1 Macro-financial and credit environment

Macro-financial conditions *have become more challenging in the euro area. Concerns about the state of the global economy, including the soundness of economic fundamentals in emerging markets, rising (geo-)political risks and renewed bouts of financial and commodity market volatility, imply continued downside risks to the ongoing moderate economic recovery in the euro area. Globally, the prospective increasing monetary policy divergence in major advanced economies may harbour the potential to trigger risk repricing in certain regions, markets and asset classes, and an abrupt adjustment in global capital flows.*

Euro area **sovereign stress** *has remained contained, as sovereign financing conditions have tended to improve in terms of both pricing and duration amid ongoing Eurosystem asset purchases. At the same time, fiscal fundamentals remain fragile, given the combination of a low nominal growth environment and signs of waning fiscal and structural reform efforts. These factors, when combined with heightened political risks, suggest challenges for the sustainability of public finances.*

The recovery of the euro area **non-financial private sector** *continues to be supported by favourable financing conditions. Unconventional measures by the ECB, in particular, have translated into the improved availability and cost of funding. Amid these favourable financing conditions, financial fragmentation across countries and firm sizes has fallen. With time, the ongoing economic recovery should also help bolster the improving but still muted income and earnings position of euro area households and non-financial corporations, thereby mitigating the risks associated with a continued debt overhang which persists in some countries. At the same time, the recovery of euro area property markets has gained some further momentum across countries and property types. While overall residential property valuations remain contained, prime commercial property valuations have moved further above long-term averages. That said, price movements and valuations continue to diverge at the country level in both the residential and commercial property segments. Against this backdrop, targeted action may be required in some countries and market segments to counter in a timely manner any potentially emerging risks to financial stability.*

1.1 Ongoing economic recovery amid prominent external risks

The euro area economic recovery continued in 2015 and early 2016. Domestic demand remained the main pillar of growth, with a temporary slowdown in private consumption towards the end of last year being largely compensated for by a simultaneous pick-up in private investment activity and government spending. At the same time, the ongoing slowdown in emerging market economies weighed on euro area export growth, particularly in the latter half of 2015. The recovery is being chiefly supported by the very accommodative monetary policy stance. Political and

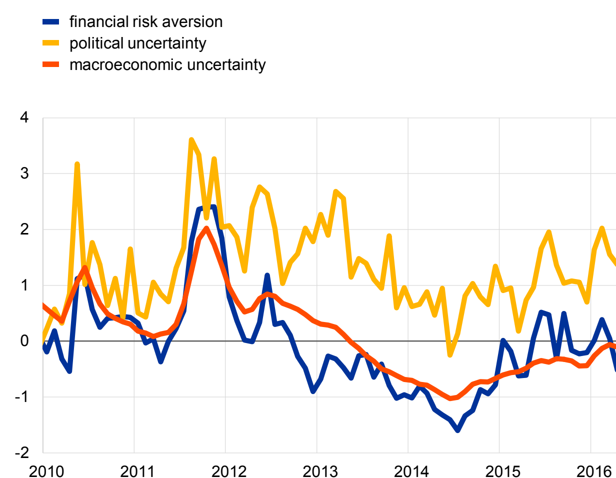
financial market uncertainty has decreased lately following a spike at the beginning of this year amid renewed political tensions at both the national and EU levels as well as heightened financial market uncertainty as a result of global growth concerns (see **Chart 1.1**). Despite the ongoing recovery, the more moderate growth environment in the euro area contrasts with more favourable fundamentals in other major advanced economies, notably the United States, amid high uncertainty regarding the strength and pace of economic expansion as well as inflation prospects (see **Chart 1.2**).

Chart 1.1

Political and financial market uncertainty has declined recently following a spike at the turn of 2015-16

Macroeconomic and political uncertainty as well as financial risk aversion in the euro area

(Jan. 2010 – Apr. 2016; standard deviations from mean)



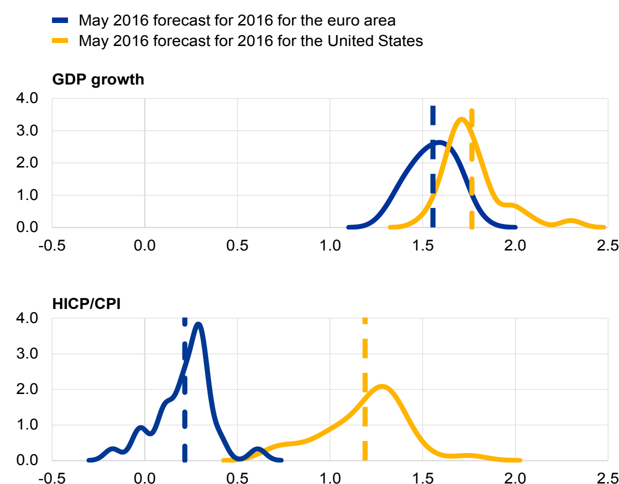
Sources: Consensus Economics, Baker, Bloom and Davis (www.policyuncertainty.com), European Commission, ECB and ECB calculations.
Notes: Mean for the period Q1 1980 – Q4 2015. Macroeconomic uncertainty is captured by examining a number of measures of uncertainty compiled from various sources, namely: (i) measures of economic agents'' perceived uncertainty about the future economic situation based on surveys; (ii) measures of uncertainty or of risk aversion based on financial market indicators; and (iii) measures of economic policy uncertainty. For further details on the methodology, see "How has macroeconomic uncertainty in the euro area evolved recently?", *Monthly Bulletin*, ECB, October 2013..

Chart 1.2

Low nominal growth in the euro area contrasts with more benign conditions in the United States

Distribution of the 2016 real GDP growth and HICP/CPI forecasts for the euro area and the United States

(probability density)



Sources: Consensus Economics and ECB calculations.
Note: The dashed lines represent the average real GDP growth and HICP/CPI forecast values.

The March 2016 ECB staff macroeconomic projections expect the economic recovery to proceed at a slower pace than anticipated in the December 2015 projections. This reflects in particular weakening global growth and a strengthening of the effective exchange rate of the euro. At the same time, more persistent factors, such as the ongoing process of balance sheet adjustment in the financial and non-financial private sectors, sluggish structural reform implementation and still high unemployment rates in several countries continue to weigh on the pace of recovery. Still, an accommodative monetary policy stance, improvements in the labour market, lower energy prices and some fiscal easing, partly related to the influx of refugees, should underpin economic activity in the near and medium term, in particular by boosting domestic demand. Accordingly, the March 2016 ECB staff macroeconomic projections for the euro area envisage real GDP growth of 1.4% for 2016, which is expected to accelerate moderately to 1.7% in 2017 and 1.8% in 2018.

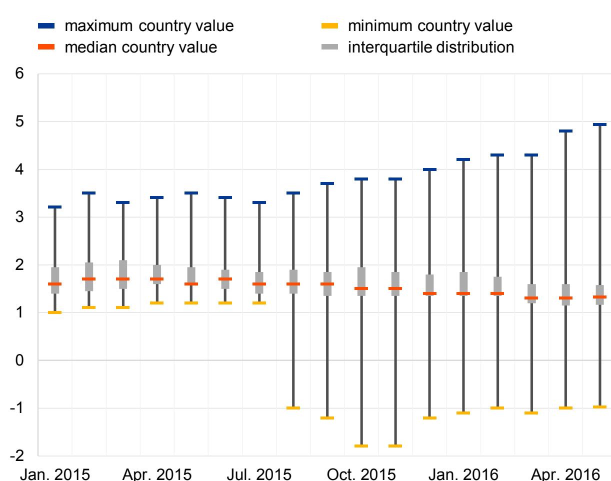
The risks to the euro area growth outlook remain tilted to the downside. They relate in particular to the heightened uncertainties regarding developments in the global economy, as well as to broader geopolitical risks. Uncertainties stemming from developments in emerging economies remain prominent. In particular, a possible further slowdown of the Chinese economy has the potential to affect the euro area economy via the trade and confidence channels, albeit to varying degrees across countries. From the financial stability perspective, additional downside risks relate to a potential re-intensification of sovereign stress at the euro area country level as well as a further increase in uncertainty as reflected by increased global risk aversion, heightened financial market volatility and rising political risk.

Chart 1.3

Overall economic prospects continue to diverge considerably not only at the country level…

Distribution of real GDP growth forecasts in the euro area for 2016

(Jan. 2015 – May 2016; percentage changes per annum)



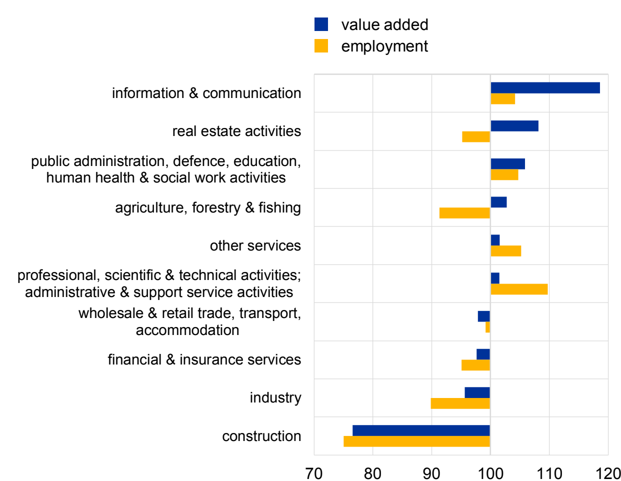
Sources: Consensus Economics and ECB calculations.
Note: The chart shows the minimum, maximum, median and interquartile distribution across the 11 euro area countries surveyed by Consensus Economics (Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal and Spain).

Chart 1.4

… but also depending on the sector of economic activity and the level of employment

Levels of value added and employment in various sectors of economic activity in 2015 compared with 2008

(Q1 2008 vs. Q4 2015; index: Q1 2008 = 100)



Sources: Eurostat and ECB calculations.

Fragmentation at the country and sector levels remains a challenge. The strength of the recovery has remained uneven at the country level, as indicated by the relatively wide cross-country divergence of projected GDP growth rates for 2016 (see **Chart 1.3**), with Greece and Ireland at the lower and upper end of the distribution. Similarly, variation across sectors remains considerable, with output in industry, construction, trade and financial services still below pre-crisis levels, while value added and employment are increasing particularly strongly in some services sub-sectors, such as information and communication (see **Chart 1.4**). In line with the ongoing gradual recovery, labour market conditions have continued to improve, with the aggregate euro area unemployment rate falling to 10.2% in March 2016 – the lowest level observed since the summer of 2011. However, cross-country variation remains high, as weak (albeit improving) labour market conditions in euro area

countries most affected by the financial crisis (e.g. Greece, Spain) contrast with relatively tight labour markets in other euro area countries (e.g. Austria, Germany).

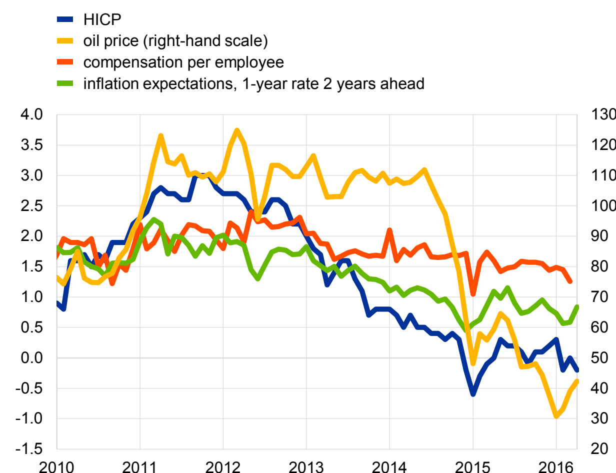
While risks of deflation have receded in view of resolute ECB policy action, nominal economic growth remains subdued amid low inflation outturns. HICP inflation has fallen to low levels as a result of a confluence of cost-push and demand-pull factors, in particular a marked drop in global oil prices (see **Chart 1.5**). Very low rates of consumer price inflation may have negative financial stability implications via adverse debt dynamics.[1] ECB policy action has been critical in ensuring that the current low-inflation environment does not become entrenched through second-round effects on wage and price-setting. Following a further sharp drop in oil prices at the turn of 2015-16, the March 2016 ECB staff macroeconomic projections for the euro area envisage a pick-up in HICP inflation from 0.1% in 2016 to 1.3% in 2017 and 1.6% in 2018.

Chart 1.5

Risks of a prolonged period of low inflation have remained elevated

Developments in the HICP, market-based inflation expectations, compensation per employee and the oil price

(Jan. 2010 – Apr. 2016; percentages, percentage changes; USD per barrel)



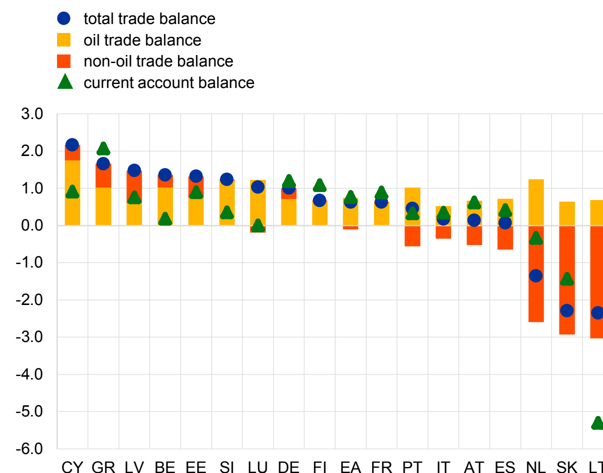
Sources: Bloomberg and ECB.

