European Banks

IFRS9 – Bigger than Basel IV

From January 2018, IFRS9 will change how banks recognize loan losses. So far, market focus has been on the transitional CET1 impacts. But these look quite small – c50bps off CET1 ratios. Instead, we think the ‘real’ story is pro-cyclicality. A typical downturn could see IFRS9 knock c300bps off the sector’s CET1 ratio – vs c100bps under the current framework. It is not too late for the rules to be changed. But without a recession, it may take the 2018 stress tests to fully highlight the problem. For as long as the risk of policy error remains, the more capital generative banks are best insulated – we’d highlight SocGen, CS and ABN in particular.

Earnings and capital volatility: Under IFRS9, banks will front load loan losses at the start of a downturn, rather than spreading the cost over several periods. So banks can’t ‘earn their way through’, and may even overestimate losses in the depths of a recession. Reducing earnings cushions leaves capital bases more exposed.

How much more capital? CET1 ratios already come under pressure in a downturn from RWA inflation. The ‘typical’ additional CET1 erosion from IFRS9 is c300bp, although bank-by-bank sensitivities clearly depend on the specific nature of any downturn. Some of this may be offset by reducing CET1 targets – but the headroom here is limited.

Not too late to change the rules: Currently, Basel is not planning to change the capital rules to accommodate IFRS9. However, European regulators could unilaterally introduce some softening if they want to. But we may need to wait for the 2018 stress test, which should crystallize the pro-cyclicality, before the issue gets resolved.

FIGURE 1
IFRS9 could knock off c300bps from industry CET1 ratios in a downturn

Source: Barclays Research

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Don’t be distracted by the transitional impacts

We estimate a 50bp transitional impact on CET1 ratios

IFRS9 is introduced on 1 January 2018. This will require banks to take provisions on a forward looking ‘expected loss’ basis. This changes how and when banks take bad debt provisions. But it does not affect whether a borrower actually defaults or not.

Ordinarily, the market looks through accounting changes since they don’t affect the economics of the business. But IFRS9 is different: it will erode CET1 ratios. This is because IFRS9 will initially require banks to increase their stock of provisions, triggering a reduction in book values and capital bases.

The appendix walks through the mechanics (and caveats) of how we’ve estimated each banks’ initial CET1 hit from IFRS9. Given the limitations on data, we’d reckon that our bank-by-bank estimates could plausibly be wrong by +/-25%. But the bottom line is that, as Figure 2 indicates, we think that the one-off increase in provisions under IFRS9 will trim c50bps off banks’ CET1 ratios, starting in 2018. We’d note that our calculations here seem consistent with the EBA’s estimate of a 59bp average CET1 decrease

FIGURE 2
Estimated transitional impact of IFRS9 on CET1 ratios

Source: Company data, EBA, Barclays Research

Three-quarters of the initial impact driven by ‘Stage 2’ loans

The transitional impact is driven by banks categorising their loans into one of three buckets:

Stage 1 loans: as soon as a loan is made, banks have to take a provision charge. This charge is the 12m expected loss. This is calculated as the probability of default (PD) of the loan in the next twelve months multiplied by how much the bank stands to lose on the loan if it defaults (the loss given default, or LGD).

Stage 2 loans: if a loan has experienced a ‘significant deterioration’ in credit quality, then banks will have to recognise the lifetime expected loss. To be clear, this represents the probability of default over the remaining lifetime of the loan – again, multiplied by the LGD. So the difference in the expected loss between Stage 2 and Stage 1 is the difference in the PDs as we move from a 12m time horizon to the overall lifetime of the loan.

1 To be clear, this estimate is net of provisions for performing loans that banks have already taken
**Stage 3 loans:** once a loan goes into default (typically once the borrower is more than 90 days in arrears), it’s categorised as Stage 3. The concept here is similar to the definition of an NPL under the current framework. But obviously the provisioning need of a Stage 3 loan is calculated net of the provisions previously taken under Stages 1 and 2.

