

RISK ASSESSMENT OF THE EUROPEAN BANKING SYSTEM

DECEMBER 2016

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Abbreviations

AMC	asset management company	IMF	International Monetary Fund
APP	asset purchase programme	ITS	implementing technical standard
AT1	additional tier 1	IRRBB	interest rate risk in the banking book
BIS	Bank for International Settlements	RI	risk indicator
bp	basis point(s)	LCR	liquidity coverage ratio
BRRD	bank recovery and resolution directive	LCU	local currency unit
CAPM	capital asset pricing model	MDA	maximum distributable amount
CDS	credit default swap(s)	MPO	monetary policy and operations
CET1	common equity tier 1	MREL	minimum requirement for own funds and eligible liabilities
CoCo	contingent convertible (instrument)	NFC	non-financial corporate(s); net fee and commission income
CoE	cost of equity	NII	net interest income
CRD	capital requirements directive	NPL	non-performing loan(s)
CRR	capital requirements regulation	NSFR	net stable funding ratio
CRE	commercial real estate	OCR	overall capital requirements
DDoS	distributed denial of service	p.a.	per annum
EBA	European Banking Authority	OMT	outright monetary transactions
ECB	European Central Bank	PD	probability of default
ECL	expected credit loss(es)	pp	percentage point(s)
EDF	expected default frequencies	P&L	profit and loss
EEA	European Economic Area	RAQ	risk assessment questionnaire
ESRB	European Systemic Risk Board	RAR	risk assessment report
Euribor	Euro interbank offered rate	REA	risk exposure amount
EWS	early warning system	RoA	return on assets
FBL	forborne loan(s)	RoE	return on equity
Finrep	financial (supervisory) reporting	SA-CCR	standardised approach for counterparty credit risk
FinTech	financial technology	SME	small and medium-sized enterprises
FRTB	fundamental review of the trading book	SREP	supervisory review and evaluation process
GDP	gross domestic product	TLAC	total loss-absorbing capacity
ICT	information and communication technologies	(T)LTRO	(targeted) long-term refinancing operation
IFRS	International Financial Reporting Standard	TOI	total operating income

Executive summary

The EU banking sector continues to struggle with high levels of non-performing loans (NPLs), low profitability and efforts to restore confidence, notwithstanding the steady strengthening of the capital base. Nonetheless, modest asset growth continues, also supported by lower-risk traditional lending.

External events saw heightened volatility in market sentiment towards banks' funding in the first three quarters of 2016. Whilst funding costs have been kept low by accommodative monetary policy stances, including central banks' asset purchase programmes, overall issuance volumes of unsecured debt were reduced in the first three quarters of 2016 compared to 2015. Issuance concentrated on banks with a strong market perception. Volume reductions of subordinated debt issued were particularly pronounced. Volatility has also seen increased fluctuations in spreads for unsecured debt in 2016. Going forward, banks will also have to take into account in their funding plans the need to meet the requirements of the global standard on total loss absorbing capacity (TLAC) and the bank recovery and resolution Directive (BRRD).

Deposit volumes have been flat in 2016. Low and partially negative interest rates have not, yet, had a negative impact on deposit volumes, but previous years' growth has stalled.

Funding plans indicate banks' optimism in respect of asset and liability growth. On an aggregated basis, funding plans from banks indicate they plan to increase lending to households and non-financial corporates (NFCs) by about 1 % to up to 5 % p.a. in 2016 and the two following years. On the liability side, deposits from households and NFCs, as well as market funding, are expected to increase for both long-term secured and unsecured funding. Expected increases are in a range between 1 % and 5 % p.a. in the years 2016, 2017 and 2018. Seen in aggregate, it seems difficult for all banks to increase these sources of funding, especially in light

of this year's static deposit growth and volatile funding markets with several set-backs of issuance volumes.

The strengthening of European banks solvency, initiated in 2011, has continued. The common equity tier 1 (CET1) ratio, computed on a transitional basis, increased by 80 basis points (bp) between June 2015 and June 2016, to 13.6 %. The fully loaded CET1 ratio was 12.1 % in June 2015 and 13.2 % in June this year. The continuous increase in common equity is the main driver for the improvement in banks' capital position. Supervisory restrictions on dividends have also boosted retained earnings, despite the low profitability environment. A downward trend in risk exposure amounts (REA) was led by a fall in credit risk as banks shifted towards lower risk weights, despite a slight increase in total assets in the same period. A fall in market risk also contributed to the decline.

Additional tier 1 (AT1) capital reached 1.2 % of REA in aggregate as of June 2016, which shows that banks still have room to further adjust their capital structure. Only 18 % of the banks in the EBA's sample have AT1 equal to or above the maximum amount eligible of 1.5 % for the computation of the minimum tier 1 capital ratio, whilst 75 % hold AT1 below 1 %. Conversely, 48 % hold tier 2 (T2) capital already above 2 %, which is the maximum amount eligible for the computation of the minimum total capital ratio, while only 17 % report a share of zero. Investor demand is somewhat subdued, despite the attractiveness of higher yields, as challenging market conditions and some initial concerns about the regulatory treatment and trigger for AT1 instruments weighed on the sentiment. Average yields for AT1 instruments were substantially higher in 2016 compared to 2015. A range of different terms and features observed in AT1 instruments issued in Europe and a lack of comparability may additionally have negatively affected investor interest in these instruments.

More than one third of EU jurisdictions have NPL ratios above 10%. While there are signs of potential improvements, asset quality is still subdued compared to historical figures and other regions. The NPL ratio improved to 5.4 % in the second half of 2016 from 6.5 % at the end of 2014. There are still material differences in asset quality across countries. Further gradual improvements in asset quality are expected by banks and market analysts, but they will strongly depend on successfully tackling the impediments of NPL resolution.

Profitability remains a major challenge as EU banks reported an aggregate weighted average return on equity (RoE) of 5.7 % as of June 2016, down by more than 100 bp compared to June 2015, albeit an improvement compared to 2015 and 2014 end-of-year data. The decline in profitability was driven by a drop of total operating income by 8.8 %. In the same period, operating expenses decreased by 3.6 %. The level of returns and efficiency as of June 2016 suggests that EU banks are not yet on a path of full recovery towards a sustainable level of profits. It remains a source of concern in the EU banking system. This is confirmed by the fact that RoE remain below banks' cost of equity (CoE).

Operational risks appear to be on the rise. Information and communication technology (ICT) risk is increasing whilst litigation and conduct risk-related concerns remain. As banking operations increase their dependence on IT platforms and telecommunication networks, concerns about connectivity and outsourcing to third party providers have increased in prominence. In particular, the rising digitalisation of distribution channels

and 'always-on' expectations of customers is putting pressure on systems to adapt. Cyber-attacks are on the rise and banks are struggling to demonstrate their ability to cope. In this context, supervisors are focusing on ICT-related risks including measures to fix rigid and outdated legacy IT systems, IT resilience and governance and outsourcing. The entry of financial technology (FinTech) competitors is also seen as a challenge and opportunity.

Banks expect compensation and redress payments to remain high. According to the Risk Assessment Questionnaire (RAQ) for banks, over 44 % of the respondents have made compensation, litigation and similar payments of more than EUR 500 million since the financial year 2007/08. Banks themselves do not expect a decline in compensation and redress payments in the near term future. Next to these potentially substantial litigation-related costs, lengthy processes until cases of detrimental practices are settled add to uncertainties among consumers and banks. Litigation risk is considered as one of the most important factors negatively affecting current market sentiment for EU banks, together with regulatory uncertainty about risk weights, according to market analysts.

Challenges of NPLs, operational risks and low profitability continue to impact investor confidence in banks and impede the banking sector's ability to contribute to economic recovery. Action on NPLs is needed, including supervisory actions, structural reforms and development of secondary markets, along with ongoing supervisory assessment of banks' business model sustainability.

Introduction

This is the ninth report on risks and vulnerabilities of the EU banking sector published by the European Banking Authority (EBA). It describes the main developments and trends that have affected the EU banking sector since the end of 2015 and provides the EBA's outlook on the main micro-prudential risks and vulnerabilities looking ahead ⁽¹⁾. For the first time, the December 2016 risk assessment report (RAR) is complemented with the EBA's EU-wide 2016 transparency exercise.

Chapter 1 of the RAR looks at the macro-economic environment and market dynamics. Chapter 2 focuses on the assets side, explaining the trends in asset volumes and dynamics of asset quality. Chapter 3 considers the liability side, presenting the evolution of the funding mix and its conditions. It also discusses deposit trends and highlights remaining structural fragilities and challenges in funding markets. Chapter 4 provides an overview of the banks' capital positions and related trends. Chapter 5 describes banks' income and profitability, and the significant headwinds and future evolution. Chapter 6 touches on aspects of banks' operational and ICT-related risks, as well as business conduct and litigation issues. Finally, Chapter 7 presents policy implications and possible measures to address the prudential issues mentioned in the previous chapters.

The RAR is based on qualitative and quantitative information collected by the EBA. The report's main exclusive data sources are:

- EBA supervisory reporting,
- the EBA RAQ for banks and market analysts ⁽²⁾, and
- micro-prudential qualitative information and supervisory college information-gathering.

The RAR builds on the supervisory reporting data submitted to the EBA on a quarterly basis by competent authorities for a sample of 198 banks from 29 European Economic Area (EEA) countries (157 banks at the highest EU level of consolidation). Based on total assets, this sample covers about 85% of the EU banking sector. This information, and the historical analysis contained in this report, is available from December 2014, when the EBA started collecting data based on the EBA's implementing technical standards (ITS) on supervisory reporting for the above-mentioned extended sample of banks. The risk indicators are in general based on an unbalanced sample of banks, whereas charts related to the risk indicators' numerator and denominator trends are based on a balanced sample. The text and charts in this report refer to weighted average ratios if not otherwise indicated ⁽³⁾.

⁽¹⁾ With this report, the EBA discharges its responsibility to monitor and assess market developments and provides information to other EU institutions and the general public, pursuant to Regulation (EU) No 1093/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Banking Authority), and amended by Regulation (EU) No 1022/2013 of the European Parliament and of the Council of 22 October 2013.

⁽²⁾ These questionnaires are conducted by the EBA on a semi-annual basis, and addressed to banks and/or their financial supervisors as well as market analysts. Answers to the questionnaires were provided by 38 European banks (Annex I) and 21 market analysts in October 2016.

⁽³⁾ There might be slight differences between some of the risk indicators covered in the Q2 2016 version of the risk dashboard, published on 30 September 2016, and this report due to data resubmissions by banks. The EBA risk dashboard is available online (<https://www.eba.europa.eu/risk-analysis-and-data/risk-dashboard>). The annex to the risk dashboard also includes a description of the risk indicators covered in this report and their calculation, and further descriptions are available in the EBA's guide to risk indicators (<http://www.eba.europa.eu/risk-analysis-and-data/risk-indicators-guide>).

The EBA is disclosing, in parallel with the RAR, bank-by-bank data as part of the 2016 EU-wide transparency exercise, for two reference dates, December 2015 and June 2016. The transparency exercise is part of the EBA's ongoing efforts to foster transparency and market discipline in the EU internal market for financial services, and complements banks' own Pillar 3 disclosures, as set out in the EU's capital requirements directive (CRD). The sample in the 2016 transparency exercise includes 131 banks at the highest EU level of consolidation, from 24 EEA countries, instead of the 157 institutions of the report ⁽⁴⁾. The EU-wide transparency exercise fully relies on supervisory reporting data.

The cut-off date for the supervisory reporting data that feeds into the RAR and transparency exercise was 18 November 2016. The supervisory reporting data, which is of a backward-looking nature, is complemented in the RAR with various forward-looking sources of information and data, such as semi-annual and ad hoc surveys, like the EBA's RAQs.

The report also analyses information gathered by the EBA from the colleges of supervisors and from informal discussions as part of the regular risk assessments and ongoing dialogue on risks and vulnerabilities of the EU banking sector. Market data presented in the RAR is as of 30 September 2016, if not otherwise indicated.



⁽⁴⁾ A list of banks covered by supervisory reporting, by the transparency exercise and by the RAQ is included in Annex I.

1. Macroeconomic environment and market sentiment

Despite low commodity prices and an accommodative monetary policy stance, economic growth has remained moderate, mostly in connection with slow structural reforms in some jurisdictions, political risk and economic uncertainties in emerging as well as developed markets. Political risk materialised not least through the United Kingdom’s vote to leave the EU, which was followed by a period of elevated market volatility. Even though capital and currency markets seem to have recovered from a first shock following the results, some concerns remain on potential spill-overs and downside risks for the economy.

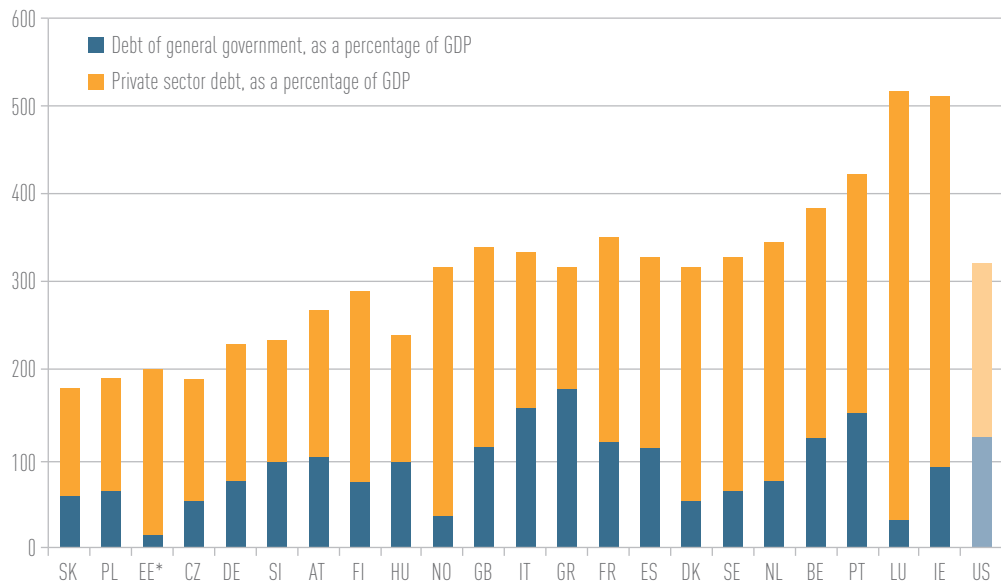
EU banks are facing a vulnerable low growth and low inflation rate environment

The EU gross domestic product (GDP) for 2016 is estimated to grow at 1.8 % by the European Commission ⁽³⁾. This confirms former projections of subdued economic growth and compares with an already moderate economic improvement last year. GDP growth for the next year is expected to decrease to 1.6 %, and to reach 1.8 % in 2018 again.

Indebtedness of the private and public sector have remained high. The sum of general government and private sector debt relative to national GDP for EU countries is between 180 % and nearly 520 % (Figure 1). This compares with about 300 % for the United States.

Figure 1: Debt of general governments and private sector debt as a percentage of GDP (end of 2015) ⁽⁴⁾

Source: OECD statistics, EBA calculations.



⁽³⁾ Economic data is based on the European Commission’s ‘European economic forecast’, (http://ec.europa.eu/economy_finance/eu/forecasts/2016_autumn_forecast_en.htm), if not otherwise indicated.

⁽⁴⁾ For the countries marked (*), 2014 figures were used for either one or both of the variables. Further explanations on the statistics and data is available online: <https://data.oecd.org/gga/general-government-debt.htm> and http://stats.oecd.org/Index.aspx?DataSetCode=FIN_IND_FBS.

Inflation levels in the EU remain low. The European Commission’s forecast for 2016 is 0.3 %, which is expected to grow to 1.6 % in 2017. For the euro area it is estimated at the same level of 0.3 % for 2016 and slightly lower at 1.4 % for 2017. Driven by the low inflation outlook, interest rates are expected to stay low, and the normalization of the monetary policy is expected to be delayed further into the future.

EU market parameters in 2016 reflect political and economic uncertainties

The low growth, low inflation rate environment, together with elevated political and economic risks, creates a challenging environment for EU banks. This is reflected in their decreasing share prices. Similar to many other parts of capital markets, equity prices for the banking sector faced high volatility, in particular following specific events in 2016.

The elevated capital market volatility also materialised in EU banks’ credit default swap (CDS) spreads. Since the middle of last year they have shown several peaks, with certain recovery afterwards, but have remained at higher levels than in the year before, suggesting that concerns about the long-term solvency of some banks remain (Figure 2).

Political and economic uncertainty weighing on an already beleaguered banking industry, exacerbated by the low interest rate environment, is negatively affecting the banks’ business environment (?). Besides NPL related concerns, also uncertainty about EU institutions’ litigation risks are priced in by the markets, as the results of the RAQ among market analysts show (Figure 3).

(?) See Chapter 5 (Profitability) on banks’ profitability.

Figure 2: Stock index — STOXX® Europe 600 Banks share price index and weighted average of EU bank CDS spreads by market capitalisation (average December 2011= 100)
 Source: Bloomberg, EBA calculations.

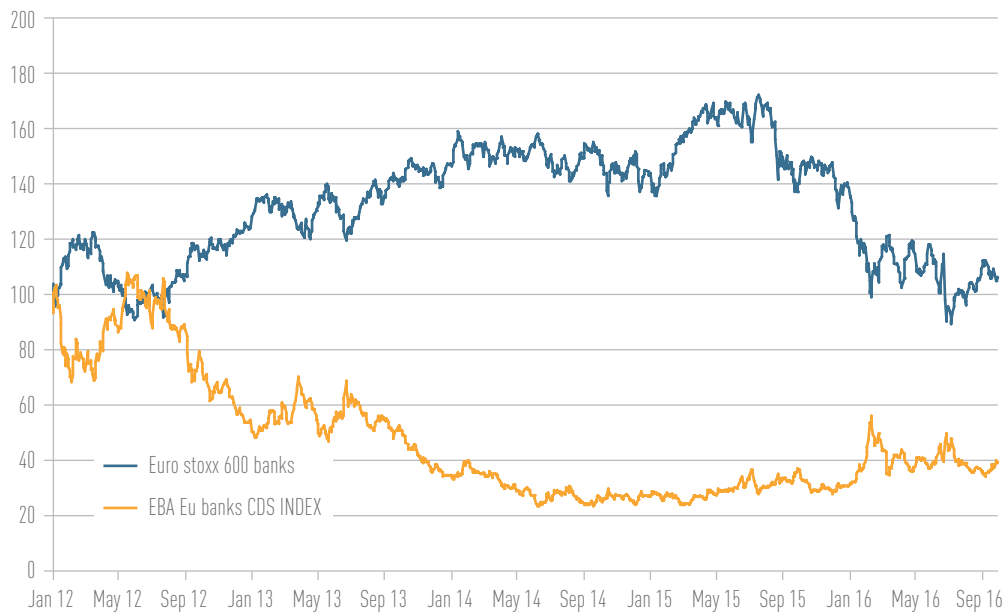
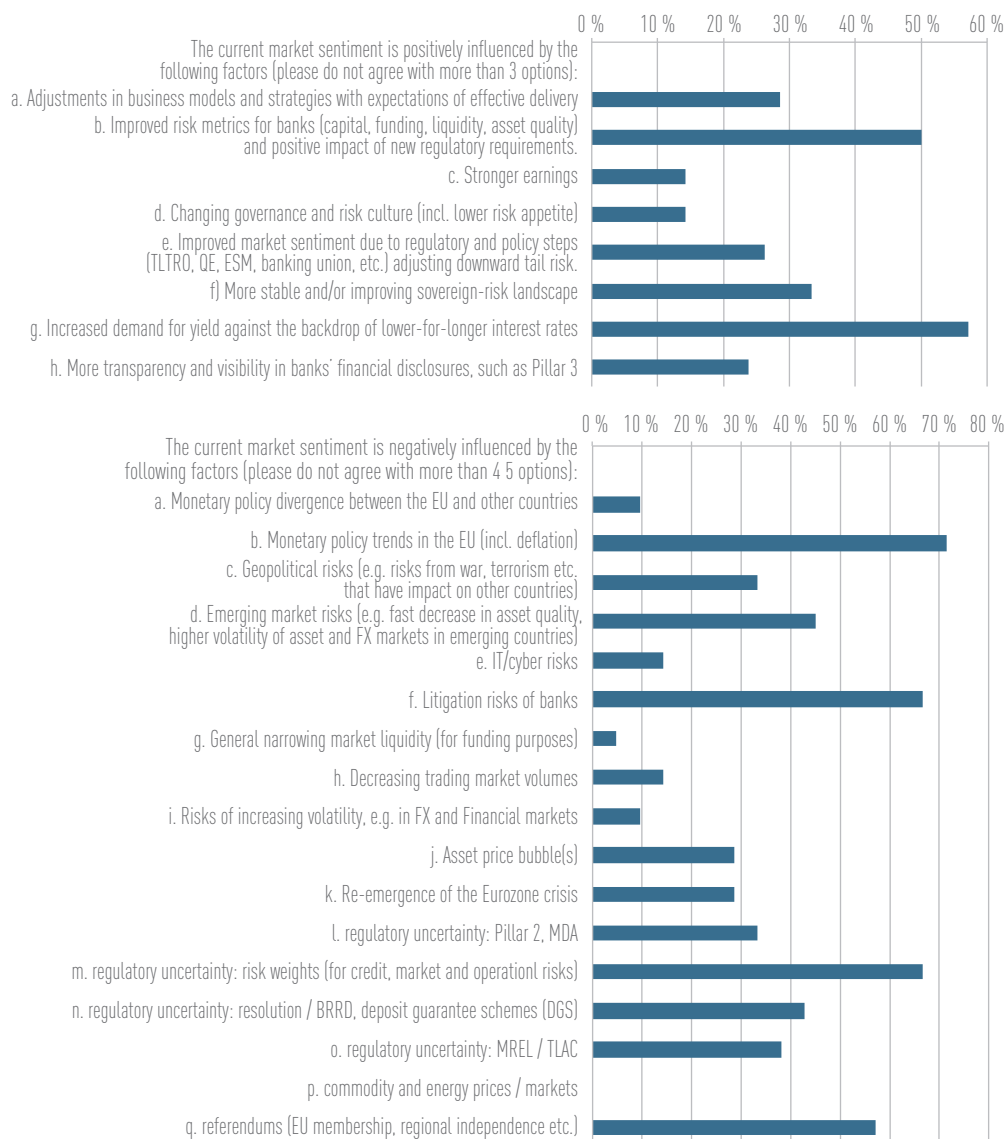


Figure 3: Market sentiment: positive and negative influences

Source: EBA RAQ for market analysts.



Main risks identified in 2016 supervisory review and evaluation process (SREP) risk assessments performed for the EU largest banking groups

The SREP is an ongoing supervisory process bringing together findings from all supervisory activities performed in connection with a particular bank into a comprehensive overview. In other words, it has been designed with the aim to analyse and assess risks to which credit institutions are or might be exposed to both on solo and consolidated levels, including their impact on financial stability.

The SREP guidelines published by the EBA in 2014, which came into effect on 1 Janu-

ary 2016, provide competent supervisory authorities with guidelines for the assessment of risks ^[8]. The SREP assumes that supervisors dealing with EU cross-border banking groups reach joint risk and liquidity risk assessments. It is also assumed that ultimately joint decisions on capital and liquidity are made.

The 2016 SREP risk assessments carried out for the largest European banking groups provide valuable insights on risks and on the supervisors' view on them.

[8] See [https://www.eba.europa.eu/documents/10180/935249/EBA-GL-2014-13+\(Guidelines+on+SREP+methodologies+and+processes\).pdf](https://www.eba.europa.eu/documents/10180/935249/EBA-GL-2014-13+(Guidelines+on+SREP+methodologies+and+processes).pdf).

Business model analysis

Supervisors stressed the operational difficulties of changing banks' business models. These include for example the execution risk associated with the implementation of new strategies or the adaptability of IT infrastructures to digital solutions. However, keeping business models unchanged amid banks' low profitability remains an even greater concern for supervisors ⁽⁹⁾.

Credit risk

Altogether, credit risk is identified in the SREP as by far the most important financial risk for the majority of institutions. The overall credit risk is still considered high by historical standards. This is mainly driven by the elevated levels of NPLs, albeit some improvements in the quality of assets have been recorded, not least as the net inflows to defaulted assets decelerated. However, these improvements are rather slow and further progress in dealing with legacy portfolios is needed. This includes clear strategies for addressing non-performing loans. Going forward, the SREP assessments highlighted several prospective risks which may increase the inflow of non-performing loans. They include exposures to emerging economies, uncertainties related to energy business and a rising appetite for growth in certain asset classes such as commercial real estate (CRE) ⁽¹⁰⁾. The supervisors plan to further analyse internal models designed for credit risk management purposes to make sure that these models do not underestimate credit risk.

Operational risk

Operational risk is considered the second most elevated risk after credit risk and one of the most complex ones in the SREP. It includes a wide range of risk elements (ICT-related risk, conduct risk, reputational risk, etc.), which are already very challenging on their own. Moreover, since the financial crisis hit in 2008, some operational risk elements, especially conduct risk, have demonstrated their prominence. This is still being felt since the main driver for operational risk losses stemmed from legal, litigation and settlement costs. The supervisory assessments concluded that some improvements were reached in the overall quality of internal op-

erational risk control environments. However, these improvements have not been sufficient and further enhancements are needed. It is not the least true for ICT-related risk which is still high due to a number of reasons. These include fragmented and ageing IT systems, insufficient security management and overall high dependency on robust IT infrastructures. Also, the data quality should be improved. IT systems will require substantial investments to remediate operational risk weaknesses and ensure that the quality and resilience of these systems support sustainable development of business models ⁽¹¹⁾.

Market risk

In general, market risk was assessed as medium-low for the majority of banking groups. This takes into account reducing risk exposures to market risk driven by changing regulation and improving risk management frameworks. For some banking groups, the supervisory authorities viewed market risk as medium-high. It is driven by the volatile results from trading books and the complexity of financial instruments held (level 3 instruments), which pose uncertainties regarding their valuations.

Liquidity risk

As far as liquidity risk is concerned, the risk assessments carried out in 2016 confirmed the conclusions from 2015. Liquidity risk, taking account of generous central bank support, seems limited, with sufficient liquidity buffers demonstrated by compliance with regulatory ratios and largely adequate risk control frameworks. On the other hand, some signs of increasing reliance on short-term wholesale funding may suggest increasing liquidity risk ⁽¹²⁾. Further improvements are needed in the intraday liquidity risk management, data aggregations and stress testing methodologies.

Interest rate risk in the banking book (IRRBB)

Overall, IRRBB is medium-low risk on account of low exposures to this risk and certain improvements in the risk management. On the other hand, weaknesses in the risk management frameworks still remain. Thus, further work is needed to strengthen the frameworks, including the quality of data.

⁽⁹⁾ See Chapter 5 (Profitability) on banks' profitability, including a detailed analysis of return and cost of equity (RoE and CoE).

⁽¹⁰⁾ However, the RAQ results indicate that CRE portfolios are not in the focus for volume growth, see also Chapter 2 (Asset side) on asset volumes and quality.

⁽¹¹⁾ On ICT-related risks see also Chapter 6.1 (ICT-related risks).

⁽¹²⁾ On the reliance on short-term wholesale funding see also Chapter 3 (Liability side).

2. Asset side

Asset as well as loan volumes have been increasing since the beginning of the year, continuing a trend that had already started in 2014. However, conversely to previous years, total assets increased in the first half of 2016 by 3.8 %, more than loans, which grew by 1.7 %. Assets' growth was also larger than in the same period last year (when it was 1.2 %). According to banks' expectations this trend may continue going forward.

Even if there are signs of potential improvements, asset quality is still subdued compared to historical figures and other regions. The NPL ratio decreased to 5.4 % in the first half of 2016 compared to 6.5 % at the end of 2014 and 5.7 % per year-end 2015 ⁽¹³⁾. There are still material differences in asset quality across countries. Further gradual improvements in asset quality are expected by banks

and market analysts, but such developments will strongly depend on the success in tackling the impediments to NPL resolution.

2.1. Volume trends

Total assets increasing faster than loans

Between 2014, when the deleveraging process started to be reversed, and June 2016 EU banks covered by the EBA's sample increased total assets and total loans by EUR 812 billion and EUR 583 billion, respectively ⁽¹⁴⁾. Total assets grew at a faster pace than loans (3.8 % increase for the former compared to 1.7 % increase for the latter, year to date, Figure 4), which is contrary to the trend in the previous year.