Chart 1.6

External rebalancing has continued across the euro area, partly supported by lower oil prices

Breakdown of changes in goods trade and current account balances across the euro area between 2014 and 2015

(percentages of GDP)



Sources: Eurostat and ECB.
Notes: The goods trade balance is retrieved from Eurostat's external trade statistics. Ireland and Malta are excluded. EA stands for euro area.

The external rebalancing in euro area countries most affected by the financial crisis has continued, supported by low oil prices. The current account balances continued to improve in most of these countries (most notably Greece and Cyprus) over the course of 2015, predominantly on account of the shrinking oil bill, but also due to continued adjustments in relative prices and costs (see **Chart 1.6**). For countries with large pre-crisis current account surpluses, the surpluses remained at elevated levels and in some cases increased further in 2015. As a result, the current account surplus of the euro area widened from around 2% in 2014 to 3% of GDP in

[1] For further details, see Box 1 on "Financial stability challenges posed by very low rates of consumer price inflation" in *Financial Stability Review*, ECB, May 2014.

2015. Looking ahead, the impact of low oil prices is expected to be gradually offset by the downward pressures on current account balances via higher imports related to the projected upturn in domestic demand in the euro area.

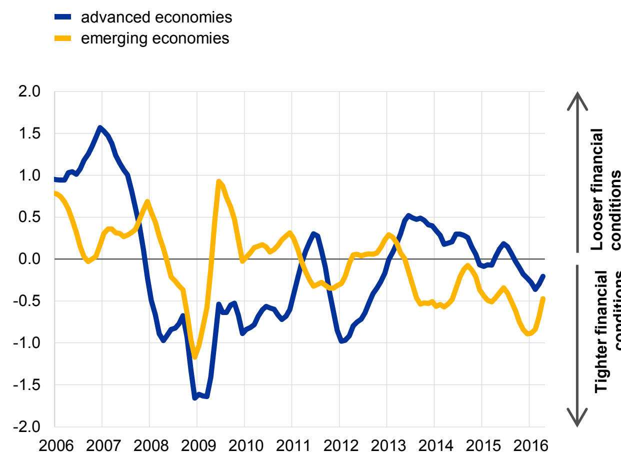
Global economic prospects have become more subdued amid uneven developments across major economic areas. The world economy lost momentum in 2015 as vulnerabilities related to a potential sharp repricing of risk partly materialised towards the end of the year. In terms of the growth pattern, economic activity in advanced economies continued on a modest recovery path, notwithstanding some weakness at the turn of the year. Economic growth in emerging markets decelerated further amid tightening financial conditions, although the tightening has partly reversed over recent months (see **Chart 1.7**). Overall, global growth prospects became more muted at the turn of 2015-16, as heightened political uncertainty, ongoing geopolitical tensions as well as volatility in global commodity markets in conjunction with the ongoing rebalancing in emerging economies affected confidence more broadly and reignited risk aversion in global financial markets.

Chart 1.7

Financial conditions have tightened across the globe, in particular in emerging economies

Financial condition indices

(Jan. 2006 – Apr. 2016; standardised with a mean of 0 and a standard deviation of 1)



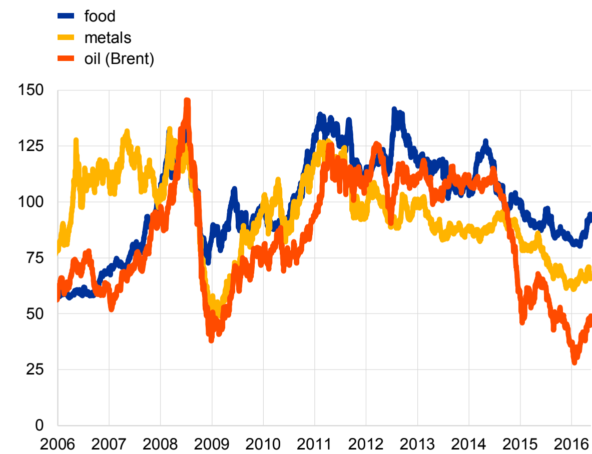
Sources: ECB calculations and Haver Analytics.
Notes: The financial condition indices are estimated for individual countries by taking the first principal component of a wide set of financial time series. They are conditional on the business cycle (without considering monetary policy), with the data series first regressed on GDP and inflation. “Advanced economies” comprise the financial condition indices for the United States, Japan and the United Kingdom. “Emerging economies” cover the financial condition indices for the BRIC countries and Turkey. For more details on the underlying methodology, see Wacker, K., Lodge, D. and Nicoletti, G., “Measuring financial conditions in major non-euro area economies”, *Working Paper Series*, No 1743, ECB, November 2014.

Chart 1.8

Commodity markets have remained under pressure in all major market segments

Selected commodity price developments

(Jan. 2006 – May 2016; index: 2010 = 100; USD per barrel)



Source: Bloomberg.

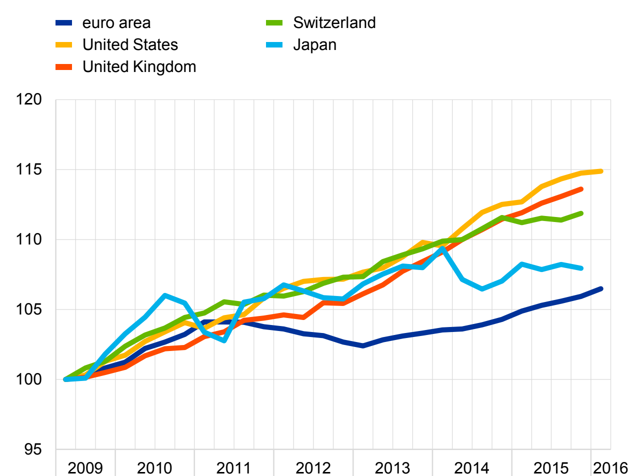
As global growth prospects weakened, commodity markets continued to adjust, with demand-side drivers becoming increasingly relevant. The drop in oil prices that started in mid-2014 continued at the turn of 2015-16, with oil prices reaching their lowest level in more than a decade in early 2016 (see **Chart 1.8**). Alongside the continued global oil supply overhang, oil price developments were

increasingly driven by lower demand as a result of the slowdown in emerging economies and – as reflected by unusually high oil price volatility – uncertainties regarding the outlook for oil market fundamentals (see **Chart 2** in the Overview). Thus, compared with the initial predominantly supply-side-driven drop in oil prices, the demand-driven oil price decline may have provided less support to global economic activity. Also, the potential benefits to aggregate demand in oil-importing economies may have been offset by weaker global trade, rising macro-fiscal imbalances in oil-exporting economies and any potential financial stability concerns surrounding the oil-producing sector. Oil prices have trended upwards since the end of January, reflecting a moderation in the global oil supply overhang as well as better than expected global oil demand. However, oil price volatility, although lower than the seven-year high reached in mid-February, remains a concern.

Chart 1.9
Economic trends diverge across major advanced economies

GDP levels in selected advanced economies

(Q2 2009 – Q1 2016; index: Q2 2009 = 100)



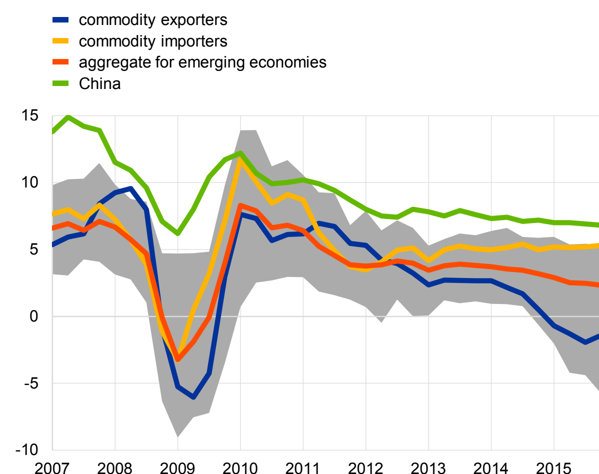
Sources: Eurostat, OECD and ECB calculations.

The economic recovery in advanced economies has continued at a slower pace against the backdrop of deteriorating global economic prospects. Economic growth in advanced economies outside the euro area has continued to be supported by low oil prices, improving labour market conditions, accommodative monetary policies as well as receding headwinds from private sector deleveraging and fiscal consolidation in several countries. Having slowed in general towards the end of 2015 amid lower external demand and in some countries also weaker consumer spending (e.g. the United States, Japan), the underlying multi-speed recovery across countries (see **Chart 1.9**) is increasingly translating into divergent monetary policies, as the start of monetary policy tightening in the United States contrasts with further easing in other advanced economies (see **Chart 2.5**).

While growth prospects appear resilient in most advanced economies, downside risks to the growth outlook remain. The negative impact of low oil prices on energy-related investment spending in oil-producing advanced economies, in particular the United States, is partially offsetting the positive impact via consumer spending. Furthermore, for some countries (e.g. the United States, Japan) major challenges relate to ensuring the long-term sustainability of public finances, with underlying fiscal imbalances – if unaddressed – highlighting the risk of a potential reassessment of sovereign creditworthiness. At the same time, legacy macro-financial vulnerabilities (e.g. high private sector indebtedness) in some countries (e.g. the United Kingdom, Sweden, Denmark) may be further amplified, particularly against the backdrop of a strong rise in residential house prices, which has triggered a policy response in some countries (e.g. the United Kingdom). Finally, heightened political uncertainty, for example in the context of the upcoming presidential elections in the United States or the planned referendum on EU membership in the United Kingdom, could represent a drag on business and consumer confidence and, eventually, economic growth.

Chart 1.10

Growth momentum has weakened across emerging economies, with oil exporters particularly hard-hit



Sources: National sources and Haver Analytics.
Notes: The lines represent PPP-weighted averages of GDP growth in emerging market economies. The shaded area shows the 10th-90th percentile range of growth across the sample. Commodity-importing economies include: Hong Kong, India, Singapore, South Korea, Taiwan, Thailand and Turkey. Commodity-exporting countries include: Brazil, Chile, Colombia, Indonesia, Malaysia, Mexico, Russia, Saudi Arabia, South Africa and Venezuela.

Economic growth prospects in emerging economies have weakened more considerably, albeit diverging across countries and regions. In general, cyclical challenges in a number of emerging economies in the late phase of the credit cycle are being compounded by lower commodity prices, which has adversely affected economic growth in commodity (in particular oil) exporters (see **Chart 1.10**), such as Brazil or Russia. At the same time, domestic and/or external macro-financial imbalances, tighter financial conditions, geopolitical tensions and heightened political uncertainty continue to act as an additional drag on economic growth in a number of countries. Moreover, the transition to a more moderate growth path in the context of the ongoing rebalancing from an export-led to a more consumption-driven growth path in China implies adverse knock-on effects for other Asian and Latin American economies with close trade and financial links to the Chinese economy. Overall, economic activity in emerging markets is likely to remain moderate. Within the emerging market universe, economic conditions have remained relatively benign in emerging Europe, notably the non-euro area EU countries in central and eastern Europe, against the backdrop of relatively solid fundamentals and the gradually improving economic outlook for the euro area. This development contrasts with weaker growth dynamics in emerging Asia and Latin America where several countries have lost further momentum or are experiencing an outright recession (e.g. Brazil and Venezuela).

Risks to the growth outlook in emerging economies are tilted mainly to the downside. First and foremost, a further drop in or a sustained low level of oil prices may challenge the macro-fiscal stability of oil-exporting emerging economies further, in particular that of countries with only limited monetary and fiscal room for manoeuvre. Also, a potential further tightening of external financial conditions – partly associated with the normalisation of US monetary policy – is likely to additionally constrain economic activity in emerging economies which are highly dependent on capital inflows. In fact, past credit excesses and the related debt accumulation over the last decade (see **Chart 1.11**) expose many emerging economies to the risk of sudden capital flow reversals, possible exchange rate shocks and increasing credit risk should growth prospects deteriorate further (see **Box 1**). Even if currency mismatches on sovereign and corporate balance sheets have tended to decline given the growing issuance of domestic currency-denominated debt in many emerging economies, some countries and sectors with notable exposures to foreign currency-denominated debt may be vulnerable to marked downward exchange rate pressures vis-à-vis the US dollar. Lastly, decelerating growth prospects in China, where increasing leverage and a large shadow banking sector also indicate rising risks to financial stability, could unearth more general concerns about the macro-financial health of major emerging

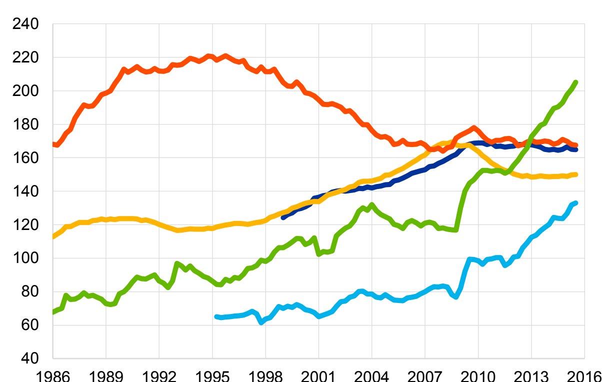
economies, affect global confidence and trigger capital outflows from emerging markets, highlighting the potential risk of a disorderly and broad-based unwinding of global capital flows, ensuing corrections in asset prices and sharp exchange rate movements (see **Chart 1.12**).

