

3 Euro area financial institutions

The bout of global market turbulence in early 2016 had strong impacts in bank equity markets and in certain segments of the bank credit markets. This market turmoil notwithstanding, systemic stress specific to the euro area financial sector has remained contained, also reflecting the significant progress that euro area financial institutions have made in strengthening their fundamentals over the past few years. This resilience notwithstanding, this episode of market turmoil highlighted the challenges the financial sector is still facing years after the heights of the crisis which, if unresolved, could lead to a re-emergence of localised or more generalised stresses in the system and constrain its capacity to support the economic recovery.

In general, profitability prospects remain muted in a low nominal growth and interest rate environment. A key cyclical challenge for bank profitability is linked to the subdued outlook for bank revenues stemming from the combination of still muted loan demand and the prospect of margin compression. Among the more structural challenges, the large stock of legacy problem assets in some euro area countries continues to dampen banks' profitability and weigh on their capacity to extend new loans. In addition, structural challenges to bank profitability could also arise from overcapacity in some euro area banking sectors

A low-growth and low-yield environment also poses challenges for the insurance sector, and for life insurers in particular, as it dampens insurers' profitability and possibly erodes capital positions in the medium term. In this environment, insurers continue shifting their asset allocation towards more illiquid assets and higher-yielding (but lower-quality) investments to boost returns.

Growth in the non-bank financial sector has slowed as the rapid expansion in the investment fund sector stalled amid a decline in asset prices and a partial reversal of net flows. In this context, concerns have surfaced that substantial divestments by funds can amplify market-wide shocks, especially if liquidity conditions in secondary markets are weak. Increased risk-taking over the past years also implies heightened sensitivity to a prospective simultaneous reversal in risk premia and fund flows.

Scenario analysis suggests that a materialisation of key risks to financial stability could have significant implications for banks and insurers alike in the euro area. At the same time, a complete assessment of financial stability risks remains hampered by a dearth of harmonised reporting outside these regulated sectors.

On the policy front, the regulatory overhaul of the banking sector is nearing completion as the outstanding elements of the Basel III framework related to the calibration of the leverage ratio and the reduction in the variability in risk-weighted assets are about to be finalised. At the same time, progress continued apace in macroprudential policy implementation, with a range of measures introduced by euro area countries over the last six months.

3.1 Balance sheet repair continues, but challenges from low profitability and high legacy non-performing assets remain

3.1.1 Banks face significant profitability challenges, stemming from both cyclical and structural factors¹²

Market sentiment about the prospects for the euro area banking sector deteriorated in early 2016, mirroring developments in other major regions. This largely reflected investors' increasing concerns about banks' ability to generate sustainable profits in a low interest rate environment. While euro area banks' financial performance moderately improved in 2015 compared with the previous year, banks face significant challenges to their profitability stemming from both cyclical and structural factors. Among the cyclical factors, the current subdued economic growth outlook and – by extension – the low interest rate and flat yield curve environment remain a key challenge for euro area banks' profitability. In addition, the large stock of unresolved non-performing assets in some parts of the euro area is also dampening profitability prospects and continues to weigh on banks' ability to extend new loans. Finally, structural challenges to profitability could also stem from overcapacity in some banking sectors.

Market sentiment about the prospects for the banking sector worsened at the turn of the year

A marked (but short-lived) deterioration in market sentiment towards the banking sector took place at the start of the year (see Chart 3.1). Rising risk aversion across global financial markets hit euro area banks' share prices particularly hard, as they fell close to previous lows in 2012. Certain segments of the bank credit markets, in particular that for contingent convertible bonds (CoCos), were also significantly affected. Euro area bank shares have recovered some of the losses since the trough in mid-February, although they have still underperformed UK and US peers since last December.

The substantial decline in bank equity prices largely reflected a re-evaluation of banks' profitability prospects in a low growth and interest rate environment.

This interacted with existing concerns about asset quality in parts of the banking sector owing to the unresolved legacy non-performing assets as well as with credit quality concerns relating to emerging market and commodity sector-related

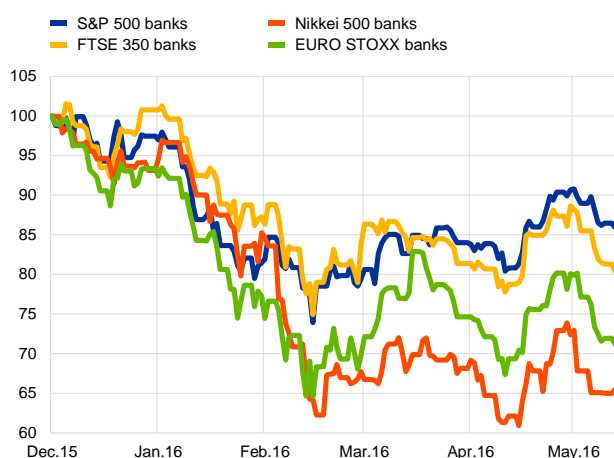
¹² The analysis in this subsection is based on data for up to 94 significant banking groups (SBGs) in the euro area. It should be noted that the sample of SBGs does not fully correspond to that of significant institutions that are under the direct supervision of the ECB. For instance, those significant institutions that are subsidiaries of other euro area SBGs or belong to non-euro area-based banking groups are not considered in the FSR analysis. For more details on the bank sample, see *Financial Stability Review*, ECB, November 2013, Box 5. At end-2015 SBGs accounted for over 95% of SSM significant institutions' total assets.

exposures, which also contributed to the negative sentiment. The market turmoil was exacerbated by uncertainty among investors regarding the implementation of bail-in rules that came into full effect in 2016, crystallising in a self-reinforcing negative spiral between credit and equity markets via the market for additional Tier 1 (AT1) instruments (possibly on account of a higher perceived risk of missed coupon payments).

Chart 3.1
Euro area bank shares have underperformed UK and US peers since last December

Bank equity indices for key regions

(1 Dec. 2015 – 13 May 2016; daily data)

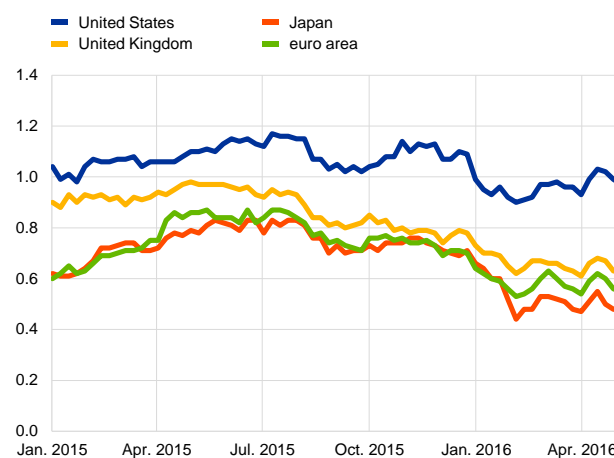


Sources: Bloomberg and ECB.

Chart 3.2
Euro area banks' price-to-book ratios remain well below those of US peers

Banks' price-to-book ratios in key regions

(1 Jan. 2015 – 13 May 2016; weekly data)



Sources: Bloomberg, Thomson Reuters Datastream and ECB.

Market scepticism regarding banks' earnings outlook pushed already depressed euro area bank price-to-book ratios down further. Market pessimism concerning banks extended to developed economies around the globe, implying a continuing wedge between euro area and US banks' price-to-book ratios, while euro area banks' valuations are more similar to those of their Japanese peers (see [Chart 3.2](#)). Apart from a challenging earnings outlook, low market valuations for euro area banks may also partly reflect the structural challenges euro area banks are facing in adjusting to a post-crisis intermediation model.

Banks' financial performance moderately improved in 2015, but the earnings outlook remains subdued

Euro area banks' profitability improved moderately in 2015 compared with 2014, yet it remains at low levels. This overall improvement was accompanied by a narrowing dispersion across banks, largely due to more pronounced improvements at the weaker-performing banks, albeit from negative or very low levels (see [Chart 3.3](#), left-hand panel). For a sub-sample of quarterly reporting SBGs, the evolution of quarterly profitability indicators signalled a weakening earnings momentum in the fourth quarter of 2015 (see [Chart 3.3](#), right-hand panel). While this partly reflects seasonal patterns, weaker results were also due to more difficult financial market

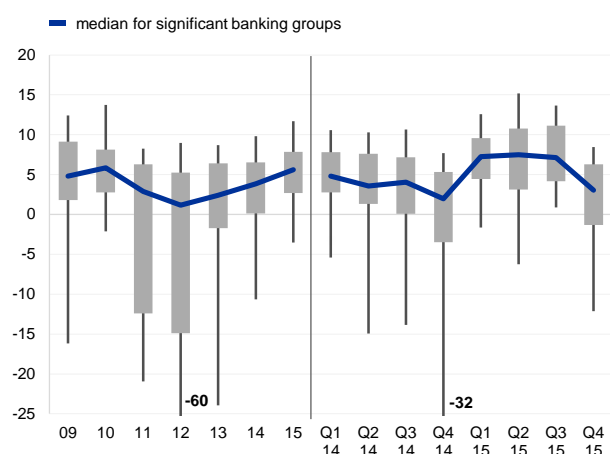
conditions, which weighed on both fee and trading income, as well as due to some decline in the positive contribution from net interest income.

Chart 3.3

Slight pick-up in euro area banks' profitability in 2015 as a whole, but weaker performance in the last quarter

Return on equity for euro area significant banking groups

(2009 – Q4 2015; percentages; 10th and 90th percentiles, interquartile range and median for SBGs)



Source: SNL Financial.

Notes: Based on publicly available data on significant banking groups. Annual and quarterly data are based on a sample of 79 and 43 SBGs respectively.

Chart 3.4

The increase in euro area banks' aggregate net profits was mainly driven by lower impairments and higher non-interest income

Decomposition of changes in euro area SBGs' net income

(2014-15; EUR billions)



Sources: SNL Financial and ECB calculations.

Note: Based on publicly available data for a sample of 83 euro area SBGs.

The annual increase in euro area SBGs' aggregate profits in 2015 was mainly driven by higher non-interest income and lower loan loss provisions.

The increase in net interest income also contributed to an improvement in profits, while higher operating costs had the opposite effect (see [Chart 3.4](#)). The positive effect of lower impairments was more pronounced, on average, at banks with high provisioning levels in 2014. Despite this improvement, impairments account for more than half of pre-impairment operating profits at a number of banks, thereby still dampening overall profitability. Furthermore, some banks located in countries most affected by the financial crisis, with still increasing non-performing loans (NPLs), recorded higher provisions pushing them into an overall loss.

This improvement notwithstanding, euro area banks' profitability remains at low levels mainly owing to the challenges for banks to increase revenues in a low nominal growth and low interest rate environment.

While both net interest and non-interest income increased in absolute terms, euro area SBGs' operating income as a percentage of total assets increased only slightly in 2015, in contrast with a more marked improvement in 2014.

Looking ahead, analysts have continued to revise down their expectations for banks' future profitability over the past twelve months.

The downward revision of return on equity (ROE) forecasts for euro area banks since mid-2015 was more pronounced than for peers in other EU countries and in the United States (see [Chart](#)

3.5). Accordingly, of all the major geographical regions, bank profitability levels are expected to be the lowest in the euro area.

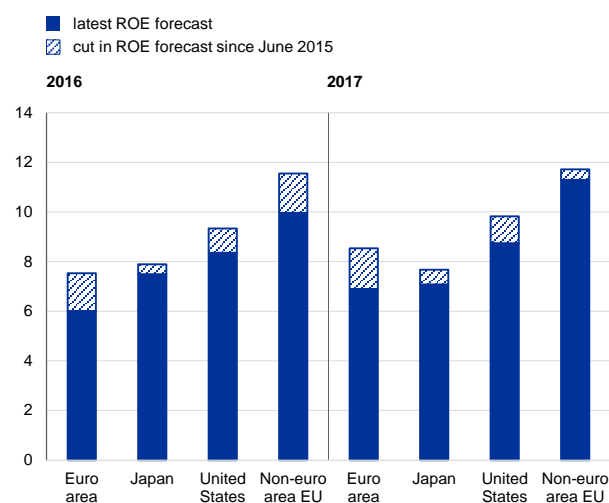
Earnings forecast downgrades for euro area banks were mainly driven by lower net interest income expectations. Since mid- 2015 analysts have lowered euro area banks' net income prospects for 2016 and 2017 by over 20% on average, possibly reflecting increased concerns about banks' ability to generate revenues in an environment of very low (or negative) interest rates as well as, in some cases, negative earnings surprises in the Q4 reporting season. Looking at forecasts for the main profit components, the prospects for net interest income – and to a lesser extent for fee income - worsened significantly for both 2016 and 2017, while somewhat higher provisioning cost expectations also contributed to the downgrade of 2016 net income forecasts (see **Chart 3.6**).

Chart 3.5

Profitability expectations down across the globe, but lowest for euro area banks

Analyst forecasts for 2016 and 2017 return on equity by region

(2016-17; percentages and percentage changes since June 2015)



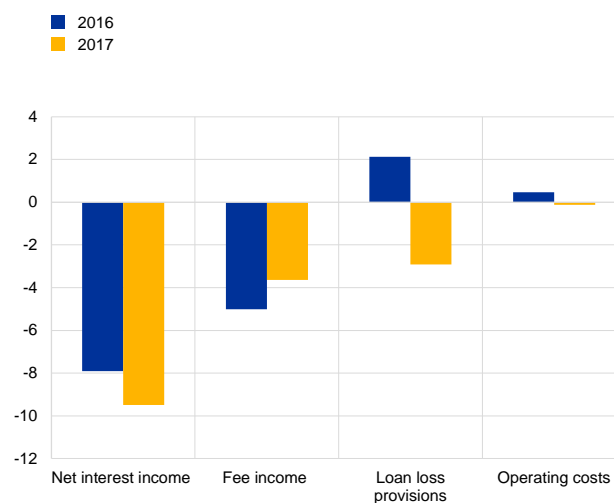
Sources: Bloomberg and ECB calculations.
Note: Based on consensus forecasts for listed banks by region.

Chart 3.6

Earnings forecast downgrades for euro area banks were mainly driven by the lowering of net interest income expectations

Analyst forecasts for the main components of euro area banks' net income for 2016 and 2017

(2016-17; percentage changes since June 2015)



Sources: Bloomberg and ECB calculations.
Note: Based on consensus forecasts for a sample of listed euro area banks.

Challenges for bank profitability stem from both cyclical and structural factors

First among the more cyclical factors, the current weak economic growth outlook and – by extension – the low interest rate and flat yield curve environment remain a key challenge for euro area banks' profitability. Despite some recovery in loan demand, lending growth remains subdued by historical standards which, coupled with continued pressure on margins, represents an important headwind for banks' net interest income. In a low interest rate

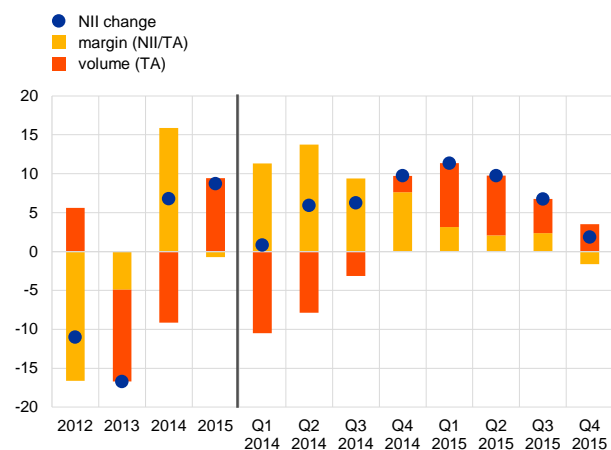
environment, high competition will continue to put downward pressure on lending rates, while deposit rates have little room to move lower, in particular on current account deposits, since they are hovering close to zero. As a result, margins will probably continue to narrow. That said, the positive impact of monetary policy accommodation – through increased credit volumes, lower impairment costs, capital gains on bond holdings as well as funding cost benefits from the second series of targeted longer-term refinancing operations (TLTRO II) – could help offset the pressure on margins.

Chart 3.7

Net interest income increased in 2015 as a whole mainly due to volume effects, while the margin effect was close to neutral

Decomposition of changes in euro area SBGs' net interest income

(2012-15; Q1 2014 – Q4 2015; EUR billions)



Sources: SNL and ECB calculations.

Notes: Decomposition of changes in annual and quarterly net interest income is based on aggregate data for 73 and 29 SBGs respectively. Quarterly data are annualised. NII stands for net interest income and TA for total assets.

Looking at recent developments, net interest income showed resilience in 2015 mainly as a result of positive volume effects, which more than offset the close-to-neutral margin effects.

This was in contrast with 2014 when positive margin effects (proxied by the ratio of net interest income to average total assets) dominated negative volume effects (measured by changes in average total assets). A similar decomposition of (year-on-year) changes in quarterly net interest income, albeit for a smaller sub-sample of SBGs, reveals that the positive margin effect on net interest income has gradually eroded since the last quarter of 2014 (see [Chart 3.7](#)). This is consistent with patterns usually observed in a low interest rate environment where funding cost declines initially outweigh the compression of asset yields, but their favourable impact fades away, the longer rates remain at very low levels.

Going forward, the impact of low/negative rates on bank profitability will vary due to differences in banks' ability to reprice deposits, in the interest rate sensitivity of their assets as well as in the

relative share of net interest income. Banks in countries with already low average deposit rates have less room to reprice, especially where the share of current account deposits is higher than average. Regarding asset repricing, the impact of low rates could be more immediately felt in countries with predominantly floating rate (mortgage) lending. Nevertheless, banks' margins in fixed rate countries could also be negatively affected in the longer term as a result of mortgage loan renegotiations, which significantly increased in some countries in 2015, although in the short term this is offset by prepayment fees. Finally, banks or banking sectors with a higher reliance on net interest income for revenue generation will be more affected by the impact of low rates on margins.

Part of the pressure on net interest income can be offset by higher non-interest income, although its positive impact on profits diminished in the second half of 2015. The median ratio of fee income to total assets edged up in 2015 compared with a year earlier, mainly reflecting an increased contribution from investment service-related fees (in particular asset management). The growth in net

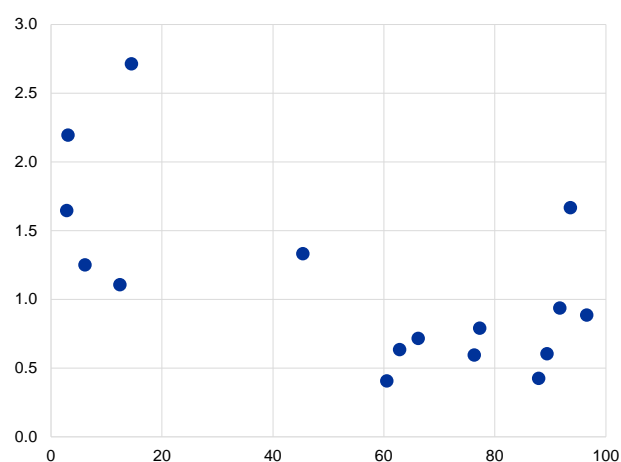
fee and commission income halted in the second half of 2015, however, partly due to a drop in investment fund inflows. Similarly, corporate and investment banking-related fees (e.g. those related to debt and equity issuances) dwindled in the last two quarters of 2015 on account of higher volatility in financial markets.

Chart 3.8

Room for deposit and mortgage repricing varies across countries, with some facing margin pressure from both sides

Share of variable rate mortgages and average deposit rates in euro area countries

(x-axis: share of floating rate mortgages, 2015; y-axis: average deposit rate, March 2016; percentages)



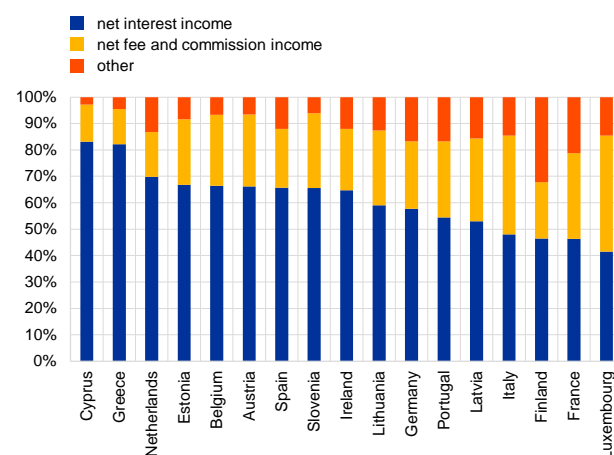
Sources: ECB and ECB calculations.
Note: Average deposit rate on outstanding amount of household and corporate deposits with agreed maturity.

Chart 3.9

Reliance on net interest income varies across countries, with some countries benefiting from the higher share of fee income

Banks' income structure in euro area countries

(Q1 2015 – Q3 2015; percentages)



Source: ECB consolidated banking data.
Note: Country-level data are based on domestic banking groups and stand-alone banks, foreign (EU and non-EU) controlled subsidiaries and foreign (EU and non-EU) controlled branches.

Banks' trading income followed a similar pattern, with an improving first half contrasting with weaker trading results in the third and fourth quarters of 2015.

The drop in the second half of 2015, while partly seasonal, came against the backdrop of worsened financial market conditions. Moreover, indicators of financial and capital market activity in the first two months of 2016 suggest the continuation of this trend into the first quarter, unlike in previous years when trading results were typically the strongest in this period.

A second cyclical challenge is related to increased profitability risks stemming from banks' emerging market economy (EME) and energy exposures.

