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EU Monitor
Global financial markets

Where do European banks stand?

10 years after the start of the financial crisis

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— The financial crisis erupted almost exactly ten years ago. The structural changes in the European banking industry since then are truly remarkable: net interest income has gained weight in total revenues which overall fell significantly. Trading income was the biggest loser. Expenses fell less than revenues, driving down profits to just half of the boom level.

— Total assets shrank over the past decade, but risk-weighted assets even more, despite considerable regulatory inflation, i.e. much higher risk weights. Both the core (risk-weighted) capital ratio and the plain equity-to-total-assets ratio improved enormously.

— Lessons learned from the US signal no short-term relief on the net interest margin, no matter whether benchmark rates stay low or rise sometime in 2018/19. Loan loss provisions though might start to edge up again sooner rather than later.

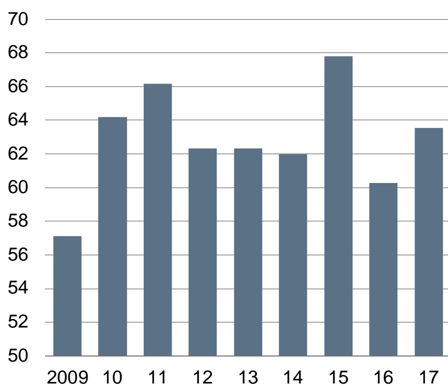
I) Current banking sector performance

With the European economy enjoying the best growth momentum since 2007 (euro-area GDP expected to expand 2.2% this year) and financial markets in relatively good shape, the European banking sector is at the moment benefiting in several ways from the benign external environment. Trading income at the 20 largest institutions rose 19% year-over-year in H1 2017 and fees and commissions 5%. However, zero interest rates continued to take their toll on net interest income, which again declined by 2%. Total revenues were thus only flat compared to the weak level a year ago. But loan loss provisions were down another 22% (excluding one special case in Italy), and several banks on a net basis even released provisions, thus adding to rather than subtracting from profits. In fact, net new provisions in H1 2017 were the lowest since the same period in 2006 – even lower than in 2007, right before the start of the financial crisis.

Administrative expenses also declined further, by 3% yoy. This prolonged industry-wide focus on cost control is remarkable as it has seldom been sustained in the past. Bottom line, post-tax profits partly recovered from the H1 2016 backlash, rising 13% to EUR 44 bn. Overall, however, banks' P&Ls in many ways look similar to H1 2013/14 as the sector is often taking a step forward and a step back at the same time. Most of the cost reductions in recent years have been consumed by higher expenditures in other areas, e.g. compliance or litigation.

Fee and commission income 1

EUR bn, H1, top 20 European banks



Sources: Company reports, Deutsche Bank Research

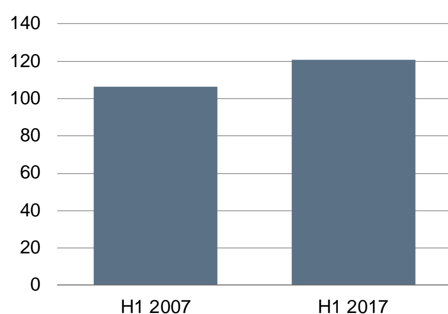
Particularly worrying is the weakness in organic capital generation. It is true that capital ratios have risen again in H1, after failing to do so in 2016. The CET1 ratio climbed to 13.8% (+1 pp) on average, and the leverage ratio to 4.8% (+0.2 pp), both on a fully loaded basis. Nonetheless, absolute levels of capital have shrunk for the second consecutive year. Currently, at EUR 1.2 tr, they are down 3% or EUR 38 bn since summer 2015. Part of this is due to exchange rate effects of a weaker British pound and a weaker Swiss franc versus the euro, but even in domestic currency, only a third of the banks have been able to strengthen their capital twice in a row. This is all the more striking given several substantial capital increases during the same past 24 months, amounting to EUR 33 bn at the banks in this sample. The main driver of the stronger capital ratios once more has been de-risking and shrinking business volumes: banks heavily shed risk-weighted assets to the tune of 8% yoy – RWA are now the lowest since these statistics began in 2005, despite all the regulation-induced inflation in between (i.e. much higher risk weights). Likewise, total assets shrank again, by 6% yoy, despite M&A-causing increases at some institutions.