Chart 1.11

Private debt has increased considerably in emerging economies since the onset of the financial crisis

Indebtedness of the non-financial private sector in selected advanced and emerging economies

(Q1 1986 – Q3 2015; percentages of GDP)



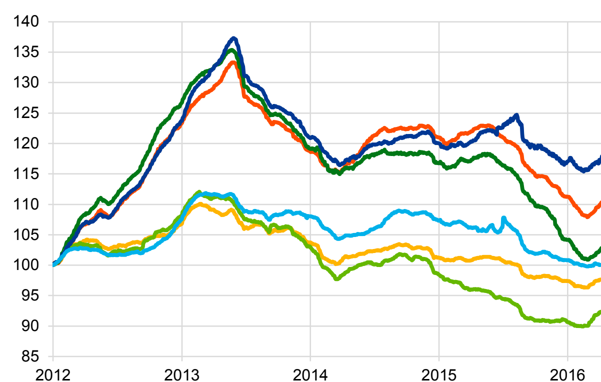
Source: BIS.
Note: Private debt refers to non-financial private sector debt, i.e. the sum of household and non-financial corporate debt.

Chart 1.12

Emerging economies have seen substantial capital outflows, but have recovered somewhat lately

Equity and bond flows to advanced and emerging market economies

(Jan. 2012 – May 2016; index: Jan. 2012 = 100)



Source: EPFR.
Notes: Bonds include both sovereign and corporate bonds. The chart shows equity and bond flows as a percentage of assets under management computed as chained indices.

Amid this ongoing cross-regional shift in global growth dynamics, macro-financial risks to euro area financial stability increasingly stem from external factors. In this context, the ongoing cyclical slowdown coupled with a structural rebalancing towards a more moderate growth path in emerging economies, continued heightened geopolitical tensions and diverging monetary policies in major advanced economies represent the major causes for concern. In addition to raising uncertainty regarding the pace and sustainability of the economic recovery at both the euro area and global levels, these factors also have the potential to affect confidence and trigger renewed tensions in global financial and commodity markets and prompt a disorderly unwinding of global capital flows. That said, in a low nominal growth environment, macro-financial risks also continue to originate from within the euro area. In particular, the ongoing balance sheet repair in both the private and public sectors in several countries, continued (albeit diminishing) fragmentation of the real economy as well as the sluggish pace of structural reforms continue to weigh on the underlying euro area growth momentum.

Box 1

Private credit overhang in emerging economies and risks to euro area financial stability

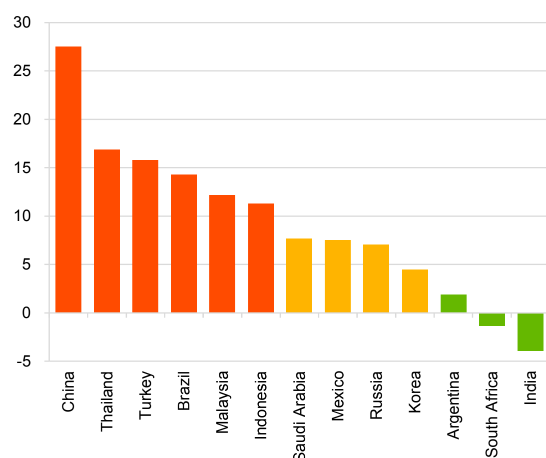
Many emerging market economies (EMEs) have seen a rapid expansion of credit to the private sector since the onset of the global financial crisis. Strong credit growth was often driven by abundant capital inflows on the back of both positive growth differentials and the global search for yield by investors amid accommodative macroeconomic policies in advanced economies. As a result, several EMEs appear to be facing a large credit overhang, with a potential for disorderly unwinding amid deteriorating economic growth prospects. The prospective implications of any such correction could reverberate beyond the affected EMEs given their growing economic and financial linkages with the rest of the world in recent years.

Chart A

Rapid credit growth is a concern in a number of emerging economies, notably China

Credit-to-GDP gaps for selected EMEs

(Q3 2015; percentage points)



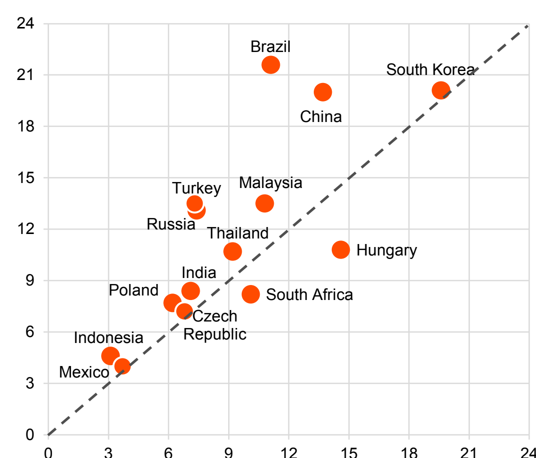
Sources: BIS and ECB calculations.
Notes: The credit-to-GDP gap is calculated as the difference between the private credit-to-GDP ratio as at September 2015 and its long-term trend. The thresholds for the red and yellow bars are 10 and 2 percentage points, respectively, following the BIS approach; for more details, see *BIS Quarterly Review*, March 2016.

Chart B

Most emerging economies have seen rising debt service ratios since the financial crisis

Debt service ratios for selected EMEs

(Q4 2007 vs. Q3 2015; percentages; x-axis: Q4 2007; y-axis: Q3 2015)



Source: BIS.
Note: The debt service ratio reflects the share of income used to service debt in the non-financial private sector.

Financial stability concerns stem from the historical regularity that rapid growth in private credit that leads to an excessively large stock of debt is often a leading indicator of subsequent financial turmoil.[2] As the expansion of credit to the private sector has outpaced GDP growth in a number of EMEs over the near decade since the onset of the global financial crisis, credit-to-GDP ratios are substantially above their long-term trend in several countries (see **Chart A**), while credit gap levels have risen over the past few years in some of those countries. While contributing to fundamental financial deepening, the sheer pace of credit growth may suggest potential vulnerabilities in several EMEs, notably China. Clearly, risks are accentuated in countries with a substantial foreign currency-denominated component of the resulting debt overhang.

[2] See, for example, Schularick, M. and Taylor, A., “Credit booms gone bust: Monetary policy, leverage cycles, and financial crises, 1870-2008”, *American Economic Review*, Vol. 102(2), 2012.

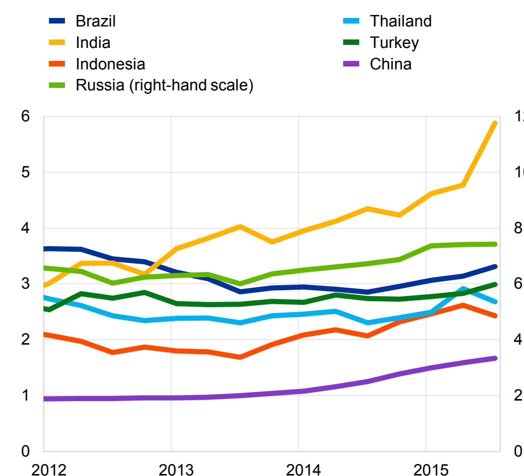
The ongoing economic slowdown may indicate heightened credit risk for banks via deteriorating asset quality. In fact, past credit excesses and the related high debt burden may challenge borrowers' debt servicing capabilities. Despite relatively low interest rates, mounting debt levels have pushed up debt service ratios for the private sector in most EMEs, notably Brazil and China (see **Chart B**). This, together with low interest coverage ratios of firms in a number of EMEs, may increase the likelihood that local borrowers run into debt servicing difficulties in the event of a further slowdown in economic growth. That said, bank loan quality has started to deteriorate since early 2014 in a number of EMEs, even though non-performing loan (NPL) ratios – being a lagging indicator – are still at relatively low levels (see **Chart C**). In China, despite the rapid accumulation of credit, looking at bank accounts suggests an NPL ratio of about 1.5%. At the same time, estimates based on Chinese firm-level balance sheet data suggest that the NPL ratio could be in the higher single digits, while a stress scenario could yield even higher figures.

Chart C

Non-performing loan ratios have started to rise in many EMEs, albeit from low levels

Non-performing loan ratios in selected emerging economies

(Q1 2012 – Q4 2015; percentages)



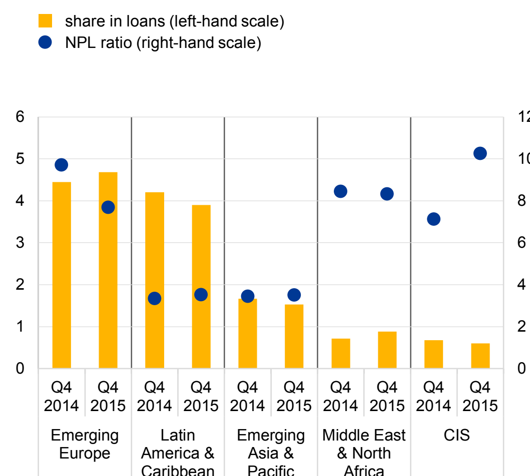
Source: IMF Financial Soundness Indicators.

Chart D

Euro area banks' EME exposures are limited, but asset quality problems vary across regions

Euro area banks' exposures and non-performing loan ratios in selected emerging market regions

(Q4 2014; Q4 2015; percentage of total loans; weighted averages)



Source: ECB.
Note: Based on a sample of significant banking groups that report the geographical breakdown of their exposures.

Potential spillovers from EMEs to the euro area via direct banking exposures are limited. Euro area banks' overall EME exposures have dropped in recent years given banks' increased home bias and balance sheet deleveraging. The cross-border claims of euro area banks on emerging economies account for about 12% of their total loan portfolio. The bulk of these exposures are to emerging Europe and Latin America, while exposures to emerging Asia, the Middle East and North Africa (MENA) as well as the Commonwealth of Independent States (CIS) are relatively contained (see **Chart D**). Euro area banks are mostly confronted with asset quality problems in emerging Europe, MENA and the CIS, with the latter two regions also hard-hit by the ongoing turmoil in global commodity markets. That said, given the economic slowdown in many Asian and Latin American economies, banks are likely to incur higher loan losses also on those exposures going forward.

All in all, the direct impact of a potential further worsening of credit quality in emerging markets should not represent a systemic risk for the euro area. Nonetheless, the presence of localised pockets of risk cannot be ruled out and individual euro area banks with more material exposures to emerging economies may face heightened earnings risks and asset quality problems. That said, a more broad-based emerging market shock could have more pronounced implications for the euro area, in particular if heightened concerns about the economic outlook were to trigger volatility in financial markets and adversely affect global confidence.

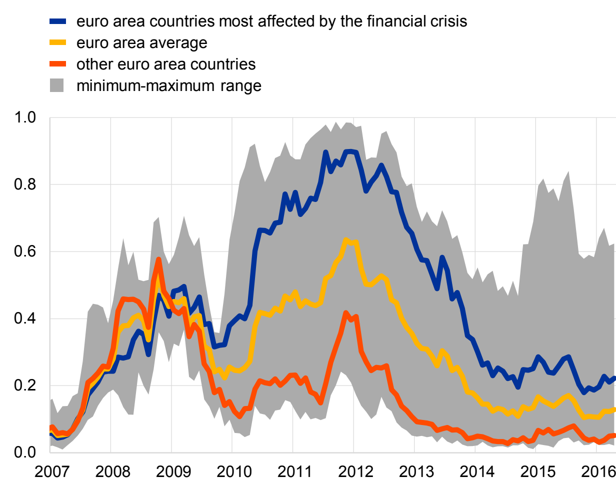
1.2 Waning reform efforts and rising political risks may challenge the sustainability of public finances

Chart 1.13

Sovereign tensions have remained contained in most (but not all) euro area countries

Composite indicator of systemic stress in euro area sovereign bond markets

(Jan. 2007 – Apr. 2016)



Sources: ECB and ECB calculations.
Notes: The SovCISS aims to measure the level of stress in euro area sovereign bond markets. It is available for the euro area as a whole and for 11 individual euro area countries (Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal and Spain). Countries most affected by the financial crisis comprise Greece, Ireland, Italy, Portugal and Spain, while other euro area countries include Austria, Belgium, Finland, France, Germany and the Netherlands. The SovCISS combines data from the short end and the long end of the yield curve (two-year and ten-year maturity bonds) for each country, i.e. two spreads between the sovereign yield and the euro swap interest rate (absolute spreads), two realised yield volatilities (the weekly average of absolute daily changes) and two bid-ask bond price spreads (as a percentage of the mid-price). The aggregation into country-specific and euro area aggregate SovCISS is based on time-varying cross-correlations between all homogenised individual stress indicators pertaining to each SovCISS variant following the CISS methodology developed in Hollo, D., Kremer, M. and Lo Duca, M., "CISS – a composite indicator of systemic stress in the financial system", *Working Paper Series*, No 1426, ECB, March 2012. The raw indicators are homogenised by applying the probability integral transform based on the empirical cumulative distribution function; as a result of this transformation, the SovCISS can assume values between zero and one.

