Belgian Financial Forum

10 years after the crisis: Lessons learned, lessons not learned

Rudi Vander Vennet, Ghent University

The objective of this contribution is to describe the regulatory and economic environment in which banks now operate, especially the new Basel III rules and the exceptional monetary conditions, to identify which lessons banks learned (and which not) after the financial crisis, and what banks will have to do in order to restore sustainable profitability.[1]

In the immediate aftermath of the banking crisis of 2007-2008, four types of measures were taken to restore confidence in the financial system:

(1) Liquidity was restored mainly through actions by the central banks, they have implemented conventional and unconventional monetary policy.
(2) Bank solvency was restored mainly through interventions by governments in the form of equity stakes and guarantees. The US clearly acted more swiftly than Europe.
(3) Bad banks were established to isolate impaired assets. Some countries acted decisively in this matter (e.g. Ireland), others more reluctantly.
(4) Finally, new regulation was implemented in the form of enhanced capital and liquidity regulation (Basel 3), more effective supervision (in the form of a banking union with direct supervisory powers for the ECB), and a new crisis management infrastructure (recovery and resolution, bail-in).

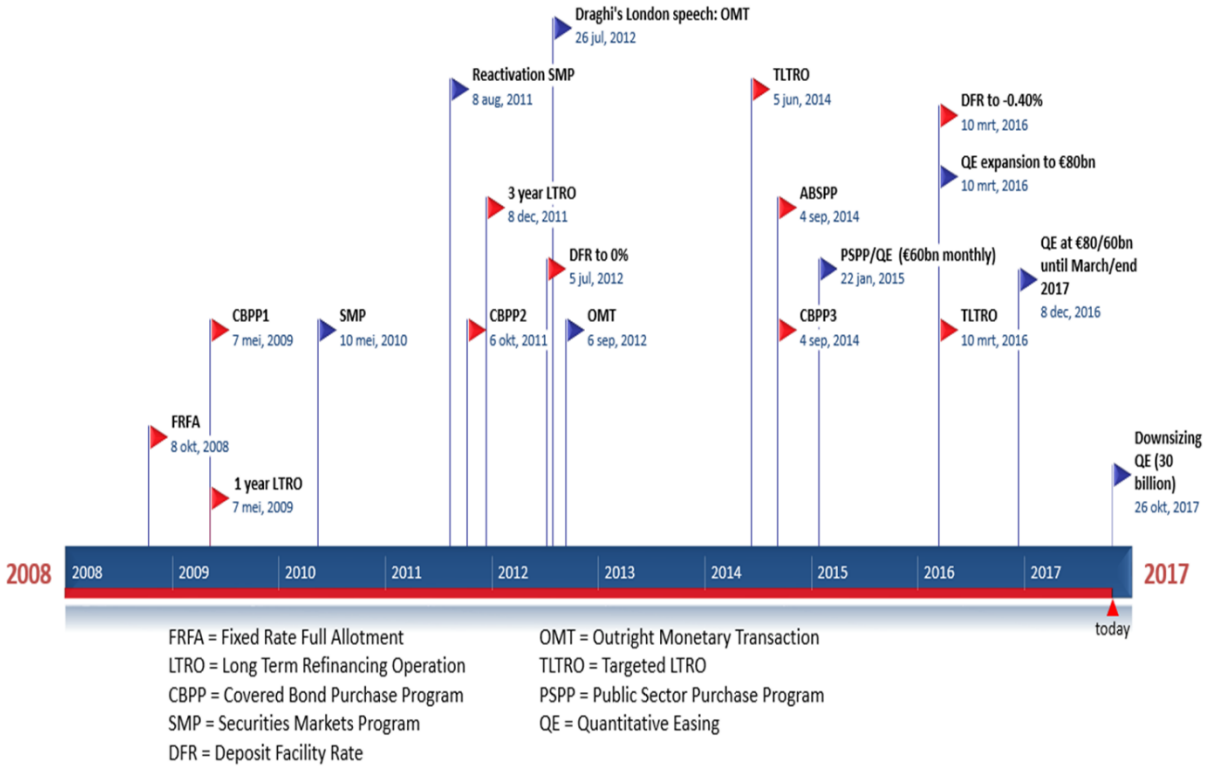
[1] This is a summary of a speech given at the Belgian Financial Forum on 18 January 2018.

The new rules aimed at tackling systemic risk and improving bank resilience have the ambition to reduce the probability of default of banks through layers of buffers:

- Higher capital and liquidity buffers (Basel3)
- Capital surcharge for too-big-to-fail banks (G-SIFI)
- Countercyclical capital buffer (CCB)
- Increase loss-absorbency capacity (TLAC/MREL)

If, in spite of the bigger buffers, a default would occur, the resolution framework aims at reducing the cost of default. Recovery measures rely on the existence of a recovery and resolution plan that each systemic bank has to submit and on contingent capital that can be bailed-in. When recovery is impossible, there is a resolution mechanism for failing banks under the jurisdiction of the Single Resolution Board. Examples such as Banco Popular and the Venetian banks in 2017 illustrate that this framework can work, although it remains unclear whether it would be effective when a very large bank would fail.

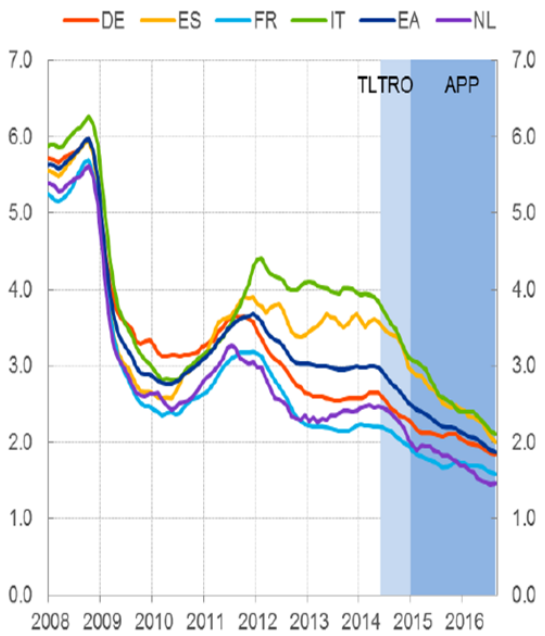
A crucial role in the recovery was played by the central banks. In the Eurozone, the ECB first implemented measures of credit easing (LTRO) and later resorted to quantitative easing. The following chart presents the consecutive ECB actions.



The assessment of the ECB is that its actions have restored the pass-through of monetary policy to bank lending rates and that the divergence between lending conditions in the core and the periphery have become less pronounced. As a result, lending has picked up in most of the Eurozone countries. The following chart illustrates the impact of credit easing and quantitative easing on bank lending rates.

Bank lending rates on loans for non-financial corporations

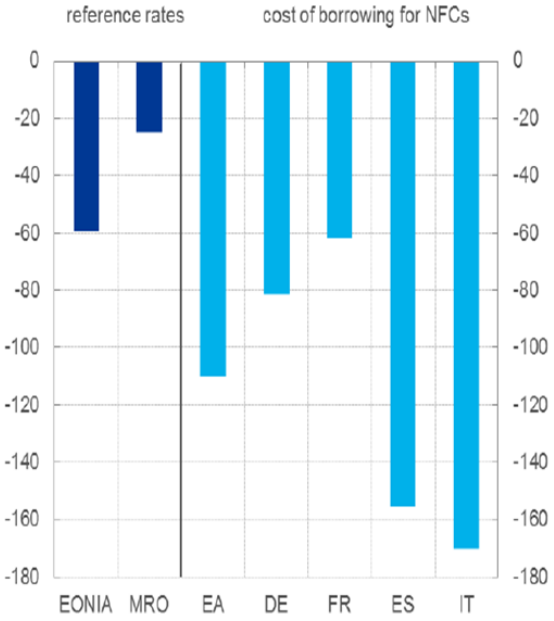
(percentages per annum; three-month moving averages)



Source: ECB.
Notes: The indicator for the total cost of lending is calculated by aggregating short- and long-term rates using a 24-month moving average of new business volumes.
Latest observation: August 2016.