II) Long-term: Banks' fundamental change since the financial crisis

Still more remarkable is the transformation of the European banking industry since the global financial crisis began on August 9, 2007 – almost exactly 10 years ago – with the freezing of global interbank markets and coordinated (liquidity) action by all the major central banks. The crisis of 2007-09 triggered the Great Recession and led to a fundamental overhaul of the regulatory and supervisory framework for the banking sector as well as to a profound change in business practices. How much of that is visible in actual financial statements?[1]

Net interest income 2

EUR bn, top 20 European banks



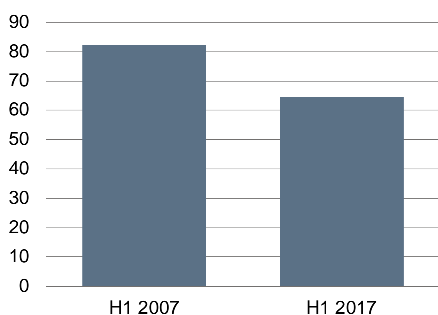
Sources: Company reports, Deutsche Bank Research

First, let's take a look at revenues. Net interest income was the most important revenue component back then, and it remains the most important. In fact, its share in total revenues has risen from 35% to more than half (52%). And despite pressure on it in the past several years, when it mildly trended downwards, it is still higher than a decade ago – by 14%. This is mainly thanks to a boost during the crisis and its immediate aftermath when central banks cut interest rates and bank funding costs dropped precipitously. It is also worth keeping in mind that outstanding loan volumes today exceed those of summer 2007. In the euro area, for example, they are 12% higher, as lending growth was still strongly positive till the end of 2008. Finally, a shift in the funding mix may have contributed to this somewhat surprising resilience as well: deposits nowadays account for a larger share of total liabilities than in 2007, and within that segment, the proportion of sight deposits from households and corporate clients has risen significantly. Sight deposits, however, pay virtually no interest in the current environment, making them a very cheap funding source and helping banks stabilise their net interest income.

[1] A note on methodology with regard to the analysis in this section: we use the same sample of about 20 leading European banks for our comparison of 2007 and 2017 key indicators. It very roughly covers half of the entire European banking market and is thus largely representative of developments in the sector as a whole. The sample includes a few more large banks in 2007 which since then have been absorbed by the remaining banks to prevent distortions from "transformational" M&A deals. If a specific indicator is not available for a bank in either year, the bank is dropped in this particular case to keep the figures directly comparable. However, there are no more than a few missing data points in the entire sample so that all results remain fully valid.

Fees and commissions 3

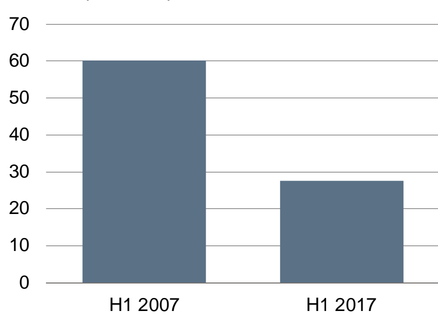
EUR bn, top 20 European banks



Sources: Company reports, Deutsche Bank Research

Trading income 4

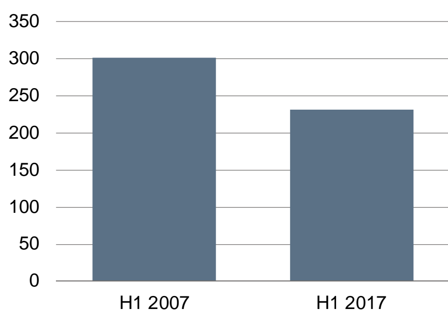
EUR bn, top 20 European banks



Sources: Company reports, Deutsche Bank Research

Total revenues 5

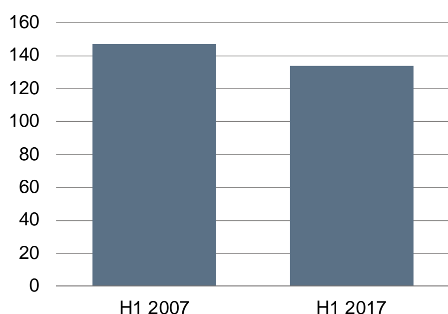
EUR bn, top 20 European banks



Sources: Company reports, Deutsche Bank Research

Operating expenses 6

EUR bn, top 20 European banks



Sources: Company reports, Deutsche Bank Research

By contrast, fee and commission income has suffered considerably. It is 22% lower today than it was before the crisis. There is a large number of factors that have caused this:

i. lower issuance and trading volumes in high-commission markets such as derivatives, structured finance and securitisation

ii. commoditisation (i.e. standardisation and automation) in other areas such as equity trading

iii. regulation prohibiting certain fees that used to be a lucrative source of income (just think of the now infamous pre-payment insurance/PPI in Britain)

iv. trends in asset and wealth management away from active towards passive management (rise of ETFs which have only a fraction of the management fee for comparable traditional mutual funds, at least in mainstream equity and bond markets)

v. banks offering their clients less market making due to de-risking pressure and tight prudential regulation – the leverage ratio penalises high-volume, low-margin activities; and bank separation (ring-fencing) requirements in some cases force banks to set up a separate capital and liquidity pool as well as independent operational and governance procedures for certain activities, making them much less attractive.

The weakness in fees and commissions is particularly problematic for European banks as they aim to compensate for recent declines in net interest income by introducing new fees or raising existing ones, e.g. on accounts, cards or payment transactions. Obviously, they have had only mixed success in this respect so far.

Some of these arguments also impact trading income. In general, substantial capital markets business is not taking place within large universal banks any more but has shifted to shadow banks (e.g. hedge funds). Regulation plays an important role here as well: the Volcker Rule prohibits US banks from proprietary trading – putting the bank's own money to work to generate profits from buying and selling securities. Banks on both sides of the Atlantic have largely abandoned prop trading, not just because of regulation, but also because it has turned out to be high-risk. Trading income, which also includes the result from foreign exchange transactions and from hedging transactions, has fallen to less than half of its pre-crisis level at European banks (-54%).

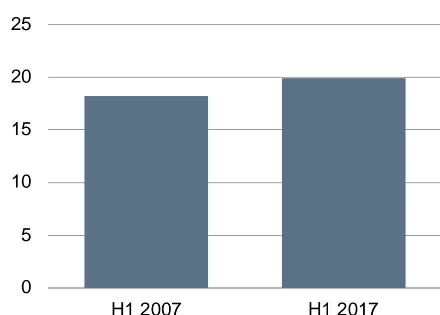
As a whole, total revenues thus have shrunk substantially over the past decade. They are down 23% to EUR 231 bn. But the composition has become much healthier and more sustainable, which makes the banking sector stronger and is welcome from a financial stability perspective: trading income and other income, the two less reliable components, together account for less than 20% of total revenues any more, compared to 37% in 2007, and despite the smaller "pot" overall.

What has changed in terms of expenses, the other part of the P&L? Administrative expenses have declined, too, but less so than revenues. They are down only 9%, to EUR 134 bn. As a result, banks' operating margin (revenues minus expenditures) has shrunk significantly, by more than a third. No wonder that cost reductions remain very high on the industry's agenda.

Something that has evolved quite dramatically over the past ten years – rising enormously initially, remaining elevated for several years, before coming down a lot recently – are loan-loss provisions. Remarkably, they are now about the same level (less than EUR 20 bn) as in H1 2007. In between, though, they constituted a heavy burden on profitability, and banks need to prudently prepare for harder times when the economic cycle turns and loan losses rise again.