Euro area sovereign stress conditions continue to be relatively benign, albeit with cross-country variation. The composite indicator of systemic stress in euro area sovereign bond markets has remained close to the levels seen before the start of the global financial crisis in 2008, not least due to the Eurosystem's public sector purchase programme. Underlying this aggregate indicator, diverging trends in sovereign stress persist across country groups. In particular, a recent slight uptick in sovereign stress in euro area countries most affected by the financial crisis contrasts with continued favourable conditions in other euro area countries (see **Chart 1.13**). Sovereign stress appears to have increased in Greece and Portugal where country-specific issues (e.g. uncertainty regarding programme implementation and the refugee crisis in Greece, as well as banking sector uncertainty in Portugal) were to some extent compounded by the adverse ramifications of the repricing of European bank stocks at the start of the year for the respective sovereigns.

Headline fiscal balances continue to improve, benefiting from the ongoing economic recovery and the low interest rate environment. Fiscal deficits in the euro area declined from 2.6% of GDP in 2014 to 2.1% in 2015 and are expected to fall further in 2016, although at a slower pace than in previous years. According to the European Commission's spring 2016 forecasts, the aggregate euro area fiscal deficit is projected to drop to 1.9% of GDP in 2016 and 1.6% in 2017, driven by gradually improving cyclical conditions and lower interest expenditure as a consequence of the Eurosystem's public sector purchase programme. Headline fiscal balances are expected to improve – at least slightly – in almost all euro area countries over the forecast horizon. Despite this

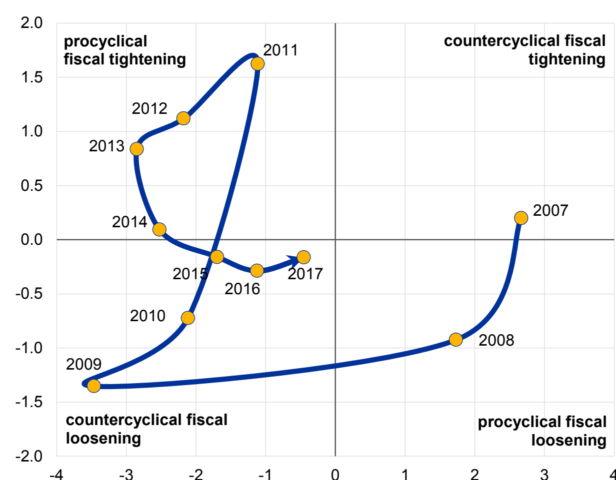
overall improvement in the euro area fiscal position over recent years, underlying fiscal challenges remain. In fact, structural budget balances are projected by the European Commission to deteriorate in a number of countries in 2016 and 2017, further challenging the achievement of the medium-term objectives set by some euro area countries in their stability programmes. At the same time, the fiscal costs of managing the refugee crisis – albeit contained at the aggregate euro area level – may present additional challenges for some euro area countries.

Chart 1.14

Fiscal consolidation has slowed, following major adjustments in the period 2011-13…

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

(2007–17; x-axis: output gap; y-axis: change in cyclically adjusted primary budget balance)



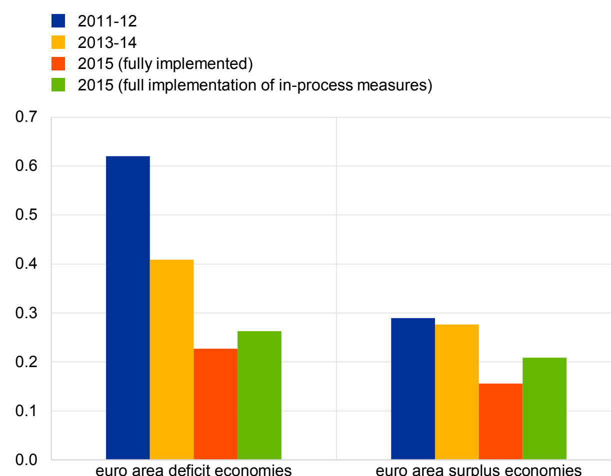
Sources: European Commission and ECB calculations.

Chart 1.15

... while structural reform efforts have lost momentum across the euro area as well

Reform responsiveness indicator and the hypothetical level of responsiveness in 2015 based on two different scenarios

(2011-15; share of implemented *Going for Growth* recommendations)



Source: OECD.
Note: The reform responsiveness indicator measures the extent to which countries have followed up on the OECD's *Going for Growth* recommendations, but they do not aim to assess overall reform intensity per se, as the indicators do not take into account reforms carried out in non-priority areas and do not quantify the importance of each individual measure. For methodological details, see Annex 2.A1 of *Going for Growth 2010*, OECD, March 2010. According to the OECD, euro area surplus economies cover Austria, Belgium, Germany, Finland, Luxembourg and the Netherlands, i.e. countries for which the current account surplus was on average larger than 1% of GDP over the period 2000-05. Euro area deficit economies include all other euro area OECD countries (Estonia, France, Greece, Ireland, Italy, Portugal, Slovakia, Slovenia and Spain).

Reform efforts appear to have dwindled amid low sovereign stress and rising political risks. Fiscal consolidation efforts have slowed in the euro area following major procyclical adjustments in the period 2011-13 (see **Chart 1.14**), while proceeding at an uneven pace across countries. As cyclical economic conditions improve, further progress with fiscal reforms would not only bolster long-term government debt sustainability, but would also generate fiscal space for effective countercyclical policies going forward, which is currently limited to a small number of countries given high government debt levels. In this context, altering the composition of the budget might help support economic conditions by cutting distortionary taxes and unproductive expenditure. Overall, structural reform efforts have lost momentum in the euro area in recent years (see **Chart 1.15**). While deeper structural reforms would bring long-term benefits by boosting growth potential without endangering fiscal solvency, political risks – having increased for almost all euro area countries

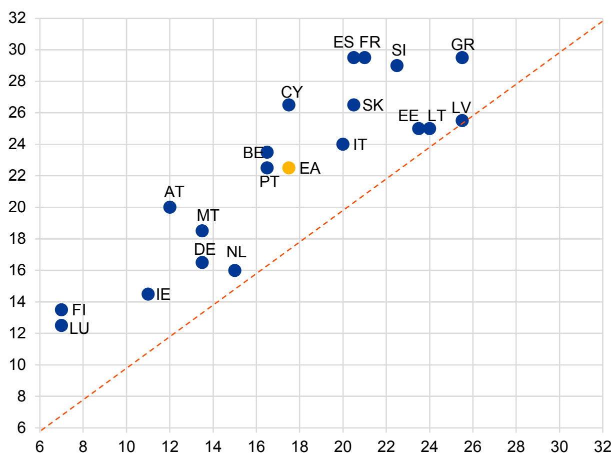
since the onset of the global financial crisis (see **Chart 1.16**) – appear to be increasingly interfering with reform implementation. Rising political risks at both the national and supranational levels, as well as the increasing support for populist political parties which are seen to be less reform-oriented, may potentially lead to the delay of much needed fiscal and structural reforms and cause renewed pressures on more vulnerable sovereigns.

Chart 1.16

Political risks pose a challenge to fiscal and structural reform implementation

Political risk ratings in individual euro area countries

(x-axis: spring 2008 vs. y-axis: spring 2016)



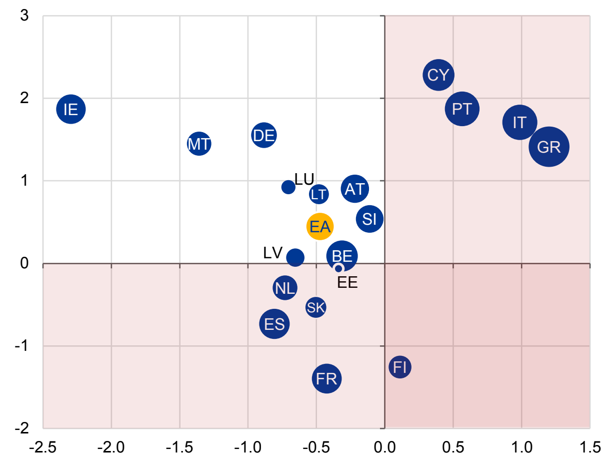
Sources: The PRS Group (International Country Risk Guide) and ECB calculations.
Notes: The ICRG's political risk rating comprises the following sub-categories: (1) government stability, (2) socioeconomic conditions, (3) investment profile, (4) internal conflict, (5) external conflict, (6) corruption, (7) military in politics, (8) religious tensions, (9) law and order, (10) ethnic tensions, (11) democratic accountability and (12) bureaucracy quality. The risk ratings range from zero (highest risk) to 100 (least risk). Original values were transformed by subtracting them from 100 for illustrative purposes. Spring 2008 values represent data for May 2008, while figures for spring 2016 are for April 2016 (i.e. the latest available figures). The euro area (EA) value is calculated as a simple average of the values for the individual euro area economies.

Chart 1.17

Risks to government debt sustainability remain elevated in several euro area countries

Average interest rate-growth differential and cyclically adjusted primary balances for the period 2016-17 across the euro area

(percentages; percentage points of GDP; x-axis: average interest rate-growth differential, 2016-17; y-axis: average cyclically adjusted primary balance, 2016-17)



Sources: European Commission and ECB calculations.
Note: The size of the bubble represents the level of general government debt as at the end of 2015 as a percentage of GDP. EA stands for euro area.

The outlook for government debt sustainability remains challenging despite some tentative signs of improvement. Having reached a peak at 94.4% of GDP in 2014, the aggregate euro area government debt-to-GDP ratio dropped – after seven years of consecutive increases – to 92.9% of GDP last year. The debt level has been projected by the European Commission in its spring 2016 forecast to continue falling gradually to 91.1% of GDP by 2017 thanks to lower interest payments and higher expected nominal growth following the adoption and subsequent expansion of the Eurosystem's public sector purchase programme. Still, the picture remains fairly heterogeneous at the country level, with some euro area countries still projected to see a further rise in their government debt ratios by 2017, including Finland, France, Greece and Luxembourg (albeit in the case of the latter from relatively low levels). That said, expected continued primary deficits and/or positive interest rate-growth differentials may complicate putting public debt levels on a sustainable downward path in other countries as well (see **Chart 1.17**). In the short term, the main

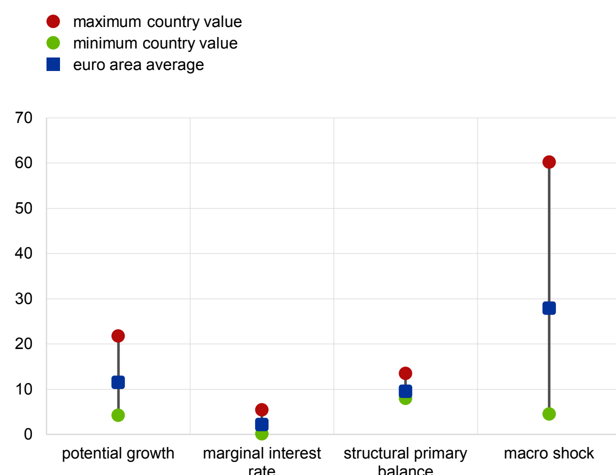
challenges to government debt sustainability across the euro area relate to insufficient structural and fiscal reforms, a prolonged period of low nominal growth, residual risks related to financial sector support and heightened political uncertainty in several countries in the context of upcoming elections, the refugee crisis and security concerns following recent terrorist attacks. In the medium to long run, these challenges are compounded by vulnerabilities related to lower potential GDP growth and population ageing-related costs. Simulation results suggest that a lasting shock of lower potential growth, higher government bond yields and worsening structural balances could put debt sustainability at risk (see **Chart 1.18**). In particular, a new macroeconomic shock may challenge the sustainability of public finances in a number of euro area countries.

