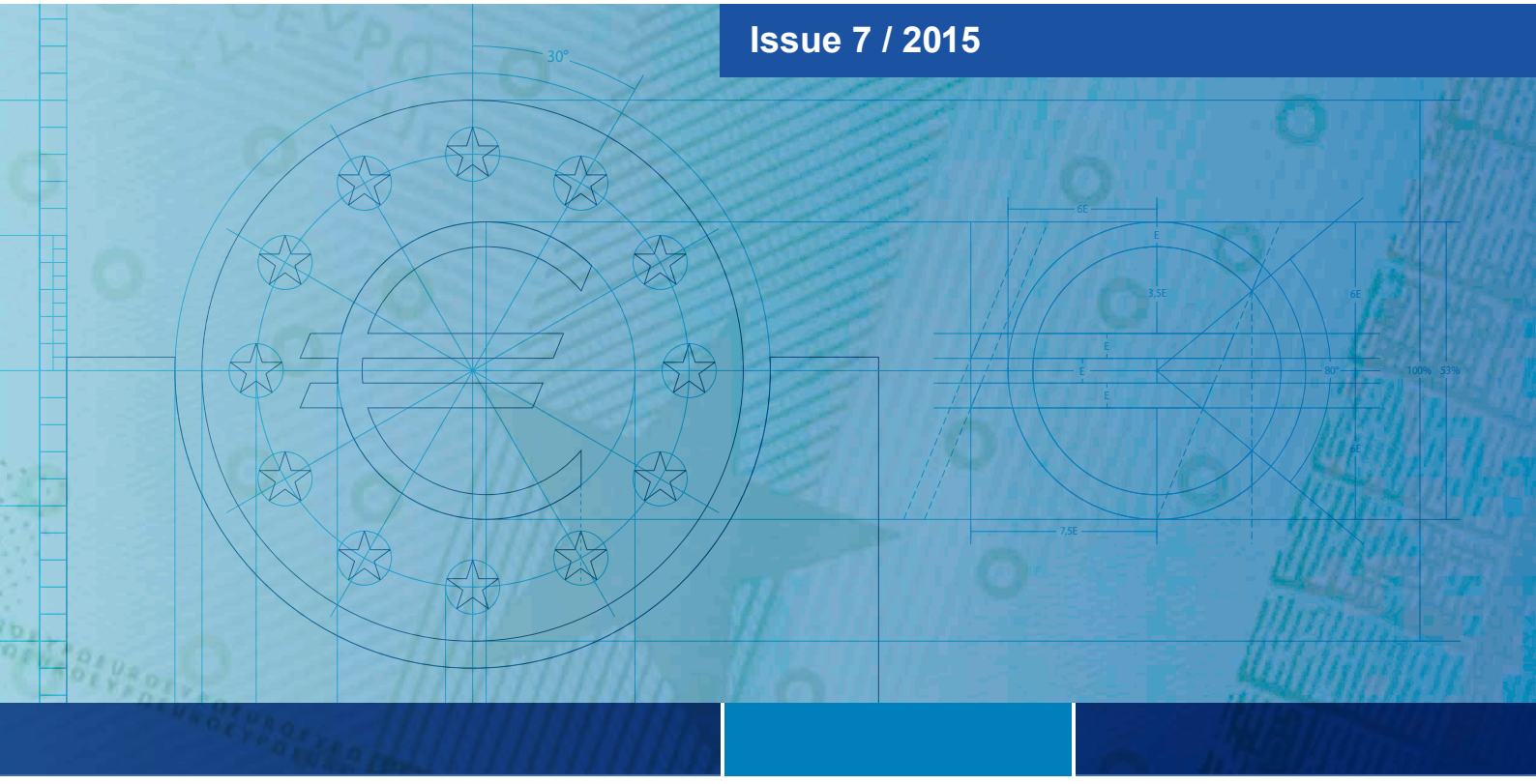
EUROPEAN CENTRAL BANK

EUROSYSTEM

Economic Bulletin



Issue 7 / 2015

Contents

Update on economic and monetary developments

Boxes

Articles

Statistics

Update on economic and monetary developments

Summary

Global economic activity remained moderate in the third quarter of 2015, with substantial divergence across major economies. Growth momentum in the United States and the United Kingdom appeared to slow, following a strengthening in activity in the second quarter, while momentum in Japan remained relatively subdued. In China, data for the third quarter remain consistent with a gradual slowdown in the economy. In emerging market economies, the past fall in commodity prices has led to a divergence in growth between commodity-importing and commodity-exporting countries. Global trade remains weak, while global headline inflation has stabilised at low levels in recent months.

Euro area financial markets have continued to show some volatility. Government bond yields have declined significantly across all euro area countries, with the ten-year GDP-weighted euro area sovereign bond yield falling by around 30 basis points from the beginning of September to 1.16% on 21 October. Stock market prices in the euro area were around 2% higher at the end of this period, despite recording significant price movements and temporarily falling by around 6%. The effective exchange rate of the euro remained broadly stable.

In spite of a less supportive external environment, the euro area economic recovery is proceeding, increasingly supported by domestic factors, in particular private consumption. Real GDP rose by 0.4% quarter on quarter in the second quarter of 2015, following a rise of 0.5% in the previous quarter. The most recent indicators point to a broadly similar pace of growth in the third quarter. Looking ahead, the economic recovery is expected to continue, albeit dampened by weaker than expected foreign demand. Domestic demand should be further supported by the ECB's monetary policy measures and their favourable impact on financial conditions, as well as by the progress made with fiscal consolidation and structural reforms. Moreover, the decline in oil prices should bolster households' real disposable income and corporate profitability, thus supporting private consumption and investment. However, the risks to the euro area growth outlook remain on the downside, reflecting in particular the heightened uncertainties regarding developments in emerging market economies, which have the potential to further weigh on global growth and foreign demand for euro area exports. The increased uncertainty that has recently manifested itself in financial market developments may also have negative repercussions for euro area domestic demand.

Reflecting declining energy prices, headline inflation dipped back into negative territory in September, standing at -0.1%, while HICP inflation excluding energy remained stable at 0.9%. On the basis of the available information and current oil futures prices, annual HICP inflation is expected to remain very low in the near term, but rise at the turn of the year, mainly on account of base effects linked to the fall

in oil prices in late 2014. Inflation rates are foreseen to pick up further during 2016 and 2017, supported by the expected economic recovery, the pass-through of past declines in the euro exchange rate and the assumption embedded in oil futures markets of somewhat higher oil prices in the years ahead. However, there are risks stemming from the economic outlook and from financial and commodity market developments which could further slow down the gradual increase in inflation rates towards levels closer to 2%.

Despite some moderation, broad money growth remained robust in August and continued to be driven by its most liquid components. Domestic sources of money creation were again of increasing importance, partly as a result of the ECB's non-standard monetary policy measures. Ongoing shifts away from longer-term financial liabilities and increased credit flows were visible, with the latter reflecting the impact of the expanded asset purchase programme (APP). Meanwhile, loan dynamics remained on a path of gradual recovery, despite being hampered in some countries. Bank lending rates for non-financial corporations declined further in August, with the ECB's non-standard measures making a notable contribution to this improvement. Moreover, the October 2015 euro area bank lending survey suggests that changes in credit standards and loan demand are continuing to support a recovery in loan growth.

At its meeting on 22 October 2015, based on its regular economic and monetary analyses and in line with its forward guidance, the Governing Council decided to keep the key ECB interest rates unchanged. As regards non-standard monetary policy measures, the asset purchases are proceeding smoothly and continue to have a favourable impact on the cost and availability of credit for firms and households. The Governing Council stressed that the strength and persistence of the factors that are currently slowing the return of inflation to levels below, but close to, 2% in the medium term require thorough analysis. The risks to inflation outlook are being closely monitored by the Governing Council. In this context, the degree of monetary policy accommodation will be re-examined at the December monetary policy meeting, when the new Eurosystem staff macroeconomic projections will be available. The Governing Council emphasised that it is willing and able to act by using all the instruments available within its mandate if warranted in order to maintain an appropriate degree of monetary accommodation. In particular, it recalled that the APP provides sufficient flexibility in terms of adjusting its size, composition and duration, and said that, in the meantime, the monthly asset purchases of €60 billion will continue to be fully implemented. These purchases are intended to run until the end of September 2016, or beyond, if necessary, and, in any case, until the Governing Council sees a sustained adjustment in the path of inflation that is consistent with the ECB's aim of achieving inflation rates below, but close to, 2% over the medium term.

1 External environment

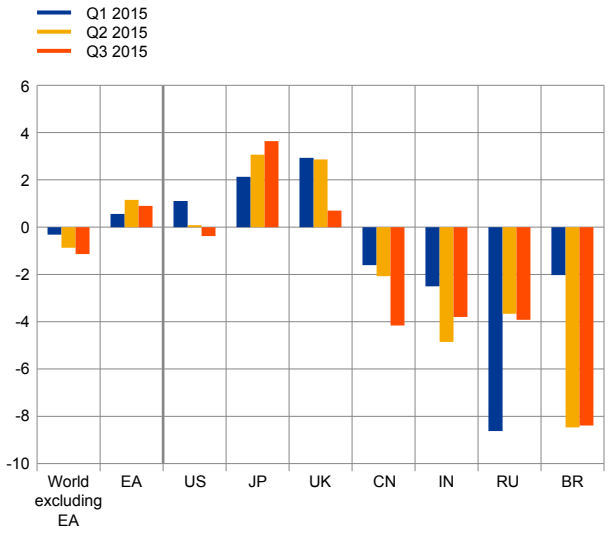
Global indicators suggest that world real GDP growth remained moderate in the third quarter of 2015, with substantial divergence across major economies. The global composite output Purchasing Managers' Index (PMI) excluding the euro area fell slightly in the third quarter and remained below its long-term average (see Chart 1), pointing to continued moderate GDP growth. Developments diverged somewhat across advanced economies, although quarterly composite output PMIs in the United States, United Kingdom and Japan remained close to or above their long-term averages. Meanwhile, PMIs in the emerging market economies (EMEs) continued to weigh on the global index, with notable weakness in the quarterly output PMI in Brazil in the third quarter.

Global trade remains weak. For the first time since 2009 global trade growth turned negative in the first half of 2015. In the third quarter the volume of world merchandise imports stabilised in July 2015, with flat growth on a three-month-on-three-month basis, up from -0.5% in June. The global trade outlook remains weak, however, as suggested by the further decline in the global PMI for new export orders in September, with the index remaining below the threshold of 50 for the third consecutive month.

Global headline inflation has stabilised at a low level in recent months. Annual inflation in OECD countries has remained unchanged at 0.6% since May 2015. Excluding food and energy, annual inflation in OECD countries also remained stable at 1.7% in August. Among major non-OECD economies, inflation fell in China and Brazil, while it increased marginally in Russia. In Russia and Brazil, inflation is still high, reflecting the upward impact of currency depreciation on import prices.

Chart 1
Global composite output PMI

(diffusion index; deviations from long-term average)



Sources: Markit and ECB calculations.
Notes: Long-term averages refer to the period from 1999 or, if the data start later, from the first available observation onwards. The data is available from September 2007 for Japan, November 2005 for China, December 2005 for India, October 2001 for Russia and March 2007 for Brazil.

Growth in US activity appears to have softened in the third quarter of 2015, following a strong rebound in the second quarter. Real GDP was robust in the second quarter, growing by 1.0% quarter on quarter (up from 0.2% in the previous quarter). Consumption expenditure continued to be the main engine of growth and is expected to remain strong, supported by rising real incomes, reduced debt service burdens, low interest rates and declining gasoline prices. Meanwhile, weakness in the manufacturing sector appears to have intensified recently, as indicated by the decline in the Institute of Supply Management manufacturing index over the past three months. In addition, recent trade data suggest that net exports could act as a drag on activity in the third quarter, against the background of a strong US dollar and relatively weak foreign demand. The labour market continued to improve, but at a slower pace than earlier this year. Inflation remained at low levels, with annual

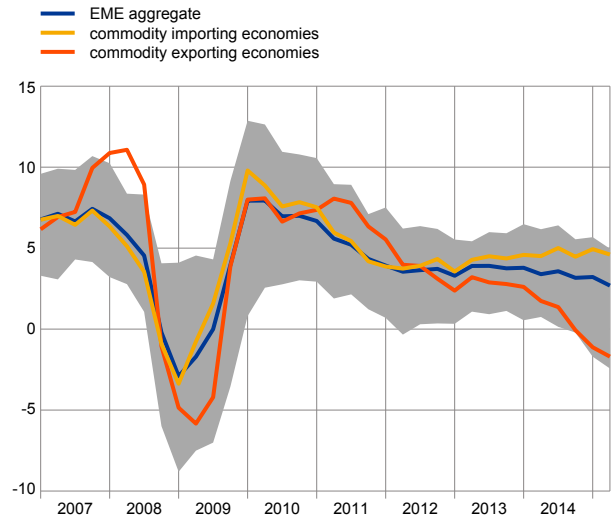
headline CPI inflation flat in September. Excluding food and energy, inflation edged up slightly to 1.9%, reflecting an increase in services inflation.

In Japan, momentum in the economy remained relatively subdued, following a decline in economic activity in the second quarter of this year. Real GDP fell in the second quarter (-0.3% quarter on quarter), partly because of temporary factors such as adverse weather conditions, but also as a result of substantial weakness in private consumption and foreign demand. Available monthly indicators for the third quarter paint a mixed picture. Although the increase in the synthetic consumption index in August suggests a rebound in consumer spending, consumer sentiment remains fragile. Meanwhile, private sector core machinery orders – a leading indicator for business investment spending – fell considerably in July and August. Annual headline CPI inflation remained low in August, but annual inflation excluding food and energy continued its gradual upward trend.

The UK economy is heading towards a moderate slowdown in the second half of the year. In the second quarter of 2015 real GDP growth rebounded, growing by 0.7% quarter on quarter. Domestic demand continued to support growth, as low energy prices provided a temporary lift to real disposable income and consumption, while net exports made a significant positive contribution to growth in the second quarter of 2015. Short-term indicators, in particular the PMI survey data for services, are trending downwards, suggesting a slowdown in economic growth. The unemployment rate edged down to 5.4% in the three months to August 2015, while earnings growth stabilised at around 3%. Annual headline CPI inflation continues to remain close to zero on the back of low energy and food prices, while inflation excluding food and energy averaged around 1% in the third quarter of 2015.

Chart 2
GDP growth in EMEs

(year-on-year percentage changes)



Sources: National sources and Haver Analytics.
Notes: The latest observation refers to the second quarter of 2015. Lines are GDP-weighted averages of GDP growth in EMEs. Range shows 10-90% percentile of growth across 23 EMEs. Commodity-importing economies: Hong Kong, India, Korea, Malaysia, Singapore, Taiwan, Thailand, Turkey, Mexico, Poland, Czech Republic, Hungary; commodity-exporting countries: Russia, South Africa, Saudi Arabia, Argentina, Brazil, Chile, Colombia, Indonesia and Venezuela.

In China, recent data overall remain consistent with a gradual slowdown of the economy. Real GDP grew by 1.8% quarter on quarter in the third quarter of 2015, unchanged from the previous quarter. While some indicators – particularly those associated with heavy industries and construction – have clearly retreated in recent quarters, the structural changes underway in the economy – away from heavy industries and towards services and consumption – together with the greater resilience of the other sectors, suggest that, overall, available data remain consistent with an economy undergoing a gradual slowdown. Activity is supported by past monetary and fiscal stimulus working its way through the economy, thus buffering the Chinese economy from a sharper slowdown. Meanwhile price pressures remain subdued. Box 1 reviews the role of China in global trade and the trade linkages with the euro area.

Growth momentum remains weak and heterogeneous across other EMEs. EMEs are suffering from a constellation of shocks, including the sharp fall in commodity prices, tightening external

financing conditions and the slowdown in China. The past fall in commodity prices has led to a divergence in growth between commodity-importing and commodity-exporting economies (see Chart 2). Activity has remained resilient in commodity-importing countries (including India, Turkey and non-euro area central and eastern European countries), while it continued to slide in commodity-exporting countries. This slowdown was particularly sharp in two large commodity-exporting countries – Russia and Brazil – where recessions intensified in the second quarter of 2015.

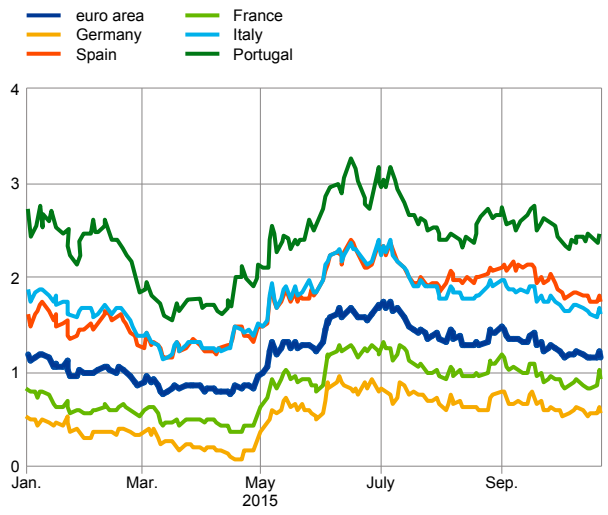
Following a renewed decline over the summer, oil prices broadly stabilised during September and October, reflecting early signs of a moderation in the supply overhang. On the supply side, OPEC maintained its production near record rates, led by Saudi Arabia and Iraq, although the deceleration in production growth continued. At the same time, lower prices and reduced investment seem to have triggered a gradual fall in US shale oil production. On the demand side, global oil demand growth stayed above trend – stimulated by low oil prices – although generally it remained too weak to keep up with the pace of oil supply growth. Box 2 looks at the drivers of the recent increase in oil price volatility. Non-oil commodity prices have remained broadly unchanged over the past two months.

2 Financial developments

Over the review period from 2 September to 21 October 2015 government bond yields declined significantly across the euro area. The GDP-weighted ten-year euro area sovereign bond yield declined by around 30 basis points and stood at 1.16% at the end of the review period (see Chart 3). A large part of the decline occurred immediately after the meeting of the Federal Open Market Committee (FOMC) in mid-September at which it was decided not to increase policy rates in the United States. Sovereign yields declined in all euro area countries, with lower-rated countries recording sharper declines than higher-rated countries. This led to a further reduction in the sovereign yield spreads relative to Germany.

Chart 3
Ten-year sovereign bond yields in selected euro area countries

(percentages per annum)



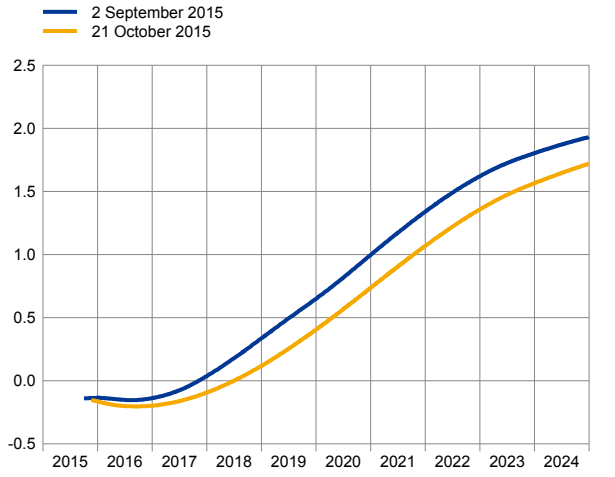
Sources: Thomson Reuters and ECB calculations.
Notes: The item "euro area" denotes the GDP-weighted average of ten-year sovereign bond yields. The latest observation is for 21 October.

EONIA forward rates declined in line with the developments in sovereign bond markets. The entire EONIA forward curve – except for the very short end where the ECB deposit facility anchors the level close to -20 basis points – shifted downward by around 20 basis points during the review period (see Chart 4). The daily EONIA fixings remained stable in a tight corridor between -12 basis points and -15 basis points during the review period.

Euro area stock markets increased slightly overall during the review period after declining temporarily by around 6%. The Euro Stoxx 50 equity price index

Chart 4
EONIA forward rates

(percentages per annum)



Sources: Thomson Reuters and ECB calculations.

increased by around 2% from early September to 21 October. There were significant price movements during the period, with the euro area stock market declining by around 6% in late September, in part owing to downward pressure on the stock market following the meeting of the FOMC and the disclosure of issues in Volkswagen. The US stock market, as measured by the Standard & Poor's 500 equity price index, outperformed the euro area stock market and ended the period with an increase of around 4%.

Volatility declined somewhat, but remained slightly above the low levels observed in the first half of the year. After the large increase in market volatility associated with the devaluation of the Chinese renminbi and the ensuing large stock market movements, recent developments have been relatively subdued, leading to a gradual decline in volatility. At the end of the review period measures of implied stock market volatility in the euro area and the United States were only slightly higher than the low levels observed in the first half of the year.

The effective exchange rate of the euro remained broadly stable. In bilateral terms, the euro appreciated by 0.9% against the US dollar, reflecting changes in market expectations about future monetary policy in the United States. The euro also appreciated against the Japanese yen, the currencies of most emerging market economies and the currencies of several central and eastern European countries. By contrast, it depreciated against the pound sterling, the Swedish krona, the Russian rouble and the currencies of commodity-exporting countries.

3 Economic activity

Despite a less supportive external environment, the economic recovery in the euro area is continuing, increasingly supported by domestic factors, in particular private consumption. Output rose by 0.4%, quarter on quarter, in the second quarter of 2015, following a rise of 0.5% in the previous quarter (see Chart 5).[1] The most recent indicators point to a broadly similar pace of GDP growth in the third quarter. Looking at the course of the recovery so far, output has now been rising for almost two and a half years, and euro area real GDP stood, in the second quarter of 2015, 2.7% above the trough it reached in the first quarter of 2013, although it remains 0.8% below the pre-crisis peak recorded in the first quarter of 2008.

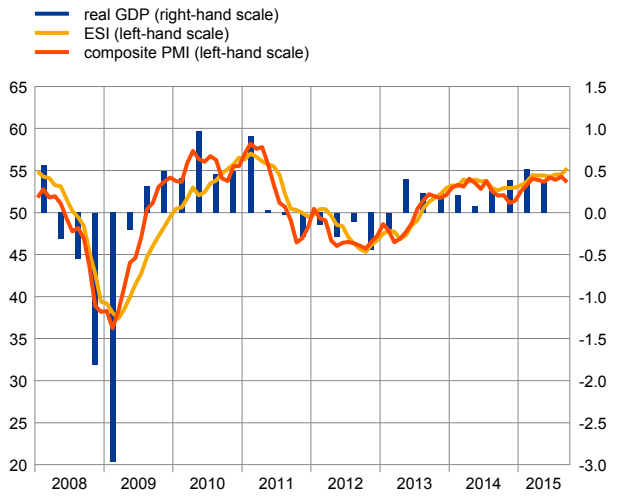
Private consumption remains the main driver of the ongoing recovery. The consumption trend has strengthened as a result of rising income, lower oil prices and gradually less constrained household balance sheets (see also Box 3). The bulk

[1] Eurostat's second release of the euro area national accounts revised up growth for both the first and second quarter of 2015 by 0.1 percentage point.

Chart 5

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

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



Sources: Eurostat, European Commission, Markit and ECB.
Notes: The Economic Sentiment Indicator (ESI) is normalised with the mean and standard deviation of the Purchasing Managers' Index (PMI). The latest observations are for the second quarter of 2015 for real GDP and for September 2015 for the ESI and the PMI.

of the increases in aggregate real disposable income since early 2013 have been linked to improvements in the labour market, suggesting that the recovery in private consumption is primarily the result of an improving domestic economic recovery. Since the second half of 2014 the fall in oil prices has also provided support to real income and thus private consumption. As for the near-term outlook, recent data on retail trade and new passenger car registrations as well as survey data on consumer confidence are in line with a continuing robust increase in private consumption.

By contrast, investment has been weak since the onset of the crisis and remained moderate in the first half of 2015. Investment currently stands 15% below its pre-crisis level in 2008, which is largely explained by the sharp downturn in foreign and domestic demand, firms' low profitability, a long period of adverse financing conditions and elevated overall uncertainty as well as lower public investment and housing market adjustments in several countries. Recently, investment has been somewhat volatile, showing a strong rise in the first quarter of 2015 before falling back in the second quarter. This profile largely reflects developments in residential investment, which was boosted in the first quarter by favourable weather conditions in parts of the euro area. Recent developments in capital goods production point to a further rise in euro area non-construction investment in the third quarter, while construction production points to ongoing weak developments in the construction sector. In addition, the most recent euro area bank lending survey shows that credit conditions remain favourable and firms' demand for loans to finance investment is increasing. Looking ahead, a cyclical recovery in investment is expected, supported by favourable financing conditions, improving profit margins and diminishing spare capacity. The need for further deleveraging in the corporate sector in some countries and investors' reduced long-term growth expectations could, however, weigh on the speed of recovery.

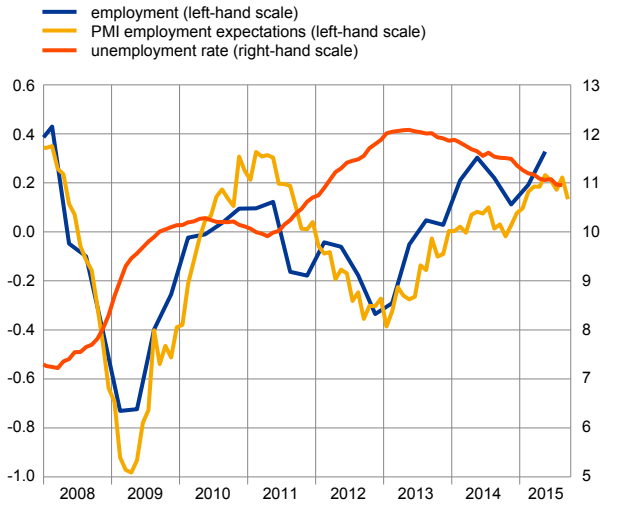
Euro area export growth is likely to have slowed in the third quarter, reflecting weak global trade. Trade data for July and August point to slowing export growth in the third quarter of 2015, likely driven by weak growth momentum in emerging market economies and the gradual slowdown in China. More timely indicators such as surveys signal a further weakening of foreign demand and export growth in the near term. In addition, the recent appreciation of the euro could weigh on exports looking ahead.

Overall, the latest indicators are consistent with continued economic expansion in the latter half of this year. Hard data as well as survey results are in line with continued growth at around the same rate as in the second quarter. Industrial production excluding construction stood on average in July and August 0.3% above its average level in the second quarter, when it declined by 0.1% on

Chart 6

Euro area employment, PMI employment expectations and unemployment

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



Sources: Eurostat, Markit and ECB.
Notes: The Purchasing Managers' Index (PMI) is expressed as a deviation from 50 divided by 10. The latest observations are for the second quarter of 2015 for employment, September 2015 for the PMI and August 2015 for unemployment.

a quarterly basis. The Economic Sentiment Indicator improved between the second and third quarter of this year, while the composite output Purchasing Managers' Index remained unchanged (see Chart 5).

The labour market situation is continuing to gradually improve. Employment increased further by 0.3% quarter on quarter in the second quarter of 2015 (see Chart 6), which was the fastest annual increase since the second quarter of 2008. As a result, employment stood 0.9% above the level recorded one year earlier. The unemployment rate for the euro area, which started to decline in mid-2013, fell further in the second quarter of 2015, before broadly stabilising in July and August at 11.0%. More timely information gained from survey results points to further gradual labour market improvements in the period ahead.

Looking ahead, the economic recovery is expected to continue, albeit dampened, in particular, by weaker foreign demand. Domestic demand should be further supported by the monetary policy measures and their favourable impact on financial conditions, as well as by the progress made with fiscal consolidation and structural reforms. Moreover, the decline in oil prices should provide support for households' real disposable income and corporate profitability and, therefore, private consumption and investment. However, the recovery in domestic demand in the euro area continues to be hampered by the necessary balance sheet adjustments in a number of sectors and the sluggish pace of implementation of structural reforms. The risks to the euro area growth outlook remain on the downside, reflecting in particular the heightened uncertainties regarding developments in emerging market economies. The results of the latest round of the ECB's Survey of Professional Forecasters, conducted in early October, show that private sector GDP growth forecasts remain broadly unchanged compared with the previous round conducted in early July (http://www.ecb.europa.eu/stats/prices/indic/forecast/html/index.en.html).

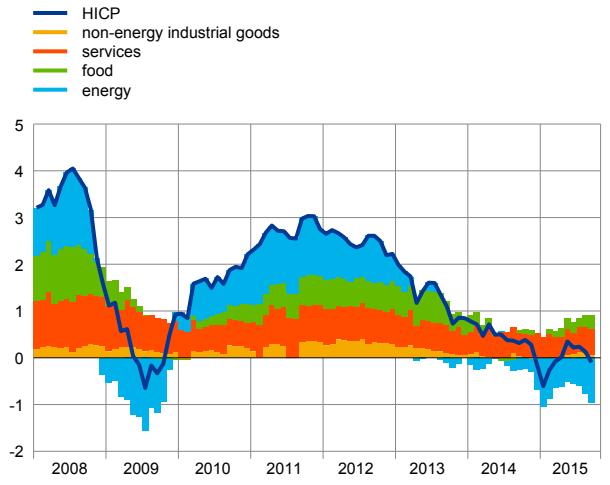
4 Prices and costs

Headline inflation dipped back into negative territory in September. This was a reflection of lower energy prices. According to Eurostat, euro area annual HICP inflation was -0.1% in September 2015, down from 0.1% in August (see Chart 7). The decline in energy inflation more than offset the small increase in food price inflation, which has increased for two consecutive months. This was mainly a result of larger price increases for the vegetables component of unprocessed food compared with the previous year.

Chart 7

Contribution of components to euro area HICP inflation

(annual percentage changes; percentage point contributions)



Sources: Eurostat and ECB staff calculations.
Note: The latest observations are for September 2015.

Underlying inflation has stabilised following the earlier pick-up. HICP inflation excluding energy and food remained unchanged at 0.9% in September. While non-energy industrial inflation, which was the main driver of the recent increase in HICP inflation excluding energy and food, declined in September (down to 0.3% from 0.4%), services inflation remained stable at 1.2%. Other underlying inflation indicators for the euro area, such as a diffusion index and a measure based on a dynamic factor model[2], have not moved up further recently either, although in September 2015 all indicators continued to record higher levels than early this year. The effects of the lower euro exchange rate compared with early this year continue to pass through, but some of the loss of momentum in the pick-up in underlying inflation can be attributed to a recent strengthening in the euro exchange rate and the indirect effects of recent further declines in oil prices (see Box 1 on oil price volatility).

While growth in import prices remains strong, indicators of domestic pipeline pressures for underlying inflation signal continued weakness ahead. Despite some downward pressure from the recent appreciation of the euro, import price inflation for non-energy consumer goods continues to record solid annual growth rates. On the domestic side, indicators of pipeline pressures for non-energy consumer goods still point to weak dynamics along the price chain. The annual rate of producer price inflation for domestic sales of non-food consumer goods industries remained subdued in August at 0.1% for the second consecutive month. Similarly, survey data for input and output prices up to September point to a continuation of the subdued domestic price pressures at the producer level. Further weakening is likely to be evident in the September data on import and producer prices as the effects of the recent appreciation of the euro and the decline in oil prices continue to filter through.

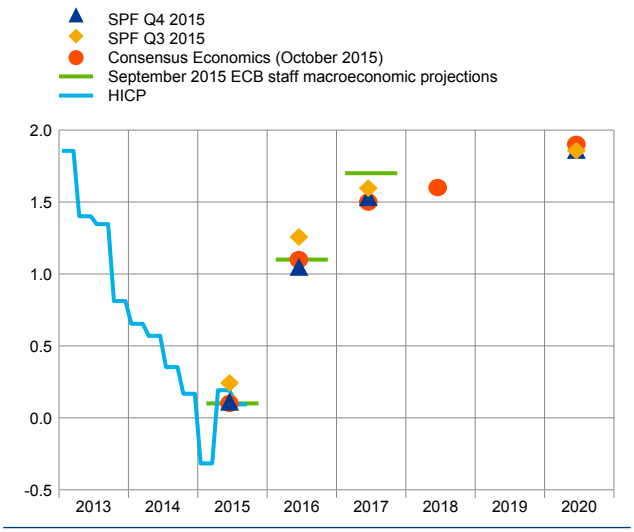
Profit margins contributed to a marginal strengthening of domestic price pressures, while labour cost pressures remained moderate. Euro area annual wage growth remained unchanged in the second quarter of 2015 in terms of compensation per employee, whereas it was somewhat weaker in terms of hours worked. Growth in compensation per employee was similar to growth in negotiated wages, implying that there has been little impact from wage drift elements such as bonuses. As productivity grew at a stronger rate than compensation per employee, growth in unit labour costs weakened further in the second quarter of 2015. At the same time, profit growth (measured in terms of gross operating surplus) strengthened, which may have been facilitated by lower input costs and moderate wage costs. As a result of labour cost and profit margin developments, the growth in the GDP deflator, a broad indicator of domestic inflationary pressures, strengthened further in the second quarter of 2015 and continued the upward trend observed since the third quarter of 2014.

[2] See the Box entitled “Has underlying inflation reached a turning point?”, *Economic Bulletin*, Issue 5, ECB, July 2015.

Chart 8

Survey-based measures of inflation expectations

(annual percentage changes)



Sources: Survey of Professional Forecasters (SPF), Consensus Economics and ECB calculations.
Note: Realised HICP data are included up to Q3 2015.

Survey-based measures of long-term inflation expectations have remained stable, while those for the short-to-medium term have declined somewhat (see Chart 8). The results of the ECB Survey of Professional Forecasters (SPF) for the fourth quarter of 2015 (i.e. the most recent SPF) indicate that forecasters have revised their inflation expectations downwards to 0.1%, 1.0% and 1.5% for 2015, 2016 and 2017 respectively, largely reflecting the impact of lower oil prices (see http://www.ecb.europa.eu/stats/prices/indic/forecast/html/index.en.html). However, longer-term inflation expectations for five years ahead remained unchanged, standing at 1.9%.

The latest market-based measures of long-term inflation expectations were roughly the same as in early September. After declining in the course of September, market-based measures of inflation expectations subsequently increased again from the beginning of October onwards to end the review period roughly unchanged. More specifically, the five-year forward inflation-linked swap rate five years ahead declined from 1.69% to 1.57% during September. It subsequently increased from the beginning of October onwards to stand at 1.68%. Market-based measures of long-term inflation expectations remain somewhat lower than the local peak level reached in early July. Compared with the more stable survey-based measures of inflation expectations, recent movements in market-based inflation expectations may be attributable to changes in the inflation risk premium reflecting the dynamics in macroeconomic uncertainty.

On the basis of current oil futures prices, annual HICP inflation is expected to remain negative or low until November 2015 and to rise only at the turn of the year, mainly on account of base effects associated with the fall in oil prices in late 2014. Inflation rates are forecast to pick up further in 2016 and 2017, supported by the expected economic recovery, the pass-through of past declines in the euro exchange rate and the assumption of somewhat higher oil prices in the years ahead that is currently reflected in oil futures markets. However, there are risks stemming from the economic outlook and from financial and commodity market developments which could further slow down the gradual increase in inflation rates towards levels closer to 2%.

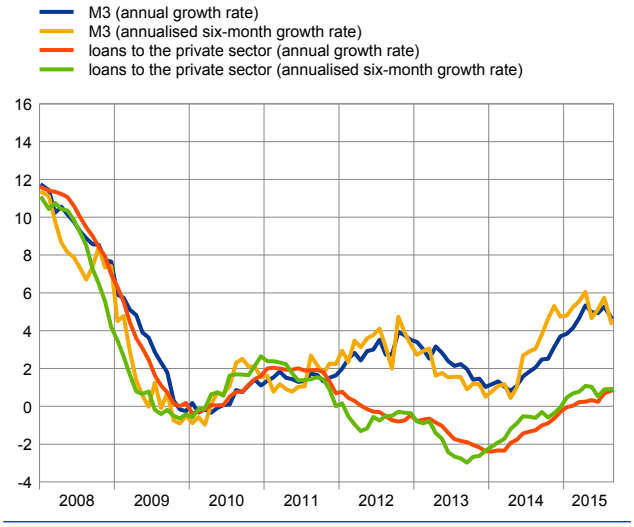
5 Money and credit

Broad money growth remained robust. The annual growth rate of M3, however, showed a decline in August (see Chart 9). M3 growth continues to be driven by solid M1 dynamics (the annual growth rate of which decreased somewhat in August). The robust growth of overnight deposits plays an important role here and can be explained by the low opportunity costs of holding the most liquid instruments as well

Chart 9

M3 and loans to the private sector

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



Source: ECB.
Note: The latest observation is for August 2015.

as the impact of the ECB's expanded asset purchase programme (APP). Overall, recent developments in narrow money are still consistent with a continuation of the economic recovery in the euro area.

Overnight deposits made a sizeable contribution to M3 growth. By contrast, short-term deposits other than overnight deposits are contracting, particularly those with an agreed maturity of up to two years. The growth rate of marketable instruments (i.e. M3 minus M2), which has a small weight in M3, remained positive; reflecting inter alia the recovery in money market fund shares/units observed since mid-2014. In addition, growth of monetary financial institution (MFI) debt securities in the money-holding sector with a maturity of up to two years has been strong since the start of 2015.

Domestic sources of money creation continued to be of increasing importance in August. This development is partly explained by the ECB's non-standard monetary policy measures. From a counterpart perspective, M3 dynamics appear to be mainly driven by shifts away from longer-term financial liabilities and by the increased contribution of credit from MFIs. The latter reflects positive developments regarding the provision of credit to the private sector (the main drag on money growth in previous years) and the impact of the APP. The annual contraction in the longer-term financial liabilities of MFIs (excluding capital and reserves) held by the money-holding sector continued unabated in August. Its strong contribution to M3 growth reflects in particular the relatively flat yield curve and also (in part) the substitution by MFIs of longer-term debt securities with funds from targeted longer-term refinancing operations (TLTROs). The contribution to annual M3 growth made by net external assets remained negative. Compared with its peak in mid-2014, the support from the MFI sector's net external asset position decreased further in August, despite a sizeable surplus in the current account. The recent decline in net external assets mainly reflects growing net portfolio outflows from the euro area in the context of the APP, which has favoured portfolio rebalancing towards non-euro area investment instruments.

Loan dynamics remained on a path of gradual recovery.[3] The annual growth rate of MFI loans to the private sector increased slightly in August (see Chart 9). The gradual improvement in credit dynamics was noticeable for both firms and households. The annual growth of loans to non-financial corporations (NFCs) (adjusted for sales and securitisation) grew again in August and was significantly above the trough observed in February 2014. The annual growth of loans to

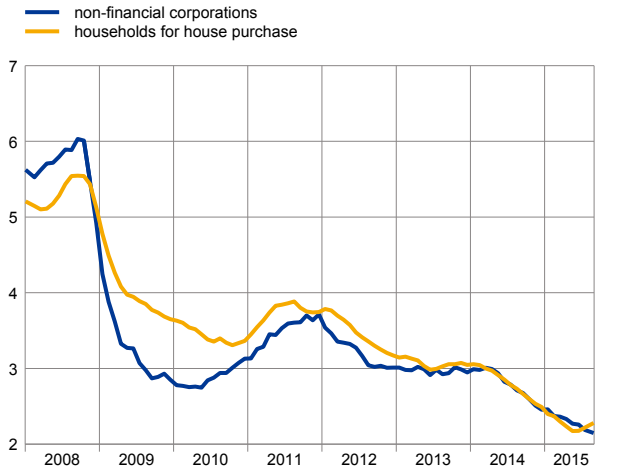
[3] On 21 September 2015 the ECB published new data on loans adjusted for sales and securitisation, based on an enhanced adjustment method. The new method enables a more comprehensive view of developments in loans originated by euro area MFIs by taking into account, on an ongoing basis, stocks and repayments of loans that are no longer recorded on MFIs' balance sheets (i.e. derecognised loans). For more details, see the box entitled "New data on loans to the private sector adjusted for sales and securitisation" in this issue of the Economic Bulletin.

households also increased in August, thus significantly exceeding the average rate of 0.1% observed since summer 2012. Despite these positive developments, the consolidation of bank balance sheets and further deleveraging needs in some economic sectors and banking jurisdictions continue to hamper credit dynamics.

Bank lending rates for NFCs declined further in August, notably owing to the ECB's non-standard measures (see Chart 10). 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 have stabilised at close to historically low levels. Since the announcement of the credit easing package in June 2014, banks have been progressively passing on the decline in their funding costs in the form of lower lending rates. Consequently, rates on loans to NFCs were more favourable in August (the composite bank lending rates for euro area NFCs fell to 2.16%). Indeed, since May 2014, these rates have declined by around 80 basis points. In addition, rates on loans to households for house purchase increased somewhat in August, continuing the trend observed in the previous month (the composite bank lending rates for households for house purchase stood at 2.26%). The cumulative decrease in mortgage rates since May 2014 remains sizeable though, amounting to around 60 basis points.

Chart 10
Composite bank lending rates for NFCs and households

(percentages per annum)



Source: ECB.
Notes: The indicator for the composite bank lending rates is calculated by aggregating short and long-term rates using a 24-month moving average of new business volumes. The latest observation is for August 2015.

The October 2015 euro area bank lending survey suggests that changes in credit standards and loan demand are continuing to support a recovery in loan growth (see survey at: https://www.ecb.europa.eu/stats/money/surveys/lend/html/index.en.html). In the third quarter of 2015, banks further eased (in net terms) credit standards for loans to non-financial corporations. This was mainly because of increased competition in the banking sector. For households, credit standards tightened on loans for house purchase (mostly reflecting developments in the Netherlands), but continued to ease in respect of consumer credit. Banks again reported that the additional liquidity from the APP is being used for granting loans. In this context, the APP had a net easing impact on credit standards and particularly on credit terms and conditions. Furthermore, the survey points to a pick-up in demand for loans in all categories, with the low general level of interest rates, increased financing needs for fixed investment and housing market prospects being important drivers here.

In addition, monthly data show that the net issuance of debt securities by NFCs moderated again in August and September, after the temporary rebound of July. This development was most likely a result of recent increases in the cost of market-based debt financing. A further strengthening of retained earnings may have also played a role, by reducing NFCs' need to tap external sources of finance. The weakening in debt securities issuance follows the strong use of this funding tool

by NFCs and their conduits in the wake of the public sector purchase programme (PSPP), which generated very favourable market conditions.