Loan loss provisions 7

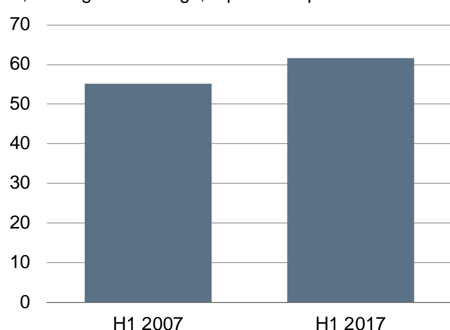
EUR bn, top 20 European banks



Sources: Company reports, Deutsche Bank Research

Cost-income ratio* 8

%, unweighted average, top 20 European banks

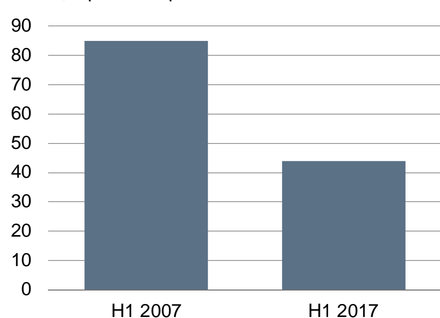


* excl. one-offs

Sources: Company reports, Deutsche Bank Research

Net income 9

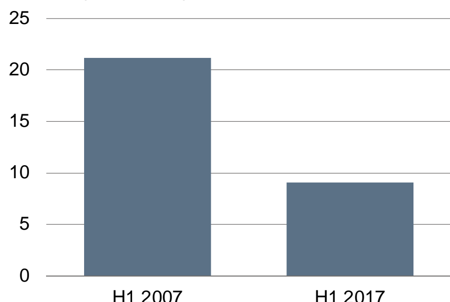
EUR bn, top 20 European banks



Sources: Company reports, Deutsche Bank Research

Return on equity* 10

%, unweighted average, top 20 European banks



* excl. one-offs

Sources: Company reports, Deutsche Bank Research

Adjusted for one-off effects – such as CVA/DVA valuations, gains or losses on sales and others – the average cost-income ratio of the leading banks still looks solid, at 62%, even though it has risen from 55% in H1 2007. However, a number of banks clearly have further room to improve their efficiency, as the enormous spread of individual cost-income ratios shows: the highest ratio (87%) is essentially double the lowest one (46%).

Bottom line, net income after tax has halved, from EUR 85 bn to EUR 44 bn. This is a logical result of the lower operating margin and of more or less stable provisioning levels. But of course, H1 2007 was the historic record in absolute profitability (at least for European banks; their US peers have set new records since), at the height of the credit boom which exaggerated most P&L figures.

Post-tax return on equity – again excluding one-off effects – dropped in a similar fashion, from 21% to 9%. Still, today's result would probably be considered sound by most investors. To pour a bit of water into the wine, it should be kept in mind that the first half of the year is usually the much stronger and the H2 result is often close to the zero line – investment banking is typically busiest in Q1, and banks often clean up their balance sheets before year end, taking extra loss provisions or goodwill writedowns. Furthermore, sector-wide returns often turn out quite volatile, i.e. good results are seldom sustained over consecutive periods.

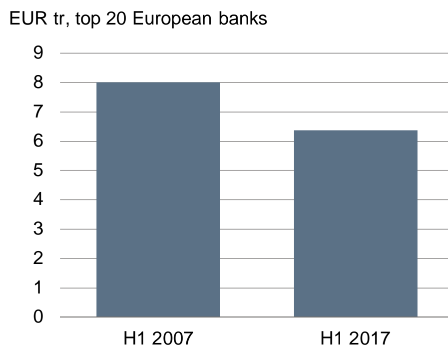
What is the reason for the lower revenue & cost base, the shrunken business volume and the lower profitability? To a large extent, this is due to banks taking a more conservative, cautious approach, focusing on more sustainable, longer-term client relations. It is one of the most striking conclusions from this analysis: banks have drastically scaled back the risk they take. Risk-weighted assets are more than 20% lower than a decade ago. Given that risk-taking and risk management are at the very core of what banks do, this is a massive change. And it is even more remarkable given that there have been few areas where new, tighter regulation has had a bigger impact – risk weights for many exposures and activities have risen tremendously since the outbreak of the crisis.[2]