When IFRS9 is introduced, the transitional impact will be driven by the 12m expected losses on the performing book (i.e. Stage 1) and the lifetime losses on the loans that have deteriorated since origination (i.e. Stage 2). The impact from Stage 3 classifications should be small since they substantially overlap with existing NPLs and provisions. Overall, as we show later with Figure 30 and Figure 31, the stock of provisions across the sector will likely rise by 20-30%.

Note that around 75% of the estimated transitional adjustment comes from the expected losses on Stage 2 loans. This reflects the cliff effect of IFRS9, stemming from the migration of loans from stage 1 to stage 2. As the credit quality of a stage 1 loan deteriorates, the expected loss rate rises. As the loan crosses the threshold of ‘significant deterioration’, the expected losses spike as the PD calculation shifts from a 12m to a lifetime basis.

**Transitional impacts shouldn’t be too important**

In our view, however, there are three good reasons to not focus too much on Figure 2:

1. IFRS9 doesn’t affect whether a loan is actually in default or not. It changes where a bank’s capacity to absorb loan losses sits. The transitional impact of IFRS9 simply shifts a portion of this loss-absorbing capacity from a bank’s CET1 base to its stock of provisions.

   Therefore, regulators should, in theory, allow some offset for IFRS9 in banks’ required CET1 ratios. Clearly, this will depend on whether current risk add-ons accurately mirror IFRS9 impacts or not. But the net result is that the significance of Figure 2 should be watered down.

2. The Basel Committee is proposing to phase-in the transitional impacts of IFRS9. Whilst there are various permutations of exactly how this could be done, the upshot is that Basel is envisaging a 3-5 year time horizon for banks to phase-in the impact. So depending on the final agreement, it looks likely that the 2018 CET1 impact for the sector won’t be the full c50bps we estimate – but more like 10-15bps.

   True, the market may look through this phasing to a ‘fully loaded’ CET1 ratio. But providing that banks are generating capital, the materiality of the initial impact from IFRS9 is likely somewhat modest.

3. In comparison with issues such as Basel IV, a c50bp adjustment to CET1 ratios doesn’t seem like it’s enough to especially drive the investment debate for the sector. It is certainly a headwind for capital generation but is – arguably – too small to particularly change the outlook for any bank’s growth or dividend prospects.

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3 See [http://www.bis.org/bcbs/publ/d385.pdf](http://www.bis.org/bcbs/publ/d385.pdf) for further details
The real story is increased volatility of earnings and capital

What we think has been overlooked so far by the market is how IFRS9 will work in practice as we go through the ups and downs of an economic cycle.

The best way of thinking this through is to compare the pro-cyclicality that we anticipate with IFRS9 with how the current accounting framework works.

The current framework implies a c100bp CET1 hit in a typical downturn

It’s not totally straight-forward to isolate the capital cost of a ‘typical’ downturn. The recessionary experiences of 2008-09 and 2011-12 are (hopefully) too pessimistic to count as ‘typical’. Similarly, the recession of the early 1990s occurred under a very different capital framework (and with a different rates / inflation backdrop too).

Given this awkwardness of precedent, we think about the CET1 erosion of typical downturns by examining (i) how much money banks lose in recessions; and (ii) how much risk weightings rise.

In terms of bank losses in a recession, Figure 3 shows that, with the exception of 2008, retained losses for the European banking industry as a whole are actually quite rare. Instead, what tends to happen, as we see in Figure 4, is that in a downturn, a specific swathe of the sector is loss making (typically less than a quarter of the sector). The rest of the sector remains profitable and builds capital.

Turning to RWAs, we see in Figure 5 how risk weightings rise in a downturn. In the EBAs 2016 stress test, RWA inflation accounted for 110bps of CET1 erosion.
Assuming limited retained losses for the sector overall but stress-test style RWA inflation, it seems realistic to think that a ‘typical’ downturn would run down the sector’s CET1 ratio by c100bps.