While exposures to these vulnerable regions and sectors remain contained on aggregate, further deterioration in some vulnerable EMEs and in the commodity sector also has the potential to weaken some euro area banks' profitability, for instance through reduced revenues and higher credit losses (see the part on asset quality for more details).

Turning to structural factors, higher capital requirements and the resultant lower leverage have contributed to a downward shift in bank profitability since the crisis. Taking a longer-term view, a decomposition of return on equity into its constituent parts (i.e. return on assets and leverage) shows that falling leverage has

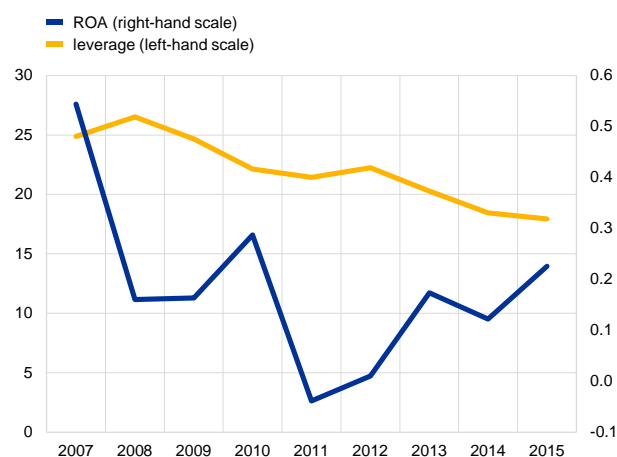
contributed to a decline in banks' return on equity since 2008 (see [Chart 3.10](#)). At the same time, banks' return on assets (ROA) has recovered somewhat from its low in 2012, but remains well below its pre-crisis level.

Chart 3.10

Lower leverage contributes to structural decline in profitability, while underlying profitability is still subdued amid flat revenues

Return on assets and leverage of euro area banks

(2007-15; percentage, multiple; weighted averages)



Source: SNL Financial.
Note: Based on aggregate data for a sample of 63 SBGs.

Furthermore, a large stock of non-performing assets in certain banking sectors continues to dampen the profitability prospects of banks. The high stock of NPLs weighs on banks' capacity to extend new loans (see [Chart 7](#) in the Overview), thereby limiting credit volume growth, while it also ties up operational capacity and involves legal as well as administrative costs. In turn, weak profitability and the reduced capacity for internal capital generation constrains banks' ability to more decisively deal with NPLs, for instance by significantly raising coverage ratios (see the next part for more details on asset quality challenges).

In addition, a number of banks are still in need of adapting their business models to the new operating environment characterised by stricter regulatory requirements as well as low interest rates. Banks' responses will differ depending on, among other things, the extent to which their business activities are diversified, the scope to further increase cost efficiency or the competitive situation in the

national banking sectors they operate in. Given the cyclical profitability challenges arising from the low interest rate environment, banks will be incentivised to diversify revenue sources, in particular by increasing the share of fee and commission income. Banks may also look to further increase their cost efficiency, for instance by changing operating models and improving multichannel distribution capacities and IT systems (see Special Feature C for a detailed discussion).

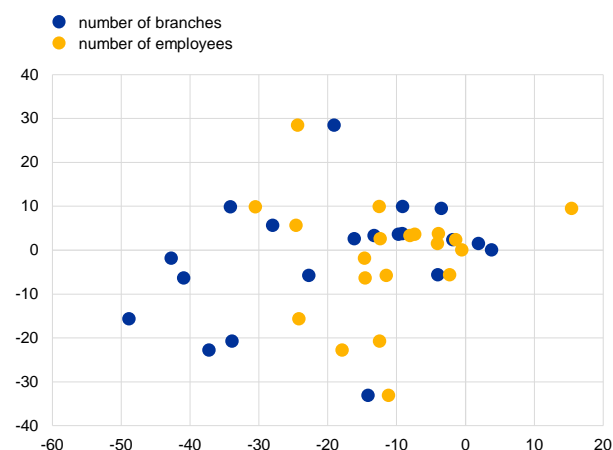
Amid continued pressure on revenues and the increased threat from non-bank competitors (e.g. fintech companies), cost containment remains a priority for banks in order to preserve overall profitability. That said, euro area banks in general made little progress in achieving cost-efficiency gains in 2015, with the median ratio of operating costs to total assets edging up and the median cost-to-income ratio unchanged from a year earlier. For banks experiencing a deterioration in cost-efficiency indicators, reasons include one-off contributions to the national resolution fund (in the case of Italian banks) or higher restructuring costs as part of the implementation of new business strategies in the case of some banks. Some banks have announced ambitious cost-cutting targets as part of their restructuring plans that, among other things, involve a rationalisation of the retail branch network, also as a response to increased customer demand for the use of banking services via digital platforms.

Chart 3.11

Branch network rationalisation and headcount reductions brought efficiency gains in some euro area banking sectors

Change in the number of bank branches/employees versus the change in the cost-to-income ratio in euro area countries

(2009-14; x-axis: change in the number of branches (blue) and employees (yellow); percentage changes; y-axis: change in the cost-to-income ratio; percentage point changes)



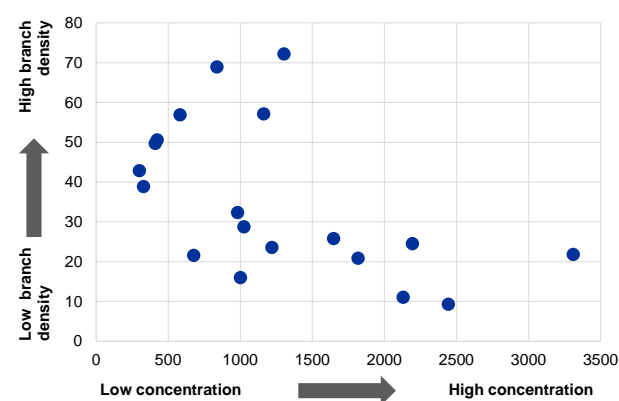
Sources: ECB and ECB calculations.

Chart 3.12

Low market concentration and high branch density in some countries suggest there is scope for efficiency gains from consolidation

Market concentration and branch network density in euro area countries

(2014; x-axis: Herfindahl-Hirschman index; y-axis: number of bank branches per 100,000 people)



Source: ECB.

Structural challenges to profitability could also arise from overcapacity in some banking sectors. Indicators of market concentration, cost efficiency and capacity suggest that the euro area banking sectors have become less concentrated and somewhat improved their cost efficiency since the financial crisis. Branch network rationalisation and headcount reductions since the financial crisis have brought some improvement in banks' cost-to-income ratios, but not in all cases (see [Chart 3.11](#)), suggesting that cost-cutting alone is not sufficient to achieve lasting cost-efficiency gains. Significant differences in market concentration remain across countries, however, with some banking sectors characterised by low market concentration and/or a high branch network density (see [Chart 3.12](#)). While low market concentration in some cases is a reflection of structural features of the banking sector (e.g. the important role of savings or cooperative banks), it could also hinder the recovery of bank profitability¹³.

In more fragmented banking systems, further consolidation could bring some profitability benefits at the sector level by increasing cost and revenue synergies. Low market concentration coupled with above-average cost-to-income ratios in some banking sectors suggest that there is scope for efficiency gains from consolidation without exacerbating “too-big-to-fail” problems. In this respect, initiatives taken at a national level to improve corporate governance in some

¹³ According to ECB analysis, there is some empirical evidence that euro area banks operating in less concentrated markets tended to be less profitable in the period between 1991 and 2013. See *Financial Stability Review*, ECB, May 2015, Special Feature A. At the same time, in countries with a high level of concentration (for instance, with a Herfindahl-Hirschman index of at least 2500), monopoly power may trigger concerns about the level of competition.

segments of the euro area banking sector – such as the reform of *popolari* banks and the Banche di Credito Cooperativo (BCC) in Italy – could help create a more favourable environment for mergers. Despite some recently announced, bigger-scale mergers in the German cooperative and Italian *popolari* sectors, overall progress in bank consolidation, in particular across borders, remains limited to date.

Box 4

Financial stability vulnerabilities stemming from cyber risks within financial market infrastructures

A convergence of globalisation and digitalisation has created a financial ecosystem and operational network which is increasingly interconnected and interdependent. In this context, computing and digitalisation are becoming increasingly pervasive. Notwithstanding the many benefits this has brought, this convergence has also increased the susceptibility to cyber attacks.¹⁴ There is a trend towards more frequent and severe cyber attacks, and the composition of the attacks is changing amid growing digitalisation, both of which have financial stability implications. In particular, material financial stability risks might stem from individual systemically important firms or from any prospect of excessive financial market volatility.

One key area of financial stability concern regarding cyber attacks is their potential to disrupt financial market infrastructures (FMIs). Indeed, such infrastructures have become increasingly interconnected and interdependent as an operational network with several critical nodes, as well as harbouring large amounts of confidential data. Such attacks could, in this way, seriously undermine confidence and trust in the financial system. On a daily basis, this network delivers financial intermediation between market participants and end-users, whether the transmission of salaries through FMIs or the settlement of central bank/market transactions through a web of payment and settlement systems, clearing houses, settlement banks and custodians. In a recent survey on critical infrastructures, 48% of respondents found it likely that a cyber attack will take down their critical infrastructure¹⁵; one study has estimated that cyber crime costs the global economy some USD 400 billion in annual losses¹⁶; and another study reveals that 83% of financial service organisations experience more than 50 network attacks per month and take an average of 98 days to identify an attack.¹⁷

Over the last decades, there has been a marked increase in both the frequency and severity of cyber attacks. According to a study by PricewaterhouseCoopers, the number of detected cyber attacks increased sharply during 2015, up by 38%.¹⁸ As recently as 15 years ago, cyber attacks were fairly rudimentary and typically the work of “hacktivists”. However, this appears to be changing with increasing interconnectivity, globalisation and what could be termed a commercialisation of cyber crime.

¹⁴ See the top 10 global risks listed in [Global Risks](#), World Economic Forum, 2015.

¹⁵ [McAfee Labs 2016 Threats Predictions](#) report.

¹⁶ [Net Losses: Estimating the Global Cost of Cybercrime](#), Center for Strategic and International Studies and McAfee, June 2014.

¹⁷ “Risk & Innovation in Cybersecurity Investments”, Ponemon Institute, 2015.

¹⁸ [The Global State of Information Security Survey 2016](#), PricewaterhouseCoopers.

Amid this growing volume of cyber attacks, there has been an evolution in the nature and motivations of the threat actors and their levels of sophistication. The actors have changed significantly over recent years. They range from state-sponsored groups, nation-state proxies, terrorist groups and private enterprises/corporations, to cyber criminals, hacktivists, insiders and lone actors. The nature of the agent attacking an organisation will determine both its objectives and its sophistication. This, in turn, will be reflected in the persistence and breadth of the attack (in terms of the type of hacking tools and resources deployed and the time taken to compromise the organisation). The Threat Landscape 2015 report of the European Union Agency for Network and Information Security (ENISA) notes a number of attack types (e.g. advanced persistent threat attacks), each of which is composed of a number of tactics and tools, such as malware, phishing and denial of service.¹⁹

Alongside the growing volume and changing nature of attacks, there has been an increasing trend towards digitalisation, thereby increasing the cyber attack surface. More users, data, devices, clouds and network traffic will increase the number of potential routes for attacks; and to further complicate matters, much of this technological advancement will be interlinked with existing IT systems within key financial market participants. Within this complex technological web, a proliferation of threats and vulnerabilities is also likely, notably for critical nodes in the financial system such as FMIs.

All in all, the regulatory response amid a growing prevalence of digitalisation in the financial system recognises both the benefits and the potential vulnerabilities. Digital platforms create more efficient, transparent and in many ways complete global markets. This innovation opens up new possibilities for strengthening economic growth, but these developments must flourish within a safe, efficient and robust financial system. Initiatives are under way to ensure adequate monitoring of these risks across all key financial market players.²⁰ When it comes specifically to FMIs, global regulators have already initiated efforts to tackle cyber risk, for example by developing the CPMI-IOSCO's Guidance on cyber resilience for financial market infrastructures.²¹ Taken together, these initiatives should ensure that regulators, overseers and supervisors of FMIs contribute to strong cyber resilience capabilities, enhance sector resilience and information-sharing and, more generally, foster cooperation and coordination on cyber risks among central banks and other relevant authorities.

Unresolved legacy assets weigh on new lending, while new credit quality concerns emerge in some regions/sectors

The large stock of unresolved non-performing assets in some parts of the euro area not only contributes to profitability challenges, but also weighs on banks' capacity to provide new loans. Resolving non-performing loans is key to freeing up banks' capital, restructuring the non-financial sector and reviving lending to the

¹⁹ [ENISA threat landscape: top 15 cyber threats 2015](#).

²⁰ For banks, the SSM has indeed identified IT and cyber crime risk as a [key supervisory priority](#) for 2016.

²¹ [Guidance on cyber resilience for financial market infrastructures](#), Committee on Payments and Market Infrastructures/Board of the International Organization of Securities Commissions, November 2015.

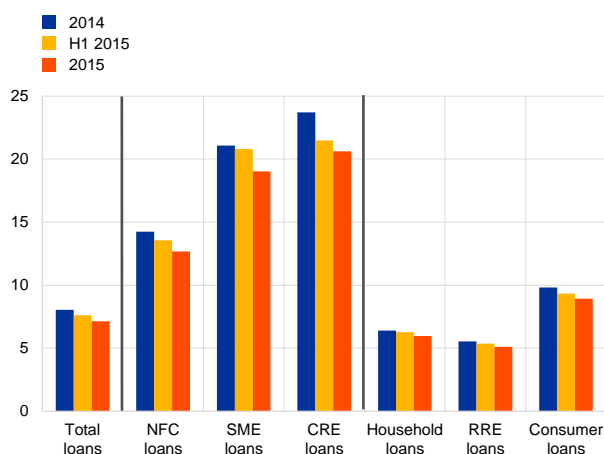
economy. However, progress in removing NPLs from balance sheets remains limited in particular in some of the countries with the highest NPL ratios.

Chart 3.13

Banks' asset quality slightly improved in the second half of 2015, but non-performing loan ratios remain elevated in the SME sector

Non-performing loan ratios of significant banking groups in the euro area, by sector and loan type

(2014-15; percentage of loans; weighted average across SBGs)



Source: ECB.

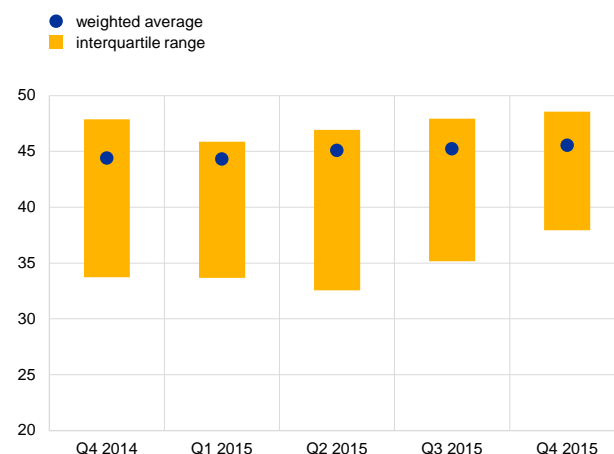
Notes: Non-performing loan ratios are shown only for selected sectors/loan types. CRE and RRE stand for commercial real estate and residential real estate respectively.

Chart 3.14

Coverage ratios slightly improved in the second half of 2015 on aggregate, with more pronounced increases in countries with below-average provisioning coverage

Coverage ratios of significant banking groups in the euro area

(Q4 2014 – Q4 2015; percentages)



Source: ECB.

Notes: Based on country aggregates for SBGs. Coverage ratio is defined as the ratio of accumulated impairments on NPEs to total NPEs.

Looking at recent trends, euro area banks' asset quality slightly improved in the second half of 2015 mainly driven by a decline in non-performing loan ratios in the corporate sector. The aggregate non-performing exposure (NPE) ratio for SBGs (for loans and advances) dropped to 7.1% at end-2015 from 7.6% in June 2015. The rate of NPE reductions picked up in this period, with a 4% decline in the second half of 2015 compared with only 1% six months earlier. In some cases, however, the reductions in NPEs were partly offset by an increase in foreclosed assets. Despite improvements in the second half of last year, NPE ratios continue to be the highest for SME and commercial real estate (CRE) loans (see [Chart 3.13](#)). The quality of household loan portfolios improved only modestly, with aggregate NPE ratios for residential mortgage and consumer loans standing around 5% and 9% at end-2015, respectively.

Similarly, the coverage of non-performing loans by loan loss reserves improved slightly in the second half of 2015. The aggregate ratio of reserves to NPEs (for loans and advances) edged up from 45% in the second quarter of 2015 to 46% at end-2015 and the dispersion across countries narrowed somewhat. This was, in particular, due to improved coverage ratios in countries where banks have below-average provisioning coverage (see [Chart 3.14](#)). Coverage ratios vary across loan types, with collateralised loans expectedly showing the lowest NPE coverage (27% for residential mortgage loans, 36% for CRE loans). At the other end of the

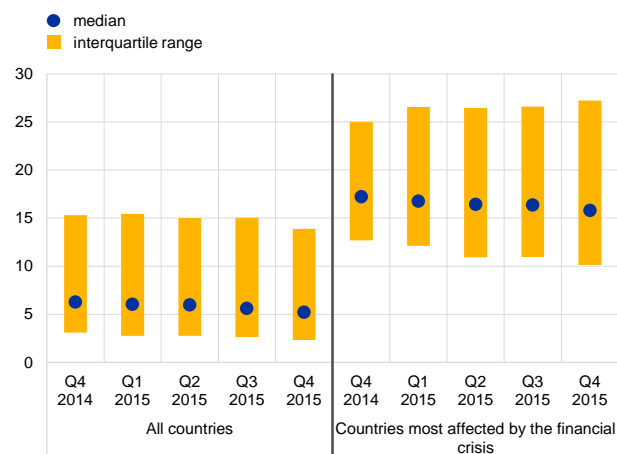
spectrum, non-performing consumer loans have the highest provisioning coverage with 65%.

Chart 3.15

Banks' NPE ratios remain persistently high in some vulnerable countries

Non-performing loan ratios of significant banking groups in the euro area

(Q4 2014 – Q4 2015; percentage of loans; median and interquartile range for SBGs)



Source: ECB.

Note: Euro area countries most affected by the financial crisis include Cyprus, Greece, Ireland, Italy, Portugal, Slovenia and Spain.

Despite recent modest improvements, NPE levels remain persistently high in some jurisdictions, pointing to a lack of progress in the clean-up of balance sheets.

Within the group of countries that were the most affected by the financial crisis, dispersion widened across banks in terms of asset quality in the second half of 2015. While banks in some countries (notably Spain and Ireland) managed to reduce their NPEs, a number of banks in other vulnerable countries saw their NPE ratios rise further (see [Chart 3.15](#)). In another sign of persistently high NPLs, the share of NPEs that are past due by more than one year represented 58% of SBGs' NPEs at end-2015, on average, up from 52% a year earlier.

The results of a bank-level early warning model developed by ECB staff suggest that remaining bank-specific vulnerabilities are, in most cases, linked with weak asset quality of euro area banks.

The latest results of the model show that the aggregate forward-looking distress probability for euro area banks decreased further in the last quarter for which data are

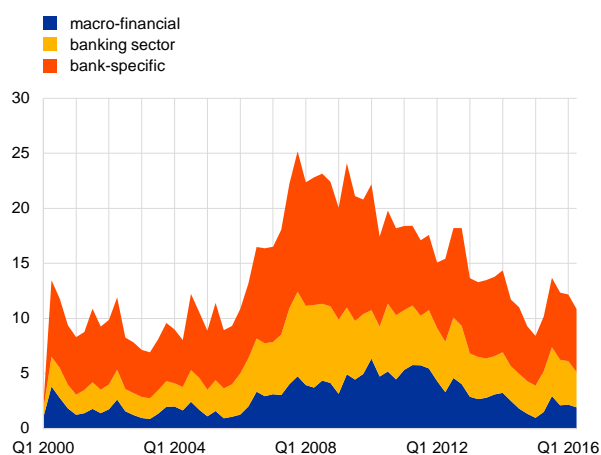
available and remains well below the peaks reached during 2007 (see [Chart 3.16](#)). A decomposition of the latest distress probabilities into contributing factors suggests that remaining fragilities in the euro area banking sector are mainly linked to bank-specific and country-level banking sector factors, while macro-financial factors, such as house prices or government bond yields, play a lesser role in most countries. Changes in bank-level distress probabilities suggest a fair degree of heterogeneity across banks (see [Chart 3.17](#)). In fact, distress probabilities increased for some banks that were partly linked to a further worsening of asset quality.

Chart 3.16

Euro area banks' probability of distress within the next two years remains well below the peaks reached during 2007

Aggregate distress probability for euro area banks

(Q1 2000 – Q2 2016; percentage probability 1-8 quarters ahead; y-axis: weighted average distress probability)



Source: ECB calculations.