Chart 1.18

Debt sustainability could be at risk in a number of countries in the event of further shocks

Reaction of the general government debt ratio to standardised macro and fiscal shocks

(percentage points of GDP)



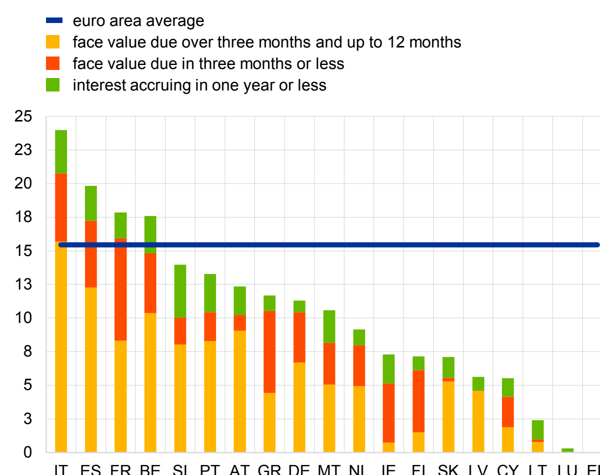
Source: ECB.
Notes: The chart shows the reaction of the euro area average general government debt ratio as of 2024 to standardised (1 percentage point) adverse shocks to potential growth, the marginal interest rate, the fiscal position (structural primary balance) and a country-specific combined macro shock as calibrated in the 2016 ESRB stress test. The shocks are permanent and are applied as of 2016. The deterministic debt simulations are conducted in a partial equilibrium framework, which takes into account feedback effects between fiscal, macro and financial variables.

Chart 1.19

Total government debt service needs remain high in several euro area countries

Principal and interest payments for the next 12 months by euro area governments

(Apr. 2016 – Mar. 2017; percentages of GDP)



Source: ECB.

Sovereign financing conditions have remained favourable in terms of both pricing and duration. Overall, the total debt service of euro area governments for the next 12 months is sizeable at around 16% of GDP, but is expected to decline going forward as lower interest rates translate into reduced debt servicing costs. Still, for some euro area countries the sovereign debt service needs are substantial at the current juncture (see **Chart 1.19**).[3] However, financing concerns are currently mitigated by low sovereign funding costs for almost all sovereign rating categories (see **Chart 1.20**) and solid demand for government bonds against the backdrop of

[3] The 2016 financing needs for Greece are relatively low due to the concessional terms of official loans.

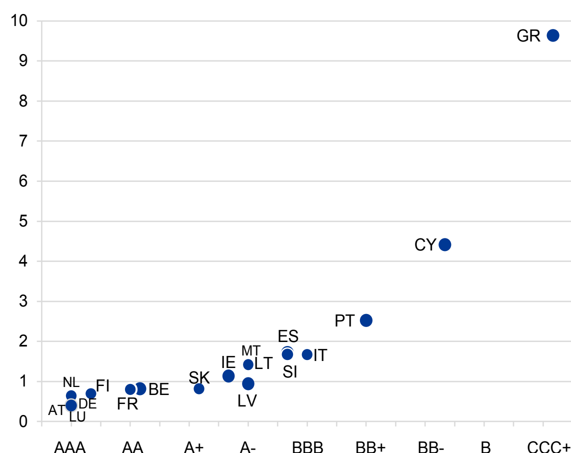
the Eurosystem's ongoing public sector purchase programme. That said, while alleviating fiscal costs, the currently record low sovereign yields may expose many euro area countries to sudden flow reversals, in particular if economic developments or reform efforts turn out to be less favourable than envisaged earlier. In terms of duration, the ongoing shift in issuance activity towards the long end of the maturity spectrum has continued in the current low-yield environment, with issuance activity particularly strong beyond the 15-year horizon (see **Chart 1.21**). As a result, the average residual maturity of outstanding euro area government debt securities continued to increase, reaching 6.6 years in the first quarter of 2016 amid marked cross-country divergence. Given the current environment of low and further declining (or even negative) government bond yields at short maturities, this trend is likely to continue in the near term, as investors search for higher returns by increasing the duration of purchased assets, while governments aim to lock in long-term financing at low costs.

Chart 1.20

Sovereign financing conditions remain favourable for most rating categories

Sovereign ratings and ten-year government bond yields in individual euro area countries

(2015; percentages)



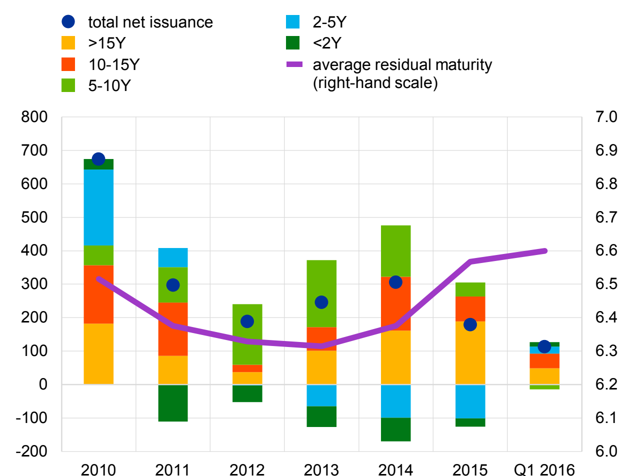
Sources: Moody's, Standard & Poor's, Fitch, ECB and ECB calculations.
Notes: The rating score represents the average rating by the three major rating agencies, Moody's, Standard & Poor's and Fitch. The bond yields indicate the average long-term interest rate for convergence purposes (secondary market yields of government bonds with maturities of ten, or close to ten, years) for the period from January 2015 to March 2016.

Chart 1.21

The shift of issuance activity towards the long end of the maturity spectrum has continued

Issuance of government debt securities by original maturity and average residual maturity of government debt securities in the euro area

(2010 – Q1 2016; EUR billions; years)



Source: ECB Government Finance Statistics.

Available financial assets may cushion sudden increases in sovereign financing needs. Financial assets held by euro area sovereigns are substantial, amounting to almost 40% of GDP as at year-end 2015, amid considerable cross-country heterogeneity. Similarly, the value of highly liquid assets (i.e. currency and deposits) that could be used to finance imminent rollover needs varies across countries, ranging from below 2% of GDP in the Netherlands to over 20% of GDP in Slovenia. Equity and investment fund shares/units account for the bulk of financial assets in most euro area countries, suggesting that the privatisation of state-owned

assets could play a role in alleviating debt sustainability concerns if those proceeds were to be used to retire outstanding government debt.

1.3 Favourable financing conditions continue to underpin the recovery of the non-financial private sector

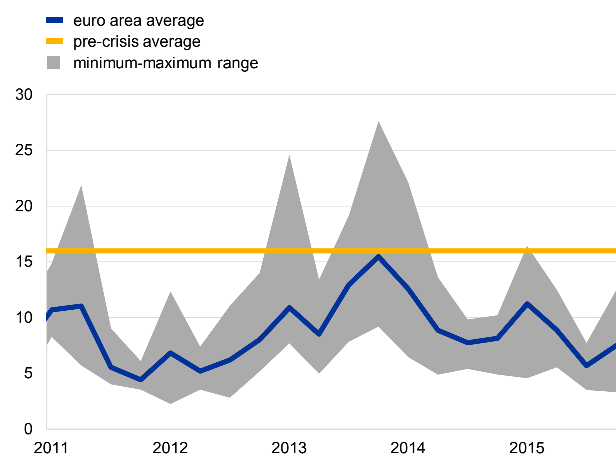
Mirroring overall economic conditions, the income and earnings position of the non-financial private sector has continued to improve, but remains weak. Disposable income growth of euro area households stabilised towards the end of 2015, while corporate profitability remained relatively subdued. The distance-to-distress indicator – combining balance sheet information with asset price volatility – suggests that overall credit risks related to household balance sheets in the euro area had declined somewhat towards the end of 2015 (see **Chart 1.22**). A very similar picture could be observed in terms of risks related to non-financial corporate balance sheets, mainly driven by lower financial market volatility observed in the final quarter of 2015 (see **Chart 1.23**). That said, the financial market turmoil earlier this year may suggest a potential rise in risk for the first quarter of 2016.

Chart 1.22

Risks related to euro area household balance sheets appear to have fallen somewhat at the end of 2015…

Households' distance to distress in the euro area

(Q1 2011 – Q4 2015; number of standard deviations from estimated default point)



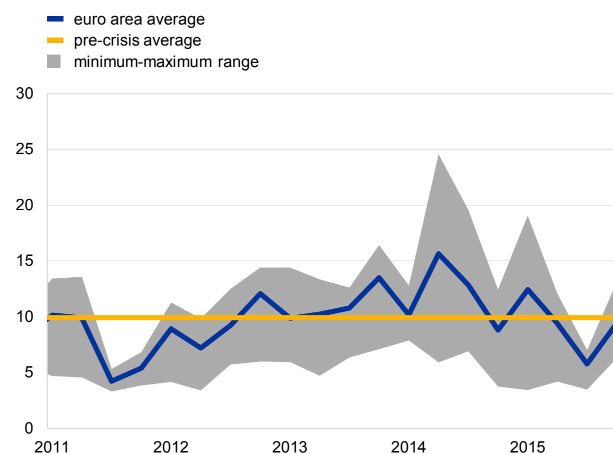
Sources: ECB, Bloomberg, Thomson Reuters Datastream and ECB calculations.
Notes: A lower reading for distance to distress indicates higher credit risk. The chart shows the average and the minimum-maximum range across 11 euro area countries for which historical time series cover more than one business cycle. For details of the indicator, see Box 7 in *Financial Stability Review*, ECB, December 2009. The pre-crisis average covers the period from June 1999 to June 2008.

Chart 1.23

… while corporate balance sheet risks have declined too amid lower financial market volatility

Non-financial firms' distance to distress in the euro area

(Q1 2011 – Q4 2015; number of standard deviations from estimated default point)



Sources: ECB, Bloomberg, Thomson Reuters Datastream and ECB calculations.
Notes: A lower reading for distance to distress indicates higher credit risk. The chart shows the average and the minimum-maximum range across 11 euro area countries for which historical time series cover more than one business cycle. For details of the indicator, see Box 7 in *Financial Stability Review*, ECB, December 2009. The pre-crisis average covers the period from June 1999 to June 2008.

Income and earnings risks are expected to continue to diminish gradually. The euro area household sector is expected to recover further, buttressed by improving labour market conditions, even if the situation continues to be weak in some euro area countries, thereby still weighing on households' income prospects (see **Chart 1.24**). Also, observed improvements in household net worth on the back of gradually strengthening housing market dynamics across the euro area should help bolster

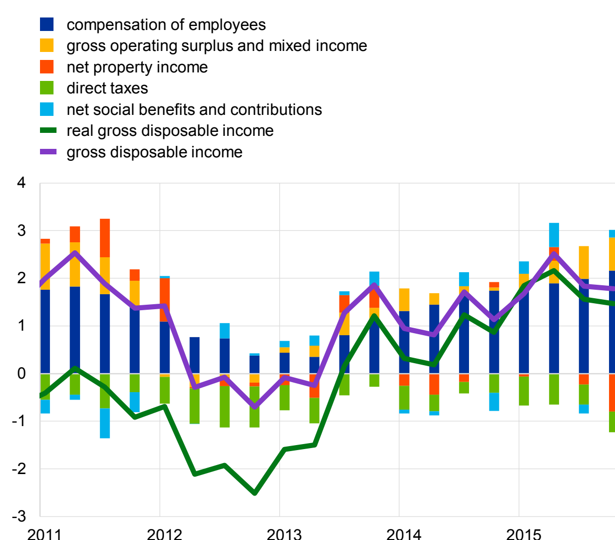
households' balance sheets and counterbalance the negative impact of the declines in the positive contributions of capital gains on financial asset holdings and net savings to household wealth since mid-2015. Similarly, in line with the ongoing gradual economic recovery, the number of corporate insolvencies continued to decrease in the euro area (see **Box 2**), even though it was still higher than prior to the global financial crisis, in particular in euro area countries most affected by the global financial crisis (see **Chart 1.25**). At the same time, despite tentative signs of improvement, corporate profitability has remained at rather low levels by historical standards, inter alia reflecting the limited ability of firms to pass on rising costs to output prices in an environment of weak demand and needed competitiveness gains. However, profitability is expected to improve as the recovery gathers pace, thereby alleviating balance sheet pressures on vulnerable firms.

Chart 1.24

A gradually improving income position underpins households' debt servicing capabilities

Euro area households' gross disposable income

(Q1 2011 – Q4 2015; annual percentage changes; percentage point contributions)



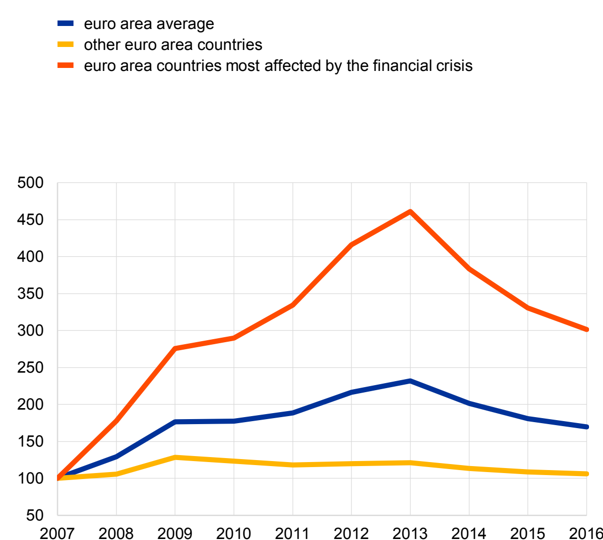
Sources: Eurostat and ECB.