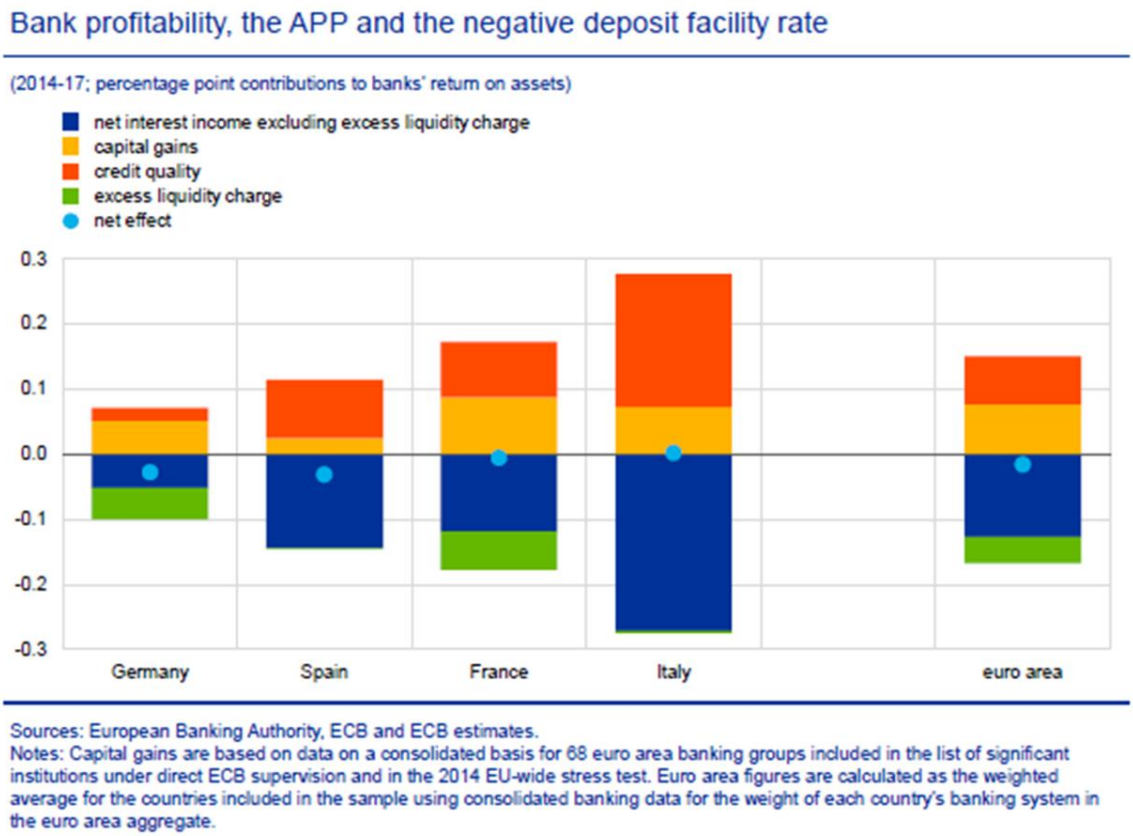
Interest rate pass-through from reference rates to cost of borrowing for NFCs (May 2014 – August 2016)

(basis points)



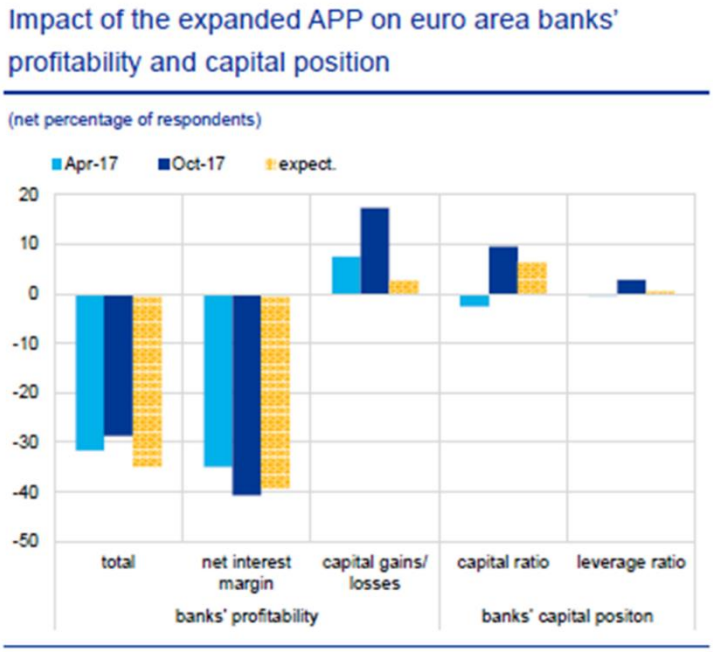
Sources: ECB.
Notes: The date of May 2014 was selected as it immediately precedes the ECB's announcement of some monetary policy measures taken to enhance the functioning of the monetary policy transmission mechanism on 5 June 2014 (announcement of the modalities of TLTROs and intensification of preparatory work related to outright purchases of ABS).
Reference rates are monthly averages.
Latest observation: August 2016

While the effect of very accommodative monetary conditions on the macroeconomy are generally judged to be positive, although inflation remains stubbornly below the ECB target, the effect on bank profitability is less clear. The ECB claims that impact of monetary policy on banks' ROA is modest. In the next chart, the ECB analysis acknowledges that the effect on bank net interest margins is negative, but this effect is compensated by a positive effect on the value of securities on bank balance sheets (capital gains) and by a positive effect on loan quality caused by better economic conditions (lower loan losses). In the chart, the net effect is almost neutral.



Source : ECB FSR Nov 2017

The banks themselves assess that the impact of unconventional monetary policy on their interest margins is clearly negative, as evidenced by their answers in the ECB Bank Lending Survey:

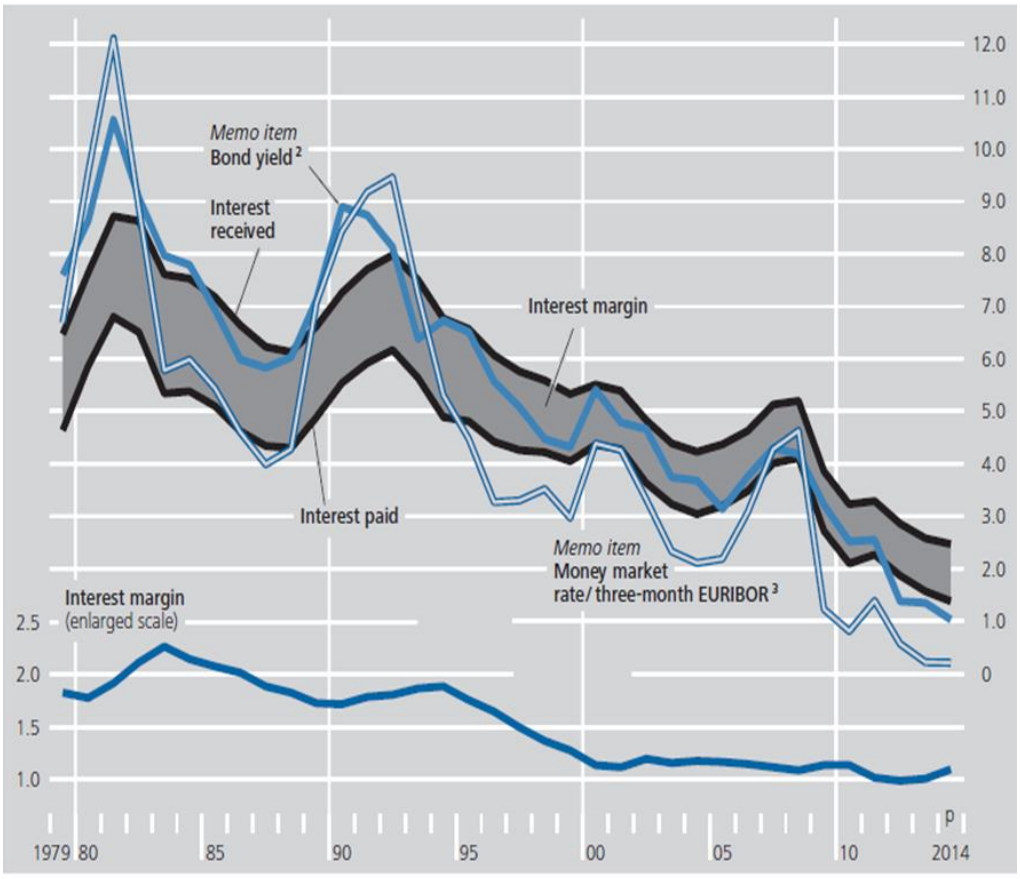


ECB Bank lending Survey Oct 2017

And indeed, there can be no doubt, various studies have demonstrated that low for long interest rates negatively affect bank margins (e.g. Borio, Gambacorta and Hofmann, 2015, The influence of monetary policy on bank profitability, BIS WP 514). To illustrate this effect, consider the evolution of the interest margin of German banks over 4 decades in the following chart. One can observe a secular decline of the interest margin, coinciding with the decline of interest rates over that period.

Interest received and interest paid by credit institutions in the interest cycle

As a percentage of the average balance sheet total[1]



1 Up to end-1998, as a percentage of the average volume of business. **2** Average yield on domestic debt securities. **3** Up to end-1998, money market rate for three-month funds in Frankfurt.