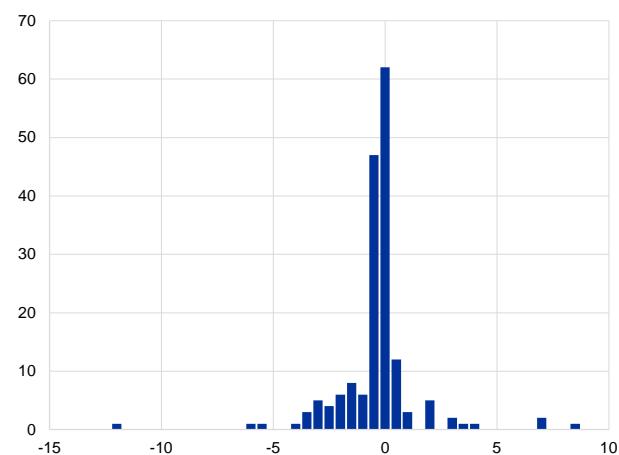
Notes: The results are based on a bank-level logit model with 11 risk drivers, built to indicate bank distress probabilities with a prediction horizon of one-to-eight quarters ahead. Bank distress events encompass bankruptcies, defaults, liquidations, state-aid cases and distressed mergers. The aggregation is done by weighting the bank-specific distress probabilities by the respective banks' shares in aggregate euro area bank assets. The decomposition of individual distress probabilities into the different factors is done by using the (relative) distress probabilities that would prevail if all other variable blocks were set to their mean values. All results are derived from publicly available information. Further details about the underlying method and dataset can be found in Lang, J. H., Peltonen, T. and Sarlin, P., "A framework for early-warning modeling with an application to banks", *Working Paper Series*, ECB, forthcoming.

Chart 3.17

Changes in bank-level distress probabilities also signal an improvement, although not for all banks

Changes in bank-level distress probabilities

(Q4 2015 – Q2 2016; percentage changes; x-axis: number of banks; y-axis: change in distress probability between Q4 2015 and Q2 2016)



Source: ECB calculations.

Notes: The results are based on a bank-level logit model with 11 risk drivers, built to indicate bank distress probabilities with a prediction horizon of one-to-eight quarters ahead. Bank distress events encompass bankruptcies, defaults, liquidations, state-aid cases and distressed mergers. The aggregation is done by weighting the bank-specific distress probabilities by the respective banks' shares in aggregate euro area bank assets. The decomposition of individual distress probabilities into the different factors is done by using the (relative) distress probabilities that would prevail if all other variable blocks were set to their mean values. All results are derived from publicly available information. Further details about the underlying method and dataset can be found in Lang, J. H., Peltonen, T. and Sarlin, P., "A framework for early-warning modeling with an application to banks", *Working Paper Series*, ECB, forthcoming.

In countries with systemic NPE issues, the high level of unresolved legacy problem assets weighs on banks' profitability and it also holds back new lending. The high stock of NPLs weighs on credit conditions, as illustrated by the positive relationship between country-level NPE ratios for NFC loans and NFC lending rates (see [Chart 3.18](#)). In a similar vein, banks with higher NPLs tend to lend less, as shown by the lower (negative) median loan growth in the worst two NPE ratio quartiles (see [Chart 7](#) in the Overview).²²

This highlights the need for more rapid progress in NPL resolution, as NPL sales and write-offs remained moderate. The rate of NPL sales and write-offs picked up somewhat in 2015 in the euro area, although progress remained rather uneven across countries. While recent advances in the legal framework (e.g. by improving insolvency procedures) as well as other measures to facilitate more effective NPL resolution (such as the guarantee scheme for the securitisation of NPLs and the establishment of Fondo Atlante in Italy) are welcome developments in this regard, further significant progress is needed in some countries to bring NPLs down to manageable levels. Faster progress is partly made difficult by the limited

²² Apart from large NPEs, other factors such as high credit risk in some countries and sectors may also dampen credit growth.

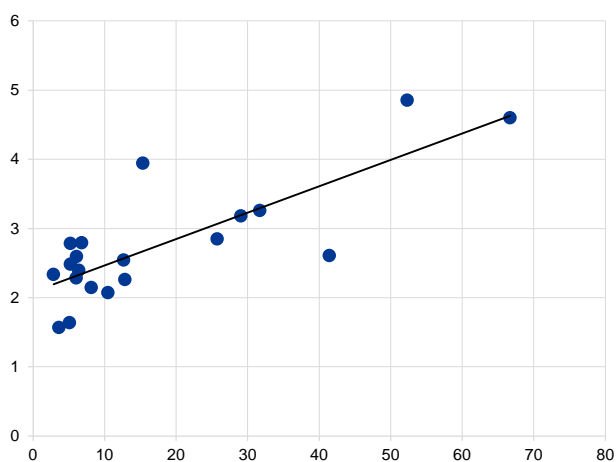
buffers some banks have against further credit losses, as indicated by still high Texas ratios (see [Box 5](#)). While a number of banks have a significant amount of collateral behind NPEs, over-reliance on the expected recovery of collateral values might also be a disincentive to accelerating the reduction of NPEs.

Chart 3.18

High NPL rates in some countries continue to weigh on credit conditions

Interest rates on loans to NFCs versus NPE ratios on NFC loans in euro area countries

(percentages; NFC NPE ratios in Q4 2015 (x-axis) and NFC lending rates in March 2016 (y-axis))



Source: ECB.

The resolution of the large post-crisis NPE overhang in some euro area countries requires a comprehensive strategy involving coordination of all relevant stakeholders.

That said, there is no single one-size-fits-all solution to the NPE problem and efficient policy for NPE resolution needs to consider the country-specific economic conditions and operational environment, including the impediments to effective resolution. A comprehensive strategy should include, among other things, measures aiming to improve the legal environment relevant for NPE workouts, for instance by introducing efficient personal and corporate insolvency frameworks as well as speeding up debt recovery. In parallel, banks burdened with high NPEs should strengthen internal workout capabilities and, if needed, use the external expertise of distressed asset managers. Authorities should support the development of an NPE servicing industry and of an efficient NPE market, as well as the carve-out of specific NPE portfolios and their transfer to special-purpose vehicles (SPVs) or their outright sale on the market.

Beyond the challenges arising from legacy problem assets, some euro area banks are faced with rising credit quality concerns relating to their exposures to emerging economies and commodity sectors.

Credit risks emanating from exposures to EMEs have increased materially since late 2015, amid a further weakening in economic growth prospects in a number of EMEs. While backward-looking indicators of banks' asset quality showed only a gradual deterioration in 2015 in most of the larger EMEs (see [Box 1](#)), elevated debt servicing ratios, coupled with the worsening of borrowers' debt servicing capacity, suggest that banks with significant exposures to EMEs face the prospect of a further deterioration in asset quality in the period ahead. Credit quality trends diverged somewhat in 2015 between the EME regions where euro area banks are most exposed, with a modest deterioration in Latin America contrasting with an improvement of loan quality in emerging Europe (see [Chart D](#) in [Box 1](#)). In other EME regions, euro area banks' aggregate exposures to emerging Asia, the Middle East and North Africa and the Commonwealth of Independent States remain relatively contained, with an above-average NPL ratio in the latter two regions.

Euro area banks' exposure to commodity firms appears manageable on aggregate, but there is a wide dispersion across banks, with some institutions facing higher earnings risk related to these exposures.

For a sample of large euro area banks disclosing data on their commodity exposures (including to oil/gas

as well as metals and mining sectors), these account for around 35% of tangible equity on average, with individual exposures falling within a wide range of less than 10% to around 70%. Regarding the main structural features of euro area banks' energy/commodity exposures, the share of investment-grade exposures is typically over 60% (unlike for US regional banks which have a higher share of non-investment-grade exposures), while exposures with higher oil price risk (i.e. exploration and production) typically account for less than one-third of the total. Elevated earnings risk from these exposures is also reflected in higher loan loss expectations for these banks by analysts, albeit less so than for US counterparts. Nevertheless, banks with a higher concentration of exposures to riskier commodity segments face the risk of higher loan losses, in particular under a more adverse scenario of persistently low oil prices.

Box 5

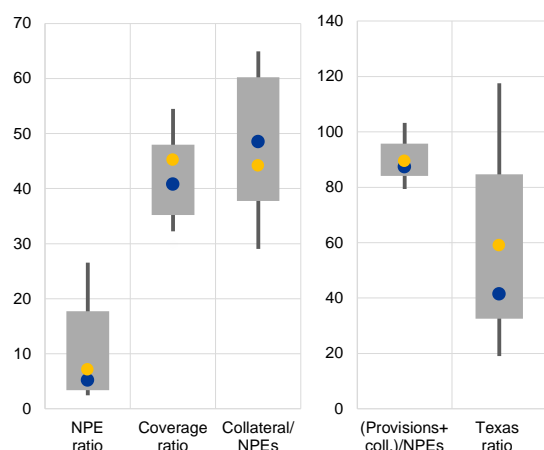
Latest indicators of euro area bank asset quality

Chart A

NPE ratios remain at rather elevated levels in euro area countries most affected by the financial crisis, although credit risk is partly mitigated by higher collateralisation

Distribution of country-level asset quality ratios in the euro area

(Q4 2015; percentages; median (blue), weighted average (yellow), 10th and 90th percentiles and interquartile range)



Sources: ECB and ECB calculations.

Note: Based on country aggregates calculated for significant institutions.

Euro area banks' asset quality has remained in the focus of both supervisors and market participants as banks' balance sheets in some countries are still burdened with a high level of non-performing exposures (NPEs).

Large public disclosures, including those associated with the ECB's comprehensive assessment and the European Banking Authority (EBA) 2015 transparency exercise, have helped to clarify the nature and extent of these NPEs. While euro area banks' solvency positions have improved significantly over the past few years, the NPE overhang remains a drag on banks' profitability and weighs on their ability to extend new loans. Against this background, this box presents an updated overview of the scale of the NPE problem in the euro area based on the latest supervisory data on NPEs, provisioning and collateral, and it also discusses some structural features that affect the speed of NPE resolution.

Euro area banks' NPE ratios remain elevated by international comparison and the high

level of NPEs continues to be a key challenge for the financial system. Euro area significant institutions held nearly €950 billion of NPEs at the end of 2015, equivalent to about 9% of euro area GDP. Euro area significant institutions' average NPE ratio, at 7.1%, is high by international standards and clearly exceeds those of US and UK peers.²³ NPE ratios vary widely across the euro

²³ The average non-current loan ratio (a proxy for the NPE ratio) of US banks stood at 1.5% at the end of 2015, while the average NPE ratio of UK banks participating in the EBA transparency exercise was 3.2% (based on data for the first half of 2015).

area, but remain at rather elevated levels in the majority of vulnerable countries. Within this country group, the median NPE ratio stood just below 20% at end-2015, but this group of countries itself is heterogeneous as indicated by a wide interquartile range between 18% and 34%.

The coverage ratio, as measured by loan loss reserves as a proportion of NPEs, stood at 45% on average for euro area significant institutions, but with considerable variation across countries. In some high NPE countries, provisioning levels remain at or even below the euro area average. Relatively low coverage ratios in these countries can be an impediment to more effective NPE resolution as they can contribute to wide pricing gaps between potential buyers and sellers of NPEs.

Relatively low provisioning coverage in some high NPE countries may partly reflect the higher collateralisation of loans and NPEs. The average ratio of collateral and guarantees to NPEs for euro area significant institutions was 44% at end-2015, although with significant differences across countries (see left-hand panel of Chart A). Countries that record high NPEs typically have a relatively high ratio of collateral and financial guarantees to NPEs, where collateral represents a much higher share than guarantees. The broad coverage ratio adjusted for collateral and guarantees on average stood at around 90% at end-2015, with the majority of vulnerable countries recording above-average values. At the same time, weak debt enforcement frameworks in some high NPE countries raise the cost of debt recovery and lengthen the time needed to repossess collateral.

Asset quality in the United States is often assessed by the so-called Texas ratio. The Texas ratio is a simple metric of bank balance sheet health which compares problem loans with the financial resources a bank has to absorb (further) losses from its troubled assets. It is typically defined as gross non-performing loans (NPLs) over tangible equity and loan loss reserves. The average Texas ratio for euro area significant institutions stood just below 60% at the end of last year, with some countries recording values above 100% (see right-hand panel of Chart A). Euro area banks' average Texas ratio is well above both the current level for US banks (below 10%) and the value measured in the first quarter of 2010 (31%) when NPL ratios peaked in the United States.

The persistence of high NPEs in the euro area, which stands in stark contrast to the rapid resolution of NPEs in the United States, partly reflects different structural features between the two regions and the relatively greater obstacles to effective NPE resolution in the euro area.²⁴ First, the important role of government-sponsored entities (GSEs) in the US mortgage market²⁵ implied that a significant part of residential mortgage-related NPLs were booked outside banks' balance sheets. Second, regulatory requirements that provide an overlay to accounting standards in the United States oblige banks to write down loans to the recoverable value of collateral after six months as well as to suspend interest income on NPLs once the loan is 90 days past due. By contrast, accounting standards in the European Union tend to lengthen write-offs or

²⁴ For a detailed overview of obstacles to effective NPE resolution in EU countries, see *Financial Stability Review*, ECB, May 2015, Special Feature C.

²⁵ In 2009 the two large GSEs (Fannie Mae and Freddie Mac) owned or guaranteed roughly half of all outstanding mortgages in the United States (including a significant share of sub-prime mortgages).

provide a disincentive to remove NPLs from the balance sheet.²⁶ Third, the unfavourable tax treatment of loan loss provisions and write-offs in several EU countries (e.g. tax deductions for loan loss provisions and write-offs have been or are still subject to a cap) provides a disincentive for quicker loan loss recognition and write-offs.²⁷ Fourth, the prevalence of non-recourse mortgages in many US states creates additional incentives for the timely resolution of NPLs. Finally, despite some recent pick-up in NPL disposals to third-party investors, the distressed debt market in the European Union remains small compared with that in the United States.

High levels of NPEs continue to be a key macroprudential concern in the euro area and progress in NPE resolution remains slow. However, in addition to harmonised data on NPE and coverage ratios, data on the collateral and guarantees behind these NPEs are important to assess asset quality figures. This latter information is a useful complement given the structural features of euro area banks' loan books, though it should be acknowledged that the lengthy and complex process to repossess collateral in some euro area countries may have negative implications for the recovery value of NPEs and collateral. Furthermore, the comprehensive analysis of asset quality problems should also account for structural factors that affect the speed of NPE resolution. In particular, the international comparison of asset quality indicators needs to be made with care given the important differences in features notably of an accounting, supervisory (provisioning and write-off rules), fiscal and structural nature. This also highlights the need for further progress in strengthening the operational environment for NPE resolution at both the country and European levels.

Bank capital positions improved further

Banks' solvency ratios improved further in the second half of 2015, helped by both increases in capital and risk-weighted asset declines. Euro area SBGs' common equity Tier 1 (CET1) ratio increased further in the last two quarters of 2015, both on a phased-in and fully loaded basis (see [Chart 3.19](#)). The improvement in banks' phased-in CET1 ratio was mainly driven by increases in CET1 capital, on aggregate, in particular in the last quarter of 2015 (see [Chart 3.20](#)). Risk-weighted asset declines, on average, had a positive but diminishing role in improving solvency ratios.

²⁶ For instance, International Financial Reporting Standards (IFRS) do not provide detailed guidance on write-off rules which in some cases forces banks to follow the stricter rules for loan cancellation, thereby lengthening the process of removing NPLs from the balance sheet. Furthermore, the accounting treatment of interest income allows banks to recognise interest on certain categories of NPLs, thereby providing a disincentive for resolving NPLs. Looking ahead, IFRS 9 (to be implemented from 2018) will include a clear definition of write-off that is different from loan cancellation. Under IFRS 9, banks are expected to write off loans earlier, opening the way for possible corporate restructuring or liquidation.

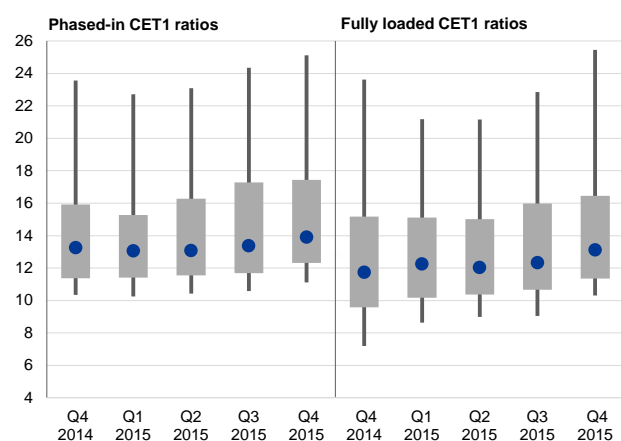
²⁷ In this respect, the implementation of IFRS 9 from 2018, where the accounting treatment of impairments is based on the expected loss principle, will help overcome some of these issues.

Chart 3.19

Solvency ratios improved in the second half of 2015

Phased-in and fully loaded common equity Tier 1 capital ratios of significant banking groups in the euro area

(Q4 2014 – Q4 2015; percentages; 10th and 90th percentiles, interquartile distribution and median)



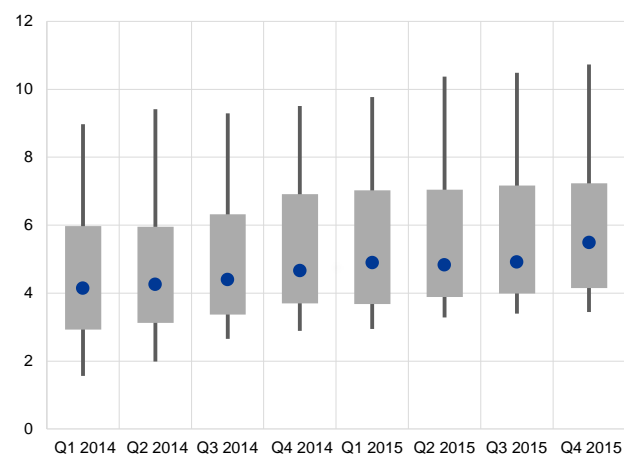
Source: ECB.

Chart 3.21

Leverage ratios edged up further, with the large majority of banks above 4%

Fully loaded Basel III leverage ratios of significant banking groups in the euro area

(Q1 2014 – Q4 2015; percentages; medians and interquartile ranges)



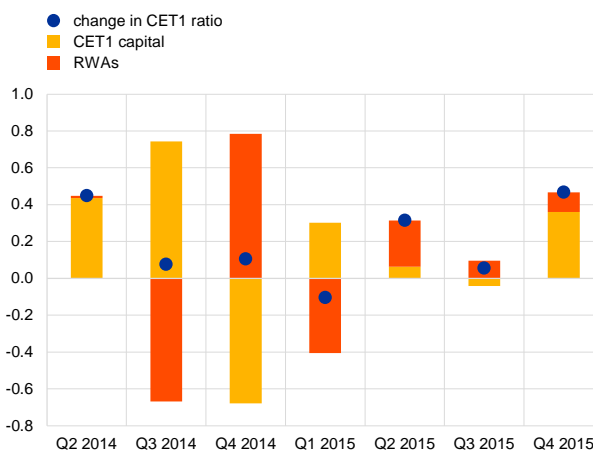
Source: ECB.

Chart 3.20

The improvement in phased-in CET1 ratios in late 2015 was mainly driven by increases in capital

Contribution of changes in capital and risk-weighted assets to phased-in common equity Tier 1 capital ratios

(Q2 2014 – Q4 2015; percentage points)



Sources: ECB and ECB calculations.

Note: Changes in risk-weighted assets are shown with the opposite sign as their decline (increase) indicates a positive (negative) contribution to the capital ratios.

Euro area banks' leverage ratios also continued to improve in the second half of 2015.

At end-2015 leverage ratios reached at least 4% for the large majority of SBGs (see [Chart 3.21](#)). Differences across banks of different sizes persisted, with euro area G-SIBs remaining significantly more leveraged than other SBGs. The median leverage ratio for G-SIBs was slightly below 4% at end-2015, compared with a median ratio of 5.5% for the full sample of SBGs. According to the latest Basel consultation document, G-SIBs are likely to face leverage ratio requirements in excess of 3%.

Looking ahead, banks' capital requirements will also be shaped by the final changes to the capital framework that are aimed at reducing the excessive variability of risk-weighted assets and strengthening risk sensitivity.

Most notably, refinements to the internal ratings-based (IRB) approach in the latest Basel proposals include a removal of the IRB approach for certain exposures (e.g.

to financial institutions, large corporates), the removal of the advanced IRB approach and hence the loss given default (LGD) estimation for a larger number of corporates (i.e. those with revenues over €200 million), and a 10% LGD floor for mortgages and the replacement of existing credit risk floors either with an aggregate output floor in a range of 60-90% or by applying output floors at a more granular level. In addition,

proposed revisions to the standardised approach for credit risk could also lead to some increase in capital requirements depending on the design and calibration of capital floors under this approach.

Bank capital requirements will also be determined by the EU’s Supervisory Review and Evaluation Process (SREP). In 2015 the SREP was, for the first time, conducted according to a harmonised methodology. As a result of the SREP, the average Pillar 2 requirements for significant institutions increased by 30 basis points from 2015 to 2016. In addition, the phasing-in of systemic buffers led to an average 20 basis point increase in overall capital requirements. Looking ahead, the outcome of the 2016 euro area and EU-wide stress tests will feed into the 2016 SREP.

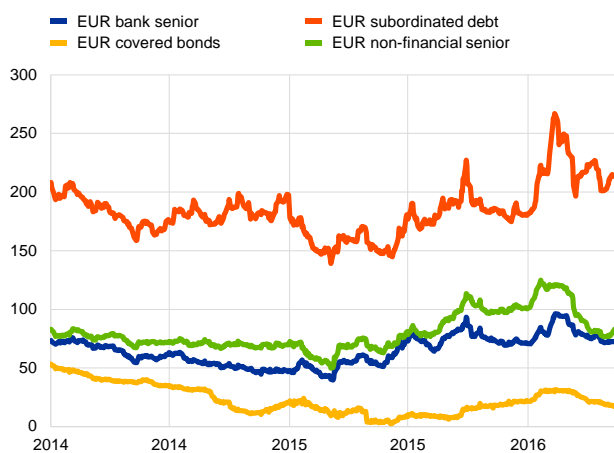
Bank funding markets affected by heightened volatility

Chart 3.22

Bank debt spreads widened during the market turmoil in early 2016, but they have tightened since March

Spreads on banks’ senior debt, subordinated debt and covered bonds and non-financial senior debt

(Jan. 2014 – May 2016; basis points)



Sources: ECB and Markit.