With so much RWA "inflation", i.e. a higher RWA amount for a given size of the business, banks' cut in outstanding risk-weighted assets of more than a fifth is all the more impressive. At the same time, one of banks' biggest achievements has come at considerable cost to their customers and society: with such a reduction in the banking system's financing capacity, clients had to look for alternative sources of funding. Some found them in the capital markets, as the jump in European corporate bond issuance shows. Some went to other financial providers, as the sizeable growth in the shadow banking sector demonstrates (some overlap notwithstanding, as some shadow banks, namely investment funds, are eager buyers of corporate bonds). And some customers just ended up being credit-constrained – especially smaller, less creditworthy borrowers in countries hit by the European debt crisis. In such a case, even the exceptionally low interest rates which benefited virtually all borrowers could not help as banks became more selective and restrictive in lending to implement tighter prudential standards, i.e. to strengthen their capital ratios.

[2] An example from the new rules for securitisation investments: holdings of a (non-senior) "A" tranche under Basel III receive a risk weight which is 4 to 9 times as high as under the old Basel II framework, depending on the maturity of the position. Similarly, risk-weighted assets for uncleared derivatives are at least three times as high under Basel III as before, in addition to much stricter collateral requirements.

Risk-weighted assets 11

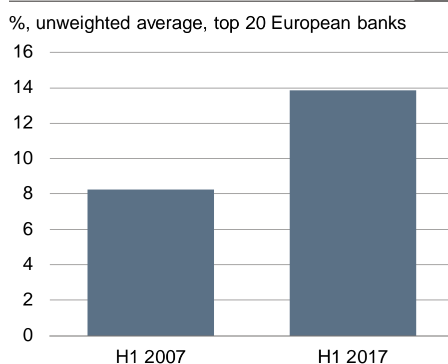
EUR tr, top 20 European banks



Sources: Company reports, Deutsche Bank Research

Core risk-weighted capital ratio* 12

%, unweighted average, top 20 European banks

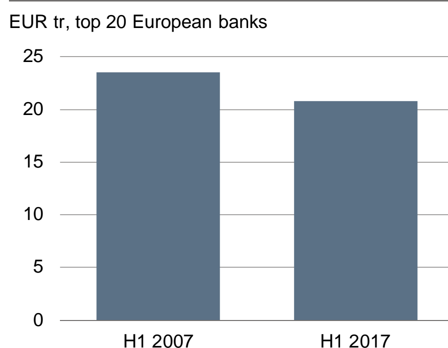


* 2007: Tier 1 ratio
2017: Common Equity Tier 1 ratio (Basel III fully loaded)

Sources: Company reports, Deutsche Bank Research

Total assets 13

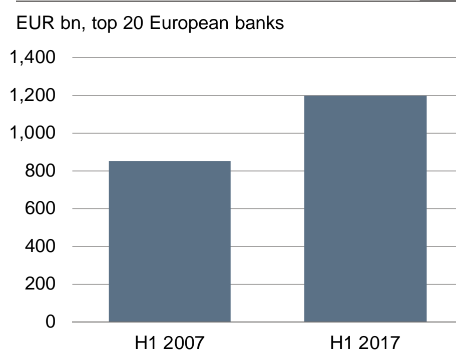
EUR tr, top 20 European banks



Sources: Company reports, Deutsche Bank Research

Total equity 14

EUR bn, top 20 European banks



Sources: Company reports, Deutsche Bank Research

Indeed, banks were very successful in strengthening their capital ratios. A straightforward comparison of risk-weighted capital ratios is impossible because all the definitions have been changed since the crisis – what counts as capital, what risk weights apply to certain exposures and what the target ratio should be. That said, a plain vanilla comparison of the two standard measures of capital strength of each period shows the staggering progress the banking industry has made. In 2007, the Tier 1 ratio was considered the core indicator of capital. In June of that year, it averaged 8.2% for the leading European institutions. With the financial crisis, it became clear that Tier 1 was too broad a measure that included components that did not really absorb losses if push came to shove. Obviously, a tighter definition was needed, and markets, analysts and policymakers gradually began to pay the most attention to Core Tier 1 instead, which later became Common Equity Tier 1 under Basel III, whose implementation started at the beginning of 2014. Now, the fully loaded (i.e. ignoring all transitional provisions and assuming instantaneous complete applicability of the new rules) Basel III CET1 ratio is the "gold standard". Of course, this is a much tighter indicator than Tier 1, leaving out, for example, all the hybrid forms of capital that drew criticism for essentially behaving like debt instruments rather than equity capital during times of crisis. Currently, the CET1 ratio for the same European banks stands at 13.8% on average. Hence, despite RWA inflation and a much narrower frame for what counts as capital, the capital ratio has risen by two thirds. In fact, with capital ratios under pressure during the crisis, they have even about doubled since the end of 2008.