An alternative way of framing this would be to use the 2016 stress test more broadly. The overall CET1 ratio fell c300bps. But lots of this is related to losses outside of loan books and therefore beyond the scope of a comparison with IFRS9. For instance, around one third of the capital erosion stemmed from the marking-to-market of banks’ bond portfolios. Furthermore, the retained losses for the industry don’t just reflect loan losses but were swollen by hits taken in the trading book. So again this is not an apples-with-apples comparison with IFRS9. Overall, and very roughly, assuming a 100bp CET1 reduction from loan losses in a typical downturn would appear fair.

**IFRS9 is likely to be much more corrosive to capital in a downturn**

We think that the capital headwinds in a downturn could be much more severe under IFRS9.

To be clear, there will be plenty of instances when IFRS9 appears to smooth bank earnings. After all, banks are going to be taking more provisions in good times (e.g. the 12m expected loss on performing loans when first originated).

But in a bad enough downturn – or where there’s a swift enough deterioration in credit quality – the provisions taken in good times won’t be enough to cope. Bank provisioning will then spike to levels far higher than under the current accounting framework. Earnings, and therefore capital, will become more volatile.

The mechanics that underpin this increase in volatility are:

1. **A timing mis-match**: Lifetime credit losses are recognised upfront and well before the economic losses materialise. This implies that banks get less capital protection from earnings.

2. **Recency bias**: Expectations of the near future are frequently based on experiences of the recent past. This is a common cognitive bias that is very hard to sidestep. So IFRS9 may see banks underestimate risks in good times, and overestimate risks in bad times.
A timing mis-match

Under the current rule book (IAS39), if a bank anticipates a 3yr downturn in credit quality it will (largely) have to wait for NPLs to form before taking provisions.

This delay in recognition is obviously suboptimal when a bank ‘knows’ that NPLs will start to rise. But it has the significant benefit of allowing banks to, at least partially, earn their way through: over the course of the 3y downturn the provisions can be offset by earnings. These earnings act as a cushion, protecting the capital base.

As an example of this, Figure 6 shows bad debt provisions as a proportion of pre-provision earnings for the industry. Even including the financial crisis, loan loss provisions have not been big enough to overwhelm pre-provision earnings since 1980.

FIGURE 6
Loan losses have never been more than 100% of pre-provision earnings

But IFRS9 will work very differently. With the same anticipated 3y downturn as before, banks will have to estimate which loans are most likely to experience ‘significant deterioration’ – and recognise the expected losses at the outset. In other words, banks will have to identify which loans will migrate from Stage 1 to Stage 2 (or go deeper into Stage 2). Banks will then take lifetime expected losses on the loans accordingly. The 12m expected loss estimates for the remaining Stage 1 loans will rise too.

But, because the recognition of these expected losses happens all at once, there is no time for any offset from earnings. So the stock of capital is affected straight away, before the earnings can replenish the equity base over (in our example) the next three years.

The implication is that IFRS9 may cause banks to make retained losses much more frequently than before. To be clear, it also means that banks will make bumper profits if ‘enough’ provisions have already been taken (or if banks have over-provided).

To give a sense of the downside risks here, Figure 7 focuses solely on the five previous episodes of notably deteriorating credit quality from Figure 6: 1982-83, 1992-93, 2002-03, 2008-09 and 2012-13. We are showing here the cumulative provisions (as a proportion of pre-provision earnings) during each downturn.
This isn’t an exact fit with how IFRS9 will work. For instance, we’re not taking into account the incremental provisions banks take in the good times. But it clearly illustrates that front-loading provisions can potentially overwhelm pre-provision earnings – and erode capital – far more frequently than now.

Recency bias

Over and above the timing mismatches of IFRS9 is the issue of cognitive bias. Human brains are not particularly adept at spotting turning points. We tend to form our expectations of the near future based on our experience of the recent past. This is known as recency bias.