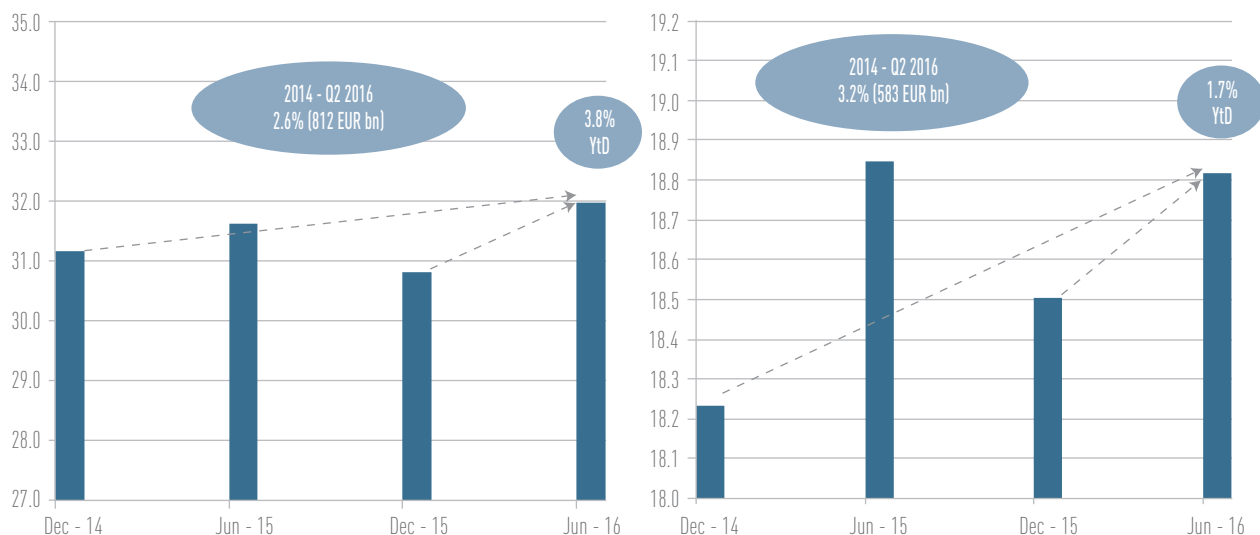
The analysis of the asset composition shows that the share of loans in total assets has slightly decreased, to 58.8 %, compared to year-end 2015 (60.0 %). Also the shares of equity instruments and debt securities showed a slight decline (from 2.2 % to 1.8 % and from 14.6 % to 14.2 %, respectively). This happened on the back of increasing shares of cash balances, derivatives and other assets (5.4 % to 5.9 %, 12.0 % to 13.3 %, and 5.7 % to 6.1 %). The

⁽¹³⁾ On the definition of non-performing and forborne exposures see the EBA's ITS on Finrep (<https://www.eba.europa.eu/regulation-and-policy/supervisory-reporting/implementing-technical-standards-amending-commission-implementing-regulation-eu-no-680/2014-on-supervisory-reporting-of-institutions>). These uniform definitions for non-performing and forborne loans may mean there are differences between these figures and the disclosures in banks' annual reports, which might be based on applicable accounting standards. It should also be noted that implementing the EBA's uniform definitions for non-performing and forborne loans, since their introduction in September 2014, has involved substantial system changes for banks and may have initially required banks to make some assumptions about historic data.

⁽¹⁴⁾ See the description of the samples covered by the EBA's supervisory reporting in the introduction to this RAR.

Figure 4: Total asset and loan volumes (trillion EUR)

Source: EBA risk indicators and EBA calculations.



increase in cash balances might be driven by the current low interest rate environment, with a lack of opportunities for investments and banks' increasing cash holdings at central banks. The increase of derivative volumes might be explained by the fluctuations of their fair values ⁽¹⁵⁾.

Banks' continued focus on traditional lending

The RAQ results show that almost 48 % of the banks plan an overall increase in their balance sheet volume in the next 12 months. Confidence in the banks' balance sheet expansion increased slightly from just below 46 % in December 2015. Nonetheless, market analysts are clearly more conservative: less than 25 % of them expect the volumes to increase in the next 12 months (decreasing from around 45 % that agreed it would happen in June 2015, which was the peak of agreement; see Figure 5).

Results from the RAQ confirm that banks plan to continue moving towards their predominantly traditional lending role in the financial sector. Similar to the trends shown in the last edition of this report, the results suggest that banks will endeavour to increase lending volumes to the corporate sector, in particular small and medium-sized enterprises (SMEs), and to households, including both residential mortgage and consumer credit loans. Confidence about the growth of plain vanilla lending has increased notably, with agreement increasing by more than 10 percentage points (pp) compared to the previous year and moving into a range of between 65 % and 85 % (Figure 6).

The expectation for increasing loans to corporates and households seems consistent with the ECB's October 2016 Bank Lending Survey ⁽¹⁶⁾. According to the survey, loan growth continued to be supported by increasing demand across all loan categories in the third quarter of 2016. In addition, banks eased credit standards for households, while they remained unchanged for enterprises.

Although market analysts agree with banks that they will continue moving towards their core lending business (agreement between 50 % and 70 %), there seems to be less confidence about the expansion of household loans compared to previous periods. This is possibly linked to the concerns about the real estate sector in some countries and not yet finalised regulatory changes on risk weights. Entry of non-bank financial providers might increase competition in some segments, too. Therefore analysts are less confident that banks can grow in this segment.

Apart from a contraction in trading activities, asset and structured finance and sovereign and institutions exposures (rates of agreement between nearly 60 % and more than 70 %), market analysts expect decreasing volumes in CRE lending: more than 60 % expect the volume of CRE portfolios to decrease, compared to about 45 % a year ago (Figure 7). Close to 50 % of market analysts also expect a decrease in volumes of corporate portfolios, nearly the same number of analysts who expect an expansion in this segment.

⁽¹⁵⁾ See Chapter 1 (Macroeconomic environment and market sentiment) on financial market volatility.

⁽¹⁶⁾ The ECB's Euro Area Bank Lending Survey is available online (https://www.ecb.europa.eu/stats/pdf/blssurvey_201610.pdf?f95aaa42b61207a1e8071cd12d5997fa).

Figure 5: Expected further growth in banks' overall balance sheet
 Source: EBA RAQ for banks and market analysts.

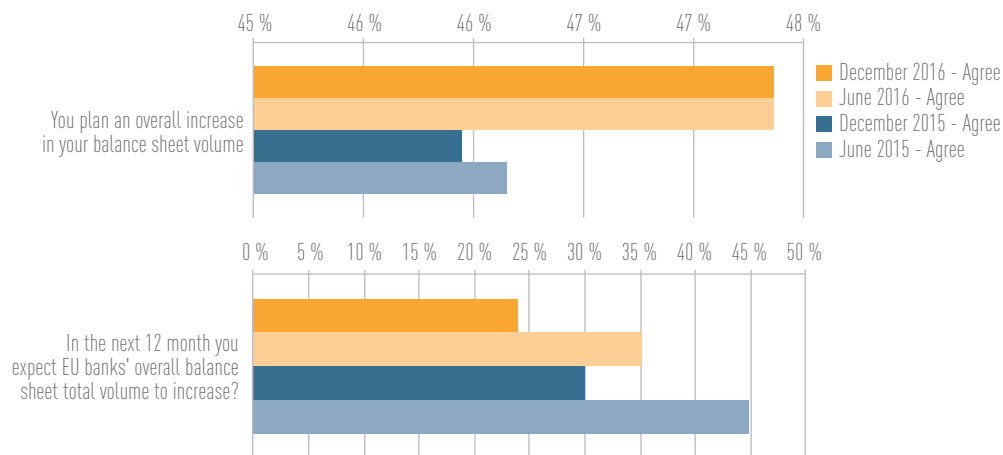
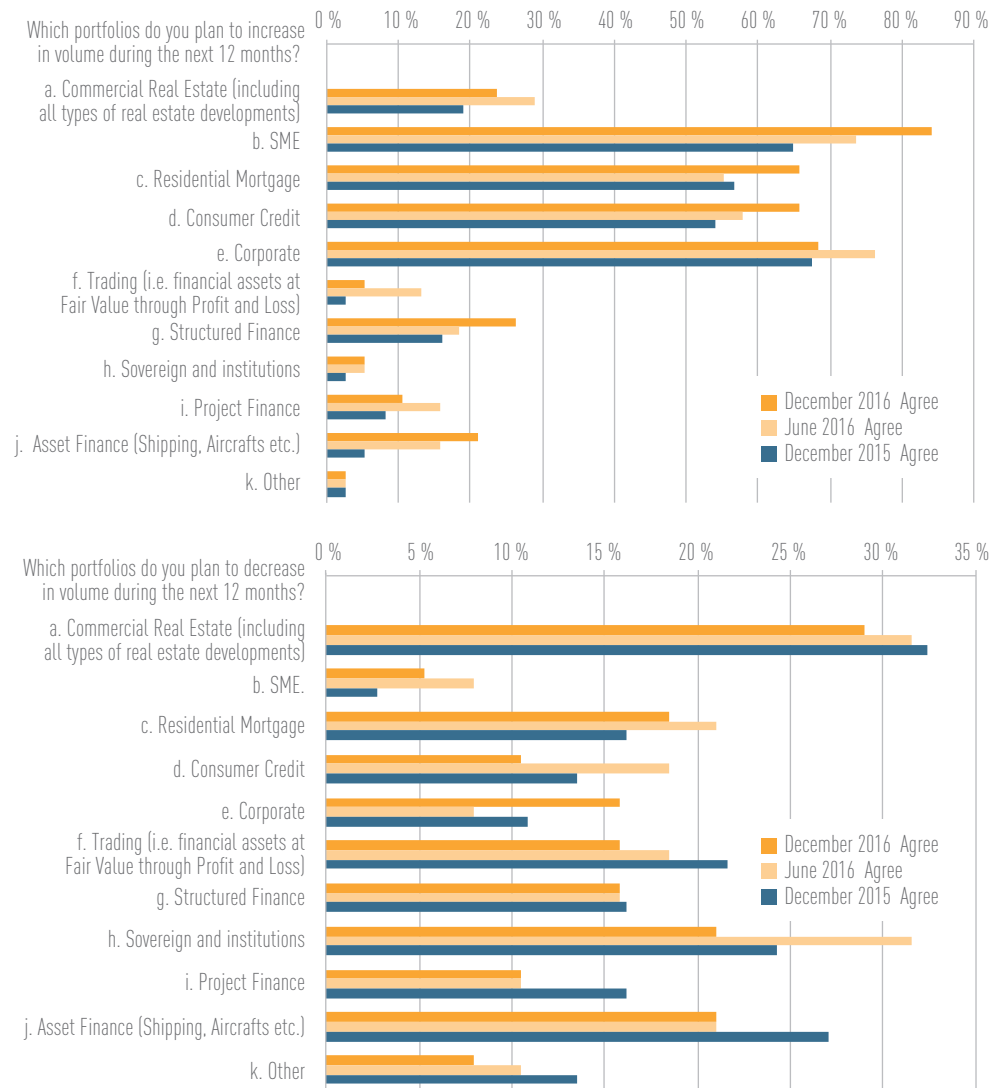


Figure 6: Portfolios considered for growth and for deleverage
 Source: EBA RAQ for banks.



Regulation has decreased some more complex and risky asset holdings by design. In addition low interest rates have led to more cash holdings, whilst central banks' quantitative easing programmes have reduced the need for intra-bank activity. What growth there has been relates to cheap available funding and not demand. Nonetheless, con-

straints on capital seem to be less of a concern for banks than in the past, as the agreement in the RAQ for market analysts – as part of the question on the drivers for asset reduction – decreased from more than 90 % in June 2016 to 50 % in December 2016, and still confirming the strengthening of banks' capital positions (Figure 8) ^[17].

^[17] See further analysis on banks' capital position in Chapter 4 (Capital).

Figure 7: Portfolios considered for growth and for deleverage

Source: EBA RAQ for market analysts.

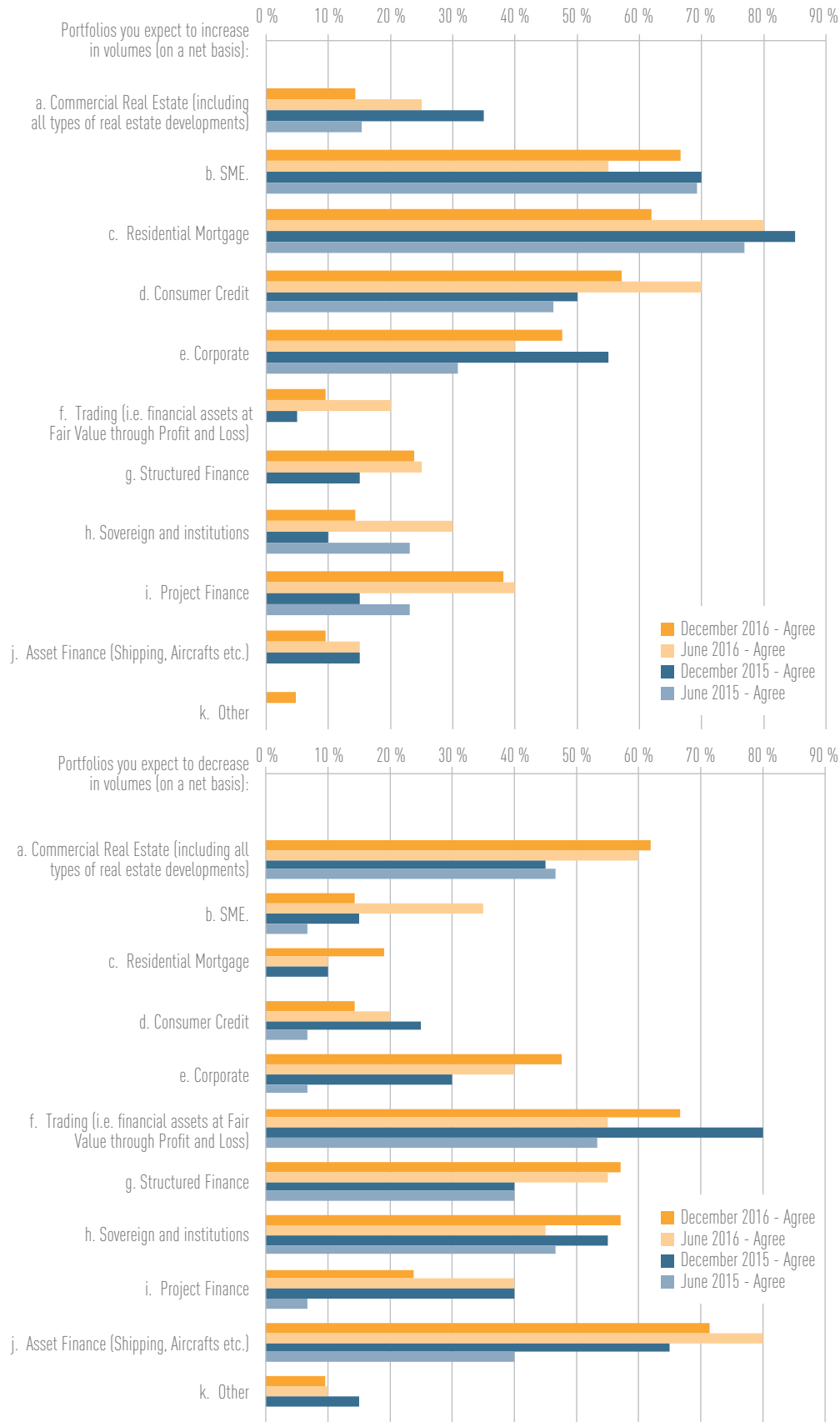
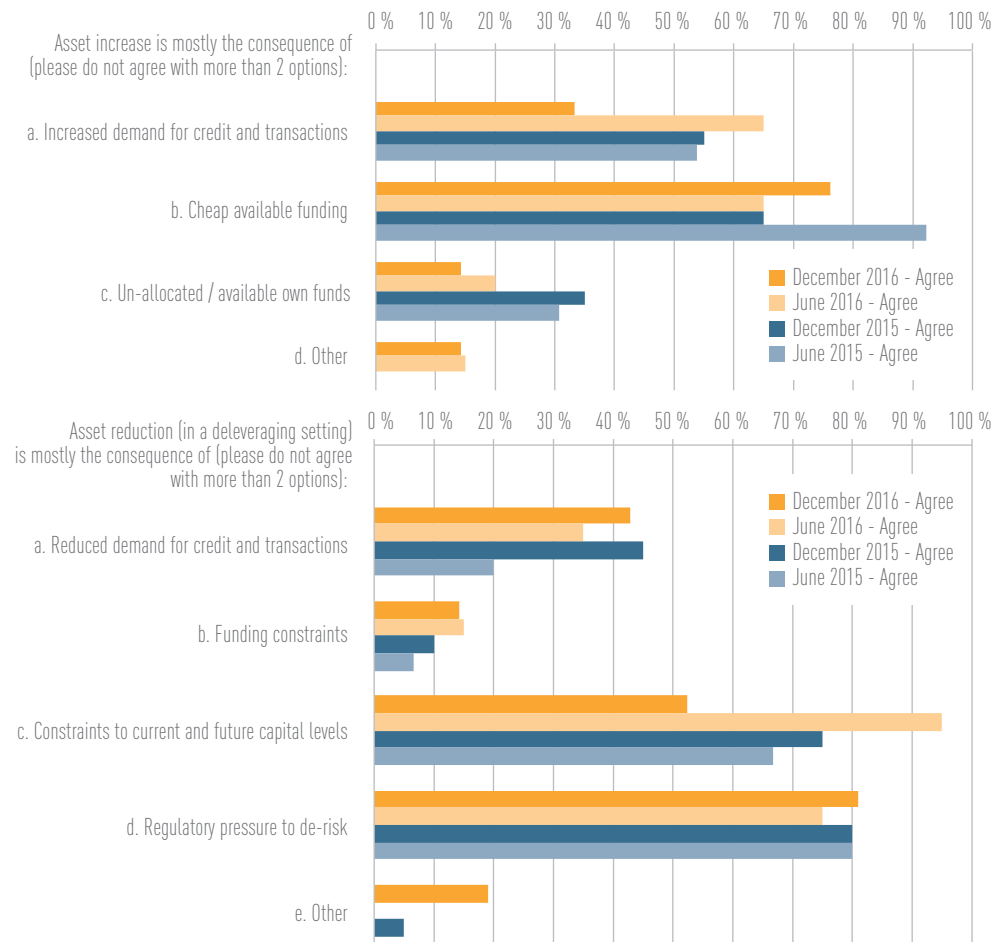


Figure 8: Reasons for asset growth and deleverage
 Source: EBA RAQ for market analysts.



2.2. Asset quality

The gross carrying amount of NPLs in the EU in the second quarter of 2016 was EUR 1 062 billion. This corresponds to an NPL ratio of 5.4 %^[18]. Although improved when compared to 6.5 % in December 2014, the NPL ratio is historically high and when compared to other regions^[19]. The decrease in the ratio was driven mainly by a decrease in NPLs, but also by an increase in total loans (Figure 9)^[20].

For one third of EU countries the NPL ratio remains above 10 %

The NPL ratio is highly dispersed across EU countries. It ranges from 1 % to 47 % in Q2 2016 (Figure 10). At the same time, for more than one third of EU countries this figure stands at more than 10 %. The highest NPL ratios are observed in financially distressed jurisdictions, which were hit the most by the economic and financial crises from 2008 and 2011 onwards. For most jurisdictions the NPL ratio has decreased since 2014.

[18] As described in the EBA's risk indicator guide, the NPL ratio is calculated based on gross volumes. See the EBA's methodological guide (<http://www.eba.europa.eu/risk-analysis-and-data/risk-indicators-guide>).

[19] For the United States, the NPL ratio was 1.5 % per December 2015, according to World Bank data (<http://data.worldbank.org/indicator/FB.AST.NPER.ZS?locations=US>). However, it should also be noted that due to missing harmonised worldwide definitions these ratios are not perfectly comparable. On the credit risk component see also the box on SREP results in Chapter 1 (Macroeconomic environment and market sentiment).

[20] For loan growth see Chapter 2.1 (Volume trends).

Figure 9: Non-performing loans ratio – 5th and 95th percentiles, interquartile range and median; numerator and denominator trends (December 2014 = 100)
 Source: EBA risk indicators.

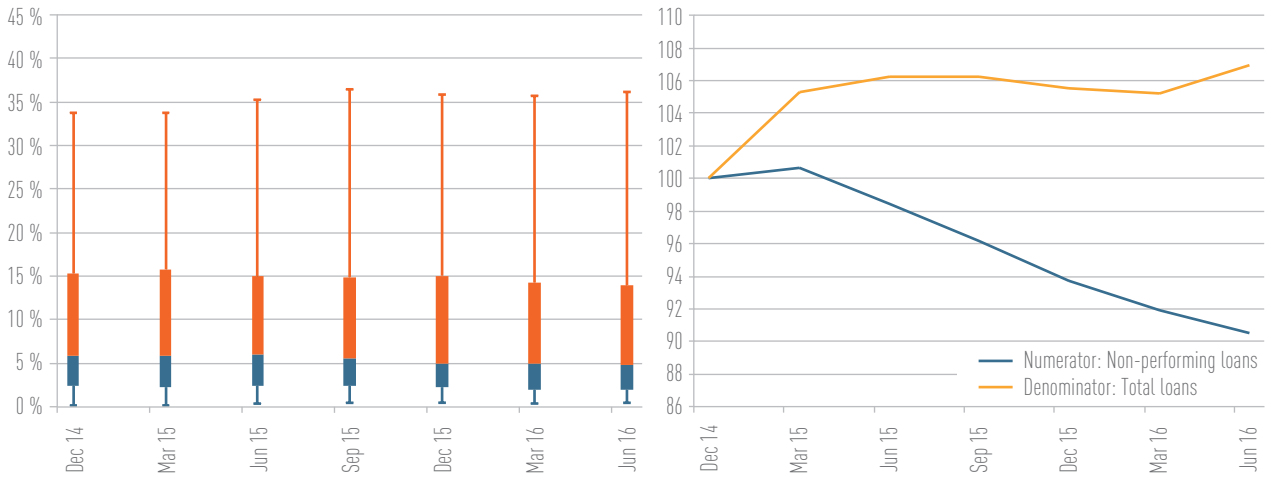
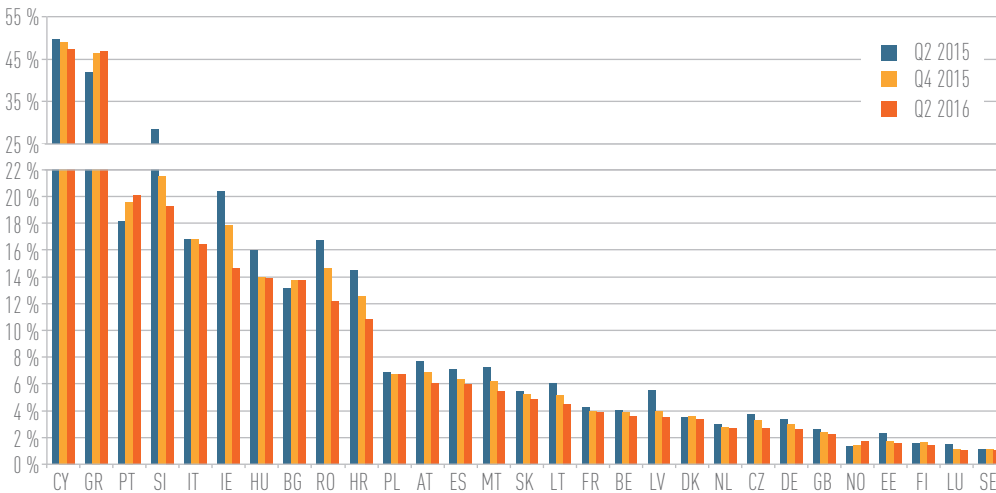


Figure 10: Non-performing loans ratio – weighted average by country ⁽²¹⁾
 Source: EBA risk indicators.



Forborne loan ratios and NPL ratios by sector

The forborne loan (FBL) ratio has been relatively stable over the last four quarters and decreased by 0.3 pp to 3.4 % in June 2016 from June 2015 (Figure 11). This trend can also be seen across jurisdictions with mostly small changes in forbearance ratios.

Some 57 % of FBLs were non-performing in June 2016 and 43 % were performing ⁽²²⁾. The share of performing FBLs increased by 2 pp compared with the same period a year ago. There is also still significant divergence among countries in the percentage of performing FBLs as share of total FBLs, ranging from 20 % to 76 %.

⁽²²⁾ An FBL can be considered as performing as soon as forbearance measures are applied to it, if those measures do not lead to any non-performance criteria being hit, especially if the forbearance measures are not considered as a credit event under accounting standards or as a distressed restructuring under the CRR. A non-performing FBL can become a performing FBL ('in cure') once the non-performing criteria cease to apply to it. All performing FBLs must remain identified as such for at least 2 years before being considered fully performing (performing not forborne).

⁽²¹⁾ As described in footnote 18, the NPL ratio is calculated based on gross volumes.

Figure 11: Ratios of non-performing loans and FBLs
Source: EBA risk indicators.

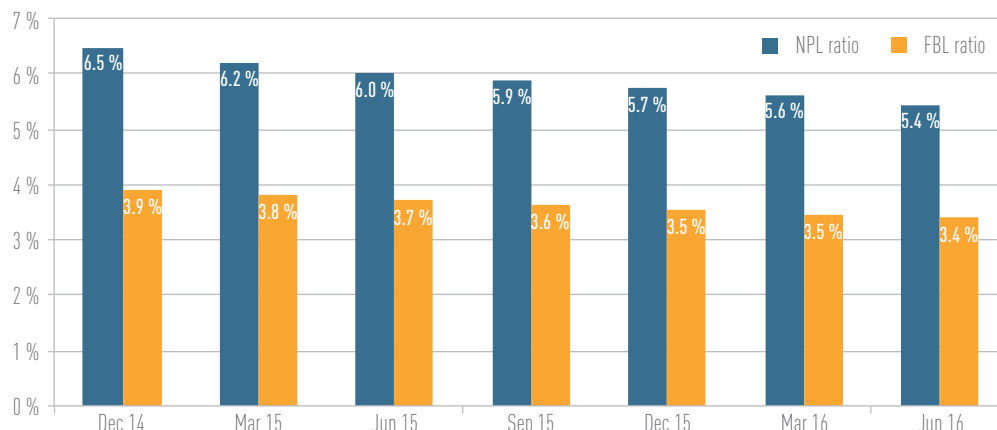
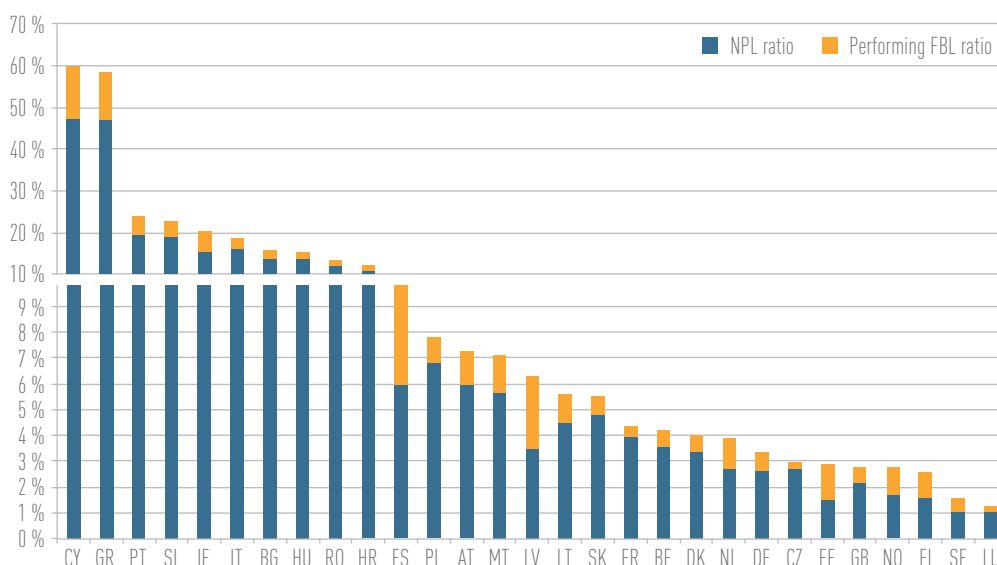


Figure 12: A composite credit weakness ratio of non-performing and performing FBLs by country, Q2 2016
Source: EBA risk indicators.



It can be assumed that the performing forborne loans indicate a below-average asset quality. Based on this assumption, a composite credit weakness indicator combines the ratios of NPLs plus performing FBLs. It shows only some moves in asset quality when compared to the application of simple NPL ratios (Figure 12). Performing forborne loans can include exposures which have been non performing and are now in a cure phase (probation period), and as such still bear an elevated risk, but are on their way to recovery. On the other hand, performing forborne loans include exposures for which forbearance measures might have been applied to avoid the debtor becoming non-performing.

Loans to SMEs still show the highest NPL ratios in most jurisdictions. The NPL ratio of SME loans was 16.8 % in June 2016, improving since December 2014 (18.6 %, 17.1 % in Q4 2015), even though this is not a consistent trend across all countries.

NPL ratios for large NFCs have decreased as well in many jurisdictions. For the EU on average it declined from from 8.9 % in December 2014 to 7.5 % in June 2016 (7.7 % in Q4 2015). The NPL ratio of loans to households remained relatively stable for the EU on average since December 2014, even though several jurisdictions experienced modest improvements in the ratio. It was 4.9 % in June 2016, and 5 % in December 2014 (4.9 % in Q4 2015) (Figure 13).

Figure 13: Non-performing loan ratios by sector, Q2 2016
Source: EBA risk indicators.