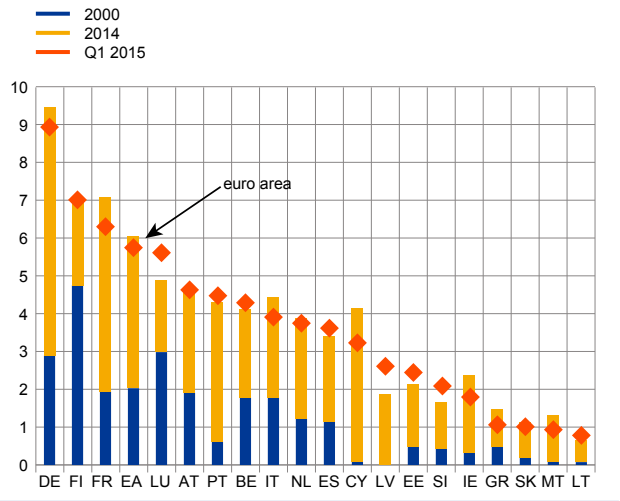
The overall nominal cost of external financing for euro area NFCs increased further in the third quarter of 2015, following the historically low levels reached in February. This rise was driven by the decline in financial asset prices, which implied an increase in both the cost of equity and market-based debt financing for NFCs. In the third quarter of 2015, such costs were up by some 30 basis points on the second quarter and even 50 basis points higher than in February. However, during October, the cost of equity financing fell after a rise in share prices, while the cost of market-based debt financing continued to increase.

Box 1
Trade links between the euro area and China

Over recent decades, China's role in global trade has grown significantly. With several economic reforms starting in the late 1970s, it has grown rapidly and become an increasingly important player in the global economy. In 1980 Chinese imports accounted for just over 6% of GDP, but by 2014, they had increased to 19% as a result of trade liberalisation, the country's accession to the World Trade Organization in 2001 and rapid investment growth in the Chinese economy. In addition to traditional trade, China also plays a central role in global supply chains, processing intermediate inputs for subsequent re-export to a third destination. Since 2011, however, the country's growth prospects have weakened, as the economy is undergoing a rebalancing from investment-driven growth towards a path of more balanced economic growth.

Chart A
Exports to China

(percentage share of total extra-euro area exports)



Source: IMF Direction of Trade Statistics.
Note: Extra-euro area exports exclude trade flows between euro area countries.

China accounts for a relatively limited share of euro area exports, although this share has risen over time. Exports to China have rapidly increased across all euro area economies over the past 15 years, rising from 2% of total extra-euro area exports of goods to 6% at the end of 2014. Germany, France and Finland account for the largest shares of exports to China, while other countries' shares range from close to 6% in Luxembourg to 1% in Lithuania (see Chart A). China's share of extra-euro area exports is comparable to that of Switzerland and less than half that of the United States or the United Kingdom.

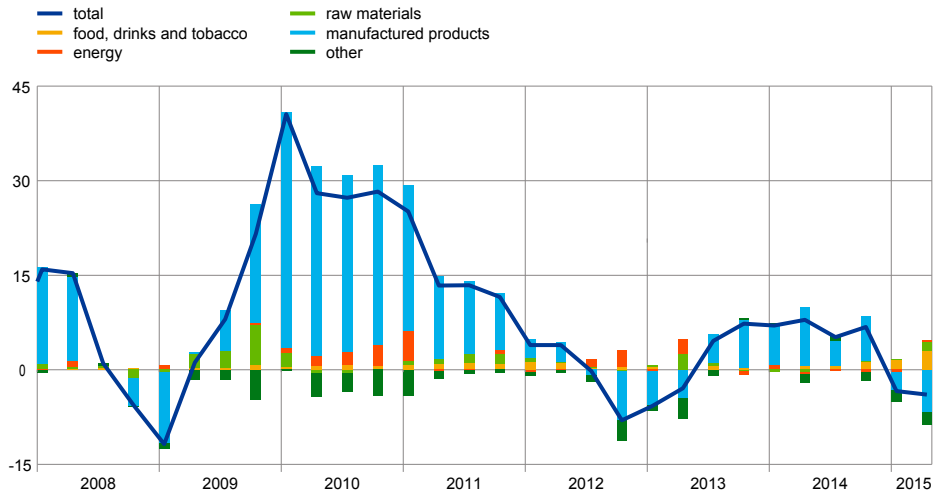
The slowing of growth in China since the beginning of 2015 has reduced euro area exports, in particular exports of machinery and transport equipment. This has had adverse repercussions for, in particular, exporters of manufactured goods (see Chart B), which account for almost 90% of goods exports to China. Conversely, exports of food, drink and tobacco and raw materials have been holding up, signalling that consumption and intermediate goods exports are still buoyant. These recent developments are consistent with China's role in processing intermediate inputs for final consumption and with the rebalancing of the Chinese economy towards consumption and away from investment-driven growth.

The fall in euro area goods exports to China has partly been offset by increasing exports to other advanced economies. While exports to China have declined rapidly and provided negative contributions to euro area export growth, demand in other advanced economies, such as the United States and European

Chart B

Euro area exports of goods to China by product category

(annual percentage change; percentage point contributions)



Sources: Eurostat and ECB calculations.
Note: The product categories are defined according to the Standard International Trade Classifications.

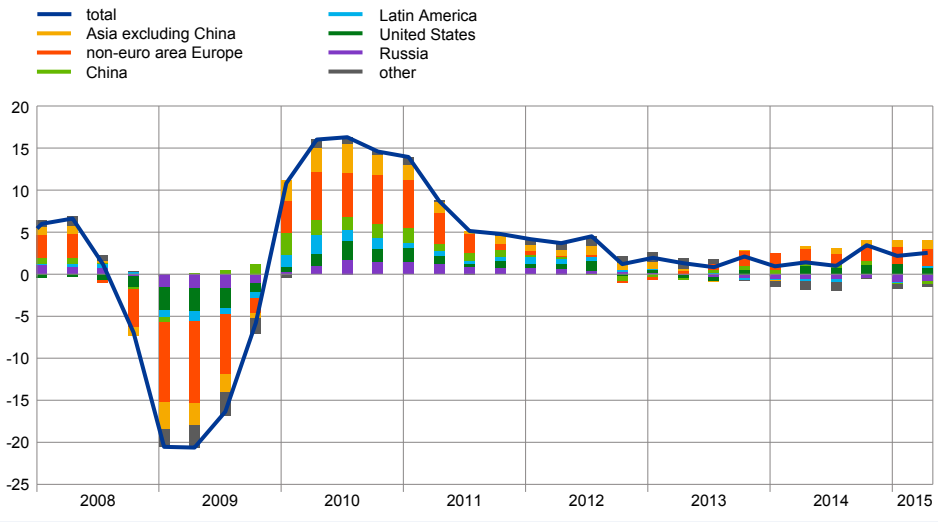
countries outside the euro area, has increased and provided an impetus to euro area export growth, demonstrating the renewed importance of advanced economies for global trade growth in 2015 amid slowing emerging market economies (see Chart C).

Indirect trade spillovers from China to the euro area are likely to be small and mainly concern other Asian countries. While direct trade links between the euro area and China remain limited, there could be adverse trade spillovers whereby important export destinations for the euro area, which are also large trading partners for China, experience slowdowns. The largest export destinations of the euro area,

Chart C

Extra-euro area exports of goods and country contributions

(annual percentage change; percentage point contributions)

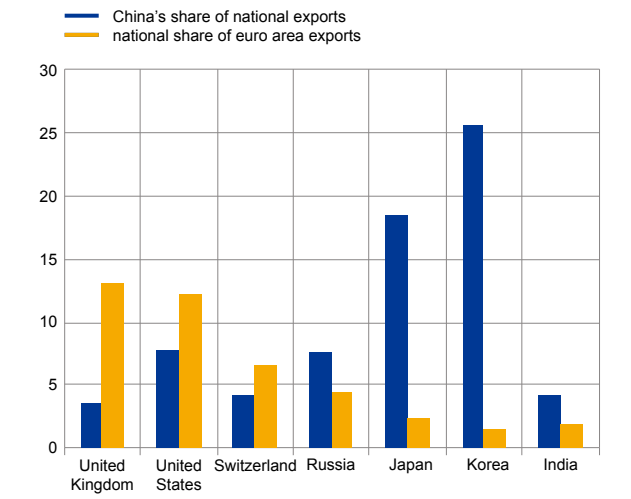


Sources: Eurostat and ECB calculations.

Chart D

Trade exposure to China

(percentages)



Source: ECB calculations.

excluding China, are the United States, the United Kingdom and Switzerland. These countries, in turn, have relatively small export exposures to China and are unlikely to be severely impacted by a slowdown in Chinese activity (see Chart D). The countries that are most likely to be affected by a domestic slowdown in China are neighbouring economies in Asia, which, when taken as a whole, account for a relatively large share of euro area export demand (around 21%). Overall, however, available estimates suggest that the direct and indirect trade effects from a 1 percentage point slowdown in Chinese real GDP are relatively muted, and amount to a decline of around 0.1 to 0.15 percentage points in euro area activity after two to three years.

China's role in global production chains may limit the transmission of negative developments to the euro area. Exports of intermediate goods to China have become increasingly important over time; their share increased from 53% in 1995 to 59% in 2011. This relatively large share highlights China's prominent role in global value chains, whereby products are shipped to China for further processing or assembly and then re-exported to another destination for final consumption. In this context, and with the latest available data being from 2011, at least 8% of euro area exports to China are not directly linked to developments there, but rather reflect demand developments elsewhere. Arguably, some exports of final goods could also be involved in global production networks, supporting the production of goods to be sent to a third destination and thereby reflecting final demand elsewhere. Hence, a slowing of Chinese activity is likely to have less of an impact than would be suggested by gross trade flows.

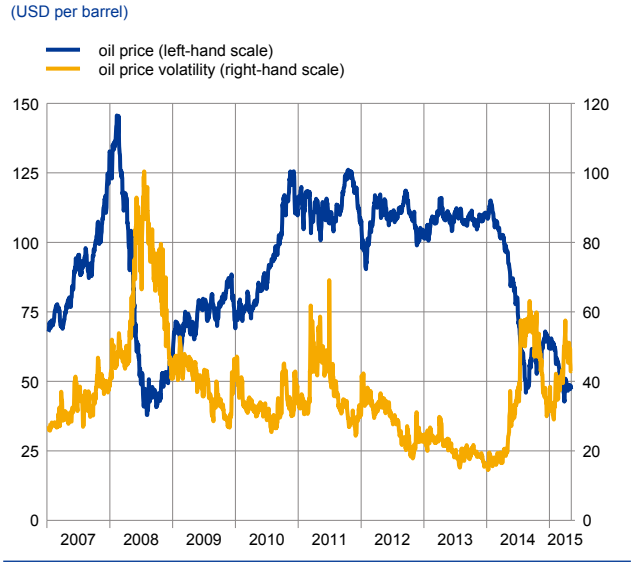
While trade spillovers from a continued slowdown of economic activity in China are likely to have only a modest impact on euro area GDP, other spillover channels can potentially be important. The size of the Chinese economy means it has had a significant effect on oil prices, although its relevance has waned in recent years as growth has continued to decline. Therefore, the impact of a slowdown in China on oil prices may be limited, although it crucially depends on whether growth in other emerging market economies slows as well. While China would also affect some commodity-producing emerging markets via lower metal imports, major exporters of metals account for a fairly small share of euro area trade. Another possible channel for transmitting negative shocks to the euro area is confidence effects, where, for instance, capital outflows can be triggered by adverse confidence shocks, leading to a tightening of financial conditions in emerging markets and a further slowdown of euro area foreign demand. Moreover, capital outflows from China, if not counterbalanced by other private or official flows, could trigger a depreciation of the Chinese currency and, in its wake, exchange rate depreciations of other emerging market currencies. Finally, a rise in global uncertainty could directly affect the confidence of euro area households and firms, hampering consumption and delaying

investment decisions. Therefore, the impact on the euro area of a potential further slowdown in China ultimately hinges on the extent to which this slowdown spills over to other emerging markets more generally, and the degree to which the resulting loss of confidence affects global financial markets as well as global trade.

Box 2
Explaining the drivers of the recent increase in oil price volatility

After reaching historically high levels during the global financial crisis, oil price volatility decreased gradually in recent years before rising again in 2014 and 2015. Although current volatility is not particularly high by historical standards, oil price volatility in itself may weigh on economic prospects.[1] Understanding the factors driving changes in oil price volatility is therefore important. This box discusses the general determinants of oil price volatility and focuses on the likely causes of the recent increase.

Chart A
Oil prices and oil price volatility



Source: Datastream.
Notes: Daily data, latest observation is 5 October 2015. Oil prices are nominal. Brent crude oil prices. Oil price volatility is measured by the Chicago Board Options Exchange (CBOE) Crude Oil Exchange-Traded Fund (ETF) Volatility Index (OVX). The OVX is strongly correlated with realised oil price volatility.

Time-variation in oil price volatility can be driven by a number of factors. Three main possible explanations of higher oil price volatility are (i) large shocks to oil demand and supply, (ii) an increased sensitivity of oil prices to changes in demand and supply and (iii) an increased use of oil as a financial asset. These three potential drivers of time-variation in oil price volatility could all have an impact at any given point in time.

Higher oil price volatility can simply be caused by large shocks to oil demand or supply. The drop in global oil demand triggered by the 2008 global financial crisis is an example of how large shifts in demand and supply fundamentals can cause higher oil price volatility (see Chart A).

Oil prices can become more sensitive to changes in oil demand and supply as a result of lower price elasticity of demand and supply, causing higher oil price volatility. Lower price elasticity of oil demand and supply means that both demand and supply react less to oil price changes induced by shocks. As this implies that the quantity adjustment following shocks is lower, the price response is magnified, thus causing increased price volatility.

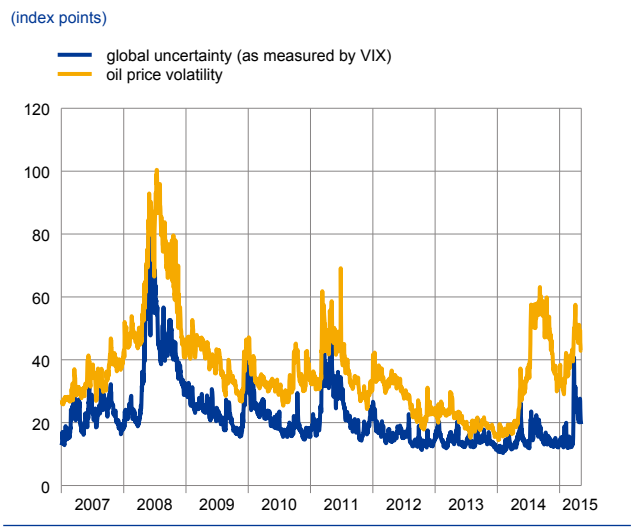
Various factors, such as the level of spare capacity or inventories, can explain why the price elasticity of oil demand and supply might be lower in specific periods. On the one hand, a reduced flexibility to alter oil supply following price changes might be triggered by low levels of spare capacity or limited inventory holdings. In mid-2012, for example, oil prices reacted strongly to news about ongoing and potential supply disruptions in the wake of the Iranian oil embargo as

[1] Jo, S., "The effects of oil price uncertainty on global real economic activity", *Journal of Money, Credit and Banking*, Vol. 46, No 6, pp. 1113-1135, 2014.

spare capacity among members of the Organisation of the Petroleum Exporting Countries (OPEC) was low and inventory holdings were below historical averages, indicating that supply could not easily increase to compensate for any further decline in production. On the other hand, a reduced price sensitivity of oil demand might, for example, be related to a reduced potential to replace oil with alternative energy sources. The gains in energy conservation following the oil price shocks of the 1970s might have caused higher oil price volatility as demand became less sensitive to price changes.[2]

Chart B

Oil price volatility and global uncertainty



Source: Datastream.
Notes: Daily data, latest observation is 5 October 2015. The Volatility Index (VIX) is based on the implied volatility of S&P 500 index options.

Global uncertainty is another factor that might cause reduced price elasticity of oil demand and supply. Higher uncertainty can change the price elasticity of both oil demand and oil supply.[3] In an environment of greater uncertainty, oil producers and consumers have a less marked reaction to oil price changes as they have a so-called "option-value-to-wait".[4] This reduced responsiveness lowers the quantity adjustment following shocks and magnifies the oil price effect, thereby increasing oil price volatility. Previous episodes of elevated global uncertainty, as measured by the Volatility Index (VIX), indeed coincided with higher oil price volatility. This happened, for example, during the European sovereign debt crisis in 2011 (see Chart B).

Finally, it is often argued that the increased use of oil as a financial asset causes oil price volatility to be higher, although the empirical evidence on this remains mixed. Since the early 2000s, oil has increasingly been used as a financial asset; a process referred to as the "financialisation" of oil futures markets. The increased use of paper oil for financial investment, hedging and speculation purposes might have intensified the sensitivity of oil prices to investor sentiment. However, the empirical evidence on the significance of this factor is not clear-cut.[5]

Focusing on the recent period, a combination of a large oil supply shock and higher global uncertainty are the probable causes of the increase in oil price volatility since the end of 2014. First, the decline in oil prices in the second half of 2014 was accompanied by large increases in oil supply; the year-on-year increases in global production were substantially above historical averages. Combined with weak demand and the decision by OPEC not to cut its production, this led at the end of 2014 to a strong decline in oil prices and increased oil price

2 Baumeister, C. and Peersman,G., "The role of time-varying price elasticities in accounting for volatility changes in the crude oil market", *Journal of Applied Econometrics*, Vol. 28, pp.1087-1109, 2013.

3 Van Robays, I., "Macroeconomic uncertainty and the impact of oil shocks", *ECB Working Paper*, No 1479, 2012.

4 Bernanke, B.S., "Irreversibility, uncertainty, and cyclical investment", *The Quarterly Journal of Economics*, Vol. 98, No 1, pp. 85-106, 1983.

5 See, among others, Singleton, K. J., "Investor flows and the 2008 boom/bust in oil prices", *Management Science*, Vol. 60, pp. 300–318, 2012 versus Fattouh, B., Kilian, L. and Mahadeva, L., "The role of speculation in oil markets: What have we learned so far?", *Energy Journal*, Vol. 34, No 3, pp. 7-33, 2013.

volatility. More recently, the renewed increase in oil price volatility coincided with a spike in global uncertainty at the end of August 2015 (see Chart B) which was mainly linked to concerns over the strength of Chinese growth. In contrast, changes in oil inventory holdings and spare capacity probably did not drive the increase in oil price volatility as inventories are at historic highs and total OPEC spare capacity is not far below past averages.

Given that global uncertainty is likely to remain elevated in the near-term, oil prices will continue to be sensitive to any new information about oil demand and supply developments.

Box 3
An assessment of recent euro area consumption growth

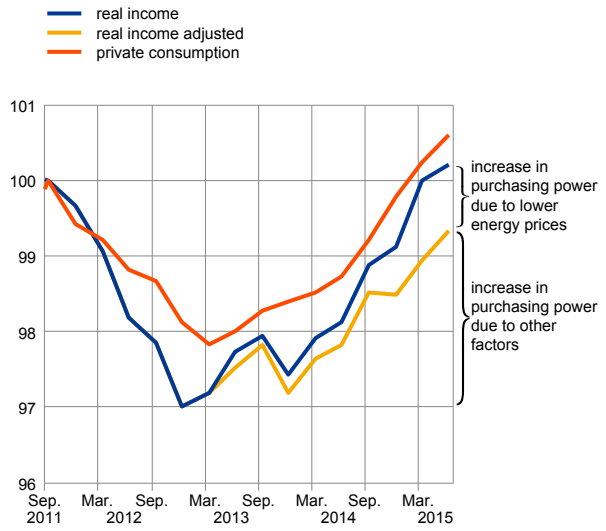
Private consumption has been continuously increasing since the first quarter of 2013, becoming the main driver behind the ongoing economic recovery in the euro area. This box examines the main driving factors behind these developments in euro area consumption growth since the first quarter of 2013, which was the latest trough to be experienced in the business cycle.[1]

The decline in oil prices has been supporting private consumption growth, particularly since the second half of 2014. The purchasing power of households has increased by around 0.9 percentage point due to the fall in energy prices between the start of the recovery and the second quarter of 2015 (see Chart A).[2] Yet, this represented roughly only one-third of the overall improvement in households' purchasing power observed over this period. The additional improvement in purchasing power is mainly attributable to strong increases in labour income.[3]

Chart A

Energy and non-energy-related developments in real disposable income

(index; Q3 2011 =100)

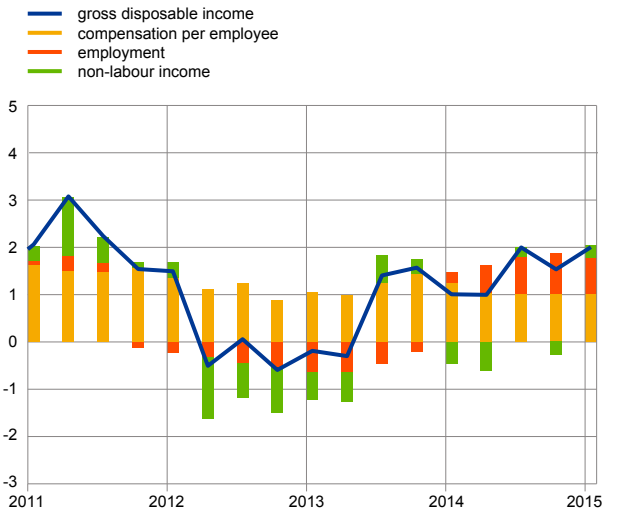


Sources: Eurostat and ECB staff calculations.
Note: Real income adjusted is calculated assuming constant real energy prices from the first quarter of 2013 onwards in order to approximate the "counterfactual" real disposable income that could have prevailed had oil prices not declined as observed.

Chart B

Gross nominal disposable income growth and contributions

(annual percentage changes; percentage points)



Sources: Eurostat and ECB staff calculations.
Note: Non-labour income constitutes operating surplus, property income, net social benefits and contributions, and direct taxes (inverted).

1 As identified by the Centre for Economic Policy Research.

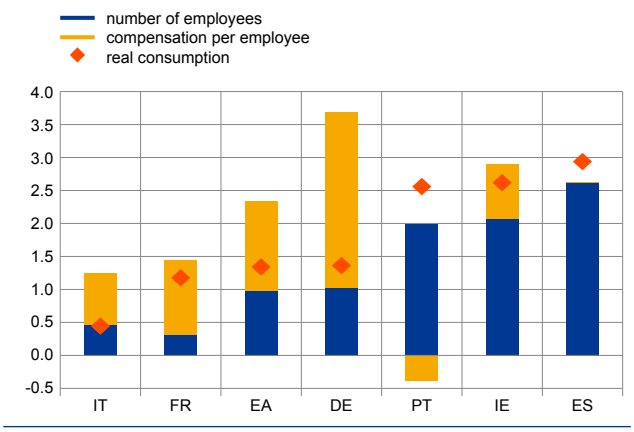
2 Changes in the purchasing power of households due to fluctuations in energy prices are equal to the product of the energy expenditure share and the percentage rate of change in real energy prices.

3 Although the price of crude oil in EUR terms has declined by more than 40% since the second half of 2014, the decline in consumer energy prices was much lower. For example, the price of liquid fuels and fuels and lubricants for personal transportation declined by only 12% in the same period in the euro area.

Chart C

Labour income and private consumption across selected euro area countries

(percentage changes)



Sources: Eurostat and ECB staff calculations.
Note: Figures refer to average annual percentage changes between the second quarter of 2014 and the second quarter of 2015.

Private consumption has been supported by strong growth in real disposable income since the beginning of 2013, following gradual but steady improvements in the labour market. Growth of compensation per employee accelerated, albeit temporarily, in the second half of 2013. The negative contribution of employment growth to gross disposable income stabilised in early 2013 and improved steadily thereafter, turning positive in the first quarter of 2014 for the first time since 2011 (see Chart B). In line with this, the unemployment rate in the euro area stopped rising in 2013 and started to fall in 2014. Nevertheless, the current level of employment remains around 2% below its pre-crisis peak in 2008, while unemployment is still high at a rate of 11% last August.

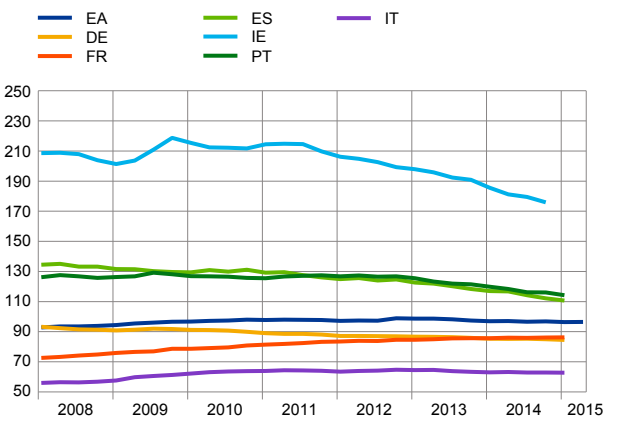
Recent consumption growth has been higher in countries where labour markets have improved to a greater extent. In Spain, Ireland and Portugal the recovery of the labour market, in terms of both employment and wages, has been relatively strong, leading to higher increases in disposable income and real consumption growth (see Chart C). After years of households' deleveraging in these countries, higher disposable income is also helping to strengthen households' balance sheets (see Chart D). While consumption is growing, the leverage ratio continues to go down (except for France). This suggests there may now be a virtuous circle effect between a recovery in the labour market, increasing disposable income, and higher consumption growth, while the degree of household leverage continues to fall.

A comparison of consumption projections across several vintages of the ECB/Eurosystem staff macroeconomic projections for the euro area suggests that recent consumption developments have been broadly in line with expectations, once the oil price declines have been factored in. In June 2014, prior to the observed sharp declines in oil prices, the Eurosystem staff macroeconomic projections envisaged moderate consumption growth of 0.7% in 2014, followed by a stronger recovery of 1.5% in 2015. Since then, consumption growth accelerated in the second half of 2014, and continued increasing steadily in the first half of 2015. This profile had already been envisaged in the March 2015 ECB staff macroeconomic projections, which was the first ECB staff exercise to account for lower oil prices that had proved more persistent than expected. This robust consumption growth projection remained unchanged in the September 2015 ECB staff macroeconomic projections, with a growth rate of 1.7% for 2015, against an outcome of 1.0% in 2014. This projection was also broadly confirmed by the latest data release for consumption growth in the second quarter of 2015.

Chart D

Household leverage across selected euro area countries

(as a percentage of disposable income)



Sources: Eurostat and ECB staff calculations.
Note: The leverage ratio is computed as the ratio of household debt over the four-quarter moving sum of disposable income.

Box 4
New data on loans to the private sector adjusted for sales and securitisation

Monitoring banks' financing of the economy is a key element of the ECB's monetary analysis. Bank lending is the main source of monetary expansion in the euro area and a key channel through which monetary policy conditions are transmitted to the real economy.

Statistical series on loans adjusted for sales and securitisation aim to provide measures of bank lending which are not affected by loan transfers off and onto banks' balance sheets. Banks' balance sheets are the basic source of the bank lending figures published by the ECB.[1] This implies that when a bank sells part of its loan portfolio to a non-bank and removes those loans from its balance sheet (for instance in the context of securitisation activities), a reduction in bank lending is reported, while the actual amount of financing received by the real economy remains unchanged. With the aim of providing a measure of bank lending which is not affected by this type of operation, the ECB has been publishing loan series adjusted for sales and securitisation since December 2008.

In September 2015 the ECB released new data on loans adjusted for sales and securitisation based on a refined method offering a more comprehensive view of all lending to the real economy originated by banks as well as better comparability across countries. The former method adjusted loan transactions for the one-off impact of the net transfer of loans off (or onto) balance sheets in the period in question. The new method continues to do so, but also takes into account the ongoing repayments of those loans that are no longer recorded on banks' balance sheets (derecognised loans), insofar as data are available.[2] It also considers the outstanding amounts of derecognised loans in the calculation of the adjusted growth rates. Therefore, to the extent that data on repayments of derecognised loans are available, the new method offers a comprehensive view of developments in loans granted by euro area banks, independently of whether or not the loans are recorded on banks' balance sheets at the time of the statistical reporting. In doing so, the method also improves the comparability of bank lending figures across countries, regardless of the accounting practices applicable to loan transfers.

---

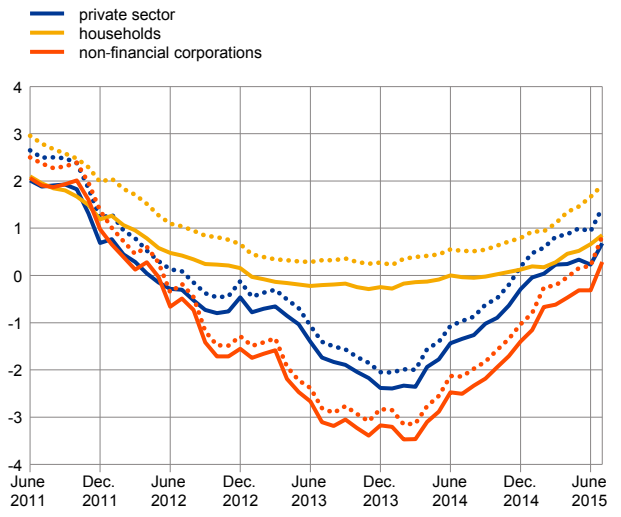
1 Details on the calculation of transactions and growth rates for monetary financial institution (MFI) loan series are provided in the Technical Notes to the ECB's Statistics Bulletin (Sections 2.1 to 2.6), at http://sdw.ecb.europa.eu/reports.do?node=10000022

2 Under Regulation ECB/2013/33 of 24 September 2013 concerning the balance sheet of the MFI sector, as of December 2014 MFIs report data on derecognised loans which have been securitised and continue to be serviced by MFIs. In addition, some national central banks also provide data, where available, on securitised loans not serviced by MFIs and loans transferred in a transaction other than a securitisation. Backdata on a comparable basis have also been compiled in order to provide greater consistency in statistical series on loans adjusted for sales and securisation over time (i.e. adjusted annual growth rates for loans to the private sector starting from September 1998, and for loans to households and non-financial corporations from January 2010).

Chart A

MFI loans to the euro area private sector adjusted for sales and securitisation

(annual growth rates; seasonally adjusted)



Source: ECB.
Note: The solid lines represent the new method and the dotted lines represent the former method. The latest observation is for July 2015.

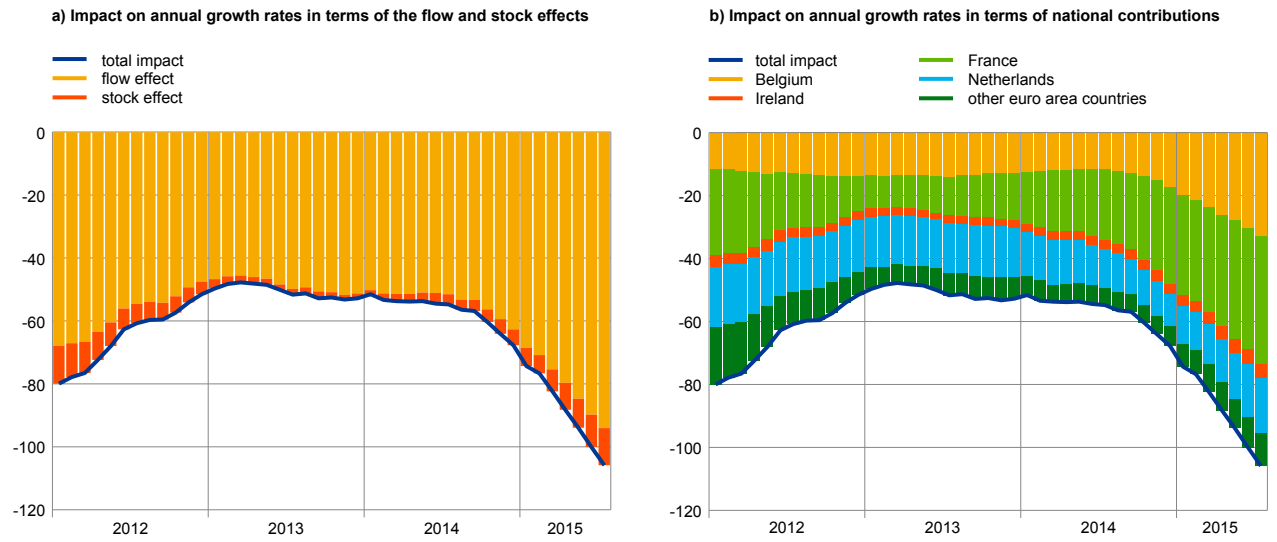
The new method of adjustment generally results in lower growth rates than the former method, but the trends remain basically unchanged (see Chart A). This difference is explained by flow and stock effects. First, the inclusion of repayments of derecognised loans results in somewhat lower adjusted flows of loans compared with the former method. Second, the inclusion of the stocks of derecognised loans increases the base on which the growth rates are computed, thereby reducing the growth rates in absolute value terms. In other words, the stock effect contributes to making positive growth rates lower, and negative growth rates less negative, under the new method than under the former method.[3]

The lower growth rates observed under the new adjustment method mainly result from the repayments of derecognised loans (flow effect). The stock of derecognised loans is small relative to the total outstanding amount of loans (derecognised loans to the euro area private sector amounted to €0.4 trillion in July 2015, compared with total loans on MFI balance sheets of €10.8 trillion). Therefore, the inclusion of the derecognised stocks typically has a small (upward or downward) impact on growth rates. However, the repayments of derecognised loans have a significant downward impact. Charts B and C show the impact of the new adjustment method on the annual growth rates for loans to

Chart B

MFI loans to euro area households: impact of the new adjustment method on annual growth rates

(difference in annual growth rates between the new and former adjustment methods; basis points; non-seasonally adjusted)



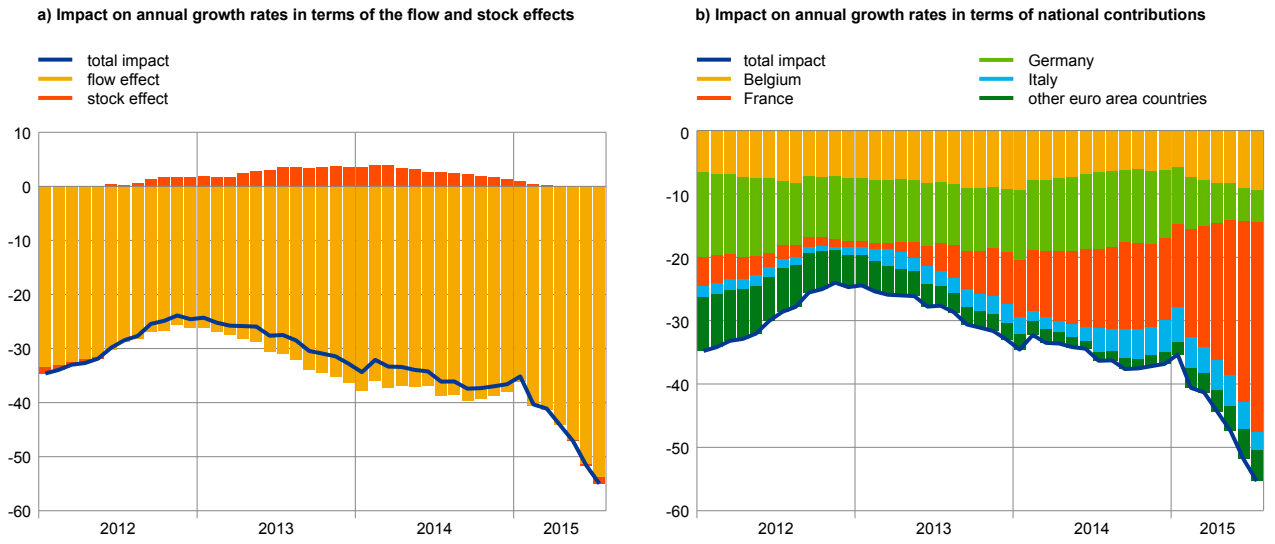
Sources: ECB and ECB calculations.
Note: The latest observation is for July 2015.

[3] Further details on the differences between the new and former adjustment methods are provided in an explanatory note on the ECB's website, at http://www.ecb.europa.eu/press/pr/date/2015/html/pr150921_explanatory_note_adjusted_loans.pdf

Chart C

MFI loans to euro area non-financial corporations: impact of the new adjustment method on annual growth rates

(difference in annual growth rates between the new and former adjustment methods; basis points; non-seasonally adjusted)



Sources: ECB and ECB calculations.
Note: The latest observation is for July 2015

households (Chart B) and loans to non-financial corporations (NFCs) (Chart C) due to flow and stock effects, as well as the four largest contributions by country.

For loans to households, the difference in growth rates comes from countries with a relatively large share of derecognised loans, which leads to larger loan repayments being included under the new method. This includes Belgium and France, which have 15% and 25% of euro area derecognised loans to households respectively and are thus the main national contributors to the overall impact of the new method (see Chart B). Ireland and the Netherlands, along with several other countries, have contributed to a lesser degree.

For loans to NFCs, the high rate of repayments of derecognised loans explains the difference in growth rates between the new and former methods. NFC loans tend to have shorter maturities, which results in repayments that are large relative to the outstanding amounts. Indeed, the main contribution comes from France (see Chart C), where repayments have recently increased owing to a rise in securitisations of short-term loans. Belgium and Germany have also consistently contributed to the lower NFC annual growth rates, while other countries have made a limited contribution.

Overall, the new method of adjustment enhances the analysis of loan growth rates at the euro area and the national level. The recent widening of the difference between the annual growth rates under the new and former methods also highlights the relevance of the adjustment method for interpreting trends in these series. The ECB and national central banks continue to carry out work on historical data with the aim of further supplementing the analysis of loans to euro area households and NFCs adjusted for sales and securitisation.

Box 5
The creation of a European Fiscal Board

On 21 October 2015 the European Commission adopted its Communication[1] on steps towards completing Economic and Monetary Union (EMU), following up on the short-term reform proposals made in the Five Presidents' Report[2]. The Communication includes a variety of measures aimed at improving the functioning of EMU. These merit a discussion in their own right, but this box focuses on one particular element, namely the Commission's Decision[3] establishing an independent advisory European Fiscal Board. In line with the roadmap presented in the Five Presidents' Report, the European Fiscal Board was established on 1 November 2015 and is expected to become operational by mid-2016.

Steps towards improving fiscal governance

An independent assessment of the European Commission and the Council's application of the rules laid down in the Stability and Growth Pact (SGP) should help increase the transparency and consistency of fiscal surveillance at the European level. Recent reforms of the EU's fiscal governance framework, notably the "six-pack" and "two-pack" regulations, aimed to ensure a more effective implementation of the SGP rules. The reinforced framework has grown in complexity, rendering it difficult for the public and elected representatives to hold the Commission and the Council accountable for their actions without additional information provided by a well-informed, independent body. In this vein, as early as 2010 the Governing Council of the ECB called for the creation of an independent fiscal agency at the euro area level. The special nature of the euro area also warrants an independent assessment of its aggregate fiscal policy stance, which should be carried out on the basis of the SGP rules and should carefully take into account sustainability considerations for individual countries. For such a body to be effective, it needs to have the right to carry out and publish its assessments in real time. Those assessments could then support an informed debate on decisions taken by the Council and Commission, both in the public arena and in the European Parliament.

Most EU Member States have already established independent fiscal councils to strengthen national budgetary frameworks. The recent reforms of the EU fiscal governance framework broadened the role and tasks of independent public institutions at the Member State level in order to foster budgetary discipline and increase national ownership of EU fiscal rules.[4] While the mandates of the fiscal councils in EU Member States differ considerably across countries, the councils are

1 http://www.ec.europa.eu/priorities/economic-monetary-union/docs/single-market-strategy/communication-emu-steps_en.pdf

2 The report, "Completing Europe's Economic and Monetary Union", is available at http://ec.europa.eu/priorities/economic-monetary-union/docs/5-presidents-report_en.pdf

3 http://www.ec.europa.eu/priorities/economic-monetary-union/docs/single-market-strategy/decision-efb_en.pdf

4 See the box entitled "Fiscal councils in EU countries", *Monthly Bulletin*, ECB, June 2014.

typically in charge of monitoring compliance with national fiscal rules, including the functioning of the automatic correction mechanism required by the fiscal compact as part of the Treaty on Stability, Coordination and Governance in the Economic and Monetary Union. The "two-pack" also lays down specific standards for the institutional set-up of independent fiscal institutions at the national level. These include not only the capacity to communicate publicly in a timely manner, but also, for example, a far-reaching organisational independence based on a statutory regime grounded in laws, regulations or binding administrative provisions.[5]

The Five Presidents' Report published on 22 June 2015 recommends the establishment of an advisory European Fiscal Board to complement national fiscal councils and to improve the transparency of the application of the SGP. The main task envisaged for the European Fiscal Board is "to provide a public and independent assessment, at European level, of how budgets – and their execution – perform against the economic objectives and recommendations set out in the EU fiscal governance framework". The report specifies that the European Fiscal Board "should be able to issue opinions when it considers it necessary, including in particular in connection with the assessment of Stability Programmes and presentation of the annual Draft Budgetary Plans and the execution of national budgets". While the European Commission – in line with its prerogatives under the EU Treaties – should have the right to deviate from the views of the European Fiscal Board on the implementation of the fiscal rules, it would need to justify such deviations (the "comply or explain" principle). This means that the European Fiscal Board needs to carry out and publish its analyses in real time. Furthermore, it should provide an ex post evaluation of how the governance framework was implemented, as well as form an economic judgement on the appropriate fiscal stance at the national and euro area levels on the basis of the SGP. The Board's advice should feed into the decisions taken by the Commission in the context of the European Semester, which was introduced under the "six-pack" regulation to improve the coordination of Member States' fiscal and economic policies. Lastly, the new advisory entity should also coordinate and complement the national fiscal councils that have been set up under the EU Directive on budgetary frameworks[6]. In this context, it should conform to the same standard of institutional independence as the national fiscal councils.

Composition, role and mandate of the European Fiscal Board

The European Fiscal Board will be composed of five renowned experts, i.e. one Chair and four members, with credible competence and experience in macroeconomics and practical budgetary policy-making. While the Chair and one member will be appointed by the European Commission upon a proposal of the President, after having consulted the Vice-President for the Euro and Social Dialogue and the Commissioner for Economic and Financial Affairs, Taxation and Customs,

5 See Article 2 of Regulation (EU) No 473/2013 of the European Parliament and of the Council of 21 May 2013 on common provisions for monitoring and assessing draft budgetary plans and ensuring the correction of excessive deficit of the Member States in the euro area.