Bank funding markets have been adversely affected by the heightened volatility in financial markets in the early months of 2016. Bank subordinated and hybrid debt markets, including the market for contingent convertible capital instruments (see **Chart 5** of the Overview), have been particularly affected by the turmoil. Spreads on senior bank debt also moved higher, mirroring developments in non-financial senior spreads, while the covered bond market proved rather resilient (see **Chart 3.22**).

Funding conditions improved following the announcement of ECB measures in March, with both senior and covered bond spreads tightening back close to levels observed before the early 2016 episode of market turbulence.

These strains in the riskier segments of the bank debt market may have reflected uncertainty among investors regarding the application of bail-in rules as well as the higher perceived risk of missed coupon payments in AT1 markets. During the market turmoil, developments in credit and equity markets

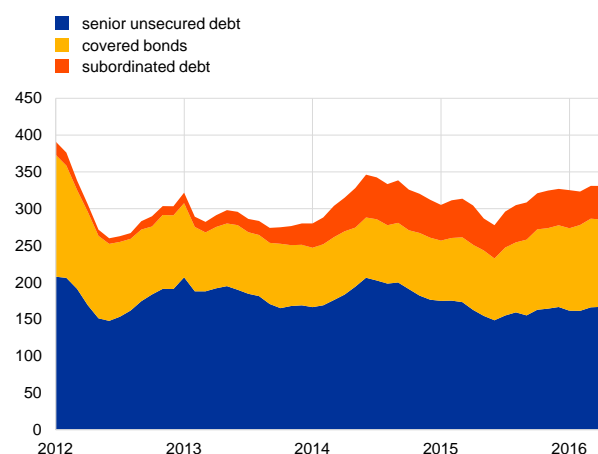
appeared to have become self-reinforcing. Market intelligence suggests that credit investors feared that equity valuations were too low to support rights issues, while equity investors were concerned that the turbulence in credit markets would, through higher funding costs, negatively impact future bank profitability. At the same time, the reversal of senior spread widening suggests there are no generalised concerns among credit investors about banks’ fundamentals and new ECB measures also helped dispel concerns about systemic risks in the banking sector.

Chart 3.23

Bank debt issuance shifted further towards secured debt, while subordinated debt issuance dropped somewhat

Gross issuance of medium and long-term debt by euro area banks

(Jan. 2012 – Apr. 2016; EUR billions)



Source: Dealogic.

Note: Excludes retained issuance and government-guaranteed debt.

The market turmoil in early 2016 also affected bank debt issuance activity temporarily, although it has picked up somewhat since March. Debt issuance patterns mirrored developments in secondary market spreads, with a shift towards covered bond issuance and a drop in subordinated debt issuance (see **Chart 3.23**). After a temporary market closure in February, the issuance of subordinated and AT1 debt resumed in March, reflecting the generally improved conditions in bank funding markets.

Meanwhile, banks continued to make progress towards meeting the new Basel III requirements on stable funding and liquidity buffers. According to the EBA's latest Basel III monitoring report, at the end of June 2015 more than three-quarters of banks subject to the monitoring exercise had already met the required minimum net stable funding ratio (NSFR) of 100%, with average NSFRs of 104% and 111% for the large, internationally active EU banks (Group 1 banks) and other EU banks (Group 2 banks), respectively.

Regarding progress towards meeting new liquidity

requirements, close to 80% of participating banks had a liquidity coverage ratio (LCR) above 100% at the end of June 2015, while the average LCR of Group 1 and Group 2 banks stood at 121% and 157% respectively.

3.1.2 Euro area insurance sector: an evolving business mix and investment allocation amid challenges from a low-yield environment

The current macroeconomic operating environment of persistent low interest rates paired with moderate economic growth poses the greatest challenge to euro area insurers' profitability. The resulting low-yield environment is dampening insurers' profitability and possibly eroding capital positions, particularly for life insurers offering products with long-term guaranteed rates and big duration mismatches between assets and liabilities. Reducing the duration gap is more easily achievable on new business as a reduction of the risk on existing business is increasingly challenging, the longer low returns persist. Large euro area life insurers have been successful in growing the sales of unit-linked or alternative products in the last years. This notwithstanding, these products are more complex to both manage and sell, making it harder for smaller players to rapidly change their business mix while maintaining the same level of sales.

The non-life and reinsurance sectors also face significant challenges. As non-life insurers' investments usually have a shorter maturity than those of life insurers, current investment returns decline more rapidly when interest rates fall. Furthermore, non-life insurers cannot share investment losses with policyholders. Given the weight

of fixed income securities and loans in non-life insurers' investments, cost-cutting and underwriting discipline continue to be pivotal to support the performance of the sector. In the reinsurance sector, abundant capacity and decreasing demand have sustained pressure on pricing and the erosion of terms and conditions.

In addition, insurers are gradually changing their asset allocation to boost yields. Insurers' increasing exposures to illiquid assets and higher-yielding (but lower-quality) fixed income securities could potentially result in a deterioration of overall asset quality and affect their economic capitalisation in the long term. On the other hand, changes in the investment portfolio reduce concentration risks, while diversification and investment expertise can limit to some extent the incremental average credit risk.

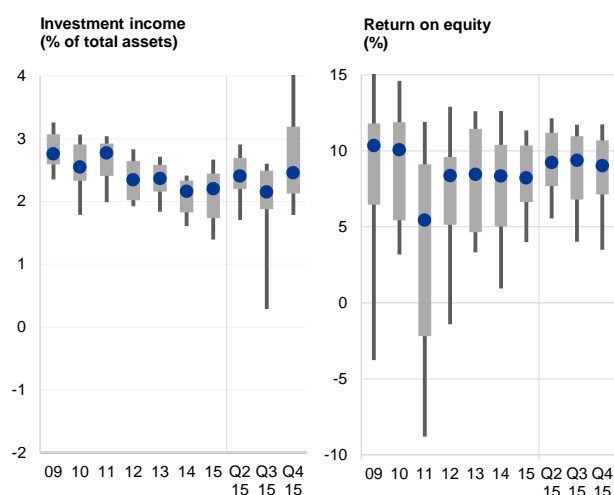
Financial condition of large insurers²⁸

Chart 3.24

Investment income bounced back in the last quarter of 2015, supported by realised gains in financial markets

Investment income and return on equity for a sample of large euro area insurers

(2009 – Q4 2015; percentages; 10th and 90th percentiles, interquartile distribution and median)



Sources: Bloomberg, individual institutions' financial reports and ECB calculations.
Note: Investment income excludes unrealised gains and losses.

The performance of large euro area insurers remained stable despite a challenging operating environment.

Overall, the sector continued to exhibit robust profitability (see [Chart 3.24](#)), while growth in premiums written was volatile for both life and non-life globally active euro area insurers (see [Chart 3.25](#)). Investment returns of large euro area insurers bounced back in the last quarter of 2015, supported by realised gains on their strongly valued fixed income portfolios. On the life side, a more stable economic environment in the euro area has helped cushion some of the other headwinds that the sector faces, as it has reduced uncertainty with respect to disposable incomes and saving rates, thereby facilitating life insurance purchases and reducing the risk of policy surrenders. The decline in traditional guaranteed products has been offset by the strong growth of unit-linked products in many countries. The latter products, where the return is linked to the performance of financial markets, have been able to offer attractive returns to customers in 2015 thanks to the recovery in global financial markets, despite producing more volatility in premium growth. On the non-life side, real premium growth is now slowing

due to increased competition, but combined ratios (i.e. incurred losses and expenses as a proportion of premiums earned) are at a four-year low – comfortably below 100% – favoured by benign loss developments in recent years, implying that the sector is still profitable (see [Chart 3.26](#)).

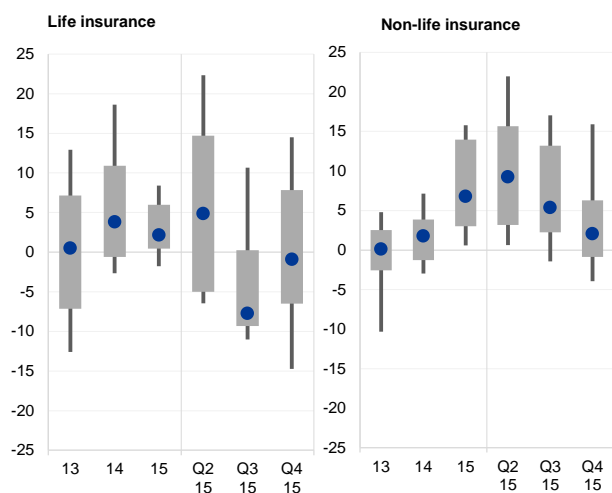
²⁸ The analysis is based on a varying sample of 24 listed insurers and reinsurers with total combined assets of about €5.1 trillion in 2015, which represent around 73% of the assets in the euro area insurance sector. Quarterly data were only available for a sub-sample of these insurers.

Chart 3.25

Underwriting business more volatile due to increased competition and changes in the business mix

Growth of gross premiums written for a sample of large euro area insurers

(2013 – Q4 2015; percentages; 10th and 90th percentiles, interquartile distribution and median)



Sources: Bloomberg, individual institutions' financial reports and ECB calculations.

Large euro area insurers' capital positions remain stable at comfortable levels

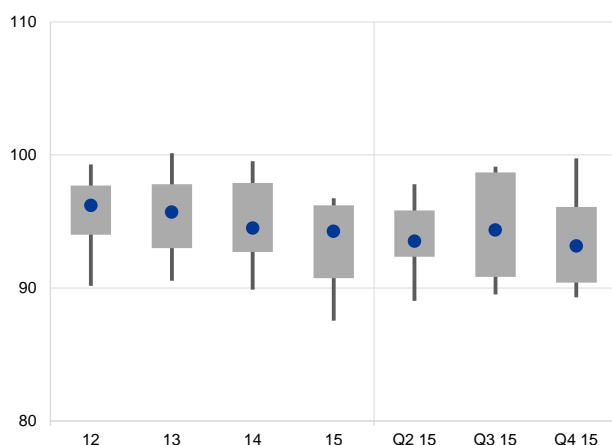
(see Chart 3.27). As part of the preparations for the market-based Solvency II regime that came into force in January 2016, insurers had been taking actions to improve their solvency positions in recent years, notably by extending the duration of their assets and accumulating specific reserves on their balance sheet as well as changing their product mix towards less capital-intensive products. Solvency II strengthens insurers' risk management and introduces further harmonisation at the European level, thereby promoting a level playing field for all insurance companies in Europe. However, some concerns remain among market participants about the complex nature of economic capital models, and the consistency with which the regime will be implemented across jurisdictions. In particular, uncertainty still prevails as regards the supervisory approval of internal models and the use of transitional measures, thereby impacting the "new" Solvency II capital positions.

Chart 3.26

The cost side of non-life business reflects the benign loss developments

Combined ratio for a sample of large euro area insurers

(2012 – Q4 2015; percentages; 10th and 90th percentiles, interquartile distribution and median)



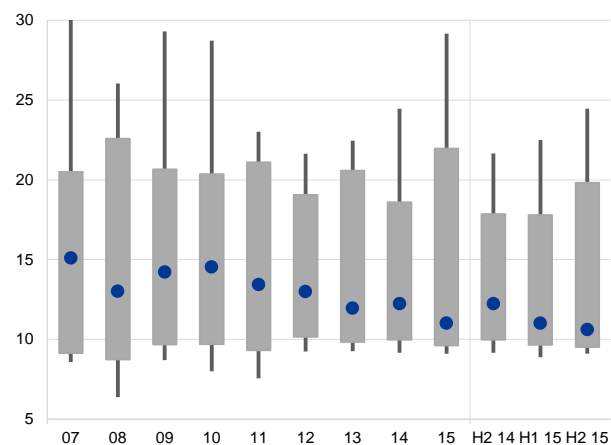
Sources: Bloomberg, individual institutions' financial reports and ECB calculations. Notes: The combined ratio expresses the sum of incurred insurance losses and expenses as a share of net premiums earned. A ratio of below 100% indicates an underwriting profit.

Chart 3.27

Solid and stable capital base of euro area global insurers

Capital distribution for a sample of large euro area insurers

(2007 – H2 2015; percentages of total assets; 10th and 90th percentiles, interquartile distribution and median)



Sources: Bloomberg, individual institutions' financial reports and ECB calculations. Note: Capital is the sum of borrowing, preferred equity, minority interests, policyholders' equity and total common equity.

Insurance sector outlook: market indicators and analysts' views

Market-based indicators suggest a more challenging outlook going forward.

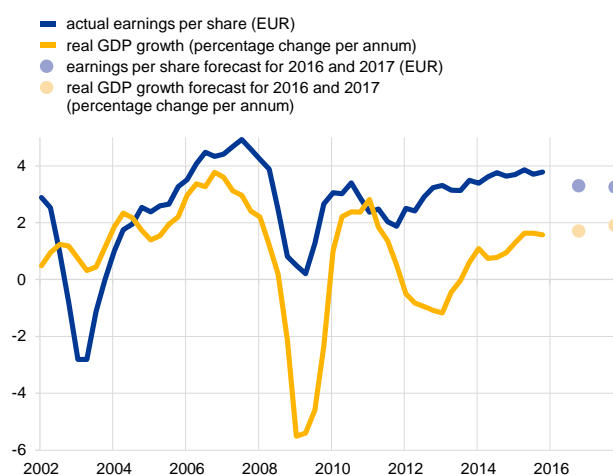
Profitability prospects suggest a declining trend in the coming years when the effect of low interest rates is expected to reduce investment income in particular (see [Chart 3.28](#)). Analysts continue to see non-diversified, small or medium-sized life insurers in countries with limited availability to lower the high policyholder guarantees extended in the past and that exhibit big duration mismatches between assets and liabilities being particularly under pressure in the future. Concerns about future profitability prospects are consistent with recent volatile developments in insurers' credit default swap (CDS) spreads (see [Chart 3.29](#)).

Chart 3.28

Analysts expect stagnant profitability for euro area insurers

Earnings per share of selected euro area insurers and real GDP growth

(Q1 2002 – 2017)



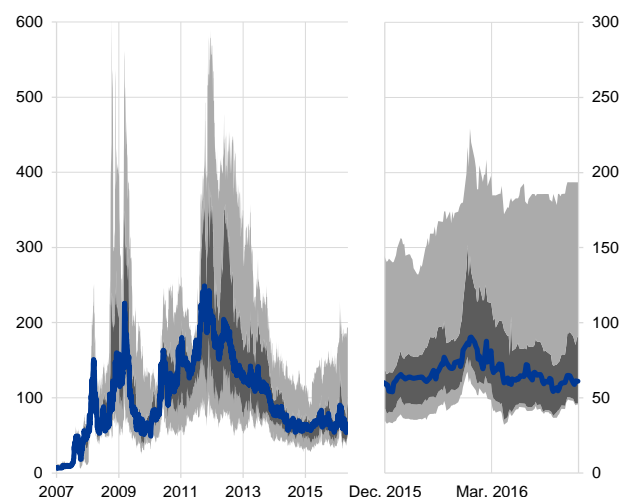
Sources: ECB, Thomson Reuters Datastream and ECB calculations.

Chart 3.29

Volatility in credit default swaps shows increased concerns about credit risk

CDS spread for a sample of large euro area insurers

(3 Jan. 2007 – 13 May 2016; basis points; senior debt, five-year maturity)



Sources: Thomson Reuters Datastream, Bloomberg and ECB calculations.

Note: The shaded areas indicate the minimum/maximum and interquartile ranges across the CDS spreads of selected large euro area insurers.

Analysts note that a further deterioration in credit and equity markets could result in a number of potential issues impacting capital.

These could come in the form of credit migration, credit defaults and equity impairments. Widening credit spreads, while not a major problem per se²⁹, have the potential to increase the likelihood of rating migration and credit defaults. If seen to a major extent, these issues could hit capital materially as they increase the denominator of the Solvency II ratio (i.e. capital requirements) and decrease the numerator (i.e. available capital). In such a scenario, Solvency II ratios could decline faster than the rates suggested in reported sensitivities, as the latter tend to only reflect spread movements.

²⁹ Under Solvency II, long-term guarantee measures have been introduced to offset an excessive volatility in the balance sheet following the market-consistent valuation approach. These measures allow for adjustments (under well-specified circumstances set out in the legislation) of the discount rate, which results only in a partial offset of credit spread movements.

Analysts expect sales of traditional life insurance products to continue declining sharply in the coming year.

That said, demographic trends and better economic prospects in the euro area are expected to foster an increase in European households' long-term savings, which would imply strong growth in sales of unit-linked and other capital-light products. For non-life insurance, analysts expect cost-cutting and a focus on efficient pricing to make it possible for insurers to continue weathering the headwinds caused by increased competition and low investment returns.

In the reinsurance sub-sector, analysts expect overcapacity, declining demand and non-abating alternative capital³⁰ to continue reducing underwriting margins at a time when the companies' investment returns remain low. This, coupled with limited natural catastrophe risks, has resulted in a continued softening of reinsurance rates at the 2016 renewals. Market experts expect these trends to continue over the short to medium term, in the absence of significant deteriorations in underwriting loss ratios.

In the long term, analysts expect digitalisation to reshape the distribution of insurance products. Insurers are focusing on IT and digitalisation as a means to boost client loyalty and support the client relationships of their agents. An additional benefit of digitalisation is that once processing is automated, product distribution will be cheaper and there will potentially be more economies of scale. For life insurance, this will allow the marketing of platforms where policyholders can keep track of their savings. At the same time, digitalisation will also present challenges for insurers. It may require larger-scale investments in IT systems, and the increased IT system complexity could lead to materially higher execution and operational risks. Similar to other financial institutions, cyber security is also a growing concern for insurers in the light of their increased vulnerability, via digital channels, to the theft of or attack on customers' personal data.

Investment portfolios accelerate the adjustment to the low-yield environment

Euro area insurers remain predominantly invested in government and corporate bonds (see Chart 3.30). Hence, insurance companies are especially vulnerable to a prolonged period of low interest rates, during which investment returns usually decline. This scenario is particularly challenging for life insurers that have offered long-term guaranteed rates in the past as investment returns may fall below the offered guaranteed rate and the yield at which maturing assets can be reinvested is lower. These companies face a higher risk of losses, which has the potential to hamper profitability and affect solvency positions in the long run. Hence, the risk of protracted low interest rates is a key risk for life insurers. Interest rate

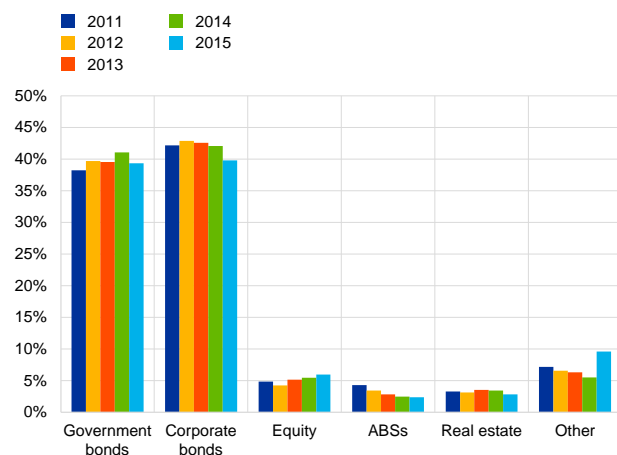
³⁰ Alternative capital is typically accessed through securitised instruments (such as catastrophe bonds), private deals between an investor and a primary carrier (such as collateralised reinsurance) or "sidecars" (through which capital markets co-invest their capital alongside reinsurance capital). Alternative capital accounted for 19% of the global catastrophe limit in 2015, according to Guy Carpenter.

Chart 3.30

Euro area insurers remain predominantly invested in fixed income securities

Investment portfolio split of selected euro area insurers

(2011-15; percentages of total investments; weighted averages)



Sources: JPMorgan Cazenove, individual institutions' financial reports and ECB calculations.

Note: Based on available data for 15 large euro area insurers and reinsurers.

sensitivity differs from company to company depending on a combination of the (i) business mix, (ii) average guaranteed rate, (iii) ability to lower the offered rate and (iv) asset/liability duration gap. Low rates prompt insurers to adapt their business model (with changes on both the assets and liabilities side). Even though overall fixed income instruments clearly dominate euro area insurers' investment portfolios, exposure to government and corporate bonds has slightly decreased in 2015. This was offset by increases in equities and the "other investment" category, mostly related to an increase in investments in illiquid assets such as lending and infrastructure. This search for yield, as insurers need to roll over investments in the low-yield environment, is expected to continue in the coming years, intensified also by regulatory pressures in some jurisdictions. While this shift in asset allocations intrinsically brings diversification benefits, it also warrants close monitoring from supervisory authorities as it also brings increased illiquidity and credit risks.

Data from and reports by individual insurers confirm the re-risking of investment portfolios.