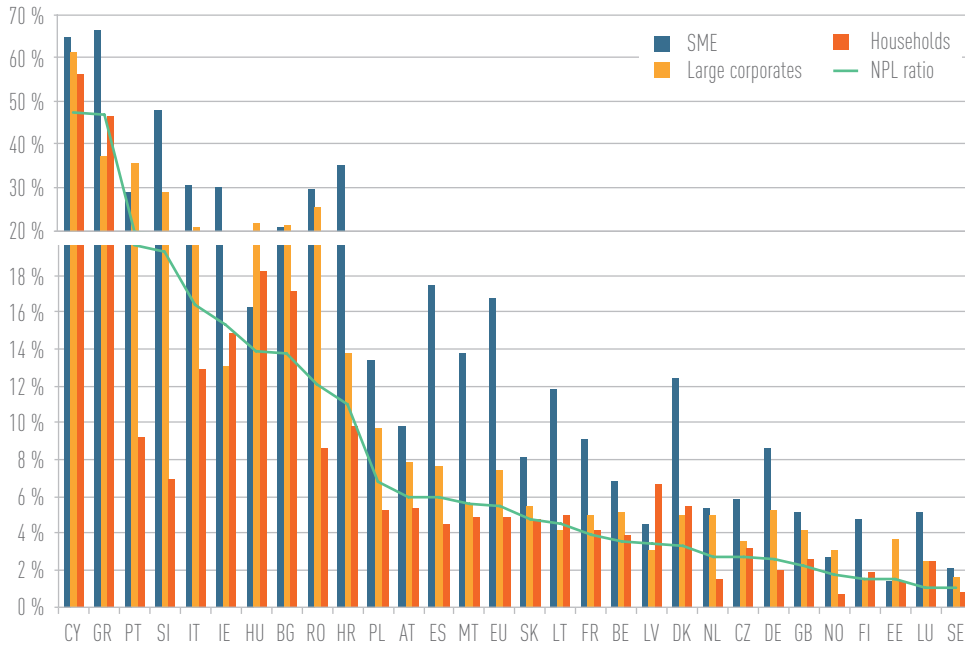
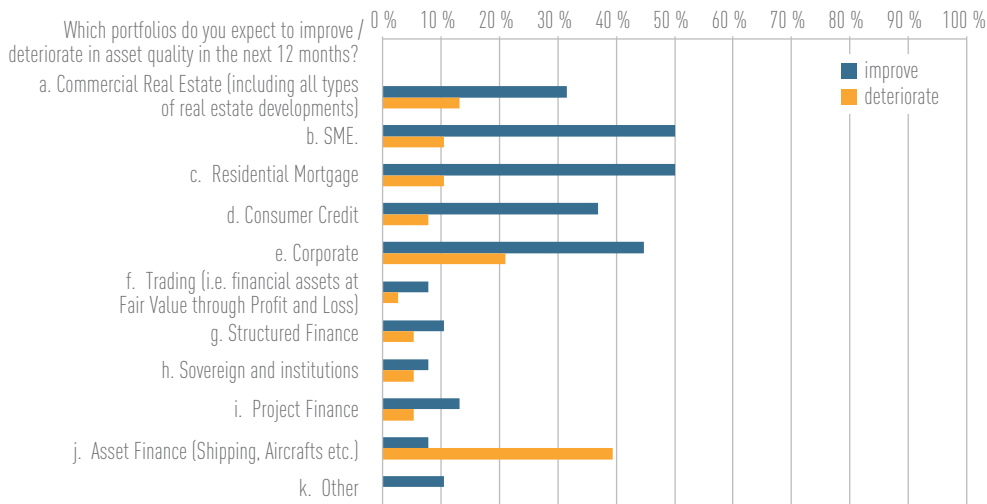


Figure 14: Portfolios which are expected to improve or deteriorate in asset quality, Q2 2016
Source: EBA RAQ for banks.



Banks expect an improvement in asset quality for most portfolios

Going forward, the RAQ responses suggest that banks expect further improvements of asset quality in the next 12 months in the three sectors described above (i.e. loans to SMEs, NFCs and households) with agree-

ment of more than 40 %. In addition, they expect CRE portfolios to improve (agreement rate at 30 %). As in December 2015, banks expect asset finance portfolios to deteriorate the most (40 % agreement) (Figure 14). Recent experience suggests this may be somewhat optimistic, as the slow process of repair continues.

Expected default frequency — Exposures towards the non-financial sector

Expected default frequencies (EDFs) are an estimate of the probability of default (PD) for individual counterparties during the forthcoming year for firms with publicly traded equity. The EDFs are based on equity prices and data from the companies' financial statements. The combination of the PDs with financial supervisory reporting (Finrep) data on exposures towards non-financial sectors by country of exposure (only EU) allows the establishment of a simplified early warning system (EWS). This system allows the identification of the riskiest combination of sectors and geographies, i.e. those with the highest

estimated 1-year PDs, and the level of exposures of EU banks towards them. It also allows for the monitoring of those exposures that are significant at EU or national levels and that are associated with a high PD.

There are several caveats in the estimation of the PD for the purpose of the EWS, mainly related to specific sectors, such as the real estate sector in the EU. Respective sector exposures are significant in EU banks, but they are mainly towards non-listed companies, which are not directly covered by the EDFs ⁽²³⁾.

According to Q2 2016 data, the largest exposures of EU banks remain those towards

Figure 15: Total exposures of European banks (by country of origin) towards EU non-financial sectors (by sector of the counterparty)

Source: EBA supervisory reporting, Moody's, EBA calculations.

Sector	PD median	Total exposure 2016 Q2	Total exposure 2015 Q2	Chg % (2016 vs 2015)	Total exposure 2016 Q2 % of tot	Total exposure 2015 Q2 % of tot
Real estate activities	0.13	1,177,149	1,146,625	3 %	26.6 %	25.9 %
Manufacturing	0.22	618,429	604,498	2 %	14.0 %	13.7 %
Wholesale and retail trade	0.25	531,657	519,667	2 %	12.0 %	11.7 %
Construction	0.66	319,041	313,832	2 %	7.2 %	7.1 %
Transport and storage	0.26	267,592	277,870	-4 %	6.0 %	6.3 %
Professional, scientific and technical activities	0.41	237,904	221,582	7 %	5.4 %	5.0 %
Other services	0.01	221,395	263,089	-16 %	5.0 %	5.9 %
Electricity, gas, steam and air conditioning supply	0.11	189,935	185,598	2 %	4.3 %	4.2 %
Administrative and support service activities	0.35	189,301	185,575	2 %	4.3 %	4.2 %
Agriculture, forestry and fishing	0.45	174,583	168,966	3 %	3.9 %	3.8 %
Accommodation and food service activities	0.08	114,940	114,423	0 %	2.6 %	2.6 %
Information and communication	0.32	108,597	109,227	-1 %	2.5 %	2.5 %
Human health services and social work activities	0.15	102,428	101,000	1 %	2.3 %	2.3 %
Mining and quarrying	1.87	53,134	52,005	2 %	1.2 %	1.2 %
Water supply	0.27	48,205	47,336	2 %	1.1 %	1.1 %
Arts, entertainment and recreation	0.19	27,986	27,931	0 %	0.6 %	0.6 %
Education	1.38	24,015	24,646	-3 %	0.5 %	0.6 %
Public administration and defence, compulsory social security	0.01	19,384	36,050	-46 %	0.4 %	0.8 %
TOTAL		4,425,673	4,399,922	1 %	100 %	100 %

⁽²³⁾ Also as Moody's Analytics' CreditEdge has updated its model this year (EDF9), some EDFs have significantly changed compared to last year's estimation for some sectors.

the real estate sector (27 % of total), with a rather low PD. The second-largest sector in terms of EU exposures (more than EUR 600 billion, 14 % of total European non-financial exposures) is the manufacturing industry, which represents one of the riskier sectors. The third-largest sector (more than EUR 500 billion, 12 % of total relevant exposures) is wholesale and retail trade, showing a PD similar to the manufacturing sector. Regarding the composition of the exposures compared to Q2 2015, they have slightly increased for the four main sectors while they have reduced for several others (Figure 15).

The riskiest sectors in Q2 2016 were mining and quarrying as well as education, with a 1-year median PD of 1.87 % and 1.38 %, respectively. For all other sectors, PDs are below 1 %. Banks' exposures in the two riskiest sectors are not significant (1.2 % and 0.5 %, respectively) (Figure 15). However, Norwegian, British and Greek banks have relatively high exposures to the mining and quarrying sector (measured as the share of their total exposures, 4.4 %, 2.1 % and 2.0 %, respectively) and British and Irish banks have exposures of 2% towards the education sector (Figure 16 and Figure 17).

Figure 16: EDF quartile distribution by sector (non-financial) at EU level compared to EU banks' total exposures towards non-financial corporations by sector

Source: EBA supervisory reporting, Moody's, EBA calculations.

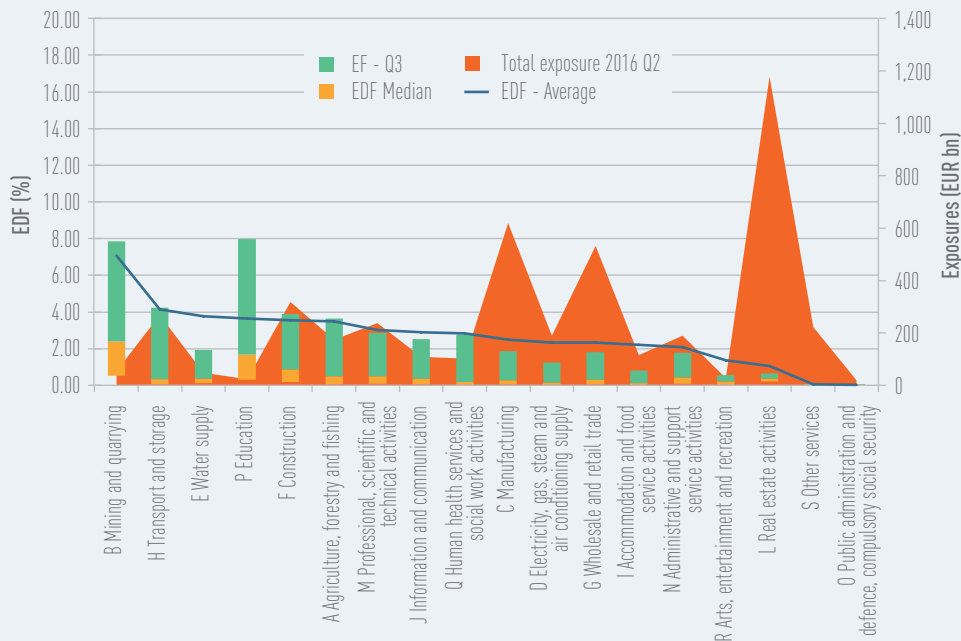


Figure 17: Exposures in Europe towards non-financial sectors by banks' country of origin (as a percentage of total) and sector EDF median

Source: EBA supervisory reporting, EBA calculations.

	A	B	C	D	E	F	G	H	I	J	L	M	N	O	P	Q	R	S	Total
AT	1.9%	1.0%	17.4%	4.7%	0.8%	10.6%	12.8%	4.2%	3.1%	1.9%	29.4%	6.2%	2.1%	0.3%	0.2%	1.4%	0.7%	1.4%	100%
BE	4.4%	0.4%	10.4%	4.1%	2.1%	10.0%	12.2%	6.2%	1.3%	2.2%	16.4%	10.1%	5.4%	1.0%	0.5%	7.0%	0.7%	5.8%	100%
BG	5.1%	1.3%	21.7%	4.6%	0.5%	9.3%	27.3%	4.7%	3.8%	1.4%	12.6%	4.1%	1.2%	0.0%	0.1%	0.5%	0.7%	1.1%	100%
CY	1.5%	0.6%	6.8%	0.2%	0.2%	27.5%	18.7%	2.3%	11.3%	1.6%	21.0%	4.1%	1.3%	0.0%	0.6%	1.2%	0.5%	0.7%	100%
CZ	3.6%	1.2%	23.2%	7.2%	1.0%	4.0%	17.9%	5.0%	0.7%	3.2%	22.3%	3.5%	1.9%	0.1%	0.1%	0.7%	1.2%	3.2%	100%
DE	0.9%	0.7%	12.7%	8.0%	1.9%	2.8%	8.9%	9.7%	1.1%	2.1%	37.1%	4.8%	4.5%	0.2%	0.4%	2.0%	0.3%	1.8%	100%
DK	2.5%	1.1%	11.4%	2.1%	0.6%	3.1%	8.6%	4.2%	0.8%	1.2%	52.3%	2.8%	2.0%	0.3%	0.1%	1.1%	0.2%	5.8%	100%
EE	7.2%	1.4%	13.3%	4.5%	0.5%	3.0%	13.0%	6.9%	2.7%	1.9%	34.4%	5.5%	2.4%	0.0%	0.2%	0.9%	0.7%	1.3%	100%
ES	2.1%	1.2%	15.2%	6.8%	0.8%	15.8%	16.1%	5.5%	4.6%	3.1%	11.9%	4.6%	3.7%	0.3%	1.1%	2.4%	0.7%	4.2%	100%
FI	2.3%	0.8%	13.8%	6.2%	1.3%	3.4%	10.0%	4.7%	0.9%	2.1%	45.0%	2.5%	1.8%	0.1%	0.2%	1.0%	0.5%	3.6%	100%
FR	5.4%	0.9%	12.2%	3.3%	0.7%	4.6%	12.9%	4.6%	2.5%	2.6%	23.7%	6.4%	4.7%	1.4%	0.4%	2.0%	0.5%	11.3%	100%
GB	4.5%	2.1%	13.5%	2.6%	1.3%	7.2%	11.7%	5.3%	3.9%	3.3%	22.0%	5.4%	5.9%	0.1%	2.0%	3.6%	1.0%	4.5%	100%
GR	1.9%	2.0%	19.6%	5.5%	0.2%	13.1%	24.9%	3.3%	8.4%	1.9%	7.1%	3.3%	1.2%	0.2%	0.3%	1.6%	1.0%	4.5%	100%
HR	5.2%	0.4%	19.6%	3.9%	1.3%	8.6%	19.6%	6.5%	9.7%	2.4%	12.0%	5.3%	1.4%	0.0%	1.4%	1.4%	0.9%	0.6%	100%
HU	6.4%	0.3%	15.3%	4.3%	1.0%	5.7%	22.3%	5.1%	3.4%	1.1%	25.1%	3.6%	1.9%	0.1%	0.2%	0.9%	0.6%	2.7%	100%
IE	6.0%	0.6%	10.8%	1.0%	0.6%	3.7%	9.9%	4.6%	7.7%	2.9%	36.2%	1.9%	3.7%	0.0%	2.0%	4.6%	1.5%	2.3%	100%
IT	1.9%	0.9%	24.5%	4.2%	1.1%	12.4%	14.5%	5.9%	2.7%	2.9%	15.9%	4.9%	2.5%	0.1%	0.1%	1.4%	0.6%	3.5%	100%
LT	3.0%	0.2%	14.7%	13.4%	0.5%	8.1%	21.1%	6.5%	2.6%	2.5%	21.5%	1.9%	1.4%	0.2%	0.1%	0.3%	0.2%	1.7%	100%
LU	13.7%	0.3%	11.1%	3.4%	0.4%	5.8%	8.8%	4.0%	0.9%	2.6%	11.3%	10.7%	21.5%	0.3%	0.5%	2.2%	0.6%	1.9%	100%
LV	10.7%	0.2%	13.5%	2.9%	1.3%	1.2%	11.6%	11.7%	2.7%	2.4%	31.8%	1.7%	1.5%	0.7%	0.1%	0.4%	0.3%	5.3%	100%
MT	0.2%	0.2%	13.9%	6.1%	0.6%	7.8%	15.9%	7.1%	10.7%	7.5%	7.9%	2.8%	3.8%	2.0%	0.8%	2.5%	3.3%	6.9%	100%
NL	10.6%	1.8%	9.4%	2.2%	1.1%	4.9%	11.2%	6.5%	1.6%	1.8%	28.6%	5.4%	6.8%	0.1%	0.2%	4.1%	0.7%	3.0%	100%
NO	3.1%	4.4%	11.4%	3.3%	0.6%	9.2%	6.3%	13.6%	1.2%	2.8%	32.3%	4.5%	4.5%	0.1%	0.7%	0.8%	0.5%	0.5%	100%
PT	3.1%	0.5%	16.5%	3.0%	1.8%	19.0%	13.8%	6.7%	4.3%	1.6%	10.3%	5.9%	2.4%	0.5%	0.5%	1.8%	1.5%	6.7%	100%
SE	3.6%	1.5%	8.1%	3.8%	0.7%	3.9%	6.3%	5.2%	1.1%	2.1%	50.6%	4.9%	2.9%	0.1%	0.2%	0.8%	0.5%	3.9%	100%
SI	1.1%	0.8%	28.7%	4.8%	1.3%	5.9%	17.8%	19.1%	3.2%	2.4%	5.0%	5.0%	1.1%	0.0%	0.1%	1.3%	1.2%	1.2%	100%
SK	4.1%	0.2%	15.2%	11.7%	2.2%	7.4%	21.7%	9.4%	0.7%	0.8%	13.8%	4.6%	1.9%	0.0%	0.0%	0.5%	0.6%	5.1%	100%
EDF median	0.45%	1.87%	0.22%	0.11%	0.27%	0.66%	0.25%	0.26%	0.08%	0.32%	0.13%	0.41%	0.35%	0.01%	1.38%	0.15%	0.19%	0.01%	

A: Agriculture, forestry and fishing

B: Mining and quarrying

C: Manufacturing

D: Electricity, gas, steam and air conditioning supply

E: Water supply

F: Construction

G: Wholesale and retail trade

H: Transport and storage

I: Accommodation and food service activities

J: Information and communication

L: Real estate activities

M: Professional, scientific and technical activities

N: Administrative and support service activities

O: Public administration and defence, compulsory social security

P: Education

Q: Human health services and social work activities

R: Arts, entertainment and recreation

S: Other services

Coverage ratios slightly increased

Coverage ratios increased marginally in the first half of the year, from 43.7 % in December 2015 to 43.8 % in June 2016. The increase in the ratio was driven by a stronger reduction in the denominator (total NPLs) than the reduction of the numerator (Figure 18).

The country dispersion of the coverage ratio remains significant, with values in the range of 28 % to 66 %. There is no clear pattern in the developments of the coverage ratio in specific countries, though it seems that for

countries with relatively high NPL ratios it has increased since June 2015 (Figure 19).

NPL resolution remains a main challenge for the EU banking sector

With over a trillion EUR NPLs in the EU banking sector and more than one third of the European countries with NPL ratios above 10 %, NPL resolution represents one of the biggest challenges at this juncture and requires a coordinated EU response. In fact, low asset quality is one of the main reasons why investors are reluctant to invest in EU banks.

Figure 18: Coverage ratio – specific allowances for loans to total non-performing loans – 5th and 95th percentiles, interquartile range and median; numerator and denominator trends (December 2014 = 100)
 Source: EBA risk indicators.

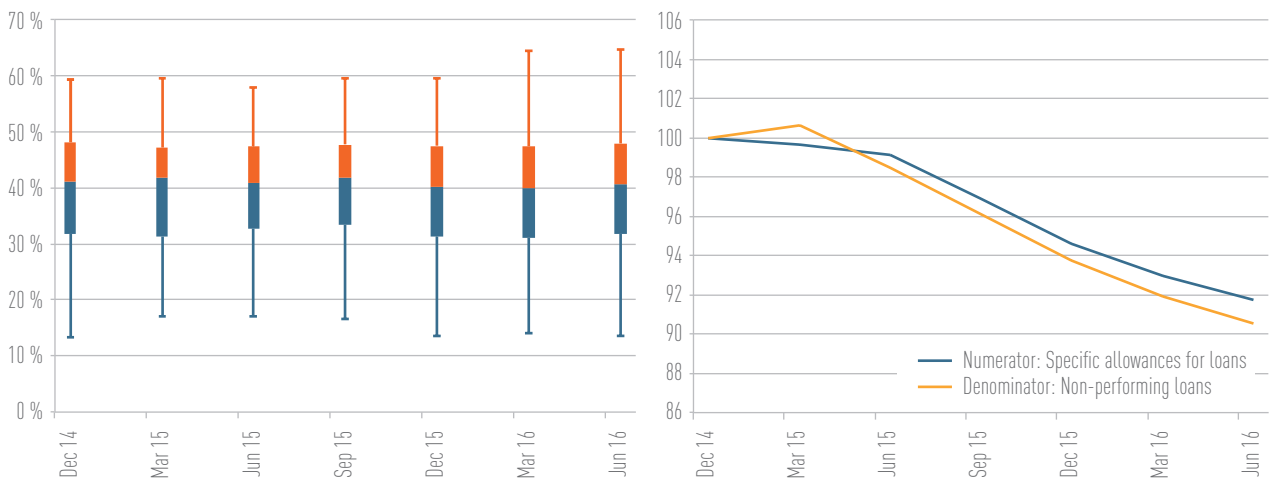
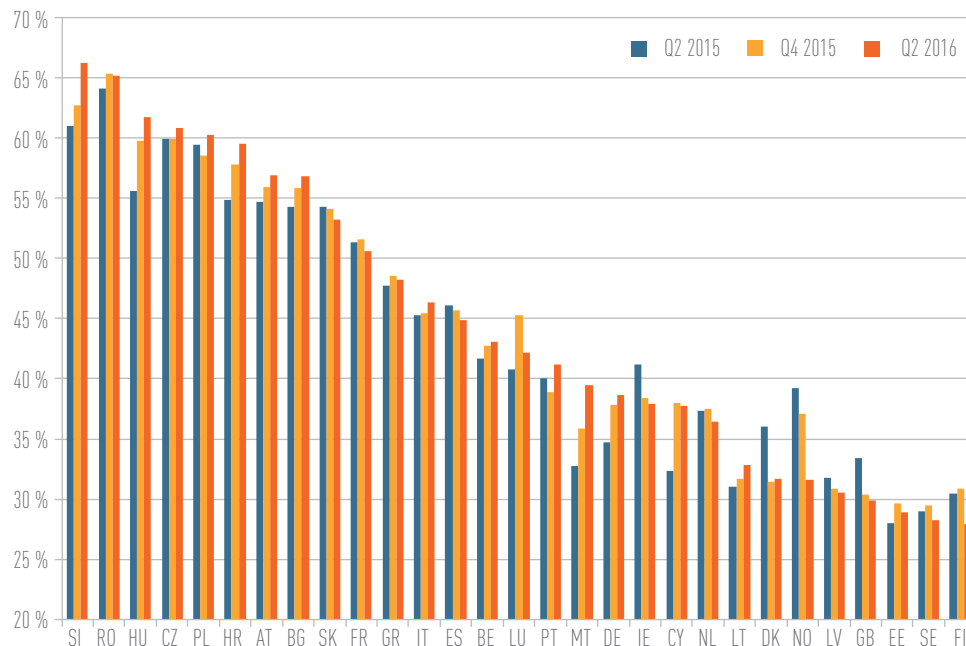


Figure 19: Coverage ratio – specific allowances for loans to total non-performing loans – country dispersion – weighted average by country
 Source: EBA risk indicators.



Elevated NPL levels are a concern for individual banks, for countries and for the banking sector as a whole. Elevated NPL levels are directly correlated with low profitability. They are also associated with inefficient capital allocation at the general economy level and contribute to slow recovery.

To that end, EU institutions, national governments and competent authorities have been engaged in the process of resolving NPLs, being all in a different stage of this process with a view to taking action at various levels, including:

- supervisory actions to ensure correct identification and efficient management of NPLs as well as conservative provisioning policies,
- structural reforms to improve loan recovery processes, and
- developing an efficient secondary market in NPLs.

Action in these three areas is important ^[24]. In ongoing supervision recognition and provisioning of NPLs and NPL resolution strategies is key. Addressing structural issues includes measures for making the judicial system and processes more effective and removing tax disincentives to provisioning, as well as legal and accounting impediments. A functioning secondary market requires that impediments such as lack of data and poor transparency are removed to ensure that mechanisms for price

discovery work properly. Also, securitisation initiatives for such assets and the setting up of an asset management company (AMC) would be beneficial.

Still, countries are at different stages of this process and additional efforts are necessary. First of all, especially in some countries and for some banks, provisioning levels may need to be increased further, allowing them to move from quadrant 1 to 2 in Figure 20. However, moving from quadrant 2 to 3 also requires measures and reforms for facilitating price discovery, thus contributing to aligning the book and market values of NPLs.

Figure 21 tracks the progress made in some jurisdictions in terms of increasing of coverage ratios and reduction of NPLs. While the chart should be interpreted with caution since, for instance, it does not provide information on capital buffers available or on changes in collateral values, it helps identify possible areas for intervention.

According to banks' answers to the RAQ, the main impediments to resolving NPLs are lengthy and expensive judiciary processes, followed by the lack of markets for NPLs (and collaterals) (Figure 22). These impediments were similarly confirmed in the EBA report on NPLs, published in June 2016 ^[25].

^[24] See the EBA NPL report (<https://www.eba.europa.eu/documents/10180/1360107/EBA+Report+on+NPLs.pdf>).

^[25] EBANPLreport(<https://www.eba.europa.eu/documents/10180/1360107/EBA+Report+on+NPLs.pdf>).

Figure 20: Quadrant model showing a potential relationship between NPL and coverage ratio trends
Source: EBA.

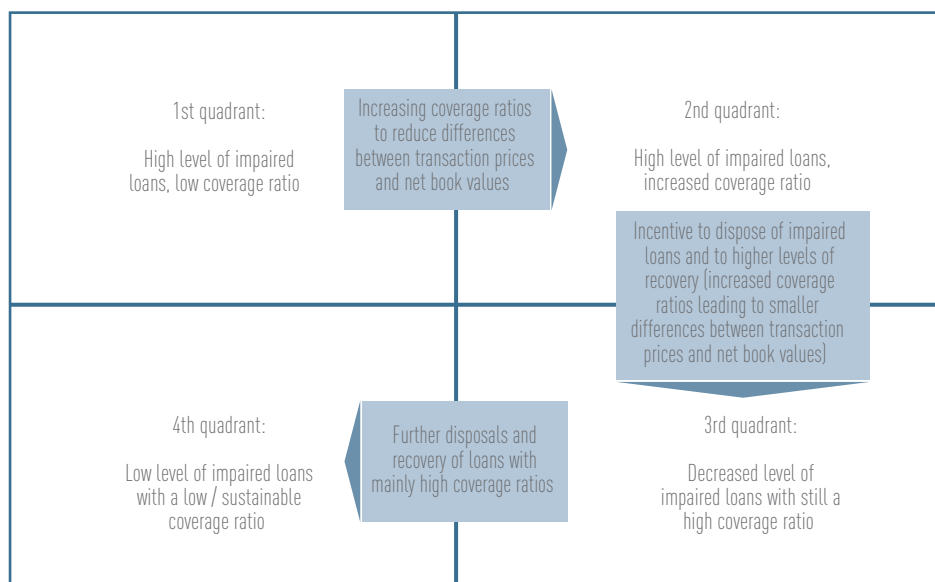


Figure 21: NPL ratio versus coverage ratio (of NPLs) per country, Q2 2016 (* movements show the seven biggest changes from December 2014 ^[26])

Source: EBA risk indicators.

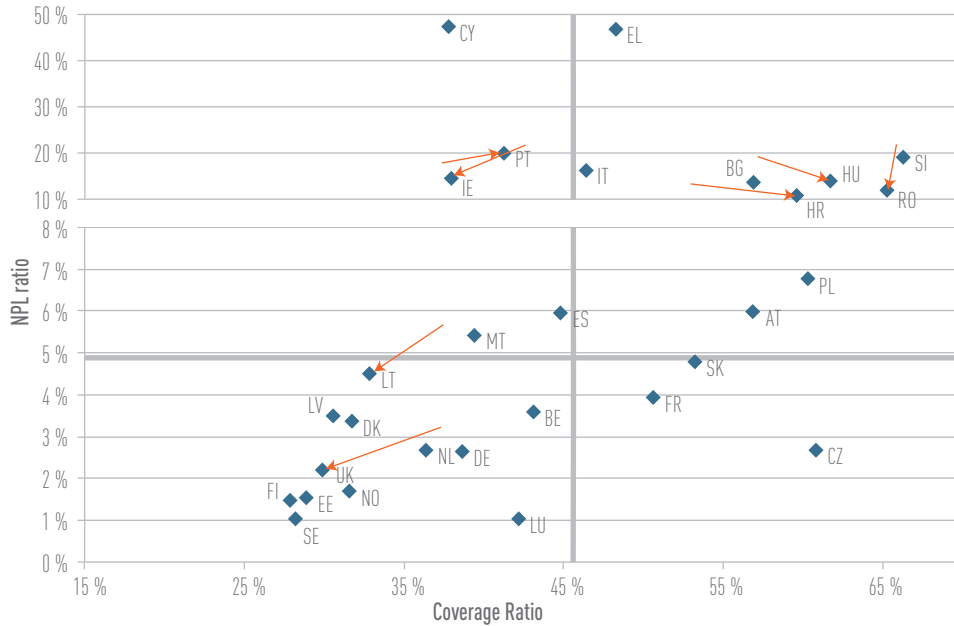
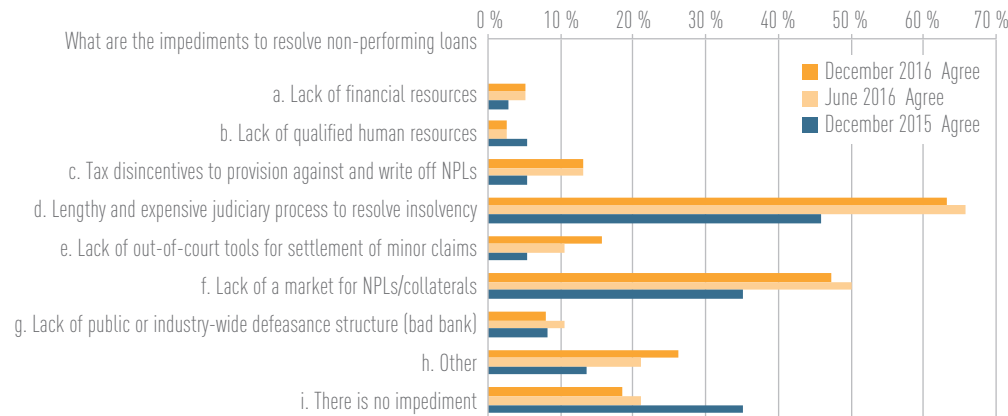


Figure 22: Impediments to resolving non-performing loans

Source: EBA RAQ for banks.