6 See Council Directive 2011/85/EU of 8 November 2011 on requirements for budgetary frameworks of the Member States.

the other three members will be appointed by the Commission upon a proposal of the President, after having consulted the national fiscal councils, the European Central Bank and the Eurogroup Working Group. The Board will be supported by a secretariat – consisting of a Head of Secretariat and dedicated supporting staff members – which will be attached to the Secretariat General of the European Commission for administrative purposes, but which will report solely to the Board. The Chief Economist Analyst (CEA) will exercise the function of Head of Secretariat. The post of CEA, who acts as an adviser within the Commission, was set up in late 2011 in response to calls for more independent monitoring in order to support a uniform application of the rules.

The role of the European Fiscal Board will be to contribute, in an advisory capacity, to multilateral fiscal surveillance in the euro area. First, it will provide the European Commission with an assessment of the implementation of the EU fiscal framework, particularly with regard to the horizontal consistency of decisions and the implementation of budgetary surveillance in cases where there is a risk of serious non-compliance with the rules. The European Fiscal Board may also make suggestions for the future evolution of the EU fiscal framework. Second, the Board will advise the Commission on the appropriateness of the prospective fiscal stance at the euro area and the national levels, based on an economic judgement. Third, it will cooperate with the national fiscal councils, notably with a view to exchanging best practices and facilitating common understandings.

The European Fiscal Board will need a strong public voice for it to operate effectively. This is envisaged in the Five Presidents' Report and will be an essential aspect of increasing the transparency and consistency of the implementation of the SGP rules. The Commission Decision does not explicitly provide for the European Fiscal Board's assessments to be published in real time and makes no mention of the possibility for it to issue public opinions. The same is true for the "comply or explain" principle spelled out in the Five Presidents' Report. The Commission Decision implies that the Board will mainly provide its advice and evaluations only directly to the Commission, although it does not specify how these would feed into the internal decision-making process. While it is unclear whether or not the European Fiscal Board will communicate publicly in real time, there is a reference to the publication of an annual report.

It will be important that the set-up of the European Fiscal Board follows the principles established in the context of the creation of independent bodies (like fiscal councils) at the national level. The Five Presidents' Report states that the same standard of independence that applies to the national fiscal councils should apply to the European Fiscal Board. The Commission Decision grants independence to the five members of the Board, although they will all be appointed and remunerated by the Commission. In addition, the creation of the European Fiscal Board on the basis of a Commission decision within its organisational structure is not in line with the standards established for its counterparts at the national level.

Overall, the establishment of the European Fiscal Board is a step in the right direction. Its mandate and institutional independence could be clarified and strengthened further to ensure that it can play an important role in increasing

transparency and improving compliance with the fiscal rules. First, since having a public voice is essential for the European Fiscal Board to be effective, it will be important that its right to publish is not limited to an annual report. In particular, the Board should be able to provide and publish assessments of the European Commission's SGP-related decisions in real time. Second, it should now be clarified how the advice of the Board will feed into the fiscal surveillance framework at the European level, for example by giving the Chair of the European Fiscal Board the right to make submissions in the European Parliament and at the relevant Council/Eurogroup meetings. In this context, the Commission – in the event that it deviates from the Board's advice on a particular matter – could commit to giving justifiable reasons for doing so. Third, it will be important to spell out the mandate of the European Fiscal Board, in particular with regard to the interplay between its assessment of the application of the SGP and its assessment of the prospective fiscal stance. While the former can build on well-established methodological foundations, this is not the case for the assessment of the appropriateness of the fiscal stance, notably at the euro area level. In this context, it will be important to ensure that SGP compliance in all Member States and debt sustainability risks form key elements of the assessment of the fiscal stance. Lastly, the institutional set-up of the European Fiscal Board could be revised over time, notably with a view to removing the Board from the institutional structures of the Commission so that it can operate as an independent institution with its own legal personality.

Articles
The transmission of the ECB's recent non-standard monetary policy measures

This article evaluates the transmission through bank intermediation, bank lending and money of the ECB's non-standard measures announced since June 2014, namely the credit easing package, focusing on the targeted longer-term refinancing operations (TLTROs), and the expanded asset purchase programme (APP), focusing on the public sector purchase programme (PSPP). The results presented suggest that these measures have significantly lowered yields in a broad set of financial market segments, with the effects generally increasing with maturity and riskiness. Both programmes have contributed to a reduction in banks' funding costs, which has incentivised them to pass on the cost relief to final borrowers by granting more credit at better conditions. Overall, the improved credit conditions in the euro area have helped push the monetary policy accommodation through the intermediation chain to reach households and firms.

1 Introduction

Since the onset of the financial crisis, the ECB and all other major central banks have complemented their operating frameworks with an array of non-standard monetary policy measures. In "normal" times, the ECB pursues its price stability mandate by setting the price for central bank reserves, thereby steering short-term money market interest rates so as to reflect its intended monetary policy stance. This monetary policy signal is then propagated through the financial system, influencing broader financing conditions and, ultimately, macroeconomic developments. During the financial crisis, this standard operating framework proved insufficient for two main reasons. First, dislocations in some financial market segments were impairing the mechanism through which the monetary policy stance is transmitted from the price of central bank reserves – which is controlled by the central bank – to broader financing conditions that affect investment and consumption decisions of firms and households. Second, the duration and severity of the global financial crisis led to the scope for providing monetary stimulus to the economy by reducing nominal short-term money market rates being exhausted, as these rates reached their effective lower bound.

The aim of the non-standard measures introduced by the ECB before June 2014 was to remedy impairments in various stages of the transmission mechanism. These measures ranged from the flexible provision of liquidity to the banking system according to demand, with extended maturities and also in currencies other than the euro, to conducting outright purchases of assets in

malfunctioning market segments.[1] What they have in common is that they were not intended to alter the ECB's monetary policy stance, but rather to ensure that it is duly transmitted to the economy by addressing impairments in the transmission mechanism.[2]

Starting in June 2014 a series of new measures was gradually introduced, which constitute a package of credit easing policies. The aim of these measures was to enhance the transmission of monetary policy but also to reinforce the accommodative monetary policy stance in view of the persistently weak inflation outlook, slowing growth momentum and subdued monetary and credit dynamics at the time. Since the original way that non-standard measures had been conducted – by providing a backstop for banks' liquidity needs – had become less suitable as banks entered a new phase of active deleveraging, new incentives for banks to resume their lending activities were required. In June 2014 the ECB announced the introduction of the TLTROs. These allow banks to borrow from the Eurosystem at fixed interest rates for a period of up to four years in a series of eight operations conducted at quarterly intervals starting in September 2014. Importantly, the amounts that banks can borrow are linked, for the first two TLTROs, to their stock of eligible loans (loans to euro area non-financial corporations (NFCs) and households, excluding loans to households for house purchase) as at 30 April 2014, and, for the remaining six operations, the evolution of eligible lending since May 2014.[3] In addition, in the context of a broader reduction in the key ECB interest rates, the Governing Council decided in June 2014 for the first time to introduce a negative rate on the deposit facility and on reserves in excess of the minimum reserve requirements. The rate was further lowered in September 2014 to its current level of -0.20%. In September 2014 the ECB also announced the launch of two asset purchase programmes, the asset-backed securities purchase programme (ABSPP) and the third covered bond purchase programme (CBPP3).

Finally, in January 2015 the ECB announced the introduction of the expanded APP in order to further ease the monetary policy stance. This measure was deemed necessary as policy rates were constrained by the lower bound – the rate on the ECB's main refinancing operations (MROs) had been set to 0.05% since September 2014 – and the inflation outlook had deteriorated further since the introduction of the credit easing package. The expanded APP encompasses the two previously launched purchase programmes (the ABSPP and CBPP3) as well as purchases of public sector securities. The purchases under the programme, which amount to €60 billion per month, are intended to be carried out until the end of September 2016, or beyond, if necessary, and, in any case, until a sustained

---

1 For a review of such measures, see the article entitled "The ECB's response to the financial crisis", *Monthly Bulletin*, ECB, October 2010. For a more recent review, see the article entitled "The role of the central bank balance sheet in monetary policy", *Economic Bulletin*, Issue 4, ECB, 2015.

2 Starting in July 2013, the ECB also initiated a practice of offering explicit verbal guidance on the evolution of its policy in the future ("forward guidance"), aimed at providing greater clarity about the Governing Council's monetary policy orientation based on its assessment of the outlook for price stability, thereby enhancing the effectiveness of the ECB's monetary policy in the prevailing circumstances. For more details, see the article entitled "The ECB's forward guidance", *Monthly Bulletin,* ECB, April 2014.

3 For details on the modalities of the TLTROs, see the document entitled "Targeted longer-term refinancing operations: updated modalities", available at: http://www.ecb.europa.eu/press/pr/date/2014/html/pr140729_updated_modalities.pdf

adjustment is seen in the path of inflation consistent with the aim of achieving inflation rates below, but close to, 2% over the medium term.[4]

This article discusses the impact on bank intermediation, bank lending and money of the non-standard measures introduced by the ECB since June 2014.[5] A discussion of their impact on non-bank financial intermediaries as well as of the ultimate impact on economic activity and inflation is beyond the scope of this article. Section 2 analyses the impact of these measures on banks' balance sheet developments, funding conditions and risk-bearing capacity with a view to establishing how they affect banks' ability to act as financial intermediaries and thus be an effective conduit for the transmission of the monetary policy signal. Section 3 focuses more specifically on the effect of the measures on the outcome of the intermediation process, namely bank lending. Section 4 analyses the impact of the APP on broad money in view of the exogenous increase in the amount of central bank liquidity brought about by this measure. Section 5 concludes. The two boxes provide a stylised overview of the main transmission channels for these measures (Box 1) and their impact on various financial market prices (Box 2).

Box 1
Transmission channels for non-standard measures

While the non-standard measures introduced by the ECB since June 2014 are relatively diverse in nature, the broad transmission channels through which they are expected to affect the economy are similar, albeit activated to varying degrees by the different measures. A large body of literature, focusing primarily on asset purchase programmes, has identified a number of possible channels through which non-standard measures might influence inflation and output. Borrowing from this literature, this box focuses on three main channels of transmission, namely the direct pass-through, portfolio rebalancing and signalling channels.

First, via the direct pass-through channel, the non-standard measures are expected to ease borrowing conditions in the private non-financial sector by easing banks' refinancing conditions, thereby encouraging borrowing and expenditure for investment and consumption. This channel is perhaps most prominent in the case of the TLTROs, which are designed to reduce banks' marginal cost of funding for the targeted lending activity. The targeting features of the TLTROs incentivise banks to increase their supply of specific types of net lending to the real economy, which ensures that at least part of the funding cost benefit is passed on to borrowers. Moreover, as TLTROs allow banks to replace market-based bank funding with borrowing from the central bank, they can result in a reduction in the supply of bank bonds in the economy. The scarcity of bank bond issuance should translate into lower yields on bank bonds, including those issued by intermediaries not participating in the TLTROs. Asset purchases, particularly of the type included in the credit easing package, can also affect the credit conditions faced by the private sector. Central bank purchases increase the price of the targeted covered bonds and asset-backed securities: this encourages banks to increase their supply of loans that can be securitised, which tends to lower bank lending rates.

[4] For more details, see the box entitled "The Governing Council's expanded asset purchase programme", *Economic Bulletin*, Issue 1, ECB, 2015.

[5] The cut-off date for data in this article was 25 September 2015.

Second, via the portfolio rebalancing channel, yields on a broad range of assets are lowered. Asset purchases by the central bank result in an increase in the liquidity holdings of the sellers of these assets. If the liquidity received is not considered a perfect substitute for the assets sold, the asset swap can lead to a rebalancing of portfolios towards other assets. Through a chain of such portfolio rebalancing attempts, asset prices rise until a new equilibrium is reached, implying lower yields and costs of external financing. The theoretical underpinnings of this channel date back at least to the 1960s.[6] Portfolio rebalancing may support the expansion of bank lending, as the compression of yields on securities renders lending a relatively more attractive proposition. The increased supply of bank lending lowers its cost. Portfolio rebalancing could in part entail increased holdings of external assets by euro area residents or repatriation of funds by non-residents, thereby exerting downward pressure on the foreign exchange value of the euro. Portfolio rebalancing effects can also be activated by the TLTROs, as the amounts that banks can borrow are a multiple of their eligible lending, which allows them to also finance purchases of assets such as government and private sector securities. Moreover, the repayment – rather than roll-over – of maturing bank bonds by banks participating in the TLTROs is likely to trigger portfolio rebalancing by the holders of these bonds. The empirical importance of this channel has been tested in works focusing mainly on the financial market impact of quantitative easing policies. Most of the studies have found evidence supporting the relevance of this channel.[7]

Third, via the signalling channel, the deployment of non-standard measures, particularly those that have a sizeable effect on the central bank's balance sheet, serves to underscore the monetary authority's commitment to its mandate.[8] This can have two effects. First, it can trigger a downward revision of market expectations for future short-term interest rates. In the case of the ECB's asset purchase programmes, this is because of the long period of ample liquidity implied by the maturity profile of the assets purchased. In the case of the TLTROs, this is related to the fixed rate of the operations and their long maturity, which was four years for the initial operations. Second, it may anchor or, as the case may be, increase inflation expectations. The result is that real long-term rates will be lower, thereby supporting investment and consumption. Past studies have found that the contribution of the signalling channel is highly uncertain. It has been found to be muted in the United Kingdom, moderate in the euro area and highly uncertain in the United States, for which estimates have ranged from 10% to 50% of the total decline in Treasury yields.[9]

---

6 See Tobin, J., "Money, Capital, and Other Stores of Value", *American Economic Review*, Papers and Proceedings of the Seventy-Third Annual Meeting of the American Economic Association, Vol. 51, No 2, 1961, pp. 26-37; Friedman, M. and Schwartz, A.J., "Money and Business Cycles", *Review of Economics and Statistics*, Vol. 45, No 1, 1963, pp. 32-64; Brunner, K. and Meltzer, A.H., "Mr Hicks and the 'Monetarists'", *Economica*, Vol. 40, No 157, 1973, pp. 44-59; and Vayanos, D. and Vila, J.-L., "A Preferred-Habitat Model of the Term Structure of Interest Rates", *NBER Working Paper Series* No 15487, 2009.

7 For evidence in relation to the euro area, see Altavilla C., Carboni G. and Motto, R., "Asset purchase programmes and financial markets: lessons from the euro area", *Working Paper Series*, ECB, forthcoming. For the United Kingdom, see Joyce, M., Lasaosa, A., Stevens, I. and Tong, M., "The Financial Market Impact of Quantitative Easing in the United Kingdom", *International Journal of Central Banking*, Vol. 7, No 3, 2011, pp. 113-61. For the United States, see Gagnon, J., Raskin, M., Remache, J. and Sack, B., "The Financial Market Effects of the Federal Reserve's Large-Scale Asset Purchases", *International Journal of Central Banking*, Vol. 7, No 1, 2011, pp. 3-43. See also D'Amico, S., English, W., López-Salido, J.D. and Nelson, E., "The Federal Reserve's Large-Scale Asset Purchase Programs: Rationale and Effects", *Economic Journal*, Vol. 122, 2012, pp. 415-46.

8 For a discussion on the implications of the measures for the balance sheet of the Eurosystem, see the article entitled "The role of the central bank balance sheet in monetary policy", *Economic Bulletin*, Issue 4, ECB, 2015.

9 See Krishnamurthy, A. and Vissing-Jorgensen, A., "The Ins and Outs of LSAPs", *Proceedings - Economic Policy Symposium - Jackson Hole*, Federal Reserve Bank of Kansas City, 2013; Bauer, M.D. and Rudebusch, G.D., "The Signaling Channel for Federal Reserve Bond Purchases", *International Journal of Central Banking*, Vol. 10, No 3, 2014, pp. 233-289; and Christensen, J.H.E. and Rudebusch, G.D., "The Response of Interest Rates to US and UK Quantitative Easing", *The Economic Journal*, Vol. 122, No 564, 2012, pp. F385-F414.

2 The impact on bank intermediation

The ECB's non-standard measures interact in intricate and often far-reaching ways with banks' intermediation processes and capacities by influencing their balance sheet developments, funding conditions and risk-bearing capacity. This section discusses some of the main aspects of this interaction in the case of the TLTROs and the APP in order to ascertain how these measures affect banks' ability to act as effective conduits for the transmission of the monetary policy signal.

2.1 Banks' use of the TLTROs

The TLTROs are intended to impact on the balance sheets of the borrowing banks in two main complementary ways. First, the TLTROs provide an incentive for asset expansion, particularly in terms of lending to firms and households, in line with the targeted nature of the measure. Given that the amounts that banks can borrow from the TLTROs are a multiple of their eligible lending, they also allow banks to fund other asset expansion strategies, involving asset classes beyond eligible loans. Second, as an attractive source of long-term funding the TLTROs are intended to allow banks to replace more costly sources of funding and extend the maturity of their liabilities in order to better match that of the lending targeted by the measure.

Bank asset expansion has indeed taken place over the period during which TLTROs have been conducted although it has been centred on countries that are currently considered less vulnerable.[10] It is important that the asset expansion that may have been encouraged by the TLTROs be assessed against a counterfactual path for an increase in bank balance sheets that would have materialised in the absence of this measure. While such a path is elusive, it should be recalled that when the operations were launched some banks in the euro area, and entire banking systems in certain vulnerable countries, were facing the need to deleverage, which in some cases was even formalised in restructuring plans. Chart 1 shows the changes in the main balance sheet items of banks that borrowed in the TLTROs between end-August 2014 (before the first TLTRO was conducted) and end-July 2015. Clearly, the movements on these banks' balance sheets are also affected by numerous other factors and considerations not related to the TLTROs, which cannot be parsed out in this simple illustration. These developments should therefore be interpreted with caution and in conjunction with complementary evidence. Chart 1 shows that TLTRO borrowers expanded their credit to the private sector over this period. It should be noted, however, that this outcome is entirely driven by banks in countries that are currently considered less vulnerable. In vulnerable countries, by contrast, credit provided to the private sector by TLTRO borrowers continued to decline, reflecting the ongoing deleveraging process in these countries. Across vulnerable and less vulnerable countries, TLTRO borrowers

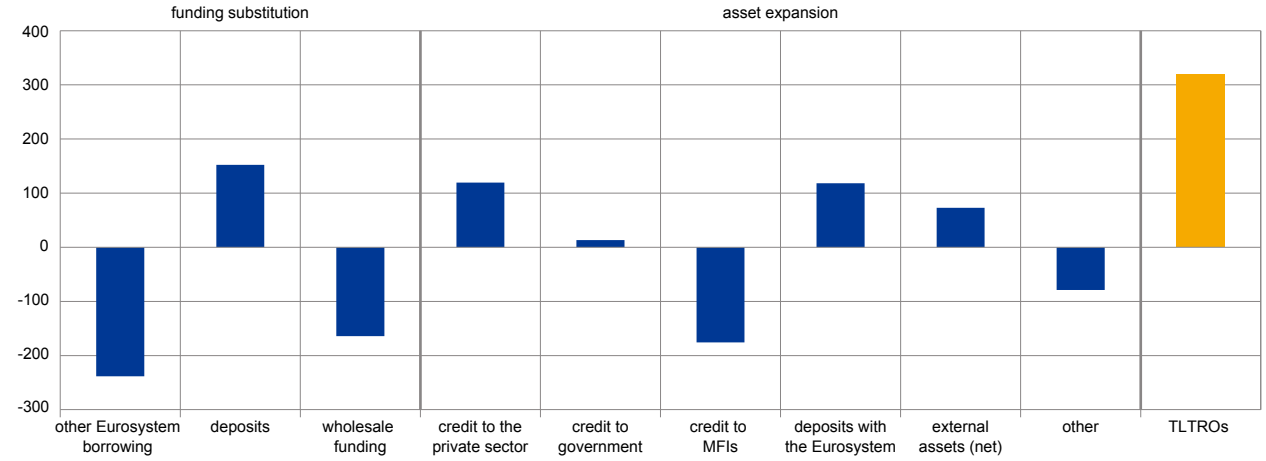
[10] Throughout this article the term "vulnerable countries" refers to Ireland, Greece, Spain, Italy, Cyprus, Portugal and Slovenia, while the term "less vulnerable countries" refers to the remaining euro area countries.

acquired external assets in net terms, while the overall change in their provision of credit to euro area sovereigns was muted.[11] There is no evidence that TLTRO borrowers, in aggregate, distributed the liquidity they obtained to other banks, as credit to monetary financial institutions (MFIs) contracted. While Chart 1 documents some "parking" of funds in Eurosystem deposits by TLTRO borrowers, it should be recalled that the expanded APP was launched in the last part of the period covered, which resulted in a large, steady increase in central bank reserves in the system.

Chart 1

Changes in the balance sheets of banks participating in the TLTROs

(EUR billions)



Sources: ECB and ECB calculations.
Notes: Changes refer to cumulated flows in the period from end-August 2014 to end-July 2015. Data refer only to the subset of banks participating in the TLTROs for which individual balance sheet information is available. "Wholesale funding" refers to the issuance of debt securities and borrowing from MFIs.

The funding substitution that has taken place as a result of the TLTROs has resulted in a significant extension of the maturity of bank funding. TLTRO borrowers have sharply reduced their recourse to other Eurosystem borrowing (see Chart 1). This reflects the fact that the three-year long-term refinancing operations that were conducted in December 2011 and February 2012 matured in, respectively, January and February 2015, as well as the fact that banks switched borrowing from other operations (three-month longer-term refinancing operations and MROs) to the TLTROs. Overall, this has resulted in a substantial extension of the weighted average maturity of bank borrowing from the Eurosystem, from 130 days before the first TLTRO was conducted to 804 days after the settlement of the fourth TLTRO in June 2015.[12] This extension of maturity provides banks with funding certainty over a longer period and allows them to better match the maturity of their liabilities with that of assets such as loans to households and firms. TLTRO borrowers have also reduced their recourse to wholesale funding, i.e. issuance of

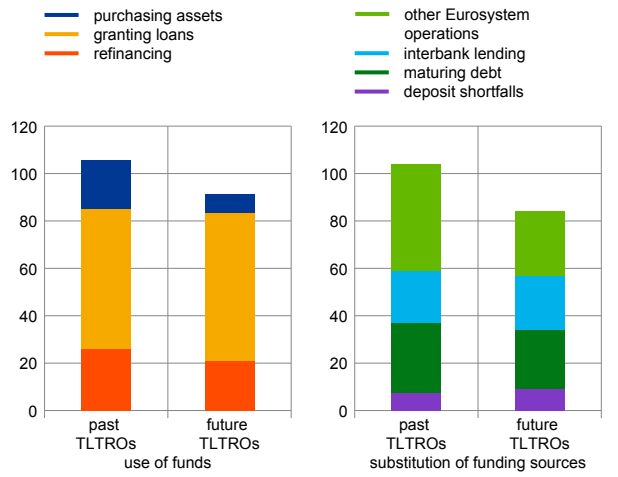
[11] The increase in net external assets mainly reflects the intermediation of bank clients' external transactions and is thus predominantly not an active portfolio decision by banks. This notwithstanding, gross external assets also increased over this period.

[12] This illustrative calculation assumes that all TLTROs are repaid on their final maturity in September 2018 and are not subject to voluntary or mandatory early repayment.

Chart 2

Use of funds from the TLTROs as reported in the July 2015 bank lending survey (BLS)

(percentages of respondents)



Source: ECB.
Notes: "Past TLTROs" refers to all TLTROs which took place up to June 2015 and "future TLTROs" refers to operations beyond this point. Values displayed in the chart are the sum of the percentages of banks responding "has contributed or will contribute considerably" and "has contributed or will contribute somewhat" to the corresponding question in the BLS. The results shown are calculated as a percentage of the number of banks that did not reply "not applicable". Respondents may indicate that the TLTROs have contributed or will contribute to more than one use.

debt securities and interbank borrowing. Indeed, there is evidence that the reduced recourse to the issuance of debt securities is, in aggregate terms, more pronounced in the case of TLTRO borrowers than for other banks. While the reduction of debt securities, particularly of the unsecured type, would be the most cost-effective type of funding substitution, the reduction of outstanding debt securities is constrained by the roll-off rate implied by their maturity structure as well as by business considerations supporting a continued issuing presence in the market. In this context, other policy measures taken by the ECB over this period, and the CBPP3 in particular, have supported banks' continued issuance activity in the covered bond market.

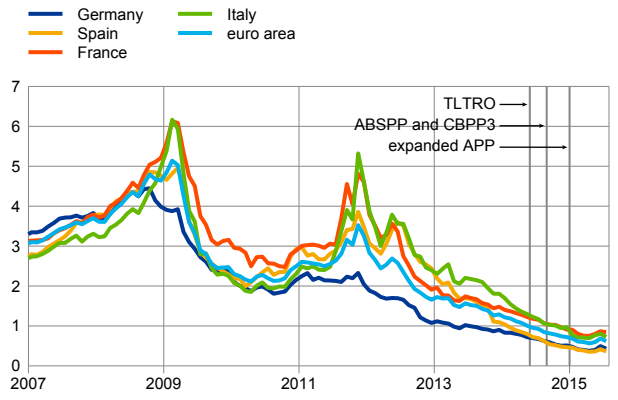
Looking ahead, banks have signalled that they expect to mobilise more of the TLTRO funds borrowed in order to extend loans. In their responses to the July 2015 euro area bank lending survey (BLS) banks indicated that in future TLTROs they expect that more of the funds drawn will be deployed to grant loans and less to acquire other assets (see the left-hand panel of Chart 2). As regards funding substitution, banks expect that the replacement of funding from other Eurosystem operations will become less important (see the right-hand panel of Chart 2), which is unsurprising given the extent to which TLTROs have replaced other Eurosystem operations thus far.

2.2 The impact of the ECB's non-standard measures on banks' access to market financing

Chart 3

Composite cost of bank deposit and bond financing

(percentages per annum)



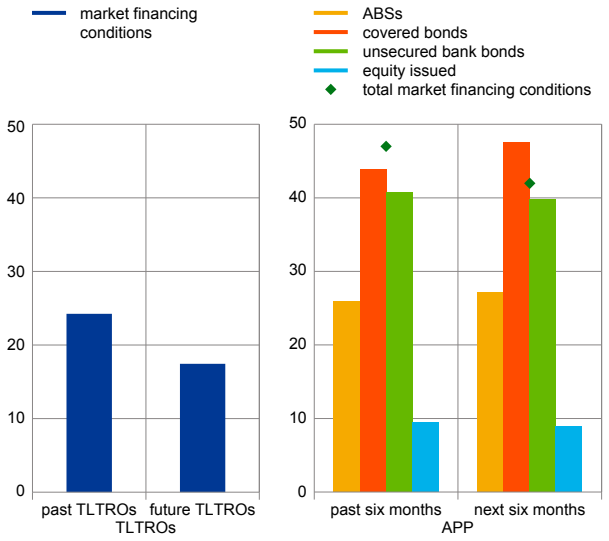
Sources: ECB, Merrill Lynch Global Index and ECB calculations.
Notes: Average of deposit rates on new business and cost of market debt funding weighted with their corresponding outstanding amounts. Vertical lines denote the announcement dates of the respective measures. The latest observation is for July 2015.

The ECB's non-standard measures have also improved broader market financing conditions for banks, regardless of their participation in Eurosystem borrowing operations. The replacement of more costly and shorter-dated funding sources with TLTROs is only one part of the easing effect of the TLTROs on bank funding conditions and, ultimately, the cost of funding for firms and households. The TLTROs, along with the other standard and non-standard measures introduced by the ECB since June 2014, and the APP in particular, have precipitated a substantial compression of medium and long-term yields on a number of financial assets, including bank funding instruments (see Box 2). As a result, the composite cost of debt financing for banks has decreased markedly across euro area countries (see Chart 3). Moreover, the cross-country dispersion of this cost has continued

Chart 4

Improvement in market financing conditions for banks resulting from the TLTROs and the APP, as reported in the BLS

(percentages of respondents; net percentages of respondents)



Source: ECB.
Notes: "Past TLTROs" refers to all TLTROs which took place up to June 2015 and "future TLTROs" refers to operations beyond this point. Values displayed in the left-hand panel of the chart are the sum of the percentages of banks responding "has improved or will improve considerably" and "has improved or will improve somewhat" to the corresponding question in the July 2015 BLS. Values displayed in the right-hand panel of the chart are the difference between the sum of the percentages for "increased/improved considerably" and "increased/improved somewhat" and the sum of the percentages for "decreased/deteriorated somewhat" and "decreased/deteriorated considerably", as reported in the April 2015 BLS. The results shown are calculated as a percentage of the number of banks that did not reply "not applicable".

to decline. The 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. The role of the ECB's non-standard measures as a driver of these developments is confirmed by banks' responses to the BLS (see Chart 4). Around one-quarter of respondents in the July 2015 survey indicated that the TLTROs have contributed to easing the conditions they face when accessing market financing. As expected, the positive impact is more widespread in the case of the APP: almost half of the banks participating in the April 2015 survey identified a positive effect on market financing conditions in the six months to March.[13] In terms of specific instruments, the positive impact was reported to be more widespread in the case of funding via covered and unsecured bank bonds.

2.3 The accommodation of the reserves created by the APP on bank balance sheets

Asset purchases by the Eurosystem in the context of the APP are also having profound effects on banks' balance sheets. The Eurosystem pays for the assets it purchases by supplying reserves, i.e. deposits with the Eurosystem. Since credit institutions are the entities that typically hold deposit accounts with the central bank,[14] purchases are always settled through them, regardless of who the ultimate seller is. The accommodation of these reserves on banks' balance sheets is associated with movements in other balance sheet items. It is expected that this will eventually trigger portfolio rebalancing by banks, whereby they exchange the reserves they receive for other assets.

The increase in reserves following the introduction of the expanded APP is matched on banks' balance sheets by increases in deposits and, to a somewhat lesser extent, by sales of government bonds from banks' own portfolios. The largest counterpart to the increase in holdings of reserves in the period during which the expanded APP has been active is an increase in deposits by euro area residents (see Chart 5), part of which reflects banks' intermediation of bond sales to the Eurosystem by euro area non-banks. Their intermediation of sales by non-euro area residents is reflected in a decline in net external assets, which is also very sizeable. A somewhat smaller but still material part of the increase in holdings of reserves is matched by a decline in bank credit to governments,

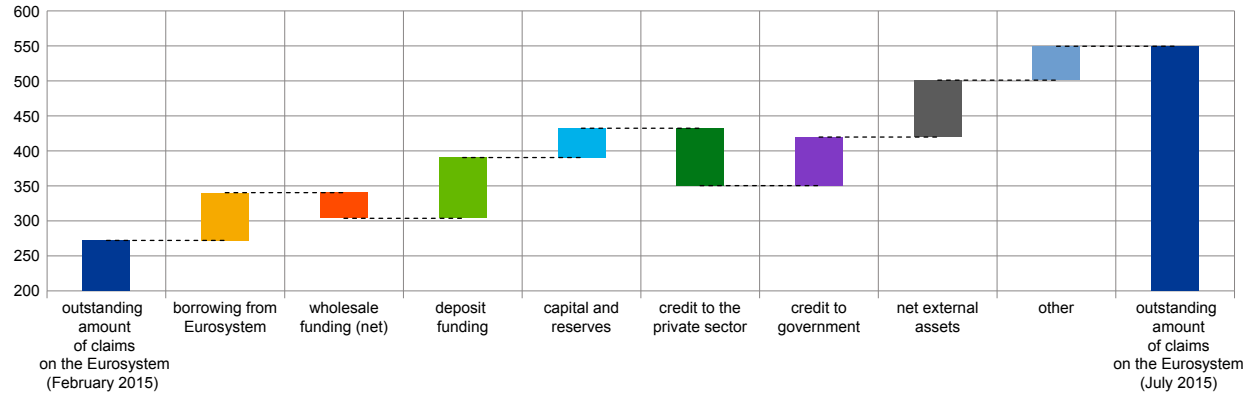
13 These are the latest results available at the time of writing for the question on the APP, which is included in the BLS on a semi-annual basis.

14 Certain other entities, such as governments or government agencies, also hold deposit accounts with Eurosystem national central banks. Such entities, however, are not involved in intermediating sales of securities to the Eurosystem.

Chart 5

Balance sheet movements of MFIs other than the Eurosystem that correspond to the change in reserve holdings between end-February and end-July 2015

(EUR billions, not seasonally adjusted)

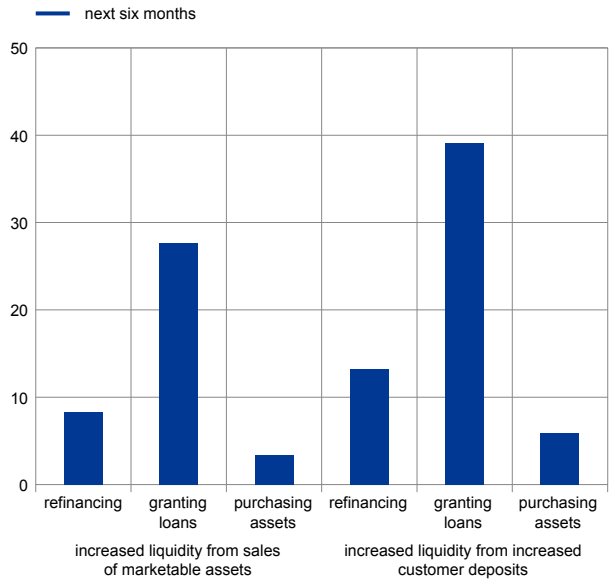


Sources: ECB and ECB calculations.
Notes: Increases in net asset positions reduce claims on the Eurosystem. Increases in net liability positions increase claims on the Eurosystem. "Wholesale funding (net)" refers to issuance of debt securities net of holdings of MFI debt securities and borrowing from MFIs other than the Eurosystem net of deposits with MFIs other than the Eurosystem.

Chart 6

Intended use of additional liquidity arising from the APP, as reported in the April 2015 BLS

(percentages of respondents)



Source: ECB.
Notes: The percentages are defined as the sum of the percentages responding "will contribute considerably to this purpose" and "will contribute somewhat to this purpose" to the corresponding question in the April 2015 BLS. The results shown are calculated as a percentage of the number of banks which did not reply "not applicable" and refer to banks' assessments for the forthcoming six months.

which, at least partly, reflects sales of securities to the Eurosystem from banks' own portfolios. Chart 5 also shows an expansion of credit to the private sector, part of which will have also contributed to the increase in deposits discussed above.

The final uses of the liquidity generated by the APP are likely to be different to the initial uses.

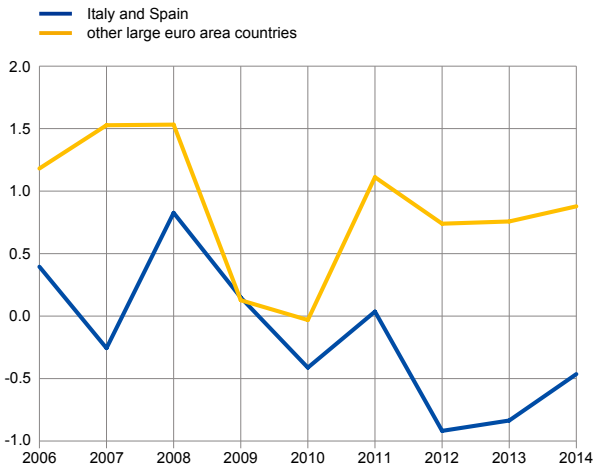
The banking system as a whole cannot reduce the total amount of reserves it holds by engaging in portfolio rebalancing.[15] Looking at aggregate data can therefore provide only limited insights into the use of the liquidity generated by the APP, as the liquidity being used by one bank will be matched by a movement on the balance sheet of the bank receiving the liquidity. However, survey evidence can shed some light on banks' intentions. A large number of respondents to the April 2015 BLS said they expected to use the increased liquidity they receive to grant loans (see Chart 6). This response should be qualified, however, as the expansion of loans is a process that requires time to materialise, not only owing to operational considerations but also because the reaction of loan demand to improved supply conditions is unlikely to

[15] A limited amount of reserve reabsorption can occur through the repayment of borrowing from the Eurosystem. Moreover, the acquisition of banknotes by banks also depletes the aggregate amount of reserves.

Chart 7

Difference between the ex-post risk-adjusted returns on loans and those on securities in selected euro area countries

(percentage points)



Sources: Bankscope and ECB calculations.
Notes: Risk-adjusted return on loans (interest received from loans net of impairment and capital charges, over amount of net loans) and the corresponding figure for securities. Weighted averages for an unbalanced panel of 186 banks. Yearly data. "Other large euro area countries" comprises Germany, France and the Netherlands.

be instantaneous. It is therefore probable that the first stage of rebalancing will affect mainly the liabilities side of banks' balance sheets, as banks use the increased liquidity at their disposal to pay down their more costly liabilities. This initial stage is also likely to involve the acquisition of some liquid assets, which can be done swiftly and with low transaction costs. Nevertheless, both of these types of immediate transaction contribute to activating portfolio rebalancing effects and are therefore congruent with the APP's intended objectives.

The APP is expected to improve the attractiveness of loans compared with securities as regards banks' portfolio allocation decisions. It is expected to impact on banks' portfolio decisions by tilting the risk-adjusted return on assets in favour of loans. In recent years the returns that banks, particularly in vulnerable euro area countries, have earned (in ex-post risk-adjusted terms) by investing in securities have been much higher than those on investing in loans (see Chart 7). However, the portfolio rebalancing effects triggered by the APP will reduce the yields on securities. While these effects will also place downward pressure on loan rates, for banks' bottom line profitability this will be counteracted by the lower credit risk of the loans, owing to the improving macroeconomic outlook. Overall, therefore, the APP is expected to make loans more attractive than securities.

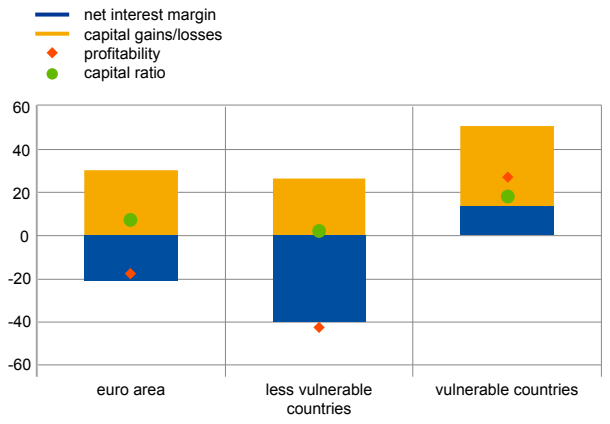
2.4 The impact of the APP on bank profitability and capital

The APP also has implications for banks' capacity to bear risk. Banks' capital positions are of central relevance for their ability to intermediate and thus transmit the monetary policy accommodation engineered by the ECB's non-standard measures. The accumulation of profits is one of the main methods that banks can use to boost their capital buffers and thereby increase their capacity to lend and take on the associated risks. The APP has several, partly competing effects on banks' capital and profitability. The reduction in longer-term yields brought about by the APP in an environment where short-term rates are at or close to their effective lower bound implies a flattening of the yield curve. Given banks' traditional business model of performing maturity transformation, i.e. funding the acquisition of long-term assets by issuing short-term liabilities, this yield constellation can exert downward pressure on their intermediation margins. At the same time, this adverse effect on bank profitability and capital is counteracted by the boosting effect of the APP on economic activity, which, as previously mentioned, moderates the credit risk of loans, thereby reducing the associated provisioning costs. Moreover, the general increase in asset prices expected to be triggered by the APP will lift the valuations of these assets on bank balance sheets, thus, under certain conditions, giving rise to capital gains.

Chart 8

Expected impact of the APP on banks' profitability and capital ratios, as reported in the April 2015 BLS

(net percentages of respondents)



Source: ECB.
Notes: Expected impact over the next six months. The net percentages are defined as the difference between the sum of the percentages of banks responding "increased/improved considerably" and "increased/improved somewhat" and the sum of the percentages for "decreased/deteriorated somewhat" and "decreased/deteriorated considerably" to the corresponding question in the April 2015 BLS. The results shown are calculated as a percentage of the number of banks which did not reply "not applicable".

Evidence from the BLS points to a positive overall effect of the APP on bank capital, but the impact on profitability is reported to vary across countries. Since some of the effects of the APP have opposing impacts on bank profitability and capital, the overall effect is ex ante unclear. According to the April 2015 BLS, banks expect a slight overall improvement in their capital ratios resulting from the APP (see Chart 8). This reflects a broad-based expectation of capital gains associated with the programme. However, as part of these capital gains are not reflected in banks' accounting profits,[16] the negative effect of the APP on banks' net interest margins dominates here, resulting in an adverse overall effect on bank profitability. While the impact on net interest margins is negative overall at the euro area level, the responses at the country level are more diverse. In particular, in vulnerable euro area countries where loans are often extended at floating rates and banks are most burdened by costs associated with credit quality, the impact is reported to be positive.

Box 2

The impact of non-standard measures on financial markets

This box quantifies the effects of the ECB's recent non-standard measures on financial asset prices. The main challenge in doing this is that the ECB's announcements of both the TLTROs (June 2014) and the expanded APP (January 2015) were largely expected by financial markets, following a number of official ECB communications which indicated the possibility of further non-standard measures being introduced. According to theory, efficient markets should price in the impact of a policy measure in anticipation of its actual implementation. This reasoning implies that asset prices should react to TLTRO and APP-related news in anticipation of the official announcement itself, as market participants revise the likelihood of the programmes being introduced and their expected size.

This box employs an event study methodology that extends the set of events to include official ECB announcements from May 2014 onwards which might have affected market expectations regarding the programmes. For the TLTROs, policy-related events include the Governing Council meetings of May and June 2014.[17] For the APP a larger set of events has been identified, following the approach of Altavilla et al.[18] For each event, changes up to a two-day window in length are considered, so as to allow for possible slow reactions of asset prices in light of the novelty of the

16 The extent to which capital gains are reflected in accounting profits depends on the accounting portfolio in which the relevant assets are held.

17 The analysis associates the Governing Council meeting held on 8 May 2014 with the TLTROs in part because the President of the ECB explicitly stated during the press conference that the Governing Council was willing to act in the following month. As a result, the official announcement of the TLTROs in June 2014 was already partially priced in after this press conference.

18 See the first Working Paper cited in footnote 7.

programmes. For this reason, this regression analysis explicitly controls for macroeconomic releases. Specifically, the estimates in the "controlled event study" columns (see Table) are obtained by regressing the daily changes in yields on the selected event dummies and the surprise component of a wide set of macroeconomic releases. The analysis considers macroeconomic news for the euro area, the four largest euro area economies and the United States over the sample period, i.e. from the beginning of January 2014 to the end of March 2015. The "standard event study" columns contain estimates obtained without controlling for macroeconomic news.