Chart 1.25

The number of corporate insolvencies has declined since 2013, but is still above pre-crisis levels

Number of corporate insolvencies

(2007-16; index: 2007 = 100)



Sources: Euler Hermes and ECB calculations.
Notes: Euro area countries most affected by the financial crisis include Greece, Ireland, Italy, Portugal and Spain. Other euro area countries include Austria, Belgium, Estonia, Finland, France, Germany, Latvia, Lithuania, Luxembourg, Slovakia and the Netherlands. Cyprus, Malta and Slovenia are not included in the overall sample. Figures for 2015 and 2016 are forecasts.

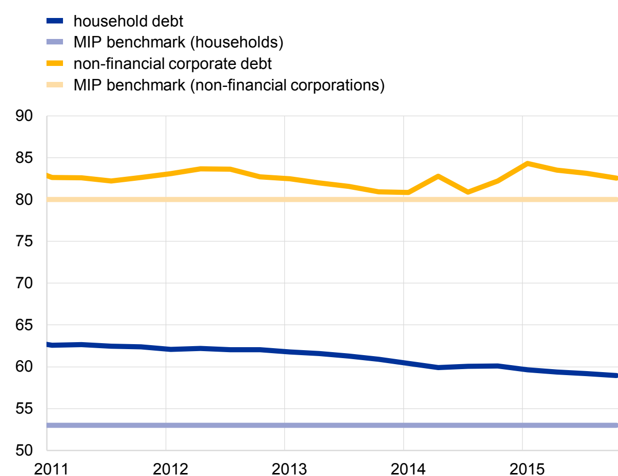
Legacy balance sheet concerns continue to constrain the non-financial private sector in the euro area. On average, euro area household indebtedness stood at 60% of GDP as at year-end 2015 (see **Chart 1.26**). Although not elevated by international standards, it remains high by historical standards. The level of non-financial corporate debt was more elevated at some 106% of GDP on an unconsolidated basis (excluding trade credit) or 83% of GDP on a fully consolidated basis, by both international and historical standards. Significant heterogeneity across countries underlies the aggregate euro area non-financial private sector debt figures, with Lithuania, Slovakia and Latvia at the lower end and Cyprus, Luxembourg and Ireland at the upper end of the country distribution.

Chart 1.26

Euro area household and non-financial corporate debt levels remain high by historical standards

Household and corporate debt levels in the euro area and related benchmarks

(Q1 2011 – Q4 2015; percentages of GDP)



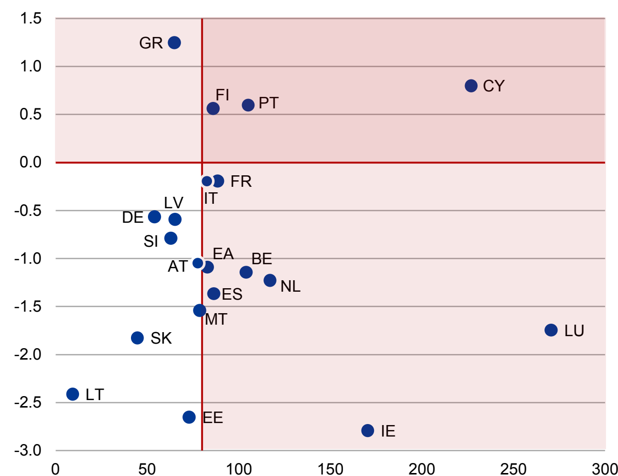
Sources: ECB and ECB calculations.
Notes: Non-financial corporate debt is fully consolidated, including debt securities, pension reserves as well as loans net of intra-sectoral loans. Consolidated household debt includes loans net of intra-sectoral loans and pension reserves. MIP refers to the European Commission's macroeconomic imbalance procedure, with a 133% of GDP limit for fully consolidated non-financial private sector debt split between firms and households based on their average past shares in the stock of non-financial private sector debt.

Chart 1.27

Corporate debt sustainability remains a challenge for some euro area countries

Consolidated corporate debt levels in the euro area and projected interest rate-growth differentials for the period 2016-20

(percentages of GDP; percentage points; x-axis: consolidated NFC debt-to-GDP ratio, Q4 2015; y-axis: projected interest rate-growth differential, 2016-20)



Sources: Eurostat, ECB and ECB calculations.
Notes: Non-financial corporate debt is fully consolidated, including debt securities, pension reserves as well as loans net of intra-sectoral loans. The red vertical line represents the MIP benchmark of 80% of GDP for consolidated non-financial corporate debt. MIP refers to the European Commission's macroeconomic imbalance procedure, with a 133% of GDP limit for fully consolidated non-financial private sector debt split between firms and households based on their average past shares in the stock of non-financial private sector debt. The interest rate-growth differential is defined as the effective borrowing cost for non-financial corporate debt minus nominal GDP growth. Consolidated non-financial corporate debt figures also include cross-border inter-company loans, which tend to account for a significant part of debt in countries where a large number of foreign entities, often multinational groups, are located (e.g. Belgium, Cyprus, Ireland, Luxembourg and the Netherlands). EA stands for euro area.

The high indebtedness of the non-financial private sector in some countries indicates further deleveraging needs. Balance sheet repair in the household and non-financial corporate sectors has been gradual at the aggregate euro area level, as a weak nominal growth environment and legal impediments in several countries tended to prevent a swift deleveraging in the non-financial private sector. Particularly in terms of corporate deleveraging, the pace of adjustment has differed markedly across the euro area to date, with deleveraging being more forceful in countries which had accumulated large amounts of debt prior to the crisis and have benefited from debt write-offs, in particular Ireland and Spain. In some euro area countries, continued high debt levels coupled with unfavourable interest rate-growth differentials still pose a challenge to corporate debt sustainability (see **Chart 1.27**), even if gradually improving corporate profitability in tandem with low interest payment burdens should support borrowers' debt servicing capabilities. From a more medium-term perspective, higher interest rates may imply further deleveraging needs going forward since a large part of corporate debt is at variable interest rates. That said, given concerns regarding the strength of the global economic recovery and the associated perceived scarcity of profitable fixed investment opportunities, elevated political uncertainty and the low opportunity cost of holding liquid assets, non-financial firms continue to hold historically high cash balances, which could

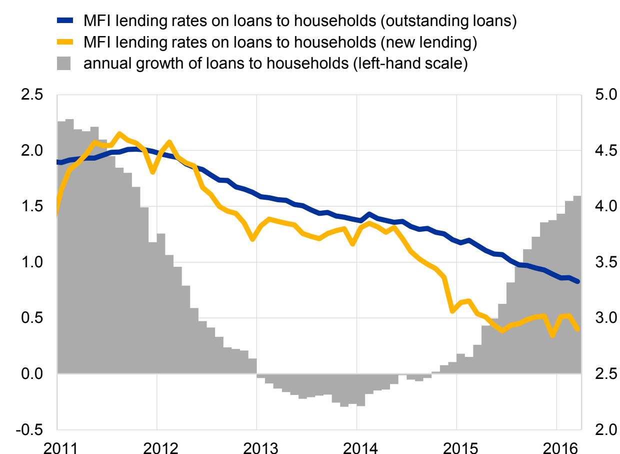
make an important contribution to reducing leverage or financing the economic recovery.

Chart 1.28

Bank lending to euro area households has shown signs of further recovery amid low lending rates

Annual growth in household loans and bank lending rates on new lending and outstanding loans to euro area households

(Jan. 2011 – Mar. 2016; annual percentage changes; percentages)



Source: ECB.
Note: Data have been adjusted for loan sales and securitisation.

Bank lending flows to the non-financial private sector remain muted, but continue to recover modestly amid low lending rates. On average, bank lending to euro area households and non-financial corporations has continued to strengthen gradually (see **Chart 1.28** and **Chart 1.30**). The recovery in lending has been supported by record low interest rates across the maturity spectrum in almost all lending categories, as the transmission of monetary policy measures taken by the Eurosystem since June 2014 takes hold and banks progressively pass on the improvement in funding costs in the form of reduced bank lending rates. Nonetheless, the underlying overall loan dynamics have remained weak, mirroring possibly not only the fact that credit tends to lag the business cycle, but also remaining deleveraging needs as well as high liquidity buffers of non-financial corporations. The aggregate picture also masks diverging trends at the country level, with a continued contraction in credit to the non-financial private sector in countries most affected by the financial crisis, such as Ireland, Slovenia and Greece, contrasting with more buoyant developments in other euro area countries such as Luxembourg, Slovakia and Lithuania. To further ease private sector credit conditions, in March 2016 the ECB announced a new set of targeted longer-term refinancing operations. These aim at reinforcing the ECB's accommodative monetary policy stance and strengthening the transmission of monetary policy by further incentivising bank lending to the real economy (except for loans to households for house purchase).

Favourable demand and supply-side conditions are underpinning the recovery of bank lending to the non-financial private sector. The latest euro area bank lending survey of April 2016 suggests improving credit demand on the part of both households and non-financial corporations, irrespective of the loan purpose and firm size (see **Chart 1.29**). The low general level of interest rates remained a key contributing factor to increased demand across all loan categories. For loans to non-financial firms, financing needs for inventories and working capital as well as fixed investment and other financing needs have contributed to a continued increase in demand. As for housing and consumer loans, stronger demand for loans was also buttressed by continued favourable housing market prospects and financing needs for spending on durable goods, respectively. Supply-side constraints have eased for lending to enterprises and consumer credit, with increased competitive pressures remaining the main factor driving the easing in banks' credit standards. The net tightening of credit standards on loans to households for house purchase was largely driven by the implementation of the EU mortgage credit directive. Across firm sizes, credit standards were eased more strongly on loans to large firms than on loans to

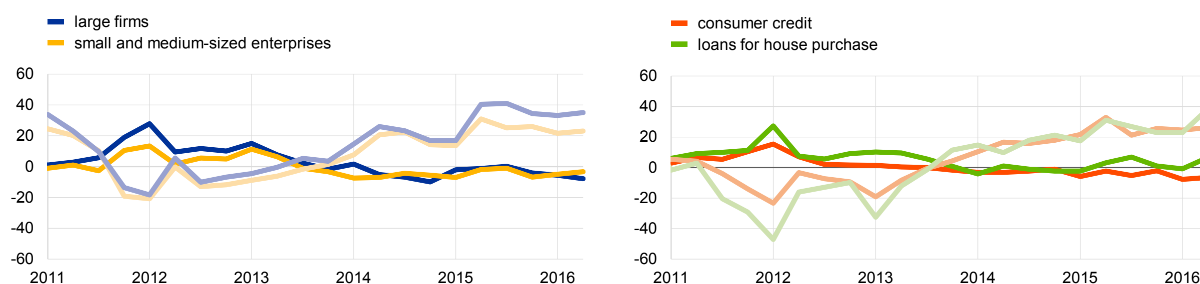
SMEs. Across maturities, banks eased their credit standards more strongly for short-term loans to enterprises than for long-term loans to enterprises.

Chart 1.29

Credit standards continued to ease amid continued loan demand

Credit standards and demand conditions in the non-financial corporate and household sectors

(Q1 2011 – Q2 2016; weighted net percentages; three-month expectations)



Source: ECB bank lending survey.
Notes: The bold lines denote credit standards, while the bright lines represent credit demand. Credit standards refer to the net percentage of banks contributing to a tightening of credit standards, while credit demand indicates the net percentage of banks reporting a positive contribution to demand.

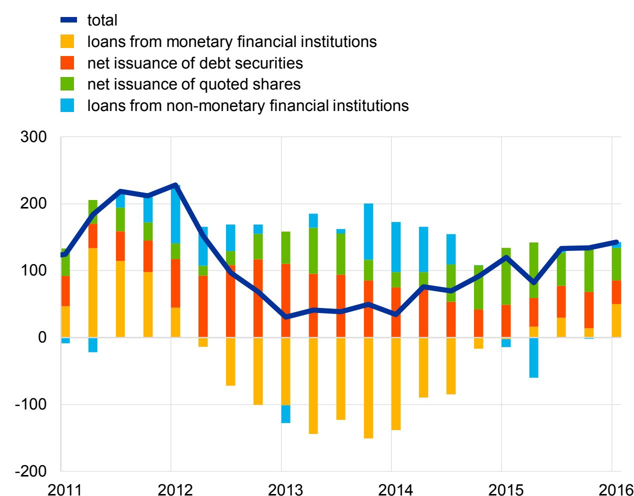
In addition to the gradual recovery in bank lending, euro area firms continued to benefit from benign conditions for financing from non-bank sources. Euro area non-financial firms' external financing from non-bank sources continued to increase in the second half of 2015 and the first quarter of 2016 (see **Chart 1.30**). This development was largely supported by continued low overall external funding costs. The net issuance of debt securities increased strongly in March 2016 owing mostly to specific factors following a contraction in January and February, eventually resulting in a positive outcome for the quarter as a whole (see **Chart 2.15**). In April and May issuance activity strengthened modestly, being supported inter alia by the ECB's policy package. At the same time, the ongoing strong growth in retained earnings (which reduces the need for external finance) and the recovery in bank lending have most likely dampened debt securities issuance in recent months. The net issuance of quoted shares has been weak in early 2016, while the cost of equity also picked up at the turn of 2015-16 (see **Chart 1.31**) amid unfolding corrections in euro area (and global) stock markets as a result of downward revisions to global growth prospects and expected corporate earnings, as well as uncertainty regarding the state of the Chinese economy and the associated financial stability risks.

