	46.3	45.5	41.8	39.7	38.2
Greece	52.2	47.7	54.4	54.2	55.2	60.8	49.9
Spain	41.5	39.0	45.8	45.6	48.0	45.1	44.5
France	53.9	52.3	56.8	55.9	56.8	57.0	57.5
Italy	48.3	47.0	50.5	49.1	50.8	51.0	51.2
Cyprus	39.7	37.5	43.3	42.5	41.9	41.4	49.3
Latvia	37.3	35.8	39.7	39.0	37.0	36.9	37.3
Lithuania	37.4	36.2	39.4	42.5	36.1	35.6	34.8
Luxembourg	41.3	39.7	43.7	43.3	44.6	43.3	42.4
Malta	42.1	42.1	42.2	40.9	42.5	42.6	44.0
Netherlands	44.7	43.2	47.2	47.0	47.1	46.4	46.2
Austria	51.3	50.8	52.1	50.8	51.1	50.9	52.7
Portugal	46.8	44.6	50.4	50.0	48.5	49.9	51.7
Slovenia	47.3	45.1	51.0	50.0	48.6	60.3	49.8
Slovakia	41.7	41.8	41.5	40.5	40.1	41.0	41.6
Finland	51.4	48.6	56.0	54.4	56.1	57.6	58.3
Euro area	47.7	46.5	49.8	49.1	49.7	49.6	49.4
Bulgaria	37.9	38.2	37.4	34.1	34.7	37.6	42.1
Czech Republic	42.5	42.2	43.2	42.9	44.5	42.6	42.6
Denmark	54.0	52.1	57.2	56.8	58.8	57.1	56.9
Croatia	46.7	45.9	47.7	48.8	47.1	47.8	48.2
Hungary	49.4	49.2	49.7	49.7	48.6	49.5	49.9
Poland	43.9	44.2	43.6	43.6	42.6	42.4	42.1
Romania	36.7	36.1	37.6	39.1	36.5	35.2	34.9
Sweden	52.5	52.9	51.8	50.5	51.7	52.4	51.8
United Kingdom	43.4	41.3	46.8	46.9	46.8	44.9	43.9
European Union	47.0	45.7	49.1	48.6	49.0	48.6	48.2
United States	37.8	36.1	40.7	41.8	40.0	38.7	38.0
Japan	39.0	37.3	41.8	41.8	41.8	42.5	42.0

Sources: ESCB and OECD.
1) Data for Greece available since 2006; for Luxembourg since 2000; for Croatia since 2002.

Chart 5.3 General government expenditure
(percentages of GDP)



Sources: ESCB and OECD.

5. Fiscal developments

5.4 General government debt 1)

(percentages of GDP)

	1999-2014 2)	1999-2008 2)	2009-2014	2011	2012	2013	2014
Belgium	100.9	99.8	102.8	102.2	104.1	105.1	106.7
Germany	68.1	62.5	77.3	78.4	79.7	77.4	74.9
Estonia	6.2	5.0	8.2	5.9	9.5	9.9	10.4
Ireland	58.0	32.2	100.9	109.3	120.2	120.0	107.5
Greece	146.5	106.2	160.0	172.0	159.4	177.0	178.6
Spain	58.4	47.3	76.8	69.5	85.4	93.7	99.3
France	72.2	63.1	87.2	85.2	89.6	92.3	95.6
Italy	109.8	102.8	121.4	116.4	123.2	128.8	132.3
Cyprus	65.2	57.8	77.7	65.8	79.3	102.5	108.2
Latvia	23.5	12.8	41.4	42.8	41.4	39.1	40.8
Lithuania	26.1	19.6	36.9	37.2	39.8	38.8	40.7
Luxembourg	12.6	7.4	20.4	19.2	22.1	23.4	23.0
Malta	66.5	65.3	68.5	69.8	67.6	69.6	68.3
Netherlands	54.7	49.6	63.3	61.7	66.4	67.9	68.2
Austria	72.2	66.4	81.8	82.2	81.6	80.8	84.2
Portugal	80.3	60.8	112.8	111.4	126.2	129.0	130.2
Slovenia	36.1	25.3	54.1	46.4	53.7	70.8	80.8
Slovakia	42.1	39.3	46.7	43.3	51.9	54.6	53.5
Finland	44.0	39.8	50.9	48.5	52.9	55.6	59.3
Euro area	74.9	67.8	86.8	86.0	89.3	91.1	92.1
Bulgaria	30.0	38.1	17.9	15.3	17.6	18.0	27.0
Czech Republic	30.9	25.0	40.8	39.9	44.7	45.2	42.7
Denmark	43.3	42.7	44.2	46.4	45.6	45.0	45.1
Croatia	51.7	38.4	67.3	63.7	69.2	80.8	85.1
Hungary	66.9	60.0	78.4	80.8	78.3	76.8	76.2
Poland	46.8	43.1	53.0	54.4	54.0	55.9	50.4
Romania	24.4	18.8	33.8	34.2	37.4	38.0	39.9
Sweden	44.6	47.7	39.5	36.9	37.2	39.8	44.9
United Kingdom	55.8	40.9	80.6	81.8	85.3	86.2	88.2
European Union	68.4	60.6	81.4	81.0	83.8	85.5	86.8
United States	68.5	55.3	90.5	90.9	94.3	96.4	96.5
Japan	179.8	156.2	219.0	219.1	225.8	232.5	236.4