^[26] Red arrows indicate the seven biggest moves (i.e. longest arrows) between Q4 2014 and Q2 2016. The length of the arrows is a mix of the change in the NPL and coverage ratio, with a calculation based on the Pythagoras theorem: the seven biggest moves are those above '5 %'.

Results from the EBA impact assessment on new impairment requirements under IFRS 9

The EBA launched in January 2016 an impact assessment on the forthcoming implementation of IFRS 9 Financial Instruments, which comprised a sample of 50

banks from the EEA ^[27]. The objective of the exercise was, among other aspects, to estimate the impact of the new impairment requirements under IFRS 9 on regulatory own funds. The results will support the EBA in assessing the interaction between IFRS 9 and other prudential requirements and in understanding the way institutions

^[27] See the detailed report on the results from the EBA impact assessment of IFRS 9 (<http://www.eba.europa.eu/-/eba-provides-its-views-on-the-implementation-of-ifsrs-9-and-its-impact-on-banks-across-the-eu>). Information on the endorsement process of IFRS 9 can be found at: <http://www.efrag.org/Endorsement>

are preparing for the application of IFRS 9. The institutions were asked to assess the estimated impact from a quantitative and qualitative point of view.

Overall, banks were at an early stage of preparation for the implementation of IFRS 9 at the time the exercise was performed. The exercise confirmed observations from the previous RAR, according to which the implementation of the expected loss model for the impairment calculation is more likely to result in an increase of loan loss provisions (assuming all other parameters in the calculation are equal).

The estimated increase of loan loss provisions reaches a median of 20 % (and up to 30 % for 86 % of the respondents) compared to their current levels under IAS 39. Such an increase in provisions is mainly driven by stage 2-related impairments (lifetime expected credit losses (ECL)) for loans and

advances to households and non-financial corporations. Stage 2 assets are those with a significant increase in credit risk since initial recognition, but which are not yet credit impaired ⁽²⁸⁾. The quantitative impact of the IFRS 9 impairment requirements on the CET1 ratio is estimated to reach up to -75 bp for 85 % of respondents, while the median is a -50 bp impact (Figure 23).

When providing this information, banks have made several assumptions and simplifications that do not necessarily represent their finalised IFRS 9 methodology. In addition, the portfolios of banks may change when IFRS 9 is first applied and the state of the economy may also be different at that time. For these reasons, the results of the impact assessment are indicative of the main trends in the EU banking sector at the time the exercise was performed. Any impact of the first time application of IFRS 9 may be different.

Figure 23: Summary of IFRS 9 quantitative estimations

Source: EBA's questionnaire on the impact analysis of IFRS 9.

Estimated increase of provisions (IFRS 9)	
Median	20%
75th percentile	30%
% of respondents below or at the data point of the 75th percentile	86%
Estimated impact from the IFRS 9 impairment requirements on the CET1 ratio	
in bps	Impairment
Median	-50
75th percentile	-75
% of respondents below or at the data point of the 75th percentile	85%

⁽²⁸⁾ The other two stages are stage 1 for no increased credit risk and stage 3 for credit impaired financial assets.

3. Liability side

Some volatility in the funding markets was experienced during the first three quarters of 2016 related to significant external events. Whilst funding markets have been positively influenced by accommodative monetary policy stances, including central banks' asset purchase programmes, some external shocks led to changes in sentiment.

In general, no major constraints could be observed in the issuance activity for secured funding instruments, whereas issuance activity of unsecured instruments was more volatile. However, in periods of heightened market stress, banks significantly reduced their issuance volumes of both unsecured and secured debt. This was for instance observed during a period of a reassessment of investor risk perception related to unsecured debt, and around the referendum in the United Kingdom on EU membership. Issuance volumes of subordinated debt were particularly reduced in these periods.

Reduced issuance volumes of unsecured debt instruments in 2016

Overall issuance volumes of unsecured debt were reduced in the first three quarters of 2016 compared to 2015, and issuance was mainly concentrated on banks with strong market perception. Volume reductions of subordinated debt issued were more pronounced, due to a more challenging market environment, including their heightened spread volatility ^[29]. Some volume reductions may also be attributable to the pending detailed implementation of the minimum requirement for own funds and eligible liabilities (MREL) across jurisdictions, particularly with regard to the hierarchy and forms of subordination. Volatility of funding markets could also be observed in increased fluctuations of the spreads for unsecured instruments since the beginning of the year. Banks should further take into account in their funding plans the need to build up loss absorbing capacity.

No major volatility could be perceived in deposit volumes since the beginning of the year. Where country-specific market stress was observed it did not have an impact on deposit

volumes. Although interest rates are at historically low levels and negative deposit rates have been introduced in some instances, this has not had a negative impact on deposit volumes so far either.

The volumes of ECB targeted long-term refinancing operations (TLTRO) in the end of Q3 2016 were at a higher level than in the beginning of the year. Volatility over time was mainly due to maturing tranches of the first TLTRO (TLTRO 1) and new allocations to a new TLTRO programme (TLTRO 2).

According to supervisory reporting data, debt securities issued decreased their share in banks' funding mix (18.4 % in Q2 2016 vs 19.1 % in Q4 2015). Further trends included an increase in the share of other liabilities (24.2 % in Q2 2016 vs 22.4 % in Q4 2015), which comprises central bank funding. Even though customer deposit volumes were stable during the first half of the year, customer deposits as a share of total liabilities declined during this period (from 51.1 % to 49.8 %).

3.1. Market-based funding

During the first three quarters of 2016 the focus of new debt issuances has been on secured funding, with markedly increasing gross issuance volumes of covered bonds compared to the same period last year. Gross total issuance volume of euro-denominated covered bonds in the first three quarters of 2016 surpassed the volumes of the same period in the previous 4 years. Secured funding instruments often displayed more resilience in times of stress, when covered bond issuance continued while unsecured issuance came to a temporarily halt. The ECB asset purchase programme might also have been supportive in this respect.

An opposing trend to that of secured funding was observed for unsecured funding. Total euro-denominated unsecured issuance volumes in the first three quarters of 2016 were below issuance volumes of the previous 2 years, after strong unsecured funding activity in 2015. Issuance volumes of subordinated debt decreased markedly. Issuance volumes continued to be net negative for unsecured issuances, but were nearly balanced on a net balance for covered bonds.

^[29] See further analysis on the AT1 and T2 instruments in Chapter 4 (Capital).

Responses to the RAQ for banks indicate that the institutions intend to attain additional wholesale funding mainly through unsecured funding (45 %, unchanged compared to June this year, and slightly higher than the end of last year) in the next 12 months, while covered bonds and subordinated debt remain popular (between c. 30 % and 40 % of the respondents, more or less unchanged compared to the last two periods). The responses also indicate that the increasing weight of retail deposits in banks' funding mixes is expected to continue (agreement of more than 50 % for the current and last two RAQs; Figure 24).

In contrast to banks, market analysts are more sceptical and expect that the focus on banks' main future funding channels will by far less be on deposits (agreement of about 25 %), but more on market-based funding (agreement of more than 40 % with senior unsecured funding and even more than 60 % for subordinated debt issuances) (Figure 25).

Short maturity profile of liabilities

Market data shows an unevenly distributed maturity profile in the medium term. As of September 2016, volumes of debt maturing within 2017 are substantial at close to EUR 600 billion, and at over EUR 400 billion for 2018. As the asset side of the balance sheet is to a great extent long-term driven, the significant share in short-term market debt instruments raises some concerns about further maturity mismatches (Figure 26). Banks should therefore aim to lengthen their average maturity profile of funding compared to their average assets maturity ⁽³⁰⁾.

⁽³⁰⁾ See also in the box on SREP results in Chapter 1 (Macroeconomic environment and market sentiment).

Figure 24: Intentions to attain more funding via different funding instruments
Source: EBA RAQ for banks.

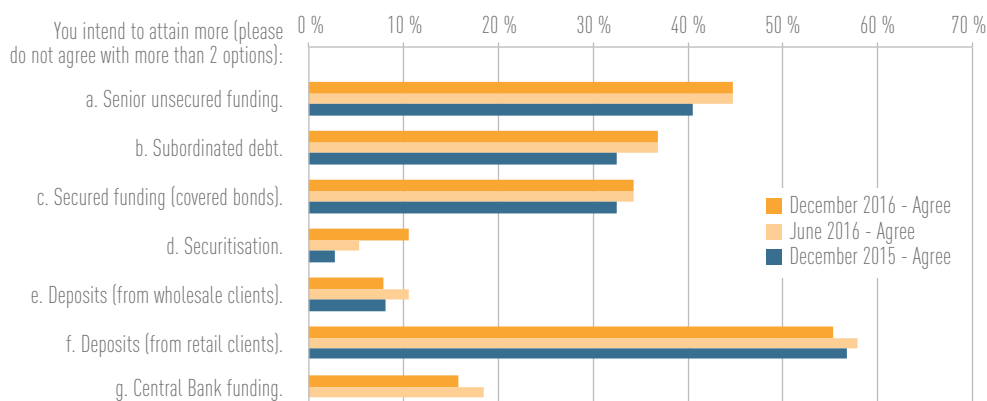


Figure 25: Expectations on banks' future funding channels
Source: EBA RAQ for market analysts.

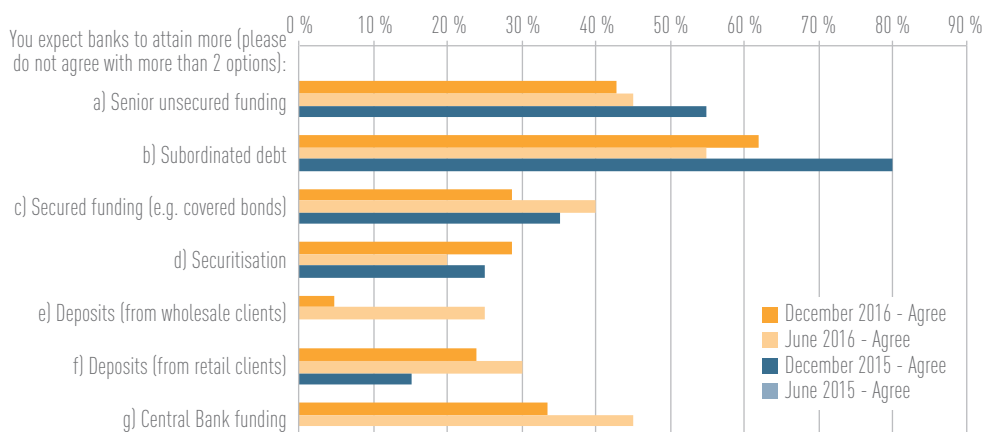
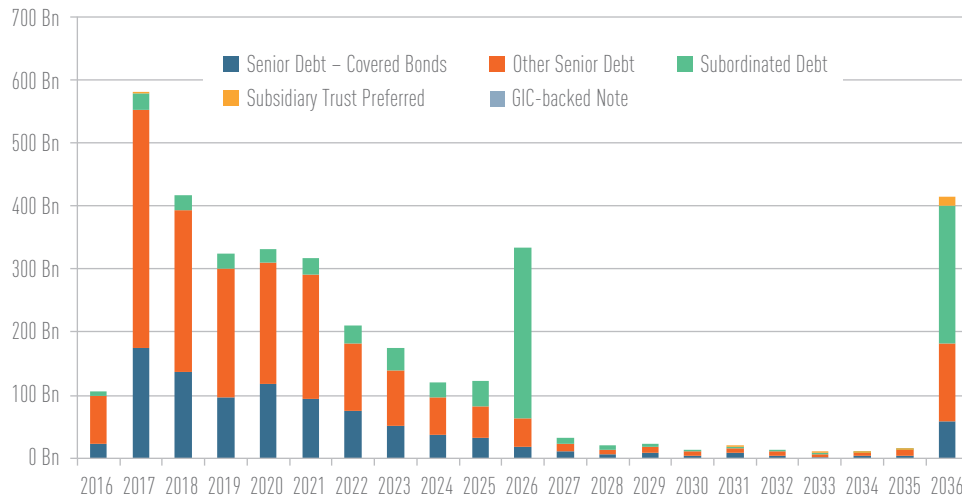


Figure 26: Bonds — aggregated debt maturity profile — 20-year breakout as of September 2015 (billion EUR)

Source: SNL financial data, EBA calculations ^[31].



Challenges in issuing MREL and TLAC compliant instruments

Some examples of issued subordinated debt instruments with new contractual features, such as contractual bail-in-able instruments, were observed in the first three quarters of 2016. These instruments are often tailored towards MREL eligibility according to national transpositions of the BRRD requirements. Most banks will nevertheless have to issue further MREL eligible instruments with a view to meeting respective requirements. The ability of banks, in particular those with heightened risk perceptions or domiciled in sovereigns with weaker macroeconomic fundamentals, to issue these instruments at reasonable costs will also depend on market capacity ^[32].

Resilient trading market liquidity

Some concerns about potential vulnerabilities to the banks' refinancing capacity linked to decreasing trading market liquidity persist. Increasing market volatility of bank funding instruments as observed in the first 9 months of 2016 has, among other factors, contributed to decreasing trading market volumes. It also had an impact on refinancing volumes and conditions.

Trading market liquidity on securities market has nevertheless displayed much greater re-

silience during times of market stress than expected. This was observed, for example, on securities markets around the time of the United Kingdom's referendum on EU membership. Accordingly, market analysts now provide a more favorable outlook for trading market liquidity in the next 12 months compared to previous RAQs. The share of analysts who fully agree to expectations of decreasing trading market liquidity has declined to 33 %, after 50 % of analysts had such expectations in the two previous RAQs (Figure 27). Also, fewer analysts now fully agree to expectations that decreasing liquidity will adversely affect market segments concerned. Furthermore, only 5 % of analysts expect financial bond markets to be affected most.

Analysts regard the effects of regulation as the predominant driver of decreasing market liquidity. However, the share of analysts who regard central bank quantitative easing programmes and reductions of market makers as the main driver of decreasing liquidity has strongly increased compared to the June 2016 RAQ.

Volatile spreads

Spreads of all market funding instruments have been volatile since the beginning of 2016. Spread differentials between unsecured funding instruments and covered bonds widened in the first three quarters of 2016, which is also attributable to central bank purchases of covered bonds. Differentials between unsecured and subordinated funding instruments have widened as well. Itraxx data for European financials for both senior unsecured and subordinated debt indicates sub-

^[31] The debt maturity profiles include debt in the form of listed securities. All data is euro-denominated and it has been aggregated for 43 banks.

^[32] MREL- and TLAC-compliant instruments might also comprise AT1 and T2 instruments. For these two instrument types see Chapter 4 (Capital).

Figure 27: Expectations on trading market liquidity
 Source: EBA RAQ for market analysts.

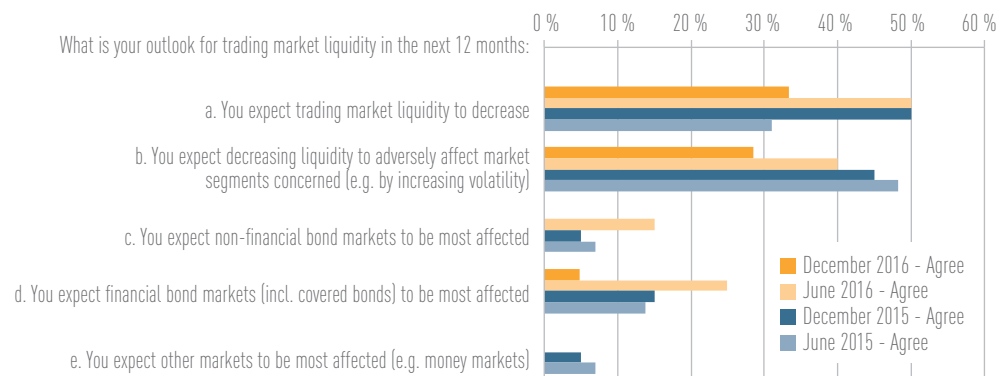
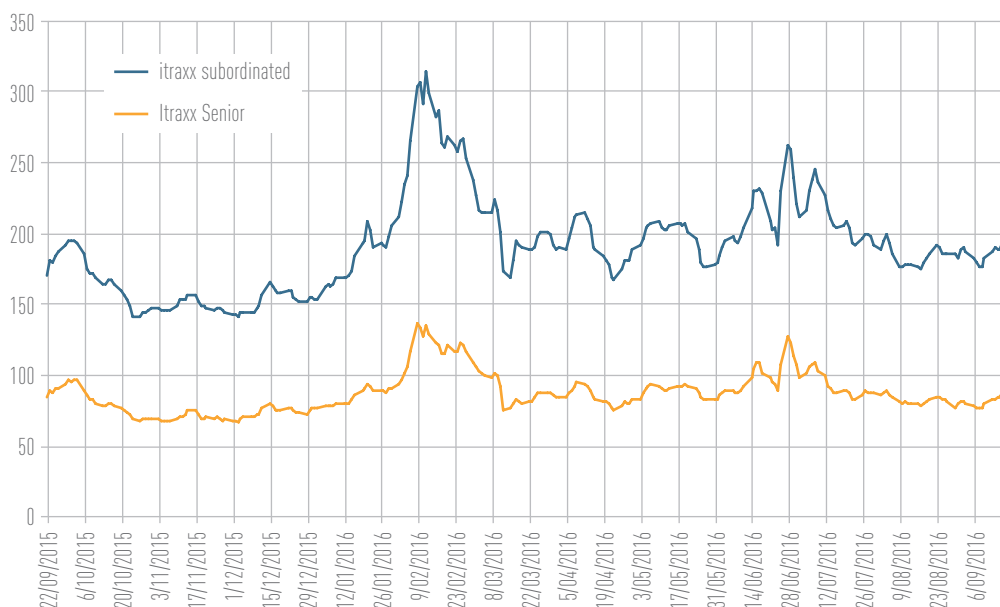


Figure 28: iTraxx financials (Europe, senior and subordinated, 5 years, bp)
 Source: Bloomberg, EBA calculations ⁽³³⁾.



stantially heightened spread volatility since the beginning of the year (Figure 28).

Increased spread volatility is attributable to both macroeconomic factors, such as the United Kingdom’s decision to leave the EU, and to a reassessment of investor risk perceptions about debt instruments, in particular subordinated ones ⁽³⁴⁾. Volatility has adversely affected issuance volumes, too, as accessing primary funding markets and identifying adequate offering prices have been more challenging in times of market stress. Debt issuance volumes were accord-

ingly markedly reduced during such times of stress.

Cross-border interbank lending decreasing

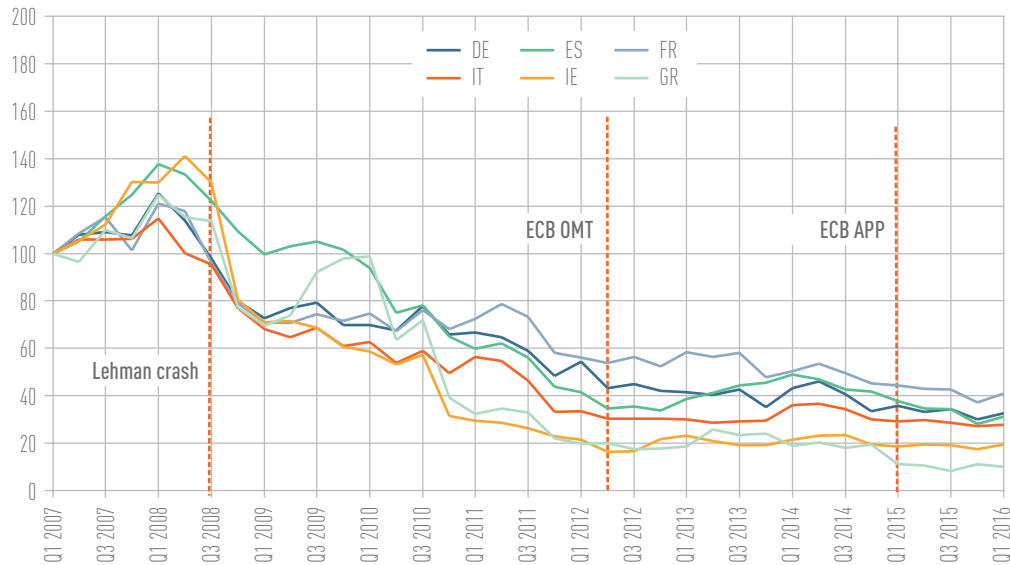
Cross-border lending continued on a trend of reduced importance in bank funding (Figure 29). Alternative sources of funding, in particular central bank funding, appear to have replaced some interbank funding. The RAQ confirms a trend of reduced importance of interbank funding, and less than 30 % of banks indicated that they had been affected by reduced cross-border interbank activity as a taker of funding. Also, more than 60 % of responding banks fully or somewhat agree to keep cross-border interbank lending as a provider of funding on a reduced level.

⁽³³⁾ To avoid friction from the roll-over dates of the indices, the period covered in this chart is from 22 September 2015 till 15 September 2016.

⁽³⁴⁾ See further analysis on the AT1 and T2 instruments in Chapter 4 (Capital).

Figure 29: Consolidated foreign claims of reporting European banks vis-à-vis selected countries' banks, 2006 Q4 = 100

Source: Bank of International Settlements (BIS), EBA calculations.



3.2. Deposits

During the first half of 2016 banks reported a high retail deposit base, although deposit pricing continued its downward trend since Q2 2015. The deposit base (customer deposits and deposits from non-financial corporates) did not grow further, after strong increases in 2014 and 2015. The weight of deposits in bank funding mixes remained high. As a consequence of stable deposit volumes, the overall share of customer deposits among total liabilities remained at a high level of around 50 % (49.8 % in Q2 2016, 51.1 % per year-end 2015). This declining share was mainly driven by the increasing denominator.

Stable customer deposit base

A continued high and stable customer deposit base indicates confidence among customers in banks. Decreasing average deposit rates did not have a meaningful impact on the stickiness of deposits. Deposits in general contribute to a stable funding mix, even though they might be volatile in severe stress scenarios. Some concerns also relate to uncertainties of depositor behaviour should customer deposit rates become negative.

The loan-to-deposit ratio has been on a downward trend since the beginning of 2015. Country dispersion is wide, ranging from about 60 % to more than 300 %. There could be different drivers for these differences, including structural factors such as banks' funding mix (e.g. with a significant role of covered bonds in some countries),

customers' confidence in the banks and the availability of alternative investment and saving opportunities (e.g. investment funds) (Figure 30).

Euro interbank offered rates (Euribor) continued their downward trend in the first three quarters of 2016, and have moved into negative territory across all durations since early 2016 (Figure 31). Deposits' rates, in general, had similar movements. An increasing number of banks have introduced negative rates for wholesale deposits. However, negative retail customer deposit rates could be seen in rare cases only.

3.3. Central bank funding

Levels of central bank funding and asset encumbrance remained high in the first half of 2016. Banks have benefited from continued very accommodative monetary policy and from extraordinary measures adopted since the crisis.

High reliance on central bank funding

Central bank long-term refinancing operations have remained an important funding channel for banks. In the euro area, volumes of ECB TLTRO at the end of Q3 2016 increased to c. EUR 510 billion, from c. EUR 470 billion in the beginning of the year. Maturing amounts allocated in the first TLTRO (TLTRO 1) were mostly rolled over into the TLTRO 2 programme. Relatively high allotments in the second TLTRO 2 operation in September may

Figure 30: Loan-to-deposit ratio — weighted average over time and country dispersion
 Source: EBA risk indicators.

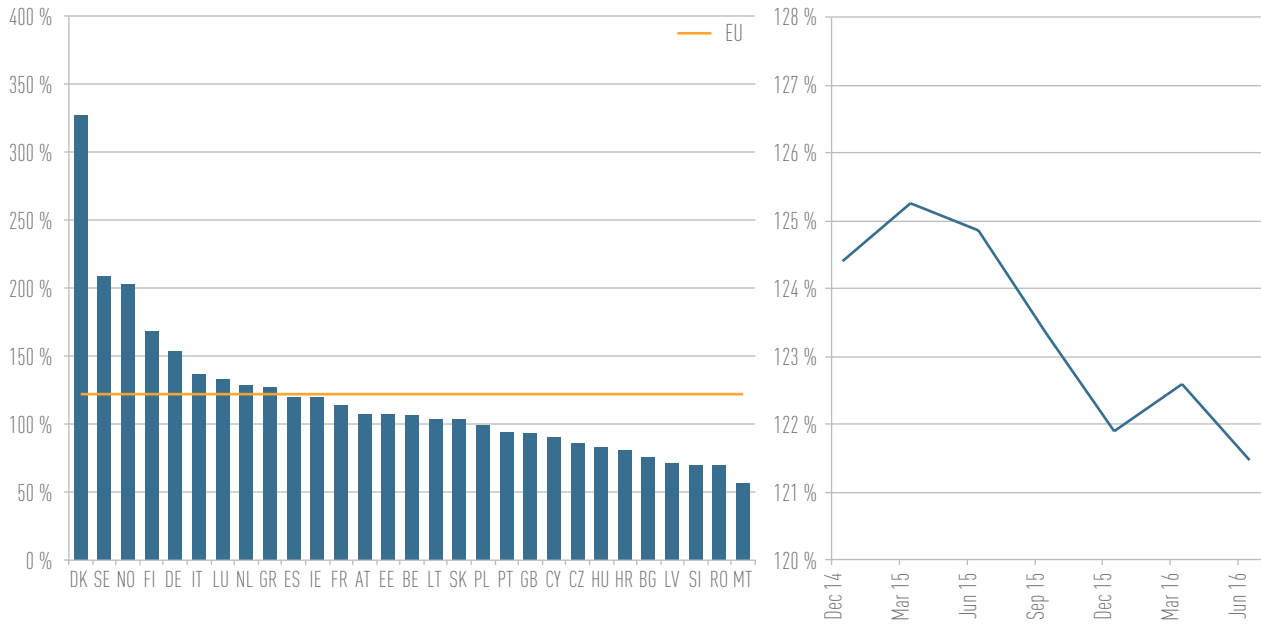
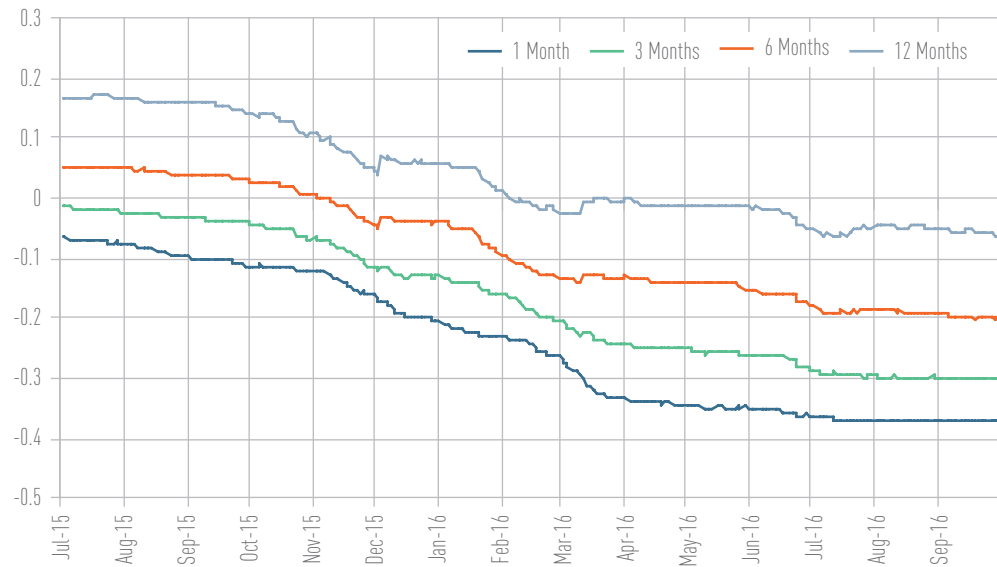


Figure 31: Euribor rates
 Source: Bloomberg, EBA calculations.