In an attempt to boost reinvestment returns, the shift within the fixed income portfolio away from AAA-rated bonds towards higher-yielding bonds³¹ and away from low-yielding euro area sovereign debt has continued (see [Chart 3.31](#) and [Chart 3.32](#)), combined with reported increases in asset duration. Given the amount of BBB-rated bonds in euro area insurers' portfolios and the volatility in credit markets, rating migration could become an issue in the future. A one-notch downgrade of a BBB corporate bond to non-investment grade reduces the available operating capital and increases the required solvency capital charge, potentially hurting the solvency ratio significantly in the event of mass rating migration. One unintended consequence of rating migration could be the forced selling of investment assets at market value.³² While it is currently unclear whether under transitional measures insurers will be able to adjust their asset allocation for this purpose, rating migrations could become an issue in the medium to long term and could add to insurers' procyclicality, posing potential financial stability risks, especially if aligned actions take place simultaneously, given the systemic importance of the euro area insurance sector.

³¹ Rating downgrades have probably also contributed to the mentioned shift.

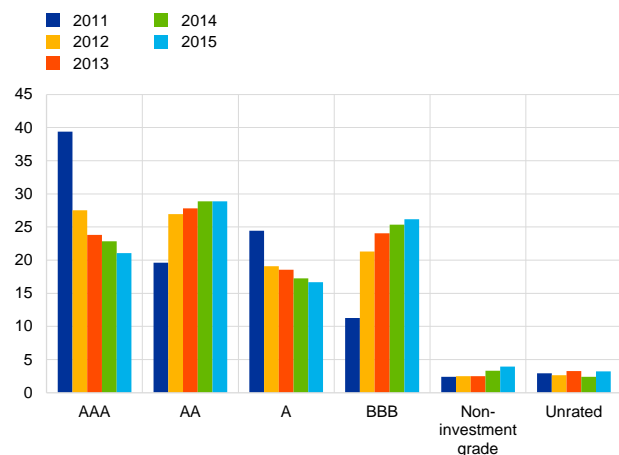
³² Under Solvency II, in matching adjustment portfolios there are restrictions on the percentage of total assets that can be BBB or below. Hence, an insurer might be forced to sell those assets (if it breaches the matching adjustment limits) and realise mark-to-market losses, as it is not allowed to hold the assets until maturity.

Chart 3.31

Exposures to higher-yielding bonds continue to increase...

Bond investments of selected large euro area insurers split by rating category

(2011-15; percentage of total investment portfolio; weighted averages)



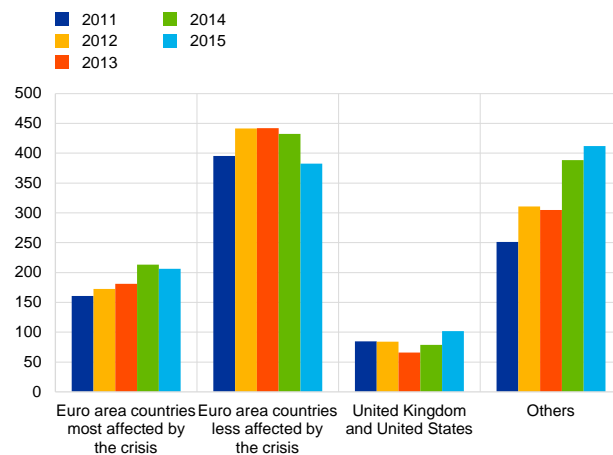
Sources: JPMorgan Cazenove, individual institutions' financial reports and ECB calculations.
 Note: Based on available data for 15 large euro area insurers and reinsurers.

Chart 3.32

... while sovereign exposures remain high, with decreases in low-yielding euro area sovereign bonds

Geographical split of the government bond holdings of selected large euro area insurers

(2011-15; EUR billions)



Sources: JPMorgan Cazenove, individual institutions' financial reports and ECB calculations.
 Notes: Euro area countries most affected by the crisis include Greece, Ireland, Italy, Portugal and Spain. Euro area countries less affected by the crisis include Belgium, France, Germany, Luxembourg and the Netherlands. The split of euro area countries into the two different groups is done according to euro area countries that have experienced a significant deterioration in their long-term credit rating since the onset of the financial crisis. Based on available data for 15 large euro area insurers and reinsurers.

Current exposures of euro area insurers to emerging markets and the oil and energy sectors are limited and do not give rise to great concern for most insurers despite the strengthening of headwinds emanating from these markets. Concerns about exposure to emerging markets relate mainly to the earnings side for some individual firms rather than balance sheet exposure, as sovereign risk is not in focus at the moment and emerging market bond holdings remain at the same levels as in the previous year. Exposure to energy bonds on insurers' balance sheets has also been a concern given the recent decline in oil and energy prices. While exposures differ at a company level, most large euro area insurers have a limited share (5-7%) of energy-related bonds in their corporate bond portfolio and should not face any material impact if energy prices stay at current levels.

Life insurance: new business focused on unit-linked and alternative products

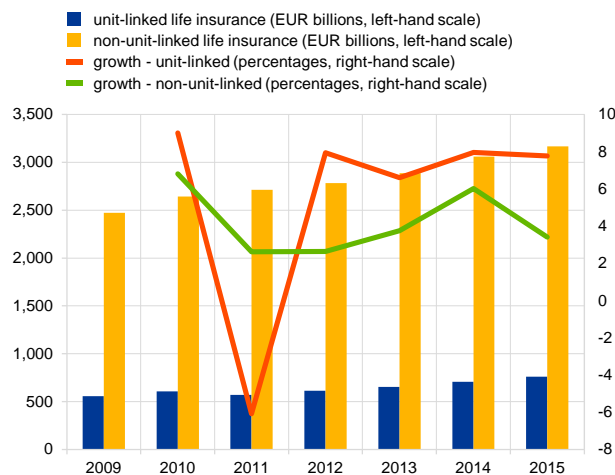
Traditional life insurance savings products have historically accounted for the bulk of life insurers' sales in many euro area countries, heavily exposing life

insurance companies to interest rate risk.³³ The prolonged period of low interest rates makes it increasingly challenging for insurers to generate investment returns above the average guaranteed rate on existing business, while the current risk-free interest rates are low compared with the guaranteed rate on new business. As a result, some life insurers – particularly in those jurisdictions where such guarantees are rigid and have been set at high levels in the past – are gradually adjusting their business models towards less capital-intensive and fee-based operations aimed at reducing their exposure towards the low-yield environment. This is being achieved by discontinuing the sales of traditional guaranteed policies and offering unit-linked policies, where all investment risks are borne by policyholders, or alternative savings products which combine a guaranteed component (but most of the time only at the maturity of the policy and not on a yearly basis) and a unit-linked component.

Chart 3.33
Growth momentum maintained for unit-linked life insurance

Net equity of households in unit-linked and non-unit-linked life insurance

(2009-15; percentages; EUR billions)



Source: ECB data for balance sheets of insurance corporations and pension funds.
Note: Data for insurance corporations and pension funds are collected taking a short-term approach and are not fully harmonised.

These alternative products are less risky for insurers and the increasing weight of these products in insurers' balance sheets will diminish insurers' interest rate risk. However, insurers which have decided to replace traditional products with new products transferring more risks to policyholders will likely sell less products overall as these products are less attractive for risk-averse policyholders and may face competition from savings products offered by other financial institutions. At the euro area aggregate level, unit-linked insurance accounts for around 20% of life insurance policies, while the pace of growth remains high (see **Chart 3.33**). However, these numbers mask considerable heterogeneity across countries; in some countries, new business is completely in unit-linked policies and new traditional life policies are not offered any more.

Nonetheless, the positive effect of changes in new business on insurers' balance sheets will be modest for some time. New business typically represents only around a single-digit percentage of the

existing insurance liabilities in any one year, hence existing policies still determine insurers' underwriting profitability. Alongside unit-linked products, some life insurers also plan to focus on term life insurance. However, this also represents a small proportion of their portfolio. Therefore, the financial strength of life insurers will remain under pressure in this low interest rate environment.

³³ Traditional life insurance products offer a yearly guarantee for a long duration. For instance, these products represented about 83% of German life insurers' net reserves as at year-end 2013 and still around 73% of new business premiums in 2014.

Other activity: competition set to affect the non-life market and challenges for reinsurance

In non-life insurance, challenges arise mainly from retail business, in particular motor insurance, in the main euro area countries. Pressures on investment margins support underwriting discipline throughout the sector. The motor insurance segment, which represents a significant proportion of the total non-life sector, faces industry-wide pressures. In the short term, intense competition and higher expected claims³⁴ are likely to continue to constrain profitability. In the longer term, the sector may benefit from the use of telematics data³⁵, which help in more accurately pricing the risk of a driver, but the sector faces several challenges that might reshape it completely, e.g. the arrival of driverless cars.

The reinsurance industry is feeling pricing pressure, partially fuelled by a low catastrophe loss experience. Total insured losses amounted to USD 27 billion across the industry in 2015, well below the ten-year historical average of USD 56 billion. As a consequence, the 2016 renewal rounds saw a decline in reinsurance premium rates, which fell for a fourth consecutive year (see [Chart 3.34](#)). Furthermore, there is abundant reinsurance capacity in traditional reinsurers and from alternative capital sources, increasing competition throughout the reinsurance sector, in particular within the casualty segment³⁶ and speciality lines given current segment profits and the desire to diversify into non-catastrophe lines. In addition, the sector faces stagnant or declining demand for reinsurance as insurance companies are retaining more risk and centralising reinsurance purchasing. On the other hand, the implementation of Solvency II has created some added reinsurance demand for capital relief. Despite the challenging operating environment, large euro area reinsurers' profitability and capital levels remain at comfortable levels, supported by the fact that underwriting results were further assisted by the better than expected prior-year loss.

Year-end catastrophe bond issuance declined for the first time since 2011, but remains strong at around USD 6 billion. The outstanding amounts of maturing bonds in the market stayed slightly below 2014 levels at USD 22.4 billion (see [Chart 3.34](#)). Investor appetite in this sector remains high given its good return profile and the uncorrelated nature of catastrophe bonds, which have weathered the recent market volatility better than other asset classes (see [Chart 3.35](#)). While a functioning catastrophe bond market contributes to diversification of investors' portfolios, it also strengthens the links between the reinsurance sector and the financial markets, making the sector vulnerable to procyclical behaviour by investors.

³⁴ Increased economic activity, combined with lower oil prices, typically increases the frequency of claims, following an increase in the use of private cars.

³⁵ Telematics motor insurance uses a device fixed in the customer's vehicle to track driving statistics, e.g. mileage and braking habits. The insurer then links the customer's premium rate to these statistics.

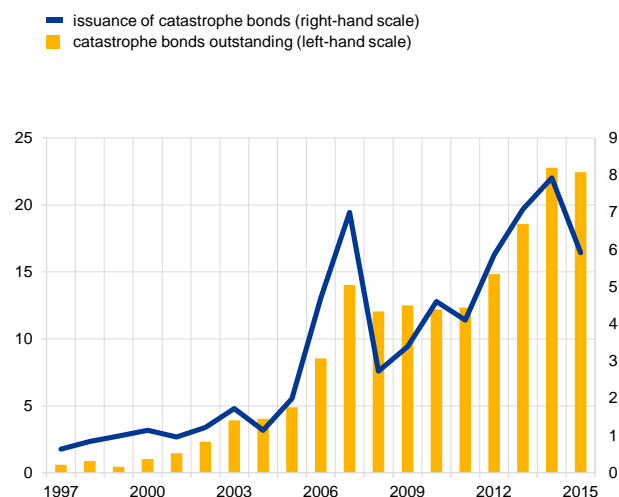
³⁶ In some cases, cyber risk is being added to casualty coverage.

Chart 3.34

Issuance of catastrophe bonds slightly below all-time high in 2014

Catastrophe bond issuance and amounts outstanding

(1997 – 2015; EUR billions)



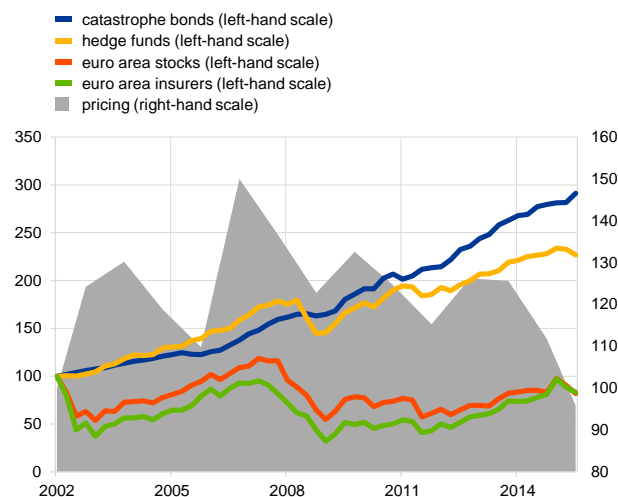
Source: Guy Carpenter.

Chart 3.35

Reinsurance premium rates continue to fall, while the uncorrelated nature of catastrophe bonds is confirmed

Cumulative return profiles, broken down by market asset class and reinsurance pricing

(Q1 2002 – Q4 2015; index: Q1 2002 = 100)



Sources: Bloomberg, Guy Carpenter and ECB calculations.
Notes: The series for pricing ends in Q4 2015. S&P 500 and EURO STOXX are used as benchmark indices for US and euro area stocks respectively. The Guy Carpenter World Property Catastrophe RoL Index tracks changes in property catastrophe reinsurance premium rates on a worldwide basis.

3.1.3 A stalling of investment fund activity slows the rapid expansion of the non-bank sector

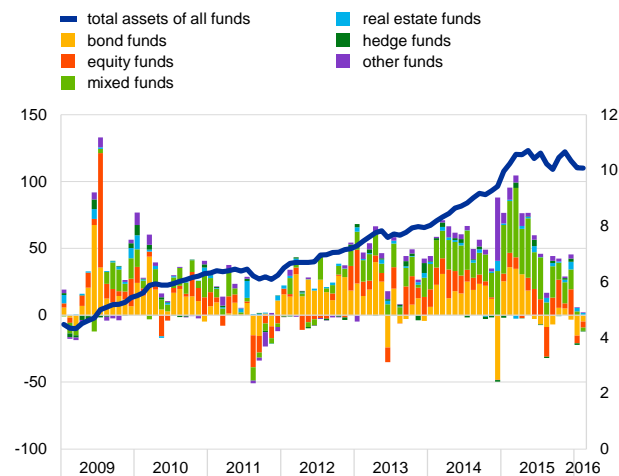
Growth in the investment fund sector, underpinning much of the expansion of the non-bank sector over the last years, stalled during the second half of 2015 amid a decline in asset prices and a partial reversal of net flows. Exposures have been building up over the past few years amid falling interest rates, with an intermittent slowdown during the euro area sovereign debt crisis. Total assets of funds domiciled in the euro area have more than doubled since 2008, partly owing to asset valuation effects. The large and growing exposures of euro area investment funds over the past decade have spurred concerns that the potential for this sector to amplify market-wide shocks has increased. The most recent period of global asset repricing has resulted in net outflows across all types of funds, except real estate funds (see [Chart 3.36](#)). The reversal of fund flows was caused predominantly by outflows for non-euro area investors, whereas flows from the euro area stayed positive on a net basis. While the funds were generally able to cope with more volatile flows, the concern is that the sector is vulnerable to broad-based redemptions under more extreme market scenarios.

Chart 3.36

Growth in euro area investment funds has stalled, amid a decline in asset prices and a partial reversal of flows

Monthly net flows by type of fund and total assets

(Jan. 2009 – Feb. 2016; net flows in EUR billions (left-hand scale); total assets in EUR trillions (right-hand scale))



Sources: ECB and ECB calculations.

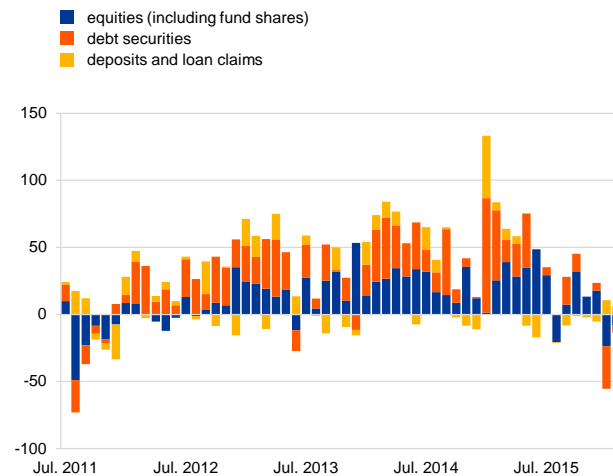
Chart 3.37

Chart 3.37

Substantial net divestments at the beginning of the year

Monthly net purchases by euro area investment funds

(July 2011 – Feb. 2016; net transactions in EUR billions)



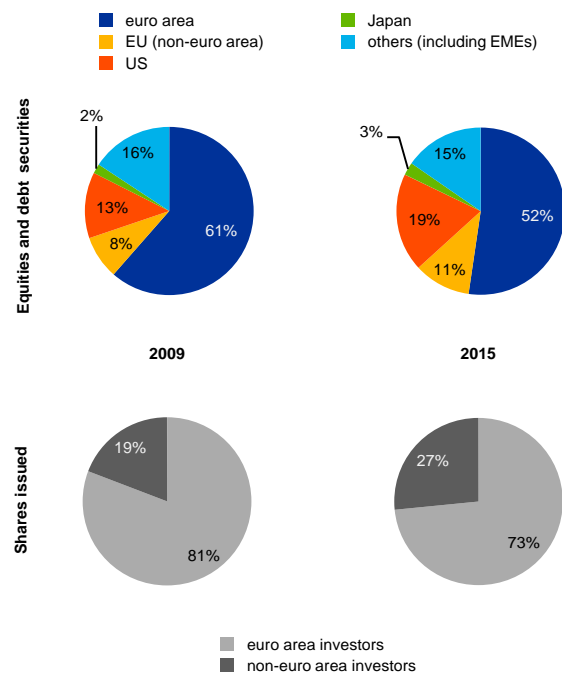
Sources: ECB and ECB calculations.

Chart 3.38

Cross-border exposures as well as investments by non-euro area residents have expanded up until recently

Selected assets and liabilities of euro area investment funds by regional counterpart

(Q4 2009; Q4 2015)



Sources: ECB and ECB calculations.
Note: Equities include investment fund shares.

In this context, concerns have surfaced that substantial divestments by funds can amplify market-wide shocks, especially if liquidity conditions in secondary markets are weak. The recent market turmoil resulted in substantial net divestments of euro area investment funds, where the funds sold €32 billion of debt securities and €24 billion of equities including fund shares during the month of January alone (see [Chart 3.37](#)). Net divestments in January 2016 were about double the level seen in the US “taper tantrum” in June 2013. They may have contributed to the general deterioration in liquidity conditions in some emerging market and high-yield segments. Net sales were smaller and less persistent than at the height of the euro crisis in 2011 however.

With the global risk outlook changing, a large investment fund sector is an important channel for inward and outward euro area spillovers related to cross-border portfolio investments. A significant amount of euro area fund shares are held by non-euro area investors (27% of shares issued), yet an even higher share of the funds’ portfolios is held in non-euro area equities and debt securities (around 48% of total securities held; see [Chart 3.38](#)). These cross-border exposures have grown significantly since 2009, leaving the euro area fund sector more exposed to

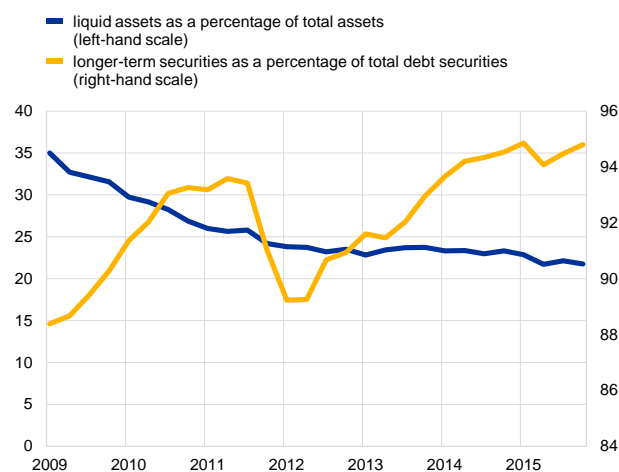
developments in global markets. While a change in global risk perception can easily trigger outflows from euro area funds, a shift in euro area sentiment can adversely affect markets abroad. In terms of country allocation, the share of debt and equity securities invested outside the main industrial countries, including the United States, Japan and the rest of the EU, ranges from 8% for mixed funds, through 13% for bond funds, to 20% for equity funds. These investments include exposures to emerging markets which had previously increased, but have been reduced during the third quarter of 2015 and at the beginning of 2016 in the light of elevated market volatility in some emerging market and high-yield segments.

Chart 3.39

Risks from liquidity and maturity transformation of euro area bond funds are growing

Share of liquid assets and longer-term debt securities

(Q1 2009 – Q4 2015; percentages)



Sources: ECB and ECB calculations.

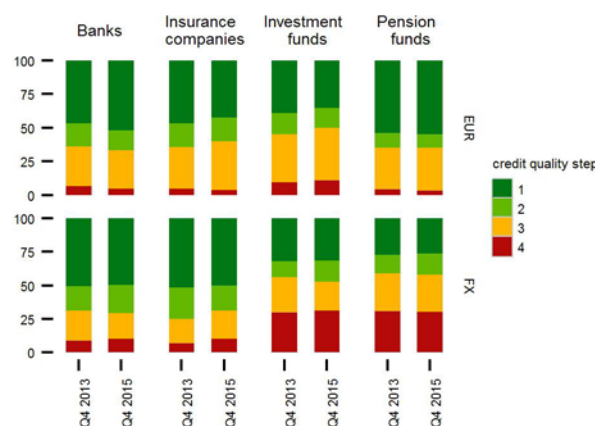
Notes: Liquid assets include euro area government bonds, deposits and loan claims with MFIs. Longer-term securities include bonds with an initial maturity above two years.