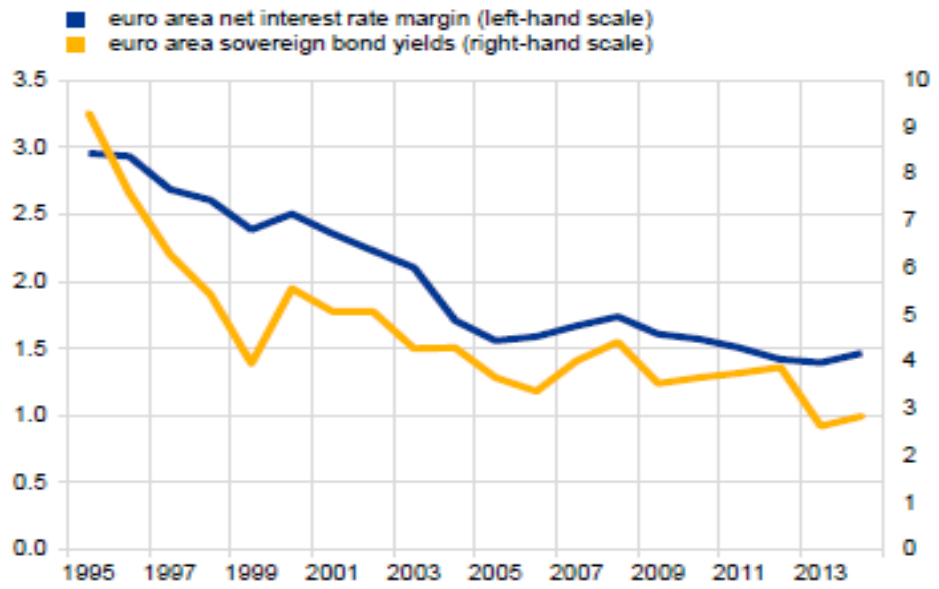
Deutsche Bundesbank

Similarly, for the Eurozone banks, the following chart from the ECB FSR corroborates that lower interest rates go hand in hand with squeezed bank interest margins.

The low interest rate environment over the past two decades has contributed to lower interest income

Euro area ten-year sovereign bond yields and the net interest rate margin for large euro area banks

(1995-2014; percentage points)



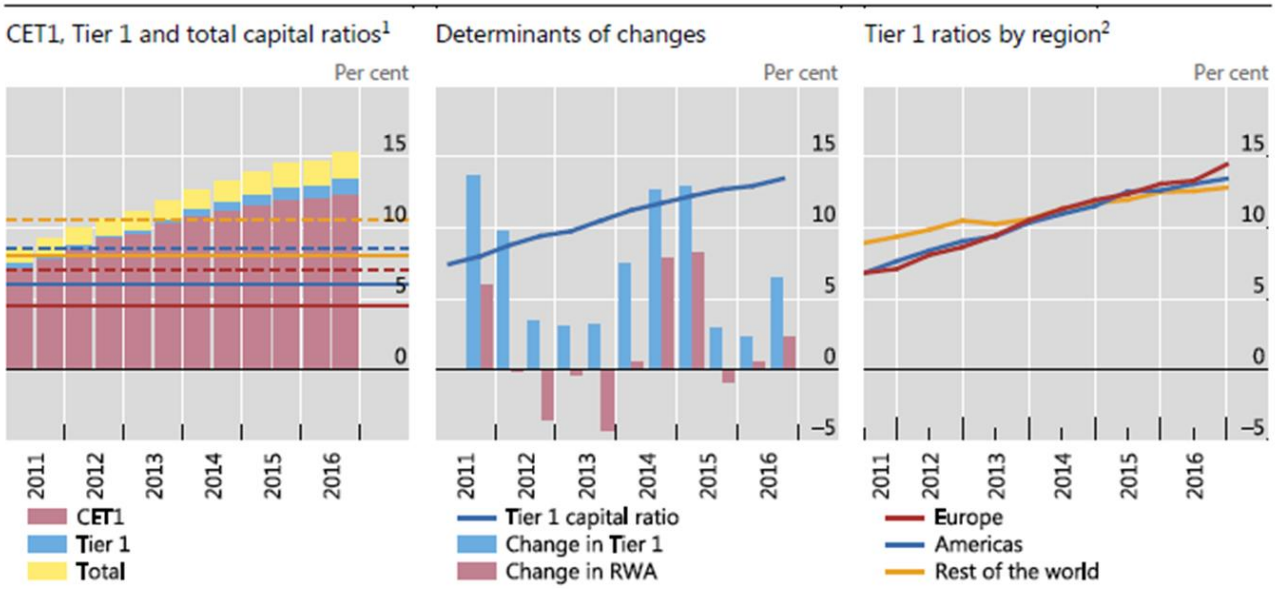
Sources: Thomson Reuters Datastream and ECB calculations.
Notes: The net interest margin is defined as the net interest income over total assets. Weighted average (using total assets) of 66 euro area banks.

Moreover, very loose monetary policy may activate a risk-taking channel, whereby banks actively search for yield by taking greater risk. This may over a longer time cause a negative effect on financial stability (see Lamers, Mergaerts, Meuleman and Vander Vennet, 2018, International Journal of Central Banking).

At the same time when having to deal with unusually low interest rates, banks have to implement new regulation. And banks appear to have learned their lesson: (almost) all European banks fulfill the Basel 3 capital requirements and have increased their LCR and NSFR ratios, as can be seen in the following graphs from the regular BIS Monitoring of Basel 3 compliance. In addition, banks are building up their loss absorbency capacity (MREL) and the systemic banks pass the regular EBA/ECB stress tests (with some exceptions, those banks have been ordered to recapitalize).

Fully phased-in Basel III capital ratios continue to increase

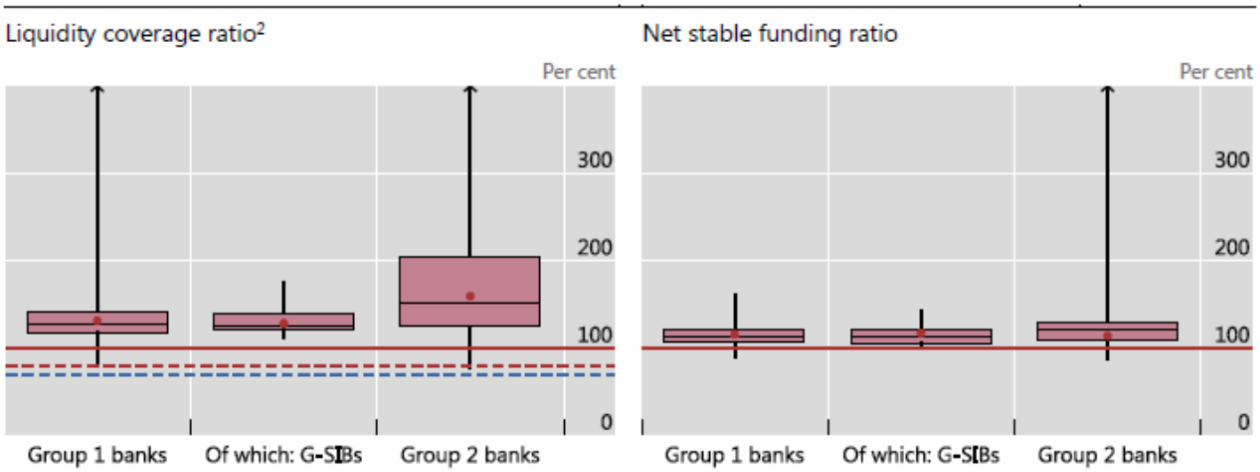
Consistent sample of Group 1 banks — Graph 1



[1] The solid lines depict the relevant minimums, the dotted lines the minimums plus the capital conservation buffer. See Table A.2 for the relevant levels. [2] See Table B.1 for the composition of the regions.

All G-SIBs and around 90% of Group 1 and Group 2 banks meet fully phased-in liquidity coverage ratio and net stable funding ratio[1]

Consistent sample of Group 1 banks — Graph 6

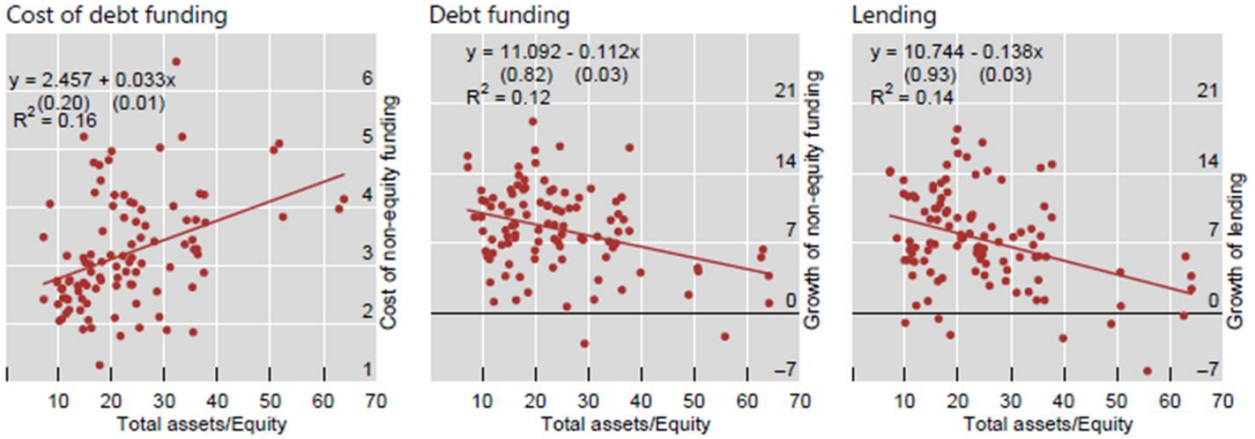


[1] The median value is represented by a horizontal line, with 50% of the values falling in the 25th to 75th percentile range shown by the box. The upper and lower end points of the thin vertical lines show the range of the entire sample. [2] The sample is capped at 400%, meaning that all banks with an LCR above 400% were set to 400%. The dots represent weighted averages. The horizontal lines represent the 70% minimum (2016, blue dashed line), the 80% minimum (2017, red dashed line) and the 100% minimum (2019, red solid line).