Chart 1.30

External financing flows for euro area non-financial corporations have stabilised

External financing of euro area non-financial corporations

(Q1 2011 – Q1 2016; EUR billions; four-quarter moving flows)



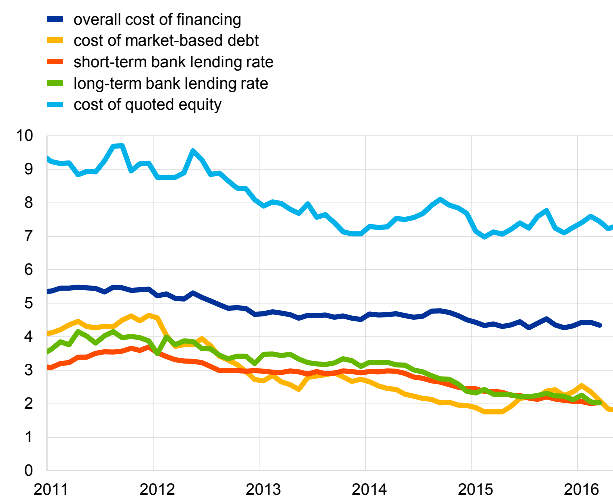
Sources: Eurostat, ECB, Dealogic and ECB calculations.
Note: Loans from monetary financial institutions to non-financial corporations are corrected for loan sales and securitisations, while loans from non-monetary financial institutions exclude loan securitisations.

Chart 1.31

Overall external funding costs of euro area non-financial firms remained low

Nominal cost of external financing of euro area non-financial corporations

(Jan. 2011 – May 2016; percentages)



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

While favourable financing conditions should contribute to a recovery in bank lending, several uncertainties remain. The financing conditions of non-financial firms remain favourable and continue to support the financing of investment. Alongside improving supply and demand-side conditions, the ECB's credit easing measures, i.e. the targeted longer-term refinancing operations and the asset-backed securities and covered bond purchase programmes, should – together with other monetary policy measures taken – promote the recovery of bank credit, while also lowering funding costs for non-financial firms. However, elevated political uncertainty in the euro area, heightened stock market volatility and a further potential repricing in bond markets may constrain the recourse to market financing by firms and dampen the positive effects of very accommodative ECB policies on the cost of financing for and business investment of non-financial firms in the euro area.

Box 2

Euro area corporate default probabilities by sector of activity and firm size

Weak economic growth coupled with a high aggregate level of indebtedness has implied challenges for euro area non-financial corporations (NFCs) in recent years. Accounting for more than one-third of banks' total non-bank loan portfolio, the health of NFCs, in particular that of small and medium-sized enterprises (SMEs) which form the backbone of the euro area non-financial corporate sector, is crucial for the soundness of the euro area banking sector. The

riskiness of underlying non-financial corporate loan portfolios is not uniform though, as expected default frequencies[4] (EDFs) strongly depend on the sector of activity and firm size.

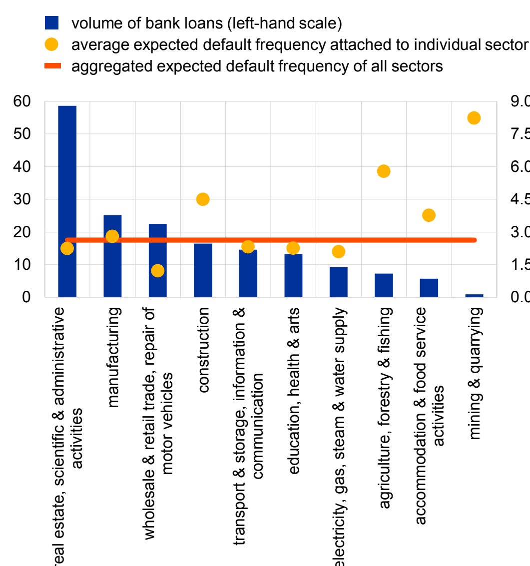
NFC sectors with high bank exposures appear to be less risky, and vice versa. In terms of the sector of activity of NFCs, euro area banks are currently mostly involved in lending to real estate (and related) activities, manufacturing and trade. These sectors of activity account for more than half of total loans to euro area NFCs and currently exhibit default probabilities at or slightly below the average based on data for listed companies from Moody's CreditEdge. By contrast, exposures to sectors of activity which are particularly dependent on commodity markets, overall property market developments and weather conditions (i.e. mining, construction and agriculture, respectively) rank among those with relatively high EDFs (see **Chart A**).

Chart A

Bank exposures and corresponding EDFs differ widely by sector of activity

EDFs of non-financial firms and respective bank exposures by NACE category

(Q4 2015; percentages of banks' total capital and reserves; percentages)



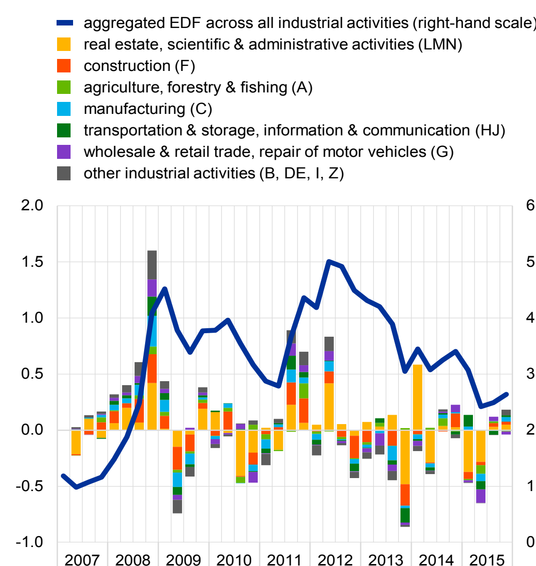
Sources: ESCB, Moody's CreditEdge and ECB calculations.
Notes: Loan volumes are ECB estimates based on national contributions. NACE categories reflect those used in the ESCB Balance Sheet Items (BSI) statistics and cover all NFCs. EDF measures are calculated based on granular data on EDFs within one year for listed companies in euro area countries except for Cyprus, Latvia, Lithuania and Malta. Aggregated EDF weighted by sectoral exposures.

Chart B

Aggregated EDFs are edging down, reaching levels last seen back in 2008

Aggregated EDF developments and contributions to change by sector of activity of NFCs

(Q1 2007 – Q4 2015; percentages; percentage point contributions)



Sources: ESCB, Moody's CreditEdge and ECB calculations.
Notes: EDF measures are calculated based on granular data on EDFs within one year for listed companies in euro area countries except for Cyprus, Latvia, Lithuania and Malta. Aggregated EDF weighted by sectoral exposures covering all NFCs. Letters in brackets represent the respective NACE categories. The category other industrial activities includes mining and quarrying (B), electricity, gas, steam and water supply (DE), accommodation and food service activities (I) as well as education, health and arts (Z).

The riskiness of bank lending to NFCs has overall fallen over the last year, but some sectors still appear to be vulnerable. After being broadly stable throughout 2014, the aggregated EDF of euro area NFCs (weighted by the corresponding sectoral bank exposures) started to fall in 2015, halving since its peak in mid-2012 and dropping to levels last seen in 2008 before the start of the global financial crisis (see **Chart B**). This development was underpinned not only by the ongoing

[4] According to Moody's, expected default frequency is a measure of the default probability of a firm over a certain period of time (typically one year), with default being defined as a failure to make scheduled principal or interest payments.

economic recovery, but also by improving financing conditions for non-financial corporates in terms of both the availability and the cost of funding following measures taken by the Eurosystem. By this metric, most sectors appear to have become less vulnerable by the end of 2015, with exposures often decreasing when EDFs rose, or vice versa, suggesting that banks' overall loan book became somewhat less risky. However, the increase of the median EDF at the turn of 2015-16 in some sectors, such as construction, may indicate a slight pick-up in sectoral risks amid relatively high bank exposures to these sectors (see **Chart C**).

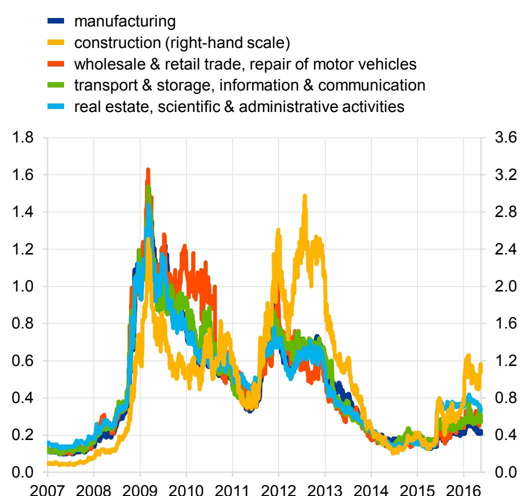
Beyond the sectoral aspects of lending, firm size is an important metric for riskiness too. Interestingly, according to firm-level EDFs based on Moody's RiskCalc for non-listed companies, risks in relation to SMEs have fallen to a similar level to those for larger firms. Moreover, the breakdown of SMEs by firm size indicates that EDFs have fallen gradually over the course of 2015 irrespective of firm size (i.e. micro, small and medium-sized enterprises). At the same time, micro firms still have the highest EDFs across the majority of industrial activities. Moreover, SMEs active in cyclical sectors, such as construction or consumer goods production, have the highest EDFs (see **Chart D**).

Chart C

Some sectors appear to have become more vulnerable recently

Median of EDFs within selected sectors

(Jan. 2007 – May 2016; percentages)



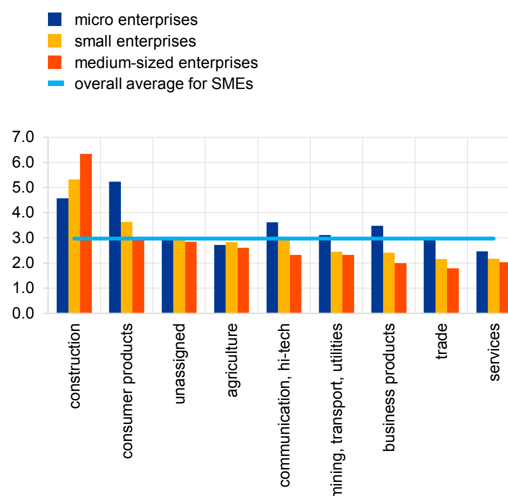
Sources: Moody's CreditEdge and ECB calculations.
Note: Median calculated based on granular data on EDFs within one year for listed companies in euro area countries except for Cyprus, Latvia, Lithuania and Malta.

Chart D

EDFs for SMEs are overall the highest in construction and for micro firms

EDFs of SMEs by sector and size category

(Q4 2015; percentages)



Sources: Moody's RiskCalc, BvD Amadeus, BvD Daphne and ECB calculations.
Notes: Based on the size of total assets, small and medium-sized enterprises were classified into micro firms (up to EUR 2 million), small firms (between EUR 2 and 10 million) and medium-sized firms (between EUR 10 and 43 million). Data are not available for Latvia and Lithuania. Average EDFs for SMEs are weighted by total assets.

All in all, with the economic recovery gaining traction, the risk metrics of euro area non-financial firms have tended to improve across sectors and firm sizes, but pockets of risk remain. The crisis has vividly illustrated the high cyclicality of the corporate sector which, together with a strong concentration of bank exposures in a few sectors, may suggest the need for close monitoring and – where warranted – the application of macroprudential instruments going forward.

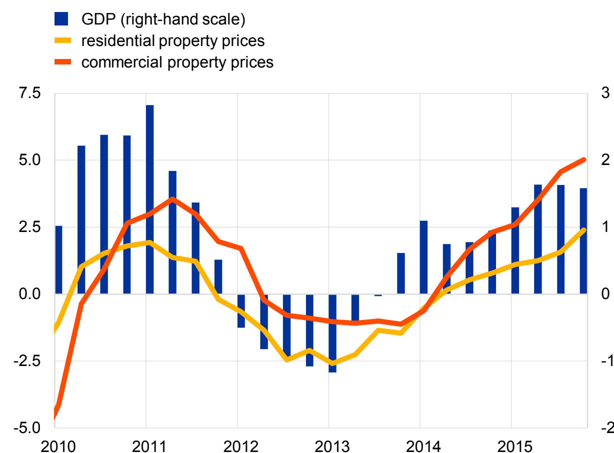
Growth in euro area property prices gathered further pace in 2015 from low levels amid decreasing heterogeneity at the country level. Having returned to a growth path in mid-2014, residential property markets have gained further momentum at the aggregate euro area level over the course of 2015, supported by low interest rates and the ongoing gradual economic recovery (see **Chart 1.32**). At the same time, euro area commercial property markets have continued to grow strongly and – in line with historical regularities – have tended to exhibit more pronounced cyclical dynamics than residential property markets. Overall, property price growth appears to have become less fragmented across countries, as the repercussions of major multi-year corrections in residential and commercial property markets in the aftermath of the global financial crisis have continued to dissipate at the country level. For residential property markets, this is reflected by the increasing positive contribution of the euro area countries most affected by the financial crisis to overall euro area house price growth (see **Chart 1.33**). Cross-country heterogeneity has declined further in commercial property markets as well amid signs of a firming recovery in a number of countries, including Ireland, which saw the most pronounced corrections in the euro area during the financial crisis.