Table

Changes in yields of selected financial assets around policy event dates

	TLTRO		APP	
	Standard event study	Controlled event study	Standard event study	Controlled event study
Three-month EURIBOR (basis points)	-4	-4	-5	-3
10-year government bond (basis points)				
Euro area	-22	-23	-48	-47
Germany	-9	-10	-23	-18
France	-17	-18	-36	-27
Italy	-31	-33	-72	-60
Spain	-29	-31	-69	-65
Bonds issued by financial corporations (basis points)				
AAA	-14	-14	-13	-7
AA	-13	-13	-15	-11
A	-15	-14	-18	-14
BBB	-23	-24	-32	-27
Bonds issued by non-financial corporations (basis points)				
AAA	-10	-9	-26	-11
AA	-10	-10	-20	-12
A	-12	-12	-19	-15
BBB	-15	-15	-19	-23
Bonds issued by banks (basis points)				
Euro area	-16	-16	-26	-22
Germany	-12	-12	-13	-8
France	-13	-13	-17	-11
Italy	-26	-26	-56	-59
Spain	-18	-18	-15	-14
Exchange rate (percentages)				
USD/EUR exchange rate	-1	-1	-12	-12
Nominal effective exchange rate	-1	-1	-8	-8
Stock prices (percentages)				
Dow Jones EURO STOXX (broad) index	2	3	5	1
Inflation swap rates (basis points)				
One-year	-1	1	5	33
Three-year	2	3	14	27
Five-year	2	3	14	24

Source: Reuters, Bloomberg and ECB calculations.
Notes: The ten-year government bond yield for the euro area refers to an indicator constructed by the ECB using the Nelson-Siegel-Svensson model, which includes all issuers and all ratings. The nominal effective exchange rate of the euro used in the estimation is that against the currencies of the EER-19 group of trading partners (Australia, Bulgaria, Canada, China, Croatia, the Czech Republic, Denmark, Hong Kong, Hungary, Japan, Norway, Poland, Romania, Singapore, South Korea, Sweden, Switzerland, the United Kingdom and the United States). Bank bond yields are investment grade. For the TLTROs, the events are 8 May and 5 June 2015. For the APP, the exercise is based on 17 event dates. For 2014 the selected events are: 4, 12, 24 and 25 September; 2, 10 and 24 October; 6, 17, 21 and 27 November and 4 December. For 2015 the events are 2, 8, 14 and 22 January and 5 March.

The results suggest that the combined effects of the non-standard measures implemented since June 2014 have significantly lowered yields in a broad set of financial market segments. The effects generally increase with maturity and riskiness. For instance, a sizeable impact is estimated for long-term sovereign bonds, with ten-year yields declining by about 70 basis points for the euro area, and roughly 100 basis points for Italy and Spain. The spillovers to yields of untargeted assets are significant in the case of euro area financial and non-financial corporate bonds.

There is also easing pressure on other financial market prices, such as the exchange rate and equity prices. As shown in the table, the APP announcements are estimated to have led to a depreciation of the euro by 12% against the US dollar. It is also estimated that there was a positive impact on the euro stock market index of 3% in the case of the TLTROs and 1% in the case of the APP.

The results suggest that the APP has contributed to an increase in long-term inflation expectations. Inflation swap rates for maturities between one and five years are a measure of the private sector's inflation expectations over the respective horizons. The estimated change in inflation swap rates due to the APP is around 30 basis points for the one-year maturity and around 20 basis points for the five-year maturity. For the credit easing and asset purchase programmes to provide stimulus to the real economy, the response of inflation expectations is crucial: a decline in inflation expectations matching the decline in nominal yields would leave real interest rates unchanged. Moreover, the response of inflation expectations is a metric for gauging the credibility as perceived by financial markets of the asset purchase programme's ability to address deflation risks.

3 The impact on bank lending

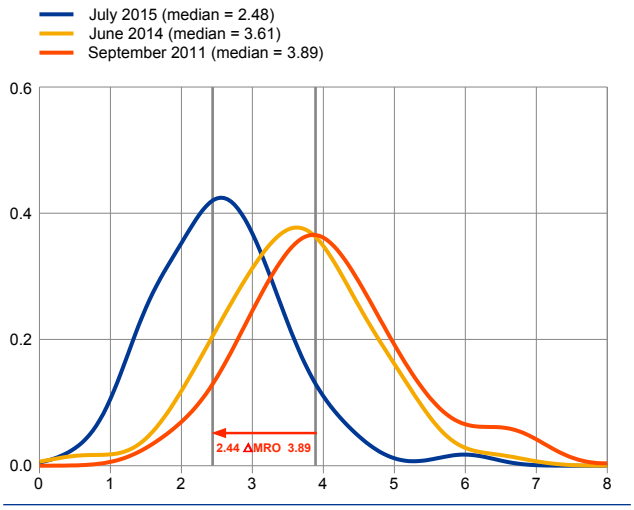
From a monetary policy transmission perspective, banks' intermediation capacity is relevant primarily because it affects the supply of bank loans to firms and households. This section therefore focuses more specifically on the effect of the ECB's recent non-standard monetary policy measures on the eventual outcome of the intermediation process, namely on the availability, conditions, rates and volumes of bank lending.

Evidence from lending rates applied by banks to NFCs points to an improvement in the pass-through of monetary policy measures. Data on individual MFI lending rates suggest that successive cuts in the MRO rate have been passed through to lending rates applied to NFCs to a different extent across countries (see Charts 9 and 10). Looking at the distributions of lending rates charged by MFIs to firms in September 2011 (i.e. shortly before the first of a series of cuts in the MRO rate starting in November 2011) and June 2014, it appears that the 125 basis point reduction in the MRO rate over this period was incompletely and unevenly reflected in the decline in the median lending rate: in the group of less vulnerable countries it declined by 92 basis points, whereas in the group of vulnerable countries it declined by only 28 basis points. Before, therefore, the launch of the credit easing package, and especially in vulnerable countries, the bulk of the reduction in the key ECB interest rates had not been transmitted to the borrowing costs faced by households and firms. In the period after the announcement of the credit easing package in June 2014, however, the reduction in borrowing costs was larger in vulnerable countries (113 basis points) than in less vulnerable countries (50 basis points), suggesting that both the TLTROs and the APP have supported credit flows to the private sector and aligned the price of such credit with the intended stance of monetary policy.

Chart 9

Composite lending rates for NFCs: distribution of individual MFIs in vulnerable countries

(percentages per annum)

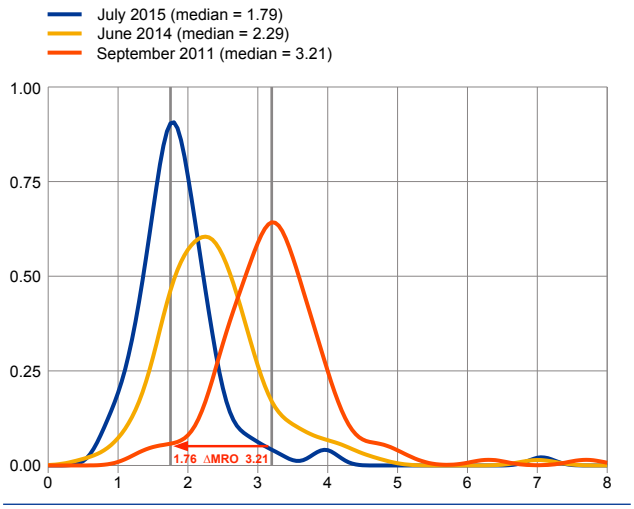


Source: ECB.
Note: The chart shows the density approximation of the lending rate distribution obtained from a sample of 55 MFIs in selected vulnerable countries (Ireland, Spain, Italy and Portugal) in three different periods (September 2011, June 2014 and July 2015). The chart also shows that if the reduction in the MRO rate since September 2011 (i.e. 145 basis points) had been fully passed on to the median lending rate of that period (i.e. 3.89%), the lending rate in July 2015 would have been 2.44%.

Chart 10

Composite lending rates for NFCs: distribution of individual MFIs in less vulnerable countries

(percentages per annum)



Source: ECB.
Note: The chart shows the density approximation of the lending rate distribution obtained from a sample of 105 MFIs in selected less vulnerable countries (Belgium, Germany, France, the Netherlands and Austria) in three different periods (September 2011, June 2014 and July 2015). The chart also shows that if the reduction in the MRO rate since September 2011 (i.e. 145 basis points) had been fully passed on to the median lending rate of that period (i.e. 3.21%), the lending rate in July 2015 would have been 1.76%.

A simplified accounting model of how banks price their loans can be used to analyse the main factors that influence lending rates. Using such a model, it is possible to break down lending rates into four main components:[19]

Lending rate = bank funding cost + capital charge + intermediation margin + other factors

This simplified model assumes that when pricing a loan, the base used by banks is a market reference rate which mainly reflects the rate at which they can raise funds in the interbank money market. In addition to this rate, banks pass on to the final borrower a number of spreads to recover the costs they incur in making the loan, including the cost of funding through deposits and market debt (bank funding cost). Moreover, banks need to recoup their cost of equity (capital charge). When a new loan is created, the regulatory risk weight is positive, so the bank has to set aside some capital to back the loan.[20] Banks also charge a margin for intermediation services (intermediation margin). This margin has to compensate the bank for a number of factors related to the riskiness of the borrower and it generates net earnings from borrowing activity. Finally, there are other factors not considered separately in this simple formula (other factors), which may influence, sometimes substantially, the pricing of banks' retail products. These include changes in demand

19 The factors driving banks' costs of funding enter into the breakdown in terms of spreads relative to the risk-free market rate of the closest maturities. For example, the deposit spread is often negative because banks provide liquidity services to depositors. So the deposit rate is very low, and can even be lower than the overnight index swap (OIS) rate.

20 The cost of capital can be approximated by multiplying the excess return on bank equity by a coefficient of capital consumption.

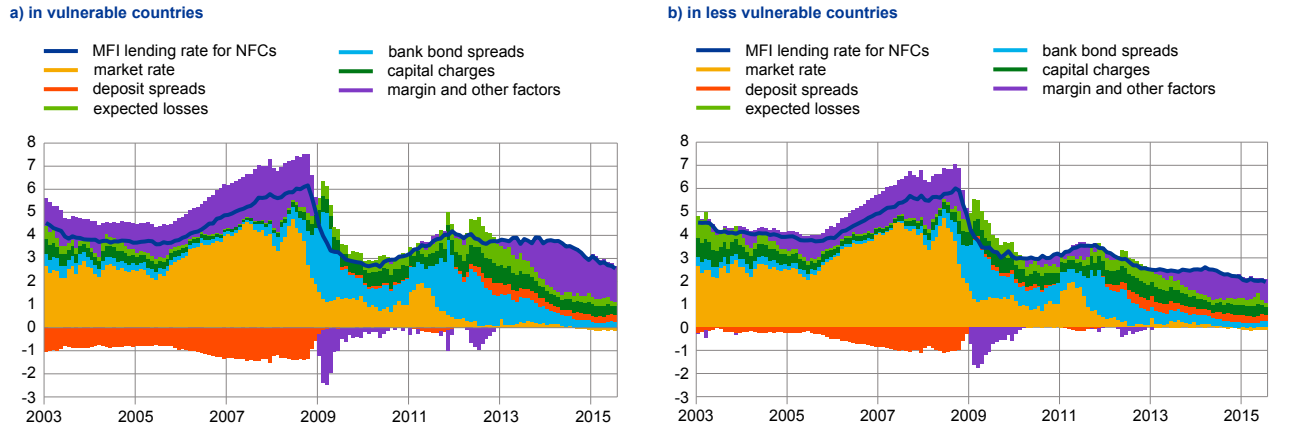
for loans, banking sector competition and the opportunity costs of lending (most notably taking into account incentives for holding sovereign debt). [21]

Lending rates were exceptionally sticky and sluggish between 2011 and 2014, especially in vulnerable countries. This occurred despite the fact that after the announcement of Outright Monetary Transactions in August 2012, monetary policy was successful in compressing funding costs and even the cost of capital for banks (see Chart 11).

Chart 11

Breakdown of the composite cost of borrowing for NFCs in vulnerable countries

(percentages per annum)



Sources: ECB, Moody's and Merrill Lynch Global Index.
Notes: "Market rate" is the two-year overnight index swap (OIS) rate. "Deposit spreads" are computed in relation to an average of overnight deposits, deposits with agreed maturity and deposits redeemable at notice, weighted by their corresponding new business volumes. The spreads are calculated vis-à-vis the EURIBOR of the closest maturity. Yields for "bank bond spreads" are taken from the Merrill Lynch Global Index and aggregated on the basis of their corresponding outstanding amounts. The spreads are then calculated vis-à-vis the swap rate of the closest maturity. "Capital charges" are the cost of the capital required by Basel II regulations. "Expected losses" = LGD*PD, where PD (probability of default) is the expected default frequency computed by Moody's, and LGD (loss given default) is fixed at 0.45. "Margin and other factors" is constructed as the residual between lending rates and all of the other components.

The costs of borrowing from capital markets (i.e. bank bond spreads) have been higher in vulnerable than in less vulnerable euro area countries, especially during the period 2011-12. This difference reflects the higher opportunity cost of investing in securities issued by banks operating in vulnerable countries, where sovereign yields are higher. Additionally, the deterioration in sovereign creditworthiness as a result of the sovereign debt crisis has had a significant effect on the credit risk of banks operating in vulnerable countries, where high exposure to domestic sovereign bonds has adversely influenced their funding costs.[22]

Against the background of additional monetary policy measures and especially after the announcement of the credit easing package, there has been a steep decline in lending rates. This decline has been influenced by different factors, including the further reduction in money market rates, which

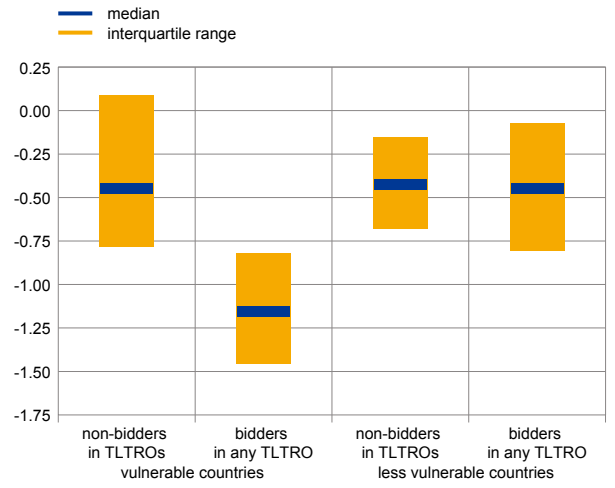
[21] Note that this simplified pricing formula cannot be directly translated into single measures of bank refinancing costs, risk spreads and capital charges, although several proxies are available for each. Consequently, the breakdown is illustrative only and is not robust to the choice of these proxies, which is surrounded by a high degree of uncertainty.

[22] See Altavilla C., Pagano M. and Simonelli, S., "Bank Exposures and Sovereign Stress Transmission", *CSEF Working Paper*, No 410, 2015, and Acharya, V., Drechsler, I. and Schnabl, P., "A Pyrrhic Victory? Bank Bailouts and Sovereign Credit Risk", *Journal of Finance* Vol. 69, Issue 6, 2014, pp. 2689-2739.

Chart 12

Changes in lending rates for NFCs

(percentage points)

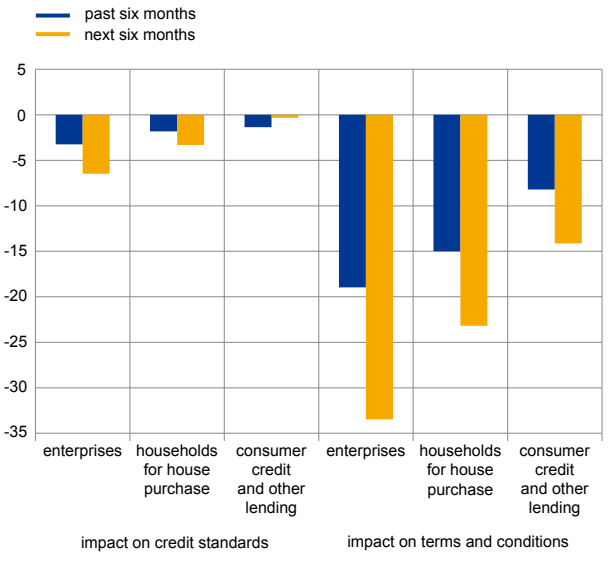


Source ECB.
Notes: The chart covers the period from June 2014 to July 2015. In "vulnerable" countries the "non-bidders in TLTROs" group comprises ten banks and the "bidders in any TLTRO" group comprises 49 banks. In "less vulnerable" countries the "non-bidders in TLTROs" group comprises 71 banks and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

Chart 13

Impact of the expanded APP on bank lending conditions as reported in the April 2015 BLS

(net percentages of respondents)



Source: ECB.
Notes: Net percentages are defined as the difference between the sum of the percentages of banks responding "tightened considerably" and "tightened somewhat" to the corresponding question in the April 2015 BLS and the sum of the percentages responding "eased somewhat" and "eased considerably". The results are calculated as a percentage of banks which did not reply "not applicable". A positive value indicates net tightening and a negative value indicates net easing.

have entered into negative territory. Another part of the decline in lending rates is due to the shrinking of the residual component linked to "margins and other factors", especially in vulnerable countries. These dynamics are in line with the main objective of the TLTROs, which is to stimulate the supply of bank loans, thereby exerting downward pressure on lending rates in order to attract more demand, expand operations and contribute to a more robust recovery. A better business environment will ultimately be reflected in an improvement in banks' profitability.

Analysing the bidding of banks in TLTROs suggests that there is a close relationship between participation in these operations and lending behaviour, especially in vulnerable countries. Banks located in vulnerable countries which have participated in at least one of the first four TLTROs have lowered their lending rates by more than non-participants (see Chart 12). Lending volumes also provide evidence of more forthcoming lending behaviour by these banks. The lending behaviour of banks located in less vulnerable countries does not appear to be significantly linked to TLTRO participation.

Euro area banks' answers to ad hoc questions in the April 2015 BLS provide information on the potential ability of the APP to affect banks' lending behaviour.[23] The majority of banks in the euro area indicated a positive impact of the APP on all loan categories, especially as regards their credit terms and conditions and, to a lesser extent, credit standards. A net percentage of around 5% of the banks reported a likely easing impact on the credit standards applied to loans to enterprises and to households for house purchase over the coming six months (see Chart 13). The positive impact on consumer credit and other loans was seen as more muted. Considerable net percentages of the banks indicated a favourable impact of the APP on their credit terms and conditions for loans to enterprises (-19%), housing loans (-15%), and consumer credit and other lending to households (-8%). This favourable impact was expected to increase over time for loans to enterprises (-33%), housing loans (-23%), and consumer credit and other lending to households (-14%).

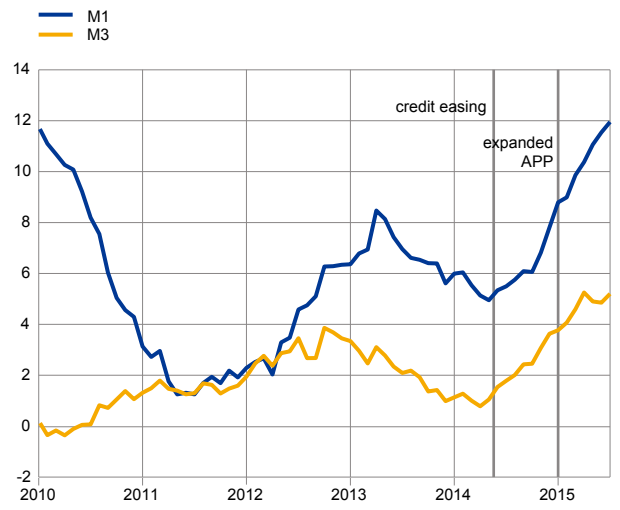
[23] These results were collected in the April 2015 BLS, for which the deadline for banks to respond was 23 March. The answers should thus be seen as representative of the information that these banks had at that time.

4 The impact on money

The APP is unique among the ECB's non-standard measures in that it entails an exogenous increase in the amount of monetary liquidity in the economy. The ECB's non-standard measures discussed in this article are intended to contribute to achieving its primary mandate of maintaining price stability over the medium term, mainly by easing financing conditions for firms and households. Part of the expected reaction by these economic agents to the more forthcoming financing conditions is that they will increase their borrowing from the banking system in order to finance expenditure. The associated credit expansion results in an increase in broad money, as loan drawdowns are typically carried out by crediting the borrower's deposit account (and ultimately that of the recipient of the borrower's expenditure). The upshot is that all these non-standard measures ultimately have an impact on broad money creation. Indeed, measures of broad money growth have been moving upwards over the period during which the recent wave of non-standard measures has been active (see Chart 14). In most cases this impact is indirect and reflects the endogenous reaction of banks, firms and households to the easier financing conditions engineered by the central bank. The APP, however, is distinctly different in this respect. As explained in Section 2, when the Eurosystem acquires securities, this always leads to an increase of the reserves which euro area MFIs hold with the Eurosystem. When the ultimate sellers of the securities are non-MFIs, the increase in central bank reserves is matched by an increase in the deposits of the seller with the credit institution which intermediated the sale. In view of the uniqueness of the APP in this respect, this section focuses on the impact of the APP on monetary aggregates.

Chart 14
Annual growth rates of M1 and M3

(annual percentage changes)



Source: ECB.
Notes: The vertical lines denote the announcement of the TLTROs (marking the initiation of the credit easing package) and the APP, respectively.

4.1 Conceptual delineation of the impact

Two effects of the APP purchases on broad money (M3) can be distinguished: the direct, mechanical effect of the purchases, and the indirect effect resulting from the uses of the liquidity from the purchases. As regards the direct effect, the impact on M3 depends on the sector to which the ultimate sellers of the securities acquired by the Eurosystem belong.

Direct effects of the APP on M3 arise when purchases are made from the euro area money-holding sector. For sellers in the euro area money-holding sector – euro area households, NFCs, insurance corporations and pension funds, other financial intermediaries and general government entities other than central government – the purchases result, in the first instance, in a one-for-one direct

increase in M3.[24] In the case of sellers which are not resident in the euro area, the deposits they receive are not part of M3, and there will therefore be no impact on euro area broad money. If the sellers are euro area credit institutions or money market funds (i.e. they belong to the euro area money-issuing sector), they will receive either reserves or deposits with another MFI, both of which are consolidated within the euro area MFI sector and do not affect euro area M3.[25]

The indirect effects of the APP on M3 result from the portfolio rebalancing that the programme is intended to bring about. Some of the portfolio rebalancing transactions may shift funds outside the money-holding sector or towards instruments that are not included in M3, thereby "destroying" money. By contrast, portfolio rebalancing by entities outside the money-holding sector may shift deposits towards the money-holding sector, thereby "creating" money. Some stylised examples of such indirect effects on money are provided below.

Money is destroyed when euro area money-holders acquire assets from non-euro area residents. As euro area residents seek to diversify their portfolios and pursue higher returns in the context of low yields in the euro area, they may invest in assets held outside the euro area. The settlement of these transactions will shift deposits which are held by euro area money-holders and included in M3 to deposits held by non-residents, thereby destroying money.

The acquisition by euro area money-holders of non-M3 liabilities of euro area MFIs also destroys money. While the deposits received in the settlement of the sale of assets to the Eurosystem will almost certainly be highly liquid and therefore included in M3, sellers may then chose to acquire assets from banks which are not included in M3 (such as long-term bank bonds or bank equity) in order to earn higher returns by increasing their exposure to duration or other types of risk. While aggregate bank liabilities may not change, the shift in their composition destroys money. A similar effect materialises if euro area money-holders acquire assets held by euro area banks, such as government and corporate bonds, or repay loans to banks.

Money is created through the acquisition by euro area MFIs or non-euro area residents of assets from euro area money-holders. Euro area money-holders are not the only economic agents engaged in portfolio rebalancing. Both non-residents and euro area MFIs will seek to re-optimise their portfolios. In doing so they may acquire assets from other non-residents or euro area MFIs, in which case there will be no effect on euro area M3. Some of the rebalancing is likely, however, to involve the acquisition of assets from euro area money-holders (especially as the money-holding sector will be encouraged to issue new assets given the lower funding

[24] This assumes that the proceeds from the sale are credited to a short-term bank deposit account, included in M3, which is typically the case.

[25] Strictly speaking, there is also another possibility, namely that the seller is a central government entity, which is part of the money-neutral sector. In this case, sales do not have a direct effect on M3. Given that the APP cannot include primary purchases of government debt, this case is unlikely to be of quantitative relevance.

costs), for example in the form of corporate bonds or equity.[26] Eventually banks are also expected to use some of the reserves they obtain to extend loans to euro area households and firms. All these transactions give rise to deposits held by euro area money-holders, thereby creating money.

4.2 The information content of the increase in M3

The increase in M3 associated with the APP results mainly from an exogenous shift in the supply of money and is therefore highly informative for future spending and inflation. Movements in broad money are generally informative for current and future spending in the economy and contain important signals for future developments in inflation. Indeed, in recognition of this, the ECB's monetary policy strategy contains a distinct pillar devoted to the analysis of monetary developments in order to identify risks to price stability in the medium to longer term. Movements in broad money that can be traced back to a higher demand for monetary assets have lesser implications for future inflation, as the higher money holdings in fact reflect portfolio decisions and will not therefore trigger portfolio rebalancing or increased spending. In the case of the APP, however, most of the associated increase in M3 reflects an exogenous augmentation of bank deposits engineered by the central bank.

As the APP compresses yields, part of the increase in broad money it generates will be absorbed by higher demand to hold money for investment reasons, but a substantial part will remain macroeconomically active and be informative for future developments in spending and inflation. When assessing the implications of the APP-induced increase in M3 for future inflation developments, it should be borne in mind that the APP is primarily intended to compress the yields on other assets. This, in turn, reduces the opportunity cost of holding money, which increases demand on the part of agents in the economy to hold money. In an environment where yields are already low, a further decline may cause a disproportionate increase in agents' willingness to hold money. This is because in order to invest in more sophisticated, non-monetary assets savers must incur fixed costs related to the acquisition of information and expertise in managing such investments. The hurdle that these costs pose is too high when the extra remuneration which can be earned is low. The upshot is that part of the money exogenously injected into the economy by the central bank via the APP will be met by increased demand for monetary instruments by the receiving agents, thereby eliminating part of the reinvestment and spending processes that would give rise to macroeconomic effects. In other words, in the current yield environment, the increase in M3 engineered by the APP is expected to have more muted macroeconomic effects than an increase of the same size in a more typical interest rate environment. Nevertheless, the overall effect is still clearly sizeable, particularly when taking into account that the propensity to spend "windfall" increases in money balances is likely to be higher in the present yield environment.

[26] Note that the euro area banking sector as a whole cannot offload reserves through such transactions. The efforts of individual banks, however, to pass on their reserves results in an increase in deposits of non-banks. For the sector as a whole, therefore, the portfolio re-optimisation occurs through expanding the balance sheet and thereby gradually shifting its composition.

5 Conclusions

This article has analysed the impact on money and credit of the most recent non-standard measures announced by the ECB. The empirical evidence suggests that these policies have successfully improved the credit conditions in the euro area and supported the ongoing recovery in lending activity.

The TLTROs and APP have significantly lowered yields in a broad set of financial market segments. The long-term bank funding provided by the TLTROs and the acquisition of longer-term private and public sector securities through the APP have had effects on a range of asset prices which generally increase with maturity and riskiness.

Reductions in bank bond yields, i.e. less expensive market-based financing for banks, have improved their funding costs, enabling a more forthcoming bank attitude towards lending. In practice, the elimination of illiquidity and abnormally high spreads and mark-ups in malfunctioning credit markets has incentivised banks and other lenders to pass the funding cost relief on to final borrowers in terms of higher credit flows and better lending conditions.

Overall, the non-standard measures have helped push the intended monetary policy accommodation through the intermediation chain to reach final borrowers, i.e. household and firms. This contributes to the recovery in lending and economic activity, which is expected to produce a sustained adjustment of inflation rates towards levels below, but close to, 2% over the medium term.

The short-term fiscal implications of structural reforms

The economic and sovereign debt crisis revealed significant gaps in the economic resilience of several euro area countries, pointing to a strong need for structural reforms. Despite the long-term benefits of structural reforms, their implementation prior to the crisis was suboptimal. Typically, the main resistance to the adoption and implementation of structural reforms stems from the vested interests of affected groups in society. Besides this, the possible short-term economic and fiscal costs of structural reforms are also sometimes mentioned as a reason for postponing their adoption, suggesting a short-term trade-off between fiscal consolidation and reforms. The European Commission's Communication on making the best use of the flexibility within the existing rules of the Stability and Growth Pact (SGP)[1] follows this logic and foresees an allowance for the direct short-term fiscal costs of reforms, enabling European Union (EU) Member States implementing structural reforms to delay fiscal adjustment compared with the SGP benchmark requirement. This article reviews the evidence of the short-term effects of structural reforms, given the prominence that the latter may gain in the application of the SGP. Their quantification is surrounded by uncertainty and is conditional on a large number of assumptions. That said, only a small set of structural reforms appear to have direct short-term fiscal costs, with "systemic" pension reforms being the most prominent example. This suggests that the structural reform clause should be carefully applied. In particular, it is important that the assumptions underlying the decision to apply such a clause are spelled out in a clear and transparent way, which will also ensure a consistent application over time and across countries.

1 Introduction

The economic and sovereign debt crisis made it more pressing for structural reforms to be carried out in several euro area countries. Large fiscal imbalances, weak external competitiveness, a leveraged financial sector, indebted households and poor productivity weighed negatively on the euro area's capacity to adjust to the economic downturn caused by the financial crisis. The crisis revealed the deep-rooted nature of fiscal imbalances and, in some countries, masked more fundamental public sector inefficiencies. The weak resilience of several euro area economies was also to some extent due to insufficient reform efforts in the pre-crisis period.[2]

1 Communication COM (2015) 12 of 13 January 2015 from the Commission to the European Parliament, the Council, the European Central Bank, the Economic and Social Committee, the Committee of the Regions and the European Investment Bank on making the best use of the flexibility within the existing rules of the Stability and Growth Pact.

2 See Leiner-Killinger N., Lopéz Peréz, V., Stiegert, R. and Vitale, G., "Structural reforms in EMU and the role of monetary policy: a survey of the literature", *Occasional Paper Series*, No 66, ECB, Frankfurt am Main, July 2007. This paper points out that insufficient progress was made in terms of implementing structural reforms between the start of Economic and Monetary Union and 2007.

Both economic and political factors are often cited as holding back the adoption and implementation of structural reforms. Typically, the main resistance to the implementation of structural reforms stems from the vested interests of affected groups in society. The possible transitional (economic and fiscal) costs of structural reforms are also sometimes seen as factors that generate political resistance to reforms. This is compounded by the fact that governments have temporal horizons that are usually too short to capitalise politically on the long-run benefits of reforms and might not therefore be willing to tolerate the possible short-run costs of reforms.

The European Commission's Communication on making the best use of the flexibility within the existing rules of the SGP gave more prominence to the possible short-term fiscal costs of structural reforms. The SGP's structural reform clause was first introduced in 2005, although in its first ten years it was invoked only for "systemic" pension reforms by some Member States. In order to spur the adoption and implementation of structural reforms, the Communication gave more prominence to the clause that allows Member States implementing structural reforms to delay fiscal adjustment compared with the benchmark prescribed by the SGP, thus compensating for the potential short-term economic and fiscal costs of reforms.

Since only a small set of structural reforms might have short-term fiscal costs, flexibility under the SGP should be used carefully to avoid the risk of it being misused. This article reviews the channels through which structural reforms affect the economy and public finances, and discusses the main issues related to the assessment of their effects. Structural reforms encompass policy actions that increase the efficiency and competitiveness of the economy, with beneficial effects for long-term fiscal sustainability. Labour and product market reforms, as well as systemic pension reforms that benefit long-term fiscal sustainability, are typical examples of structural reforms. Structural reforms in the fiscal domain generally produce both short-term and long-terms gains, whereas short-term fiscal costs are limited to a few examples (see Box 1). This article finds that, with the notable exception of systemic pension reforms, no significant short-term fiscal costs are generally associated with structural reforms. When such costs exist, their quantification is often uncertain and largely a matter of judgement. This is in line with earlier studies which found that, although some reforms may have short-term budgetary costs, these appear to be rather low and the evidence is not always statistically significant.[3] This suggests that the structural reform clause of the SGP should be carefully applied. In particular, it is important that the assumptions underlying the decision to apply such a clause are spelled out in a clear and transparent way, which will also ensure a consistent application over time and across countries. In general, however, the focus of the policy debate should be on better ways to incentivise the adoption and implementation of structural reforms. Section 2 summarises the structural reform provisions under the SGP, including the recent Communication from the European Commission. Section 3 provides a qualitative description of the main channels via which such reforms may affect public finances in the short term either directly or indirectly via their impact on the

[3] See Deroose, S. and Turrini, A., "The Short-Term Budgetary Implications of Structural Reforms: Evidence from a Panel of EU Countries" *CEPR Discussion Paper*, No 5217, 2005.

macroeconomic aggregates. Section 4 discusses the difficulties of quantifying precisely and reliably such effects for use in the context of the EU fiscal surveillance framework. Section 5 concludes.

2 Structural reforms under the Stability and Growth Pact

The 2005 reform of the SGP aimed to enhance its growth-oriented nature and to better account for country-specific economic circumstances.[4] The structural reform clause introduced under the preventive arm of the SGP in 2005 gives special consideration to the implementation of structural reforms in the application of the framework. In particular, Member States may temporarily deviate from their medium-term budgetary objective (MTO) or the adjustment path towards it when implementing "major structural reforms with direct long-term positive budgetary effects, including by raising potential sustainable growth, and therefore a verifiable impact on the long-term sustainability of public finances" (Article 5 of Regulation (EC) No 1466/97).[5] The aim is to avoid the implementation of structural reforms with significant short-term fiscal costs, but sizable long-term benefits for fiscal sustainability being held back by the risk of violating the framework. With the exception of so-called systemic pension reforms (see below), no direct connection is established in the Regulation between the scale of the short-term costs of reforms and the allowed deviation from the MTO.

Systemic pension reforms have received particular attention in the provisions laid down in the SGP governing structural reforms. Systemic pension reforms introduce a multi-pillar system including a fully-funded private pillar. These reforms have a direct and immediate negative impact on the general government deficit, as part of the social security contributions to the public pension pillar are diverted to a fully-funded private pension fund that is classified outside the general government sector. Over time positive budgetary effects materialise, since part of pensions and other social benefits will, following the reform, be paid by the fully-funded pension scheme with a corresponding reduction in pension-related government spending. The allowed deviation from the MTO shall only reflect the direct net cost of the reform, but should remain temporary, and an appropriate safety margin with respect to the 3% of GDP deficit reference value is to be preserved. The 2005 reform also introduced changes to the corrective arm of the SGP as it provided that due consideration shall be given to the implementation of systemic pension reforms when assessing compliance with the deficit and debt criterion and in subsequent steps of the excessive deficit procedure (EDP) (Article 2 of Regulation (EC) No 1467/97).[6] Specifically, when launching and abrogating EDPs based on the deficit criterion, the related assessment of deficit figures shall consider the net costs of systemic pension reforms, which need to be verified by Eurostat. This implies an

4 See, for example, Morris R., Ongena, H. and Schuknecht, L., "The reform and implementation of the Stability and Growth Pact", *Occasional Paper Series*, No 47, ECB, Frankfurt am Main, June 2006.

5 Council Regulation (EC) No 1466/97 of 7 July 1997 on the strengthening of the surveillance of budgetary positions and the surveillance and coordination of economic policies.

6 Council Regulation (EC) No 1467/97 of 7 July 1997 on speeding up and clarifying the implementation of the excessive deficit procedure.

allowance to deviate from the deficit reference value as long as the excess is fully explained by the reform costs and the deficit remains close to the reference value.[7]

The structural reform clause was applied in only a few cases and with reference solely to systemic pension reforms. Under the corrective arm, the EDP for Lithuania was abrogated in 2013 taking into account the net cost of the 2012 systemic pension reform, which explained why in 2012 the general government deficit exceeded by 0.2% of GDP the reference value of 3% of GDP set in the Treaty on the Functioning of the European Union (TFEU). Likewise, the EDP for Poland was abrogated in early 2015, based on validated data for 2014, one year ahead of the deadline set in the 2013 Council Recommendation[8], because the remaining excess in the general government deficit over the reference value set in the TFEU was explained by the net cost of a previous pension reform. Under the preventive arm, Latvia benefited from the pension reform clause in 2013 and was granted a three-year allowance to deviate from the MTO.

In January 2015 the scope of the structural reform clause was broadened by the European Commission's Communication on making the best use of the flexibility within the existing rules of the SGP. To further promote Member States' reform efforts within the existing framework, countries under the preventive arm are granted a temporary deviation from the MTO or the adjustment path towards it of up to 0.5% of GDP – irrespective of the actual cost of the reform – in case of implementation of a wider range of major structural reforms or reform packages, provided that a safety margin with respect to the deficit reference value is preserved. The European Commission's Communication also confirms that the implementation of structural reforms will be considered a relevant factor under the EDP. In the absence of a sound methodological framework to estimate the budgetary effects of structural reforms, the European Commission assesses eligibility for the structural reform clause on the basis of a dedicated reform plan – submitted by the Member State in spring in the context of the annual update of the Stability and Convergence Programmes. The programme needs to include detailed and verifiable information, as well as a credible timeline for adoption and delivery of the envisaged reform(s). However, contrary to the Code of Conduct of the SGP[9], the Commission's Communication provides that "ex-ante" reform plans (as opposed to implemented reforms) can also be taken into account when granting the temporary deviation from the MTO or the adjustment towards it.[10]

A number of countries are benefitting from the increased flexibility under the SGP. In March 2015 the commitment to implement structural reforms was considered

---

7 The modalities of taking into account the net cost of systemic pension reforms in the context of the EDP were revised in 2011. While the 2005 reform of the SGP envisaged a gradual diminishing of the allowance over a five-year time frame, the 2011 reform of the SGP removed this time constraint, but introduced the condition of a government debt ratio below 60% of GDP.

8 See also the Recommendation for a Council Recommendation with a view to bringing an end to the situation of an excessive government deficit in Poland COM(2013) 393 final, which sets the deadline for correcting the EDP at 2015.

9 Specifications on the implementation of the Stability and Growth Pact and Guidelines on the format and content of Stability and Convergence Programmes, European Commission, available at http://ec.europa.eu/economy_finance/economic_governance/sgp/pdf/coc/code_of_conduct_en.pdf

10 See the box entitled "Flexibility under the Stability and Growth Pact", *Economic Bulletin*, Issue 1, ECB, Frankfurt am Main, February 2015.

a relevant factor in granting France a two-year extension of its EDP deadline, rather than the one-year extension foreseen as a rule.[11] At the same time, in deciding whether to open an excessive deficit procedure on account of the debt criterion for Italy and Belgium, pursuant to Article 126(3) of the Treaty on the Functioning of the European Union, the European Commission took into account in its reports that implementation of structural reforms was one of the relevant factors justifying the decision not to open an EDP. In addition, under the preventive arm, Italy was granted a generic allowance of 0.4% of GDP to deviate from the MTO adjustment path in 2016, on account of the structural reform plan presented by the Italian authorities which included a quantitative assessment of the short-term fiscal costs of structural reforms amounting to 0.2% of GDP.[12]

This flexibility must be used carefully in order to preserve fiscal sustainability and the credible application of the SGP provisions. The possibility to apply the flexibility provisions also to ex-ante reform plans (as opposed to effectively implemented reforms) risks being counterproductive. Ensuring that ex-ante plans are effectively implemented requires continuous monitoring of reform implementation (see also Section 4) and timely follow-up in case of lack of progress,[13] otherwise countries may have an incentive to delay or even backtrack on their plans once the fiscal flexibility has been granted. The possibility to postpone the adjustment towards the MTO, without any compensation for the initial deviation, would further delay achievement of the MTO and contribute to making it a "moving target" instead of an anchor for budgetary planning.[14] Finally, and this is the main focus of this article, a proper application of the structural reform provisions requires a clear and transparent assessment of the short-term fiscal costs of structural reforms. This is important, since its application has recently been broadened to a wide set of reforms. So far, no common shared methodology has been developed and a qualitative approach to assessing the impact of structural reforms has been used.

3 The effects of structural reforms – a review of the main channels

Structural reforms have positive long-term effects on output growth, employment and the sustainability of public finances. These beneficial effects are well documented in the literature and provide the foundation for the specific recommendations regularly addressed by the European Commission and the Organisation for Economic Co-operation and Development (OECD) to their member countries. For example, reforms that liberalise product markets and improve the

11 The European Commission had already referred to the need to implement structural reforms as early as 2013, notably in the context of the Macroeconomic Imbalances Procedure, when extending the EDP deadlines by two years for France, Slovenia and Spain.

12 See the Italian 2015 Stability Programme update (http://ec.europa.eu/europe2020/pdf/csr2015/sp2015_italy_it.pdf)

13 The European Commission Communication (op. cit. footnote 1) clarifies that, "In case a Member State fails to implement the agreed reforms, the temporary deviation from the MTO, or from the adjustment path towards it, will no longer be considered as warranted".

14 See the box entitled "The effectiveness of the medium-term budgetary objective as an anchor of fiscal policies", *Economic Bulletin*, Issue 4, ECB, Frankfurt am Main, June 2015.

business environment stimulate employment and investment, and ultimately benefit total factor productivity, while indirectly benefiting long-term fiscal sustainability. Increasing labour market flexibility reduces structural unemployment by inter alia enhancing labour mobility within and across countries.[15] Systemic pension reforms which diversify the source of pension income and reduce the burden on public finances are beneficial for long-term fiscal sustainability in ageing societies.

The short-term fiscal implications of structural reforms have been less extensively explored,[16] but have become relevant in the application of the SGP structural reform provisions. Structural reforms can affect the economy via multiple channels. As concerns public finances, the effects of structural reforms can be either direct (for example, higher spending associated with active labour market policies) or indirect via induced changes in the underlying macroeconomic conditions (for example, revenue shortfalls reflecting temporary contractions in nominal wages). This section provides a qualitative review of the main channels through which the structural reforms considered in this article affect public finances and the economy in the short run. For each subsection, a table summarises the main reform actions and their short-term budgetary implications, both direct and indirect. The assessment is purely qualitative and is based on the assumption that, where there is a change in one instrument, all others are held unchanged.

3.1 Product and labour market reforms

Different labour market reforms may vary in terms of their short-term direct budgetary effects, although in many cases the net effects are hard to pin down. Labour market reforms are largely motivated by the need to stimulate employment, increase private consumption and growth, thus resulting in higher government revenues and lower unemployment related spending. Some measures, such as higher spending on active labour market policies or on reforms that may temporarily lead to higher unemployment, may cause a short-run deterioration in the budget balance. These costs are compensated for by the positive effect of active labour market policies on employment and labour productivity, which also benefit government revenues in the medium to longer term.