Source: BIS Basel III Monitoring Report September 2017, fully fledged calculations

It is also important to note that stronger banks with more solid capital buffers benefit the real economy. Research shows that banks with higher capital buffers not only have a lower cost of funding and attract more funding, they also provide more loans to the real economy (Gambacorta and Shin, 2017, Why bank capital matters for monetary policy, Journal of Financial Intermediation), as demonstrated in the following graphs.

Bank capital and loan growth[1] Figure 1



1 The panels represent scatter plots between the average level of leverage for a group of 105 international banks (details to be given below) and some bank-specific indicators: average cost of funding, average growth rate of non-equity financing; average annual growth rate of lending. Standard errors are shown in brackets.

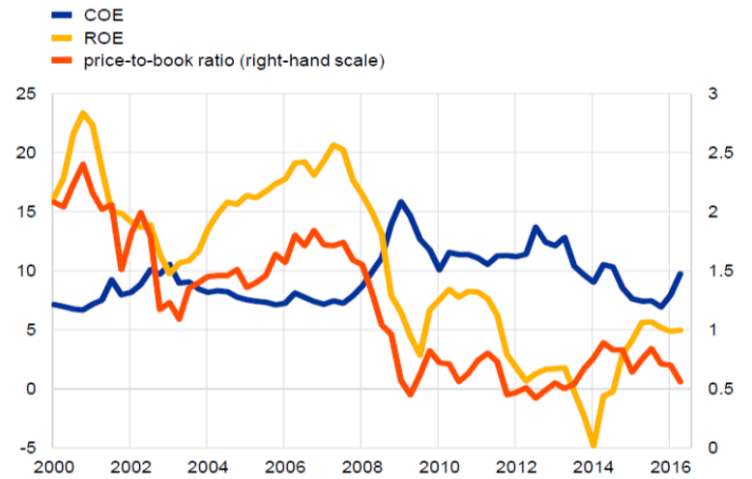
Sources: BankScope; authors' calculations

In spite of these positive developments, European banks, or at least a substantial number among them, remain characterized by weak profitability. As the next chart from the ECB FSR indicates, the profitability gap remains since the average return on equity (ROE) is lower than the cost of equity (COE) since 2008. Yet, long-term viability requires that ROE exceeds the COE.

The profitability gap increased again

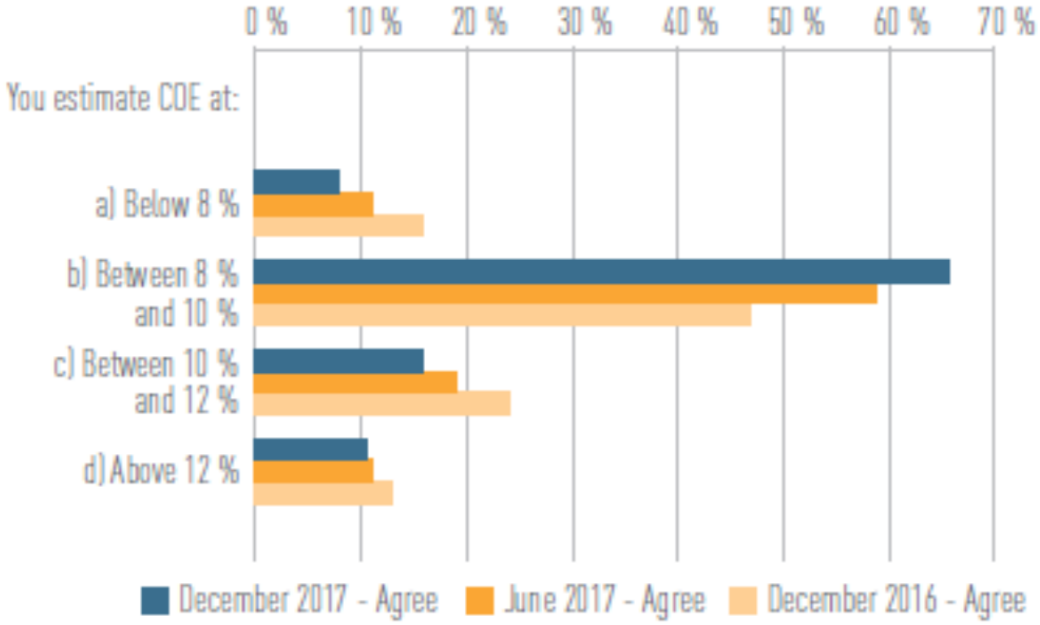
Cost of equity, return on equity and price-to-book ratio

(Q1 2000 – Q2 2016; percentage)



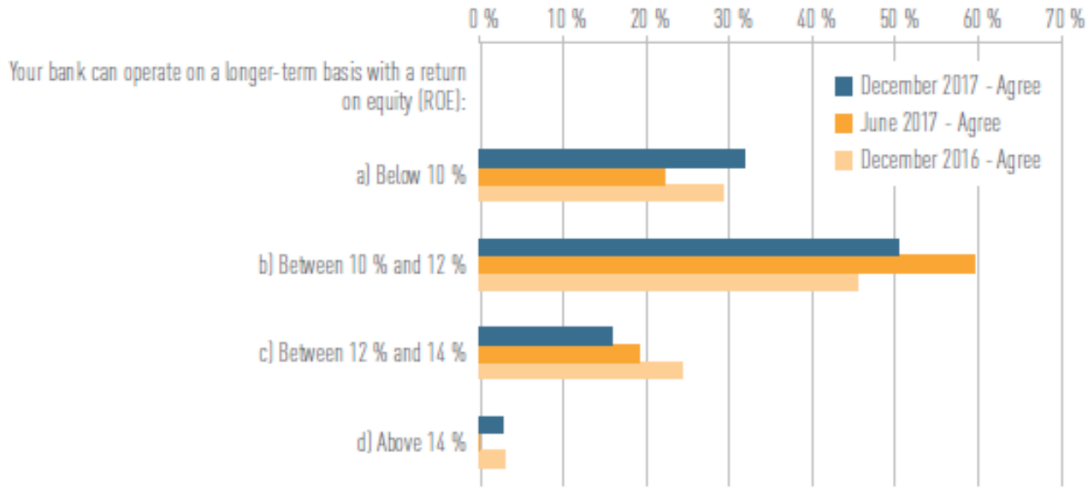
Sources: Bloomberg, Thomson Reuters Datastream and ECB calculations.
Note: Cost of equity is the expected return on the EURO STOXX weekly market index with one-year rolling betas.

In the EBA Bank Assessment report, the banks' answer to the question what they think their COE is, the majority puts the number in the 8-10% range.



When the banks are asked what they consider to be their longer-term ROE, they indicate that 10-12% should be achievable, as can be seen in the next graph.