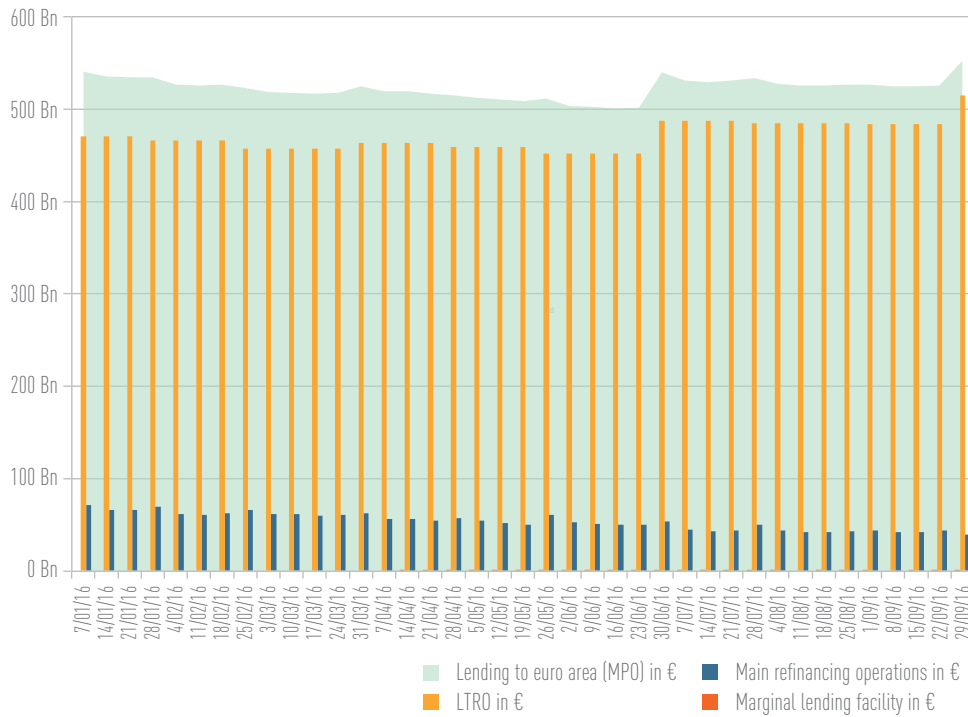


point to the attractiveness of attaining TLTRO 2 funding compared to medium-term unsecured wholesale funding (Figure 32). Funding volumes attained through regular refinancing operations of the ECB decreased in the first three quarters of 2016, and overall exposure to ECB funding has broadly remained unchanged.

The RAQ responses to a question about potential changes in the funding mix show that

only a few banks plan to further increase central bank funding in funding mixes in the next 12 months (16 %, see Figure 24 above), a slight decrease compared to banks expressing such plans in the June 2016 RAQ (18 %). Likewise, the share of market analysts expecting banks to attain more central bank funding has decreased considerably (from 45 % in the June 2016 RAQ to 33 % in the December 2016 RAQ) (see Figure 25 above).

Figure 32: Evolution of the ECB’s monetary policy and operations (MPO) and TLTRO volumes
 Source: ECB, EBA calculations.



Bank funding plans

Monitoring bank funding has been a priority of supervisors and banks since the beginning of the global financial crisis. To better assess banks’ liquidity and bank funding risks, the EBA has developed harmonised definitions and templates for bank funding plans. Banks are required to submit data on balance sheet forecasts for 3 years, with a focus on loan portfolios and funding sources (deposits, wholesale and public sector funding), as well as actual and forecasted liquidity coverage ratio (LCR) and net stable funding ratio (NSFR) ^[35].

On an aggregate basis, the funding plans indicate that banks in most jurisdictions are optimistic about their plans to increase loans to households and to non-financial corporates in the current year as well as in 2017 and 2018. Expected growth is in a range between 1 % and up to 5 % p.a. in

2016 and the two following years (Figure 33) ^[36].

On the liability side, deposits from households and non-financial corporates as well as market funding are expected to increase for both long-term secured and unsecured funding. Also here, growth rates are in a range between 1 % and 5 % p.a. in 2016, 2017 and 2018 (Figure 34). Seen in aggregate, it seems difficult for all banks to increase these sources of funding, especially in light of this year’s static deposit growth and volatile funding markets with several set-backs of issuance volumes. As can also be seen in historical data as well as in the RAQ responses, interbank financing is expected to decrease on both the asset side (loans to financial corporates) and liability side (deposits from financial corporates).

Banks expect public-sector sources of funding to decrease slowly between 2016

^[35] See guidelines on the reporting of funding plans (<https://www.eba.europa.eu/-/eba-publishes-guidelines-on-harmonised-definitions-and-templates-for-funding-plans-of-credit-institutions>).

^[36] The data is based on the funding plans submitted by 162 institutions with reference date as of 31 December 2015 and as such covering the forecasted years 2016 to 2018. The RAQ responses confirm that banks are assumed to grow in SME and corporate lending, as well as in consumer and mortgage financing. However, in contrast to the funding plans, supervisory reporting data shows that banks have increased their cash balances during the first half of this year. See on these expectations and developments chapter 2.1 (Volume trends).

and 2018 ^[37]. Public-sector funding includes repo funding programmes (e.g. TL-TRO) and credit supply incentive schemes. Some caution is nevertheless warranted when analysing projected funding volumes,

as banks tend to adjust their funding plans on a more frequent basis in line with business needs and market conditions. Funding plans might also reflect banks' rather optimistic general business plans.

Figure 33: Bank funding plans: expected changes in asset volumes (net changes)
 Source: EBA supervisory reporting.

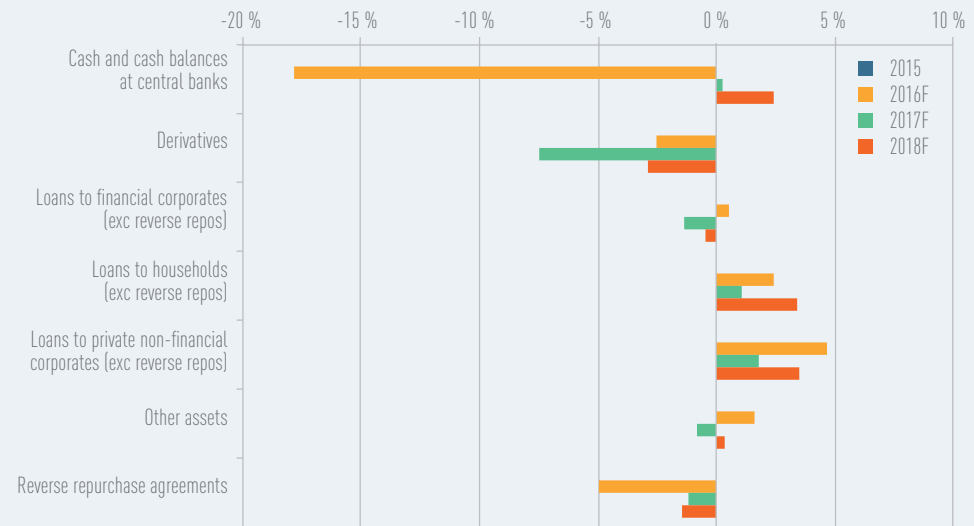


Figure 34: Bank funding plans: expected changes in liability volumes (net changes)
 Source: EBA supervisory reporting.



^[37] Based on the RAQ, 16 % of the banks plan to increase central bank funding in the next 12 months.

4. Capital

The strengthening of European banks' solvency initiated in 2011 has continued. In particular, the CET1 ratio, computed on a transitional basis, increased by 80 bp between June 2015 and June 2016 to 13.6%. The fully loaded CET1 ratio was 12.1% in June 2015 and 13.2% in June this year. The gradual implementation of capital rules has reduced the impact of transitional adjustments from 70 bp to 40 bp, which constitute the difference between the ratios calculated on a transitional vs fully loaded basis (Figure 35).

The improvement of banks' capital positions affected all banks and contributed to moving the CET1 ratios of the whole sample upwards, with the CET1 ratio increasing from 11.6% to 12.3% between June 2015 and June 2016 for banks in the lower quartile. In Q2 2016 no bank had a CET1 ratio below 9%, while 84% of the total number of banks in the sample had a ratio above 12%. The differences among countries remain however large, ranging from 11.2% to 35.5% (Figure 36).

Figure 35: Evolution of transitional vs fully loaded CET1 ratios

Source: EBA risk indicators.

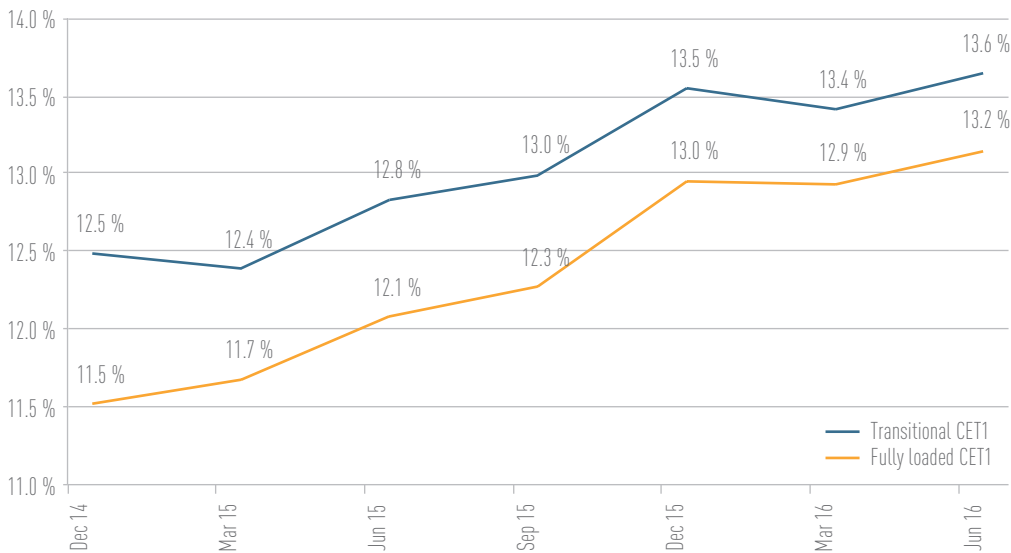
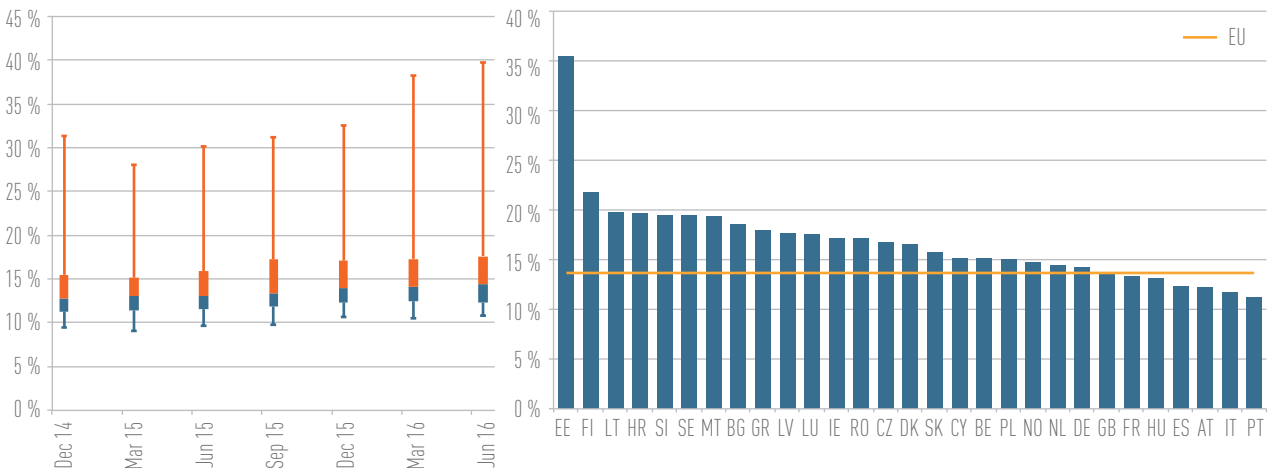


Figure 36: CET1 ratio — 5th and 95th percentiles, interquartile range and median; and by country

Source: EBA risk indicators.



Growth in common equity as a main driver for increasing CET1 ratio

The continuous increase of common equity is the main driver for the improvement in banks' capital positions. In particular, since December 2014 the amount of CET1 capital has grown by approximately 5 %, while the risk exposure amount (REA) decreased by 3.3 % (Figure 37).

As of June 2016, capital instruments remain the main CET1 capital component, with 51.9 %. Retained earnings follow in importance, with 46.6 %. Retained earnings are also the component that has been growing the most since Q4 2014. This growth, achieved in a low profitability environment, reflects banks' adoption of

prudent dividend policies, primarily as a result of demands by supervisors. The main negative components are the deductions of goodwill and other intangible assets (Figure 38).

The downward trend of the REA was largely driven by the credit and market risk components. The decrease in the credit risk can be partly explained by the slight shift towards exposures with lower risk weights since total assets experienced a slight increase in the same period. The decline of the market risk component suggests a shift towards more traditional business models, reducing the share of trading activities ⁽³⁸⁾.

⁽³⁸⁾ On total asset growth and reduction of trading exposures see also the RAQ results in Chapter 2.1 (Volume trends).

Figure 37: Evolution of CET1 capital and REA – numerator and denominator trends
Source: EBA risk indicators.

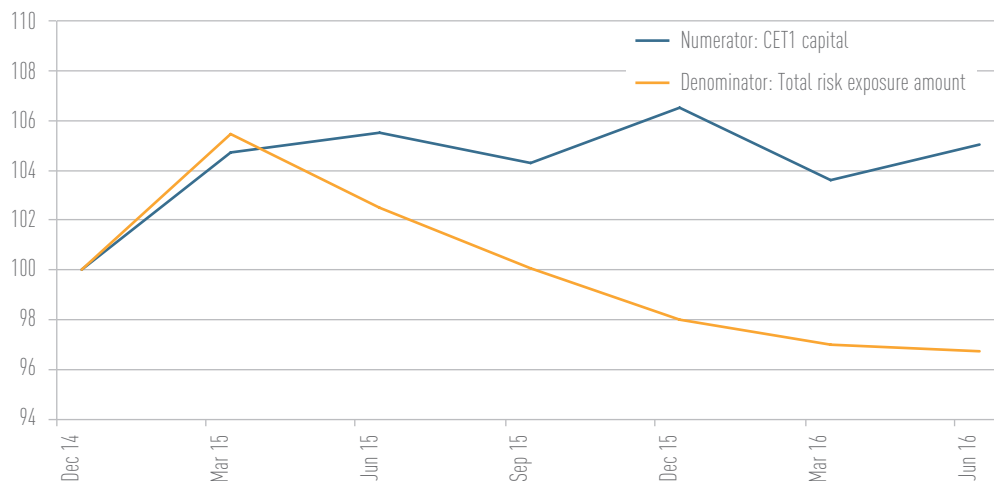
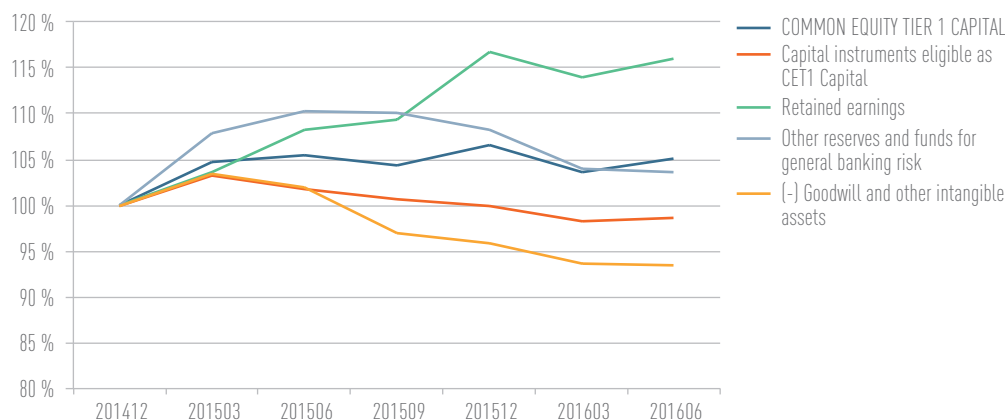


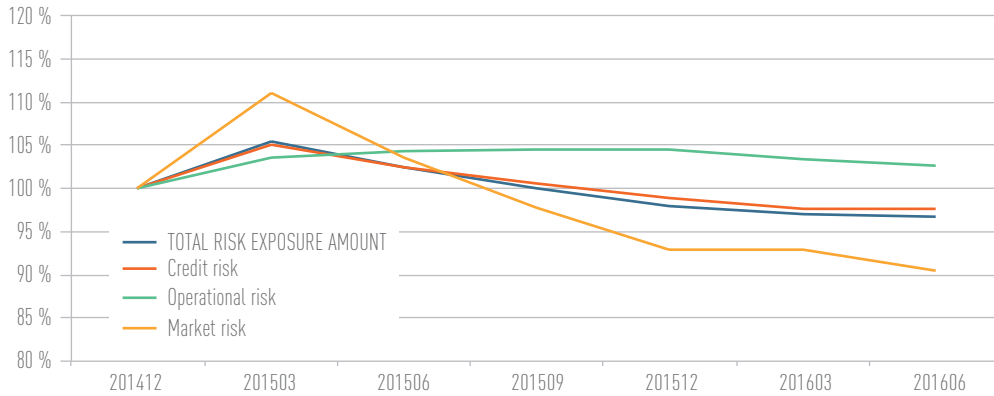
Figure 38: CET1 main components – evolution and composition
Source: EBA risk indicators.



COMMON EQUITY TIER 1 CAPITAL	Share June 2016
Capital instruments eligible as CET1 Capital	51.9%
Retained earnings	46.6%
Other reserves and Funds for general banking risk	15.1%
(-) Goodwill and (-) Other intangible assets	-12.2%
Other CET1 components	-1.4%
SUM	100.0%

Figure 39: REA main components – evolution and composition ^[39]

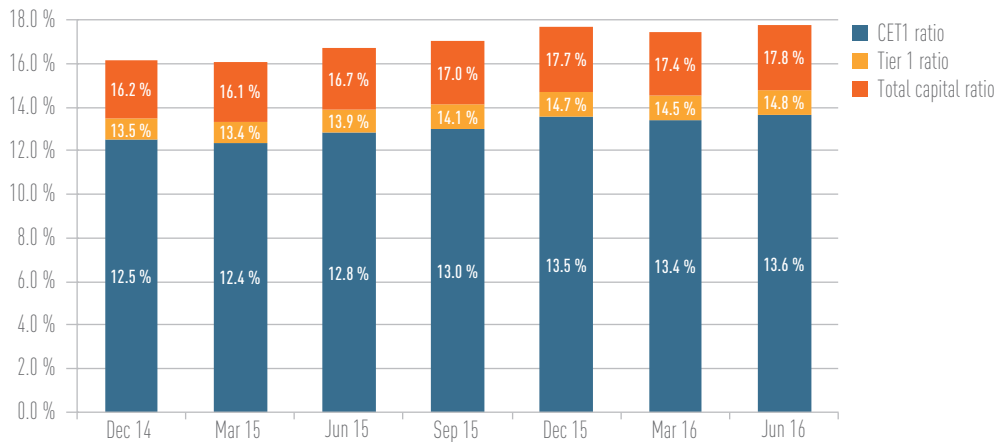
Source: EBA risk indicators.



TOTAL RISK EXPOSURE AMOUNT	Share June 2016
Credit risk	80.5%
Operational risk	10.0%
Market risk	6.3%
Other Risk exposure amounts	3.2%
SUM	100.0%

Figure 40: Evolution of the capital ratios

Source: EBA risk indicators.



Tier 1 capital and total capital ratios have also improved^[39]

The tier 1 and total capital ratios of the sample reached 14.8 % and 17.8 % respectively in June 2016. They have increased by 90 bp and 110 bp respectively since June 2015 (Figure 40). This implies a modest growth in additional tier 1 (AT1) and tier 2 (T2) components of 10 and 20 bp, respectively.

Capital ratios of institutions with higher starting values grew more than those with smaller starting values between June 2015 and June 2016. The gap between the 25th and 75th percentile has accordingly widened. The

dispersion of both ratios remains high as of June 2016 with an interquartile range of 5.6 % (4.8 % 1 year before) for tier 1 capital ratio and 7.7 % total capital ratio (6.1 % 1 year before) (Figure 41).

These trends confirm that CET1 capital has played a main role in the recapitalisation efforts over the last few years, also triggered by the capital requirements regulation (CRR) and CRD rules. On the other hand, the data suggests that most banks have not yet fulfilled the maximum potential of its other eligible capital layers, i.e. AT1 and T2. Under the CRR/CRD, institutions can allocate 1.5 % of their REA to AT1 in the computation of tier 1 capital ratio minimum and 2 % of T2 for their minimum total capital ratio. In addition, both types of instruments are eligible

^[39] For some countries the Basel 1 floor is included in the "other risk exposure amounts".

Figure 41: 5th and 95th percentiles, interquartile range and median of the tier 1 capital ratio (left) and total capital ratio (right)
 Source: EBA risk indicators.

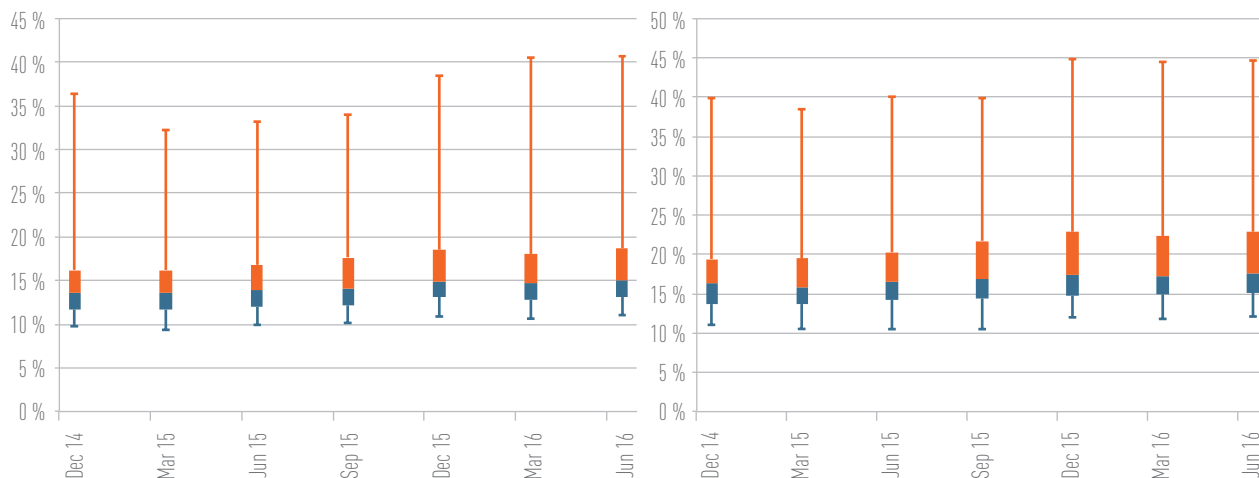
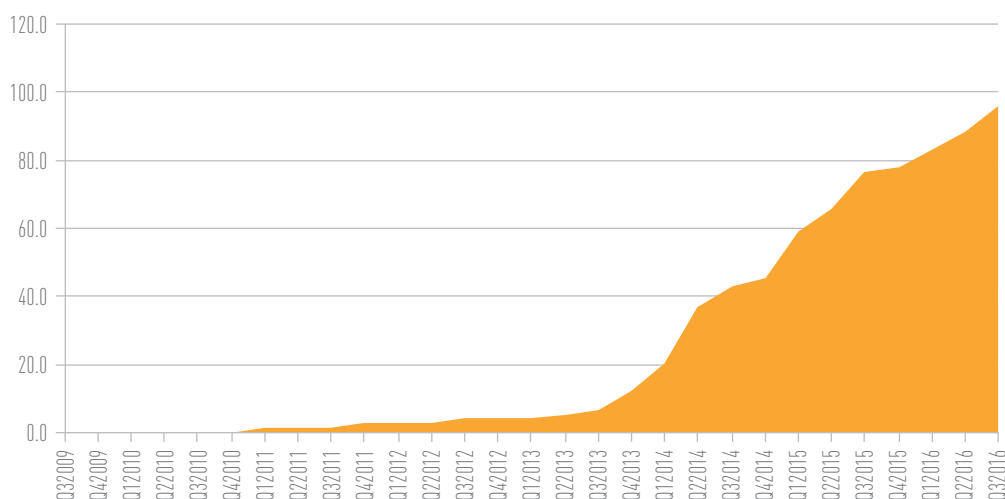


Figure 42: Total cumulative issuance of AT1 CoCos by EU banks (billion EUR)
 Source: SNL Financial, Bloomberg, EBA calculations.



to meet MREL/TLAC requirements, while the AT1 component is also usable for the leverage ratio.

AT1 capital reaches 1.2 % in aggregate as of June 2016, which shows that banks have still room to further build-up this capital component. Only for 18 % of the institutions AT1 is equal to or above 1.5 %, whereas for 75 % of them it is below 1 %. For 59 % of the institutions AT1s' share is even zero. Conversely, 48 % of the institutions hold T2 capital already above 2 % while only 17 % of them report a share of zero.

Lower issuance volumes of AT1 contingent convertible instruments (CoCos) in 2016

This rather subdued build-up of the AT1 capital component is reflected in the recent issuance of AT1 CoCos. The total amount of AT1 CoCos issued between June 2015 and June

2016 reached EUR 22.5 billion, dropping by nearly 25 % in comparison with the previous period. The total amount issued in Q3 2016 moderately increased to EUR 7.9 billion (Figure 42). Issuing banks were mostly large banks and those with a strong market perception.

Challenging market conditions, including some initial concerns on the regulatory treatment of these instruments, have outweighed some of the potential positive effect from relatively high yields when it comes to investors' perceptions. Average yields for AT1 instruments were substantially higher in 2016 compared to 2015. A range of different terms and features observed in AT1 issued in Europe and a lack of comparability may additionally have negatively affected interest in these instruments. Their issuance volumes may also remain temporarily affected while markets in some jurisdictions await clarification of out-

standing details on the national implementation of MREL requirements, particularly with regard to the hierarchy of claims and form of subordination ^[40].

The moderate pick-up in issuance activity in Q3 2016 might also suggest that the initiatives taken by regulators to better clarify any remaining uncertainty regarding the application of the maximum distributable amount (MDA) triggers and their effects on AT1 payments have become more effective. In addition, in the second half of 2016, the EBA published suggestions for standardised templates on terms and conditions for AT1 issuances ^[41].

A further potential upward trend in issuance volumes is confirmed by the answers to the RAQ by banks. In particular, about 40 % intend to issue AT1 instruments in the next 12 months. In addition, more than 60 % of the banks plan to issue T2 instruments (Figure 43). These trends might be supported by the need to also issue MREL/TLAC-compliant instruments.

Similarly to banks, nearly 40 % of the market analysts expect that banks will be able to issue AT1 instruments and more than 50 % expect that banks will be able to issue T2 instruments, according to the RAQ (Figure 44). After subdued issuing of T2 instruments in the first three quarters of 2016, the ability to issue high volumes of such instruments going forward, as expected by both banks and analysts, may nevertheless prove challenging, while price volatility is expected to stay high.

^[40] AT1 instruments are also eligible to meet MREL/TLAC requirements. On MREL-compliant instruments see Chapter 3 (Liability side).

^[41] <http://www.eba.europa.eu/documents/10180/1360107/Final+AT1+standard+templates+.pdf>

Figure 43: Planned issuance of subordinated instruments

Source: EBA RAQ for banks.

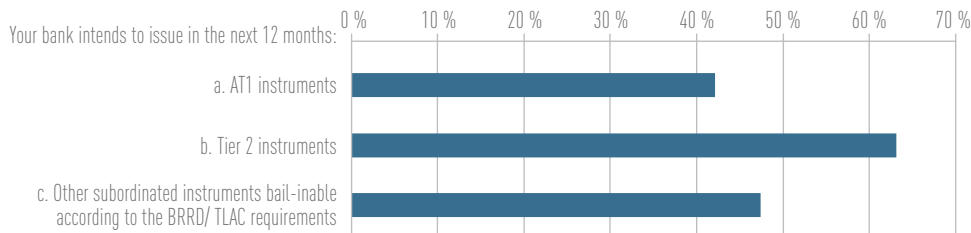
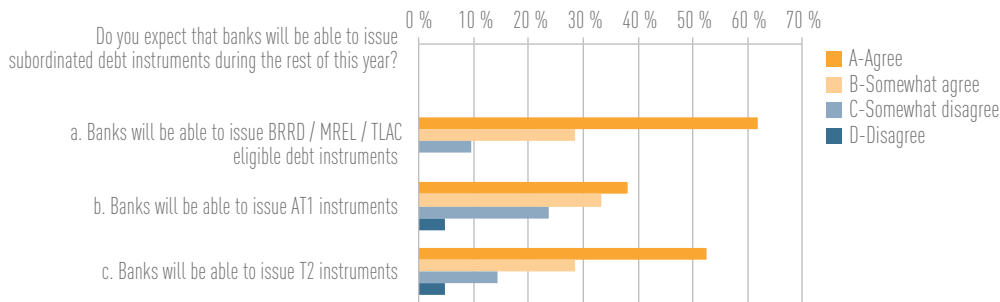


Figure 44: Planned issuance of subordinated instruments

Source: EBA RAQ for market analysts.



5. Profitability

EU banks reported a return on equity (RoE) of 5.7 % as of June 2016, an improvement compared to 2015 and 2014 end-of-year data ⁽⁴²⁾. However, RoE decreased by more than 100 bp over the year compared to June 2015.