Reforms of the wage-setting mechanisms have unclear short-term effects on the budget balance. Reforms that decentralise the wage bargaining system or decrease minimum wages usually have wage moderating effects, which might reduce labour tax revenues. At the same time, reductions in minimum wages also affect public sector employees, as they imply lower spending for the government as an employer, so that the net effect of this type of measure on the budget balance is unclear a priori. Similar effects can be expected from loosening employment protection legislation. Moreover, softening employment protection might temporarily

[15] For an in-depth analysis of the channels via which labour and product market reforms affect the economy, see the article "Progress with structural reforms across the euro area and their possible impacts", *Economic Bulletin*, Issue 2, ECB, Frankfurt am Main, March 2015.

[16] See also Caldera Sanchez, A., de Serres, A. and Yashiro, N., "Reforming in a Difficult Macro Context: What Should be the Priority?", *OECD Economics Department Working Papers*, 2015, forthcoming.

increase unemployment as a result of easier firing conditions during downturns, and therefore lower purchasing power of households. Nonetheless, looser employment protection legislation and more decentralised wage bargaining arrangements may support labour market adjustment and the creation of new vacancies.

The reform of unemployment benefits has positive short-term direct effects on public finances, whereas indirect effects depend on the evolution of employment. For example, measures that reduce the generosity of benefits have positive effects, as they reduce unemployment-related government spending. In addition, by reducing the workers' reservation wage, lower unemployment benefits may increase the propensity of the unemployed to find new jobs. Similarly, measures that reduce the coverage of unemployment benefits lead to a decrease in public spending. If the search and matching process is efficient, job vacancies will be filled faster, thus stimulating employment, consumption and government net revenues. In this connection, Box 2 assesses the German labour market reforms and their effects.

Product market reforms increase investment and, in some cases, have positive impacts on the budget balance. Reforms that increase access to finance enable an efficient allocation of resources, while safeguarding financial stability. As such, they do not necessarily have direct budgetary implications in the short term, but should increase growth and budget revenues in the longer run. Reforms that enhance firms' efficiency and productivity (such as reforms improving the business

Table 1

Short-term budgetary effects of labour and product market reforms

Main types of reform action	Direct effect on public finances	Indirect effect on public finances via impact on:		
		Employment	Investment	Consumption
LABOUR MARKET REFORM				
Decentralise the collective wage bargaining arrangement and decrease in minimum wages	?	?		?
Decrease employment protection legislation	?	?		?
Reform unemployment benefits (e.g. reduce generosity, reduce benefit coverage, stronger conditionality)	+	?		?
Increase spending on active labour market policies	-	+		+
PRODUCT MARKET REFORM				
Introduce reforms that enhance efficiency and productivity (including R&D)			+	
Reduce regulatory barriers to competition		?	+	?
Decrease the administrative burden (public sector)	+		+	
Increase access to finance			+	

Notes: Table 1 shows the direct and/or indirect short-term effects of structural reforms on the budget balance drawing on the findings of the literature. Indirect budgetary effects work via the impact of reforms on the main macroeconomic aggregates. The "+" points to a positive short-term effect on the budget balance that is either direct (second column) or indirect (last three columns). The "-" sign points to negative effects. Whenever the sign or significance of such effects is uncertain, the symbol "?" is used. Blank cells indicate that the reform is not expected to produce any short-term impact on that variable.

environment) and that reduce regulatory barriers to competition usually have no direct budgetary effects. While lowering regulatory barriers to competition stimulates the reallocation of resources and might force some less productive firms to close down their businesses, leading to lower employment, it will spur the creation of new and more competitive firms. In the medium to long run, all these measures stimulate investment and increase total factor productivity and growth, thereby increasing government revenues. Reforms that reduce red tape are immediately beneficial to private sector activity and may consequently have positive budgetary effects.

3.2 Pension systems and healthcare reforms

Pension reforms, with the exception of systemic pension reforms introducing a private pillar, may generate short-run budgetary savings and some may foster employment. Reforms that reduce the long-term budgetary pressure of the ageing population have been at the top of the reform agenda of several EU countries over the past decade.[17] As some reforms entail a reduction in future pension payments to workers entering the labour force, pension reforms imply a delicate trade-off between fiscal sustainability considerations and pension adequacy, especially for low earners. For this reason, most countries tend to protect the lowest earners from benefit cuts.[18] Focusing on reforms that increase the long-term financial sustainability and affordability of pension benefits, Table 2 summarises the key reform actions and provides a qualitative assessment of their short-term effects.

Raising the effective retirement age and removing options for early retirement have positive effects on employment and reduce pension spending. This type of reform would increase the labour force participation rate at older ages.[19] However, if these reforms are phased in over time (i.e. grandfathering clauses), as is usually the case, the positive budgetary effects in terms of a lower number of pension beneficiaries would materialise only over the medium and long run. Similarly, the impact on consumption and investment in the short term would be negligible. Measures that reduce the generosity of pension benefits (for example, the suppression or reduction of indexation mechanisms and/or changes to the reference wage used to calculate pension benefits) produce more immediate positive budgetary effects. To counter the effects of the lengthening of life expectancy on pension expenditures, linking pension contributions or the retirement age to an index of life expectancy is also foreseen. In these cases, negative effects on consumption would materialise only to the extent that agents anticipate changes in lifetime income.

Shifting from a defined benefit to a defined contribution mechanism has been at the core of several reforms over the past few years. In a defined contribution system, future pension benefits are linked to the amount of contributions paid by an individual and to the investment returns on such contributions. This increases the long-term sustainability of the pension system, whereas the short-run positive budgetary effects depend on how quickly the reform is phased in. In addition, many OECD countries have introduced a second private pension pillar – either voluntary or mandatory – (these are referred to as systemic pension reforms in the

---

17 Every three years, the European Commission in cooperation with the Economic Policy Committee's Ageing Working Group publishes the Ageing Report, which contains long-term projections of the budgetary impact of population ageing for the 28 EU Member States and Norway. The Ageing Report for the period 2013-2060 was published in 2015. For an in-depth analysis of the factors determining revisions to pension expenditure compared with the 2012 Ageing Report, see the Box entitled "The 2015 Ageing Report: how costly will ageing in Europe be?", *Economic Bulletin*, Issue 4, ECB, Frankfurt am Main, April 2015.

18 Pension reforms also pursue other goals (e.g. adequate coverage of workers via both mandatory and voluntary schemes and adequate retirement benefits), which are outside the scope of this article.

19 It is often claimed that early retirement options provide job opportunities for the young unemployed. However, as discussed in Jousten A., Lefèbvre, M., Perelman, S. and Pestieau, P., "The Effects of Early Retirement on Youth Unemployment: The Case of Belgium", *Working Paper Series*, No 08/30, IMF, February 2008 there is no theoretical foundation to this claim. In the case of Belgium, the authors observe a negative link between youth unemployment and early retirement. They show that the activity rates of both young and elderly workers are sensitive to business cycles.

Table 2

Short-term fiscal impact of pension systems and healthcare reforms

Main types of reform action	Direct effect on public finances	Indirect effect on public finances via impact on:		
		Employment	Investment	Consumption
Increase work incentives				
Increase retirement age and/or discourage early retirement	+	+		
Equalise retirement age for men and women	+	+		
Increase financial sustainability				
Index contributions or retirement age to life expectancy	+			-
Increase private contributions to funded pension schemes	+			-
Lower pension benefits (e.g. limits to pension indexation, lower the pension replacement ratio)	+			-
Increase diversification of income sources				
Introduce second pillar pension system (systemic pension reform)	-			
Shift from defined benefits to defined contribution financing	+			
Improve the quality and efficiency of healthcare services				
Cap healthcare-related spending (e.g. pharmaceuticals, salaries)	+			
Implement governance reforms (decision-making, management, contracting systems)	+			
More effective service provision (cost-effective use of medicines, enhance hospitals' efficiency, cost-sharing mechanism)	+			

Notes: Table 2 shows the direct and/or indirect short-term effects of structural reforms on the budget balance drawing on the findings of the literature. Indirect budgetary effects work via the impact of reforms on the main macroeconomic aggregates. The "+" points to a positive short-term effect on the budget balance that is either direct (second column) or indirect (last three columns). The "-" sign points to negative effects. Whenever the sign or significance of such effects is uncertain, the symbol "?" is used. Blank cells indicate that the reform is not expected to produce any short-term impact on that variable.

context of the structural reform clause of the SGP) in order to diversify the source of pension benefits and reduce pressure on public finances. This leads to lower public revenues not only in the short term, as part of the contributions are diverted to the second pillar, but possibly also over the medium to long term, as in many countries retirement savings through private pension plans enjoy a favourable tax treatment (for example, full or partial deductibility of contributions and investment returns, and lower tax rate for retirees).

Healthcare reforms can contribute decisively to reducing long-term age-related costs and generally have positive short-term budgetary effects. The 2010 joint EPC-EC report on healthcare systems[20] concluded that policy efforts need to be stepped up to ensure that budgetary targets are reached and age-related costs contained.[21] Healthcare reforms consist mainly of macro-type controls (for example, caps on current and investment spending, wage controls and agreements with pharmaceutical companies to contain spending) and governance reforms (more efficient decision-making processes and cost-effective contracting systems). Reforms at the micro-level are also very important and include, among others, the introduction of incentive-compatible, cost-sharing mechanisms, more cost-effective procurement practices and use of medicines (especially by encouraging the use of generics), together with an intensification of prevention therapies. All these actions can generate substantial budgetary benefits in the short term, when appropriately applied and sequenced.

[20] European Commission and the Economic Policy Committee (Ageing Working Group), "Joint Report on Health Systems", *European Commission Occasional Papers,* No 74, December 2010.

[21] Healthcare spending represents a growing share of public expenditure in the EU (about 15% of total spending in the EU in 2012, up from about 14% in 2003). For more details on the determinants and distribution of healthcare spending, see the 2015 Ageing Report, op. cit. footnote 17.

Box 1
The treatment of fiscal structural reforms

The lack of a precise definition of structural reforms in European Union legislation has led some observers to argue that fiscal structural reforms should also fall under the structural reform clause of the Stability and Growth Pact (SGP). This box first explains that fiscal structural reforms should be distinguished from discretionary policies that have an impact on the fiscal balance. It then recalls why fiscal structural reforms can have very positive effects on growth and fiscal performance in the long run. For most such reforms, the short-term effects are also positive. Overall, it does not therefore appear warranted to include fiscal structural reforms under the reform clause of the SGP.

Fiscal structural reforms need to be distinguished from the discretionary use of fiscal policy as a countercyclical tool or to achieve other short-term government objectives. Fiscal structural reforms aim first and foremost to improve the way the government works and to limit the perimeter of government action to those functions for which there is a clear economic rationale. As such, they have to be separated from fiscal policy actions dealing with the level of government's taxes and expenditures and rather consist of broad-based policy measures in the areas of both taxation and public financial management. Therefore, tax cuts adopted without compensating measures, or spending measures that are not accompanied by broader efforts to rationalise public spending, do not qualify as structural reform measures.

If properly designed and implemented, most fiscal structural reforms can yield positive gains in both the short and long run. In general, fiscal structural reforms do not have adverse budgetary impacts. They should thus not be subsumed under the structural reform clause of the SGP. In a few cases, however, reforms may generate short-term budgetary costs, which are expected to be outweighed by medium to long-term budgetary savings. In these cases, and in line with the Regulation and the Code of Conduct, application of the structural reform clause must be limited only to major reforms for which the benefits for long-term fiscal sustainability can be clearly quantified.[22] The following explains why fiscal structural reforms are important for growth and should rather improve the fiscal performance in the long run.

A revenue-neutral shift of the tax burden towards less distortionary taxes is a prominent example of structural tax reforms that are aimed at making the tax system more growth-friendly.[23] Direct income taxation is distortionary as it discourages investment by reducing the after-tax returns (in the case of corporate income taxes), as well as reducing labour supply and labour demand (hence reducing the long-run level of output) by creating a wedge between the costs firms pay to hire a worker and the net take-home pay (in the case of labour taxes).[24] Moreover, higher social security contributions paid by employers, achieved by increasing firms' labour costs,

22 Article 5.1 of Regulation 1997/1466 states that structural reforms can be accounted for if they "have direct long-term positive impacts, including by raising potential sustainable growth, and therefore a verifiable impact on the long-term sustainability of public finances".

23 These recommendations have featured regularly in the country-specific recommendations addressed to EU Member States in the context of the European Semester since 2011. In 2011 eleven countries received a country-specific recommendation; in 2015 this number fell to nine.

24 Higher labour taxes affect labour supply via both an income effect (higher labour supply, as lower disposable income reduces demand for leisure) and a substitution effect (i.e. lower labour supply owing to lower return on hours worked) so that the net effect is unclear a priori. Empirical evidence suggests that labour supply elasticity is low for male workers, whereas it is positive and higher for female workers.

would reduce labour demand. On the other hand, consumption taxes and property taxes are more neutral vis-á-vis agents' economic decisions. Consumption taxes are neutral to individuals' savings decisions, as they do not influence the rate of return on savings,[25] although they may have negative distributional effects (for example, on low income households, especially if reduced rates for certain goods are suppressed) that reduce the political incentives to adopt them. Recurrent property taxes support land development and land use patterns and help to limit housing booms and short-run volatility in prices around an upward trend.[26] The assessment value of the tax should be linked to the market value of property, although often the former lags behind market values, and moving to a fully market-based assessment is politically challenging. The Eurogroup supports Member States' efforts towards reducing taxes on labour in a budget-neutral way. In particular, given the limited fiscal space in many countries, reductions in the tax burden on labour should be accompanied by either a compensatory reduction in (non-productive) expenditure, or by shifting labour taxes towards taxes that are less detrimental to growth with a view to respecting fiscal targets in line with the SGP.[27] Reducing the tax burden on labour income and compensating for it via an increase in indirect taxes, notably VAT or property taxes, has been advocated as a tool to regain competitiveness domestically in the absence of the possibility of devaluing the nominal exchange rate (i.e. in a currency union). This policy is also known as fiscal devaluation.[28] Reforms of the tax structures can also involve changes in the structure of tax brackets in order to reduce the distortions associated with rate changes and/or make them more progressive.

Reforms that improve tax administration effectiveness generate higher revenues and, by fostering tax compliance, support the redistributive function of the tax system. Independence of the revenue administration from political interference (for example, regarding internal organisation and definition of performance standards) and the creation of an oversight board strengthen the transparent enforcement of the tax rules and enhance the accountability of the administration. Simpler procedures for the identification and registration of taxpayers via, for example, the issue of a unique taxpayer identification number, can help the correct filing of tax returns, and strengthen tax collection and assessment activities.[29] Audit and tax verification activities are at the core of the fight against tax evasion and collection of tax arrears and need to be supported by the use of new communication technology.

---

25 Consumption taxes exclude current savings from the tax base. As such, the present value of a consumption tax is the same whether the household consumes now or later. By contrast, an income tax (with no deductions for new saving) places a greater burden on savers, because savings enter the tax base. See Garner C.A., "Consumption Taxes: Macroeconomic Effects and Policy Issues", Federal Reserve Bank of Kansas City, 2004.

26 See Crowe C., Dell'Ariccia, G., Igan, D. and Rabanal, P., "How to Deal with Real Estate Booms: Lessons from Country Experiences", *Working Paper Series*, No 11/91, IMF, April 2011.

27 In September 2014 the Eurogroup set out common principles for the design of reforms to reduce the tax burden on labour. In addition to the budget-neutrality principle, the other principles are as follows: 1) the design of reforms should be targeted at the country-specific challenges and aimed at the relevant components of the tax burden and at specific groups facing the greatest employment challenges; 2) the impact of reducing the tax burden on labour can be significantly enhanced when they are part of a broader package of labour market reforms; 3) labour tax reforms with offsetting tax or expenditure measures can affect income distribution; it is therefore important to ensure broad societal and political support. This may be achieved inter alia through sharing impact assessments and consulting all the relevant stakeholders, as well as a gradual phasing in of the reforms.

28 For an analysis on the use of fiscal devaluation as a tool to regain competitiveness, see the box entitled "Fiscal devaluation – a tool for economic adjustment", *Monthly Bulletin*, ECB, Frankfurt am Main, December 2011.

29 Some revenue agencies operate registration systems that issue unique taxpayer identification numbers or use a citizen or business identification number that is used generally across government agencies. See Araki, S. and Claus, I., "A comparative analysis of tax administration in Asia and the Pacific", Asian Development Bank, 2014.

Improving the quality of fiscal institutions and budgetary frameworks supports the effective implementation of fiscal policies with positive effects on public finances. The adoption of medium-term budgetary frameworks, by lengthening the time horizon of fiscal planning, helps to overcome short-term biases and supports the formulation and implementation of policies, especially if they span several years. A timely monitoring and control of the use of resources is critical for the definition of the main policy objectives.

Public financial management reforms are necessary to correct or prevent fiscal imbalances. They encompass all levels of government and include budget formulation, approval and execution, but also public debt management and the management of off-budget entities and implicit liabilities (for example, government guarantees and public private partnerships). These reforms are crucial to maintain a sustainable fiscal position, guarantee the effective allocation of resources and the efficient delivery of public goods and services. Given the degree of institutional change they often require, the efficiency-enhancing effects of public financial management reforms may take time to materialise.

Only a few public financial management reforms may entail short-term budgetary costs. Reforms that rationalise the structure of the public administration may entail short-term costs when it comes to the payment of possible redundancy benefits. Reforms that rationalise the use of buildings may lead to the payment of termination fees of rental contracts for unused buildings. However, these costs are short-lived and of limited size when compared with the long-term benefits in terms of the improved productivity of the public sector. It should therefore be feasible to cater for them in the normal budgetary process, i.e. their treatment does not require a specific deviation from the SGP framework.

4 Difficulties in measuring the impact of structural reforms

Measuring the quantitative impact of implemented structural reforms is important, not least given its relevance in the application of the provisions of the SGP. As shown in Section 2, the short-term effects of structural reforms implemented by governments are taken into account in the application of SGP provisions.

However, quantifying the impact of implemented structural reforms is subject to a high level of uncertainty. It is necessary to assess the effectiveness of the implementation of a reform or reform package and this depends not only on the adoption of the relevant legislation, but also on the adoption of, sometimes numerous, implementing rules.

Moreover, in order to quantify the effect of parametric reforms a considerable amount of information is required. For certain reforms, such as pension reforms or specific labour market reforms (for example, changes to unemployment benefits or active labour market policies), it is possible to identify direct and measurable costs and benefits. However, since this requires a large

amount of data and other information that is typically available only to governments, it is necessary to rely on official estimates, which are hard to verify. The difficulty of externally verifying government estimates creates a significant incentive problem, as estimates can be biased towards presenting a more favourable budgetary outlook. This is especially important if these estimates come to play an important role in the EU fiscal surveillance framework.

For non-parametric reforms, quantification often relies to a large extent on judgement, thus increasing the risk of a biased assessment. For product market reforms, which mainly entail changes in laws and regulations, costs and benefits are harder to quantify as they cannot be directly observed. Therefore, translating individual measures into effects on observable variables can require a significant amount of judgement and making a balanced assessment is simply not possible.[30]

The assessment of implemented structural reforms based on general equilibrium models needs to be taken with caution. Structural reforms may influence the economy simultaneously via several channels with complementary or offsetting effects, including second-round effects. General equilibrium models (e.g. dynamic stochastic general equilibrium (DSGE) models) can account for country-specific features and allow the effect of reforms on different macroeconomic variables to be simulated under different scenarios. However, the simulation exercise is complex, as it requires knowledge about the degree of implementation of reforms and the quantification of their effects when possible, as discussed above. The assessment can be further complicated by the difficulty of translating actual reform measures into model parameters, either because the necessary information is not available or because existing policies are subsumed under model parameters that do not fully capture the variety and complexity of such policies. As a result, the assessment of implemented reforms is either partial or relies on a significant degree of judgement as regards, for example, the speed and status of reform implementation and the credibility of the announcement.

It is not surprising, therefore, that most existing studies look at the impact of hypothetical structural reforms. Cacciatore et al. (2012)[31] use a DSGE model to simulate the effects of labour and product market reforms when the policy parameters are lowered to the level of a benchmark group of countries. They find that in the long run GDP and consumption increase, and unemployment falls. These effects materialise after two years, and some reforms (for example, job protection reforms) initially entail an increase in unemployment. For a wider range of reform areas (including market competition and regulation, tax structure and unemployment benefit "generosity") Varga and in't Veld (2014)[32] look at the medium to long-term effects of

---

30 The Code of Conduct of the SGP requires EU countries to explicitly report in their Stability and Convergence Programmes the effects of recently implemented structural reforms if these are included in the projections together with the underlying assumptions and/or model, including variables and parameters. However, this is not done on a systematic basis by all countries and typically only long-term effects are reported.

31 Cacciatore, M., Duval, R. and Fiori, G., "Short-Term Gain or Pain? A DSGE Model-Based Analysis of the Short-Term Effects of Structural Reforms in Labour and Product Markets", *OECD Economics Department Working Papers*, No 948, 2012, OECD Publishing.

32 Varga, J. and in't Veld, I. "The potential growth impact of structural reforms in the EU: A benchmarking exercise", *Economic Papers*, No 541, December 2014.

closing by one-half the gap vis-à-vis the three best-performing EU countries. They show that EU GDP increases by 3% after five years and by 6% after ten years. Gomes et al. (2011)[33] use a large-scale DSGE model to assess the impact of an arbitrary reduction in the price and wage mark-ups (by 5, 10 and 15 percentage points) in Germany and Portugal, and find positive long-run effects on GDP and some short-run negative effects in relation to the postponement of consumption in expectation of future lower prices. However, it does not necessarily follow that the benefits of reforms in one country would also materialise in other countries. Similar reforms can have very different effects depending on their interaction with other institutional features of the economy and the national context more generally. Box 2 illustrates the use of DSGE models for reform evaluation, taking the Hartz reforms in Germany as an example.

Empirical studies also have limitations in capturing the short-term impact of implemented reform measures. Isolating the impact of reforms on quantitative indicators may be difficult, because indicators can change for factors other than discretionary government action (for example, spending on active labour market policies) or because such reforms materialise over time. For a wide range of reform areas and indicators (such as labour market reforms, product market regulation and taxation) Bouis et al. (2012)[34] identify major reform shocks when the change in the policy indicator in a given year exceeds 2 standard deviations. They find that, in line with evidence from DSGE models, the gains from reforms take time to materialise. However, no type of reform is found on average to involve significant economic losses in the short run, and some of them are found to deliver some benefits in the short run (for example, reductions in unemployment benefits' replacement rates or reductions in benefits duration).

The short-term effects of structural reforms can be shaped by their interaction with macroeconomic conditions and other policy areas. Bouis et al. (2012) find that the short-term positive effects of some reforms are stronger during good economic times and weaker during bad times. For example, reforms reducing the unemployment benefit replacement ratio generate employment losses if implemented when the labour market is already depressed and labour demand is weak. Likewise, the effects of product market reforms are smoother if the labour market is already flexible and the matching efficiency is higher, allowing laid-off workers to find a new job more easily (Cacciatori et al., 2012).

Box 2

Measurement of the costs and benefits of the German labour market reforms of the early 2000s

Between 2003 and 2005 Germany adopted fundamental labour market reforms commonly known as the Hartz reforms. These reforms were introduced in response to the comparatively high (long-term) unemployment and low GDP growth which had persisted over several years and were attributed to a fairly inflexible and rigid labour market structure (see Charts A and B).

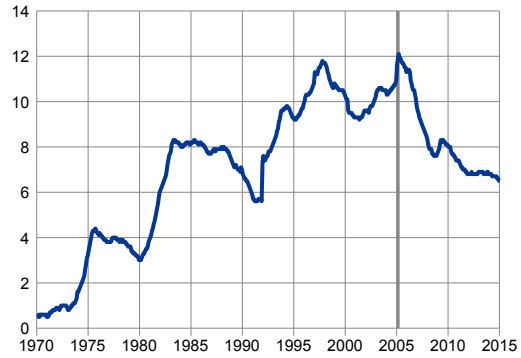
[33] Gomes S., Jacquinot, P., Mohr, M. and Pisani, M. "Structural reforms and macroeconomic performance in the euro area countries: a model-based assessment", *Working Paper Series*, ECB, No 1323, May 2011.

[34] Bouis, R. et al., "The Short-Term Effects of Structural Reforms: An Empirical Analysis", *OECD Economics Department Working Papers*, No 949, 2012, OECD Publishing.

Chart A

Unemployment rate

(percentage of the labour force, monthly seasonally adjusted)

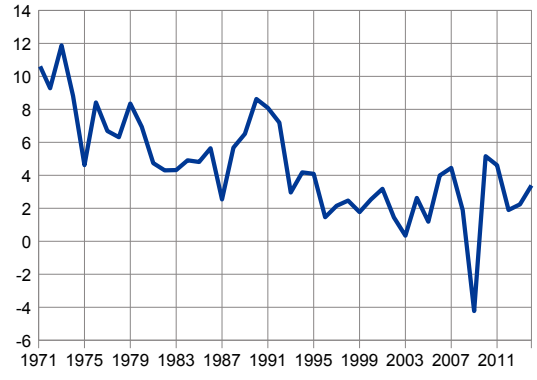


Sources: Deutsche Bundesbank/Haver Analytics.
Note: The vertical line marks the year in which the Hartz IV reform was adopted.

Chart B

Real GDP growth rate

(annual percentages)



Source: AMECO.

The Hartz reforms aimed to improve labour market performance. The main objective was to improve the labour market matching efficiency (Hartz I), promote self-employment and introduce more flexible arrangements for low-paid, part-time work (Hartz II); restructure the Federal Labour Agency to further promote the matching process between firms and workers (Hartz III) and increase incentives to work by decreasing unemployment benefits (Hartz IV). The Hartz IV reform entailed a fundamental overhaul of the unemployment benefit system and significantly reduced the level of unemployment benefits for the long-term unemployed. As of January 2005 the means-tested unemployment and social assistance benefits were merged into unemployment benefits II, whereas as of 2006, the duration of the unemployment benefits (renamed as unemployment benefits I) was shortened from 36 to 12 months (18 months for workers aged 55 and over).[35]

The Hartz reforms entailed limited short-term economic costs. Following the Hartz IV reform, the unemployment rate initially spiked. This was largely a statistical artefact of the change in the official measurement of unemployment following the reform. Then, unemployment started to decline in the course of 2005 on the back, inter alia, of a pick-up in economic growth (see Charts A and B). As a consequence, government spending on unemployment benefits increased initially, but started to decline thereafter. Between 2005 and 2014 labour market-related unemployment spending declined from 4% of GDP to 2.5% of GDP.[36]

The positive impact of the Hartz reforms on long-term unemployment and growth is undisputed in the literature. Among the studies assessing the long-run implications of the Hartz reforms there is a consensus that such reforms contributed to a significant reduction in long-run

[35] Before the reform, the unemployment benefit was 60-67% of the last net wage earnings (depending on the number of dependent children) for a maximum of three years (based on age and years of contributions paid). Afterwards, a means-tested unemployment assistance equal to 53-57% of the former net wage was paid for an unlimited amount of time. Means-tested social assistance, amounting to about 45% of the average net wage covered the social welfare net and was granted to people for whom no other welfare benefits were available (for example, people unable to work). In 2008 the maximum duration of unemployment benefit I was extended to 24 months for workers aged 58 and above.

[36] See Deutsche Bundesbank, "The Evolution of Labour Market-Related Expenditure in Germany", *Monthly Report*, 2015, April, pp. 13-33.

unemployment (mainly via wage moderation) and to boosting Germany's GDP growth rate.[37] Some studies find that during the Great Recession those reforms helped, along with short-time working policies, to mitigate the employment losses, as witnessed by the fact that, although Germany experienced a deeper contraction in GDP than the United States, the employment losses were more limited.[38] Finally, others attribute to these reforms Germany's increased international competitiveness.[39]

Model-based simulations of the Hartz reforms allow for an understanding of the main transmission channels of their effects. The Hartz reforms are simulated using FiMod,[40] a New Keynesian dynamic stochastic general equilibrium (DSGE) model. The model contains a complex labour market structure that draws a distinction between unemployed workers receiving unemployment benefits and those receiving unemployment assistance (unemployment benefits I and II respectively). Labour market participation decisions of households are determined endogenously and wages are determined on the basis of a bargaining process between workers and firms. The model also features a sophisticated public sector with multiple types of public revenue and expenditure and feedbacks to the private sector. The simulations of the effects of the labour market reforms considered in this box assume an increase in the efficiency of the job search process (matching efficiency) and a reduction in both the level and the duration of unemployment benefits.

The model simulations presented in this box are subject to some caveats. The model does not capture the increase in the unemployment rate that was recorded after the Hartz IV reform, as it cannot account for the change in the official unemployment classification method following the reform. Firing decisions in the model are exogenous. As such, the positive employment effects of lower wages materialise immediately and do not account for the possibility that, in response to a lower equilibrium wage, firms react initially by laying off the relatively more expensive labour force and later hire new (cheaper) workers.

Improving the matching efficiency of the labour market fostered employment. Following the restructuring of the Federal Labour Agency, unemployed workers were obliged to register with the Agency and were assigned a "personal" tutor to help them in the job search process. This led to an increase in the matching efficiency which, following Krebs and Scheffel (2013), is assumed to have increased by 10% in the model simulations. The increase in employment led to higher gross wages and salaries, thus augmenting private consumption and investment demand. The lower search costs also enabled firms to reduce prices through the marginal cost channel, which fostered international competitiveness and increased exports (see Chart C).

---

37 See Krebs, T. and Scheffel, M., "Macroeconomic Evaluation of Labor Market Reforms in Germany", *IMF Economic Review*, Vol. 61(4), 2013, pp. 664-701; Krause, M. and Uhlig, H., "Transitions in German Labor Market: Structure and Crisis", *Journal of Monetary Economics*, Vol. 59, 2012, pp. 64-79.

38 Burda, M. and Hunt, J., "What Explains the German Labor Market Miracle in the Great Recession?", *Brooking Papers on Economic Activity*, Spring, 2011, pp. 273-319 and Dustman, C., Fitzenberger, B., Schönberg, U. and Spitz-Oener, A., "From Sick Man of Europe to Economic Superstar: Germany's Resurgent Economy", *Journal of Economic Perspectives*, Vol. 28, 2014, pp. 167-188.

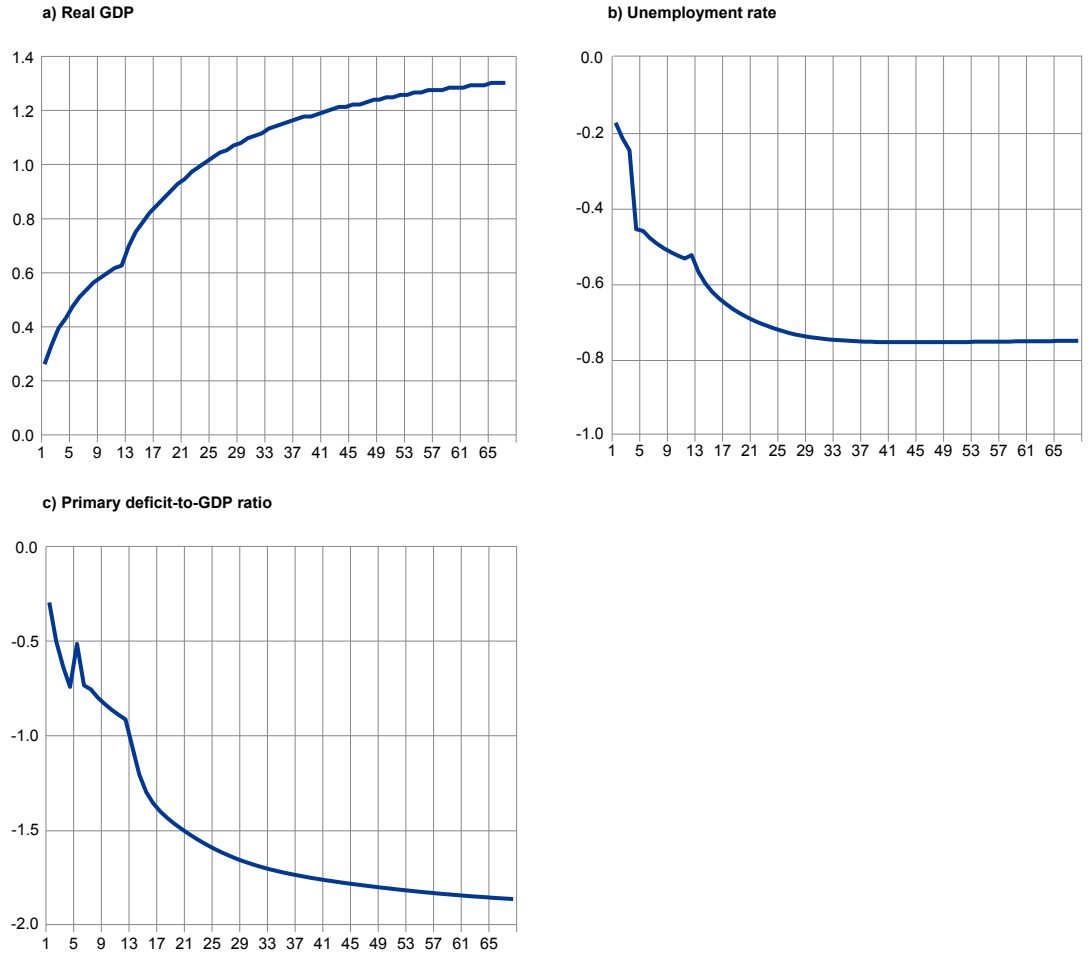
39 Kollman, R., Ratto, M., Roeger, W., in't Veld, J. and Vogel, L., "What Drives the German Current Account? And How Does It Affect Other EU Member States?", *Economic Policy*, Vol. 30, 2015, pp. 47-93.

40 FiMod is a two-region model of a monetary union. For the simulation at hand, it is calibrated to Germany and the rest of the European Monetary Union. For a full description of the base model, see Stähler, N. and Thomas, C., "FiMod – A DSGE Model for Fiscal Policy Simulations", *Economic Modelling*, Vol. 29, 2012, pp. 239-261.

Chart C

Impact of Hartz reforms on selected macroeconomic aggregates in Germany

(deviations in percentage points from the pre-reform long-run equilibrium level; quarters)



The merging of unemployment and social assistance further decreased firms' unit labour costs by reducing the workers' reservation wage. The decline in unemployment assistance following the merger of the unemployment and social assistance led to a decrease in the workers' reservation wage and induced workers to accept lower wages. This allowed firms to further decrease prices and employ more workers. The reduction in the duration of unemployment benefits I had similar effects.

Overall, the Hartz reforms did not entail large short-term economic and fiscal costs. The model simulations contained in this box show that labour market reforms that reduce reservation wages and make the labour market more flexible would have positive effects on employment. This is supported by other studies (Cacciatore et al., 2012)[41] which find that labour market reforms aimed at reducing the workers' (reservation) wage tend to generate relatively little costs in terms of aggregate macroeconomic outcome.

[41] Op. cit. footnote 31.

5 Conclusions

The short-term fiscal effects of structural reforms have recently gained prominence in the implementation of the SGP. The structural reform clause introduced by the 2005 reform of the SGP allowed for a delay in fiscal adjustment if a Member State implemented a major structural reform with direct long-term positive budgetary effects, including by raising potential sustainable growth. However, the clause did little to spur reform momentum. The recent Communication of the European Commission on making best use of existing flexibility within the existing rules of the SGP attempts to revive the structural reforms clause, partly by relaxing the requirements for its application.

However, the structural reform clause of the SGP should be carefully applied. Structural reforms can affect the economy, and public finances in particular, via multiple channels. As shown in this article, the reforms with direct short-term costs are systemic pension reforms. In other cases, the net effect is difficult to pin down (for example, labour and product market reforms), as it also depends on how reforms are bundled in practice. Moreover, there are many examples where the short-term effects of structural reforms are actually positive. Therefore, it is important that the assumptions underlying the decision to apply such a clause are spelled out in a clear and transparent way.

While a quantification of the costs of reforms is necessary for their incorporation in the SGP, this generally has to rely on judgemental assumptions. Model simulations of the effects of reforms are typically surrounded by a large degree of uncertainty. The lack of a shared methodology at the EU level to assess the effects of structural reforms speaks in favour of a cautious application of the SGP provisions on structural reforms.

Alternative ways to support the adoption and implementation of structural reforms in the euro area should be sought. The Five Presidents' Report[42] published in June 2015 is a useful reference point in this respect. The Report identifies steps towards a genuine Economic Union and emphasises, among other things, the need to achieve sustainable convergence in the euro area, which requires a renewed impetus to foster structural reforms in Member States. The report encourages further steps towards better coordination and surveillance of policies that are relevant for competitiveness. It recommends the creation by each euro area member country of an independent national body – or "competitiveness authority" – which would be in charge of tracking performance and policies that influence a country's competitiveness. The report foresees scope for strengthening the Macroeconomic Imbalance Procedure not only as a tool to detect imbalances,

[42] See "Completing Europe's Economic and Monetary Union", available at http://ec.europa.eu/priorities/economic-monetary-union/docs/5-presidents-report_en.pdf

but also to encourage structural reform implementation via the European Semester.[43] The importance of an institution-based approach for the governance of structural reforms in the euro area has also been reiterated by the ECB's President in his call for "a move from rules towards institutions".[44] A European institution could help in two respects: first, by making it easier to agree on the aims of structural reforms by aligning to best practice; and, second, by making it easier to implement them, using European law to bypass vested interests.

[43] See also Banerji, A., Barkbu, B., John J., Kinda, T., Saksonovs, S., Schoelermann, H. and Wu, T., "Building a Better Union: Incentivising Structural Reforms in the Euro Area", *Working Paper Series*, No 15/201, IMF, September 2015.

[44] See the speech by the President of the ECB at the SZ Finance Day, Frankfurt am Main, 16 March 2015, https://www.ecb.europa.eu/press/key/date/2015/html/sp150316.en.html

European statistics: cooperation between the European System of Central Banks and the European Statistical System

The European System of Central Banks (ESCB) and the partnership of the European Statistical System (ESS) cooperate closely on European statistics, in particular economic and financial statistics. While the ESCB and the ESS partnership operate under separate legal frameworks that reflect their respective governance structures, they follow the same statistical principles and apply thorough statistical quality assurance procedures in support of policy analysis and European decision-making, and in order to provide a reliable and timely source of information for the wider public. Together, the ESCB and the ESS partnership are taking a leading role in global statistical projects, such as the Special Data Dissemination Standard Plus (SDDS Plus) of the International Monetary Fund (IMF) and the G20's Data Gaps Initiative.

1 Introduction

European economic and financial statistics are at the forefront of worldwide statistical developments. The success of European statistics is largely due to the robust legal framework underpinning the collaboration between the national and European statistical systems. European statistics are produced by two separate pillars that work in close cooperation. One pillar is the ESCB, a system composed of the ECB and the national central banks (NCBs) of the EU Member States. The other pillar is the ESS, a partnership comprising the European Commission (Eurostat), national statistical institutes (NSIs) and other national authorities that produce statistics at the national level.

Close cooperation and sharing ideas and approaches between the statistical function of the ESCB and the ESS laid the foundations for the continuous broadening of the available European economic and financial statistics. This article is structured as follows: Section 2 outlines the legal framework of the two pillars of European statistics. Section 3 explains the institutional separation between the ESCB and the ESS. Section 4 describes the close cooperation between both pillars. Section 5 presents some conclusions.

2 The ESCB and the ESS: the two pillars of European statistics

The production of European statistics is organised around two separate pillars, the ESCB and the ESS partnership, with separate legal frameworks and governance structures. The ESCB is a fully fledged system enshrined in the Treaty on the Functioning of the European Union (TFEU).[1] It is composed of the ECB and the NCBs; the ECB's Governing Council is its highest decision-making body.

According to its statute[2], the ECB, assisted by the NCBs, may collect the statistics necessary to undertake the ESCB's tasks, including for monetary policy and financial stability purposes, either from the competent national authorities or directly from economic agents. The data collected may also be used for banking supervision purposes. The Council of the European Union has defined the natural and legal persons subject to reporting requirements by the ECB, the statistical principles to be followed, the confidentiality regime and the appropriate provisions for enforcement.[3] The actual statistics that are collected, compiled and disseminated by the ESCB are determined by the ECB's Governing Council. They are reflected in the ESCB's statistical work programme, which is approved by the ECB's Governing Council and supported by comments from its General Council. These are largely financial but also economic statistics, such as money and banking (including interest rates) statistics, banknotes statistics, payments and payment systems statistics, financial stability statistics, balance of payments statistics and international investment positions statistics.[4]

The ECB collects the statistical data, assisted by the NCBs and with the support of the ESCB's Statistics Committee.[5] It then produces the statistics, conducts quality assurance and disseminates them in conformity with the statistical principles of impartiality, objectivity, professional independence, cost-effectiveness, statistical confidentiality, minimisation of the reporting burden and high output reliability.[6] These statistical principles are reflected in the ESCB's public commitment on European statistics.[7]

Apart from the European statistics produced by the ESCB, many other European statistics are necessary to support the various policies of the European Union. These include economic statistics, such as the Harmonised Index

---

1 See Article 282(1) TFEU.

2 See Article 5 of Protocol (No 4) of the Statute of the ESCB and of the ECB.

3 Council Regulation (EC) No 2533/98 of 23 November 1998 concerning the collection of statistical information by the European Central Bank (OJ L 318, 27.11.1998, p. 8), amended by Council Regulation (EC) No 951/2009 of 9 October 2009 (OJ L 269, 14.10.2009, p. 1) and Council Regulation (EU) No 2015/373 of 5 March 2015 amending Regulation (EC) No 2533/98 concerning the collection of statistical information by the European Central Bank (OJ L 64, 7.3.2015, p. 6).

4 See, for example, Article 2(1) of Council Regulation (EC) No 2533/98.

5 Article 9(1) of the Decision of the ECB of 19 February 2004 adopting the Rules of Procedure of the ECB (ECB/2004/2) (OJ L 80, 18.3.2004, p. 33).