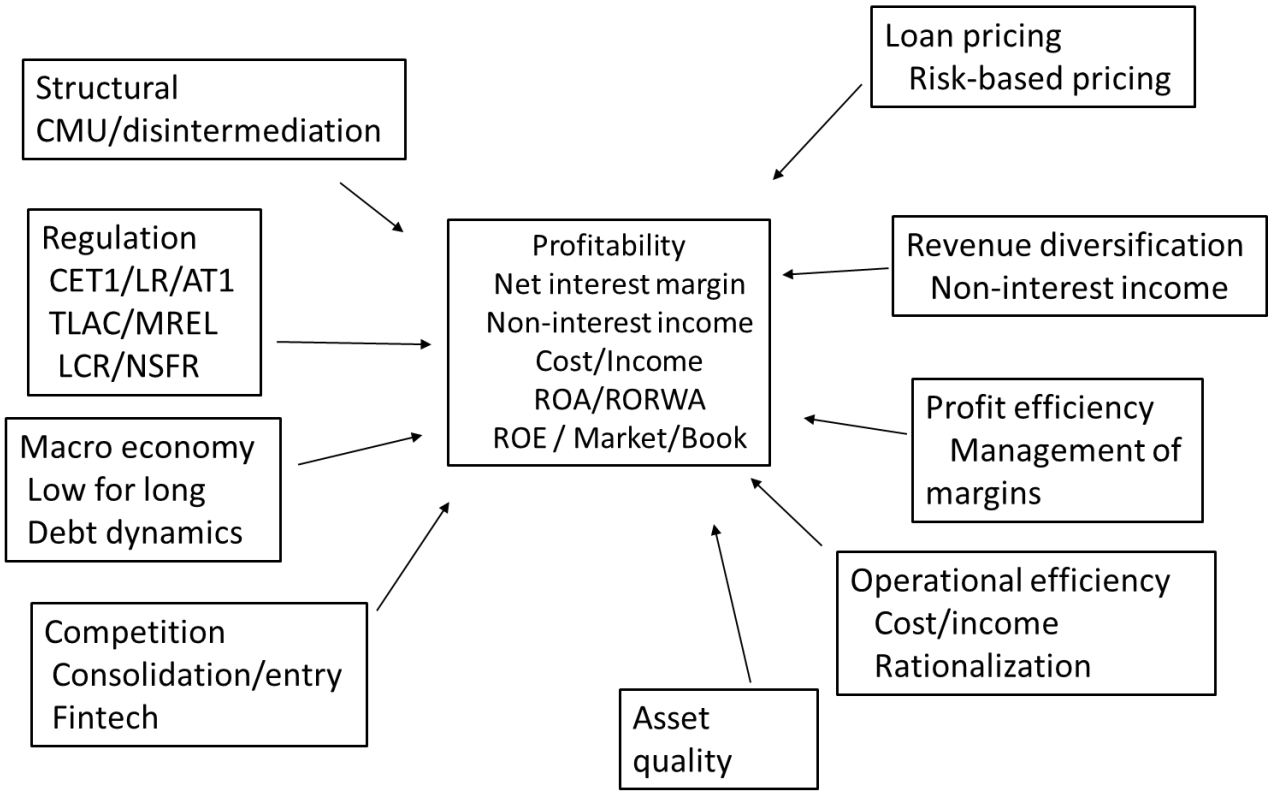
Figure 54: RAQ for banks: long-term sustainable RoE
Source: EBA RAQ for banks



While these answers seem to indicate that banks think they are able to achieve viability (ROE>COE), the actual ROE numbers offer little comfort in the short run. As can be seen from the next table, taken from the regular EBA bank assessment exercise, only a small fraction of European banks actually operates with an ROE above 10% Modesty seems to be warranted.

RI	Threshold		Current vs previous quarters for the worst bucket	201412	201503	201506	201509	201512	201603	201606	201609	201612	201703
Return on equity	> 10%	22-1		5.0%	18.7%	24.0%	22.6%	6.4%	3.1%	6.0%	6.6%	5.3%	13.5%
	[6% - 10%]	22-2		29.1%	33.1%	46.3%	35.5%	44.2%	42.3%	49.5%	36.9%	38.4%	44.6%
	< 6%	22-3		65.9%	48.3%	29.7%	41.9%	49.4%	54.7%	44.5%	56.5%	56.3%	41.9%

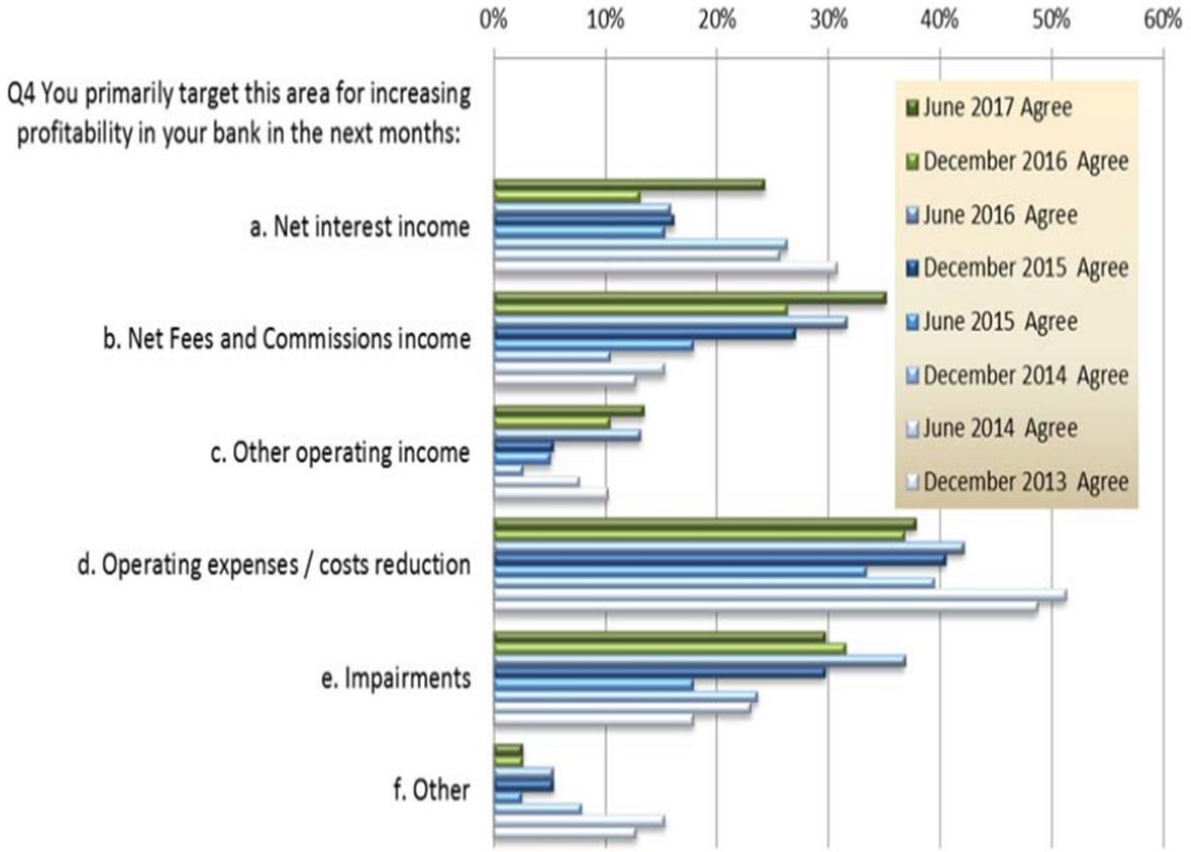
Going forward, next to being confronted with new regulation and challenging interest rate conditions, banks will feel the impact of structural tendencies (shift towards market-based financing) and competitive issues (consolidation, competition from new entrants, fintech). The next graph summarizes (on the left-hand side) the effects that might negatively affect their profitability. On the right-hand side, I list a series of actions that banks can take to mitigate some of the negative consequences and drivers to restore sustainable profitability.



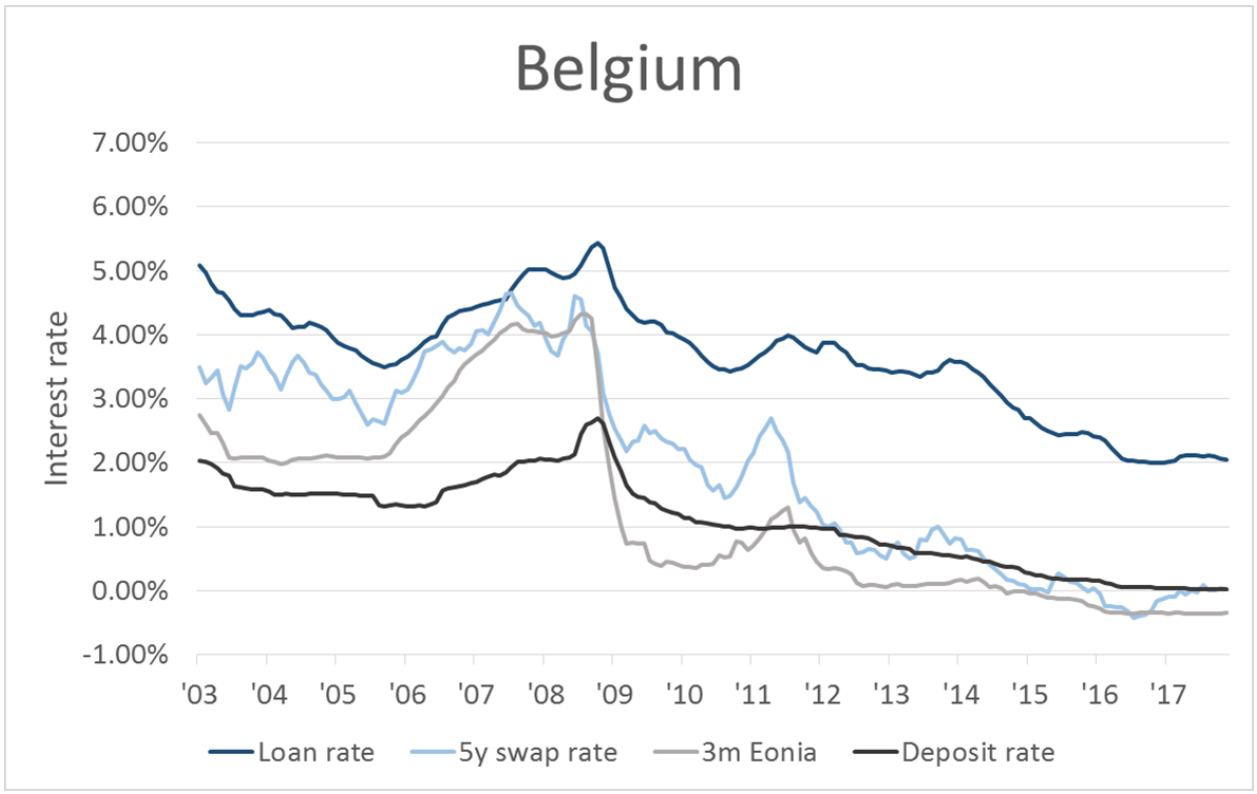
Summarizing the main mitigating actions for bank business models:

- Risk-based pricing
  Adequate margins, especially on lending, are key to sustainable profitability, not volume.
- Operational efficiency
  Banks will have to invest heavily in upgrading their cost efficiency and productivity.
- Diversification (revenues, geographic, up-to-date services, client segments, distribution channels, delivery)
  The evolution will be towards 'banking', not necessarily in old-style 'banks'.
- Asset composition and asset quality
  Banks need to use their comparative advantage in terms of intermediation and origination.

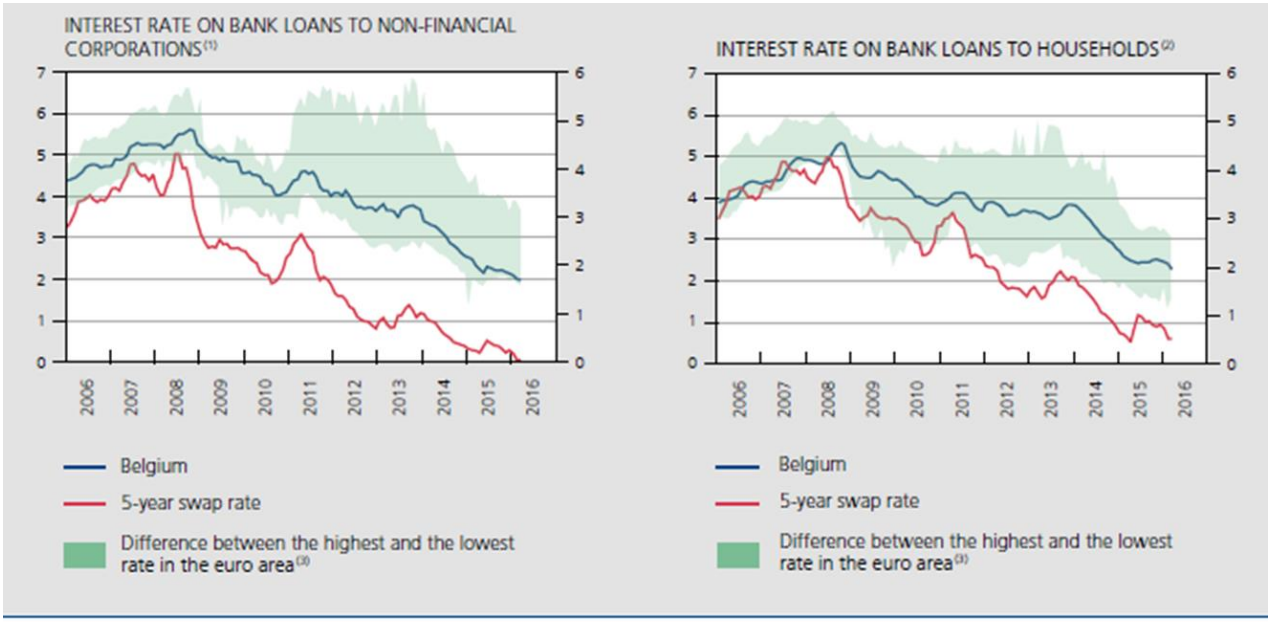
Banks rightly identify some of these challenges in the EBA bank assessment survey:



In terms of the bank's net interest margin, we have witnessed a shift from deposit margin to lending margin, as illustrated in the next graph for the Belgian banks. Due to monetary policy actions, the deposit margin (between the deposit rate and the interbank rate, here 3m eonia) has even become negative. Banks have compensated that evolution by increasing their lending margin (compared to the swap rate). The crucial question is how banks will adjust the deposit margins when policy rates increase. My hypothesis is that banks will be forced by competitive conditions to follow short-term interest rate increases much faster and more complete than was the case in the past. If that should happen, will banks compromise their lending margins by lowering the risk spreads, as they have done in the pre-crisis era? Hence, sound risk-based loan pricing will be of prime importance to maintain viable margins.



Source: ECB SDW



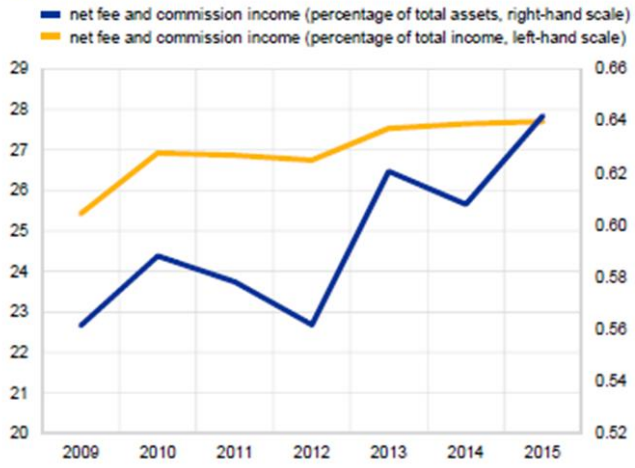
Source: ECB, Thomson Reuters Datastream.
(1) Interest rate on new bank loans of € 1 million or less with an initial interest rate fixation period of more than 5 years.
(2) Interest rate on new mortgage loans with an initial interest rate fixation period of more than 10 years.
(3) Countries included: Austria, Belgium, Germany, Finland, France, Italy, the Netherlands and Spain.

Another type of action to support bank profitability is to diversify their revenues and increase non-interest income. As the following chart from the ECB FSR illustrates, banks are pursuing this avenue, but it equally clear that the increase in fee and commission income has been modest. There is no unlimited pool of fees available for all banks. Banks will have to focus on what their comparative advantages are in terms of non-interest income and adapt their business model accordingly. This should hopefully lead to a more diverse banking landscape. If all banks diversify in exactly the same activities, this would only increase systemic vulnerability. Society needs diversity in banking models.

Fees and commissions have become an increasingly important income source since the financial crisis

Euro area banks' net fee and commission income as a percentage of total assets and of total operating income

(2009-15, percentage share)

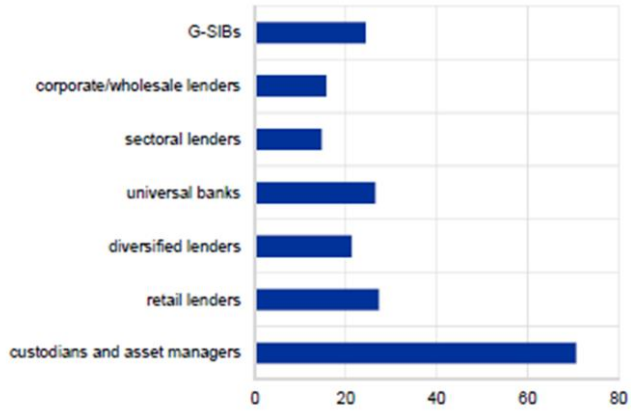


Source: ECB consolidated banking data.
Note: The sample covers most of the euro area banking sector.

The share of fee and commission income in total income differs across bank business models

SSM significant institutions' net fee and commission income as a share of total income broken down by business model

(2015, percentage share)



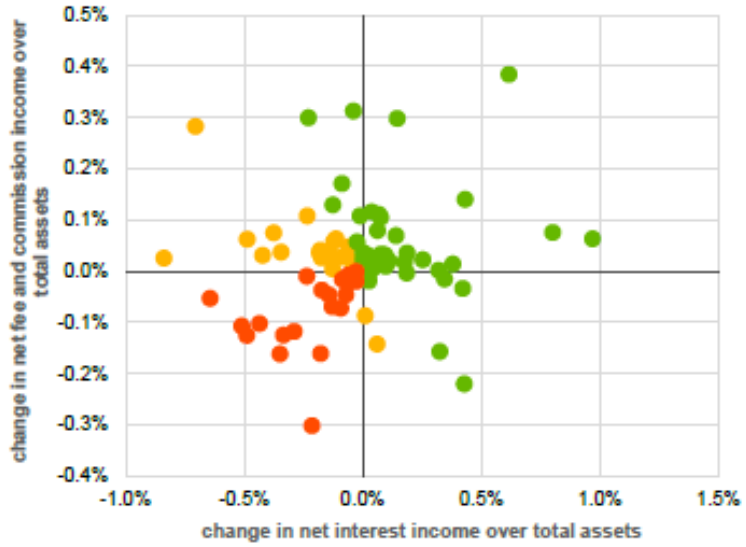
Sources: ECB and SNL.
Notes: The sample covers 94 SSM significant institutions. "Universal banks" also include global systemically important banks (G-SIBs) that are universal banks, while "G-SIBs" exclude those banks.