Operating income declined faster than operating expenses

The decline in profitability between June 2015 and June 2016 was driven by a drop of total operating income of 8.8 %, while operating expenses only decreased by 3.6 % ⁽⁴³⁾. This can point to a lower efficiency than a year ago. Banks' operating expenses represented 63 % of their total operating income (TOI) in June 2016, compared to 59 % in June 2015. Regarding the evolution of the main components of the net operating income, net interest income (NII) decreased in absolute terms by 5.3 %, net fees and commission income (NFC) by 7.2 % and net trading income (NTI) by 22 %. Banks report improvements of impairments, with a reduction in absolute terms of

20.3 %. The impairments booked during the year until June 2016 are 12 % of TOI (14 % the year before) (Figure 45). The level of returns as of June 2016 suggests that EU banks are not yet on a path of full recovery towards a sustainable level of profits. As such profitability remains a source of concern in the EU banking system, especially when set against CoE, as described below.

EU banks still struggle to generate acceptable levels of income from their traditional lending activities, in a context of persistent low interest rates and still high volumes of legacy assets ⁽⁴⁴⁾. Against this background, banks' interest income (19 % of banks' equity) is not sufficient to cover their operating expenses (20.9 % of equity) ⁽⁴⁵⁾. Alternative sources of incomes, like fees and commissions (8.9 % of equity), are not growing enough to compensate for banks' impaired capacity to generate net interest income. The increasing compe-

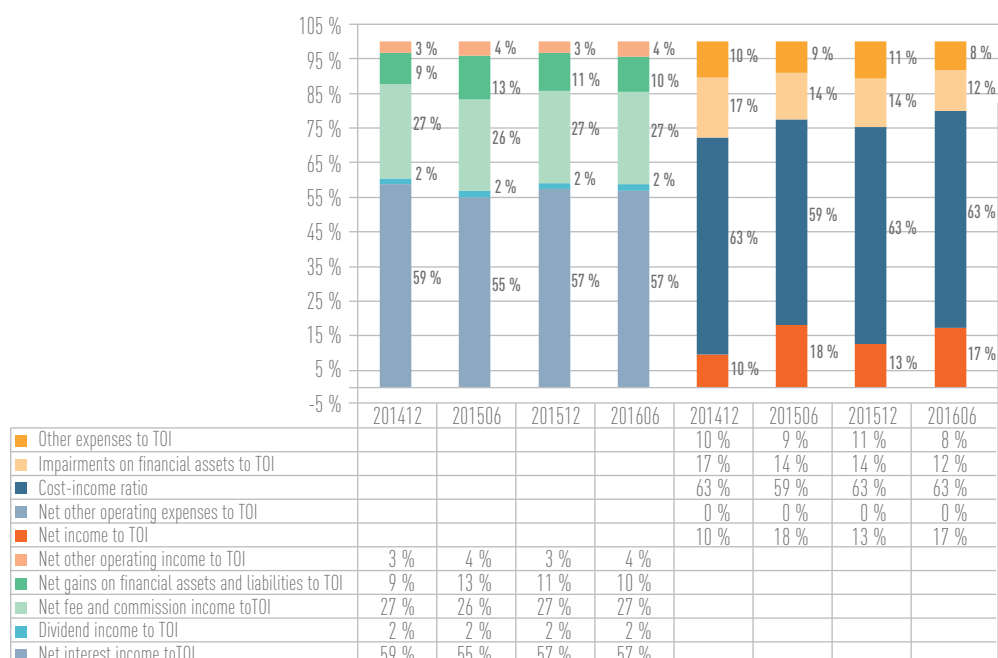
⁽⁴²⁾ Year-end data can be partially influenced by seasonality effect, such as the consideration of impairments and general provisions.

⁽⁴³⁾ Comparison is focused on a year-over-year comparison, to eliminate seasonality effects.

⁽⁴⁴⁾ See Chapter 1 (Macroeconomic environment and market sentiment) on the low growth and low interest rate environment which banks are facing, and Chapter 2 (Asset side) on asset volumes and quality.

⁽⁴⁵⁾ It should be noted that it is based on EU average data and also includes banks whose business model might not be focused on interest, but rather fee and commission income.

Figure 45: Evolution of the ratios of incomes and expenses compared to total operating income (TOI)
Source: EBA risk indicators – EBA calculations.



tion from shadow banking institutions and FinTechs companies adds further pressure on the banks' ability to boost this type of business line ^[46].

Impairments on financial assets (3.9 % of equity) linked to NPLs, although gradually moderating, still pay an important toll on banks' results. This is the case in some geographies and business models in which further actions are needed to tackle NPLs in order to enhance their provisioning and writing-off to market price levels. Such actions will further entail impairments in the short term.

Lack of efficiency and / or overbanking are issues for many banks whose high operating expenses (20.9 % of equity) are hardly sustainable, also in certain countries and for specific business model ^[47]. Significant litigation and conduct costs contribute to the inefficiencies. According to the RAQ results, more than 44 % of the banks have paid out more than EUR 500 million in compensation, litigation and similar payments since the financial year 2007/2008. The share of banks which have paid out more than EUR 1 billion is 37 %. Other expenses (2.9 % of equity), which include, among others, provisions linked to e.g. conduct and cyber risk, accordingly continue to add further pressure on banks' net income (Figure 46).

^[46] On FinTech companies see Chapter 6.1 (ICT-related risks).

^[47] On overbanking, see also the ESRB's report 'Is Europe overbanked?' (https://www.esrb.europa.eu/pub/pdf/asc/Reports_ASC_4_1406.pdf). Besides the described ones, there are further drivers and sources of the stickiness of operating expenses.

Whereas the interest income had increased in absolute terms during the first half of 2015 — amid expectation of potential rises of interest rates in some jurisdictions — it contracted again during the first half of 2016. It even declined to volumes below the December 2014 level. This comes amid a now materialising low interest rate environment, which is expected to remain for even longer than assumed last year (Figure 47) ^[48].

In terms of the distribution of banks' total assets by buckets of profitability, the share of banks with an RoE above 8 % as of June 2016 represents 36 % of EU banks' total assets, down from approximately 48 % in June 2015 (Figure 48). The fact that banks representing almost 65 % of EU total assets report an RoE below 8 % highlights once more that profitability remains a concern in the EU banking system.

RoE and return on assets (RoA) present a similar evolution since December 2014, with equity growing at a greater pace than total assets, which leads to a more pronounced upward trend of RoA during the period (Figure 49).

RoE still below cost of equity

A large majority of banks (84 %) estimate their CoE above 8 %, according to the RAQ. Some 47 % of respondents estimate their CoE in the range of 8 % to 10 % and 37 % estimate their CoE to be above 10 %. The comparison

^[48] See Chapter 1 (Macroeconomic environment and market sentiment) on inflation and interest rate expectations.

Figure 46: Decomposition of RoE (EU aggregate) — June 2016
Source: EBA risk indicators — EBA calculations.

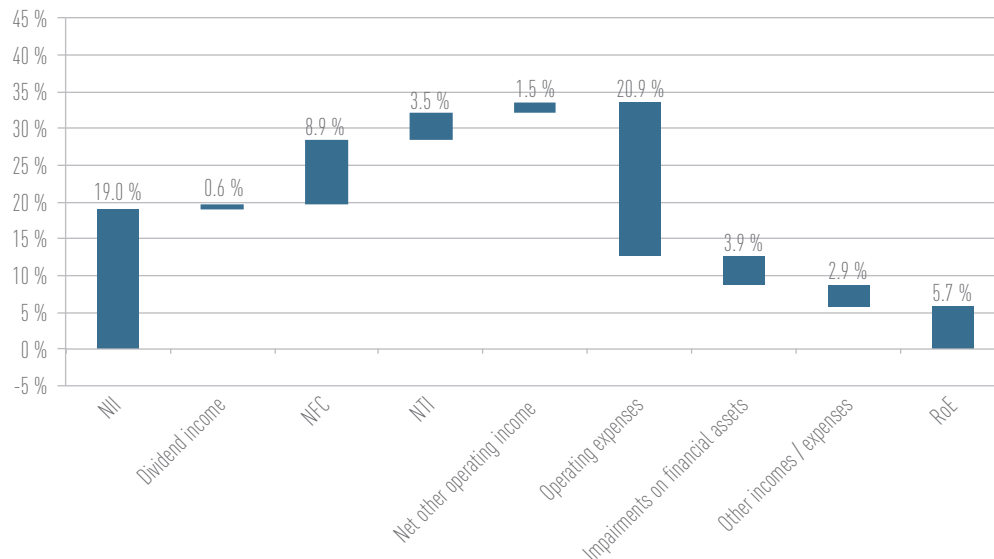


Figure 47: NII to TOI: 5th and 95th percentiles, interquartile range and median; evolution (numerator and denominator) of NII compared to TOI (December 2014 = 100)

Source: EBA risk indicators.

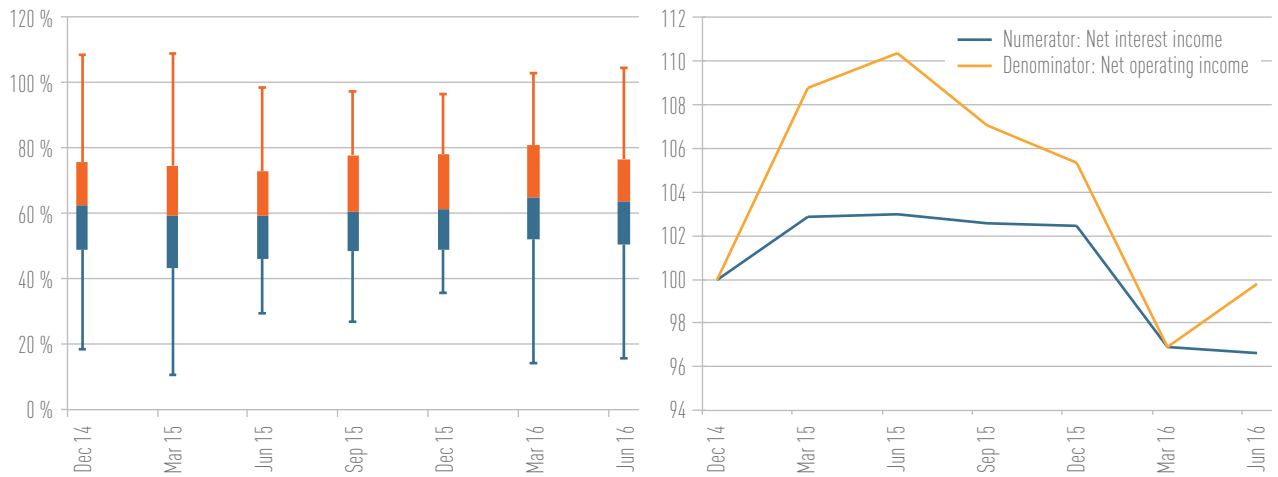


Figure 48: RoE by bucket and percentage of banks' total assets

Source: EBA risk indicators and EBA calculations.

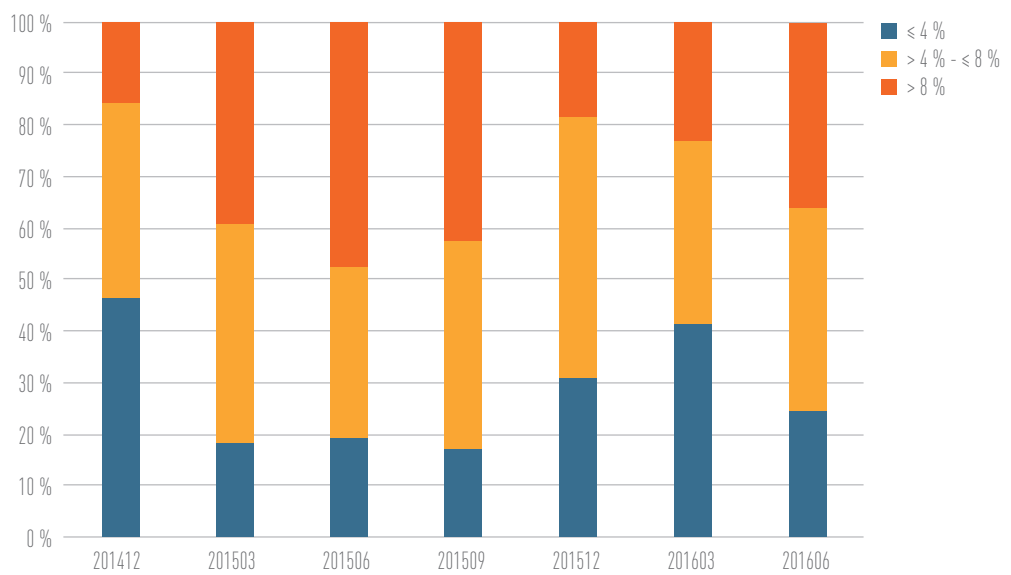


Figure 49: RoE and RoA – comparison
Source: EBA risk indicators.

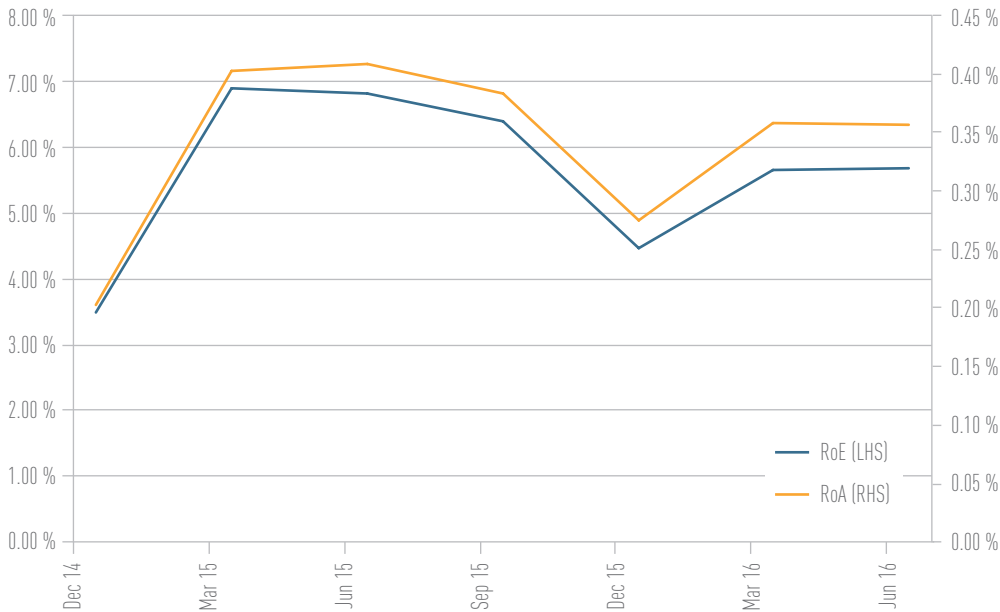
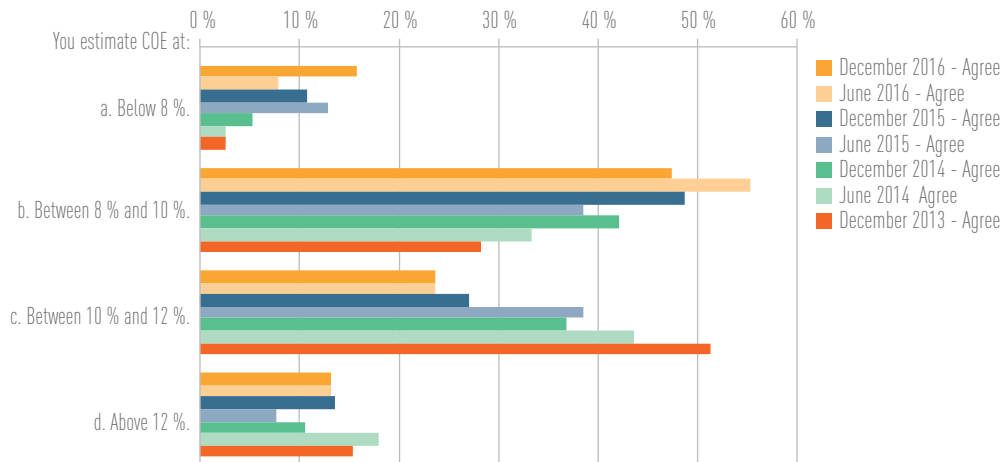


Figure 50: Banks' CoE expectations
Source: EBA RAQ for banks.



with the answers provided by banks in previous editions of the RAQ reflects a trend by which banks are reducing their estimated CoE (Figure 50).

Banks' expectations on decreasing CoE are in line with the capital asset pricing model (CAPM)-based analysis carried out by the EBA ⁽⁴⁹⁾ (Figure 51).

⁽⁴⁹⁾ The analysis is based on a sample of listed banks. CoEs were calculated aggregating the single-bank data figures by the market capitalisation of the banks. The CoE is estimated according to the capital asset pricing model (CAPM) approach, with the formula $CoE_i = R_{rf} + \beta_i * (RiskPremium_{mkt} - R_{rf})$. The data source for the analysis is Bloomberg for Betas and interest rates of long-term government bonds and NYU Leonard N. Stern School of Business for the equity risk premiums (http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html).

In respect of a sustainable level of profitability, about 70 % of banks estimate their long-term target for RoE at above 10 %, according to the RAQ. About 45 % of banks consider an RoE between 10 % and 12 % as appropriate to operate on a long-term basis. Banks still struggle to generate enough returns to cover their CoE, with 50 % of banks reporting an RoE below 6.2 % (Figure 52). These trends highlight the concerns around EU banks' profitability.

Figure 51: EU banks' CoE based on the CAPM

Source: Bloomberg, NYU Leonard N. Stern School of Business, EBA calculation. ⁽⁵⁰⁾

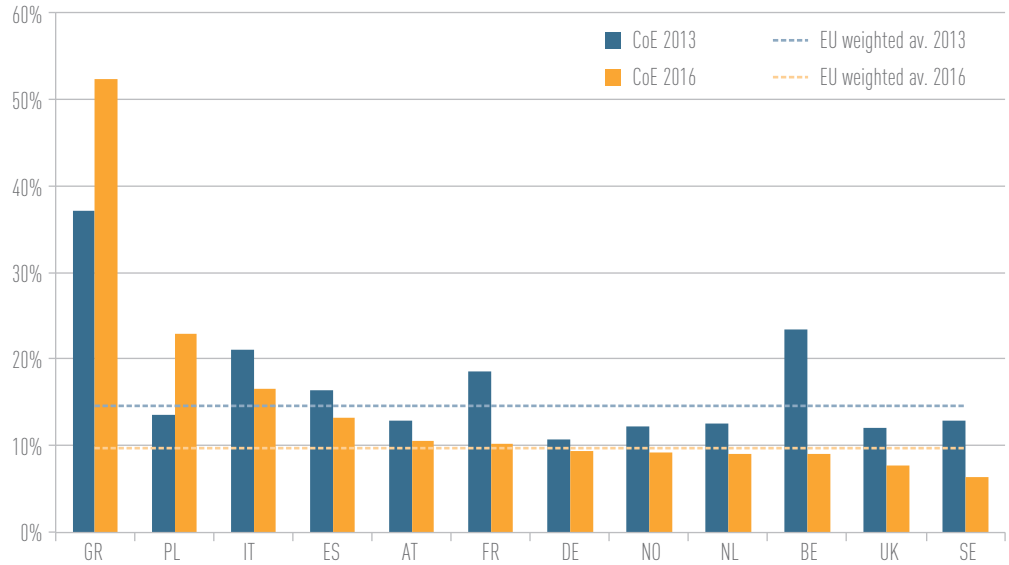
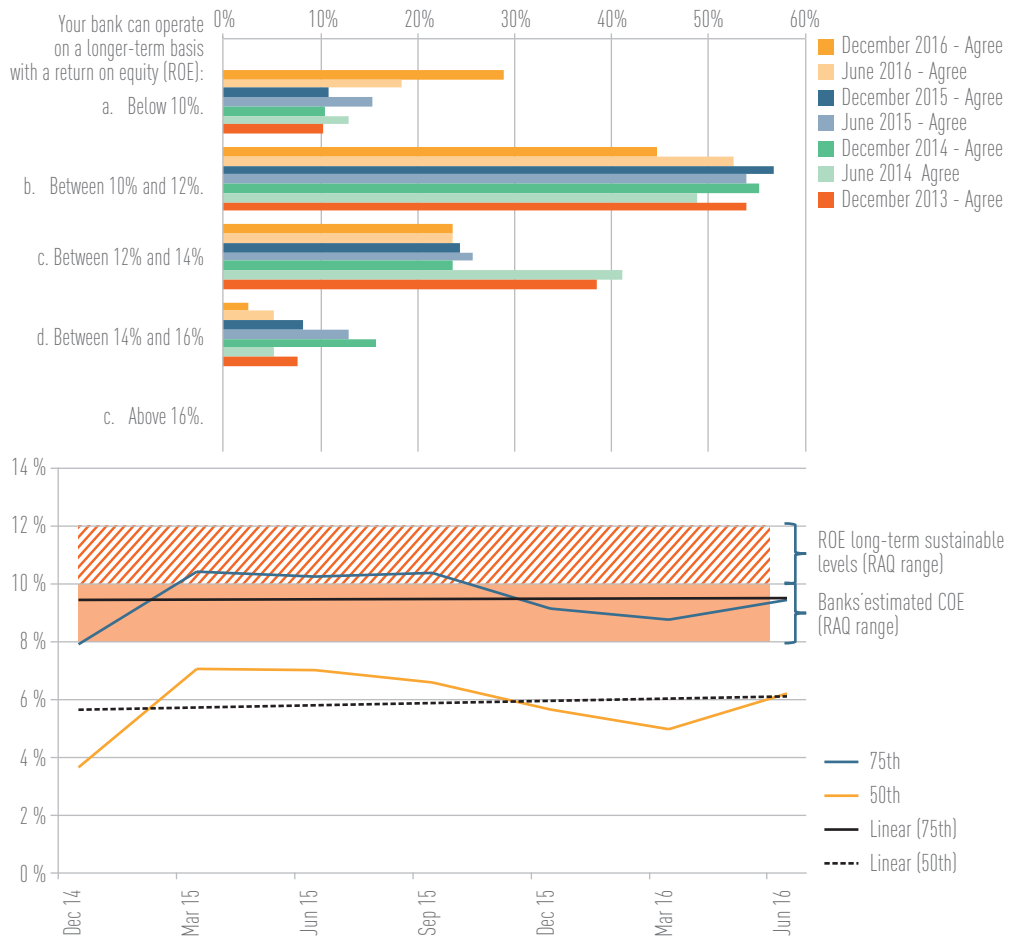


Figure 52: RoE —long-term sustainable RoE in RAQ for banks and 50th and 75th percentiles and comparison with CoE

Source: EBA RAQ for banks and EBA risk indicators.



⁽⁵⁰⁾ Estimates based on July 2011 and September 2016 data. See also the separate box on CoE trends over time and the former footnote on the input parameters of the CAPM, which are market based.

Banks' cost of equity — Levels and drivers

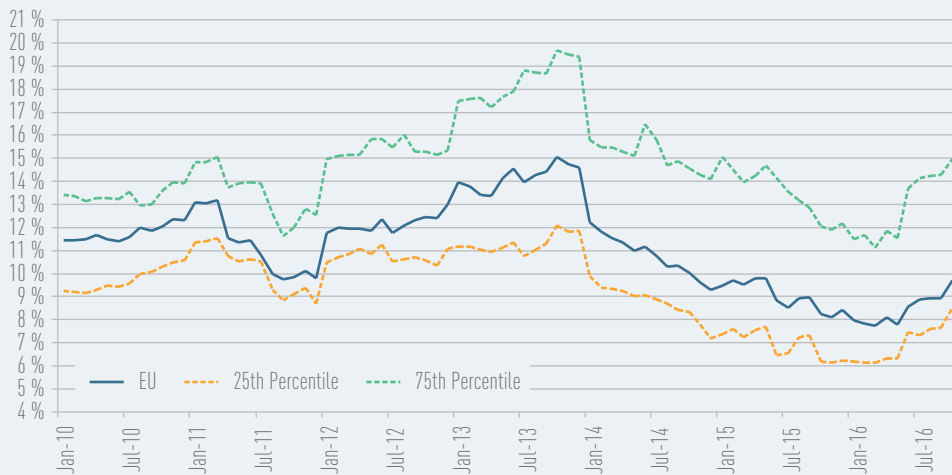
European banks have witnessed a gap between RoE and CoE since the beginning of the global financial crisis, meaning that realised (accounting) returns have been lower than investors' expected returns^[51]. The CoE of European banks has remained above their RoE since 2009.

After showing volatility between 2010 and 2013, EU banks' CoE, calculated with the CAPM, declined between mid 2013 and the beginning of 2016, bottoming at slightly above 7.5%. The main reasons for this decline were decreasing real risk-free rates and betas^[52]. However, this decline in CoE was still limited due to equity premiums increasing in parallel during the same period. The further increase of the equity risk premiums, together with increasing betas, was the main reason for the CoE's growth since the beginning of this year. This proves that the perception of the banking sector's riskiness has not stabilised, also leading to an again widening gap between RoE and CoE.

Four types of drivers of CoE trends can be identified, according to literature^[53]. They include risk, market, macroeconomic and company fundamental factors. Risk factors represent the most important driver of CoE. They include both the structure of funding and risk appetite of a company. More broadly, they include risks of specific countries and sectors. This means that some structural characteristics, such as political risk or ease of doing business, are also considered. Market drivers include parameters which are essential for obtaining fair value of assets such as interest rates, marketability (listing of a company), market capitalisation and liquidity. CoE is also affected by macroeconomic drivers. They include expected inflation rate, commodity prices and expected GDP growth^[54]. The company-specific fundamental factors consider the company size and its current RoE. It should be noted that in many cases there is a significant correlation between the factors.

Figure 53: EU banks' CoE

Source: Bloomberg, NYU Leonard N. Stern School of Business, EBA calculation.



[53] Literature used includes the following contributions: Green, E. J., Lopez, J. A. and Wang, Z., 'The federal reserve banks' imputed cost of equity capital', Unpublished paper, Federal Reserve Bank of New York, 2000; Fama, E. F. and French, K. R., 'Common risk factors in the returns on stocks and bonds', *Journal of Financial Economics*, Vol. 33, No 1, 1993, pp. 3-56; Fama, E. F. and French, K. R., 'A five-factor asset pricing model', *Journal of Financial Economics*, Vol. 116, No 1, 2015, pp. 1-22; Gordon, M. J., 'Dividends, earnings, and stock prices', *The Review of Economics and Statistics*, Vol. 42, No 1, Part 1, 1959, pp. 99-105; Engle, R. F., 'Autoregressive conditional heteroscedasticity with estimates of the variance of United Kingdom inflation', *Econometrica: Journal of the Econometric Society*, pp. 987-1007, 1982.

[51] <https://www.imf.org/external/pubs/ft/gfsr/2014/02/pdf/text.pdf>

[52] As the calculation of the CoE is based on the CAPM, the explanations provided to Figure 51 apply accordingly. The sample of banks used for the calculation of the CoE differs from the sample on which the EBA risk indicators are based on.

[54] Ibbotson R.G. and Chen P., 'Long-run stock returns: participating in the real economy', *AIMR*, pp. 88 - 98, 2003.

Significant dispersion of profitability among countries

Banks that are able to generate large volumes of operating income compared to their equity report in general higher RoE, if this is accompanied by acceptable levels of efficiency. On the contrary, banks with low income

volumes, or that despite generating significant income are not able to contain their costs, report low returns (Figure 54).

There are different drivers for poor profitability. For example, in countries such as Greece, Italy, Cyprus, Spain and Portugal, banks are less profitable mainly due to their

Figure 54: RoE country dispersion as of June 2016 and total income and expense components per country
 Source: EBA risk indicators and EBA calculations.