Last but not least, how has the balance sheet evolved over the course of the past decade? Total assets, which are a less meaningful measure of the size of a bank than total revenues, but nevertheless a rough indicator of aggregated business volumes, are down 12% or EUR 2.7 tr, to EUR 20.8 tr.[3] Like revenues, they confirm a retreating and shrinking European banking industry, at least at its top (things might look a bit more moderate at smaller banks).

The strong improvement in capital ratios shown above was driven not only by de-risking and lower risk-weighted assets though. The numerator increased considerably as well. Though nominal balance sheet equity is not equivalent to regulatory capital, it is a reasonable proxy. And in the long run, since summer 2007, total equity at the large European banks has risen more than 40% to EUR 1.2 tr now. A simple equity-to-total-assets ratio underlines this substantial strengthening in resilience: the ratio is up from 3.6% to 5.8% over the 10 years.

The European banking system has gone through an exceptional transformation since 2007 – a global financial crisis, a European debt crisis with two corresponding recessions, and a complete overhaul and strong tightening of regulation and supervision. This has cost it dearly in terms of business, reduced its size and broken a decades-long streak of "perennial" growth. Expense cuts have not kept pace with the decline in revenues. But the industry has also become nimbler, more focused on its core business and core customers, has established better control systems and, perhaps most importantly, has vastly improved its resilience in terms of larger buffers of own funds and liquidity.

III) Outlook

It has always been hard to predict banking sector performance reliably given the volatility of markets and the frequency of other external shocks (of a macroeconomic, political or regulatory nature). In addition, since the financial crisis, parts of the industry have been in prolonged restructuring mode and are

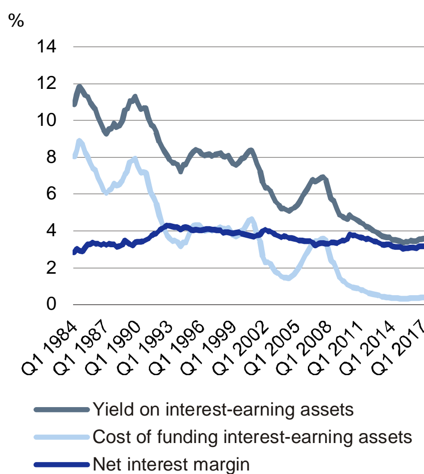
[3] See also Schildbach, Jan, "Large or small? How to measure bank size", Deutsche Bank Research, EU Monitor (2017).

adjusting their business models, also in light of new competitors and the availability of new technology. But for a few areas, the experience of US banks might provide some hints, as they are ahead of their European peers in the cycle.

i. Net interest income

First, what is to be expected from a "normalisation" of interest rates in Europe in the medium to long term? Granted, rate hikes may be modest and gradual only and yields are expected to level off far below their pre-crisis levels. As in other aspects of the economic cycle, the euro area (but also the UK and other European economies) is likely to follow the US monetary path with some years' delay. Data availability for the US banking sector is also much better than for its European counterpart. Hence, a look across the Atlantic is particularly revealing.