6 The statistical principles of the ESCB are referred to in Article 3a of Council Regulation (EC) No 2533/98.

7 See http://www.ecb.europa.eu/stats/html/pcstats.en.html

of Consumer Prices (HICP) or gross domestic product (GDP) and its components, as well as statistics in the areas of population and social conditions, regions, industry, trade and services, transport, agriculture and fishing, and the environment and energy. They are produced by the ESS – a partnership established by secondary legislation.[8]

According to the Treaty provisions[9], the European Parliament and the Council of the European Union, acting in accordance with the ordinary legislative procedure, may adopt statistical legal acts addressed to Member States, defining statistics to be produced by the ESS partnership. The ESS also conducts quality assurance for its statistics in line with the Treaty provisions[10], i.e. professional independence, impartiality, objectivity, reliability, cost-effectiveness and statistical confidentiality. These principles are set out in further operational detail in the ESS Code of Practice.[11]

3 Institutional separation between the ESCB and the ESS

The independence of the ESCB when producing its statistics is guaranteed in its statute as well as in the Treaty provisions.[12] This was recently recalled by the European Parliament and the Council of the European Union.[13]

It is the sole responsibility of the Governing Council of the ECB, as the ESCB's decision-making body, to coordinate the statistical activities of the ECB and the NCBs in their capacity as members of the ESCB. In other words, the ECB and the NCBs are not part of the ESS partnership when collecting statistical information and producing European statistics for the ECB. Moreover, although the members of the ESCB do not participate in the production of European statistics by the ESS, data produced by NCBs may be used, directly or indirectly, by NSIs, other national authorities and the European Commission (Eurostat) for the production of European statistics by the ESS. Similarly, NSIs may contribute to ESCB statistics while they are not part of the ESCB.[14]

The ECB welcomes the recent Regulation of the European Parliament and of the Council of the European Union reinforcing the role of Eurostat and the

---

8 Regulation (EC) No 223/2009 on European statistics and repealing Regulation (EC, Euratom) No 1101/2008 of the European Parliament and of the Council on the transmission of data subject to statistical confidentiality to the Statistical Office of the European Communities, Council Regulation (EC) No 322/97 on Community Statistics, and Council Decision 89/382/EEC, Euratom establishing a Committee on the Statistical Programmes of the European Communities (OJ, L 87, 31.3.2009, p. 164), amended by Regulation (EU) No 2015/759 of the European Parliament and of the Council of 29 April 2015 amending Regulation (EC) No 223/2009 on European statistics (OJ, L 123, 19.5.2015, p. 90).

9 See Article 338(1) TFEU.

10 See Article 338(2) TFEU.

11 See http://ec.europa.eu/eurostat/documents/3859598/5921861/KS-32-11-955-EN.PDF

12 See Articles 130 and 338 TFEU.

13 See Recital 24 of Regulation (EU) No 2015/759.

14 See Recital 9 of Regulation (EC) 223/2009.

NSIs in coordinating the activities of other national authorities that produce statistics.[15] This will contribute to strengthening the reliability of European statistics produced by the ESS.

4 Close cooperation between the ESCB and the ESS

The members of the ESCB and the ESS partnership need to cooperate closely to maximise synergies, minimise the reporting burden and ensure the production of complete and coherent European statistics.[16] To facilitate this cooperation, the quality frameworks of the ESCB and the ESS have been closely aligned. The ESCB public commitment on European statistics and the ESS Code of Practice set out almost identical statistical principles for the development, production and dissemination of European statistics.

This alignment of the quality frameworks aims to ensure that the same quality standards apply to both sets of European statistics. The quality of statistics produced by the ESS, such as HICP or GDP and its components, can be fully trusted by the ESCB. Equally, the European Parliament and the Council of the European Union can have full confidence in the reliability of the European statistics produced by the ESCB, such as monetary and financial statistics or balance of payments statistics.

The ESCB also cooperates closely with the ESS when setting up new statistical requirements or enhancing existing statistics. Indeed, within the framework of the cost-benefit analyses[17] carried out by the ESCB regarding developing new statistics, the ECB consults the European Commission on its user priorities. Furthermore, the ECB consults the Commission on draft ECB regulations in order to avoid conflicting requests for data from the ECB and the Commission.[18] In the same manner, the ECB shall be consulted on any proposed Union act – including delegated and implementing acts – that falls within its fields of competence.[19]

The two statistical systems also cooperate closely through the Committee on Monetary, Financial and Balance of Payments Statistics (CMFB)[20], as well as through the European Statistical Forum (ESF) (see Chart). The CMFB, composed of senior representatives of NCBs, NSIs, the ECB and the European Commission (Eurostat), was set up by the Council of the European Union in 1991 and provides a platform to support the operational cooperation between the two statistical pillars, particularly in statistical areas in which they have shared responsibilities, such as the production of national accounts and balance of payments statistics.

---

15 See Articles 1(1) and 1(3) of Regulation (EU) No 2015/759.

16 Article 9 of Regulation (EC) No 223/2009 and Article 2(a) of Regulation (EC) No 2533/98.

17 See "2.3 The merits and costs procedure", Quality assurance procedures within the ECB statistical function, ECB, April 2008, pp. 7-8, available at http://www.ecb.europa.eu/pub/pdf/other/ecbstatisticsqualityassuranceprocedure200804en.pdf?d80c2b00b4b02f1672f239eb4a783af1

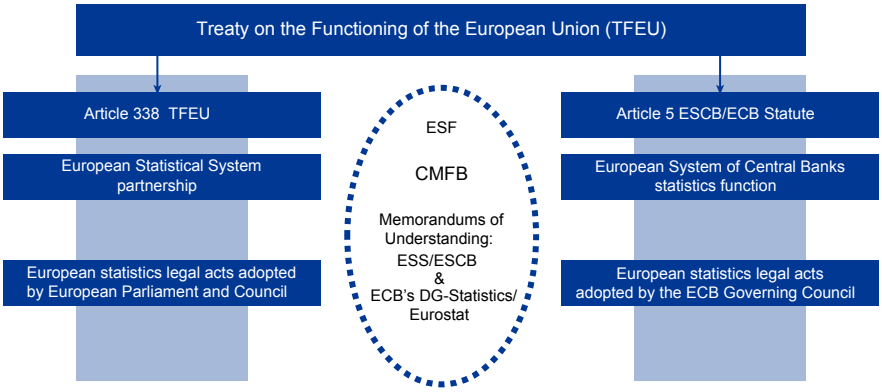
18 Article 5(2) of Regulation (EC) No 2533/98.

19 Articles 127(4) and 282(5) TFEU.

20 The CMFB was established by Council Decision in 1991. The original Council Decision 91/115/EEC was replaced on 13 November 2006 by Council Decision 2006/856/EC (OJ, L 332, 30.11.2006, p. 21).

Chart

Two pillars for European economic and financial statistics



The CMFB provides opinions to the European Commission (Eurostat) and the ECB on statistical matters in its field of competence.[21] These CMFB opinions help to ensure that the statistics produced by the ESCB and the ESS are credible, consistent and comparable across Member States. This applies in particular to advice that spans different European statistics produced by the ESCB and the ESS. For example, the statistical classification of units in financial accounts produced by the ESCB and the non-financial accounts produced by the ESS must be identical, in order to facilitate their integration into a complete set of sector accounts on a quarterly basis. These sector accounts are the basis for coordinated ECB and Eurostat press releases – a unique example of close cooperation between the statistical function of central banks and statistical offices that is rarely encountered in other parts of the world.

In addition, the CMFB also provides advice to the European Commission (Eurostat) in the context of the excessive deficit procedure for cases that are either complex or of general interest in the view of the Commission or the Member State concerned.[22] In such cases, the European Commission (Eurostat) takes a decision only after consulting with the CMFB, and publishes its decision together with the opinion of the CMFB.

To enhance cooperation between the two pillars at the strategic level, the ESF was established in 2013 through a memorandum of understanding (MoU) between the ESS and the ESCB.[23] The ESF advises the two pillars on the content and consistency of the statistical work programmes, makes proposals to improve the programmes' coordination, and identifies future challenges for European statistics

21 The CMFB exercises its advisory role to the European Commission (Eurostat) and the ECB pursuant to Article 4 of Council Decision 2006/856/EC: "The Committee may express opinions on its own initiative on any questions relating to those statistics that are of common concern to the Commission and national statistical authorities, on the one hand, and the ECB and NCBs, on the other. In the execution of its tasks, the Committee shall give its views to all interested parties."

22 The CMFB exercises its advisory role on EDP matters to the European Commission (Eurostat) pursuant to Article 10(2) of Regulation 479/2009 of the Council of the European Union.

23 See Memorandum of Understanding on the cooperation between the Members of the European Statistical System and the Members of the European System of Central Banks of 24 April 2013.

and areas of priority for cooperation between the ESS and the ESCB. To set out this close cooperation between the two European statistical pillars, Eurostat and the ECB's Directorate General Statistics signed an MoU in 2003[24] following an earlier MoU between the European Monetary Institute and Eurostat. The aim was to avoid duplication of statistical work, prevent conflicting requests for data from the ECB and the European Commission (Eurostat), and promote high-quality and consistent statistics for use by policy-makers and the general public.

This close cooperation is also fundamental to keeping European statistics at the forefront of worldwide statistical developments. The ESCB and the ESS have played an influential role in updating key international statistical standards[25] and ensuring their implementation in all European statistics. This resulted last year in a significant expansion in the content and detail of European economic and financial statistics, and will contribute to a gradual increase in their quality over the coming years. Likewise, the ECB and the European Commission (Eurostat) have actively contributed to the work of the Inter-Agency Group on Economic and Financial Statistics, which has been leading the response of the statistical community to the request of G20 finance ministers and central bank governors to close the information gaps that were revealed during the crisis (the Data Gaps Initiative).[26] In parallel, the IMF developed the SDDS Plus, a new initiative adding more demanding requirements to the existing SDDS.[27]

5 Conclusions

The strong governance of the ESCB as a system under the TFEU has been fundamental to its important contributions to European statistics. Its key features are: (i) full independence when producing European statistics, (ii) the capacity to legislate within the framework set by the Council of the European Union, and (iii) the central role of the ECB's Governing Council in deciding the ESCB statistical programme.

The ESS is a partnership established by secondary legislation. The statistics produced by the ESS are based on statistical legal acts adopted by the European Parliament and the Council of the European Union. The reinforced role of Eurostat and the NSIs in coordinating the statistical activities of other national authorities, excluding NCBs, will contribute to strengthening the reliability of European statistics produced by the ESS. While the ESCB and the ESS produce and publish their

---

24 See http://www.ecb.europa.eu/ecb/legal/pdf/en_mou_with_eurostat1.pdf

25 For example, the "System of National Accounts" (2008 SNA) adopted by the United Nations Statistical Commission and the International Monetary Fund's "Balance of Payments and International Investment Position Manual" (BPM6).

26 The second phase of the G20's Data Gaps Initiative, as outlined in the "Sixth Progress Report on the Implementation of the G20 Data Gaps Initiative", prepared by the staff of the IMF and the FSB Secretariat and supported by the Inter-Agency Group on Economic and Financial Statistics (IAG), was adopted by the G20 finance ministers and central bank governors on 4-5 September 2015, as reflected in the communiqué – https://g20.org/wp-content/uploads/2015/09/September-FMCBG-Communique.pdf

27 The SDDS was established by the IMF to guide members that have, or might seek, access to international capital markets in the provision of their economic and financial data to the public.

respective statistics, and perform quality assurance for them, they cooperate closely through the CMFB and the ESF to prevent conflicting statistical requests, minimise the reporting burden and ensure consistency across the different statistical domains.

This close cooperation between the ESCB and the ESS is at the heart of the leading role that European statistics play in international statistical initiatives, such as the G20's Data Gaps Initiative and the IMF's SDDS Plus initiative, and secures the comparability of key economic and financial indicators for the European Union with those of other major economies.

Statistics

Contents

Further information

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

Conventions used in the tables

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

1 External environment

1.1 Main trading partners, GDP and CPI

	GDP [1] (period-on-period percentage changes)						CPI (annual percentage changes)						
	G20	United States	United Kingdom	Japan	China	Memo item: euro area	OECD countries		United States	United Kingdom (HICP)	Japan	China	Memo item: euro area [2] (HICP)
							Total	excluding food and energy					
	1	2	3	4	5	6	7	8	9	10	11	12	13
2012	3.0	2.2	1.2	1.7	7.8	-0.8	2.3	1.8	2.1	2.8	0.0	2.6	2.5
2013	3.1	1.5	2.2	1.6	7.7	-0.3	1.6	1.6	1.5	2.6	0.4	2.6	1.4
2014	3.3	2.4	2.9	-0.1	7.4	0.9	1.7	1.8	1.6	1.5	2.7	2.0	0.4
2014 Q4	0.8	0.5	0.8	0.3	1.7	0.4	1.4	1.8	1.2	0.9	2.5	1.5	0.2
2015 Q1	0.7	0.2	0.4	1.1	1.3	0.5	0.6	1.7	-0.1	0.1	2.3	1.2	-0.3
Q2	0.7	1.0	0.7	-0.3	1.8	0.4	0.5	1.6	0.0	0.0	0.5	1.4	0.2
Q3	.	.	.	.	1.8	.	.	.	0.1	0.0	.	1.7	0.1
2015 Apr.	-	-	-	-	-	-	0.4	1.6	-0.2	-0.1	0.6	1.5	0.0
May	-	-	-	-	-	-	0.6	1.6	0.0	0.1	0.5	1.2	0.3
June	-	-	-	-	-	-	0.6	1.6	0.1	0.0	0.4	1.4	0.2
July	-	-	-	-	-	-	0.6	1.7	0.2	0.1	0.3	1.6	0.2
Aug.	-	-	-	-	-	-	0.6	1.7	0.2	0.0	0.2	2.0	0.1
Sep.	-	-	-	-	-	-	.	.	0.0	-0.1	.	1.6	-0.1

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

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

	Purchasing Managers' Surveys (diffusion indices; s.a.)									Merchandise imports [1]		
	Composite Purchasing Managers' Index						Global Purchasing Managers' Index [2]					
	Global [2]	United States	United Kingdom	Japan	China	Memo item: euro area	Manufacturing	Services	New export orders	Global	Advanced economies	Emerging market economies
	1	2	3	4	5	6	7	8	9	10	11	12
2012	52.6	54.4	52.0	49.9	50.9	47.2	50.2	51.9	48.5	3.7	2.5	4.4
2013	53.3	54.8	56.8	52.6	51.5	49.7	52.3	52.7	50.7	3.2	-0.2	5.2
2014	54.2	57.3	57.9	50.9	51.1	52.7	53.4	54.1	51.5	3.5	3.5	3.5
2014 Q4	53.3	55.6	56.3	50.9	51.4	51.5	52.4	53.6	50.4	1.5	1.8	1.4
2015 Q1	53.9	56.9	57.3	50.4	51.5	53.3	52.8	54.3	50.3	-2.6	1.7	-5.0
Q2	53.4	55.9	57.2	51.3	51.1	53.9	50.9	54.2	49.3	-0.5	-1.3	0.0
Q3	53.1	55.4	55.1	51.9	49.0	53.9	50.3	54.0	48.6	.	.	.
2015 Apr.	54.1	57.0	58.4	50.7	51.3	53.9	51.0	55.1	49.1	-1.8	0.9	-3.3
May	53.4	56.0	55.8	51.6	51.2	53.6	51.2	54.0	48.7	-1.7	-0.3	-2.6
June	52.7	54.6	57.4	51.5	50.6	54.2	50.5	53.4	50.0	-0.5	-1.3	0.0
July	53.4	55.7	56.7	51.5	50.2	53.9	50.9	54.2	49.1	0.0	-1.5	0.9
Aug.	53.5	55.7	55.2	52.9	48.8	54.3	50.0	54.6	48.8	.	.	.
Sep.	52.4	55.0	53.3	51.2	48.0	53.6	50.0	53.2	48.0	.	.	.

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

2 Financial developments

2.1 Money market interest rates

(percentages per annum; period averages)

	Euro area [1]					United States	Japan
	Overnight deposits (EONIA)	1-month deposits (EURIBOR)	3-month deposits (EURIBOR)	6-month deposits (EURIBOR)	12-month deposits (EURIBOR)	3-month deposits (LIBOR)	3-month deposits (LIBOR)
	1	2	3	4	5	6	7
2012	0.23	0.33	0.57	0.83	1.11	0.43	0.19
2013	0.09	0.13	0.22	0.34	0.54	0.27	0.15
2014	0.09	0.13	0.21	0.31	0.48	0.23	0.13
2015 Mar.	-0.05	-0.01	0.03	0.10	0.21	0.27	0.10
Apr.	-0.07	-0.03	0.00	0.07	0.18	0.28	0.10
May	-0.11	-0.05	-0.01	0.06	0.17	0.28	0.10
June	-0.12	-0.06	-0.01	0.05	0.16	0.28	0.10
July	-0.12	-0.07	-0.02	0.05	0.17	0.29	0.10
Aug.	-0.12	-0.09	-0.03	0.04	0.16	0.32	0.09
Sep.	-0.14	-0.11	-0.04	0.04	0.15	0.33	0.08

Source: ECB.

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

2.2 Yield curves

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

	Spot rates					Spreads			Instantaneous forward rates			
	Euro area [1], [2]					Euro area [1], [2]	United States	United Kingdom	Euro area [1], [2]			
	3 months	1 year	2 years	5 years	10 years	10 years - 1 year	10 years - 1 year	10 years - 1 year	1 year	2 years	5 years	10 years
	1	2	3	4	5	6	7	8	9	10	11	12
2012	0.06	-0.04	-0.01	0.58	1.72	1.76	1.61	1.48	-0.09	0.17	1.84	3.50
2013	0.08	0.09	0.25	1.07	2.24	2.15	2.91	2.66	0.18	0.67	2.53	3.88
2014	-0.02	-0.09	-0.12	0.07	0.65	0.74	1.95	1.45	-0.15	-0.11	0.58	1.77
2015 Mar.	-0.21	-0.25	-0.22	-0.08	0.26	0.51	1.69	1.19	-0.20	-0.20	0.29	0.81
Apr.	-0.28	-0.26	-0.21	0.03	0.42	0.68	1.81	1.39	-0.22	-0.08	0.46	1.05
May	-0.24	-0.25	-0.23	0.06	0.61	0.85	1.87	1.32	-0.25	-0.14	0.68	1.46
June	-0.27	-0.26	-0.23	0.19	0.95	1.21	2.09	1.52	-0.25	-0.10	1.08	2.09
July	-0.27	-0.29	-0.26	0.08	0.73	1.02	1.87	1.35	-0.29	-0.13	0.76	1.84
Aug.	-0.25	-0.27	-0.22	0.14	0.82	1.09	1.84	1.46	-0.25	-0.07	0.86	1.97
Sep.	-0.36	-0.27	-0.24	0.04	0.70	0.97	1.73	1.24	-0.22	-0.17	0.73	1.76

Source: ECB.

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

2) ECB calculations based on underlying data provided by EuroMTS and ratings provided by Fitch Ratings.

2.3 Stock market indices

(index levels in points; period averages)

	Dow Jones EURO STOXX indices												United States	Japan
	Benchmark		Main industry indices											
	Broad index	50	Basic materials	Consumer services	Consumer goods	Oil and gas	Financials	Industrials	Technology	Utilities	Telecoms	Health care	Standard & Poor's 500	Nikkei 225
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
2012	239.7	2,411.9	503.7	151.9	385.7	307.2	122.1	330.2	219.2	235.9	268.5	523.3	1,379.4	9,102.6
2013	281.9	2,794.0	586.3	195.0	468.2	312.8	151.5	402.7	274.1	230.6	253.4	629.4	1,643.8	13,577.9
2014	318.7	3,145.3	644.3	216.6	510.6	335.5	180.0	452.9	310.8	279.2	306.7	668.1	1,931.4	15,460.4
2015 Mar.	373.9	3,655.3	787.2	268.9	666.9	313.5	198.9	524.1	386.2	292.9	389.2	824.6	2,080.4	19,197.6
Apr.	383.3	3,733.8	798.2	275.7	678.6	331.0	204.9	535.7	394.2	299.5	395.0	861.4	2,094.9	19,767.9
May	373.4	3,617.9	765.0	268.9	662.1	326.5	199.3	522.4	389.5	294.0	389.2	827.6	2,111.9	19,974.2
June	364.0	3,521.8	743.2	265.5	647.4	310.3	194.5	504.7	385.0	283.0	380.7	820.4	2,099.3	20,403.8
July	366.3	3,545.1	744.0	266.0	645.2	302.1	198.0	505.5	378.1	281.3	395.1	864.8	2,094.1	20,372.6
Aug.	356.7	3,444.4	711.9	261.9	615.0	287.7	193.9	504.6	359.9	274.9	390.0	856.9	2,039.9	19,919.1
Sep.	330.9	3,165.5	649.6	250.9	566.4	267.2	178.5	469.7	339.5	250.8	362.6	817.4	1,944.4	17,944.2

Source: ECB.

2 Financial developments

2.4 MFI interest rates on loans to and deposits from households (new business) [1), 2)]

(Percentages per annum; period average, unless otherwise indicated)

	Deposits				Revolving loans and overdrafts	Extended credit card credit	Loans for consumption			Loans to sole proprietors and unincorporated partnerships	Loans for house purchase					
	Overnight	Redeemable at notice of up to 3 months	With an agreed maturity of:				By initial period of rate fixation		APRC [3)]		By initial period of rate fixation				APRC [3)]	Composite cost-of-borrowing indicator
			Up to 2 years	Over 2 years			Floating rate and up to 1 year	Over 1 year			Floating rate and up to 1 year	Over 1 and up to 5 years	Over 5 and up to 10 years	Over 10 years		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2014 Sep.	0.21	0.95	1.17	1.70	7.37	17.06	5.35	6.67	6.99	2.94	2.49	2.69	2.61	2.82	2.88	2.66
Oct.	0.20	0.94	1.09	1.65	7.20	16.96	5.38	6.59	6.98	2.89	2.42	2.63	2.54	2.78	2.81	2.60
Nov.	0.20	0.91	1.01	1.66	7.18	17.12	5.58	6.66	6.98	2.92	2.41	2.50	2.51	2.72	2.76	2.53
Dec.	0.20	0.89	0.96	1.58	7.14	17.10	5.07	6.21	6.53	2.75	2.42	2.52	2.53	2.68	2.76	2.49
2015 Jan.	0.19	0.86	1.01	1.94	7.18	17.12	5.25	6.42	6.73	2.76	2.30	2.55	2.43	2.44	2.68	2.40
Feb.	0.18	0.84	0.97	1.51	7.13	17.05	5.18	6.47	6.82	2.79	2.07	2.47	2.32	2.49	2.58	2.37
Mar.	0.17	0.82	0.89	1.37	7.13	17.05	5.16	6.16	6.49	2.72	2.11	2.45	2.29	2.41	2.55	2.30
Apr.	0.16	0.79	0.87	1.15	7.03	17.01	4.89	6.13	6.42	2.66	2.01	2.38	2.17	2.36	2.49	2.24
May	0.16	0.82	0.83	1.08	6.98	17.08	5.04	6.29	6.60	2.67	2.05	2.33	2.09	2.29	2.45	2.17
June	0.15	0.78	0.77	1.18	6.97	17.02	4.88	6.14	6.45	2.59	2.02	2.25	2.12	2.31	2.48	2.18
July	0.15	0.74	0.67	1.14	6.83	17.08	5.10	6.20	6.50	2.61	2.05	2.25	2.21	2.36	2.56	2.22
Aug. [(p)]	0.14	0.67	0.67	1.00	6.83	17.03	5.29	6.30	6.62	2.60	2.11	2.28	2.30	2.35	2.60	2.26

Source: ECB.

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

2) Including non-profit institutions serving households.

3) Annual percentage rate of charge (APRC).

2.5 MFI interest rates on loans to and deposits from non-financial corporations (new business) [1), 2)]

(Percentages per annum; period average, unless otherwise indicated)

	Deposits			Revolving loans and overdrafts	Other loans by size and initial period of rate fixation									Composite cost-of-borrowing indicator
	Overnight	With an agreed maturity of:			up to EUR 0.25 million			over EUR 0.25 and up to 1 million			over EUR 1 million			
		Up to 2 years	Over 2 years		Floating rate and up to 3 months	Over 3 months and up to 1 year	Over 1 year	Floating rate and up to 3 months	Over 3 months and up to 1 year	Over 1 year	Floating rate and up to 3 months	Over 3 months and up to 1 year	Over 1 year	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
2014 Sep.	0.26	0.51	1.46	3.72	4.01	4.03	3.53	2.46	3.01	2.77	1.83	2.38	2.42	2.68
Oct.	0.25	0.50	1.37	3.64	4.00	3.94	3.53	2.43	2.90	2.71	1.75	2.25	2.46	2.60
Nov.	0.25	0.44	1.16	3.57	3.82	3.86	3.42	2.38	2.84	2.63	1.74	2.17	2.27	2.51
Dec.	0.24	0.43	1.26	3.49	3.68	3.75	3.26	2.34	2.78	2.50	1.72	2.16	2.13	2.46
2015 Jan.	0.23	0.44	1.19	3.49	3.78	3.85	2.98	2.31	2.82	2.05	1.66	2.03	2.20	2.46
Feb.	0.22	0.35	1.04	3.43	3.57	3.72	3.12	2.24	2.71	2.39	1.51	1.99	2.14	2.37
Mar.	0.21	0.32	1.07	3.39	3.45	3.65	3.13	2.16	2.67	2.33	1.61	2.11	2.02	2.36
Apr.	0.19	0.30	0.89	3.34	3.46	3.58	2.95	2.18	2.64	2.26	1.61	1.93	2.03	2.33
May	0.18	0.30	0.91	3.28	3.37	3.51	2.96	2.15	2.46	2.23	1.57	1.85	2.04	2.27
June	0.18	0.31	1.10	3.25	3.19	3.48	2.91	2.09	2.33	2.23	1.59	1.91	2.04	2.26
July	0.17	0.32	0.86	3.19	3.27	3.60	2.87	2.07	2.36	2.20	1.50	1.73	2.04	2.19
Aug. [(p)]	0.17	0.24	0.92	3.16	3.24	3.57	2.91	2.07	2.32	2.22	1.39	1.53	2.03	2.16

Source: ECB.

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

2) In accordance with the ESA 2010, in December 2014 holding companies of non-financial groups were reclassified from the non-financial corporations sector to the financial corporations sector.

2 Financial developments

2.6 Debt securities issued by euro area residents, by sector of the issuer and initial maturity

(EUR billions; transactions during the month and end-of-period outstanding amounts; nominal values)

	Outstanding amounts							Gross issues [1]						
	Total	MFIs (including Eurosystem)	Non-MFI corporations			General government		Total	MFIs (including Eurosystem)	Non-MFI corporations			General government	
			Financial corporations other than MFIs	FVCs	Non-financial corporations	Central government	Other general government			Financial corporations other than MFIs	FVCs	Non-financial corporations	Central government	Other general government
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Short-term													
2012	1,426	581	146	-	75	558	66	703	491	37	-	52	103	21
2013	1,247	477	122	-	67	529	53	508	314	30	-	44	99	21
2014	1,311	545	119	-	59	538	50	410	219	33	-	39	93	25
2015 Mar.	1,415	604	132	-	71	543	66	373	162	45	-	35	89	42
Apr.	1,408	600	132	-	80	533	62	350	158	38	-	38	82	35
May	1,393	591	132	-	80	532	59	326	140	36	-	36	80	33
June	1,325	560	118	-	75	517	56	298	126	30	-	34	77	32
July	1,328	560	113	-	81	520	54	340	145	34	-	39	91	31
Aug.	1,329	558	117	-	79	515	59	296	139	27	-	22	79	29
	Long-term													
2012	15,205	4,814	3,166	-	842	5,758	624	255	98	45	-	16	84	12
2013	15,109	4,405	3,087	-	921	6,069	627	222	70	39	-	16	89	9
2014	15,134	4,048	3,164	-	993	6,286	643	221	66	43	-	16	85	10
2015 Mar.	15,366	4,026	3,263	-	1,033	6,399	644	282	81	62	-	17	112	10
Apr.	15,292	4,000	3,229	-	1,033	6,389	641	225	70	38	-	21	87	10
May	15,372	3,982	3,252	-	1,036	6,462	640	189	50	44	-	6	85	4
June	15,357	3,938	3,268	-	1,031	6,485	634	207	69	33	-	13	87	5
July	15,319	3,917	3,289	-	1,040	6,437	636	224	79	42	-	10	83	10
Aug.	15,265	3,895	3,249	-	1,040	6,444	637	113	42	20	-	4	44	4

Source: ECB.

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

2.7 Growth rates and outstanding amounts of debt securities and listed shares

(EUR billions; percentage changes)

	Debt securities							Listed shares			
	Total	MFIs (including Eurosystem)	Non-MFI corporations			General government		Total	MFIs	Financial corporations other than MFIs	Non-financial corporations
			Financial corporations other than MFIs	FVCs	Non-financial corporations	Central government	Other general government				
	1	2	3	4	5	6	7	8	9	10	11
	Oustanding amount										
2012	16,631.5	5,395.8	3,312.1	.	917.0	6,316.2	690.4	4,600.5	404.7	617.9	3,577.9
2013	16,355.9	4,881.7	3,208.7	.	987.9	6,597.8	679.8	5,649.1	569.1	751.0	4,329.0
2014	16,444.6	4,593.2	3,282.6	.	1,052.0	6,823.7	693.0	5,961.7	591.1	790.2	4,580.4
2015 Mar.	16,781.2	4,630.4	3,394.9	.	1,104.2	6,941.6	710.1	7,067.5	688.8	935.6	5,443.1
Apr.	16,700.0	4,600.2	3,361.2	.	1,113.0	6,921.8	703.6	6,971.2	683.9	909.2	5,378.1
May	16,765.5	4,572.2	3,383.9	.	1,115.7	6,994.0	699.7	6,994.1	675.5	902.4	5,416.3
June	16,682.2	4,498.3	3,386.1	.	1,105.9	7,001.4	690.5	6,813.1	664.3	880.5	5,268.3
July	16,646.6	4,476.6	3,401.9	.	1,121.2	6,956.9	690.0	7,113.7	695.0	914.7	5,504.0
Aug.	16,594.0	4,452.7	3,366.7	.	1,118.7	6,959.8	696.1	6,575.9	630.6	849.8	5,095.5
	Growth rate										
2012	1.3	-1.8	-0.3	.	14.4	2.5	6.1	0.9	4.9	2.0	0.4
2013	-1.4	-8.9	-3.4	.	8.1	4.5	-1.1	0.9	7.2	0.2	0.3
2014	-0.6	-7.7	0.3	.	4.9	3.1	1.2	1.5	7.2	1.6	0.8
2015 Mar.	-0.1	-7.0	2.6	.	5.3	2.6	1.8	1.5	6.8	1.4	0.8
Apr.	-0.2	-6.7	2.3	.	6.7	2.1	1.9	1.5	6.8	1.1	0.8
May	-0.7	-7.1	0.7	.	5.8	2.1	1.4	1.3	5.8	1.2	0.7
June	-1.0	-7.6	1.3	.	4.6	1.6	-0.8	1.0	4.1	0.6	0.7
July	-1.2	-7.4	0.5	.	4.4	1.5	-0.6	1.0	3.3	0.3	0.9
Aug.	-0.9	-7.2	0.5	.	4.5	1.8	-0.2	1.0	3.3	0.5	0.8

Source: ECB.

2 Financial developments

2.8 Effective exchange rates [1)]

(period averages; index: 1999 Q1=100)

	EER-19						EER-38	
	Nominal	Real CPI	Real PPI	Real GDP deflator	Real ULCM [2)]	Real ULCT	Nominal	Real CPI
	1	2	3	4	5	6	7	8
2012	97.6	95.0	93.3	88.2	100.3	95.8	107.0	92.5
2013	101.2	98.2	96.7	91.4	102.9	98.9	111.9	95.6
2014	101.8	97.9	96.7	91.6	103.3	100.4	114.7	96.1
2014 Q4	99.0	94.9	94.3	89.2	100.5	97.7	112.3	93.5
2015 Q1	93.0	89.2	89.4	84.0	94.0	92.2	106.4	88.3
Q2	91.2	87.5	88.2	82.4	92.1	90.1	104.4	86.3
Q3	92.7	88.7	89.8	.	.	.	107.6	88.6
2015 Apr.	89.7	86.1	86.9	-	-	-	102.4	84.8
May	91.6	87.9	88.6	-	-	-	104.7	86.6
June	92.3	88.5	89.1	-	-	-	106.0	87.6
July	91.3	87.5	88.2	-	-	-	105.1	86.7
Aug.	93.0	89.0	90.2	-	-	-	108.1	89.0
Sep.	93.8	89.6	91.2	-	-	-	109.6	90.2
Percentage change versus previous month								
2015 Sep.	0.8	0.7	1.0	-	-	-	1.5	1.3
Percentage change versus previous year								
2015 Sep.	-6.1	-6.5	-4.1	-	-	-	-2.3	-4.0

Source: ECB.

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

2) ULCM-deflated series are available only for the EER-19 trading partner group.

2.9 Bilateral exchange rates

(period averages; units of national currency per euro)

	Chinese renminbi	Croatian kuna	Czech koruna	Danish krone	Hungarian forint	Japanese yen	Polish zloty	Pound sterling	Romanian leu	Swedish krona	Swiss franc	US Dollar
	1	2	3	4	5	6	7	8	9	10	11	12
2012	8.105	7.522	25.149	7.444	289.249	102.492	4.185	0.811	4.4593	8.704	1.205	1.285
2013	8.165	7.579	25.980	7.458	296.873	129.663	4.197	0.849	4.4190	8.652	1.231	1.328
2014	8.186	7.634	27.536	7.455	308.706	140.306	4.184	0.806	4.4437	9.099	1.215	1.329
2014 Q4	7.682	7.665	27.630	7.442	308.527	142.754	4.211	0.789	4.4336	9.272	1.205	1.250
2015 Q1	7.023	7.681	27.624	7.450	308.889	134.121	4.193	0.743	4.4516	9.380	1.072	1.126
Q2	6.857	7.574	27.379	7.462	306.100	134.289	4.088	0.721	4.4442	9.300	1.041	1.105
Q3	7.008	7.578	27.075	7.462	312.095	135.863	4.188	0.717	4.4290	9.429	1.072	1.112
2015 Apr.	6.686	7.590	27.439	7.466	299.429	128.935	4.018	0.721	4.4155	9.325	1.038	1.078
May	6.916	7.559	27.397	7.461	306.327	134.748	4.081	0.721	4.4477	9.304	1.039	1.115
June	6.959	7.572	27.307	7.460	311.960	138.740	4.159	0.721	4.4671	9.272	1.045	1.121
July	6.827	7.586	27.094	7.462	311.531	135.681	4.152	0.707	4.4391	9.386	1.049	1.100
Aug.	7.063	7.558	27.041	7.463	311.614	137.124	4.195	0.714	4.4235	9.515	1.078	1.114
Sep.	7.146	7.589	27.089	7.461	313.145	134.851	4.218	0.731	4.4236	9.392	1.091	1.122
Percentage change versus previous month												
2015 Sep.	1.2	0.4	0.2	0.0	0.5	-1.7	0.5	2.4	0.0	-1.3	1.3	0.7
Percentage change versus previous year												
2015 Sep.	-9.8	-0.5	-1.8	0.2	0.0	-2.6	0.7	-7.6	0.3	2.2	-9.6	-13.0

Source: ECB.

2 Financial developments

2.10 Euro area balance of payments, financial account

(EUR billions, unless otherwise indicated; outstanding amounts at end of period; transactions during period)

	Total [1]			Direct investment		Portfolio investment		Net financial derivatives	Other investment		Reserve assets	Memo: Gross external debt
	Assets	Liabilities	Net	Assets	Liabilities	Assets	Liabilities		Assets	Liabilities		
	1	2	3	4	5	6	7	8	9	10	11	12
Outstanding amounts (international investment position)												
2014 Q3	19,133.3	20,292.0	-1,158.8	7,740.1	5,925.7	6,234.5	9,565.8	-54.8	4,616.4	4,800.5	597.0	11,849.1
Q4	19,871.7	20,989.4	-1,117.7	8,249.4	6,410.5	6,467.3	9,823.6	-43.1	4,585.7	4,755.3	612.3	12,038.7
2015 Q1	21,840.3	22,833.9	-993.6	8,952.8	6,623.5	7,225.1	11,054.9	-69.3	5,041.3	5,155.5	690.4	12,995.0
Q2	21,378.9	22,271.8	-892.9	8,804.9	6,673.7	7,102.3	10,627.9	-22.3	4,835.5	4,970.2	658.5	12,649.4
Outstanding amounts as a percentage of GDP												
2015 Q2	208.4	217.1	-8.7	85.8	65.1	69.2	103.6	-0.2	47.1	48.5	6.4	123.3
Transactions												
2014 Q3	210.9	103.1	107.8	75.4	66.3	98.0	-16.4	17.8	21.1	53.2	-1.4	-
Q4	82.0	22.0	60.0	67.8	78.7	103.5	12.3	10.0	-102.1	-69.0	2.9	-
2015 Q1	548.9	511.4	37.6	195.7	88.2	137.1	250.7	22.6	187.8	172.5	5.7	-
Q2	33.0	8.7	24.3	84.5	125.0	122.9	-3.3	3.8	-175.7	-112.9	-2.5	-
2015 Mar.	143.8	34.6	109.3	111.3	19.9	50.1	69.4	8.4	-26.2	-54.7	0.3	-
Apr.	101.3	157.1	-55.8	17.2	32.1	26.2	1.9	5.1	56.7	123.2	-3.9	-
May	1.6	-19.1	20.7	39.5	45.3	64.4	19.2	2.9	-103.4	-83.6	-1.8	-
June	-69.9	-129.2	59.4	27.9	47.7	32.3	-24.4	-4.3	-129.0	-152.5	3.2	-
July	58.1	12.3	45.8	23.0	-7.2	-3.2	-66.1	10.5	34.8	85.6	-7.0	-
Aug.	-6.1	-10.1	3.9	-0.3	-3.2	9.2	-20.6	-7.2	-9.2	13.7	1.4	-
12-month cumulated transactions												
2015 Aug.	789.2	535.8	253.5	399.8	301.5	427.8	145.1	53.2	-90.1	89.2	-1.5	-
12-month cumulated transactions as a percentage of GDP												
2015 Aug.	7.7	5.2	2.5	3.9	2.9	4.2	1.4	0.5	-0.9	0.9	0.0	-

Source: ECB.

1) Net financial derivatives are included in total assets.

3 Economic activity

3.1 GDP and expenditure components

(quarterly data seasonally adjusted; annual data unadjusted)

	GDP											
	Total	Domestic demand								External balance		
		Total	Private consumption	Government consumption	Gross fixed capital formation				Changes in inventories	Total	Exports	Imports
						Total construction	Total machinery	Intellectual property products				
	1	2	3	4	5	6	7	8	9	10	11	12
	Current prices (EUR billions)											
2012	9,849.1	9,581.8	5,540.2	2,066.8	1,984.8	1,033.5	585.0	361.5	-10.0	267.4	4,294.4	4,027.0
2013	9,952.8	9,610.6	5,566.2	2,096.3	1,943.1	1,004.1	571.6	362.3	5.0	342.2	4,369.8	4,027.7
2014	10,126.9	9,738.9	5,643.0	2,130.5	1,976.6	1,007.1	592.5	371.7	-11.1	388.0	4,511.3	4,123.3
2014 Q3	2,537.6	2,439.2	1,413.8	534.9	496.0	251.7	149.3	93.7	-5.5	98.4	1,139.0	1,040.6
Q4	2,552.8	2,446.4	1,422.6	534.9	500.7	253.4	151.9	94.1	-11.8	106.4	1,149.3	1,042.9
2015 Q1	2,575.9	2,462.4	1,424.8	539.5	507.7	256.2	154.9	95.3	-9.7	113.5	1,159.6	1,046.0
Q2	2,593.9	2,473.0	1,437.4	541.4	506.4	253.7	156.0	95.3	-12.1	120.9	1,188.1	1,067.2
	as a percentage of GDP											
2014	100.0	96.2	55.7	21.0	19.6	10.0	5.9	3.7	-0.2	3.8	-	-
	Chain-linked volumes (prices for the previous year)											
	quarter-on-quarter percentage changes											
2014 Q3	0.3	0.3	0.5	0.2	0.3	-0.1	1.0	0.6	-	-	1.5	1.7
Q4	0.4	0.4	0.6	0.2	0.6	0.6	0.8	0.2	-	-	0.9	0.9
2015 Q1	0.5	0.7	0.5	0.6	1.4	1.0	2.3	0.8	-	-	1.0	1.5
Q2	0.4	0.0	0.4	0.3	-0.5	-1.1	0.4	-0.2	-	-	1.6	1.0
	annual percentage changes											
2012	-0.8	-2.3	-1.2	-0.1	-3.6	-4.4	-4.7	1.9	-	-	2.7	-0.8
2013	-0.3	-0.7	-0.6	0.2	-2.6	-3.6	-1.9	-0.8	-	-	2.1	1.3
2014	0.9	0.9	0.9	0.8	1.2	-0.4	3.9	2.0	-	-	3.9	4.2
2014 Q3	0.8	0.5	1.0	0.8	0.7	-1.8	3.9	2.5	-	-	4.3	4.0
Q4	0.9	1.0	1.4	1.0	0.8	-0.4	2.0	2.3	-	-	4.3	4.8
2015 Q1	1.2	1.4	1.7	1.2	1.8	0.0	4.9	2.1	-	-	4.8	5.5
Q2	1.5	1.4	1.9	1.3	1.9	0.5	4.4	1.5	-	-	5.2	5.2
	contributions to quarter-on-quarter percentage changes in GDP; percentage points											
2014 Q3	0.3	0.3	0.3	0.1	0.1	0.0	0.1	0.0	-0.1	0.0	-	-
Q4	0.4	0.4	0.3	0.0	0.1	0.1	0.0	0.0	-0.1	0.0	-	-
2015 Q1	0.5	0.7	0.3	0.1	0.3	0.1	0.1	0.0	0.0	-0.2	-	-
Q2	0.4	0.0	0.2	0.1	-0.1	-0.1	0.0	0.0	-0.1	0.3	-	-
	contributions to annual percentage changes in GDP; percentage points											
2012	-0.8	-2.3	-0.7	0.0	-0.7	-1.9	-1.2	0.3	-0.9	1.5	-	-
2013	-0.3	-0.6	-0.4	0.0	-0.5	-1.5	-0.4	-0.1	0.2	0.4	-	-
2014	0.9	0.8	0.5	0.2	0.2	-0.2	0.9	0.3	-0.1	0.0	-	-
2014 Q3	0.8	0.5	0.5	0.2	0.1	-0.2	0.2	0.1	-0.3	0.2	-	-
Q4	0.9	1.0	0.8	0.2	0.2	0.0	0.1	0.1	-0.2	-0.1	-	-
2015 Q1	1.2	1.4	1.0	0.2	0.4	0.0	0.3	0.1	-0.2	-0.1	-	-
Q2	1.5	1.3	1.1	0.3	0.4	0.0	0.3	0.1	-0.3	0.2	-	-

Sources: Eurostat and ECB calculations.