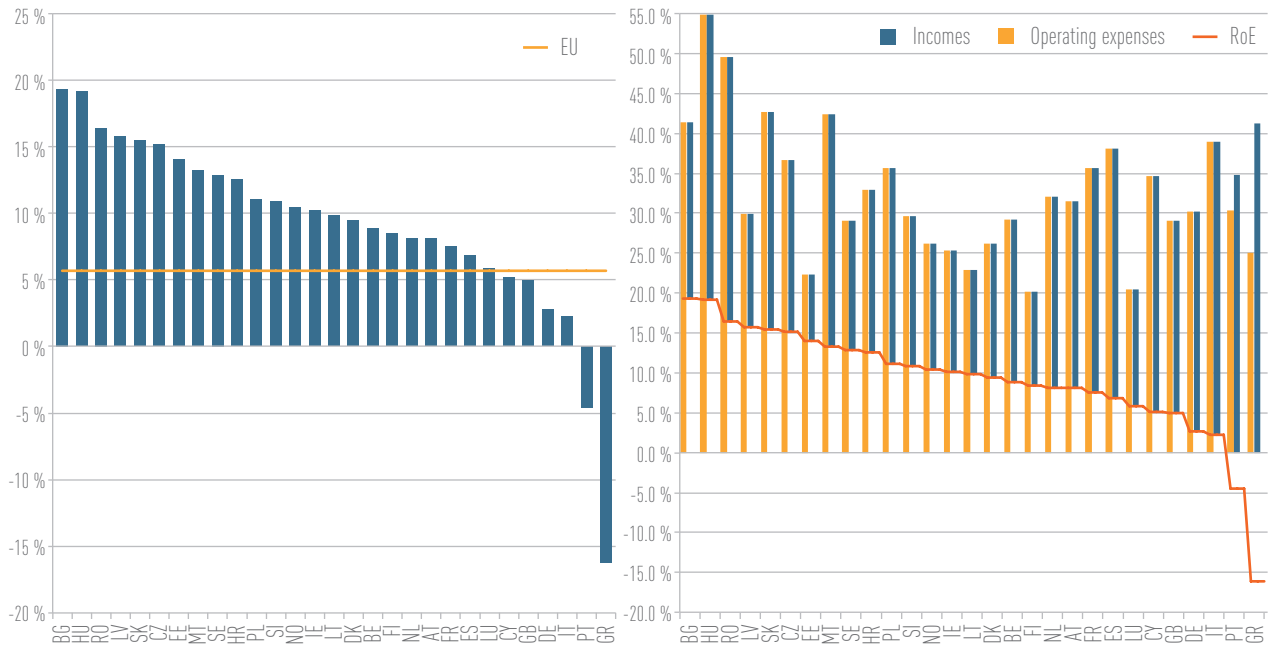
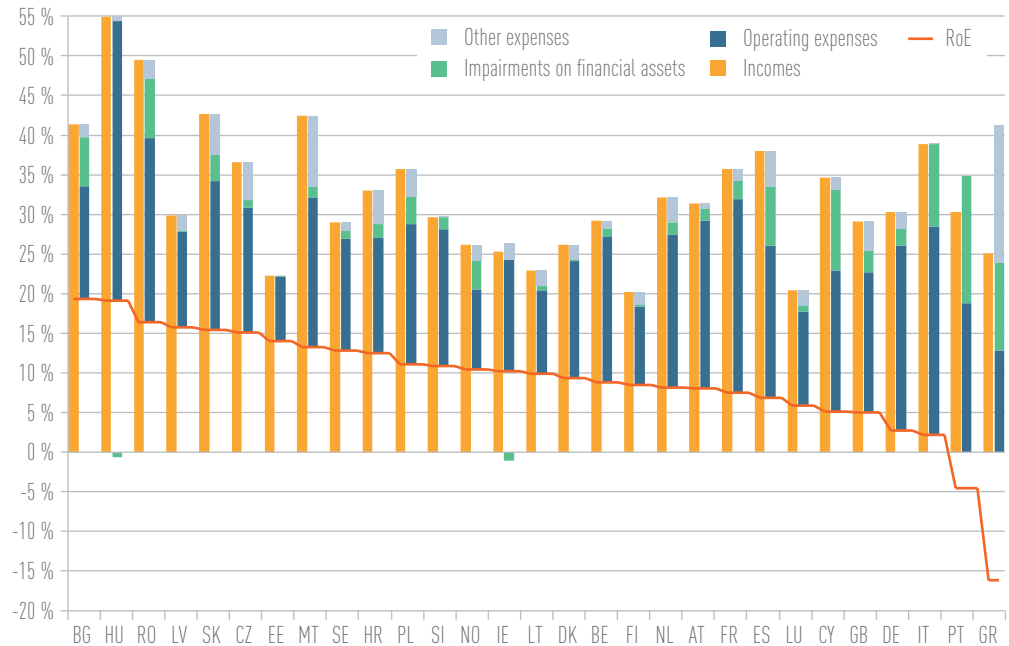


Figure 55: RoE breakdown: expenses compared to equity per country
 Source: EBA risk indicators and EBA calculations.



high impairments, and despite respective banks' ability to generate an acceptable level of total operating income.

Another driver is operating expenses. In Belgium, Germany, France, Italy, Austria and Portugal, but also, although to a lesser degree, in Denmark, Luxembourg, the Netherlands and the United Kingdom, operating expenses significantly affect banks' ability to produce net income in an efficient way. In many cases, banks in these countries also report significant volumes of 'other expenses', including provisions (Figure 55).^[55]

On the income side, banks with the highest RoEs (country aggregate level) have, in general, high net interest income (Figure 56). This proves that even against the background of low interest rates, some banks are still able to generate sufficient net interest income. A possible driver for such a trend is the ability to adequately re-price the asset and liability side. Profitable banks also often have a more balanced income mix.

Subdued outlook on profitability

Looking ahead, according to the RAQ, banks intend to compensate for their lower net interest margins with other sources of income, mainly fees and commissions. More than 85 % of the banks rely on this source of income to increase profits (agree and somewhat agree). However, the increasing disintermediation of the financial services traditionally provided by banks (rise of Fin-Tech and shadow banking institutions) may hamper the ability of banks to grow in an area which could otherwise compensate for the declining net interest margins. Around 40 % of responding banks target the NII as a future driver for their profitability (agree and somewhat agree, Figure 57).

Banks continue to target reductions in costs and other expenses. About 75 % of the respondents aim to decrease their operating expenses and about 60 % assume declining impairments (agree and somewhat agree). Further to the banks' plans to reduce operating expense, nearly 90 % plan to reduce overhead and staff costs, nearly 90 % aim to increase automatization and digitalisation and 42 % plan to cut-off non profitable units (Figure 57).

^[55] These are general provisions not linked to loan losses.

Figure 56: RoE breakdown: income compared to equity per country
 Source: EBA risk indicators and EBA calculations.

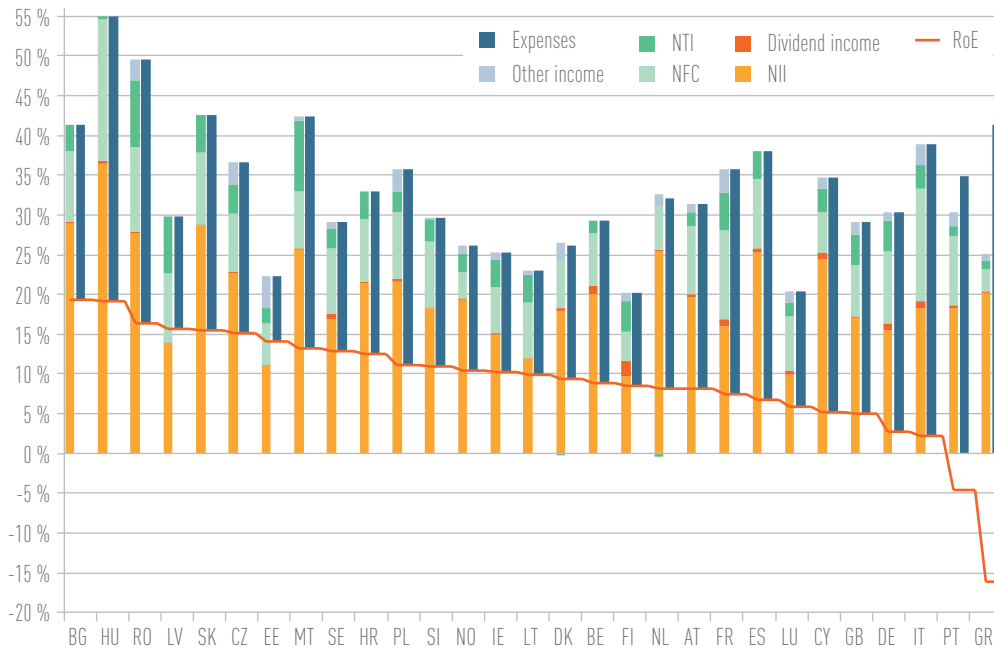


Figure 57: Evolution of profitability in the coming months and main drivers
 Source: EBA RAQ for banks.

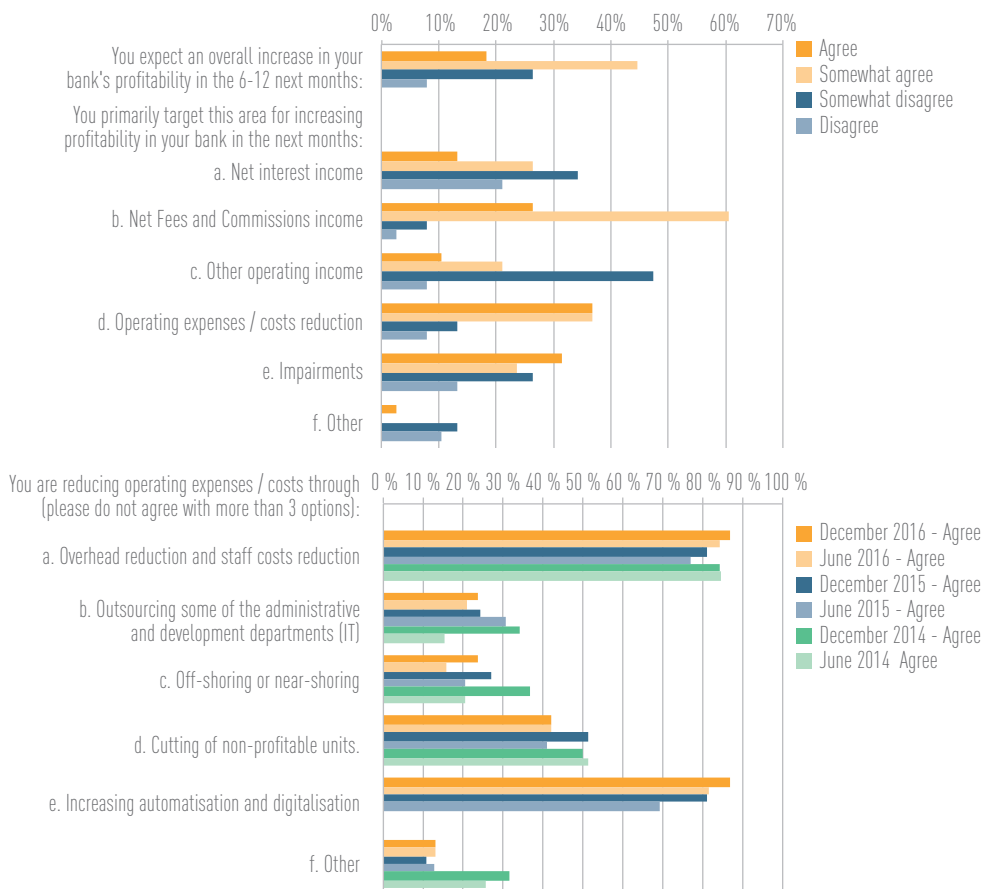
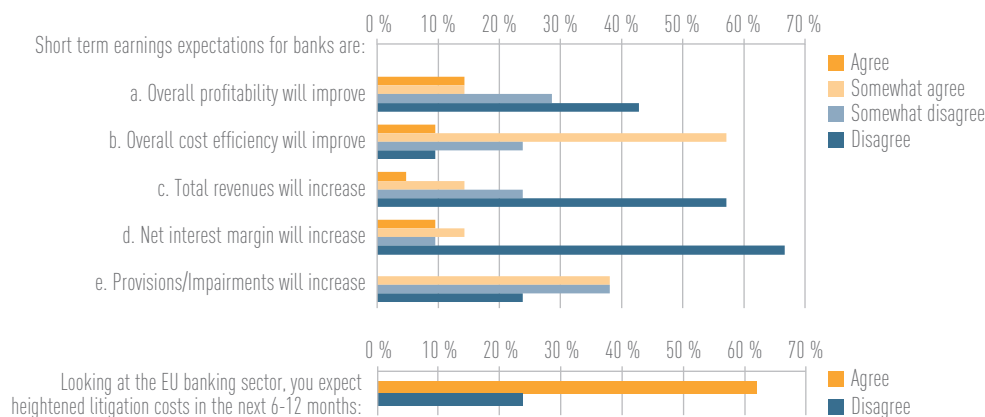


Figure 58: Evolution of short-term earnings and main drivers
 Source: EBA RAQ for market analysts.



Analysts' expectations regarding banks' ability to strengthen their returns remain gloomy. A majority do not expect that banks' profitability will improve in the short term (71% disagree and somewhat disagree). In line with the opinion of banks expressed in the RAQ, analysts consider that improvement will come from the costs side, with 66% of the participants in the RAQ anticipating that banks' ef-

iciency will improve in the short term. Some 60% of the market analysts indicate that they do not expect a further increase of impairments (disagree and somewhat disagree). Conversely, analysts' view is that overall revenues and interest margins will not increase (about 75% disagree and somewhat disagree). Also further pressure from litigation costs is anticipated by 62% of the analysts (Figure 58).

6. Operational risks: ICT-related risks and legal and consumer issues

6.1. ICT-related risks

Since December last year, operational risks in general have been on the rise, according to the RAQ results. Nearly 50 % of the institutions see an increase in operational risk in their bank (Figure 59). In addition to many others risks, one important operational risk banks are facing is linked to ICT ^[56].

Most banking operations are today critically dependent upon IT platforms and telecommunication networks, including internet connectivity and outsourcing to third-party providers. Additionally, they are undergoing further important technology-driven evolutions. The digitalisation of distribution channels for banking services is continuously expanding as more services are being offered online and as institutions adapt their systems

[56] See also on operational risks the box on SREP results in Chapter 1 (Macroeconomic environment and market sentiment).

to today's 'always-on' expectations of customers. In this context, institutions face an ever-increasing number of ICT-related risks, which are in the focus of supervisors. They include, but are not restricted to, rigid and outdated IT systems, IT resilience and governance, outsourcing and disruption due to FinTech competitors (Figure 60).

Challenges from rigid and outdated IT systems

A significant number of institutions rely on ageing core IT systems. They interact with peripheral systems based on newer technologies, which leads to fragmented global IT solutions. Supervisory experience shows that these systems are generally expensive to run and difficult to maintain, change or secure. Commonly, such technology environments do not fully meet business expectations and inhibit the development of innovative services and the implementation of evolving regulatory requirements.

Figure 59: Operational risk as seen by banks
Source: EBA RAQ for banks.

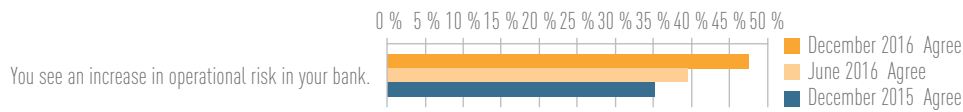
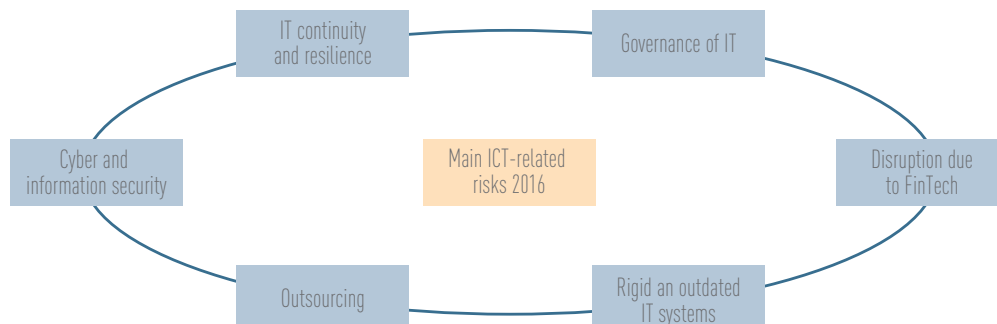


Figure 60: Main ICT-related risks as identified by supervisors
Source: EBA.



IT resilience and cyber and information security are threats for banks' daily business

Even though the need for adequate IT recovery and resilience solutions has been widely recognised for many years, in practice several material weaknesses are regularly observed. They include IT recovery plans that are only partially tested or are tested under unrealistic conditions, primary and backup datacentres that can be hit by a single incident because they are only a few hundred metres apart or continuity plans that do not anticipate cyber attacks that aim for the destruction or corruption of critical data. Inadequate recovery and resilience solutions can adversely impact the ability of institutions to recover from an IT incident resulting in long periods of unavailability of critical banking services.

Cyber attacks are on the rise. While fraud attempts via online banking channels are relatively well understood, recent hackings of banking payment systems (e.g. attacks on the SWIFT system) illustrate that institutions are struggling to demonstrate their ability to cope with the rising threat of intruders gaining unauthorised access to their critical systems and data. Such an intrusion has potentially dramatic consequences and may result in system outages or even permanent data loss. In addition, institutions may fall victim to cyber attacks such as distributed denial of service (DDoS), temporarily taking their online services out of business.

Outsourcing is becoming more popular, but not less risky

External and intra-group dependencies through IT outsourcing are increasing as institutions are trying to reduce costs and raise effectiveness. This trend will become even more important if the use of 'cloud'-type IT services gains traction in the financial sector. A weakened direct oversight and control capacity of the institutions over service providers can significantly and adversely impact the ability of institutions to effectively manage regulated operations. Moreover, institutions that are heavily reliant on service providers often fail to establish a strong outsourcing governance framework keeping all arrangements in control.

Growing competition from FinTech

Incumbent institutions are being confronted with innovative FinTech players that are re-inventing and transforming financial services by leveraging new technologies. Although it is

currently too early to evaluate the full disruptive potential of FinTech competitors for the European banking sector, it is possible that these innovative services and new market entrants will, over time, significantly impact the existing business models. FinTech companies are also expected to disturb the existing (regulatory) level playing field as they compete with incumbent institutions.

Room for improvement in IT governance

Finally, adequately capturing the technology-driven evolutions and addressing the challenges above requires strong IT governance. An important observation in this respect is that management boards of many institutions currently lack technology expertise, or are poorly informed about material IT risks and technological evolutions relevant for their institution, leading to ineffective decision-making concerning these challenges. Inadequate IT governance can lead to poor operational management practices, resulting in poor-quality technology services that are inappropriate to the business needs and out of line with the institution's risk appetite.

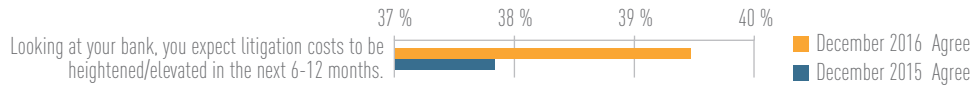
6.2. Legal issues and reputational concern

Next to ICT-related risks, the implications of detrimental business practices remain a key operational risk. A wide range of detrimental business practices and their adverse implications for consumer confidence and banks concerned have been identified in past editions of the RAR. Practices related to, for example, manipulation of benchmark rates, mis-selling of banking products, money laundering-related issues and breach of financial and trade sanctions continue to negatively affect consumers and banks concerned.

Banks expect compensation and redress payments to remain high. The share of banks in the RAQ that expect heightened compensation and redress payments in the next 6 to 12 months is 39 %, slightly higher than in December 2015 (38 %) (Figure 61). Next to these potentially substantial litigation-related costs, lengthy processes until cases of detrimental practices are settled add to uncertainties among consumers and banks.

Market analysts responding to the RAQ consider litigation risk as second most important factor negatively affecting current market sentiment for EU banks, together with regulatory uncertainty about risk weights (both 67 %) (Figure 3).

Figure 61: Expectations in respect of compensation, redress, litigation and similar payments
 Source: EBA RAQ for banks.



Further increasing litigation and conduct costs

Redress costs have increased further since the last RAR. Over 44 % of respondents to the RAQ have paid out more than EUR 500 million in compensation, litigation and similar payments since the financial year 2007/08 (according to the RAQ, as of December 2015 agreement with this statement was 42 %). The share of banks having paid out more than EUR 1 billion has further increased from 32 % in the December 2015 RAQ to 37 % in the December 2016 RAQ. These costs can substantially affect profitability. EBA data also suggests that costs related to mis-conduct, such as internal and external fraud, can account for a considerable share of operational risk for which losses have been accrued.

Responses to the RAQ indicate that only about 5 % of banks intend to adjust products and/or business models as their main approach to address legal and reputational risk. As detrimental business practices often concern products such as mortgages or payment protection insurances, limited intentions for adjustments requires supervisory attention. In this regard, EBA guidelines which affect consumers of banking products are in place, such as on product oversight and governance for manufacturers and distributors of retail banking products, and on remuneration

policies for sales staff. These guidelines may require additional adjustments of financial products and their distribution to the benefit of consumers.

87 % of respondents to the RAQ indicated that they plan to adjust the culture and risk/conduct governance within the organisation as main approach to address reputational risk. After over 80 % of respondents already indicated in the previous two RAQs such plans to adjust in risk culture, there are some questions about the effectiveness of adjustments to date to address legal risk. However, changing culture also needs strong implementation programmes and embeddedness and might take some time.

In line with continued high risks legal and reputational challenges pose, supervisors have increased their efforts to address these risks. The EBA 2016 report on convergence of supervisory practises indicates that slightly more than half of competent authorities included conduct risk in their supervisory examination programmes ^[57]. Only less than a quarter of competent authorities have established dedicated teams or units on conduct risk, while slightly more than half of competent authorities include conduct risk in their supervisory examination programmes. Also, supervisors use a wide range of measures to address conduct risk.



^[57] See <http://www.eba.europa.eu/documents/10180/1360107/EBA+report+on+the+convergence+of+supervisory+practices/98bb6076-7c12-4711-bda2-14552f4e477d>

7. Policy implications and measures

Despite the positive developments in banks' capital positions and slightly improving asset quality, the EU banking sector remains vulnerable because of the high stock of legacy assets and low profitability. Remaining challenges affect investors' confidence in EU banks and slow down the economic recovery in Europe, calling for further policy and supervisory action. Based on the assessment in this report, the main areas of attention are the following: resolution of legacy assets, profitability and sustainability of business models and management of operational risk.

7.1. Resolution of legacy assets

Challenges in asset quality have to be addressed by all relevant stakeholders. Further supervisory actions are needed. They may include encouraging banks to deal in a more active way with their NPLs, for example by implementing separate and independent work out units and improving their risk management system (setting quantitative and qualitative targets for banks) ^[58]. Increasing provisioning, fostering higher levels of NPL resolution and a more harmonised application of the default definition and of NPL and FBL identification outside the EU can be part of these actions. Beyond the remit of supervisors, structural reforms are also crucial, including strengthening of the judicial system, enhancing real estate collateral valuation transparency and supporting the use of out-of-court restructuring. In addition, improvements in the secondary market of NPLs are vital to address the substantial overhang. Measures are required to address both information asymmetry and the challenges of reaching a sufficiently critical mass of investors. Steps taken could be measures to enhance transparency and price discovery through more consistent and easily accessible detailed data as well as providing platforms for investors to access such data easily. Measures may also include the establishment of AMC solutions, possibly with

^[58] See also on this the ECB's draft guidance to banks on non-performing loans (https://www.bankingsupervision.europa.eu/legalframework/publiccons/pdf/npl/npl_guidance.en.pdf).

some form of public support, as well as facilitating debt securitisation, ideally through an EU-wide approach ^[59].

Regulators and supervisors will have to closely monitor the implementation of IFRS 9 by EU institutions. Regulators should consider the interaction of IFRS 9 with the existing prudential requirements. The EBA guidelines on expected credit losses will provide guidance to banks on IFRS 9 implementation ^[60]. Following the preliminary impact assessment published by the EBA, supervisors are encouraged to discuss further with banks and their auditors the effects of IFRS 9. Auditors are also well placed to share relevant information with the competent authority and discuss IFRS 9 implementation-related issues ^[61].

7.2. Challenges around profitable and sustainable business models

Subdued profitability remains a main challenge for EU banks. Banks need to move towards sustainable business models, which may also require the consolidation of the banking sector. Supervisory action is required through the business model analysis in the SREP to maintain dialogue with banks about their strategic choices and a return to long-term sustainable profitability. Low profitability might also lead to banks' search for yield, and increase preparedness to invest in more risky business. Also banks' cost reduction initiatives will need proper monitoring by supervisors. In this context the EBA is assessing the need to introduce some elements of proportionality in bank regulation, which

^[59] NPL-related working groups have been set up by the EU Financial Services Committee and the European Systemic Risk Board (ESRB).

^[60] See the EBA's guidelines on credit risk management practices and accounting for expected credit losses (<https://www.eba.europa.eu/-/eba-consults-on-guidelines-on-credit-risk-management-practices-and-accounting-for-expected-credit-losses>).

^[61] See the EBA's guidelines on the communication between supervisors and statutory auditors (<https://www.eba.europa.eu/-/eba-publishes-guidelines-on-communication-between-supervisors-and-statutory-auditors>).

will also help in reducing compliance costs for smaller banks.

The implementation of the revised international standards in the areas of counterparty credit risk and market risk will likely have an effect on banks' business models and capital requirements. The changes will not only affect the area of market risk and derivative business. In particular, the implementation of the new standardised approach for counterparty credit risk (SA-CCR) will impact not only the counterparty credit risk framework, but also the large exposures and the leverage ratio frameworks. In addition both the new SA-CCR and the new market risk framework (known as the fundamental review of the trading book, FRTB) will affect large and small institutions, since they imply the introduction of more risk-sensitive and, inevitably, complex standardised frameworks.

The build-up of loss absorbing capacity for resolution purpose will be a major task for banks in the years to come. With the adoption of the regulatory technical standards on MREL, the rulebook is now in place for the determination of MREL requirements by resolution authorities^[62]. First MREL decisions are expected to be rolled out in the course of 2016-17 and would imply a phase-in over several years. System-wide a significant amount of additional issuance will probably still be required. Smaller banks with limited market access may also need to rely on issuing capital instruments to meet their MREL targets, negatively affecting RoE. Supervisors and resolution authorities should monitor banks' progress towards meeting these requirements and reach decisions on MREL as soon as possible.

Transparency and comparability in respect of the AT1 market will need further improvements and can contribute to reducing the cost of funding. The EBA's standardised templates on terms and conditions for AT1 issuances contain information on essential and optional provisions concerning flexibility of payments, permanence and loss absorbency mechanisms to address such concerns to the benefit of investors^[63].

7.3. Operational risk

ICT is considered as a key risk. The EBA's draft guidelines on ICT risk assessment as part of the SREP set out guidance for supervisors to identify and measure the ICT risk exposures and are due to be published in 2017^[64]. The EBA has also placed IT related risks on its list of topics for college discussions in 2017. Recognising the need for further supervisory guidance regarding outsourcing to cloud services, the EBA plans to publish a recommendation on this topic in 2017. Additionally, further policy work on FinTech is foreseen for 2017 looking at the prudential and consumer impact as well as any authorisation perimeter issues arising from new FinTech companies undertaking regulated activities.

Uncertainties remain in light of increasing expectations of heightened compensation and redress payments. The roll-out and implementation of suitable adjustments to culture and governance in banks with respect to conduct risk requires close supervisory scrutiny. There also is a need for increased sharing of supervisory experience, in particular around measures to mitigate the prudential implications of conduct risk incidents. Moreover, further supervisory convergence should be reached with regard to the inclusion of operational risk, and conduct risk in particular in supervisory stress testing.



^[62] Commission Delegated Regulation (EU) 2016/1450, *Official Journal of the European Union* L 237, 3.9.2016, p. 1–9.

^[63] See <http://www.eba.europa.eu/documents/10180/1360107/Final+AT1+standard+templates+.pdf>

^[64] See <https://www.eba.europa.eu/documents/10180/1608089/Consultation+Paper+on+Guidelines+on+ICT+Risk+Assessment+under+the+SREP.pdf>

Annex I – Samples

Below are the lists of banks that made up the sample population for the risk indicators, transparency exercise and RAQ ⁽⁶⁵⁾.

Name	Country	Risk indicators	Transparency exercise	RAQ
Erste Group Bank AG	Austria	x	x	x
Promontoria Sacher Holding N.V.	Austria	x	x	
Raiffeisenbankengruppe OÖ Verbund eGen	Austria	x	x	
Raiffeisen-Holding Niederösterreich-Wien Reg. Genossensch. mbH	Austria	x	x	
Raiffeisen-Landesbanken-Holding GmbH	Austria	x	x	x ⁽⁶⁶⁾
Sberbank Europe AG	Austria	x	x	
UniCredit Bank Austria AG	Austria	x		
Volksbanken Wien AG	Austria	x	x	
VTB Bank AG	Austria	x	x	
AXA Bank Europe SA	Belgium	x	x	
Bank of New York Mellon	Belgium	x	x	
Belfius Banque SA	Belgium	x	x	
BNP Paribas Fortis SA	Belgium	x		
Dexia NV	Belgium	x	x	
Investar	Belgium	x	x	
KBC Group NV	Belgium	x	x	x
DSK Bank Bulgaria	Bulgaria	x		
First Investment Bank	Bulgaria	x	x	
UniCredit Bulbank Bulgaria	Bulgaria	x		
Erste & Steiermärkische Bank d.d.	Croatia	x		
Privredna Banka Zagreb d.d.	Croatia	x		
Zagrebacka Banka d.d.	Croatia	x		
Bank of Cyprus Public Company Limited	Cyprus	x	x	x
Co-operative Central Bank Ltd	Cyprus	x	x	
Hellenic Bank Public Company Ltd	Cyprus	x	x	
RCB Bank Ltd	Cyprus	x	x	
Česká spořitelna, a.s.	Czech Republic	x		
Československá obchodní banka, a.s.	Czech Republic	x		
Komerční banka, a.s.	Czech Republic	x		
Danske Bank A/S	Denmark	x	x	x
Jyske Bank A/S	Denmark	x	x	
Nordea Bank Danmark	Denmark	x		

⁽⁶⁵⁾ The sample of banks is regularly adjusted to take into account bank-specific developments; for example, banks that ceased activity or underwent a significant restructuring process are not further considered. Not all banks are subject to all reporting requirements (e.g. for Finrep or Funding Plan reporting).

⁽⁶⁶⁾ Raiffeisen Zentralbank Österreich AG.