US banks: Asset yields and funding costs move in parallel 15

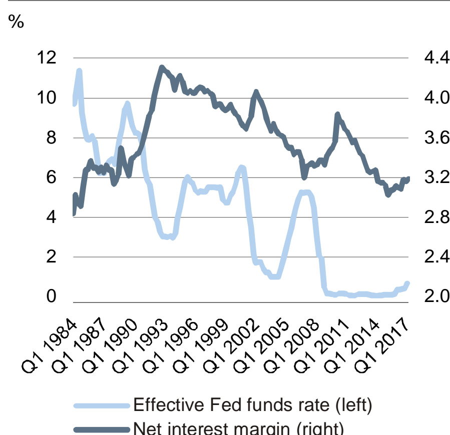


Source: FDIC

Chart 15 shows the broad picture, i.e. the average yield on interest-earning assets and the average cost to fund these assets for US banks, which combined result in the net interest margin. This demonstrates that despite enormous fluctuation in the absolute level of interest rates over the past more than three decades, the margin has remained surprisingly stable, staying within a relatively narrow band between 3.0% and 4.3%, if we leave out the first year when this series was newly reported and aggregated. Similarly, the largely parallel movement of asset yields and funding costs over the entire period shows to what extent banks have been able to also pass on lower rates to their creditors, in addition to borrowers.

There is a lack of comparable data for the European banking industry. But given that the majority of European banks have a similarly traditional commercial banking focus like their US peers, with lending and deposit-taking with private and corporate clients accounting for a significant share of revenues, net interest margins in Europe have probably been more robust than often thought. Indeed, looking only at lending and deposit rates of euro-area banks as a proxy for asset yields and funding costs, a similar picture emerges, although the size of the differential (i.e. the margin) tends to be smaller than in the US. This might be due to, e.g., more intense competition, more direct/online banking or more price-sensitive customers in Europe. The relative resilience of the interest margin is also in line with the observation above that net interest income at the largest European banks today is still higher than it was at the pre-crisis peak in H1 2007.

US banks: Interest rate cuts first strenghten, then weaken interest margins 16



Sources: FDIC, St. Louis Fed

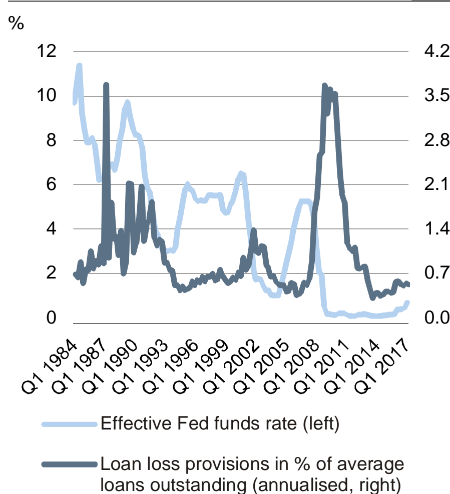
Chart 16 takes a closer look at the specific reaction of the US banking industry's net interest margin to movements in the official benchmark rate. A few conclusions stand out:

1. The immediate impact of rate cuts is strongly positive for interest margins. See the 1984-86 (1989-92, 2000-03 & 2007-09) rate cuts and 1984-85 (1989-92, 2001-02 & 2009-10) increase in the margin.
2. The longer-term impact of persistently low interest rates is negative for banks' margins. See the low rate periods of 2002-04 when the margin fell from 4.1% to 3.6% and 2009-today when the margin, after an initial jump, declined from 3.8% to 3.0%. Also revealing is the case of 1995-2000, when rates levelled out at about 5% after a few rate increases, but that level at the time was considered relatively moderate by historical standards. During those years, the interest margin weakened as well, from 4.1% to 3.8%.
3. There is no clear-cut impact of rising interest rates on the margin. See the 1987-89, 1994-95, 1999-2000 and 2004-06 rate hike episodes. If anything, the interest margin seems to have suffered somewhat.

The first two results can be confirmed for the European banking system as well. Net interest income rose significantly following the ECB's rate cuts of 2008-09 (it also benefited from the Fed and the Bank of England taking action even earlier), but it has been on a slow downward trend since peaking in 2010.[4] In light of the US experience, however, the answer to the question whether rate hikes are likely to solve European banks' revenue problem has to be a plain "no". But they might at least prevent a further deterioration in the margin and possibly support higher margins in the longer term. At the same time, higher interest rates tend to have a dampening effect on volume growth which would impact net interest income as well.