A positive feature for banks is that it appears that there is no inherent trade-off between net interest income and non-interest income, as the following chart shows. Hence, revenue diversification may offer opportunities for profit enhancement.

The relationship between fee and commission income and net interest income suggests only limited income source substitution

Changes in net interest income and net fee and commission income for significant institutions

(2014 – H1 2017, percentage points)



Source: ECB.
Notes: The colours indicate the relationship between changes in net interest income over total assets (NII/TA) and net fee and commission income over total assets (NFCI/TA). Green indicates increases in both NII/TA and NFCI/TA or an increase in one income component that more than offsets a decline in the other. Yellow indicates an increase in one income component that does not offset a decline in the other. Red indicates declines in both NII/TA and NFCI/TA. The figures for the first half of 2017 are calculated on a four-quarter trailing basis.

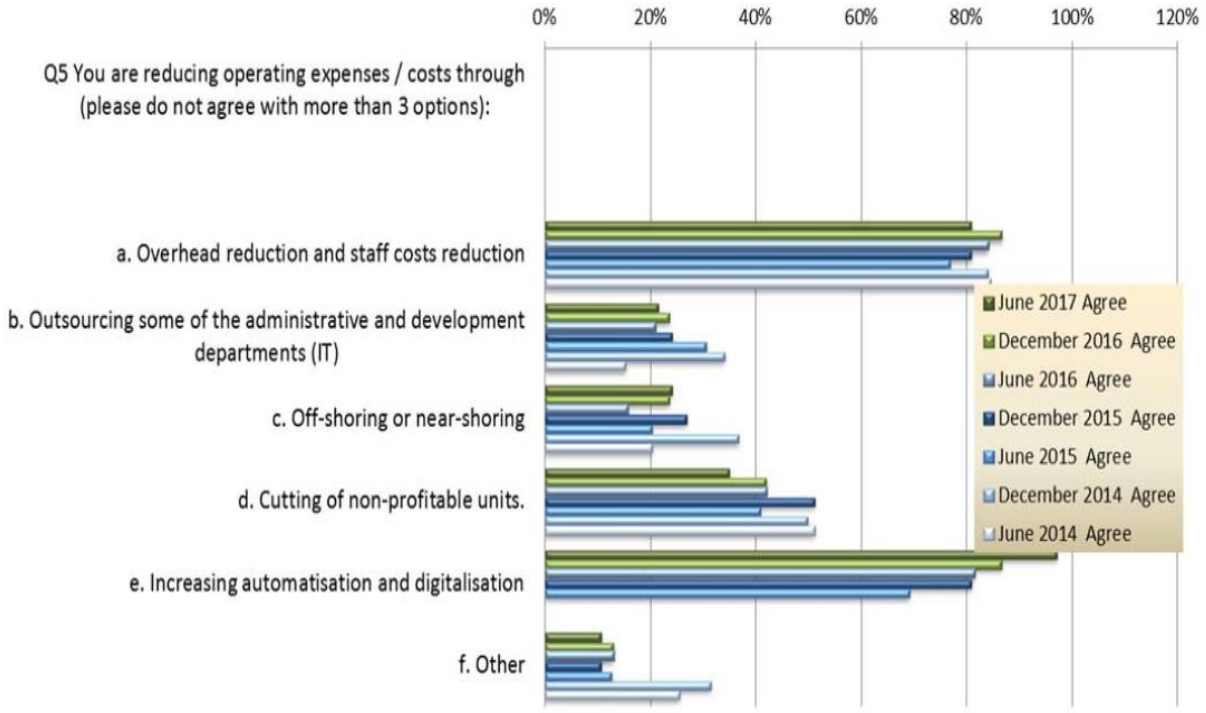
ECB FSR Nov 2017

It is also clear that banks have no other option than to improve their operational efficiency in a substantial way. There is no absolute benchmark, but as the next table shows, many banks operate with relatively high cost/income ratios.

RI	Threshold	Traffic light: Current vs previous quarters for the worst bucket	Sample of banks* 153	155	154	153	152	156	156	155	158	153	151
			201412	201503	201506	201509	201512	201603	201606	201609	201612	201703	201706
Cost to income ratio	< 50%		10.2%	10.5%	11.6%	12.4%	11.7%	12.1%	9.9%	9.4%	10.7%	13.5%	14.7%
	[50% - 60%]		13.5%	33.8%	34.6%	36.1%	17.5%	16.9%	26.3%	23.8%	13.8%	11.0%	16.9%
	> 60%		76.3%	55.7%	53.8%	51.6%	70.8%	71.0%	63.9%	66.8%	75.6%	75.5%	68.4%

Source: EBA Risk Dashboard 2017

Banks know that they will need to improve their efficiency and in recent surveys (by the EBA), they identify staff reductions and increased automation as the main drivers of productivity improvements.



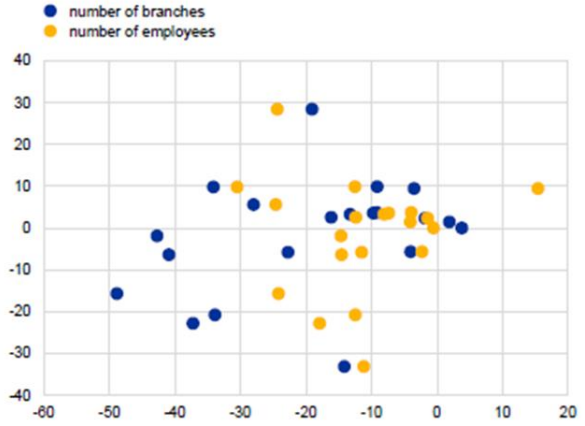
Yet, it should be clear that simply cutting branches and/or personnel will not be a magic lever, banks will have to undertake a fundamental redesign of bank intermediation.

Chart 3.11

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

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

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



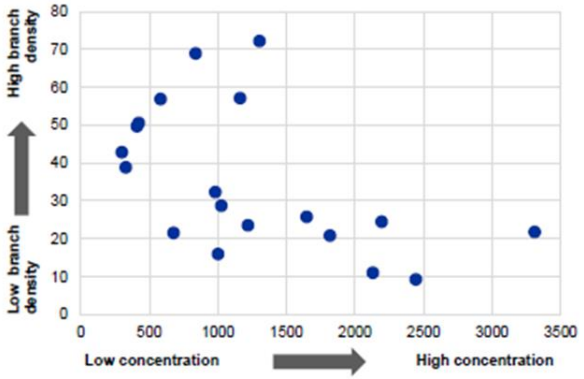
Sources: ECB and ECB calculations.

Chart 3.12

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

Market concentration and branch network density in euro area countries

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



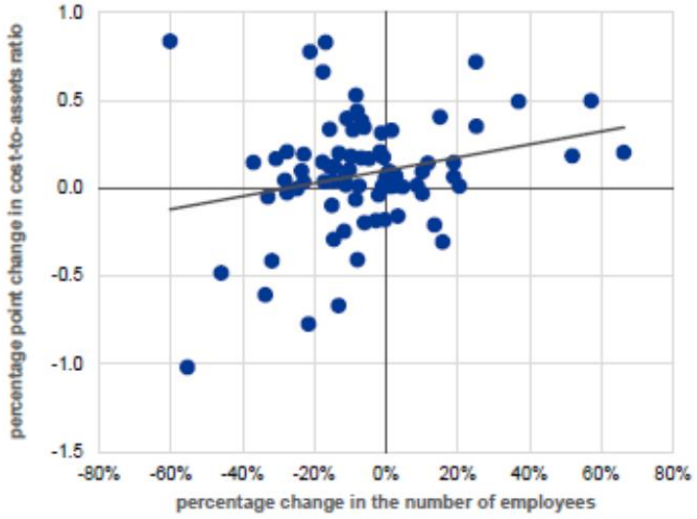
Source: ECB.

Reducing headcount will not automatically increase efficiency, it is the cost/income ratio that needs to improve. In this area, the Nordic banks lead the industry.