Name	Country	Risk indicators	Transparency exercise	RAQ
Nykredit Realkredit A/S	Denmark	x	x	
Sydbank A/S	Denmark	x	x	
AS DNB Pank	Estonia	x		
AS LHV Group	Estonia	x		
SEB Pank AS	Estonia	x		
Swedbank AS	Estonia	x		
Danske Bank Oyj	Finland	x		
Kuntarahoitus Oyj	Finland	x	x	
Nordea Pankki Suomi Oyj	Finland	x		
OP-Pohjola Group	Finland	x	x	
Banque Centrale de Compensation (LCH Clearnet)	France	x	x	
Banque PSA Finance	France	x	x	
BNP Paribas SA	France	x	x	x
Bpifrance (Banque Publique d'Investissement)	France	x	x	
Crédit Mutuel Group	France	x	x	
CRH (Caisse de Refinancement de l'Habitat)	France	x	x	
Groupe BPCE	France	x	x	
Groupe Credit Agricole	France	x	x	x
HSBC France	France	x		
La Banque Postale	France	x	x	
RCI banque (Renault Crédit International)	France	x	x	
SFIL (Société de Financement Local)	France	x	x	
Société Générale SA	France	x	x	x
Aareal Bank AG	Germany	x	x	
Bayerische Landesbank	Germany	x	x	x
Commerzbank AG	Germany	x	x	x
DekaBank Deutsche Girozentrale	Germany	x	x	
Deutsche Apotheker- und Ärztebank eG	Germany	x	x	
Deutsche Bank AG	Germany	x	x	x
Deutsche Pfandbriefbank AG	Germany	x	x	
Deutsche Zentral-Genossenschaftsbank AG	Germany	x	x	x
Erwerbsgesellschaft der S-Finanzgruppe mbH & Co. KG	Germany	x	x	
HASPA Finanzholding	Germany	x	x	
HSH Nordbank AG	Germany	x	x	
Landesbank Baden-Württemberg	Germany	x	x	
Landesbank Hessen-Thüringen Girozentrale	Germany	x	x	
Landeskreditbank Baden-Württemberg-Förderbank	Germany	x	x	
Landwirtschaftliche Rentenbank	Germany	x	x	
Münchener Hypothekenbank eG	Germany	x	x	
NORD/LB Norddeutsche Landesbank Girozentrale	Germany	x	x	x
NRW.BANK, Düsseldorf	Germany	x	x	
State Street Europe Holdings	Germany	x		
VW Financial Services AG	Germany	x	x	

Name	Country	Risk indicators	Transparency exercise	RAQ
Westdeutsche Genossenschafts-Zentralbank AG	Germany	x		
Alpha Bank AE	Greece	x	x	x
Eurobank Ergasias SA	Greece	x	x	x
National Bank of Greece SA	Greece	x	x	x
Piraeus Bank SA	Greece	x	x	x
ERSTE BANK HUNGARY Zrt.	Hungary	x		
Kereskedelmi és Hitelbank Zrt.	Hungary	x		
OTP Bank Nyrt.	Hungary	x	x	x
UniCredit Bank Hungary Zrt.	Hungary	x		
Allied Irish Banks, Plc	Ireland	x	x	x
Bank of Ireland	Ireland	x	x	x
Citibank Holdings Ireland Limited	Ireland	x		
DEPFA BANK Plc	Ireland	x	x	
Permanent TSB Group Holdings Plc	Ireland	x	x	
Ulster Bank Ireland Limited	Ireland	x		
Banca Carige SpA — Cassa di Risparmio di Genova e Imperia	Italy	x	x	
Banca Monte dei Paschi di Siena SpA	Italy	x	x	
Banca popolare dell'Emilia Romagna SC	Italy	x	x	
Banca Popolare di Milano Scarl	Italy	x	x	
Banca Popolare di Sondrio	Italy	x	x	
Banca Popolare di Vicenza SCpA	Italy	x	x	
Banco Popolare Società Cooperativa	Italy	x	x	
Credito Emiliano Holding SpA	Italy	x	x	
Credito Valtellinese	Italy	x	x	
ICCREA Holding	Italy	x	x	
Intesa Sanpaolo SpA	Italy	x	x	x
Mediobanca — Banca di Credito Finanziario SpA	Italy	x	x	
UniCredit SpA	Italy	x	x	x
Unione di Banche Italiane SCpA	Italy	x	x	
Veneto Banca SCpA	Italy	x	x	
ABLV Bank	Latvia	x	x	
AS SEB banka	Latvia	x		
Swedbank AS	Latvia	x		
AB DNB bankas	Lithuania	x		
AB SEB bankas	Lithuania	x		
Swedbank AB	Lithuania	x		
Banque et Caisse d'Epargne de l'Etat, Luxembourg	Luxembourg	x	x	
BGL BNP Paribas	Luxembourg	x		
CACEIS Bank Luxembourg	Luxembourg	x		
Deutsche Bank Luxembourg S.A.	Luxembourg	x		
Precision Capital S.A.	Luxembourg	x	x	
RBC Investor Services Bank S.A.	Luxembourg	x	x	
Société Générale Bank & Trust	Luxembourg	x		

Name	Country	Risk indicators	Transparency exercise	RAQ
State Street Bank Luxembourg S.A.	Luxembourg	x	x	
UBS (Luxembourg) S.A.	Luxembourg	x	x	
Bank of Valletta Plc	Malta	x	x	
Commbank Europe Ltd	Malta	x	x	
Deutsche Bank (Malta) Ltd	Malta	x		
HSBC Bank Malta Plc	Malta	x		
Medifin Holding Ltd	Malta	x	x	
ABN AMRO Groep N.V.	Netherlands	x	x	x
Coöperatieve Rabobank U.A.	Netherlands	x	x	x
ING Groep N.V.	Netherlands	x	x	x
N.V. Bank Nederlandse Gemeenten	Netherlands	x	x	
Nederlandse Waterschapsbank N.V.	Netherlands	x	x	
SNS Holding B.V.	Netherlands	x	x	
DNB ASA	Norway	x	x	x
Nordea Bank Norge	Norway	x		
SR-bank	Norway	x	x	
Bank Polska Kasa Opieki SA	Poland	x		
Bank Zachodni WBK SA	Poland	x		
Powszechna Kasa Oszczędności Bank Polski SA	Poland	x	x	
Banco BPI SA	Portugal	x	x	
Banco Comercial Português SA	Portugal	x	x	x
Caixa Central de Crédito Agrícola Mútuo, CRL	Portugal	x	x	
Caixa Económica Montepio Geral	Portugal	x	x	
Caixa Geral de Depósitos SA	Portugal	x	x	
Novo Banco	Portugal	x	x	
Banca Comerciala Romana SA	Romania	x		
Banca Transilvania	Romania	x	x	
BRD-Groupe Société Générale SA	Romania	x		
Slovenská sporiteľňa, a.s.	Slovakia	x		
Tatra banka, a.s.	Slovakia	x		
Všeobecná úverová banka, a.s.	Slovakia	x		
Abanka d.d.	Slovenia	x		
NOVA KREDITNA BANKA MARIBOR D.D.	Slovenia	x	x	
NOVA LJUBLJANSKA BANKA D.D., LJUBLJANA	Slovenia	x	x	
UniCredit Banka Slovenija d.d.	Slovenia	x		
ABANCA Holding Financiero	Spain	x	x	
Banco Bilbao Vizcaya Argentaria, SA	Spain	x	x	x
Banco de Crédito Social Cooperativo SA	Spain	x	x	
Banco de Sabadell, SA	Spain	x	x	
Banco Mare Nostrum	Spain	x	x	
Banco Popular Español SA	Spain	x	x	
Banco Santander SA	Spain	x	x	x
Bankinter SA	Spain	x	x	

Name	Country	Risk indicators	Transparency exercise	RAQ
BFA Tenedora de Acciones	Spain	x	x	
Criteria Caixa S.A.U.	Spain	x	x	
Ibercaja Banco	Spain	x	x	
Kutxabank	Spain	x	x	
Liberbank	Spain	x	x	
Unicaja Banco S.A.	Spain	x	x	
AB Svensk Exportkredit — group	Sweden	x		
Kommuninvest — group	Sweden	x	x	
Nordea Bank — group	Sweden	x	x	x
SBAB Bank AB — group	Sweden	x	x	
Skandinaviska Enskilda Banken — group	Sweden	x	x	x
Svenska Handelsbanken — group	Sweden	x	x	x
Swedbank — group	Sweden	x	x	x
J P Morgan Capital Holdings Limited	United Kingdom	x		
Barclays Plc	United Kingdom	x	x	x
Citigroup Global Markets Europe Limited	United Kingdom	x		
Coventry Building Society	United Kingdom	x		
Credit Suisse International	United Kingdom	x		
Credit Suisse Investments (UK)	United Kingdom	x		
GE Capital International Holdings Limited	United Kingdom	x		
Goldman Sachs Group UK Limited	United Kingdom	x		
HSBC Holdings plc	United Kingdom	x	x	x
Lloyds Banking Group Plc	United Kingdom	x	x	x
Merrill Lynch UK Holdings Ltd	United Kingdom	x		
Mitsubishi UFJ Securities International PLC	United Kingdom	x		
Mizuho Securities UK Holdings	United Kingdom	x		
Morgan Stanley International Ltd	United Kingdom	x		
National Australia Group Europe Limited	United Kingdom	x		
Nationwide Building Society	United Kingdom	x		
Nomura Europe Holdings PLC	United Kingdom	x		
RBC Europe Limited	United Kingdom	x		
Standard Chartered Plc	United Kingdom	x		x
The Co-operative Bank Plc	United Kingdom	x		
The Royal Bank of Scotland Group Public Limited Company	United Kingdom	x	x	x
UBS Limited	United Kingdom	x		
Virgin Money Plc	United Kingdom	x		
Yorkshire Building Society	United Kingdom	x		

Annex II – Descriptive statistics from the EBA key risk indicators

The data shows the trend in risk indicators and is based on the sample of banks, which is regularly adjusted to take into account bank-specific developments; for example, banks that ceased activity or underwent a significant restructuring process are not further considered.

KRI	Descriptive Statistics	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10	Mar-11	Jun-11	Sep-11	Dec-11	Mar-12	Jun-12	Sep-12	Dec-12	Mar-13	Jun-13	Sep-13	Dec-13	Mar-14	Jun-14	Sep-14	Dec-14	Mar-15	Jun-15	Sep-15	Dec-15	Mar-16	Jun-16	
1 - Tier 1 capital ratio	Weighted average	10.2%	10.2%	10.4%	10.6%	11.0%	11.3%	11.4%	11.4%	11.1%	11.6%	12.0%	12.3%	12.5%	12.4%	12.6%	12.9%	13.1%	12.4%	12.9%	13.3%	13.5%	13.4%	13.9%	14.1%	14.7%	14.5%	14.8%	
	First quartile	9.1%	9.0%	8.8%	8.9%	9.3%	9.7%	9.4%	9.6%	9.4%	9.8%	10.4%	10.3%	10.5%	10.8%	11.0%	11.1%	11.4%	11.2%	11.7%	11.4%	11.7%	11.7%	12.0%	12.1%	13.0%	12.8%	13.0%	
	Median	9.9%	10.2%	10.1%	10.3%	10.6%	11.1%	11.1%	11.0%	11.0%	10.9%	11.4%	11.7%	11.7%	11.6%	11.6%	12.0%	12.3%	12.8%	12.3%	13.3%	13.3%	13.6%	13.6%	14.0%	14.2%	14.9%	14.7%	15.0%
	Third quartile	11.3%	11.1%	11.4%	11.6%	12.4%	12.7%	12.5%	12.8%	12.8%	13.0%	13.3%	13.4%	13.5%	13.4%	13.8%	13.9%	14.0%	15.1%	15.3%	16.1%	16.3%	16.3%	16.2%	17.0%	17.7%	18.5%	18.0%	18.7%
2 - Total capital ratio	Weighted average	13.0%	12.9%	12.9%	13.1%	13.5%	13.7%	13.6%	13.5%	13.1%	13.6%	13.9%	14.1%	14.4%	14.8%	15.1%	15.4%	15.7%	16.1%	16.1%	16.2%	16.1%	16.2%	16.1%	16.7%	17.1%	17.7%	17.4%	17.8%
	First quartile	11.5%	11.2%	11.4%	11.5%	11.7%	11.8%	11.6%	11.4%	11.3%	11.5%	12.0%	12.0%	12.1%	12.6%	13.1%	13.0%	13.4%	13.8%	14.7%	13.8%	13.8%	13.7%	14.3%	14.4%	14.8%	14.9%	15.1%	
	Median	12.5%	12.6%	12.2%	12.4%	12.8%	13.3%	13.0%	12.8%	12.8%	13.9%	14.1%	14.0%	13.9%	14.4%	14.4%	14.6%	14.8%	15.3%	16.0%	16.2%	16.2%	16.5%	15.8%	16.7%	16.8%	17.4%	17.2%	17.6%
	Third quartile	14.0%	13.9%	14.0%	14.6%	14.9%	15.0%	15.1%	15.1%	15.0%	15.4%	15.8%	16.2%	16.3%	16.8%	17.1%	17.4%	18.2%	17.6%	19.7%	19.6%	19.5%	20.4%	21.8%	22.8%	22.3%	22.8%		
3 - CET1 ratio	Weighted average	9.0%	9.0%	9.2%	9.3%	9.3%	9.3%	9.3%	9.4%	9.2%	9.8%	10.2%	10.5%	10.8%	11.1%	11.4%	11.8%	12.3%	12.5%	12.4%	12.5%	12.3%	12.4%	12.8%	13.0%	13.5%	13.4%	13.6%	
	First quartile	7.1%	7.3%	7.2%	7.4%	7.7%	8.2%	7.9%	8.0%	8.1%	8.3%	9.3%	9.4%	9.5%	9.8%	10.0%	10.2%	10.4%	10.7%	11.1%	11.1%	11.2%	11.4%	11.6%	11.9%	12.4%	12.4%	12.3%	
	Median	8.6%	8.5%	8.6%	9.3%	8.5%	9.0%	9.3%	9.4%	9.4%	10.0%	10.3%	10.5%	10.7%	11.0%	11.1%	11.4%	12.0%	12.6%	13.0%	12.9%	13.0%	13.1%	13.4%	14.0%	14.2%	14.4%		
	Third quartile	10.7%	10.8%	10.6%	11.1%	10.4%	10.9%	10.3%	10.6%	10.5%	11.3%	11.2%	11.4%	11.6%	12.3%	13.1%	13.5%	14.0%	14.6%	15.6%	15.5%	15.2%	15.9%	17.3%	17.1%	17.3%	17.6%		

KRI Descriptive Statistics Dec-09 Mar-10 Jun-10 Sep-10 Dec-10 Mar-11 Jun-11 Sep-11 Dec-11 Mar-12 Jun-12 Sep-12 Dec-12 Mar-13 Jun-13 Sep-13 Dec-13 Mar-14 Jun-14 Sep-14 Dec-14 Mar-15 Jun-15 Sep-15 Dec-15 Mar-16 Jun-16

13 - Impaired loans and past due (> 90 days) loans to total loans and advances	Weighted average	5.1%	4.9%	5.1%	5.3%	5.3%	5.2%	5.4%	5.4%	5.8%	5.9%	6.0%	6.3%	6.5%	6.5%	6.7%	6.6%	6.8%	6.6%	7.0%	7.0%	6.6%	6.4%	6.2%	6.1%	6.0%	5.8%	
	First quartile	3.1%	3.1%	3.3%	2.8%	3.0%	2.9%	2.5%	2.6%	2.5%	2.8%	2.8%	2.8%	3.1%	3.0%	3.2%	2.9%	3.0%	3.0%	2.9%	2.8%	2.7%	2.2%	2.4%	2.3%	2.3%	1.9%	
	Median	4.9%	5.1%	5.4%	5.0%	5.4%	5.4%	5.6%	6.4%	6.7%	6.3%	7.3%	7.3%	6.7%	6.5%	6.7%	6.5%	6.5%	6.1%	6.2%	7.3%	7.2%	7.0%	6.8%	6.0%	5.3%	5.1%	
	Third quartile	9.8%	9.9%	10.7%	10.9%	10.5%	11.3%	12.4%	13.1%	14.1%	15.2%	15.8%	16.3%	17.3%	17.6%	17.6%	15.7%	16.2%	16.4%	17.1%	19.9%	17.5%	17.7%	16.5%	16.2%	16.4%	15.3%	15.0%
14 - Coverage ratio (specific allowances for loans to total gross impaired loans)	Weighted average	41.6%	41.7%	41.6%	42.5%	41.4%	42.3%	41.2%	40.7%	41.0%	41.0%	41.3%	41.3%	41.8%	42.4%	42.4%	44.4%	46.0%	46.9%	46.9%	43.4%	44.5%	44.6%	46.3%	47.1%	47.3%	47.4%	47.6%
	First quartile	34.5%	34.8%	35.2%	34.6%	34.5%	34.6%	33.8%	33.8%	34.3%	34.8%	35.8%	35.1%	34.7%	35.6%	34.9%	35.6%	35.6%	39.2%	36.8%	31.8%	34.2%	34.9%	35.4%	36.8%	38.5%	37.2%	36.5%
	Median	41.0%	41.5%	41.5%	42.4%	42.5%	43.5%	42.8%	41.9%	41.5%	41.4%	41.8%	42.0%	41.7%	43.5%	43.8%	44.4%	46.1%	45.5%	46.4%	41.5%	43.5%	44.4%	45.0%	45.7%	45.8%	45.1%	45.6%
	Third quartile	50.7%	50.1%	49.4%	51.5%	51.9%	50.9%	49.3%	47.2%	51.1%	51.4%	50.6%	50.9%	50.1%	52.0%	51.7%	52.8%	55.0%	55.6%	53.9%	50.7%	51.2%	50.5%	52.4%	53.2%	52.1%	52.1%	52.7%
18 - Impaired financial assets to total assets	Weighted average	1.6%	1.6%	1.6%	1.6%	1.7%	1.7%	1.7%	1.8%	1.7%	1.9%	1.9%	1.9%	2.0%	2.0%	2.1%	2.0%	2.0%	2.0%	2.0%	2.3%	2.2%	2.0%	1.9%	1.9%	1.8%	1.7%	1.7%
	First quartile	1.0%	1.1%	1.1%	1.2%	1.2%	1.2%	1.1%	1.0%	1.0%	1.0%	1.1%	1.0%	1.1%	1.2%	1.2%	1.0%	1.0%	0.9%	1.0%	1.0%	0.8%	0.7%	0.7%	0.7%	0.7%	0.6%	0.6%
	Median	1.9%	1.9%	1.8%	1.9%	2.0%	2.0%	2.0%	2.2%	2.0%	2.2%	2.1%	2.2%	2.4%	2.4%	2.4%	2.5%	2.4%	2.3%	2.3%	2.6%	2.3%	2.1%	2.1%	2.1%	1.7%	1.8%	1.6%
	Third quartile	3.5%	3.5%	3.6%	3.9%	3.9%	4.1%	5.3%	5.3%	5.6%	5.8%	6.3%	6.7%	7.0%	8.2%	8.4%	6.8%	6.7%	6.7%	6.7%	7.9%	7.4%	7.5%	7.0%	6.6%	6.1%	5.4%	5.1%
20 - Accumulated impairments on financial assets to total (gross) assets	Weighted average	1.3%	1.3%	1.4%	1.4%	1.4%	1.4%	1.4%	1.3%	1.6%	1.5%	1.5%	1.5%	1.6%	1.6%	1.7%	1.8%	1.9%	1.8%	1.8%	1.9%	1.8%	1.7%	1.8%	1.8%	1.7%	1.6%	1.6%
	First quartile	0.9%	0.9%	0.9%	0.8%	0.9%	0.8%	0.8%	0.7%	0.8%	0.8%	0.7%	0.7%	0.7%	0.7%	0.8%	0.8%	0.8%	0.8%	0.7%	0.7%	0.6%	0.5%	0.5%	0.5%	0.5%	0.4%	0.4%
	Median	1.5%	1.5%	1.5%	1.6%	1.7%	1.6%	1.5%	1.6%	1.6%	1.6%	1.7%	1.7%	1.8%	1.7%	1.8%	1.8%	1.8%	1.8%	1.7%	1.9%	1.7%	1.7%	1.8%	1.8%	1.7%	1.7%	1.8%
	Third quartile	2.2%	2.3%	2.3%	2.8%	2.7%	2.9%	2.9%	3.1%	3.7%	3.7%	3.7%	3.8%	4.0%	4.1%	4.2%	4.3%	4.4%	4.4%	4.7%	4.7%	5.0%	4.9%	5.0%	5.1%	4.8%	4.7%	5.0%
21 - Impairments on financial assets to total operating income	Weighted average	26.6%	17.2%	20.1%	18.2%	19.4%	13.8%	17.9%	20.3%	26.7%	17.9%	24.6%	24.9%	27.0%	16.9%	18.6%	22.7%	13.7%	16.2%	16.3%	17.1%	12.1%	13.5%	12.8%	14.0%	11.1%	11.8%	
	First quartile	21.0%	15.5%	17.5%	14.5%	15.5%	7.4%	10.0%	14.7%	14.8%	8.4%	9.9%	10.4%	10.8%	9.0%	9.8%	10.4%	11.0%	6.7%	7.4%	3.9%	4.5%	3.2%	2.9%	2.7%	4.0%	1.6%	2.4%
	Median	27.4%	20.4%	23.3%	21.1%	23.9%	15.7%	20.2%	21.6%	26.2%	19.7%	18.7%	20.9%	22.4%	19.4%	19.2%	20.0%	21.4%	11.6%	15.9%	15.6%	14.8%	10.9%	10.2%	10.7%	10.6%	7.4%	6.8%
	Third quartile	41.0%	28.1%	33.5%	31.6%	31.3%	25.9%	32.0%	36.9%	56.8%	32.1%	39.8%	44.4%	56.0%	34.2%	30.8%	31.9%	43.3%	30.6%	29.7%	33.5%	36.4%	23.7%	25.9%	28.5%	29.3%	19.5%	21.7%

Credit Risk and Asset Quality

KRI	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10	Mar-11	Jun-11	Sep-11	Dec-11	Mar-12	Jun-12	Sep-12	Dec-12	Mar-13	Jun-13	Sep-13	Dec-13	Mar-14	Jun-14	Sep-14	Dec-14	Mar-15	Jun-15	Sep-15	Dec-15	Mar-16	Jun-16	
22 - Return on equity	Descriptive Statistics																											
	Weighted average	4.5%	7.4%	7.3%	6.7%	5.9%	8.3%	7.1%	4.9%	-0.0%	5.6%	3.4%	2.6%	0.5%	9.3%	7.6%	6.4%	2.7%	7.5%	5.7%	5.4%	3.5%	6.9%	6.8%	6.4%	4.5%	5.7%	5.7%
	First quartile	-0.5%	3.1%	3.1%	3.0%	1.7%	5.0%	2.8%	-0.7%	-15.7%	1.8%	-0.9%	-1.5%	-6.5%	1.4%	2.2%	1.5%	-2.9%	2.9%	2.5%	0.5%	-2.8%	3.3%	3.5%	3.5%	2.5%	1.9%	2.3%
	Median	5.4%	6.2%	6.4%	5.7%	5.4%	8.0%	7.1%	5.2%	2.7%	6.5%	5.3%	3.8%	2.6%	6.6%	6.4%	5.7%	4.8%	7.5%	5.5%	5.4%	3.8%	7.1%	7.0%	6.8%	5.7%	5.0%	6.2%
Third quartile	9.1%	11.1%	10.8%	10.0%	9.5%	11.7%	11.7%	9.4%	7.8%	11.5%	8.9%	8.4%	7.2%	12.3%	10.4%	10.4%	9.1%	10.3%	9.5%	9.1%	8.0%	10.4%	10.4%	10.5%	9.1%	8.8%	9.4%	
24 - Cost-to-income ratio	Weighted average	55.2%	53.3%	54.6%	55.6%	56.1%	59.5%	58.2%	59.6%	60.1%	60.6%	59.7%	60.8%	63.2%	56.6%	57.9%	59.6%	63.1%	58.3%	60.3%	61.4%	62.9%	60.9%	59.3%	59.9%	62.8%	66.0%	62.7%
	First quartile	47.2%	46.9%	49.1%	48.7%	47.9%	49.6%	49.7%	51.0%	52.0%	48.1%	50.4%	51.4%	52.5%	51.2%	48.2%	51.2%	52.8%	47.3%	49.6%	45.0%	45.9%	45.5%	46.4%	47.3%	48.2%	50.7%	49.7%
	Median	57.8%	55.1%	56.0%	57.7%	57.0%	56.3%	57.3%	58.6%	60.7%	57.1%	60.9%	63.0%	63.1%	61.2%	60.8%	61.3%	63.2%	59.3%	59.2%	57.4%	58.5%	57.4%	55.9%	57.4%	59.2%	63.9%	59.8%
	Third quartile	64.3%	62.1%	62.2%	63.3%	63.8%	63.2%	63.8%	63.9%	65.2%	68.3%	71.0%	70.3%	71.6%	70.9%	74.6%	73.1%	75.0%	65.6%	67.2%	67.4%	69.7%	67.4%	65.2%	66.1%	67.7%	73.8%	70.3%
26 - Net interest income to total operating income	Weighted average	57.9%	56.2%	58.6%	58.3%	58.0%	57.2%	57.4%	60.3%	61.1%	61.2%	60.9%	61.7%	61.6%	55.5%	55.1%	57.3%	59.1%	58.2%	60.1%	58.6%	58.8%	55.5%	54.9%	56.3%	57.3%	58.8%	57.0%
	First quartile	52.8%	53.2%	52.3%	53.2%	51.9%	49.0%	50.4%	52.5%	54.2%	51.7%	51.8%	52.5%	52.6%	47.8%	47.4%	50.1%	51.1%	50.3%	50.6%	48.1%	49.6%	43.3%	46.0%	48.3%	48.9%	51.9%	50.4%
	Median	63.7%	61.9%	61.6%	62.8%	62.5%	58.8%	62.8%	63.6%	64.0%	62.2%	62.9%	65.1%	66.9%	60.0%	60.5%	59.1%	60.2%	63.2%	65.4%	62.0%	62.4%	59.5%	59.1%	60.5%	61.1%	64.7%	63.7%
	Third quartile	74.1%	72.2%	72.2%	74.2%	73.6%	78.6%	75.4%	75.2%	76.6%	74.2%	78.9%	79.0%	76.7%	75.6%	72.7%	71.1%	76.7%	76.8%	76.7%	75.8%	75.5%	74.9%	72.8%	77.8%	78.1%	80.7%	76.6%
27 - Net fee and commission income to total operating income	Weighted average	26.0%	25.8%	26.7%	26.7%	26.8%	26.9%	27.0%	27.6%	27.3%	27.1%	27.7%	27.9%	27.9%	25.8%	26.7%	27.7%	28.4%	27.6%	28.5%	26.8%	27.2%	26.6%	26.2%	26.4%	26.8%	27.1%	26.6%
	First quartile	16.7%	14.9%	15.6%	15.1%	15.8%	13.3%	16.1%	16.7%	16.5%	17.9%	17.9%	17.6%	17.9%	16.0%	15.3%	15.3%	15.6%	15.1%	15.6%	12.4%	13.7%	13.6%	13.5%	13.3%	12.2%	13.6%	11.8%
	Median	22.6%	23.4%	24.0%	24.0%	24.1%	24.1%	24.4%	25.8%	24.1%	22.8%	24.4%	23.9%	25.3%	23.7%	23.6%	23.5%	24.8%	24.2%	24.4%	22.9%	22.9%	22.6%	21.6%	21.5%	22.1%	23.3%	22.5%
	Third quartile	29.0%	30.6%	31.5%	30.8%	30.6%	30.4%	29.2%	30.5%	30.9%	28.2%	29.1%	29.9%	30.6%	31.2%	31.4%	32.6%	31.3%	32.7%	30.8%	29.3%	30.3%	32.2%	30.4%	30.8%	29.9%	32.9%	32.3%
33 - Net income to total operating income	Weighted average	9.3%	16.3%	16.6%	15.2%	13.4%	18.9%	16.7%	11.9%	-0.0%	13.6%	8.6%	6.9%	1.2%	23.1%	19.3%	16.8%	7.3%	19.7%	15.7%	14.8%	9.6%	18.9%	18.1%	17.4%	12.6%	18.1%	17.4%
	First quartile	-3.1%	7.3%	7.0%	7.5%	5.6%	14.0%	8.7%	-3.6%	-36.3%	4.6%	-2.5%	-6.3%	-17.7%	4.9%	7.2%	6.1%	-10.5%	8.8%	8.5%	4.2%	-3.8%	10.7%	11.0%	9.7%	6.7%	7.1%	7.5%
	Median	10.9%	17.4%	16.6%	15.4%	14.6%	19.3%	17.8%	13.2%	7.7%	16.3%	12.0%	10.7%	9.0%	15.9%	16.6%	16.5%	13.8%	17.9%	16.4%	16.4%	13.3%	22.3%	21.6%	20.8%	16.7%	18.0%	21.0%
	Third quartile	19.3%	23.0%	24.0%	23.4%	22.3%	29.7%	26.4%	22.6%	18.8%	28.6%	20.5%	21.1%	18.5%	33.4%	30.9%	29.5%	30.9%	35.9%	32.2%	33.1%	31.7%	33.2%	34.9%	35.9%	31.4%	32.5%	34.3%

KRI Descriptive Statistics

Weighted average

34 - Loan-to-deposit ratio

35 - Customer deposits to total liabilities

36 - Tier 1 capital to [total assets - intangible assets]

45 - Debt-to-equity ratio

46 - Off-balance sheet items to total assets

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