ii. Loan loss provisions

US: Rate cuts are followed by falling loan loss provisions 1-2 years later 17



Sources: FDIC, St. Louis Fed, Deutsche Bank Research

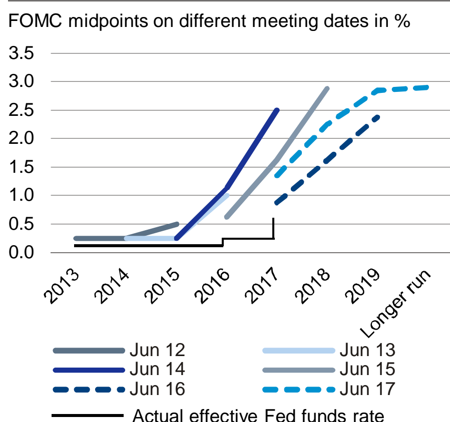
Another P&L component may prove similarly decisive for the bottom-line results of European banks in the next couple of years: the further development of loan losses and corresponding provisions. So far, provisions have fallen to 2007 levels, i.e. they are far below historical average. Again, a look at the US offers a glimpse of what may happen in Europe in some years as well:

1. When interest rates fall, loan losses do so as well with a lag of 1-2 years. The reason is simple: central banks typically react to initial signs of a looming recession, which leads to a surge in provisions. But with the start of a recovery, asset quality also begins to improve. See the 1984-86 rate cuts (and the decline in provisions in 1987-89), and similarly 1989-92 (1990-94) as well as 2000-03 (2001-04) and 2007-09 (2009-13).

2. Likewise, rate rises are associated with higher loan loss provisions a few years later. Again, this is straightforward: in a normal economic cycle, the central bank will raise interest rates when the economy is up and running to prevent it from overheating. Some years later, however, there will be an economic slowdown (usually a recession, maybe in part even triggered by the higher interest rates), which results in climbing loan losses. See the examples of rising rates in 1987-89 (and the increase in loss provisions in 1989-90), 1994-95 (1995), 1999-2000 (2000-01) and 2004-06 (2007-09).

Fed chronically over-optimistic about rate hikes 18

FOMC midpoints on different meeting dates in %



Sources: Federal Reserve, Deutsche Bank

3. The latest rise in interest rates from 2015 on is still so feeble and hardly visible in the data that it has not changed the overall funding conditions for banks and their customers yet. There has been a moderate uptick in loan loss provisions though, from their post-crisis low of USD 5.8 bn in Q3 2013 to about USD 12 bn per quarter since the end of 2015. This may be a precautionary measure taken by banks in the expectation of rising interest rates and a potential weakening of the economy some years down the road. Indeed, market participants as well as the Fed itself have frequently forecasted an earlier rise in interest rates than happened later in reality (see chart 18).

What does that imply for European banks? They are in many ways 3-4 years behind their US competitors, hence at first glance, loan loss provisions could start to increase right now. Second, current provisioning levels are so low – the lowest since the financial crisis – that a gradual increase in the next few years would be no surprise. After all, when loan loss provisions after the crisis had reached the pre-crisis bottom again in the US, they started edging up. Third, the US points to a quick rebound in provisions once the economy is back at full speed. Granted, partly because of Europe's twin recession, loan loss provisions had remained elevated here for a prolonged time, and only came down

[4] Of course, net interest income is a function not just of the margin, but equally of volume. Yet there has been hardly any (bank) credit growth in Europe over the past decade, minor ups and downs notwithstanding. Hence, most of the recent movement in net interest income may be a consequence of changes in the margin.

significantly between 2013 and 2015. But this could partly be read as European banks just spreading the burden from non-performing loans over a longer period of time and prolonging zombie loans ("ever-greening"). By contrast, their US peers tackled the problem aggressively head-on in 2008-10, setting aside enormous loan loss provisions and taking drastic writedowns on their loan books, respectively. In any case, the European economy today is indeed up and running again at full speed, which may mean an uptick in loan loss provisions is on the agenda. On the other hand, while there is growing talk about the ECB raising rates in 2018 or 2019, this could also imply higher provisions only from about 2020 onwards, in line with historical patterns. However, this is certainly not a "normal" cycle as the current low-rate environment has been in place for essentially almost a decade already and this time round it may well be not a normal sequencing of rate hikes and rising provisions.

Overall, there are quite a few reasons to expect increasing loan loss provisions in Europe relatively soon, rather than only in a few years' time.

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