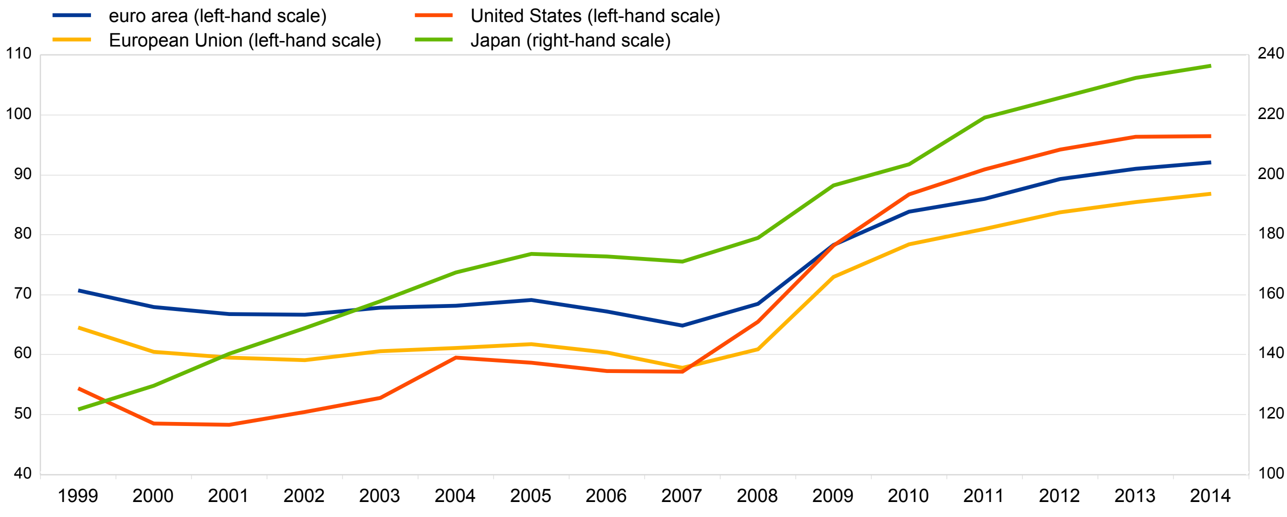
Sources: ESCB and OECD.

1) Gross debt (includes currency, deposits, debt securities and loans). The data are consolidated between the sub-sectors of general government, except for Japan.

2) Data for Greece available since 2007; for Luxembourg and Bulgaria since 2000; for Croatia since 2002.

Chart 5.4 General government debt

(percentages of GDP)



Sources: ESCB and OECD.

Country abbreviations

EU Member States

BE	Belgium
BG	Bulgaria
CZ	Czech Republic
DK	Denmark
DE	Germany
EE	Estonia
IE	Ireland
GR	Greece
ES	Spain
FR	France
HR	Croatia
IT	Italy
CY	Cyprus
LV	Latvia
LT	Lithuania
LU	Luxembourg
HU	Hungary
MT	Malta
NL	Netherlands
AT	Austria
PL	Poland
PT	Portugal
RO	Romania
SI	Slovenia
SK	Slovakia
FI	Finland
SE	Sweden
UK	United Kingdom

Other countries

BR	Brazil
CN	China
IN	India
ID	Indonesia
JP	Japan
MY	Malaysia
MX	Mexico
RU	Russia
ZA	South Africa
KR	South Korea
TH	Thailand
TR	Turkey
US	United States

In accordance with EU practice, the EU Member States are listed in this report using the alphabetical order of the country names in the national languages.

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The cut-off date for the data included in this report was 12 February 2016.

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ISSN 1725-2865 (epub)
ISSN 1725-2865 (html)
ISSN 1725-2865 (online)
ISBN 978-92-899-2027-8 (epub)
ISBN 978-92-899-2122-0 (html)
ISBN 978-92-899-1999-9 (online)
DOI 10.2866/84398 (epub)
DOI 10.2866/963768 (html)
DOI 10.2866/666058 (online)
EU catalogue No QB-AA-16-001-EN-E (epub)
EU catalogue No QB-AA-16-001-EN-Q (html)
EU catalogue No QB-AA-16-001-EN-N (online)