Chart 3.40

Investment funds have shifted their holdings from higher to lower-rated debt securities

Euro area financial institutions' debt securities holdings by rating category, sector and currency

(Q4 2013; Q4 2015; percentages of total holdings)



Sources: ECB and ECB calculations.

Notes: Credit quality steps are defined in accordance with the Eurosystem credit assessment framework (ECAAF), which provides a harmonised rating scale classifying ratings into three credit quality steps. The first category includes securities rated from AAA to AA-, the second from A+ to A- and the third from BBB+ to BBB-. A fourth category is added which includes all rated securities with a rating below credit quality step three. The analysis is based on the nominal amounts of euro and foreign currency-denominated securities, including "alive" and "non-alive" securities. The investment fund sector excludes money market funds.

Liquidity and maturity transformation continues to grow among bond funds amid these changing sector-wide investment patterns.

While the bond fund sector faces higher liquidity and maturity mismatches, redemption profiles of most funds have remained unchanged. Balance sheet indicators point to a decrease in the most liquid positions of bond funds since 2009, while the share of longer-dated securities has been growing since 2012 (see **Chart 3.39**). Liquidity and maturity transformation has increased as a result, which leaves bond funds exposed to future market-moving events, regardless of whether they invest predominantly in high-yield or investment-grade securities. In the current market environment, where periods of high risk tolerance alternate with periods of low risk tolerance, rent-seeking seems all the more attractive if positions can be unwound upon the first signs of distress. Open-ended bond funds seemingly offer investors the possibility to engage in less-

liquid markets, while being able to quickly respond to market-moving events, such as by selling investment fund shares. On the downside, investors' overall demand for liquidity can suddenly rise in a market downturn, thus contributing to a decline in secondary market liquidity when it is needed most.

Increased risk-taking over the past years has implied a heightened sensitivity to a prospective simultaneous reversal in risk premia and fund flows. A common pattern observed across the sector during the past two years is that investment funds have shifted their asset allocation from higher to lower-rated debt securities (see [Chart 3.40](#)). The overall shifts in portfolio composition have largely been driven by an actual reduction in the holdings of higher-rated securities and an increase in lower-rated securities, rather than by a decline in the rating quality of securities held.³⁷ Investors appear to hold a higher share of the lowest-rated securities when these are non-euro-denominated. In addition, the average residual maturities have increased by almost one year. Comparing across types of institutions, this pattern of allocation is particularly pronounced for the investment and pension fund sectors which, coincidentally, are the two sectors with the highest relative exposure to foreign currency-denominated securities. Likewise, market betas estimated from bond fund returns point to an effective increase in risk-taking. While

return sensitivities to the investment-grade segment have somewhat declined since 2012, sensitivities to the high-yield segment markedly increased until August 2014, matching the observed shift in portfolio composition (see also [Chart 9](#) in the Overview). Market betas for the high-yield segment have come down in the past year. However, they remain at elevated levels compared with the period before 2014. Moreover, the dispersion of market betas has widened, with funds in the upper 25th percentile bearing significantly more market risk than before.

As bank ownership is prevalent among the largest asset management companies in the euro area, there are concerns about step-in risk and contractual obligations of bank parent companies.

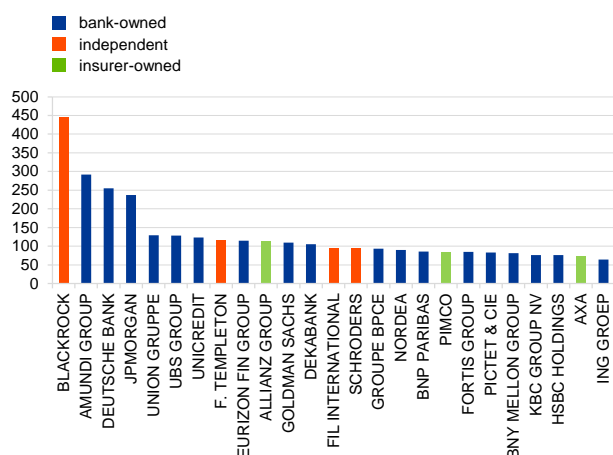
Possible channels for contagion result from step-in risk, credit lines and contingency arrangements between banks, their asset management arms and the investment funds that they manage. In particular euro area banks, and to a lesser extent insurers, have significant control over the euro area investment fund sector. In the sample³⁸, 52% (66 out of 127, accounting

Chart 3.41

Bank ownership dominates among the large asset management companies in the euro area

Aggregate net assets of euro area funds managed by the top-25 management company parents and sector ownership

(Q3 2015; total net assets in EUR billions)



Sources: Lipper IM and ECB calculations.

Notes: Asset managers are classified as held by banks/insurers when the asset manager is a subsidiary of the bank/insurer (this excludes cases where bank/insurance activities are a subordinate business of the group or where the holding company also holds banks/insurers) or has a bank/insurer as a majority shareholder.

³⁷ Robustness checks considered rating changes for the securities held throughout the period under consideration, as well as the ratings of securities that had left or newly entered the dataset. This information was used to assess the impact of rating changes on the results presented, which was marginal.

³⁸ The Lipper IM data cover 50% of the euro area investment fund population and around 62% of assets managed by euro area investment funds.

for 60% of total net assets) of euro area investment fund sponsors are either banks or owned by banks, while 16% (20 out of 127, accounting for 12% of total net assets) are either insurers or owned by an insurance company (see [Chart 3.41](#)).

Furthermore, bank and insurance ownership concentration increases with the size of asset managers. For example, within the group of the 25 largest asset managers, only four managers are not directly affiliated with a bank or insurer, while three out of those four of the remaining independent managers are domiciled in the United States. Such interconnectedness calls for an enhanced monitoring of potential systemic risks originating in or amplified by the investment fund sector, as well as of the contingent liabilities of banks which should be monitored at a country level given the geographical dispersion of investment fund ownership in the euro area.

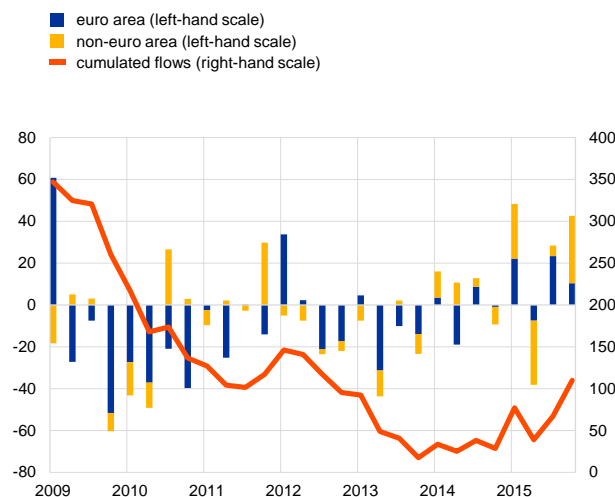
Following a prolonged period of contraction after the global financial crisis, the euro area money market fund (MMF) sector is growing again, amid the current negative rate environment (see [Chart 3.42](#)). Some MMFs have received large inflows from corporates in some northern euro area countries that face negative rates from their banks on overnight deposits, rendering fund investments more attractive in comparison. These corporates are partly shifting their cash balances, which they previously held either in constant net asset value (CNAV) funds or in overnight bank accounts, to variable net asset value (VNAV) money market funds. The need for cash around the month-end or quarter-end of these corporate investors has resulted in higher volatility of MMF flows around these dates.

Chart 3.42

Money market funds have received net inflows in the recent quarters amid the low-yield environment

Quarterly net flows into MMFs

(Q1 2009 – Q4 2015; net flows in EUR billions)



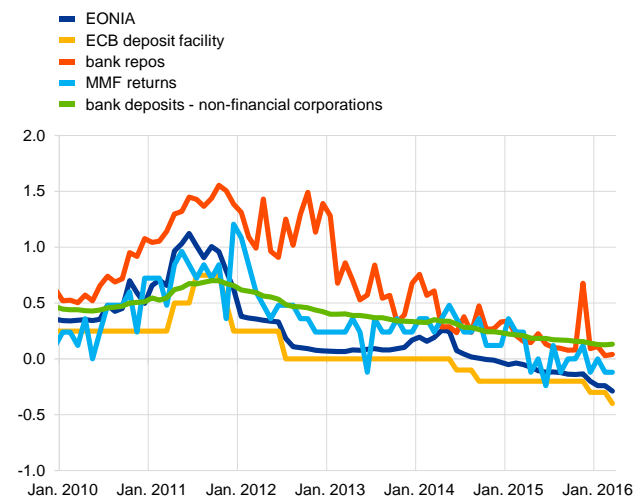
Sources: ECB and ECB calculations.

Chart 3.43

Money market funds appear relatively attractive as they compete with alternative cash-like investments

Annualised returns of euro-denominated MMFs in comparison with interbank, policy and deposit rates

(Jan. 2012 – March 2016; percentages)



Sources: EPFR, ECB and ECB calculations.

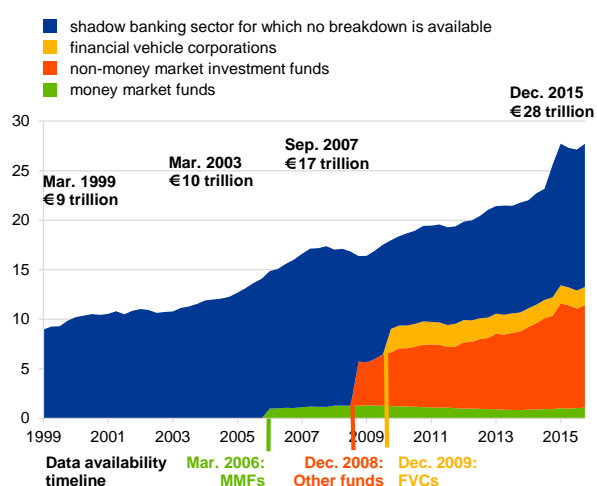
Notes: MMF returns are based on EPFR data for euro-denominated funds. Bank repo and deposit rates are based on the ECB MFI interest rate statistics using the narrowly defined effective rate.

Money market funds have also exhibited a tendency to adopt riskier investment strategies, as they compete with alternative cash-like investments.

In order to maintain returns above critical levels, relative to alternative cash or cash-like claims (see [Chart 3.43](#)), euro-denominated MMFs have an incentive to venture into higher-yielding assets and to take on more risk. Risk-taking is generally higher for VNAV funds than for funds which promise a constant net asset value (CNAV funds). However, such risk-taking is bound by regulatory limits regarding certain asset classes and duration exposures. Balance sheet data suggest that MMFs have recently increased their share of non-government paper, looking for potentially higher-yielding assets. MMFs are also inclined to engage more in maturity transformation within regulatory limits. Vulnerabilities may be building up over time, with a risk of unravelling once short-term rates start to rise again. Concerns over a sudden reversal of flows are not pressing at the current juncture in view of the continued accommodative monetary policies.

Chart 3.44
Shadow banking sector assets according to the broad measure have remained stable

(Q1 1999 – Q4 2015; EUR trillions)



Sources: ECB and ECB calculations.

Notes: A breakdown of statistical data for MMFs, other funds and financial vehicle corporations (FVCs) is available only from the indicated dates onwards. The broad shadow banking sector includes MMFs and all other non-monetary financial institutions apart from insurance corporations and pension funds.

As regards foreign currency-denominated MMFs, USD MMFs expanded faster than funds investing in the euro-denominated money market. Concerns are that a sudden shift in risk sentiment could lead to a shortage of USD funding for some weaker euro area banks. Near to medium-term risks for the banking sector appear to be limited, as the current low-yield environment should ensure stable funding conditions for the foreseeable future.

Concerns remain that risks may be building up in the parts of the financial sector for which a detailed statistical breakdown is not readily available. While it appears that the sector is growing in size, a significant proportion (up to two-thirds) of the residual shadow banking sector can be attributed to special financial institutions and holding companies, as well as other entities not engaged in shadow banking activities.³⁹ For the remainder, it cannot be excluded that those entities engage in risky liquidity transformation or credit intermediation. Meanwhile, growth in the broad shadow banking sector has not further accelerated mainly due

to the fact that growth in the non-money market investment fund sector has stalled (see [Chart 3.44](#)). While the MMF sector has seen a revival of net inflows over the past six months, the non-money market investment fund sector suffered both from a decline in asset values as well as a partial reversal of flows. Growth in euro area financial vehicle corporations has stabilised over the past year owing to somewhat stronger loan origination and securitisation activity by euro area credit institutions.

³⁹ With the statistics available at the euro area level, some shadow banking activities can indeed not be identified by type of entity. The Financial Stability Board has been gathering data at the national level to close the remaining gaps and to help determine whether certain entities engage in shadow banking activities. Statistical reporting has recently been enhanced in some euro area jurisdictions.

3.2 Evaluating the resilience of euro area financial institutions through scenario analysis

This subsection provides a quantitative assessment of four macro-financial scenarios that map the main systemic risks identified in the analysis presented in the previous sections of this publication (see **Table 3.1**). The assessment of the impact of macro-financial shocks on euro area banks and insurers is based on a macroprudential simulation exercise involving top-down stress-testing tools.⁴⁰ The presented results for the euro area banking groups are not comparable with the results of bottom-up supervisory exercises, such as the ongoing EBA bank stress-testing exercise. Such exercises are based on a more consistent and up-to-date dataset and internal bank risk models instead of top-down models. Moreover, the adverse scenario used for the EBA exercise encompasses several risk factors in contrast to the more targeted scenarios designed for this assessment.⁴¹ Due to the limited availability of disaggregated data on assets, liabilities, capital and profitability of financial institutions other than banks and insurers, this subsection does not assess the resilience of these parts of the financial sector or possible feedback from banks and insurers to other non-bank financial institutions. It only considers potential spillovers from the shadow banking entities to the euro area banks and insurers.

Table 3.1
Mapping main systemic risks into adverse macro-financial scenarios

Risk	Scenario	Key assumptions driving impact on GDP
Further increase of risk premia and financial turmoil, triggered by emerging market stress and persistently low commodity prices	Global risk aversion scenario	Shocks to risk aversion and investor confidence worldwide causing stock price declines, a widening of corporate bond spreads and lower euro area foreign demand
Weak profitability prospects for banks and insurers, with banks' intermediation additionally constrained by unresolved problems in reducing non-performing loans	Weak bank operating environment scenario	Shocks to private investment and consumption
Rising debt sustainability concerns in sovereign and non-financial private sectors amid heightened political uncertainty and low nominal growth	Sovereign and private sector debt crisis scenario	Renewed rise in sovereign bond yields to elevated levels and stock price declines
Prospective stress in the investment fund sector amplified by liquidity risks and spillovers to the broader financial system	Shadow banking spillover scenario	Reversal of the improvement in euro area bank funding conditions, leading to higher money market rates and a higher funding cost for the real economy

Source: ECB.

Main features of the adverse macro-financial scenarios

The four macro-financial scenarios are designed using a range of tools.

Statistical simulations are used to derive shocks to government bond spreads, stock prices and asset values of the shadow banks, as well as responses of other financial market parameters to these shocks. International spillovers of financial shocks are

⁴⁰ The tools employed are: (i) a forward-looking solvency analysis, similar to a top-down stress test, for euro area banks; and (ii) a forward-looking analysis of the assets and liabilities side of the euro area insurance sector. For a more detailed description of the tools, see Henry, J. and Kok, C. (eds.), "A macro stress-testing framework for systemic risk analysis", *Occasional Paper Series*, No 152, ECB, October 2013, as well as "A macro stress-testing framework for bank solvency analysis", *Monthly Bulletin*, ECB, August 2013.

⁴¹ For a detailed description of the scenario of the 2016 EU-wide bank stress-testing exercise, see *Adverse macro-financial scenario for the EBA 2016 EU-wide bank stress testing exercise*, European Systemic Risk Board, 29 January 2016.

modelled using Bayesian VARs and a GVAR model⁴², while the impact of global developments outside the European Union on euro area foreign demand is assessed using NiGEM. The impact of the shocks on the euro area economies has been derived using stress-test elasticities (STEs).⁴³ The baseline scenario used in the assessment is derived from the European Commission's winter 2016 (February 2016) economic forecast.

The global risk aversion scenario reflects the risk of an abrupt reversal of investor confidence and risk aversion worldwide. This scenario would be triggered by simultaneous financial market turmoil in the main emerging markets, including in particular commodity producers, and a rapid increase in market uncertainty in the United States. The heightened market volatility and declining asset prices would push the prices of euro area financial assets down. Stock prices would fall by 27% and government bond yields would increase by 67 basis points. The economic outlook for the euro area would be adversely affected by the reduction in foreign demand for euro area exports by about 8%, concentrated in the emerging market economies. This scenario translates into an overall deviation of euro area GDP of 2.7% below the baseline level by the end of 2017.

The weak bank operating environment scenario captures the risk of persistently weaker than anticipated domestic economic activity in many euro area countries, in an environment of negative headline inflation. It includes shocks to private consumption and investment, as well as to oil prices. Overall, real euro area GDP would stand 1.7% below the baseline level by the end of 2017. Financial market parameters are assumed to evolve in line with the baseline projection in this scenario.

The sovereign and private sector debt crisis scenario envisages a renewed increase in euro area sovereign bond yields to elevated levels. Long-term government bond yields are assumed to increase by nearly 100 basis points above current market expectations, with a significant dispersion across euro area countries, as the shocks to sovereigns with weaker fundamentals would exceed 200 basis points. Responding to the adverse developments in the sovereign debt markets, euro area stock prices would fall by 5%. In parallel, as concerns about the sustainability of debts of the private non-financial sector would rise, credit provision would be restricted by lenders. Total loans to the non-financial private sector would be reduced by about 5%, leading to a reduction in aggregate demand of the private sector. These developments would reduce euro area GDP by about 1.5% compared with the baseline by the end of 2017.

The shadow banking spillover scenario considers the spillovers from the non-bank financial sector to the euro area banking and insurance sectors via the funding channel and lower asset valuations. An unexpected increase in

⁴² For details on the GVAR model, see Dees, S., di Mauro, F., Pesaran, M. H. and Smith, L. V., "Exploring the International Linkages of the Euro Area: A Global VAR Analysis", *Journal of Applied Econometrics*, Vol. 22, 2007, pp. 1-38.

⁴³ STEs are a multi-country, EU-wide simulation tool. They are based on impulse response functions (from ESCB central banks' models) of endogenous variables responding to predefined exogenous shocks. The STEs also incorporate intra-EU trade spillovers.

redemptions by investors in shadow banks would lead to forced sales, which would put lasting pressure on euro area asset prices.⁴⁴ Funding constraints in the euro area banking sector would emerge and the cost of funding (in particular through short-term and long-term unsecured instruments) would increase. Banks would adjust to tighter funding conditions by increasing their lending spreads, thus increasing the cost of capital of the private sector. Overall, this scenario would reduce euro area GDP by about 0.5% compared with the baseline level by the end of 2017. Bank long-term funding spreads would increase by about 50 basis points and short-term unsecured money market spreads would widen by 80 basis points.

Table 3.2

Overall impact on euro area GDP growth under the adverse macro-financial scenarios

	2015	2016	2017	Q4 2017
Baseline (annual percentage growth rates)	1.6	1.7	1.9	
	<i>percentage point dev. from baseline growth</i>			<i>% dev. from baseline level</i>
Global risk aversion scenario		-1.4	-1.3	-2.7%
Weak bank operating environment scenario		-1.0	-0.7	-1.7%
Sovereign and private sector debt crisis scenario		-0.6	-0.9	-1.5%
Shadow banking spillover scenario		-0.2	-0.3	-0.5%

Sources: European Commission and ECB.

Looking at the severity of the different scenarios, the global risk aversion scenario would have the strongest impact on euro area economic activity (see **Table 3.2**). The materialisation of the first and second risks, identified as medium-level systemic risks, is considered more likely than the materialisation of the third and fourth risks, which are deemed potential systemic risks (see the Overview).

Table 3.3

Overall impact of the adverse macro-financial scenarios on interest rates and asset prices

	Global risk aversion scenario	Weak bank operating environment scenario	Sovereign and private sector debt crisis scenario	Shadow banking spillover scenario
Average euro area increase in short-term interest rates (basis points)	0	0	0	80
Average euro area increase in long-term government bond yields (basis points)	67	0	97	65
Shock to euro area real estate prices (%)	-2	-1	-3	0
Shock to euro area equity prices (%)	-27	0	-5	-14

Source: ECB.

With regard to the key financial market parameters, the global risk aversion scenario involves a steepening of the yield curves in the euro area, with limited cross-country variation, together with a significant drop in stock prices (see **Table 3.3**). By contrast, the degree of steepening of the yield curve under the sovereign and private sector debt crisis scenario exhibits a large dispersion across the individual euro area countries. Under the weak EU bank operating environment scenario, the yield curve would remain unchanged, while in the case of the shadow

⁴⁴ As data on the composition of balance sheets of these institutions are scarce, statistical simulations are employed to calibrate this scenario. These simulations are based on historically observed relationships between returns on investment in shadow banking entities and financial market variables, such as stock prices or interest rates.

banking spillover scenario, a slight flattening would be associated with an upward shift of the curve.