3 Economic activity

3.2 Value added by economic activity

(quarterly data seasonally adjusted; annual data unadjusted)

	Gross value added (basic prices)											Taxes less subsidies on products
	Total	Agriculture, forestry and fishing	Manufacturing energy and utilities	Construction	Trade, transport, accommodation and food services	Information and communication	Finance and insurance	Real estate	Professional, business and support services	Public administration, education, health and social work	Arts, entertainment and other services	
	1	2	3	4	5	6	7	8	9	10	11	12
	Current prices (EUR billions)											
2012	8,854.7	148.7	1,733.6	466.7	1,674.8	410.7	441.3	1,016.3	929.8	1,719.3	313.4	994.4
2013	8,945.3	152.9	1,737.8	457.3	1,690.3	414.0	443.2	1,035.0	945.1	1,751.1	318.7	1,007.5
2014	9,090.7	146.6	1,761.7	458.2	1,716.5	418.3	455.0	1,055.9	968.1	1,785.4	324.9	1,036.2
2014 Q3	2,278.0	36.3	442.4	114.0	430.1	104.6	114.0	264.5	242.9	447.8	81.5	259.6
Q4	2,290.6	35.3	444.5	114.9	434.5	105.4	113.7	266.1	245.1	449.2	81.9	262.2
2015 Q1	2,316.4	35.9	450.6	116.4	439.7	106.1	115.7	267.4	248.1	453.9	82.5	259.5
Q2	2,328.2	36.3	453.9	115.8	443.1	106.7	115.5	269.2	250.4	454.3	82.9	265.6
	as a percentage of value added											
2014	100.0	1.6	19.4	5.0	18.9	4.6	5.0	11.6	10.6	19.6	3.6	-
	Chain-linked volumes (prices for the previous year)											
	quarter-on-quarter percentage changes											
2014 Q3	0.3	1.2	0.2	-0.6	0.5	0.8	0.2	0.3	0.6	0.1	0.5	0.0
Q4	0.3	-2.0	0.1	0.5	0.6	0.5	0.2	0.3	0.5	0.2	0.2	1.2
2015 Q1	0.6	1.2	0.8	0.8	0.7	0.7	0.6	0.2	1.0	0.1	0.2	-0.1
Q2	0.3	0.0	0.4	-0.5	0.4	0.5	0.3	0.3	0.5	0.3	0.0	0.9
	annual percentage changes											
2012	-0.6	-4.2	-0.9	-6.1	-0.2	2.5	-0.3	0.0	-0.6	0.1	-0.7	-2.6
2013	-0.2	3.5	-0.4	-3.2	-1.0	1.4	-1.2	1.2	0.1	0.3	-0.1	-1.2
2014	0.9	3.4	0.5	-0.9	1.3	2.0	-0.4	1.3	1.5	0.6	0.6	0.8
2014 Q3	0.8	4.5	0.6	-2.0	1.1	2.2	-0.5	1.3	1.4	0.5	0.5	0.5
Q4	0.8	0.0	0.2	-1.4	1.4	2.0	0.2	1.2	2.0	0.5	0.7	1.9
2015 Q1	1.2	0.4	0.9	-0.8	1.8	2.7	0.6	1.2	2.4	0.6	0.7	2.0
Q2	1.5	0.4	1.4	0.1	2.3	2.5	1.3	1.1	2.6	0.7	0.9	2.0
	contributions to quarter-on-quarter percentage changes in value added; percentage points											
2014 Q3	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	-
Q4	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	-
2015 Q1	0.6	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	-
Q2	0.3	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	-
	contributions to annual percentage changes in value added; percentage points											
2012	-0.6	-0.1	-0.2	-0.3	0.0	0.1	0.0	0.0	-0.1	0.0	0.0	-
2013	-0.2	0.1	-0.1	-0.2	-0.2	0.1	-0.1	0.1	0.0	0.1	0.0	-
2014	0.9	0.1	0.1	0.0	0.2	0.1	0.0	0.1	0.2	0.1	0.0	-
2014 Q3	0.8	0.1	0.1	-0.1	0.2	0.1	0.0	0.2	0.1	0.1	0.0	-
Q4	0.8	0.0	0.0	-0.1	0.3	0.1	0.0	0.1	0.2	0.1	0.0	-
2015 Q1	1.2	0.0	0.2	0.0	0.3	0.1	0.0	0.1	0.3	0.1	0.0	-
Q2	1.5	0.0	0.3	0.0	0.4	0.1	0.1	0.1	0.3	0.1	0.0	-

Sources: Eurostat and ECB calculations.

3 Economic activity

3.3 Employment [1)]

(quarterly data seasonally adjusted; annual data unadjusted)

	Total	By employment status		By economic activity									
		Employees	Self-employed	Agriculture, forestry and fishing	Manufacturing, energy and utilities	Construction	Trade, transport, accommodation and food services	Information and communication	Finance and insurance	Real estate	Professional, business and support services	Public administration, education, health and social work	Arts, entertainment and other services
	1	2	3	4	5	6	7	8	9	10	11	12	13
Persons employed													
as a percentage of total persons employed													
2012	100.0	84.9	15.1	3.4	15.4	6.4	24.8	2.7	2.7	1.0	12.7	23.8	7.0
2013	100.0	85.0	15.0	3.4	15.3	6.2	24.8	2.7	2.7	1.0	12.9	24.0	7.1
2014	100.0	85.1	14.9	3.4	15.2	6.0	24.8	2.7	2.7	1.0	13.0	24.0	7.1
annual percentage changes													
2012	-0.4	-0.5	-0.1	-1.2	-0.7	-4.5	-0.6	1.2	-0.4	0.3	0.8	0.0	0.4
2013	-0.7	-0.6	-0.7	-1.3	-1.4	-4.4	-0.6	0.2	-1.1	-1.0	0.3	0.0	0.4
2014	0.6	0.8	-0.4	0.8	0.0	-1.7	0.8	0.9	-1.1	0.7	2.0	0.7	0.9
2014 Q3	0.8	1.0	-0.6	0.3	0.2	-1.2	1.1	1.2	-0.9	0.7	2.2	0.8	0.9
Q4	0.8	1.1	-0.5	0.5	0.4	-1.5	0.9	0.7	-1.0	1.2	2.5	0.6	2.0
2015 Q1	0.8	1.0	-0.2	-0.2	0.3	0.1	1.2	0.4	-0.7	1.4	2.6	0.5	0.6
Q2	0.9	1.0	0.2	0.3	0.3	1.0	0.8	0.7	0.0	2.1	2.4	0.5	1.1
Hours worked													
as a percentage of total hours worked													
2012	100.0	80.0	20.0	4.4	15.7	7.2	25.8	2.8	2.8	1.0	12.5	21.6	6.3
2013	100.0	80.0	20.0	4.4	15.7	6.8	25.8	2.8	2.8	1.0	12.6	21.7	6.4
2014	100.0	80.2	19.8	4.4	15.6	6.7	25.8	2.9	2.7	1.0	12.7	21.8	6.3
annual percentage changes													
2012	-1.8	-1.8	-1.6	-2.2	-2.3	-7.1	-2.1	0.6	-1.1	-0.8	-0.4	-0.6	-0.6
2013	-1.3	-1.3	-1.3	-1.6	-1.6	-5.6	-1.2	-0.3	-1.5	-1.9	-0.4	-0.5	-0.7
2014	0.6	0.9	-0.5	0.4	0.4	-1.6	0.7	1.0	-1.4	0.1	1.9	0.9	0.3
2014 Q3	0.5	1.0	-1.1	0.0	0.3	-1.8	0.8	1.1	-1.2	-0.3	2.0	0.6	0.2
Q4	1.0	1.3	-0.1	1.4	1.0	-1.0	0.9	1.3	-1.4	1.0	2.7	0.8	1.5
2015 Q1	0.7	0.9	-0.2	1.0	0.5	-0.1	0.7	0.6	-1.0	1.9	2.2	0.3	0.8
Q2	1.0	1.1	0.3	1.1	0.7	1.5	0.5	1.3	-0.1	2.7	2.7	0.5	1.0
Hours worked per person employed													
annual percentage changes													
2012	-1.3	-1.3	-1.4	-1.0	-1.6	-2.7	-1.5	-0.6	-0.7	-1.1	-1.2	-0.5	-1.0
2013	-0.6	-0.7	-0.5	-0.3	-0.2	-1.3	-0.6	-0.5	-0.5	-0.9	-0.7	-0.5	-1.1
2014	0.0	0.1	0.0	-0.4	0.4	0.2	-0.1	0.1	-0.3	-0.6	-0.1	0.2	-0.5
2014 Q3	-0.2	0.0	-0.5	-0.4	0.1	-0.6	-0.2	0.0	-0.3	-1.0	-0.1	-0.1	-0.7
Q4	0.1	0.2	0.5	0.9	0.6	0.5	-0.1	0.6	-0.5	-0.2	0.2	0.2	-0.6
2015 Q1	-0.1	-0.1	0.0	1.3	0.2	-0.2	-0.4	0.3	-0.3	0.4	-0.4	-0.2	0.2
Q2	0.1	0.2	0.1	0.8	0.5	0.6	-0.3	0.5	-0.1	0.6	0.3	0.0	-0.1

Sources: Eurostat and ECB calculations.

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

3 Economic activity

3.4 Labour force, unemployment and job vacancies

(seasonally adjusted, unless otherwise indicated)

	Labour force, millions [1]	Under-employ-ment, % of labour force [1]	Unemployment												Job vacancy rate [2]
			Total		Long-term unemploy-ment, % of labour force [1]	By age				By gender					
						Adult		Youth		Male		Female			
			Millions	% of labour force		Millions	% of labour force	Millions	% of labour force	Millions	% of labour force	Millions	% of labour force		
	1	2	3	4	5	6	7	8	9	10	11	12	13		14
% of total in 2013			100.0			81.3		18.7		53.6		46.4			
2012	159.111	4.0	18.188	11.4	5.2	14.632	10.1	3.556	23.6	9.758	11.3	8.430	11.5		1.6
2013	159.334	4.6	19.231	12.0	5.9	15.638	10.8	3.593	24.3	10.307	11.9	8.924	12.1		1.5
2014	160.308	4.6	18.625	11.6	6.1	15.213	10.4	3.412	23.7	9.919	11.5	8.706	11.8		1.7
2014 Q3	160.455	4.4	18.541	11.6	5.9	15.144	10.4	3.397	23.6	9.816	11.3	8.725	11.8		1.6
Q4	160.956	4.6	18.403	11.5	6.1	15.082	10.3	3.321	23.2	9.755	11.3	8.648	11.7		1.8
2015 Q1	160.089	4.7	17.990	11.2	5.9	14.750	10.1	3.240	22.7	9.570	11.1	8.419	11.4		1.7
Q2	160.446	4.6	17.789	11.1	5.7	14.592	10.0	3.198	22.5	9.454	10.9	8.335	11.2		1.7
2015 Mar.	-	-	17.922	11.2	-	14.689	10.0	3.233	22.7	9.535	11.0	8.387	11.3		-
Apr.	-	-	17.804	11.1	-	14.585	10.0	3.220	22.5	9.452	10.9	8.352	11.3		-
May	-	-	17.766	11.1	-	14.583	10.0	3.183	22.5	9.470	11.0	8.296	11.2		-
June	-	-	17.797	11.1	-	14.607	10.0	3.190	22.6	9.440	10.9	8.357	11.3		-
July	-	-	17.604	11.0	-	14.488	9.9	3.116	22.2	9.337	10.8	8.267	11.2		-
Aug.	-	-	17.602	11.0	-	14.471	9.9	3.131	22.3	9.306	10.8	8.296	11.2		-

Sources: Eurostat and ECB calculations.

1) Not seasonally adjusted.

2) The job vacancy rate is equal to the number of job vacancies divided by the sum of the number of occupied posts and the number of job vacancies, expressed as a percentage.

3.5 Short-term business statistics

	Industrial production						Con-struction produc-tion	ECB indicator on industrial new orders	Retail sales				New passenger car regis-trations
	Total (excluding construction)	Main Industrial Groupings							Total	Food, beverages, tobacco	Non-food	Fuel	
		Manu-facturing	Inter-mediate goods	Capital goods	Consumer goods	Energy							
	1	2	3	4	5	6	7	8	9	10	11	12	13
% of total in 2010	100.0	86.0	33.6	29.2	22.5	14.7	100.0	100.0	100.0	39.3	51.5	9.1	100.0
annual percentage changes													
2012	-2.4	-2.6	-4.4	-1.0	-2.5	-0.1	-5.8	-3.8	-1.6	-1.3	-1.5	-5.0	-11.1
2013	-0.7	-0.7	-1.0	-0.6	-0.4	-0.8	-2.3	-0.1	-0.8	-0.9	-0.6	-0.9	-4.4
2014	0.7	1.7	1.1	1.7	2.6	-5.5	1.7	3.3	1.3	0.3	2.3	0.3	3.7
2014 Q4	0.3	0.9	-0.4	0.8	2.6	-3.2	-0.8	2.9	1.9	0.7	2.8	1.4	1.6
2015 Q1	1.6	1.2	-0.1	1.1	2.3	4.6	-1.5	1.1	2.1	1.0	3.1	2.2	9.0
Q2	1.3	1.7	0.9	2.8	0.9	-1.1	-0.6	4.9	2.3	1.3	3.2	2.6	6.9
Q3	.	.	.	.	.	.	.	.	.	.	.	.	9.4
2015 Apr.	0.8	0.9	-0.1	2.2	-0.1	0.7	-1.1	2.9	2.4	1.4	3.2	2.8	6.4
May	1.6	2.3	2.0	4.0	0.4	-3.6	0.3	4.3	2.5	1.8	3.3	2.2	6.8
June	1.5	1.8	0.6	2.2	2.4	-0.3	-1.1	7.5	1.9	0.6	3.1	2.7	7.5
July	1.7	1.5	0.0	1.7	2.8	3.9	-0.3	3.7	3.0	2.1	3.5	3.1	9.9
Aug.	0.9	1.2	-0.6	2.8	1.1	-1.6	-6.0	.	2.3	2.5	2.0	3.6	8.3
Sep.	.	.	.	.	.	.	.	.	.	.	.	.	9.8
month-on-month percentage changes (s.a.)													
2015 Apr.	0.0	0.3	0.0	0.5	-0.4	-1.3	-0.4	2.0	0.4	1.0	0.1	0.7	0.8
May	-0.2	0.1	0.2	1.1	-0.4	-2.6	0.2	-0.1	0.2	0.3	0.3	-0.5	-1.5
June	-0.3	-0.8	-0.4	-1.5	-0.5	2.9	-1.1	2.5	0.0	-0.5	0.2	0.5	1.6
July	0.8	0.8	-0.4	1.6	1.2	2.1	0.4	-0.9	0.6	0.4	0.5	0.3	2.1
Aug.	-0.5	-0.3	0.2	-1.0	-0.2	-3.0	-0.2	.	0.0	0.8	-0.3	1.8	-0.8
Sep.	.	.	.	.	.	.	.	.	.	.	.	.	0.8

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

3 Economic activity

3.6 Opinion surveys
(seasonally adjusted)

	European Commission Business and Consumer Surveys (percentage balances, unless otherwise indicated)								Purchasing Managers' Surveys (diffusion indices)			
	Economic sentiment indicator (long-term average = 100)	Manufacturing industry		Consumer confidence indicator	Construction confidence indicator	Retail trade confidence indicator	Service industries		Purchasing Managers' Index (PMI) for manufacturing	Manufacturing output	Business activity for services	Composite output
		Industrial confidence indicator	Capacity utilisation (%)				Services confidence indicator	Capacity utilisation (%)				
	1	2	3	4	5	6	7	8	9	10	11	12
1999-13	100.2	-6.1	80.9	-12.8	-13.8	-8.7	6.6	-	51.0	52.4	52.9	52.7
2012	90.5	-11.6	78.9	-22.0	-27.7	-15.0	-6.5	86.5	46.2	46.3	47.6	47.2
2013	93.8	-9.1	78.7	-18.7	-29.2	-12.2	-5.4	87.1	49.6	50.6	49.3	49.7
2014	101.6	-3.9	80.4	-10.1	-27.4	-3.2	4.8	87.6	51.8	53.3	52.5	52.7
2014 Q4	100.8	-4.5	80.8	-11.3	-24.3	-5.1	5.3	87.9	50.4	51.2	51.7	51.5
2015 Q1	102.6	-4.0	81.1	-6.3	-24.9	-1.6	5.6	88.2	51.4	52.6	53.6	53.3
Q2	103.7	-3.2	81.1	-5.3	-24.9	-0.2	7.6	88.3	52.3	53.4	54.1	53.9
Q3	104.6	-2.9	.	-7.1	-23.3	2.9	10.5	.	52.3	53.6	54.0	53.9
2015 Apr.	103.8	-3.2	81.2	-4.6	-25.5	-0.8	7.0	88.5	52.0	53.4	54.1	53.9
May	103.8	-3.0	-	-5.6	-25.0	1.5	7.9	-	52.2	53.3	53.8	53.6
June	103.5	-3.4	-	-5.6	-24.2	-1.3	7.9	-	52.5	53.6	54.4	54.2
July	104.0	-2.9	81.1	-7.2	-23.8	1.1	8.9	88.1	52.4	53.6	54.0	53.9
Aug.	104.1	-3.7	-	-6.9	-22.7	3.5	10.1	-	52.3	53.9	54.4	54.3
Sep.	105.6	-2.2	-	-7.1	-23.3	4.1	12.4	-	52.0	53.4	53.7	53.6

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

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

	Households							Non-financial corporations					
	Saving ratio (gross) [1]	Debt ratio	Real gross disposable income	Financial investment	Non-financial investment (gross)	Net worth [2]	Housing wealth	Profit share [3]	Saving ratio (net)	Debt ratio [4]	Financial investment	Non-financial investment (gross)	Financing
	Percentage of gross disposable income (adjusted)		Annual percentage changes					Percentage of net value added		Percentage of GDP	Annual percentage changes		
	1	2	3	4	5	6	7	8	9	10	11	12	13
2012	12.5	97.4	-1.8	1.7	-5.1	0.6	-2.3	30.6	1.1	134.4	1.6	-6.7	1.2
2013	12.8	96.0	-0.4	1.5	-4.1	0.4	-2.2	32.1	3.1	132.5	2.5	-1.0	1.3
2014	12.7	95.1	0.7	1.7	1.0	2.3	0.7	32.6	4.0	134.0	1.8	3.5	0.9
2014 Q3	12.8	95.0	1.3	1.7	-0.9	2.7	0.4	32.1	3.4	132.7	2.1	3.0	1.0
Q4	12.7	95.1	0.9	1.7	1.0	2.3	0.7	32.6	4.0	134.3	1.8	2.1	0.9
2015 Q1	12.7	94.7	1.9	1.9	-0.3	3.8	1.3	32.7	4.2	136.2	2.6	2.1	1.5
Q2	12.7	.	2.0	1.7	-0.2	.	.	33.3	4.9	136.2	3.2	6.0	1.6

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

3 Economic activity

3.8 Euro area balance of payments, current and capital accounts

(EUR billions; seasonally adjusted unless otherwise indicated; transactions)

	Current account											Capital account [1]	
	Total			Goods		Services		Primary income		Secondary income			
	Credit	Debit	Net	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit
	1	2	3	4	5	6	7	8	9	10	11	12	13
2014 Q3	854.3	788.0	66.3	494.2	432.4	177.1	158.2	159.0	142.4	24.0	55.0	6.7	3.0
Q4	864.3	794.4	69.8	508.6	434.1	179.2	164.5	152.2	136.7	24.2	59.1	12.7	6.0
2015 Q1	875.6	794.4	81.1	512.0	436.0	184.2	169.0	153.8	130.0	25.6	59.4	8.7	7.5
Q2	891.1	812.1	79.0	525.0	442.6	186.8	171.0	152.7	138.2	26.7	60.3	9.6	37.2
2015 Mar.	297.1	272.8	24.3	172.4	151.2	62.1	57.9	54.1	44.0	8.6	19.8	3.6	2.4
Apr.	298.2	271.1	27.2	174.9	147.7	61.7	57.0	53.1	46.0	8.4	20.3	2.8	1.2
May	297.6	272.6	24.9	174.7	148.1	63.0	56.9	50.4	46.4	9.4	21.2	3.6	1.5
June	295.3	268.4	26.9	175.3	146.8	62.0	57.1	49.1	45.8	8.9	18.7	3.3	34.4
July	295.6	270.0	25.6	174.3	146.0	61.9	58.1	51.0	46.5	8.3	19.4	3.2	1.6
Aug.	285.9	268.1	17.7	164.3	143.1	62.3	58.0	50.0	46.3	9.2	20.7	3.2	1.1
12-month cumulated transactions													
2015 Aug.	3,503.4	3,200.7	302.7	2,055.0	1,746.8	733.1	673.5	613.0	543.6	102.2	236.9	39.3	54.4
12-month cumulated transactions as a percentage of GDP													
2015 Aug.	34.1	31.2	3.0	20.0	17.0	7.1	6.6	6.0	5.3	1.0	2.3	0.4	0.5

1) The capital account is not seasonally adjusted.

3.9 Euro area external trade in goods [1], values and volumes by product group [2]

(seasonally adjusted, unless otherwise indicated)

	Total (n.s.a.)		Exports (f.o.b.)					Imports (c.i.f.)					
			Total				Memo item:	Total				Memo items:	
	Exports	Imports		Intermediate goods	Capital goods	Consumption goods	Manufacturing		Intermediate goods	Capital goods	Consumption goods	Manufacturing	Oil
	1	2	3	4	5	6	7	8	9	10	11	12	13
Values (EUR billions; annual percentage changes for columns 1 and 2)													
2014 Q3	3.0	0.6	486.6	236.1	97.3	139.6	398.1	440.6	270.2	62.2	101.7	288.3	73.8
Q4	4.6	0.2	498.8	237.5	102.8	145.2	409.7	436.4	260.5	63.7	103.2	293.9	66.1
2015 Q1	5.1	1.8	504.0	240.7	104.2	148.6	420.3	445.1	259.0	70.2	109.1	314.0	58.1
Q2	8.0	3.8	517.3	243.3	105.5	154.2	430.6	453.0	265.0	69.4	111.1	315.7	56.9
2015 Mar.	11.1	9.5	171.6	81.7	34.9	51.3	143.3	154.2	89.9	24.4	37.7	108.9	20.1
Apr.	8.8	4.9	173.5	81.8	35.6	51.4	144.1	151.8	89.1	23.8	36.5	105.5	19.2
May	2.7	0.0	170.7	80.7	34.5	51.0	141.3	149.7	86.8	22.6	36.9	103.3	18.8
June	12.5	6.6	173.1	80.8	35.5	51.9	145.2	151.4	89.0	23.0	37.7	106.9	18.9
July	6.6	0.6	171.7	79.3	35.0	52.5	142.9	149.3	85.7	23.0	37.5	105.4	17.9
Aug.	5.5	3.0	169.5	.	.	.	139.8	149.7	.	.	.	103.8	.
Volume indices (2000 = 100; annual percentage changes for columns 1 and 2)													
2014 Q3	1.1	2.5	114.6	112.7	114.8	116.4	114.7	101.9	101.4	101.7	103.7	105.1	89.4
Q4	3.1	2.1	117.4	113.7	119.9	121.1	117.0	102.3	102.0	99.2	102.8	104.3	97.3
2015 Q1	2.6	5.1	117.2	114.7	119.1	122.1	117.8	105.5	105.8	104.6	105.4	108.0	110.6
Q2	3.1	2.2	117.4	113.8	118.7	121.7	118.1	103.5	103.7	100.1	105.0	106.2	93.8
2015 Feb.	1.6	4.9	117.6	115.2	120.8	122.1	118.8	105.1	105.7	105.7	104.3	108.1	108.3
Mar.	7.1	10.7	118.3	115.8	118.3	124.3	119.3	107.2	107.6	104.9	108.3	110.6	106.5
Apr.	3.4	2.9	118.4	114.7	120.0	122.6	118.7	104.1	104.7	102.8	103.5	106.1	98.1
May	-2.5	-2.4	116.0	112.9	116.7	120.2	116.1	102.2	101.1	98.8	104.3	104.4	90.2
June	8.2	6.0	117.9	113.8	119.5	122.2	119.4	104.1	105.3	98.7	107.1	108.2	93.1
July	3.1	1.5	117.5	112.2	118.0	124.9	117.9	104.7	103.5	102.4	107.3	107.7	94.1

Sources: ECB and Eurostat.

1) Differences between ECB's b.o.p. goods (Table 3.8) and Eurostat's trade in goods (Table 3.9) are mainly due to different definitions.

2) Product groups as classified in the Broad Economic Categories.

4 Prices and costs

4.1 Harmonised Index of Consumer Prices [1)]

(annual percentage changes, unless otherwise indicated)

	Total					Total (s.a.; percentage change vis-à-vis previous period)						Memo item: Administered prices	
	Index: 2005 = 100	Total		Goods	Services	Total	Processed food	Unprocessed food	Non-energy industrial goods	Energy (n.s.a.)	Services	Total HICP excluding administered prices	Administered prices
			Total excluding food and energy										
	1	2	3	4	5	6	7	8	9	10	11	12	13
% of total in 2015	100.0	100.0	69.7	56.5	43.5	100.0	12.2	7.5	26.3	10.6	43.5	87.1	12.9
2012	115.6	2.5	1.5	3.0	1.8	-	-	-	-	-	-	2.3	3.8
2013	117.2	1.4	1.1	1.3	1.4	-	-	-	-	-	-	1.2	2.1
2014	117.7	0.4	0.8	-0.2	1.2	-	-	-	-	-	-	0.2	1.9
2014 Q4	117.8	0.2	0.7	-0.6	1.2	-0.2	0.1	0.4	0.0	-3.0	0.2	-0.1	1.7
2015 Q1	116.8	-0.3	0.7	-1.4	1.1	-0.3	0.2	0.5	0.1	-4.2	0.2	-0.5	1.2
Q2	118.4	0.2	0.8	-0.5	1.1	0.5	0.3	0.7	0.2	2.4	0.4	0.1	0.9
Q3	117.8	0.1	0.9	-0.8	1.2	0.0	0.1	0.5	0.1	-2.5	0.4	0.0	0.8
2015 Apr.	118.2	0.0	0.6	-0.7	1.0	0.1	0.2	0.4	0.1	0.1	0.0	-0.1	0.9
May	118.5	0.3	0.9	-0.4	1.3	0.3	-0.1	0.3	0.1	0.9	0.3	0.3	1.0
June	118.5	0.2	0.8	-0.4	1.1	0.0	0.1	-0.1	0.0	-0.1	0.0	0.1	0.9
July	117.7	0.2	1.0	-0.5	1.2	0.0	0.0	-0.6	0.1	-0.7	0.2	0.1	0.9
Aug.	117.7	0.1	0.9	-0.7	1.2	-0.1	0.1	1.2	-0.1	-2.2	0.1	0.0	0.9
Sep.	118.0	-0.1	0.9	-1.1	1.2	-0.1	0.0	0.6	-0.1	-1.7	0.0	-0.2	0.7

	Goods						Services					
	Food (including alcoholic beverages and tobacco)			Industrial goods			Housing		Transport	Communication	Recreation and personal	Miscellaneous
	Total	Processed food	Unprocessed food	Total	Non-energy industrial goods	Energy		Rents				
	14	15	16	17	18	19	20	21	22	23	24	25
% of total in 2015	19.7	12.2	7.5	36.9	26.3	10.6	10.7	6.4	7.3	3.1	14.8	7.5
2012	3.1	3.1	3.0	3.0	1.2	7.6	1.8	1.5	2.9	-3.2	2.2	2.0
2013	2.7	2.2	3.5	0.6	0.6	0.6	1.7	1.5	2.4	-4.2	2.2	0.7
2014	0.5	1.2	-0.8	-0.5	0.1	-1.9	1.7	1.4	1.7	-2.8	1.5	1.3
2014 Q4	0.3	0.7	-0.3	-1.1	-0.1	-3.6	1.6	1.4	1.6	-2.6	1.4	1.4
2015 Q1	0.3	0.5	0.1	-2.3	-0.1	-7.7	1.3	1.3	1.4	-1.9	1.3	1.2
Q2	1.1	0.7	1.8	-1.4	0.2	-5.3	1.2	1.2	1.2	-0.9	1.4	1.2
Q3	1.2	0.6	2.1	-1.8	0.4	-7.2	1.2	1.1	1.4	-0.4	1.6	1.0
2015 Apr.	1.0	0.7	1.3	-1.6	0.1	-5.8	1.2	1.3	0.7	-1.2	1.2	1.2
May	1.2	0.6	2.1	-1.2	0.2	-4.8	1.2	1.2	1.6	-0.8	1.8	1.3
June	1.1	0.7	1.9	-1.3	0.3	-5.1	1.2	1.2	1.2	-0.8	1.3	1.1
July	0.9	0.6	1.4	-1.3	0.4	-5.6	1.2	1.1	1.5	-0.7	1.6	1.0
Aug.	1.3	0.6	2.4	-1.8	0.4	-7.2	1.2	1.1	1.2	-0.4	1.7	1.0
Sep.	1.4	0.6	2.7	-2.4	0.3	-8.9	1.3	1.1	1.4	-0.1	1.6	1.1

Sources: Eurostat and ECB calculations.

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

4 Prices and costs

4.2 Industry, construction and property prices

(annual percentage changes, unless otherwise indicated)

	Industrial producer prices excluding construction										Con-struction	Residential property prices [1]	Experimental indicator of commercial property prices [1]
	Total (index: 2010 = 100)	Total		Industry excluding construction and energy						Energy			
			Manu-facturing	Total	Intermediate goods	Capital goods	Consumer goods						
							Total	Food, beverages and tobacco	Non-food				
	1	2	3	4	5	6	7	8	9	10	11	12	13
% of total in 2010	100.0	100.0	78.0	72.1	29.3	20.0	22.7	13.8	8.9	27.9			
2012	108.7	2.8	2.0	1.4	0.7	1.0	2.5	3.5	0.9	6.6	1.5	-1.7	-0.1
2013	108.5	-0.2	-0.1	0.4	-0.6	0.6	1.7	2.6	0.3	-1.6	0.3	-2.0	-1.1
2014	106.9	-1.5	-0.9	-0.3	-1.1	0.4	0.1	-0.2	0.3	-4.4	0.3	0.2	1.1
2014 Q3	106.8	-1.4	-0.6	-0.1	-0.6	0.5	-0.1	-0.5	0.3	-4.5	0.4	0.4	1.7
Q4	106.0	-1.9	-1.6	-0.3	-0.7	0.6	-0.6	-1.2	0.2	-5.8	0.2	0.7	2.4
2015 Q1	104.5	-2.9	-2.6	-0.6	-1.5	0.7	-0.7	-1.3	0.2	-8.5	0.3	1.0	2.5
Q2	104.9	-2.1	-1.6	-0.3	-0.7	0.7	-0.8	-1.4	0.0	-6.5	0.4	1.0	3.2
2015 Mar.	104.9	-2.3	-1.9	-0.5	-1.2	0.7	-0.6	-1.1	0.3	-6.8	-	-	-
Apr.	104.8	-2.1	-1.7	-0.4	-0.8	0.8	-0.8	-1.4	0.1	-6.4	-	-	-
May	104.9	-2.0	-1.5	-0.3	-0.6	0.7	-0.9	-1.3	-0.1	-6.2	-	-	-
June	104.9	-2.1	-1.7	-0.4	-0.6	0.7	-0.8	-1.4	0.0	-6.8	-	-	-
July	104.7	-2.1	-2.0	-0.4	-0.7	0.7	-0.8	-1.4	0.1	-6.5	-	-	-
Aug.	103.8	-2.6	-2.7	-0.5	-1.1	0.6	-0.7	-1.2	0.1	-8.2	-	-	-

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

1) Experimental data based on non-harmonised sources (see http://www.ecb.europa.eu/stats/html/experiment.en.html for further details).

4.3 Commodity prices and GDP deflators

(annual percentage changes, unless otherwise indicated)

	GDP deflators								Oil prices (EUR per barrel)	Non-energy commodity prices (EUR)					
	Total (s.a.; index: 2010 = 100)	Total	Domestic demand				Exports [1]	Imports [1]		Import-weighted [2]			Use-weighted [2]		
			Total	Private consump-tion	Govern-ment consump-tion	Gross fixed capital formation				Total	Food	Non-food	Total	Food	Non-food
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
% of total										100.0	35.0	65.0	100.0	45.0	55.0
2012	102.4	1.3	1.5	1.9	0.8	1.2	1.9	2.5	86.6	-7.2	0.2	-10.5	-3.1	5.8	-9.1
2013	103.7	1.3	1.0	1.1	1.2	0.5	-0.3	-1.3	81.7	-9.0	-13.4	-6.9	-8.3	-10.1	-6.9
2014	104.6	0.9	0.5	0.5	0.8	0.5	-0.7	-1.7	74.5	-8.8	-1.6	-12.1	-4.6	0.7	-8.7
2014 Q4	105.0	0.9	0.3	0.3	0.8	0.6	-0.4	-1.9	61.5	-5.5	6.2	-10.8	1.3	9.3	-4.7
2015 Q1	105.4	1.0	0.0	-0.2	0.7	0.6	-0.2	-2.6	49.0	-0.4	8.7	-4.9	5.6	11.6	0.7
Q2	105.7	1.2	0.4	0.3	0.7	0.9	0.9	-1.1	57.4	-0.5	2.1	-2.0	4.0	5.6	2.6
Q3	.	.	.	.	.	.	.	.	46.1	-6.5	6.5	-13.1	-3.3	5.8	-10.6
2015 Apr.	-	-	-	-	-	-	-	-	56.6	-1.4	3.4	-4.0	4.9	7.8	2.4
May	-	-	-	-	-	-	-	-	58.9	-0.2	-0.3	-0.1	3.8	3.3	4.2
June	-	-	-	-	-	-	-	-	56.7	-0.1	3.1	-1.9	3.3	5.9	1.1
July	-	-	-	-	-	-	-	-	51.7	-3.6	11.1	-11.0	0.5	9.8	-7.1
Aug.	-	-	-	-	-	-	-	-	43.0	-8.1	4.4	-14.4	-4.4	5.2	-12.1
Sep.	-	-	-	-	-	-	-	-	43.3	-7.9	3.9	-13.8	-6.0	2.4	-12.6

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

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

2) Import-weighted: weighted according to 2004-06 average import structure; use-weighted: weighted according to 2004-06 average domestic demand structure.

4 Prices and costs

4.4 Price-related opinion surveys

(seasonally adjusted)

	European Commission Business and Consumer Surveys (percentage balances)					Purchasing Managers' Surveys (diffusion indices)			
	Selling price expectations (for next three months)				Consumer price trends over past 12 months	Input prices		Prices charged	
	Manu-facturing	Retail trade	Services	Construction		Manu-facturing	Services	Manu-facturing	Services
	1	2	3	4	5	6	7	8	9
1999-13	4.8	-	-	-1.8	34.0	57.7	56.7	-	49.9
2012	2.7	8.1	2.1	-12.7	38.6	52.7	55.1	49.9	47.9
2013	-0.3	1.7	-1.2	-17.1	29.8	48.5	53.8	49.4	47.8
2014	-0.8	-1.4	1.2	-17.6	14.3	49.6	53.5	49.7	48.2
2014 Q4	-2.1	-4.4	2.8	-15.7	7.9	48.7	52.6	49.0	47.1
2015 Q1	-5.5	-0.7	1.4	-17.0	-2.4	45.8	52.5	48.8	47.6
Q2	-1.1	3.3	3.0	-15.4	-0.8	54.7	54.4	50.4	49.0
Q3	-1.8	1.1	2.4	-13.1	-0.1	49.5	53.6	49.9	49.9
2015 Apr.	-2.7	2.8	2.3	-17.7	-2.0	52.4	53.6	50.1	48.9
May	-0.6	2.4	2.6	-13.7	-0.6	56.0	55.4	50.0	49.3
June	0.0	4.7	4.2	-14.9	0.1	55.7	54.1	51.0	48.9
July	-0.1	0.8	2.1	-14.0	0.9	54.4	54.3	50.4	49.5
Aug.	-2.0	3.0	2.2	-13.0	0.3	49.6	53.1	50.5	49.9
Sep.	-3.3	-0.6	2.9	-12.2	-1.4	44.6	53.5	48.7	50.4

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

4.5 Labour cost indices

(annual percentage changes, unless otherwise indicated)

	Total (index: 2012 = 100)	Total	By component		For selected economic activities		Memo item: Indicator of negotiated wages [1]
			Wages and salaries	Employers' social contributions	Business economy	Mainly non-business economy	
	1	2	3	4	5	6	7
% of total in 2012	100.0	100.0	74.6	25.4	69.3	30.7	
2012	100.0	2.1	2.1	2.1	2.4	1.3	2.2
2013	101.3	1.3	1.4	1.2	1.2	1.7	1.8
2014	102.6	1.4	1.3	1.3	1.3	1.4	1.7
2014 Q3	100.5	1.5	1.5	1.6	1.4	1.9	1.7
Q4	108.0	1.3	1.1	1.5	1.1	1.5	1.7
2015 Q1	97.5	1.9	2.0	1.4	1.9	1.9	1.4
Q2	108.0	1.6	1.9	0.4	1.6	1.4	1.5

Sources: Eurostat and ECB calculations.

1) Experimental data based on non-harmonised sources (see http://www.ecb.europa.eu/stats/intro/html/experiment.en.html for further details).

4 Prices and costs

4.6 Unit labour costs, compensation per labour input and labour productivity

(annual percentage changes, unless otherwise indicated; quarterly data seasonally adjusted; annual data unadjusted)

	Total (index: 2010 =100)	Total	By economic activity									
			Agriculture, forestry and fishing	Manufacturing, energy and utilities	Construction	Trade, transport, accommodation and food services	Information and communication	Finance and insurance	Real estate	Professional, business and support services	Public administration, education, health and social work	Arts, entertainment and other services
	1	2	3	4	5	6	7	8	9	10	11	12
Unit labour costs												
2012	102.5	1.9	3.2	2.1	4.1	1.3	0.3	0.9	1.4	3.6	0.7	2.9
2013	103.7	1.2	-0.9	1.7	0.3	1.2	-0.5	2.1	-2.2	1.2	1.6	1.6
2014	105.0	1.2	-3.7	1.6	0.7	0.8	1.2	1.2	0.8	2.5	1.3	1.2
2014 Q3	105.2	1.3	-5.0	1.6	1.4	1.2	1.0	1.4	1.2	2.8	1.3	1.2
Q4	105.3	1.3	-0.8	2.3	1.1	0.6	1.4	1.2	1.2	2.3	1.4	1.4
2015 Q1	105.5	0.9	0.3	1.2	1.6	0.5	-0.3	0.1	3.1	2.1	1.3	0.5
Q2	105.6	0.8	1.2	0.8	1.5	0.0	1.0	-0.1	2.3	1.5	1.2	0.9
Compensation per employee												
2012	103.6	1.5	0.1	1.9	2.4	1.7	1.6	1.0	1.1	2.1	0.8	1.8
2013	105.3	1.6	3.9	2.7	1.5	0.9	0.7	1.9	-0.1	1.0	1.8	1.1
2014	106.8	1.4	-1.2	2.2	1.6	1.3	2.3	2.0	1.4	1.9	1.2	1.0
2014 Q3	107.1	1.3	-1.0	1.9	0.6	1.2	2.0	1.9	1.8	2.1	1.1	0.8
Q4	107.5	1.3	-1.3	2.1	1.2	1.1	2.6	2.4	1.2	1.7	1.3	0.1
2015 Q1	108.1	1.4	0.9	1.8	0.6	1.1	2.1	1.4	2.9	2.0	1.4	0.6
Q2	108.2	1.4	1.3	1.9	0.7	1.4	2.8	1.2	1.3	1.7	1.4	0.7
Labour productivity per person employed												
2012	101.1	-0.4	-3.0	-0.2	-1.7	0.4	1.3	0.1	-0.3	-1.5	0.1	-1.1
2013	101.5	0.4	4.8	1.0	1.2	-0.4	1.2	-0.1	2.1	-0.2	0.3	-0.5
2014	101.8	0.3	2.6	0.6	0.9	0.5	1.1	0.7	0.5	-0.5	-0.1	-0.2
2014 Q3	101.8	0.0	4.2	0.4	-0.8	0.0	1.0	0.5	0.7	-0.7	-0.2	-0.4
Q4	102.1	0.1	-0.6	-0.2	0.1	0.5	1.3	1.2	0.0	-0.6	-0.1	-1.3
2015 Q1	102.4	0.4	0.6	0.6	-0.9	0.6	2.3	1.3	-0.2	-0.2	0.1	0.1
Q2	102.5	0.7	0.1	1.2	-0.8	1.4	1.8	1.3	-1.0	0.2	0.3	-0.1
Compensation per hour worked												
2012	104.8	2.9	2.1	3.6	5.3	3.5	2.0	1.5	1.7	3.2	1.3	2.7
2013	107.2	2.2	3.9	2.9	2.9	1.6	1.1	2.5	1.1	2.0	2.2	2.1
2014	108.6	1.4	-0.5	1.8	1.4	1.3	2.0	2.2	1.6	1.8	1.0	1.4
2014 Q3	108.8	1.4	-0.4	1.8	0.7	1.3	1.7	1.9	1.7	1.7	1.2	1.5
Q4	109.0	1.2	-1.2	1.5	0.9	1.0	1.7	2.8	1.3	1.5	1.1	0.7
2015 Q1	109.8	1.4	0.5	1.7	0.5	1.4	1.1	1.9	2.9	2.1	1.6	0.2
Q2	109.9	1.3	0.6	1.6	-0.1	1.5	1.8	1.4	0.3	1.3	1.4	0.9
Hourly labour productivity												
2012	102.4	1.0	-2.0	1.4	1.1	1.9	1.8	0.8	0.8	-0.3	0.6	-0.1
2013	103.4	1.0	5.1	1.2	2.5	0.2	1.7	0.3	3.1	0.6	0.7	0.6
2014	103.7	0.3	3.0	0.1	0.7	0.6	1.0	1.1	1.2	-0.4	-0.3	0.3
2014 Q3	103.7	0.2	4.6	0.3	-0.2	0.2	1.1	0.7	1.7	-0.6	-0.1	0.3
Q4	103.7	-0.1	-1.4	-0.9	-0.4	0.6	0.6	1.7	0.2	-0.8	-0.3	-0.7
2015 Q1	104.2	0.5	-0.7	0.4	-0.7	1.1	2.1	1.7	-0.7	0.2	0.3	-0.1
Q2	104.3	0.6	-0.7	0.7	-1.4	1.7	1.2	1.4	-1.6	-0.1	0.2	0.0

Sources: Eurostat and ECB calculations.