Headcount reductions have brought efficiency gains only at a limited number of banks in the last few years

Change in the number of employees versus the change in the cost-to-assets ratio for euro area banks

(2012-16)

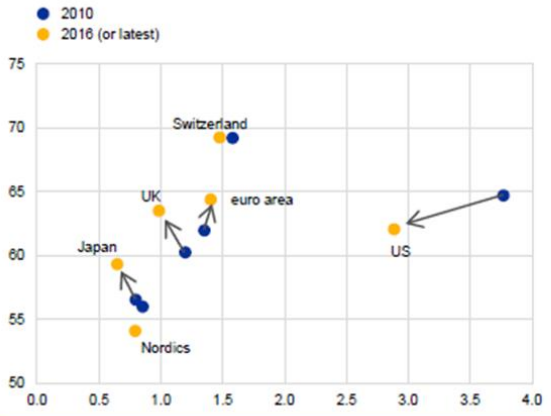


Source: SNL Financial.
Note: Based on a sample of 80 significant institutions.

Euro area banks' cost-efficiency has not improved since 2010 and cost-efficiency metrics compare unfavourably with many of their international peers

International comparison of cost-to-assets and cost-to-income ratios

(2010-16; percentages; x-axis: cost-to-assets ratio; y-axis: cost-to-income ratio)

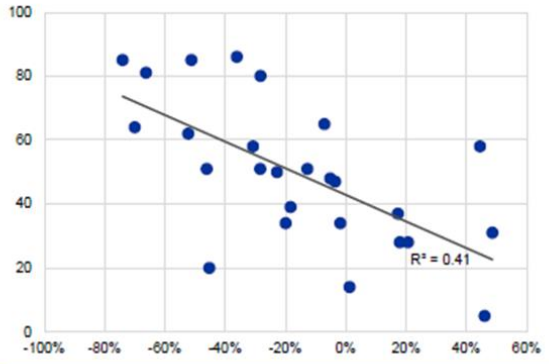


Sources: ECB, Federal Deposit Insurance Corporation, Bank of Japan and Swiss National Bank.
Notes: Figures refer to the first three quarters of 2016 (for the euro area, the Nordics and the United Kingdom), the full year 2016 (for the United States) and 2015 (for Japan and Switzerland). Figures for the Nordics refer to the simple average of country-level values for Denmark, Finland and Sweden.

Progress in branch network reduction in some countries may be limited by the still low adoption of digital banking by customers

Change in the number of branches since 1997 and the percentage of individuals using internet banking in EU countries

(1997-2015, 2015; x-axis: percentage change in the number of branches since 1997; y-axis: percentage of individuals using internet banking in 2015)



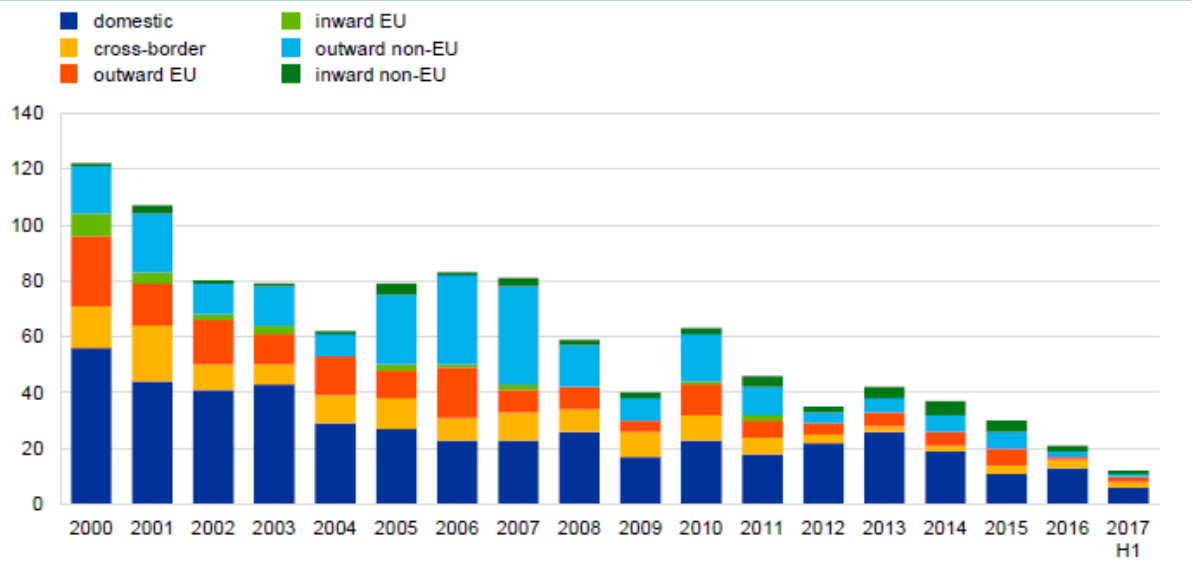
Sources: ECB and Eurostat.

As a conclusion, the actions needed to restore viable bank profitability going forward can be summarized as follows:

- Restauration of viable profitability requires *adequate pricing of loans and funding sources*, thereby restoring decent interest rate margins. *Lending margins* are key drivers due to the zero lower bound on deposit rates.
- Banks will need to *diversify* to non-interest income sources. However, the pool of available fees and commissions is limited. And risk implications need consideration.
- Cost *efficiency is a key driver*. Fintech might help to increase efficiency of processes and offer commoditized products. Branch network rationalizations are unavoidable. Restructuring of personnel composition is inevitable. But cost cutting alone will not do the job.
- Cyclical recovery may lower loan impairments and provisions. Although there remains lots of cleaning-up in the Eurozone periphery.
- Bank will have to elaborate on their *comparative advantages*, e.g. relationship banking, cross-selling, product design, operational excellence.

It remains, however, my impression that Eurozone bank sector restructuring is progressing in slow motion. In terms of business model adaptation, the regulation overhaul is done so banks should adapt swiftly to the new regime. In the near future, technology drives the pace of innovation. And we will have to seek a new equilibrium between banks, non-banks and financial markets (capital markets union should accelerate the transition). In terms of bank sector restructuring, it can be noticed that the pace of entry as well as M&A remains slow. The questions is whether these forces will lead to more diversity instead of simply increasing the size of banks. Some remaining issues loom large over the future of banks, notably the necessary completion of the banking union, the treatment of sovereign exposures, and the increasing levels of indebtedness (both private and public).

Bank M&As – number of transactions



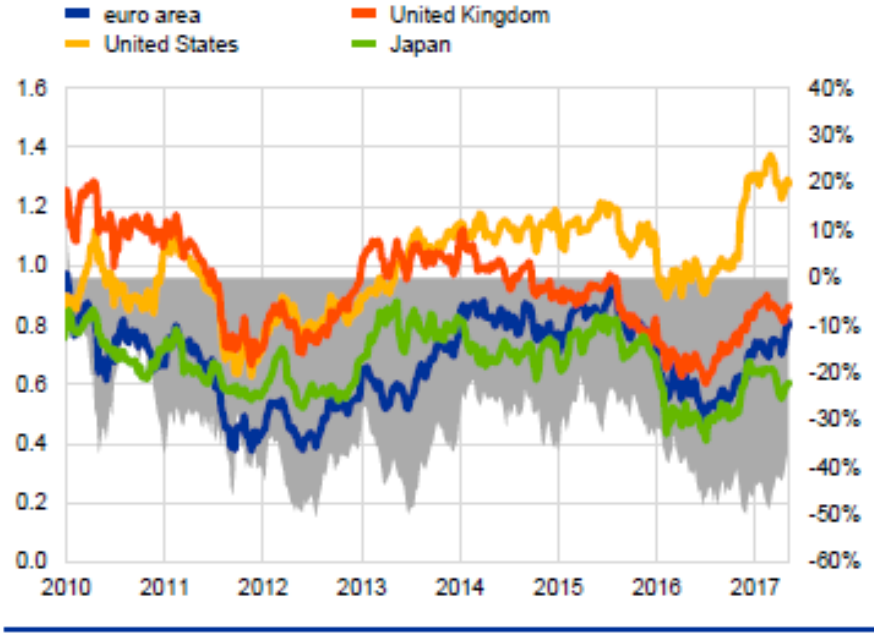
Source: Dealogic M&A.

The ultimate health check for banks is that the financial markets judge them to be viable, which implies that the stock market value should be above their book value of equity. As the final chart illustrates, although some banks are safely above 1, the average European bank is still characterized by a market/book ratio below 1, contrary to US banks.

In a global comparison, a wide dispersion persists between euro area and US banks' valuations

Aggregate price-to-book ratios for euro area, US, UK and Japanese banks

(Jan. 2010 – May 2017; multiples, percentages)



Source: Bloomberg.
Notes: The chart shows aggregate price-to-book ratios based on regional bank indices. The shaded area shows the valuation discount of euro area banks versus US banks.

Sustainable real growth needs healthy banks with solid balance sheets, adequate risk management, fortress capital buffers, nurtured by operational profitability and powered by strong leadership.