Solvency results for euro area banking groups

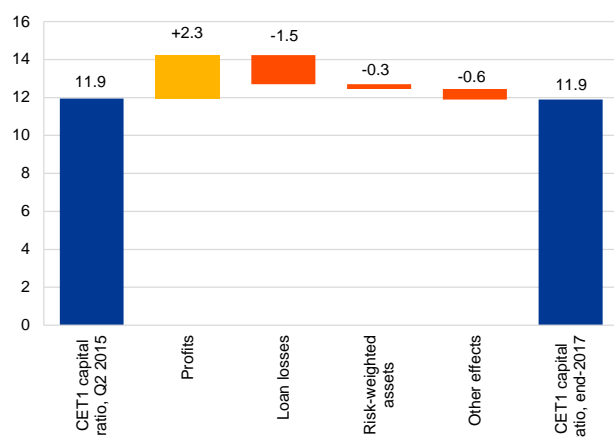
The impact of the four scenarios on bank solvency is broken down into the direct impact on the capital of individual banks, on the one hand, and the indirect effects stemming from cross-institutional contagion, on the other. The direct impact is obtained from a projection of the main variables that determine banks' solvency, such as the credit risk parameters, profits and risk-weighted assets. The indirect effects are related to the defaults by banks as a result of losses borne through the direct impact, thereby amplifying the losses of other institutions.

Chart 3.45

Under the baseline scenario, the euro area bank solvency position would remain unchanged

Average contribution of changes in profits, loan losses and risk-weighted assets to the CET1 capital ratios of euro area banking groups under the baseline scenario

(percentage of CET1 capital ratio and percentage point contributions)



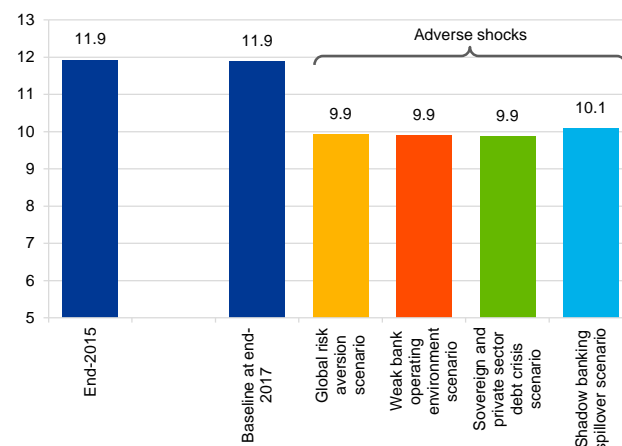
Sources: Individual institutions' financial reports, EBA, ECB and ECB calculations.

Chart 3.46

The adverse scenarios would reduce the aggregate capital ratio by around 2 percentage points

Average CET1 capital ratios of euro area banking groups under the baseline and adverse scenarios

(2015-17; percentages, average of euro area banking groups)



Sources: Individual institutions' financial reports, EBA, ECB and ECB calculations.

Under the baseline scenario, the capital position of the euro area banking groups is projected to stay constant. The aggregate common equity Tier 1 (CET1) capital ratio is projected to remain unchanged at about 11.9% at the end of 2017 (see [Chart 3.45](#)). While the operating profits of the euro area banking groups would be positive and exceed the increase in credit losses by about 0.8 percentage point, the concurrent increase in risk-weighted assets and other effects – related mainly to the gradual phasing-in of the requirements set out in the Capital Requirements Directive IV (CRD IV) – would offset the positive impact from the retention of earnings.

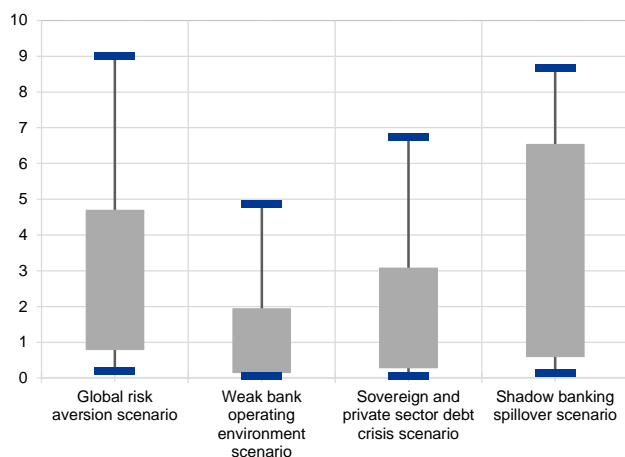
Three of the four scenarios would lead to a broadly similar impact on aggregate capital ratios. The shadow banking spillover scenario would have a slightly less severe impact on bank capital (see [Chart 3.46](#)). The limited variability in

the impact of the scenarios is, to some extent, driven by the significant contribution from other effects, mainly related – as under the baseline scenario – to the transition to the CRD IV capital regime. In addition, and despite the very different conceptual nature of the exercise presented here, the methodological assumptions of this assessment are largely consistent with the EBA’s EU-wide stress-test exercise, which implies that several items in the banks’ profit and loss accounts are projected using historical values.⁴⁵

Chart 3.47
Interbank contagion moderately increases total losses

Reduction of the CET1 capital ratio of euro area banks due to interbank contagion: dispersion across simulations

(basis points of CET1 capital ratio; box: interquartile range, bars: 10th-90th percentile range)



Sources: Individual institutions’ financial reports, EBA, ECB and ECB calculations.

The adverse scenarios would lead to an increase in the cost of credit risk. The deviation of bank capital ratios from the baseline projection is largely explained by higher impairment provisions on loans, which would reduce the aggregate CET1 capital ratio by between 1.0 and 1.7 percentage points compared with the baseline result. These provisions would be particularly high under the global risk aversion scenario, amounting to 3.2% of risk-weighted assets, as loan losses on direct lending to emerging market counterparties would increase.

Operating profits would improve under some of the adverse scenarios. Driven mainly by higher interest income and on the back of higher lending spreads, the total contribution of operating profit to the change in capital ratios would increase to +2.7 percentage points under the global risk aversion scenario. Operating profits would also increase, although less markedly, under the shadow banking spillover scenario. Under the

remaining two adverse scenarios, operating profits would slightly decrease in comparison to the baseline.

The impact of changes in risk-weighted assets and other items would be more homogeneous across the four scenarios. Importantly, losses on debt securities held at fair value would be relatively high under the sovereign and private sector debt crisis scenario, contributing about 0.3 percentage point to the decline in the CET1 ratio. The increase in risk-weighted assets would reduce the aggregate CET1 ratio by between 0.4 and 0.7 percentage point.

The impact of interbank contagion on bank solvency is projected to be moderate (see [Chart 3.47](#)).⁴⁶ For the simulated networks with the strongest contagion effects, the system-wide CET1 capital ratio would fall by about 0.09 percentage point in some countries under the global risk aversion scenario and the

⁴⁵ For example, cumulative net trading income is projected as an average net trading income over the most recent five years, less two standard deviations of net trading income. Similarly, operating expenses are held constant over the projection horizon.

⁴⁶ For a description of the methodology, see Halaj, G. and Kok, C., “Assessing interbank contagion using simulated networks”, *Working Paper Series*, No 1506, ECB, 2013, and *Computational Management Science* (10.1007/s10287-013-0168-4).

shadow banking spillover scenario. Contagion effects would be more muted under the other two scenarios.

Assessing the resilience of euro area insurers

The assessment of the impact of the main euro area financial stability risks on large euro area insurers is conducted using publicly available data for 11 major euro area insurance groups up to the fourth quarter of 2014.

It relies on a market-consistent approach to the quantification of risks, and is applied to both assets and liabilities of insurance corporations. Due to the lack of sufficiently granular data, this impact assessment aims to spell out the main risks in economic terms, i.e. changes in net asset value, rather than trying to gauge the impact in terms of prudential solvency ratios. In this way, it is conceptually and methodologically different from the bottom-up EU-wide stress-testing exercises carried out regularly by the European Insurance and Occupational Pensions Authority (EIOPA), which also cover a much broader range of European insurers.⁴⁷

The following market, credit and underwriting risks are assessed: (i) an increase in interest rates; (ii) a fall in equity and property prices; (iii) a deterioration in the creditworthiness of borrowers through a widening of credit spreads for marketable instruments; (iv) an increase in lapse rates⁴⁸; and (v) an increase in loss rates on loan portfolios. This assessment uses the same four scenarios that were presented earlier in this subsection. **Table 3.1** summarises the key aspects of the scenarios used in this exercise.

Against this background, the risks for insurance companies are transmitted through three channels, namely: (i) valuation effects on financial securities and liabilities owing to changes in stock prices, sovereign yields and swap rates; (ii) sales of assets due to unforeseen redemptions resulting from increased lapse rates; and (iii) changes in the credit quality of loan portfolios. In this context, a number of simplifying assumptions had to be made for this exercise (see **Table 3.4**).⁴⁹

⁴⁷ For a description of the methodology and results of the EIOPA exercises, see “EIOPA insurance stress test 2014”, 28 November 2014. The 2016 EU-wide EIOPA stress test is expected to be completed by December 2016.

⁴⁸ The lapse rate is defined as the proportion of contracts terminated prematurely by policyholders.

⁴⁹ For a comprehensive explanation of the underlying assumptions, please refer to Section 3.2 of the May 2015 FSR.

Table 3.4

Technical assumptions regarding the individual risk drivers of insurers' balance sheets

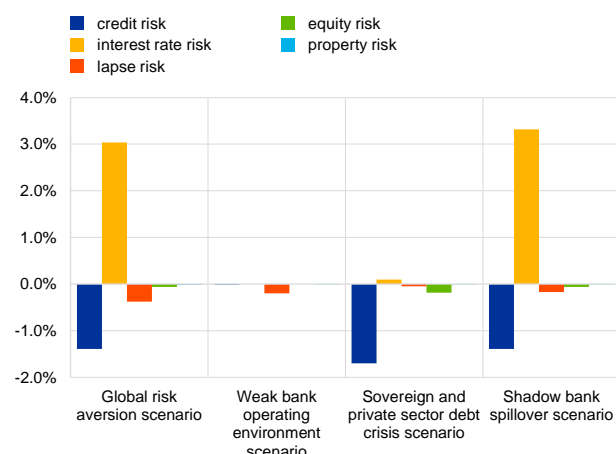
Risk drivers	Technical assumptions
Credit risk	Credit risk assessment carried out using: (i) breakdowns by rating or region, depending on data availability; and (ii) loss rate starting levels, which are stressed using the same methodology as that applied for assessing the resilience of euro area banks.
Interest rate risk transmission	Sensitivities to interest rate changes computed for each interest rate-sensitive asset and liability exposure. Relevant yield curves used to project asset and liability cash-flow streams, to calculate internal rates of return, and to discount the cash flows using yield curve shocks.
Market valuations of securities	Haircuts for debt securities derived from changes in the value of representative securities implied by the increase in interest rates under each shock and uniformly applied across the sample of large euro area insurers. Valuation haircuts applied to government bond portfolios estimated on the basis of representative euro area sovereign bonds across maturities. Haircuts for corporate bonds derived from a widening of credit spreads. Stock prices estimated using a representative euro area benchmark.
Lapse risk	Lapse risk quantified by projecting insurers' cash flows over a two-year horizon, assuming a static composition of contracts and the reinvestment of maturing assets without a change in the asset allocation. Lapse rates linked to macroeconomic variables. ⁵⁰ Unexpected component of lapses ⁵¹ leads to surrender payments. ⁵² In the case of negative cash flows from surrender payments, the insurer is obliged to use cash reserves or sell assets to meet obligations. Lapse risk equals the cash or other assets needed to cover surrender payments.
Other assumptions specific to the sensitivity of investment income	Investment income earned from reinvested assets shocked on the basis of investment income earned at the beginning of the simulation horizon. All other assets assumed to earn the initial investment income throughout the simulation horizon. Maturing fixed income assets reinvested retaining the initial asset composition. Underwriting business component of operating profit assumed to remain constant throughout the simulation horizon. No distribution of dividends assumed.

Source: ECB.

Chart 3.48

Change in the net asset values of large euro area insurers under different scenarios

(percentages of total assets; 2015-17)



Sources: Individual institutions' financial reports and ECB calculations.

The shadow banking spillover scenario is projected to have the strongest adverse impact on insurance companies (see Chart 3.48). It is followed by the weak bank operating environment scenario. In these two scenarios, euro area insurers exhibit average total declines in their net asset values amounting, respectively, to 1.8% and 0.2% of their total assets. In the other two scenarios, the net asset values of insurance companies are projected to increase.

Under all the considered scenarios but the weak bank operating environment scenario, credit risk appears to be the most significant negative driver in terms of net asset value. Although the degree of vulnerability to the materialisation of macro-financial risks is heterogeneous across individual insurance groups, the impact of a widening of credit spreads is similar across the three scenarios where a significant credit-related impact is observed, i.e. the shadow

banking spillover, the global risk aversion and the sovereign and private sector debt crisis scenarios. Under the first of these scenarios, credit risk implies a decline of about 1.7% in net asset values expressed as a percentage of total assets. Under the

⁵⁰ Sensitivities of lapse rates to GDP and unemployment were derived by taking the mean of a number of elasticity values, collected from the literature (e.g. Honegger, R. and Mathis, C., "Duration of life insurance liabilities and asset liability management", *Working Paper*, Actuarial Approach for Financial Risks (AFIR), 1993; Kim, C., "Report to the policyholder behaviour in the tail subgroups project", *Technical Report*, Society of Actuaries, 2005; and Smith, S., "Stopping short? Evidence on contributions to long-term savings from aggregate and micro data", *Discussion Paper*, Financial Markets Group, London School of Economics, 2004) and from ECB calculations.

⁵¹ The unexpected component of lapses is defined as the difference between the projected lapse rate and the average lapse rate reported by large European insurers.

⁵² It is assumed that 50% of the total amount represented by the extra lapse rates has to be paid (due to the existence of penalties in the contracts, which lower the insurers' risk).

other two scenarios, the decrease would be of about 1.4%. This outcome is driven mainly by corporate credit risk.

The impact on insurers of the increase in interest rates largely depends on the change in the slope of the yield curve and on the nature of the maturity mismatch between the duration of companies' assets and liabilities. Under the sovereign and private sector debt crisis scenario, the rise in interest rates, combined with a simultaneous steepening of the yield curve and a shorter average duration of insurance companies' assets relative to the duration of their liabilities, would lead to an increase in their net asset values as a percentage of total assets. Indeed, these factors would cause insurers' liabilities to decrease faster than their assets and, thus, would lead to a rise in their net asset value that would fully compensate for the adverse impact of credit risk. By contrast, under the shadow banking spillover scenario, the shock to interest rates combined with the moderate flattening of the yield curve has a muted effect on insurers' net asset values as a percentage of total assets.

Variations in equity price losses would be moderate. The negative impact of the adverse equity price shocks would reach, at most, 0.2% of total assets under the shadow banking spillover scenario, and would be weaker under the other scenarios, reflecting the limited exposure of euro area insurers to equity risk. Finally, lapse risk-related losses would be higher under the global risk aversion scenario, reflecting the more adverse developments in GDP growth and the unemployment rate under this scenario. As a result, the losses due to the increase in lapse rates would amount to about 0.4% of total assets, while they would be below 0.2% in all other scenarios.

3.3 Continued progress in regulatory and macroprudential policy implementation

3.3.1 Macroprudential policy measures

A range of macroprudential measures have been implemented or announced in euro area countries over the last six months.⁵³ The measures introduced have mainly been related to implementing the countercyclical capital buffer and a framework for systemically important institutions pursuant to the requirements of CRD IV. Additional measures targeted at risks related to residential real estate have been adopted in some euro area countries, with the aim of limiting undesirable developments in domestic property markets.

A first set of noteworthy measures relates to systemically important institutions, which are critical nodes in the cross-sectional dimension of systemic risk. In accordance with the requirements set out in CRD IV, the national

⁵³ A more comprehensive overview of the macroprudential measures implemented in euro area countries is available in [Macroprudential Bulletin](#), Issue 1/2016, ECB, March 2016.

authorities of all SSM countries have undertaken to identify the global systemically important institutions (G-SIIs) and other systemically important institutions (O-SIIs) within their jurisdiction. France, Germany, Italy, Spain and the Netherlands have formally designated nine institutions as G-SIIs and decided to implement a G-SII buffer requirement. Following the EBA's guidelines on the criteria for identifying O-SIIs, almost all countries have published a list of the institutions designated as O-SIIs. Several countries have also decided to apply an O-SII buffer requirement starting from 2016. The designated authorities may require O-SIIs to maintain an O-SII buffer of up to 2% of the total risk exposure amount (i.e. risk-weighted assets). These measures aim to increase the resilience of systemically important banks, in order to reduce the "too-big-to-fail" subsidy and effectively improve the stability of the whole financial system. In a number of countries, the buffers are being phased in gradually.

A second set of noteworthy measures relates to countercyclical policies, namely national countercyclical capital buffers. Following the CRD IV requirement to implement countercyclical capital buffers from the beginning of 2016, all euro area countries have started the quarterly setting of countercyclical buffer rates. The aim of the countercyclical capital buffer is to protect banks from periods of excessive credit growth, which have often been associated with the build-up of system-wide risk. However, given current subdued credit growth, which results in negative or small credit-to-GDP gaps, the buffer rate has been set at 0% in all of these countries.

3.3.2 Regulatory framework

This subsection provides an overview of a number of regulatory initiatives in the areas of banking, financial markets, financial infrastructures and insurance that are of particular importance for enhancing financial stability in the EU. The initiatives aim to both reduce systemic risk and strengthen the resilience of the financial system as a whole.

Regulatory initiatives for the banking sector

Prudential rules for banks

IRB review: The Basel Committee on Banking Supervision (BCBS) is currently undertaking a strategic review of the capital framework to tackle the excessive and unwarranted variability in risk-weighted assets (RWAs), reduce the complexity of the regulatory framework and improve the comparability of banks' capital ratios. In this context, the BCBS published on 24 March 2016 a consultation document on the revision of the internal modelling rules for credit risk. The BCBS has proposed: (i) removing the option to use the internal ratings-based (IRB) approaches for certain exposure classes for which modelling is regarded as insufficiently reliable for regulatory capital purposes; (ii) setting floors for model parameters for exposure classes for which constrained modelling will be allowed;

and (iii) better specifying parameter estimation practices where the IRB approaches remain available. Finally, the BCBS also plans to introduce the possibility of setting output floors based on the risk weights obtained under the standardised approach.

Simplifying the framework and increasing its transparency is a crucial step to preserve confidence in the risk-weighted approach and in the associated risk-based capital ratios.

The problem of excessive RWA variability, as well as the opacity and complexity of RWAs, became evident after the 2008 financial crisis. Importantly, RWA variability is the desired outcome of the risk-weighted approach when it reflects different underlying risk profiles (“good” RWA variability). However, RWA variability is unwarranted if it is unrelated to risk and arises from errors in model estimations or other deficiencies in banks’ modelling practices or from differences in legal frameworks and supervisory practices (e.g. model validations) at the national level (“bad” RWA variability). The proposed revisions of the framework represent a crucial element to complete the post-crisis financial reforms by reducing the bad RWA variability and preserving the effectiveness of the risk-weighted approach while keeping it sufficiently risk-sensitive. The reforms are intended to increase confidence in banks’ capital ratios and in the capital framework.

The BCBS’s oversight body, the Group of Central Bank Governors and Heads of Supervision (GHOS), has indicated that all the regulatory reforms, including the IRB review, will not significantly increase overall capital requirements, given that bank capital requirements have already been substantially increased by post-crisis reforms.

A quantitative impact study (QIS) undertaken by the BCBS will also test the implications of the proposed new rules on capital levels. The outcome of the QIS will help the BCBS to make an informed decision on the final design and calibration of the measures.

Sovereign exposures: The BCBS is undertaking a review of the regulatory standards for the prudential treatment of banks’ exposures to sovereigns.

This review is motivated by the experience from the last financial crisis and the significant challenges that the sources and channels of sovereign risk can pose to the banking system. The revision of the regulatory framework by the BCBS is being conducted in a “careful, holistic and gradual manner”. The regulatory treatment of sovereign exposures is also under discussion in the EU.

Several policy proposals are currently under discussion at the European level.⁵⁴

Possible options, in addition to keeping the current regulatory framework unchanged, include: (i) enhanced Pillar 2 (supervisory review) measures and Pillar 3 (disclosure) requirements; (ii) Pillar 1 (capital) requirements for sovereign exposures to mitigate credit risk; (iii) quantitative restrictions on sovereign exposures (i.e. hard large exposure limits); and (iv) “hybrid” options leading to capital add-ons depending on concentration risk, in possible combination with credit risk.

Three broad principles guide the ECB’s approach to the review of the regulatory treatment of sovereign exposures in the BCBS and within the EU.

⁵⁴ See [Strengthening the banking union and the regulatory treatment of banks’ sovereign exposures](#), Informal ECOFIN, Dutch Presidency note, 22 April 2016.

First, any regulatory change should come about through price effects rather than quantitative restrictions. The risks associated with banks' exposures to a given sovereign thus need to be addressed by means of the introduction of risk weights linked to predefined concentration thresholds, in possible combination with non-zero credit risk weights. Their design and calibration should be consistent with other areas of the regulatory framework, such as requirements relating to liquidity and banks' collateral management. Second, any reform should avoid causing severe market disruptions. It should thus be done very carefully in order not to impair the key role of sovereign assets in the functioning of financial markets, as well as in the implementation and transmission of monetary policy. It should also seek to minimise any potential negative impact on the real economy. Third, any reform has to be agreed at the global level to ensure that international competitiveness of euro area banks is not undermined.

Liquidity regulation (NSFR): In December 2015 the European Banking Authority (EBA) published a report on the impact and calibration of the net stable funding ratio (NSFR) in which it recommended the introduction of the NSFR in the EU with a similar calibration to that proposed by the BCBS, while taking into account EU specificities for certain activities and business models.