Chart 1.32

Residential and commercial property markets continue to recover…

Commercial and residential property prices and GDP growth in the euro area

(Q1 2010 – Q4 2015; percentage changes per annum)



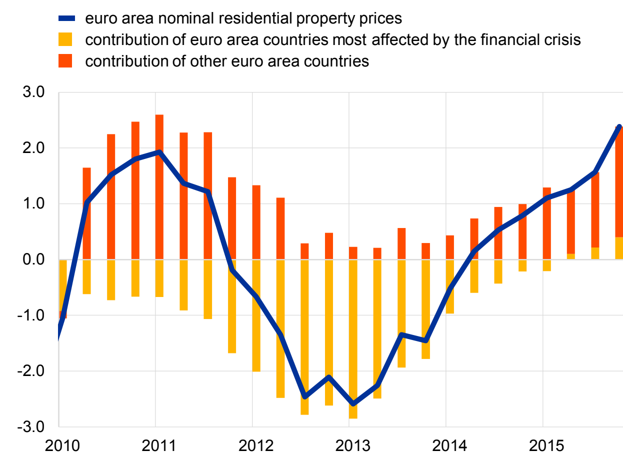
Sources: ECB and experimental ECB estimates based on MSCI and national data.

Chart 1.33

… with growth becoming more broad-based across countries

Decomposition of euro area residential property price growth by groups of countries

(Q1 2010 – Q4 2015; percentage changes per annum, percentage point contributions)

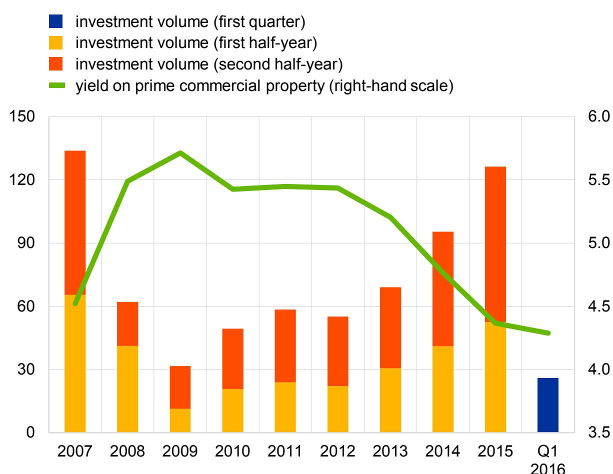


Source: ECB calculations based on national data.
Notes: The countries most affected by the financial crisis are Cyprus, Greece, Ireland, Italy, Portugal, Slovenia and Spain. The last observations were for Q4 2015 for all countries except Belgium, where it was for Q4 2014.

Fragmentation prevails also across regions and property types. Diminishing overall country-level fragmentation is nuanced by divergent regional price trends. Price developments in metropolitan areas have tended to outpace corresponding price movements at the national level in many countries, such as Austria and Germany, which may potentially ripple out to surrounding areas. At the same time, commercial property markets saw a marked bifurcation of price developments across property types. In particular, the prime retail segment has remained buoyant in the context of the current low-yield environment and the ongoing search for yield.

Chart 1.34

Commercial property investment has remained strong, while yields have dropped further amid continued signs of a search for yield



Sources: Cushman & Wakefield and Jones Lang Lasalle.
Notes: Based on legacy DTZ data. The euro area countries covered are Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain.

Correspondingly, investment activity in euro area commercial property markets has remained robust, with underlying 2015 transaction volumes almost on a par with the historical peak reached prior to the crisis in 2007 (see **Chart 1.34**). Germany, Italy and Portugal recorded the largest increases in investment volumes in 2015. Strong demand, mainly by non-European investors, has been accompanied by a continued decline in prime commercial property yields, which in several countries, such as Belgium, France, Germany, Portugal and Spain, already quote below pre-crisis levels. That said, continued competition for prime assets and yield compression in core euro area commercial property markets are increasingly driving property investors towards the non-prime segment and non-core countries.

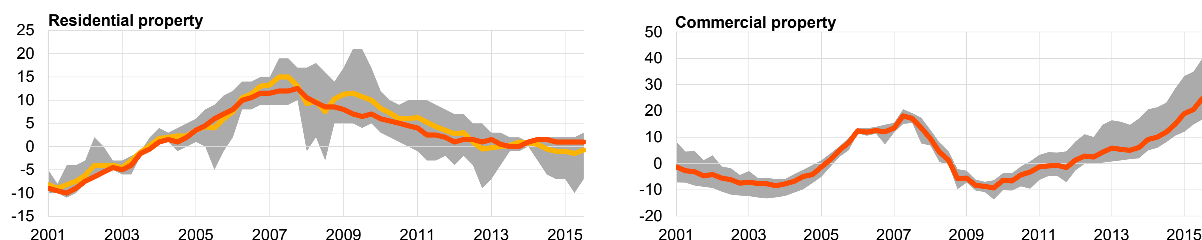
While euro area residential property prices are currently broadly in line with fundamentals, prime commercial property valuation indicators appear to have moved farther away from their long-term average (see **Chart 1.35**). However, aggregate valuation estimates conceal highly heterogeneous developments at the country level (see **Chart 1.36**). Relatively low valuations in both the residential and commercial property segments in countries with large post-crisis corrections, such as Ireland and Greece, contrast with estimated overvaluations in other countries like Belgium, Austria and Luxembourg. Developments at the country level also hide strong regional disparities, as suggested for example by the potential for overvaluation of residential property in some large cities in Austria and Germany. That said, while providing a consistent set of benchmarks across countries, these valuation estimates are also surrounded by a high degree of uncertainty and their national relevance is conditioned by country-level specificities, such as tax treatment or structural property market characteristics like tenure status. Similarly, commercial property valuation measures need to be interpreted with caution given only limited, mainly survey-based data coverage with a focus on prime commercial property in large cities.

Chart 1.35

Residential property prices are broadly in line with fundamentals, while commercial property prices have moved farther away from the long-term average

Valuation estimates of residential property prices at the euro area level

(Q1 2001 – Q4 2015; percentages; average valuations; minimum-maximum range across valuation estimates)



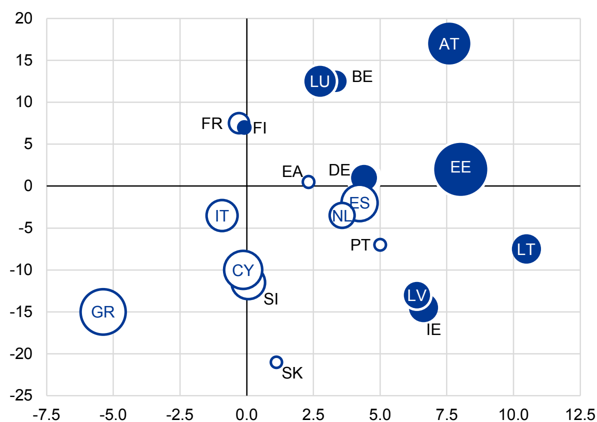
Sources: ECB and ECB calculations.
Notes: Valuation estimates for residential property prices are based on four different valuation methods: the price-to-rent ratio, price-to-income ratio and two model-based methods, i.e. an asset pricing model and a new model-based estimate (BVAR). For details of the methodology, see Box 3 in *Financial Stability Review*, ECB, June 2011, as well as Box 3 in *Financial Stability Review*, ECB, November 2015. For residential property, the yellow line represents the average of the four valuation methods, while the orange line is an average based on the price-to-income ratio and the new model-based method. For details on valuation estimates for prime commercial property, see Box 6 in *Financial Stability Review*, ECB, December 2011.

Chart 1.36

Aggregate euro area residential real estate valuation estimates conceal some cross-country divergence

Residential property price growth (x-axis) and valuations (y-axis)

(Q4 2015; annual percentage changes; percentages)



Source: ECB.
Notes: The size of the bubble represents the overall price growth between 2011 and 2015. Light bubbles indicate overall negative price growth, while dark bubbles refer to overall positive price growth. Average valuation is based on the price-to-income ratio and the new model-based estimate (BVAR). For details of the methodology, see Box 3 in *Financial Stability Review*, ECB, November 2015. Malta is excluded. EA stands for euro area.

All in all, the ongoing gradual recovery of euro area residential property markets is expected to gather further strength, with commercial property dynamics requiring monitoring. On the demand side, the increased availability and lower cost of financing as well as rising affordability amid strengthening labour market conditions (in terms of both income and employment) are likely to underpin the ongoing recovery in euro area residential property markets going forward. Moreover, demographic factors related to the large influx of refugees in some countries should stimulate housing demand. At the same time, supply-side conditions are expected to improve further, in line with the gradual economic recovery, as indicated by rising confidence in the construction sector. In the same way, the increasing number of building permits (see **Chart 1.37**) should help mitigate upward price pressures. This outlook remains vulnerable to adverse economic shocks, which may endanger the sustainability of the recovery and reverse the ongoing process of de-fragmentation across countries and market segments. In particular, deteriorating economic and financing conditions or, from a more medium-term perspective, rising interest rates could affect the debt servicing capacity of households and commercial property investors via a more limited availability and higher cost of funding, and may potentially represent a risk for banks in countries with high property-related exposures (see **Chart 1.38**). Price developments may need to be carefully monitored amid buoyant developments in some countries and property classes in the context of the current low-yield environment and the related ongoing search for yield. For residential property markets, a broader set of indicators which go beyond prices and valuations (e.g.

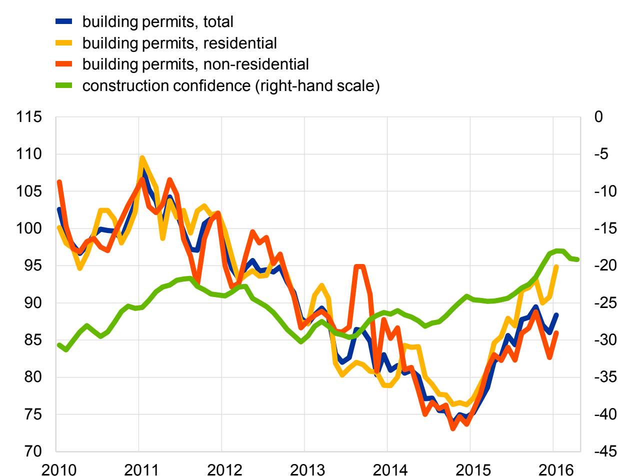
credit market developments, household indebtedness, banking sector exposures to property markets) may signal potential vulnerabilities in some countries. That said, the new macroprudential toolkit equips authorities to mitigate possible risks to financial stability at the country level in a targeted and granular way. Accordingly, several countries have already introduced measures to mitigate related risks.[5] To the extent that real estate markets continue to gain momentum, further measures may be considered by national authorities. Given its macroprudential mandate, the ECB is also monitoring property market developments very closely.

Chart 1.37

Property market recovery is underpinned by rising confidence and activity in the construction sector…

Construction confidence and building permits in the euro area

(Jan. 2010 – Apr. 2016; index: 2010 = 100; percentage balances; three-month moving averages)



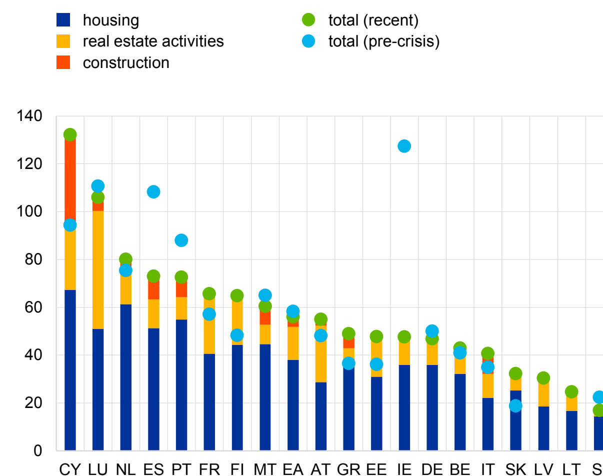
Source: European Commission.
Note: Building permits per square metre of useful floor area; these data are seasonally, but not working day-adjusted.

Chart 1.38

… but risks remain in countries with a banking sector with sizeable property-related exposures

MFI property-related lending exposures in the euro area

(Q2 2008; Q4 2015; percentages of GDP)



Sources: ECB and ECB calculations.
Notes: Property-related exposures comprise MFI lending to households for house purchase and to non-financial corporations for real estate activities and construction. Pre-crisis data are missing for Latvia and Lithuania. Data for lending for house purchase are not adjusted for loan sales and securitisation. Accordingly, in countries where securitisation is important (e.g. Belgium, the Netherlands and Ireland) exposure levels are higher. EA stands for euro area.

[5] For further details, see Annex 1 in *Macroprudential Bulletin*, Issue 1/2016; ECB, March 2016.