5 Money and credit

5.1 Monetary aggregates [1)]

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

	M3											
	M2							M3-M2				
	M1			M2-M1								
	Currency in circulation	Overnight deposits		Deposits with an agreed maturity of up to 2 years	Deposits redeemable at notice of up to 3 months			Repos	Money market fund shares	Debt securities with a maturity of up to 2 years		
	1	2	3	4	5	6	7	8	9	10	11	12
	Outstanding amounts											
2012	863.4	4,244.0	5,107.5	1,803.3	2,081.5	3,884.8	8,992.3	125.0	483.1	180.6	788.7	9,781.0
2013	908.8	4,482.6	5,391.4	1,691.2	2,123.2	3,814.4	9,205.8	120.0	417.8	86.5	624.3	9,830.0
2014	967.3	4,949.1	5,916.4	1,605.0	2,129.6	3,734.5	9,650.9	122.2	427.3	104.4	653.9	10,304.8
2014 Q3	948.2	4,745.2	5,693.4	1,647.5	2,136.6	3,784.1	9,477.5	122.4	419.0	68.8	610.2	10,087.7
Q4	967.3	4,949.1	5,916.4	1,605.0	2,129.6	3,734.5	9,650.9	122.2	427.3	104.4	653.9	10,304.8
2015 Q1	993.7	5,173.7	6,167.4	1,529.2	2,133.5	3,662.7	9,830.1	125.7	436.5	96.9	659.1	10,489.2
Q2	1,015.0	5,303.2	6,318.2	1,478.8	2,162.1	3,640.9	9,959.0	91.1	438.0	97.1	626.1	10,585.2
2015 Mar.	993.7	5,173.7	6,167.4	1,529.2	2,133.5	3,662.7	9,830.1	125.7	436.5	96.9	659.1	10,489.2
Apr.	1,003.3	5,189.9	6,193.2	1,518.9	2,151.1	3,670.0	9,863.2	129.5	451.7	103.5	684.7	10,547.9
May	1,006.7	5,264.9	6,271.6	1,486.1	2,157.2	3,643.3	9,914.9	111.7	442.9	92.7	647.3	10,562.2
June	1,015.0	5,303.2	6,318.2	1,478.8	2,162.1	3,640.9	9,959.0	91.1	438.0	97.1	626.1	10,585.2
July	1,021.1	5,380.9	6,402.0	1,469.8	2,162.9	3,632.7	10,034.7	105.6	456.2	85.3	647.1	10,681.8
Aug. [(p)]	1,025.6	5,381.4	6,407.1	1,460.7	2,167.1	3,627.8	10,034.8	102.4	439.7	82.2	624.2	10,659.0
	Transactions											
2012	20.0	289.5	309.5	-36.0	114.9	78.9	388.5	-16.9	-20.2	-18.5	-55.6	332.8
2013	45.3	245.8	291.1	-111.1	43.9	-67.2	223.9	-12.0	-48.8	-62.8	-123.6	100.3
2014	58.0	370.2	428.1	-91.9	3.6	-88.3	339.8	0.8	10.7	12.5	24.0	363.7
2014 Q3	16.7	109.1	125.7	-27.1	5.1	-22.0	103.8	-8.1	10.0	3.4	5.3	109.1
Q4	19.1	125.9	145.1	-40.9	-9.0	-50.0	95.1	-0.5	11.2	18.4	29.1	124.2
2015 Q1	25.2	188.7	213.9	-63.3	4.8	-58.5	155.4	2.3	4.9	-8.7	-1.6	153.9
Q2	21.3	151.6	172.8	-49.1	15.0	-34.1	138.7	-34.3	1.5	1.9	-30.9	107.9
2015 Mar.	1.3	59.8	61.1	-8.9	10.4	1.5	62.6	-7.0	-6.6	-13.2	-26.8	35.8
Apr.	9.6	37.7	47.4	-8.5	4.0	-4.5	42.8	4.1	15.3	7.5	26.9	69.7
May	3.4	70.9	74.3	-34.1	6.0	-28.1	46.2	-18.0	-8.8	-11.1	-37.9	8.3
June	8.2	43.0	51.2	-6.5	5.0	-1.5	49.7	-20.4	-4.9	5.4	-19.9	29.8
July	6.1	73.7	79.8	-14.1	0.9	-13.2	66.6	14.3	18.3	-11.5	21.0	87.6
Aug. [(p)]	4.5	6.0	10.5	-7.5	4.2	-3.2	7.3	-2.9	-4.4	-3.9	-11.1	-3.9
	Growth rates											
2012	2.4	7.3	6.4	-1.9	5.9	2.1	4.5	-11.6	-3.9	-9.9	-6.6	3.5
2013	5.2	5.8	5.7	-6.2	2.1	-1.7	2.5	-9.5	-10.4	-37.8	-16.2	1.0
2014	6.4	8.2	7.9	-5.4	0.2	-2.3	3.7	0.7	2.6	18.3	3.9	3.7
2014 Q3	6.0	6.2	6.2	-3.9	0.3	-1.5	3.0	9.7	-1.1	-26.8	-4.1	2.5
Q4	6.4	8.2	7.9	-5.4	0.2	-2.3	3.7	0.7	2.6	18.3	3.9	3.7
2015 Q1	7.3	10.5	10.0	-7.7	0.3	-3.2	4.6	5.1	5.3	11.0	5.5	4.7
Q2	8.8	12.3	11.7	-10.8	0.7	-4.3	5.2	-30.9	6.8	25.2	0.5	4.9
2015 Mar.	7.3	10.5	10.0	-7.7	0.3	-3.2	4.6	5.1	5.3	11.0	5.5	4.7
Apr.	8.2	11.0	10.5	-8.0	0.5	-3.3	4.9	6.2	9.2	40.0	11.6	5.3
May	8.3	11.8	11.2	-10.3	0.7	-4.1	5.0	-9.5	7.7	15.1	4.7	5.0
June	8.8	12.3	11.7	-10.8	0.7	-4.3	5.2	-30.9	6.8	25.2	0.5	4.9
July	8.9	12.8	12.2	-11.5	0.8	-4.6	5.4	-19.2	7.9	18.5	2.7	5.3
Aug. [(p)]	8.6	11.9	11.4	-11.3	0.8	-4.5	5.1	-21.3	8.0	6.4	1.1	4.8

Source: ECB.

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

5 Money and credit

5.2 Deposits in M3 [1]

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

	Non-financial corporations [2]					Households [3]					Financial corporations other than MFIs and ICPFs [2]	Insurance corporations and pension funds	Other general government [4]
	Total	Overnight	With an agreed maturity of up to 2 years	Redeemable at notice of up to 3 months	Repos	Total	Overnight	With an agreed maturity of up to 2 years	Redeemable at notice of up to 3 months	Repos			
	1	2	3	4	5	6	7	8	9	10	11	12	13
Outstanding amounts													
2012	1,618.7	1,112.8	406.9	88.1	10.8	5,308.6	2,360.4	977.3	1,960.3	10.5	811.2	209.1	306.3
2013	1,710.6	1,198.6	400.8	94.7	16.5	5,414.0	2,542.6	875.7	1,991.2	4.5	801.0	192.8	298.6
2014	1,813.6	1,329.4	368.3	96.5	19.5	5,556.9	2,753.4	810.7	1,989.9	2.8	885.5	218.9	330.8
2014 Q3	1,789.5	1,283.8	391.1	99.2	15.4	5,531.9	2,686.9	845.1	1,995.1	4.9	794.8	208.4	327.1
Q4	1,813.6	1,329.4	368.3	96.5	19.5	5,556.9	2,753.4	810.7	1,989.9	2.8	885.5	218.9	330.8
2015 Q1	1,847.0	1,392.6	340.4	99.0	14.9	5,598.3	2,843.8	761.7	1,988.8	3.9	952.8	225.0	339.0
Q2	1,852.0	1,407.2	320.7	111.9	12.2	5,649.4	2,911.5	734.7	2,000.3	2.8	965.6	228.6	339.6
2015 Mar.	1,847.0	1,392.6	340.4	99.0	14.9	5,598.3	2,843.8	761.7	1,988.8	3.9	952.8	225.0	339.0
Apr.	1,844.5	1,387.5	333.3	112.8	10.9	5,611.5	2,859.2	756.7	1,991.9	3.7	959.3	229.8	344.3
May	1,852.0	1,403.6	324.3	111.9	12.2	5,624.4	2,878.1	745.8	1,996.7	3.8	966.4	230.7	346.4
June	1,852.0	1,407.2	320.7	111.9	12.2	5,649.4	2,911.5	734.7	2,000.3	2.8	965.6	228.6	339.6
July	1,889.6	1,440.5	323.3	113.0	12.7	5,667.4	2,945.3	721.2	1,997.7	3.2	981.1	233.7	347.4
Aug. [p]	1,888.9	1,441.5	325.7	113.7	8.1	5,674.7	2,957.6	714.4	1,999.5	3.1	969.1	225.3	353.7
Transactions													
2012	72.2	99.4	-33.2	10.0	-4.0	222.8	99.4	35.6	100.2	-12.5	16.5	15.0	25.0
2013	97.9	90.4	-6.0	7.7	5.8	108.7	183.7	-100.1	31.1	-6.0	-17.4	-14.2	-8.5
2014	68.6	90.2	-25.4	1.4	2.5	140.4	209.1	-65.6	-1.4	-1.7	46.4	6.3	20.9
2014 Q3	29.6	33.6	-5.7	1.9	-0.2	47.3	61.9	-16.0	1.0	0.4	-8.3	-2.3	12.6
Q4	7.1	16.3	-12.1	-1.2	4.0	26.0	67.7	-33.0	-6.6	-2.0	56.4	-8.2	-5.7
2015 Q1	29.6	49.1	-17.2	2.5	-4.9	39.1	81.4	-43.3	-0.1	1.1	50.5	4.6	8.6
Q2	8.8	29.4	-19.0	1.0	-2.6	52.9	71.6	-27.2	9.6	-1.1	16.9	3.9	0.7
2015 Mar.	-9.0	-3.9	-8.0	2.0	0.9	30.7	32.8	-9.9	8.2	-0.4	43.0	0.3	-10.7
Apr.	1.6	10.0	-6.3	1.9	-3.9	14.9	18.9	-5.0	1.3	-0.3	10.2	5.1	5.4
May	5.2	14.4	-9.5	-0.9	1.2	12.0	18.3	-11.2	4.7	0.2	4.8	0.7	2.0
June	2.0	5.0	-3.2	0.0	0.1	25.9	34.4	-11.1	3.6	-1.1	1.8	-1.9	-6.7
July	33.6	31.6	0.4	1.1	0.5	17.1	33.1	-13.9	-2.6	0.4	13.3	4.8	6.0
Aug. [p]	2.3	3.1	3.0	0.7	-4.6	8.4	13.1	-6.5	1.9	-0.1	-8.9	-8.2	6.3
Growth rates													
2012	4.7	9.8	-7.5	13.2	-25.2	4.4	4.4	3.8	5.4	-54.2	2.1	7.8	9.1
2013	6.1	8.1	-1.5	8.8	54.6	2.0	7.8	-10.3	1.6	-57.0	-2.2	-6.9	-2.8
2014	4.0	7.5	-6.3	1.5	14.5	2.6	8.2	-7.5	-0.1	-37.2	5.5	3.4	7.0
2014 Q3	6.0	8.6	-2.1	3.4	47.4	2.2	7.3	-7.0	0.1	-20.8	-0.9	2.3	3.3
Q4	4.0	7.5	-6.3	1.5	14.5	2.6	8.2	-7.5	-0.1	-37.2	5.5	3.4	7.0
2015 Q1	4.6	9.5	-10.0	3.6	-5.7	2.8	9.7	-11.2	0.1	-31.0	14.6	-0.8	5.2
Q2	4.2	10.1	-14.1	4.5	-23.3	3.0	10.8	-13.9	0.2	-38.0	13.7	-1.3	5.1
2015 Mar.	4.6	9.5	-10.0	3.6	-5.7	2.8	9.7	-11.2	0.1	-31.0	14.6	-0.8	5.2
Apr.	4.4	9.9	-11.4	5.5	-37.8	2.9	10.0	-11.4	0.1	-35.3	15.6	1.5	7.5
May	4.4	10.4	-13.9	4.5	-24.1	2.9	10.2	-12.7	0.2	-25.3	13.4	1.8	8.5
June	4.2	10.1	-14.1	4.5	-23.3	3.0	10.8	-13.9	0.2	-38.0	13.7	-1.3	5.1
July	5.5	11.7	-14.2	4.6	-11.3	3.1	11.2	-15.1	0.1	-35.4	14.5	-1.6	5.7
Aug. [p]	4.8	10.8	-13.0	4.9	-49.1	2.9	10.8	-15.3	0.2	-36.9	14.1	-5.5	5.7

Source: ECB.

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

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

3) Including non-profit institutions serving households.

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

5 Money and credit

5.3 Credit to euro area residents [1)]

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

	Credit to general government			Credit to other euro area residents								
					Loans						Debt securities	Equity and non-money market fund investment fund shares
					Total		To non-financial corporations [3)]	To households [4)]	To financial corporations other than MFIs and ICPFs [3)]	To insurance corporations and pension funds		
	Total	Loans	Debt securities	Total		Adjusted for loan sales and securitisation [2)]						
	1	2	3	4	5	6	7	8	9	10	11	12
Outstanding amounts												
2012	3,410.8	1,169.3	2,241.5	13,069.5	10,860.0	11,265.4	4,544.6	5,242.3	984.3	89.0	1,435.9	773.6
2013	3,407.5	1,096.3	2,311.2	12,709.4	10,546.4	10,932.0	4,354.1	5,221.4	872.6	98.3	1,363.9	799.1
2014	3,609.7	1,131.7	2,478.0	12,562.6	10,512.2	10,921.5	4,280.3	5,199.3	904.6	128.1	1,276.5	773.8
2014 Q3	3,508.9	1,102.2	2,406.7	12,561.8	10,444.8	10,861.4	4,288.1	5,194.6	858.8	103.3	1,307.0	810.1
Q4	3,609.7	1,131.7	2,478.0	12,562.6	10,512.2	10,921.5	4,280.3	5,199.3	904.6	128.1	1,276.5	773.8
2015 Q1	3,672.1	1,153.4	2,518.7	12,676.3	10,613.9	11,007.5	4,310.1	5,233.7	935.5	134.6	1,275.1	787.3
Q2	3,676.4	1,137.6	2,538.8	12,632.3	10,590.4	10,984.1	4,291.8	5,257.2	905.0	136.5	1,251.5	790.3
2015 Mar.	3,672.1	1,153.4	2,518.7	12,676.3	10,613.9	11,007.5	4,310.1	5,233.7	935.5	134.6	1,275.1	787.3
Apr.	3,698.3	1,151.6	2,546.7	12,658.1	10,610.4	11,003.5	4,303.9	5,236.3	933.1	137.1	1,266.0	781.7
May	3,692.2	1,144.0	2,548.2	12,665.6	10,611.2	11,005.4	4,300.4	5,243.4	923.2	144.2	1,263.3	791.0
June	3,676.4	1,137.6	2,538.8	12,632.3	10,590.4	10,984.1	4,291.8	5,257.2	905.0	136.5	1,251.5	790.3
July	3,726.0	1,131.5	2,594.5	12,716.2	10,610.0	11,009.9	4,300.4	5,261.3	916.8	131.5	1,299.7	806.5
Aug. [(p)]	3,765.0	1,131.9	2,633.0	12,710.9	10,604.9	11,006.4	4,294.0	5,267.2	915.1	128.6	1,310.4	795.5
Transactions												
2012	185.0	-4.0	189.0	-100.6	-69.1	-53.0	-107.6	26.0	14.5	-2.0	-69.9	38.5
2013	-24.4	-73.6	49.2	-304.5	-247.4	-267.5	-132.8	-3.5	-120.7	9.6	-71.7	14.6
2014	73.6	16.3	57.3	-106.5	-50.7	-32.0	-58.3	-15.0	11.0	11.6	-90.0	34.2
2014 Q3	40.4	-1.4	41.8	-18.7	-10.3	-17.4	-18.4	8.2	-4.4	4.2	-14.1	5.7
Q4	47.5	12.8	34.7	2.0	22.8	14.3	4.3	5.1	6.8	6.6	-36.7	15.9
2015 Q1	36.5	21.5	15.0	36.5	45.8	27.4	8.3	20.1	11.5	6.0	-2.1	-7.2
Q2	53.4	-15.4	68.8	-7.3	4.0	1.0	1.2	29.7	-28.9	2.0	-18.4	7.1
2015 Mar.	25.3	5.4	19.9	16.0	21.5	10.8	-3.0	12.9	14.2	-2.6	0.9	-6.4
Apr.	37.2	-1.5	38.7	0.1	12.5	13.4	2.2	7.1	0.6	2.7	-6.8	-5.6
May	6.8	-7.8	14.6	3.3	-1.7	1.4	-4.8	6.9	-10.9	7.0	-2.8	7.8
June	9.5	-6.0	15.5	-10.7	-6.8	-13.8	3.8	15.7	-18.7	-7.7	-8.8	4.9
July	31.1	-5.0	36.1	79.1	21.3	29.8	8.9	5.3	12.1	-5.0	46.9	10.9
Aug. [(p)]	48.1	0.4	47.7	21.3	6.9	8.8	-0.6	9.0	1.3	-2.9	14.7	-0.3
Growth rates												
2012	5.8	-0.3	9.5	-0.8	-0.6	-0.5	-2.3	0.5	1.5	-2.2	-4.6	5.2
2013	-0.7	-6.3	2.2	-2.3	-2.3	-2.4	-2.9	-0.1	-12.2	10.8	-5.0	1.9
2014	2.1	1.5	2.4	-0.8	-0.5	-0.3	-1.3	-0.3	1.1	11.8	-6.6	4.3
2014 Q3	-0.5	-0.7	-0.4	-1.9	-1.2	-1.0	-2.0	-0.5	-2.5	8.5	-8.5	1.8
Q4	2.1	1.5	2.4	-0.8	-0.5	-0.3	-1.3	-0.3	1.1	11.8	-6.6	4.3
2015 Q1	2.8	2.0	3.1	-0.2	0.1	0.2	-0.6	0.0	2.3	14.1	-4.9	2.9
Q2	5.1	1.6	6.7	0.1	0.6	0.2	-0.1	1.2	-1.9	17.8	-5.4	2.6
2015 Mar.	2.8	2.0	3.1	-0.2	0.1	0.2	-0.6	0.0	2.3	14.1	-4.9	2.9
Apr.	3.8	2.4	4.5	0.0	0.1	0.2	-0.4	0.0	0.3	17.2	-2.2	2.7
May	3.9	0.9	5.3	0.2	0.6	0.3	-0.2	1.0	-0.9	27.0	-4.9	3.7
June	5.1	1.6	6.7	0.1	0.6	0.2	-0.1	1.2	-1.9	17.8	-5.4	2.6
July	5.5	0.8	7.7	0.7	0.9	0.7	0.4	1.3	0.4	10.1	-2.1	3.0
Aug. [(p)]	6.3	1.0	8.7	1.0	1.0	0.8	0.4	1.4	0.3	12.5	-0.4	3.0

Source: ECB.

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

2) Adjusted for the derecognition of loans on the MFI balance sheet on account of their sale or securitisation.

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

4) Including non-profit institutions serving households.

5 Money and credit

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

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

	Non-financial corporations [2)]					Households [3)]				
	Total		Up to 1 year	Over 1 and up to 5 years	Over 5 years	Total		Loans for consumption	Loans for house purchase	Other loans
		Adjusted for loan sales and securitisation [4)]					Adjusted for loan sales and securitisation [4)]			
	1	2	3	4	5	6	7	8	9	10
	Outstanding amounts									
2012	4,544.6	4,606.1	1,127.9	795.6	2,621.0	5,242.3	5,578.5	602.0	3,823.6	816.7
2013	4,354.1	4,408.8	1,065.6	740.8	2,547.8	5,221.4	5,545.7	573.5	3,851.5	796.4
2014	4,280.3	4,337.6	1,081.2	725.1	2,474.0	5,199.3	5,544.6	563.3	3,860.1	776.0
2014 Q3	4,288.1	4,346.8	1,056.5	726.1	2,505.4	5,194.6	5,544.8	567.1	3,843.7	783.8
Q4	4,280.3	4,337.6	1,081.2	725.1	2,474.0	5,199.3	5,544.6	563.3	3,860.1	776.0
2015 Q1	4,310.1	4,365.7	1,089.9	738.9	2,481.3	5,233.7	5,569.6	567.9	3,890.4	775.4
Q2	4,291.8	4,348.1	1,084.5	744.4	2,462.9	5,257.2	5,589.6	578.5	3,907.6	771.1
2015 Mar.	4,310.1	4,365.7	1,089.9	738.9	2,481.3	5,233.7	5,569.6	567.9	3,890.4	775.4
Apr.	4,303.9	4,358.8	1,090.4	738.0	2,475.5	5,236.3	5,573.8	566.9	3,894.8	774.6
May	4,300.4	4,356.5	1,085.2	742.7	2,472.5	5,243.4	5,577.6	568.3	3,901.7	773.4
June	4,291.8	4,348.1	1,084.5	744.4	2,462.9	5,257.2	5,589.6	578.5	3,907.6	771.1
July	4,300.4	4,358.5	1,085.8	744.8	2,469.8	5,261.3	5,597.8	579.5	3,911.7	770.0
Aug. [p]	4,294.0	4,353.7	1,086.2	743.3	2,464.5	5,267.2	5,602.6	581.6	3,915.8	769.7
	Transactions									
2012	-107.6	-74.1	6.2	-51.4	-62.3	26.0	8.6	-17.7	48.8	-5.1
2013	-132.8	-145.1	-44.5	-44.5	-43.7	-3.5	-13.7	-18.1	27.6	-13.1
2014	-58.3	-61.9	-13.6	1.6	-46.2	-15.0	6.8	-3.0	-3.1	-8.9
2014 Q3	-18.4	-20.6	-3.1	-6.8	-8.4	8.2	0.7	1.2	10.4	-3.3
Q4	4.3	0.4	-7.3	8.5	3.0	5.1	2.2	-2.2	9.3	-2.1
2015 Q1	8.3	3.6	-0.7	7.3	1.8	20.1	11.1	2.2	17.9	-0.1
Q2	1.2	2.8	-0.1	11.5	-10.2	29.7	22.7	9.1	21.7	-1.1
2015 Mar.	-3.0	-2.1	-1.8	3.7	-4.9	12.9	5.6	2.9	7.5	2.4
Apr.	2.2	1.8	3.7	0.7	-2.2	7.1	9.6	-0.7	7.5	0.3
May	-4.8	-1.8	-6.2	4.3	-2.8	6.9	3.7	1.7	6.4	-1.1
June	3.8	2.8	2.5	6.5	-5.2	15.7	9.4	8.2	7.8	-0.3
July	8.9	12.5	1.0	0.5	7.5	5.3	9.5	1.6	4.4	-0.7
Aug. [p]	-0.6	1.2	2.9	-0.5	-3.0	9.0	7.9	2.4	5.9	0.7
	Growth rates									
2012	-2.3	-1.6	0.5	-6.0	-2.3	0.5	0.2	-2.8	1.3	-0.6
2013	-2.9	-3.2	-4.0	-5.6	-1.7	-0.1	-0.2	-3.0	0.7	-1.6
2014	-1.3	-1.4	-1.3	0.2	-1.8	-0.3	0.1	-0.5	-0.1	-1.1
2014 Q3	-2.0	-2.2	-1.4	-3.3	-1.9	-0.5	0.0	-1.1	-0.2	-1.7
Q4	-1.3	-1.4	-1.3	0.2	-1.8	-0.3	0.1	-0.5	-0.1	-1.1
2015 Q1	-0.6	-0.6	-0.7	2.1	-1.2	0.0	0.3	-0.1	0.1	-0.7
Q2	-0.1	-0.3	-1.1	2.8	-0.6	1.2	0.7	1.8	1.5	-0.8
2015 Mar.	-0.6	-0.6	-0.7	2.1	-1.2	0.0	0.3	-0.1	0.1	-0.7
Apr.	-0.4	-0.5	0.4	1.4	-1.2	0.0	0.5	-0.1	0.2	-0.7
May	-0.2	-0.3	0.4	2.4	-1.2	1.0	0.5	0.5	1.4	-0.7
June	-0.1	-0.3	-1.1	2.8	-0.6	1.2	0.7	1.8	1.5	-0.8
July	0.4	0.3	-0.3	3.2	-0.2	1.3	0.9	2.0	1.6	-0.7
Aug. [p]	0.4	0.4	0.2	3.2	-0.3	1.4	1.0	2.6	1.6	-0.5

Source: ECB.

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

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

3) Including non-profit institutions serving households.

4) Adjusted for the derecognition of loans on the MFI balance sheet on account of their sale or securitisation.

5 Money and credit

5.5 Counterparts to M3 other than credit to euro area residents [1)]

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

	MFI liabilities						MFI assets			
	Central government holdings [2)]	Longer-term financial liabilities vis-à-vis other euro area residents					Net external assets	Other		
		Total	Deposits with an agreed maturity of over 2 years	Deposits redeemable at notice of over 3 months	Debt securities with a maturity of over 2 years	Capital and reserves		Total	Repos with central counter-parties [3)]	Reverse repos to central counter-parties [3)]
	1	2	3	4	5	6	7	8	9	10
Outstanding amounts										
2012	305.4	7,578.1	2,395.9	106.0	2,680.8	2,395.4	1,029.8	154.4	260.8	201.2
2013	260.2	7,311.0	2,373.3	91.5	2,506.3	2,340.0	1,153.9	130.6	183.8	122.1
2014	262.0	7,175.5	2,253.5	92.2	2,375.1	2,454.6	1,388.8	181.2	185.3	139.8
2014 Q3	249.7	7,336.1	2,278.6	92.4	2,457.0	2,507.9	1,419.3	183.5	163.6	121.7
Q4	262.0	7,175.5	2,253.5	92.2	2,375.1	2,454.6	1,388.8	181.2	185.3	139.8
2015 Q1	287.6	7,313.4	2,259.8	90.5	2,394.8	2,568.2	1,511.5	230.3	234.8	159.1
Q2	265.1	7,154.3	2,219.9	86.5	2,331.5	2,516.4	1,457.7	238.2	224.6	143.7
2015 Mar.	287.6	7,313.4	2,259.8	90.5	2,394.8	2,568.2	1,511.5	230.3	234.8	159.1
Apr.	260.3	7,227.0	2,238.2	88.7	2,355.3	2,544.8	1,450.6	228.2	209.3	132.1
May	275.9	7,219.3	2,232.7	87.4	2,343.2	2,556.0	1,467.0	232.5	222.9	140.7
June	265.1	7,154.3	2,219.9	86.5	2,331.5	2,516.4	1,457.7	238.2	224.6	143.7
July	248.2	7,148.7	2,229.0	85.8	2,316.2	2,517.8	1,387.4	249.2	202.4	137.4
Aug. [(p)]	273.8	7,121.7	2,224.4	84.1	2,295.2	2,518.0	1,345.7	233.0	207.0	128.4
Transactions										
2012	-4.9	-112.8	-156.3	-10.2	-106.4	160.1	99.5	31.3	9.4	41.5
2013	-46.0	-90.8	-18.6	-14.3	-137.6	79.7	359.2	-66.6	32.2	43.9
2014	-6.9	-162.4	-120.1	2.1	-154.9	110.6	246.0	-18.5	1.5	17.7
2014 Q3	-20.9	-1.8	-28.4	2.3	-28.5	52.7	38.4	26.4	-7.7	2.6
Q4	4.5	-94.1	-25.5	1.2	-77.4	7.5	37.8	-52.7	21.7	18.1
2015 Q1	22.4	-51.4	-31.1	-2.8	-47.2	29.7	3.6	48.1	49.4	19.3
Q2	-22.5	-81.7	-39.3	-4.0	-48.3	9.9	-7.5	-35.0	-10.2	-15.4
2015 Mar.	24.6	-15.2	-6.0	-1.3	-22.7	14.7	28.7	-24.9	8.4	14.6
Apr.	-27.3	-38.3	-19.2	-1.8	-18.9	1.6	-30.3	-2.9	-25.4	-27.0
May	15.6	-18.1	-6.9	-1.3	-23.9	14.0	4.3	-8.4	13.6	8.6
June	-10.8	-25.4	-13.2	-0.9	-5.5	-5.7	18.6	-23.7	1.6	3.1
July	-17.0	-4.9	12.7	-0.7	-21.3	4.3	-59.7	15.3	-22.2	-6.4
Aug. [(p)]	25.6	5.7	-2.9	-1.6	-7.6	17.8	-20.1	-21.9	4.6	-9.0
Growth rates										
2012	-1.5	-1.5	-6.1	-8.8	-3.8	7.1	-	-	2.5	26.1
2013	-15.1	-1.2	-0.8	-13.5	-5.1	3.4	-	-	10.3	23.5
2014	-2.7	-2.2	-5.1	2.3	-6.1	4.6	-	-	0.8	14.5
2014 Q3	-11.5	-1.1	-4.7	-1.2	-2.7	4.2	-	-	-17.5	-3.2
Q4	-2.7	-2.2	-5.1	2.3	-6.1	4.6	-	-	0.8	14.5
2015 Q1	5.7	-2.9	-5.9	-0.3	-6.8	3.9	-	-	32.5	36.3
Q2	-6.0	-3.1	-5.4	-3.7	-8.1	4.1	-	-	31.0	20.7
2015 Mar.	5.7	-2.9	-5.9	-0.3	-6.8	3.9	-	-	32.5	36.3
Apr.	-5.6	-3.1	-5.5	-2.3	-7.3	3.3	-	-	28.6	33.0
May	-2.5	-3.2	-5.3	-3.8	-8.4	4.1	-	-	51.4	51.4
June	-6.0	-3.1	-5.4	-3.7	-8.1	4.1	-	-	31.0	20.7
July	-12.7	-3.1	-4.4	-5.1	-8.5	3.5	-	-	19.2	13.6
Aug. [(p)]	-1.5	-3.1	-4.3	-8.1	-8.6	3.8	-	-	20.3	9.8

Source: ECB.

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

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

3) Not adjusted for seasonal effects.

6 Fiscal developments

6.1 Deficit/surplus

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

	Deficit (-)/surplus (+)					Memo item: Primary deficit (-)/ surplus (+)
	Total	Central government	State government	Local government	Socual security funds	
	1	2	3	4	5	6
2011	-4.2	-3.3	-0.7	-0.2	0.0	-1.2
2012	-3.7	-3.4	-0.3	0.0	0.0	-0.6
2013	-3.0	-2.6	-0.2	0.0	-0.1	-0.2
2014	-2.6	-2.2	-0.2	0.0	-0.1	0.1
2014 Q2	-2.6	.	.	.	.	0.1
Q3	-2.4	.	.	.	.	0.3
Q4	-2.4	.	.	.	.	0.2
2015 Q1	-2.4	.	.	.	.	0.2

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

6.2 Revenue and expenditure

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

	Revenue						Expenditure						
	Total	Current revenue				Capital revenue	Total	Current expenditure					Capital expenditure
			Direct taxes	Indirect taxes	Net social contributions				Compen-sation of employees	Intermediate consumption	Interest	Social benefits	
	1	2	3	4	5	6	7	8	9	10	11	12	13
2011	44.9	44.5	11.6	12.6	15.1	0.4	49.1	44.8	10.4	5.3	3.0	22.2	4.3
2012	46.0	45.6	12.2	12.9	15.3	0.4	49.7	45.2	10.4	5.4	3.0	22.6	4.5
2013	46.6	46.1	12.5	12.9	15.5	0.5	49.6	45.5	10.4	5.4	2.8	22.9	4.1
2014	46.8	46.3	12.5	13.1	15.5	0.5	49.4	45.4	10.3	5.3	2.7	23.1	3.9
2014 Q2	46.7	46.2	12.5	13.0	15.5	0.5	49.3	45.4	10.3	5.3	2.7	23.0	3.9
Q3	46.6	46.2	12.5	13.1	15.5	0.5	49.1	45.3	10.3	5.3	2.7	23.0	3.7
Q4	46.7	46.2	12.5	13.1	15.5	0.5	49.1	45.4	10.3	5.3	2.6	23.1	3.7
2015 Q1	46.6	46.2	12.5	13.1	15.5	0.5	49.0	45.3	10.3	5.3	2.5	23.1	3.7

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

6.3 Government debt-to-GDP ratio

(as a percentage of GDP; outstanding amounts at end of period)

	Total	Financial instrument			Holder			Original maturity		Residual maturity			Currency	
		Currency and deposits	Loans	Debt securities	Resident creditors	MFIs	Non-resident creditors	Up to 1 year	Over 1 year	Up to 1 year	Over 1 and up to 5 years	Over 5 years	Euro or participating currencies	Other curren-cies
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
2011	85.9	2.9	15.5	67.5	42.8	24.4	43.1	12.2	73.8	20.4	29.9	35.6	84.2	1.8
2012	89.3	3.0	17.4	68.9	45.5	26.2	43.8	11.4	77.9	19.7	31.7	37.9	87.1	2.2
2013	91.1	2.7	17.2	71.2	46.0	26.1	45.1	10.4	80.6	19.4	32.2	39.4	89.1	2.0
2014	92.1	2.7	17.0	72.4	45.3	25.9	46.8	10.1	82.0	19.0	32.1	41.0	90.1	2.0
2014 Q2	92.7	2.7	16.7	73.4	.	.	.	.	.	.	.	.	.	.
Q3	92.1	2.6	16.7	72.8	.	.	.	.	.	.	.	.	.	.
Q4	92.0	2.7	16.9	72.4	.	.	.	.	.	.	.	.	.	.
2015 Q1	92.9	2.7	16.7	73.5	.	.	.	.	.	.	.	.	.	.

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

6 Fiscal developments

6.4 Annual change in the government debt-to-GDP ratio and underlying factors [1)]

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

	Change in debt-to-GDP ratio [2)]	Primary deficit (+)/ surplus (-)	Deficit-debt adjustment								Interest-growth differential	Memo item: Borrowing requirement
			Total	Transactions in main financial assets					Revaluation effects and other changes in volume	Other		
				Total	Currency and deposits	Loans	Debt securities	Equity and investment fund shares				
	1	2	3	4	5	6	7	8	9	10	11	12
2011	2.1	1.2	0.1	-0.4	0.2	-0.2	-0.2	-0.1	0.4	0.2	0.8	3.9
2012	3.4	0.6	0.0	1.0	0.3	0.3	-0.1	0.5	-1.3	0.3	2.7	5.0
2013	1.8	0.2	-0.3	-0.6	-0.5	-0.4	-0.1	0.3	-0.1	0.4	1.9	2.7
2014	1.0	-0.1	0.0	-0.1	0.3	-0.2	-0.3	0.0	0.0	0.1	1.1	2.6
2014 Q2	0.9	-0.1	-0.2	-0.1	0.0	0.0	-0.2	0.1	-0.2	0.1	1.3	2.6
Q3	1.0	-0.3	0.0	0.0	0.0	0.0	-0.2	0.2	-0.3	0.3	1.2	2.7
Q4	1.1	-0.2	0.2	0.2	0.2	0.0	-0.2	0.1	-0.1	0.1	1.1	2.7
2015 Q1	0.9	-0.2	0.1	0.2	0.4	-0.1	-0.2	0.1	-0.2	0.1	1.0	2.7

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

1) Intergovernmental lending in the context of the financial crisis is consolidated except in quarterly data on the deficit-debt adjustment.

2) Calculated as the difference between the government debt-to-GDP ratios at the end of the reference period and a year earlier.

6.5 Government debt securities [1)]

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

	Debt service due within 1 year [2)]					Average residual maturity in years [3)]	Average nominal yields [4)]						
	Total	Principal		Interest			Outstanding amounts					Transactions	
			Maturities of up to 3 months		Maturities of up to 3 months		Total	Floating rate	Zero coupon	Fixed rate	Maturities of up to 1 year	Issuance	Redemption
	1	2	3	4	5	6	7	8	9	10	11	12	13
2012	16.2	14.1	4.9	2.1	0.5	6.3	3.8	1.7	1.1	4.0	3.1	1.6	2.2
2013	16.5	14.4	5.0	2.1	0.5	6.3	3.5	1.7	1.3	3.7	2.8	1.2	1.8
2014	15.9	13.9	5.1	2.0	0.5	6.4	3.1	1.5	0.5	3.5	2.7	0.8	1.6
2014 Q2	16.5	14.4	5.4	2.1	0.5	6.4	3.3	1.6	0.7	3.6	2.7	1.1	1.6
Q3	17.3	15.2	5.7	2.1	0.5	6.4	3.2	1.5	0.5	3.5	2.8	0.9	1.6
Q4	15.9	13.9	5.1	2.0	0.5	6.4	3.1	1.5	0.5	3.5	2.7	0.8	1.6
2015 Q1	15.4	13.4	4.6	2.0	0.5	6.5	3.1	1.3	0.3	3.5	2.9	0.6	1.7
2015 Apr.	15.9	13.9	4.8	2.0	0.5	6.6	3.1	1.3	0.2	3.4	2.9	0.6	1.7
May	15.9	13.9	5.0	2.0	0.5	6.6	3.0	1.3	0.2	3.4	2.9	0.5	1.6
June	15.4	13.4	4.9	2.0	0.5	6.6	3.0	1.3	0.2	3.4	2.9	0.5	1.5
July	15.3	13.3	4.3	2.0	0.5	6.6	2.9	1.3	0.1	3.4	2.9	0.4	1.6
Aug.	15.3	13.3	4.4	2.0	0.5	6.6	2.9	1.2	0.1	3.4	2.9	0.4	1.5
Sep.	15.7	13.7	4.6	2.0	0.5	6.6	2.9	1.2	0.1	3.3	2.9	0.4	1.4

Source: ECB.

1) At face value and not consolidated within the general government sector.

2) Excludes future payments on debt securities not yet outstanding and early redemptions.

3) Residual maturity at the end of the period.

4) Outstanding amounts at the end of the period; transactions as 12-month average.

6 Fiscal developments

6.6 Fiscal developments in euro area countries

(as a percentage of GDP; flows during one-year period and outstanding amounts at end of period)

	Belgium	Germany	Estonia	Ireland	Greece	Spain	France	Italy	Cyprus
	1	2	3	4	5	6	7	8	9
	Government deficit (-)/surplus (+)								
2011	-4.1	-1.0	1.2	-12.5	-10.2	-9.5	-5.1	-3.5	-5.7
2012	-4.1	-0.1	-0.3	-8.0	-8.8	-10.4	-4.8	-3.0	-5.8
2013	-2.9	-0.1	-0.1	-5.7	-12.4	-6.9	-4.1	-2.9	-4.9
2014	-3.1	0.3	0.7	-3.9	-3.6	-5.9	-3.9	-3.0	-8.9
2014 Q2	-3.3	0.3	-0.3	-5.1	-3.0	-6.2	-3.9	-2.9	-11.9
Q3	-3.1	0.5	-0.2	-4.6	-2.3	-5.7	-4.0	-2.8	-10.2
Q4	-3.2	0.6	0.6	-4.0	-3.5	-5.8	-4.0	-3.0	-8.8
2015 Q1	-3.5	0.7	0.4	-3.9	-4.6	-5.8	-3.9	-2.9	-0.2
	Government debt								
2011	102.2	78.4	5.9	109.3	172.0	69.5	85.2	116.4	65.8
2012	104.1	79.7	9.5	120.2	159.4	85.4	89.6	123.2	79.3
2013	105.1	77.4	9.9	120.0	177.0	93.7	92.3	128.8	102.5
2014	106.7	74.9	10.4	107.5	178.6	99.3	95.6	132.3	108.2
2014 Q2	108.9	75.8	10.5	114.5	177.4	96.4	95.5	134.1	109.8
Q3	108.3	75.3	10.5	112.6	175.8	96.8	95.7	132.0	104.7
Q4	106.6	74.9	10.6	107.6	177.1	97.7	95.6	132.1	107.5
2015 Q1	111.1	74.4	10.5	104.8	168.8	98.0	97.5	135.1	106.8

	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Austria	Portugal	Slovenia	Slovakia	Finland
	10	11	12	13	14	15	16	17	18	19
	Government deficit (-)/surplus (+)									
2011	-3.4	-8.9	0.5	-2.6	-4.3	-2.6	-7.4	-6.6	-4.1	-1.0
2012	-0.8	-3.1	0.2	-3.6	-3.9	-2.2	-5.7	-4.1	-4.2	-2.1
2013	-0.9	-2.6	0.7	-2.6	-2.4	-1.3	-4.8	-15.0	-2.6	-2.5
2014	-1.5	-0.7	1.4	-2.1	-2.4	-2.7	-7.2	-5.0	-2.8	-3.3
2014 Q2	-0.3	-1.3	1.3	-3.4	-3.0	-1.2	-4.6	-12.8	-2.6	-2.7
Q3	0.0	-0.7	0.7	-2.8	-2.8	-0.4	-4.4	-12.8	-2.8	-2.8
Q4	-1.4	-0.7	0.6	-2.1	-2.4	-2.4	-4.5	-4.9	-2.9	-3.1
2015 Q1	-1.9	-0.8	0.3	-2.5	-2.0	-1.9	-4.4	-4.6	-2.8	-3.0
	Government debt									
2011	42.8	37.2	19.2	69.8	61.7	82.2	111.4	46.4	43.3	48.5
2012	41.4	39.8	22.1	67.6	66.4	81.6	126.2	53.7	51.9	52.9
2013	39.1	38.8	23.4	69.6	67.9	80.8	129.0	70.8	54.6	55.6
2014	40.6	40.7	23.0	68.3	68.2	84.2	130.2	80.8	53.5	59.3
2014 Q2	41.0	38.6	22.4	74.8	68.6	82.2	130.8	78.2	55.7	58.5
Q3	40.4	38.1	22.1	72.2	68.0	80.7	132.2	77.7	55.4	57.8
Q4	40.0	40.8	22.1	68.5	67.9	84.4	130.2	80.9	53.6	59.3
2015 Q1	35.0	38.1	21.6	70.3	68.9	84.7	129.6	81.9	54.0	60.3

Source: Eurostat.

Postal address 60640 Frankfurt am Main, Germany
Telephone +49 69 1344 0
Website www.ecb.europa.eu

This Bulletin was produced under the responsibility of the Executive Board of the ECB. Translations are prepared and published by the national central banks.

The cut-off date for the statistics included in this issue was 21 October 2015.

ISSN 2363-3417 (epub)
ISSN 2363-3417 (online)
EU catalogue No QB-BP-15-007-EN-E (epub)
EU catalogue No QB-BP-15-007-EN-N (online)