The European Systemic Risk Board (ESRB) was consulted on the EBA report and also supported the introduction of the NSFR based on the BCBS calibration. The EBA analysis did not reveal any expected significant impact on bank lending or markets. Moreover, the EBA also found no compelling argument to exempt banks from the NSFR on the basis of their size. The Capital Requirements Regulation (CRR) mandates the Commission to submit a legislative proposal by the end of 2016 on the NSFR taking into account the EBA report and the ESRB response. In line with the Regulation, the ECB will decide on the treatment of central bank reserves and on the calculation of encumbrance levels for assets which are mobilised by banks as collateral in connection with monetary policy credit operations.

Leverage ratio: Work on the leverage ratio is progressing on various fronts. The BCBS is currently working on the final aspects of the leverage ratio and will finalise the calibration this year. The GHOS agreed on 10 January 2016 that the minimum level of the Tier 1 leverage ratio should be 3% and discussed additional requirements for G-SIBs. Any final adjustments must be made to the framework by 1 January 2017, with a view to migrating to a Pillar 1 treatment on 1 January 2018. At the European level, the EBA has continued its work on the impact and calibration of the leverage ratio. The resulting report will provide an impact assessment for the leverage ratio, taking into account potential behavioural implications of a leverage ratio requirement, the leverage ratio's interaction with other prudential requirements and cyclicity. The report will also consider different business models and include an assessment of whether the leverage ratio should differ for institutions following different business models. Based on the results of this report, the European Commission will submit a report on the impact and effectiveness of the leverage ratio to the European Parliament and the Council by the end of 2016. If introduced as a binding requirement in Pillar 1, the leverage ratio will be a useful complementary measure to ensure systemic stability by providing for a limit on the extent to which

leverage may build up in the banking sector, thereby reinforcing the risk-based capital requirements.

Securitisation: The technical work on simple and transparent securitisation continued at a heightened pace at the European and international levels.

Internationally, following the publication of the final criteria on simple, transparent and comparable (STC) securitisations by the BCBS-IOSCO in July last year, the BCBS published on 10 November a consultation paper addressing how the STC criteria should be incorporated into the bank capital framework. In Europe, following the European Commission's publication at the end of September of two regulatory proposals on securitisation, the European Council worked swiftly and finalised in early December a compromise text representing its stance in the upcoming triologue negotiations. The Council compromise text proposes several important amendments, such as providing a role for regulated third parties to verify simple, transparent and standardised (STS) compliance and relaxing the requirements regarding the inclusion of non-performing exposures in STS securitisations. The European Parliament has started work on the dossier and expects to finalise its stance in the course of 2016. It is important that progress is made by legislators to bring the project to fruition.

The ECB published its opinion⁵⁵ on the Commission's proposals on 14 March⁵⁶ in which it welcomes the Commission's proposals and considers that they strike the right balance between the need to revive the European securitisation markets and the need to maintain the prudential nature of the securitisation framework. Securitisation plays an important role in increasing financial stability and the resilience of the banking system, due to its dual role as both a funding and risk transfer instrument. A well-functioning securitisation market also supports economic growth and enhances the transmission mechanism of monetary policy. The opinion makes a series of key recommendations on the STS criteria, on STS implementation, supervision and sanctioning, as well as on the STS treatment in the bank capital framework. The ECB's recommendations aim to, inter alia, encourage the adoption of the STS framework by issuing and investing banks, increase the transparency of STS securitisations to investors, strengthen the prudential regime of STS securitisations and support securitisation issuance in general and from vulnerable euro area countries in particular.

Crisis management and resolution of banks

In the EU, the Bank Recovery and Resolution Directive (BRRD), published on 12 June 2014, states that institutions shall meet, at all times, a minimum requirement for own funds and eligible liabilities (MREL). The MREL for each institution is determined by the resolution authority, after consulting the competent authority to ensure that the institution can be resolved by applying the resolution

⁵⁵ Opinion of the European Central Bank of 11 March 2016 (CON/2016/11).

⁵⁶ The European Commission published two proposals at the end of September: (i) a proposal for an umbrella regulation creating the regulatory framework under which STS securitisations can be issued; and (ii) a proposal for a CRR update that implements both the Basel 2014 securitisation and the STS frameworks.

tools in a way that meets the resolution objectives. Thus, MREL is determined for each institution through a case-by-case assessment, starting this year when the bail-in tool becomes fully operational. Hence, MREL will be key for the effectiveness of the new resolution framework.

At the international level, the Financial Stability Board (FSB) agreed in November 2015 on a new international total loss-absorbing capacity (TLAC) standard for the global systemically important banks (G-SIBs). The TLAC standard aims to ensure that there will be sufficient loss-absorbing and recapitalisation capacity in G-SIBs to implement an orderly resolution, while minimising the impact on financial stability and avoiding the use of public money. Although TLAC is a very similar concept to MREL in the BRRD, there are some key differences, e.g. regarding the scope, denominator, calibration, eligibility of instruments, relationship with capital requirements and treatment of exposures to eligible instruments, among other things. Opportunely, the BRRD provides for an MREL review in 2016 (see [Table 3.5](#)). This will enable a TLAC implementation in the EU which ensures consistency between the two standards, while still recognising that TLAC was developed for G-SIBs and MREL applies to all banks.

European Deposit Insurance Scheme

The European Commission published a legislative proposal for a European Deposit Insurance Scheme (EDIS)⁵⁷ on 24 November 2015, together with a communication on completing banking union via so-called risk-reduction or risk-mitigation measures.⁵⁸ As also outlined in the ECB's opinion on the proposal,⁵⁹ such a scheme has the potential to enhance financial stability in Europe by ensuring a uniform level of depositor confidence across the banking union. Deposit insurance is both an ex ante tool to enhance confidence and prevent bank runs and an ex post tool to protect against the adverse consequences of individual bank failures. Data on deposits of households and non-financial corporations in selected euro area countries suggest that uneven levels of confidence in national deposit guarantee schemes (DGSs) and their backstops might indeed play a relevant role in driving deposit inflows and outflows, together with other factors including broader economic and financial conditions.⁶⁰

By bringing depositor protection at the European level, such a scheme could allow diversification benefits to be reaped (as risks are spread more widely across a larger pool of financial institutions) and could reduce the likelihood that individual payouts could overwhelm national DGSs. Such a scheme is also more likely to be fiscally neutral over the medium term for the banking union as a whole, given that any single payout event will be less significant compared with the overall funding capacity of the banking system.

⁵⁷ Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) 806/2014 in order to establish a European Deposit Insurance Scheme, COM/2015/0586 final - 2015/0270 (COD), published on 24 November 2015.

⁵⁸ [Towards the completion of the Banking Union](#), Commission Communication, 24 November 2015.

⁵⁹ Opinion of the European Central Bank of 20 April 2016 ([CON/2016/26](#)).

⁶⁰ [Financial integration in Europe](#), ECB, April 2016.

Table 3.5**Selected new legislation and proposals for legislative provisions for the banking sector in the EU**

Initiative	Description	Current status
IRB review	The BCBS published a consultation document to address excessive RWA variability for credit risk, removing the option to use the IRB approaches for certain exposures. Where IRB approaches are still allowed, input floors – e.g. for probability of default and loss given default – are introduced, as well as better specifications for parameter estimations. The possibility of output floors relative to the standardised approach is also under consideration.	The consultation document was published on 24 March 2016. The BCBS will run a QIS, the outcome of which will help the BCBS to make an informed decision on the final design and calibration of the revised IRB framework.
TLAC standard	The FSB agreed in November 2015 on a new international TLAC standard for global systemically important banks, ensuring that there will be sufficient loss-absorbing and recapitalisation capacity in resolution.	In the EU, the TLAC standard will be implemented through the ongoing MREL review, which will be concluded in 2016, in accordance with the BRRD. The BRRD specifies that the EBA shall submit a report to the Commission on 31 October 2016 regarding how MREL has been implemented at the national level, including how it can be applied to different business models of banks, if the denominator should be changed, and how to ensure consistency with international standards developed by international fora, among other things. On the basis of this report, the Commission will submit a legislative proposal on the harmonised application of MREL, including (where appropriate) the introduction of minimum levels of MREL and other adjustments. The work on the report is currently ongoing at the EBA and preparatory work has also started within the Commission to enable a proposal this year.
European Deposit Insurance Scheme (EDIS)	The EDIS proposal foresees the establishment of a fully fledged European depositor protection scheme as of 2024, via an increased mutualisation in three steps (reinsurance, coinsurance, full EDIS).	The European Commission published a legislative proposal for a European Deposit Insurance Scheme on 24 November 2015, together with a communication on completing banking union. EDIS is considered the third pillar of a fully fledged banking union, as notably outlined in the Five Presidents' Report. ⁶¹ The EDIS proposal is currently being discussed in the Council in an Ad Hoc Working Party, which is also discussing so-called risk-reduction measures. Discussions at the European Parliament have not started yet. The ECB's legal opinion on the proposal was published on 20 April 2016. ⁶²
Single Resolution Mechanism Regulation (SRM Regulation)	The SRM Regulation establishes a single system, with a Single Resolution Board (SRB) and a Single Resolution Fund (SRF), for an efficient and harmonised resolution of banks within the SSM. The SRM is governed by two main legal texts: the SRM Regulation, which covers the main aspects of the mechanism, and an Intergovernmental Agreement (IGA) relating to some specific aspects of the SRF.	As of 1 January 2016 the SRB is fully operational and has full resolution powers, and the Single Resolution Fund has been established.
Simple, transparent and standardised (STS) securitisations	The STS initiative acknowledges that simple and transparent securitisations have performed better, including through crisis periods, than other securitisation structures and therefore should be treated in a different manner in regulation. The Securitisation Regulation applies to all securitisations and includes due diligence, risk retention and transparency rules, together with criteria to identify STS securitisations. The proposal to amend the CRR puts forward, inter alia, lower capital charges for securitisations that meet the STS criteria as well as a number of additional criteria specific to the bank capital framework.	The European Commission made the two proposals (the Securitisation Regulation and the CRR amendment) on 30 September 2015. The European Council agreed on a negotiating stance on the two proposals on 2 December. The European Parliament expects to finalise its stance in the course of 2016. Trialogue negotiations are currently expected in early 2017. The ECB published its opinion on the Commission's proposals on 14 March. The BCBS launched a consultation on how to incorporate the STC securitisations in the bank capital framework on 10 November 2015 and is expected to finalise the revisions to the securitisation framework in the course of 2016.

Such a scheme could also address a number of financial stability-related issues. First, it would further contribute to weakening the bank-sovereign nexus.

Second, the lack of a uniform level of depositor confidence across the banking union might create dangerous contagion mechanisms, which may jeopardise financial stability even in member countries with a more favourable fiscal position. Finally, to address moral hazard the EDIS proposal follows the “polluter pays” principle by requiring riskier banks to pay higher contributions, based on a banking union-wide methodology for risk assessment. In this context, banks perceived as more resilient would pay lower fees, reflecting their lower risk profile, while benefiting from the strong mutualised safety net.

It should be noted that a deposit insurance fund, even one that is elevated to the European level in the form of an EDIS, cannot be designed so as to be able

⁶¹ [Complementing Europe's Economic and Monetary Union](#), European Commission, 22 June 2015.

⁶² Opinion of the European Central Bank of 20 April 2016 ([CON/2016/26](#)).

to meet payout requests for all deposits in the banking system at the same time, implying that an explicit or implicit public backstop plays a crucial role to preserve confidence. Only an EDIS coupled with a credible common backstop will underpin depositor confidence in the banking union as a whole, notably by offering protection also in the case of large local shocks. Such a backstop would reinforce depositor confidence, reduce the risk of bank runs and increase financial stability across the banking union. Thus, a fiscally neutral common public backstop for EDIS at the latest as of the full insurance stage is necessary to ensure a uniform level of confidence and to effectively weaken the bank-sovereign link. Any such backstop for the deposit insurance fund must respect the principle of fiscal neutrality, ensuring that any public funds are recouped from the financial sector via ex post contributions. The use of the European Stability Mechanism would be an option for the establishment of a fiscally neutral common public backstop.

Regulatory initiatives for financial markets and financial infrastructures

In addition to initiatives in the area of banking regulation, several steps have also been taken to address the risks in financial markets and to strengthen the resilience of financial infrastructures.

Market-based finance/investment funds

In the field of market-based finance, the FSB has continued its work on the deliverables laid out in the roadmap on “Transforming shadow banking into resilient market-based financing”, published on 14 November 2014. Over the last six months the FSB has been working on developing policy recommendations to address the risks associated with asset management activities. In particular, this work focuses on addressing vulnerabilities related to: (i) the mismatch between the liquidity of fund investments and the redemption terms and conditions for fund units; (ii) leverage within investment funds; (iii) operational risk and challenges in transferring investment mandates in stressed conditions; and (iv) securities lending activities of asset managers and funds. The ECB actively supports this work, given the growing importance of this part of the financial system and the need to extend the macroprudential toolkit to mitigate risks to financial stability beyond banking.

In Europe, the Regulation on transparency of securities financing transactions and of reuse (SFTR) was published on 23 December 2015 and contains measures aimed at increasing the transparency of securities lending and repurchase agreements through the obligation to report all transactions to trade repositories. The first phase of reporting is expected to commence in 2018. The SFTR also imposes minimum market-wide conditions to be met for reuse such as prior consent, as well as the disclosure of the risks and the consequences of reuse, thereby addressing risks related to the lack of transparency on the extent to which financial instruments provided as collateral have been reused.

Financial infrastructures

The ECB Regulation on oversight requirements for systemically important payment systems entered into force on 12 August 2014, aiming, inter alia, to ensure the efficient management of legal, credit, liquidity, operational, general business, custody, investment and other risks of systemically important payment systems. Four payment systems are subject to this Regulation: TARGET2 (operated by the Eurosystem), EURO1 and STEP2-T (both operated by EBA Clearing), and CORE (FR) (operated by STET). These systemically important payment systems had to comply with the requirements of the Regulation by August 2015. All of the systems are currently being assessed against the Regulation.

Table 3.6

Selected new legislation and legislative proposals for financial markets and financial infrastructure in the EU

Initiative	Description	Current status
ECB Regulation on oversight requirements for systemically important payment systems	The aim of the Regulation is to ensure the efficient management of all types of risk that systemically important payment systems (SIPs) face, together with sound governance arrangements, objective and open access, as well as the efficiency and effectiveness of SIPs.	The Regulation entered into force on 12 August 2014.
European Market Infrastructure Regulation (EMIR)	The aim of the Regulation is to bring more safety and transparency to the OTC derivatives markets. It sets out rules for, inter alia, central counterparties and trade repositories.	The Regulation entered into force on 16 August 2012. The Regulatory Technical Standards on the mandatory central clearing of standardised OTC interest rate swaps entered into force on 21 December 2015.
Regulation on improving the safety and efficiency of securities settlement in the EU and on central securities depositories (CSD Regulation)	The aim of the Regulation is to increase the safety and efficiency of securities settlement and settlement infrastructures (i.e. central securities depositories) in the EU. It introduces an obligation of dematerialisation for most securities, harmonised settlement periods for most transactions in such securities, settlement discipline measures and common rules for central securities depositories.	The Regulation entered into force on 17 September 2014. The Commission is currently considering technical standards drafted by the European Securities and Markets Authority (ESMA) and European Banking Authority (EBA) in close cooperation with members of the ESCB. Once endorsed by the Commission, both the European Parliament and the Council have an objection period.
Markets in Financial Instruments Directive and Regulation (MiFID II/MiFIR)	The legislation applies to investment firms, market operators and services providing post-trade transparency information in the EU. It is set out in two pieces of legislation: a directly applicable regulation dealing, inter alia, with transparency and access to trading venues, and a directive governing authorisation, the organisation of trading venues and investor protection.	Directive 2014/65/EU on markets in financial instruments (MiFID II) and Regulation (EU) No 600/2014 on markets in financial instruments (MiFIR) were both published in the Official Journal of the EU on 12 June 2014.
Proposal for a Money Market Fund Regulation (MMF Regulation)	The proposal addresses the systemic risks posed by this type of investment entity by introducing new rules aimed at strengthening their liquidity profile and stability. It also sets out provisions that seek, inter alia, to enhance their management and transparency, as well as to standardise supervisory reporting obligations.	The European Commission's proposal was published in September 2013. The ECON Committee of the European Parliament adopted its position on 26 February, while discussions are still ongoing in the Council. The ECB adopted its position on 21 May 2014.
Regulation on transparency of securities financing transactions and of reuse (SFTR)	The Regulation contains measures aimed at increasing the transparency of securities lending and repurchase agreements through the obligation to report all transactions to a central database. This seeks to facilitate regular supervision and to improve transparency towards investors and on re-hypothecation arrangements.	Regulation (EU) 2015/2365 of the European Parliament and of the Council of 25 November 2015 on transparency of securities financing transactions and of reuse was published in the Official Journal of the EU on 23 December 2015.

Implementation of the European Market Infrastructure Regulation (EMIR) has continued to make progress. Starting on 21 June 2016, certain types of standardised interest rate swaps will have to be cleared through central counterparties (CCPs). Mandatory clearing of over-the-counter (OTC) derivatives, which enhances the security and transparency of these markets, is a key aspect of the regulatory response to the financial crisis.

In September 2015 the ECB published its response to the Commission's consultation on the review of EMIR, in which it proposes amending the Regulation in order to fully recognise the ECB's role in the field of banking supervision, to address issues related to the quality and availability of derivatives data, and to further enhance the requirements for mitigating procyclicality. Regarding procyclicality, the proposals aim to ensure that CCPs are adequately protected from increases in market volatility without needing to exert

potentially destabilising liquidity pressure on their clearing members. Moreover, the ECB supports the inclusion of macroprudential intervention tools in EMIR (for example, providing authorities with the power to set time-varying margin and haircut requirements on derivative transactions) in order to prevent the build-up of systemic risk resulting, in particular, from excessive leverage, and to further limit the procyclicality of margins and haircuts.

Regulatory initiatives for the insurance sector

Solvency II – the new EU supervisory framework for insurance – has been applicable since 1 January 2016 and represents a major step towards supervisory convergence, e.g. by ensuring uniform and appropriate conditions for the calculation of technical provisions^{63 64} by (re)insurers across Europe. Further work has been undertaken in the area of insurers' infrastructure investments. After a second call for evidence⁶⁵ by EIOPA to prepare further technical advice to the Commission on the identification and calibration of other infrastructure investment risk categories, i.e. infrastructure corporates, EIOPA published a related consultation paper⁶⁶ in April 2016. Following an amendment to Solvency II, certain requirements for investing in qualifying infrastructure projects have already been lowered for insurers. In March 2016 EIOPA also published a paper on a potential macroprudential approach to the low interest rate environment in the Solvency II context.⁶⁷

At the international level, the assessment methodology for global systemically important insurers (G-SIIs), which has been used since 2013, is currently under discussion. In November 2015 the International Association of Insurance Supervisors (IAIS) launched two public consultations, one focused on the refinement of the assessment methodology, the other aiming to define more precisely the concept of non-traditional non-insurance (NTNI) activities. The IAIS will conclude on the outcome of these consultations later this year. Furthermore, following a public consultation, the FSB published the final Guidance for regulators, supervisors and resolution authorities on developing effective resolution strategies and plans for systemically important insurers.

⁶³ [Commission Implementing Regulation \(EU\) 2016/165](#) laying down technical information for the calculation of technical provisions and basic own funds for reporting with reference dates from 1 January until 30 March 2016 in accordance with Directive 2009/138/EC of the European Parliament and of the Council (Solvency II), 5 February 2016.

⁶⁴ [Consultation Paper on the methodology to derive the UFR and its implementation](#), EIOPA, 6 April 2016.

⁶⁵ [Call for evidence concerning the request to EIOPA for further technical advice on the identification and calibration of other infrastructure investment risk categories i.e. infrastructure corporates](#), EIOPA, 19 November 2015.

⁶⁶ [Consultation Paper No CP-16-005 on the request to EIOPA for further technical advice on the identification and calibration of other infrastructure investment risk categories i.e. infrastructure corporates](#), EIOPA, 15 April 2016.

⁶⁷ [A potential macroprudential approach to the low interest rate environment in the Solvency II context](#), EIOPA, 23 March 2016.

Other initiatives

Capital markets union

The ECB has strongly supported the European Commission's initiative to establish a capital markets union (CMU) from the outset since a more diversified financial system, with capital markets complementing bank-based funding, could increase the shock-absorbing capacity of the European economy and strengthen cross-border risk-sharing, thereby contributing to financial stability. CMU is aimed at the development of risk capital and thereby should lead to increased private risk-sharing in the EU. This would reduce the reliance on debt-based financing, which has proven to be prone to cyclicity and sudden reversals in the face of shocks. To achieve this, ways to address taxation issues, in particular double taxation and the debt-equity bias, should be examined.

A high level of financial integration (i.e. reducing cross-border barriers) would contribute to stimulating a market-based risk-sharing mechanism across EU Member States and thereby increase the shock-absorbing capacity of the European economy. In order to stimulate international risk-sharing, company and insolvency laws, which are impeding the good functioning of European capital markets, should be harmonised.

However, more integration can exacerbate the scale and speed of cross-border contagion, which underlines the importance of taking a macroprudential view of the financial system and having in place an adequate macroprudential framework and tools to assess and mitigate systemic risks. New risks can appear in particular in non-banking parts of the financial system that are less regulated and more opaque. Therefore, as the CMU project is pursued, a broader and strengthened macroprudential toolkit for the non-bank financial system will need to be developed. In addition, to ensure that there are no unintended financial stability risks to banks from the further development of capital markets, to make capital markets stronger and to achieve deeper cross-border financial integration in bank and market-based financing, the European macroprudential framework for banks should be strengthened.