The forward-looking nature of IFRS9 is likely to introduce more recency bias into bank provisioning. Management teams will estimate the expected losses on their loan book based on whether they think the world around them is getting better or worse. But the risk of recency bias could see management teams exaggerate how optimistic or pessimistic to be – because they over-extrapolate from prevailing trends.

We see examples of this all the time in capital markets. For instance, Figure 8 – Figure 9 shows the market-implied 12m default rate on European high yield bonds, and compares this with the actual default rate experienced over the next 12m⁴. We use the high-yield market because this is likely to give us a better window into the dynamics for riskier Stage 2 loans than if we looked at the investment grade bonds. To this end, we’d note that there were substantial over-estimates of default rates in 2002-03, 2009 and 2012. On top of this, there were also very material under-estimates of default rates for the next 12m, too (e.g. 2005, 2007).

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⁴ Technically, we are not showing a market-implied default rate, but instead the breakeven default rate that reconciles prevailing bonds spreads and volatility with assumptions about recovery rates
FIGURE 8
Actual and expected default rates can de-couple sharply, even on a 12m view

Source: Barclays Research

FIGURE 9
In a downturn, actual defaults can rise 2-5x above normal levels but recency bias can drive this much higher

Source: Barclays Research

IFRS9 calculations won’t precisely mimic the gyrations of bond markets. But the world-view that they both embrace (and hence the forecasting errors they make) will likely be similar.

As a result, banks will not only have to front-load provisions for default rates that would typically more than double in a downturn; they will also have to contend with recency biases that could plausibly see the estimated default rates rise by far more than this.

Modest credit stresses could see CET1 ratios fall 2-300bps

Looking at Figure 8 and Figure 9, it seems reasonable to stress banks under IFRS9 for default rates rising somewhere between 2x-10x normalised levels. This is based on the observation that high yield default rates, as a proxy for Stage 2 credit quality, commonly rise 2-5x above normalised levels – with forecasting errors potentially doubling this again.

Whilst precision is clearly more of an art than a science here, it would seem fair to assume that a ‘typical recession’ could see management teams raise their 12m PD estimates perhaps 5x above normalised levels.

To examine the impact on capital ratios, we have built a bank-by-bank model of the sector where we measure what happens to each banks’ CET1 ratio when we flex the probability of default in their loan books.

Figure 10 uses the example of ING to show how our model works. ING breaks down its (IRB) loan book into different PD buckets (which it characterises as ‘risk grades’). As we increase the probability of default, an increasing number of loans will migrate from Stage 1 to Stage 2. This shifts the PD calculation from a 12m to a lifetime basis. The **actual** threshold for this Stage 1 / Stage 2 migration is when a loan encounters a ‘significant deterioration in credit quality’. This trigger point is obviously open to a wide range of interpretations (see Figure 23 later in the note for more details and sensitivity analysis). For our purposes, we assume this migration happens when the PD reaches 5%, on a 1yr through-the-cycle basis. At this point, the bank has to take the lifetime expected loss on the loan.

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5 We make the simplifying assumption that the increase in PDs would be uniform across the loan book

6 To calculate the change in PD here, we use the banks’ disclosures on the contractual maturity of the loan book to estimate the lifetime of loan books. Figure 25 – Figure 27 later in the note explain this in more detail.
% loans classified as Stage 2

Source: Company disclosures, Barclays Research
What would this mean in terms of the P&L provision charge? Figure 12 shows that our typical downturn scenario would see an expected loss rate of c175bps. For reference, Figure 13 shows that historically, downturn provision charges have been c125bps (if we use the early 1990s recession as an example). This would seem to imply that the P&L charge rises c40% in a downturn under IFRS9.

![FIGURE 12](image)

**IFRS9 provisions on NON-DEFAULTED loans c 175bps in a typical downturn**

![FIGURE 13](image)

**Provision charge on DEFAULTED LOANS historically c125bps in a typical downturn**

But this oversimplifies matters. In reality, the downturn P&L charge for banks under IFRS9 will be an amalgamation of Figure 12 and Figure 13. One way of visualising this is the schematic in Figure 14. This shows how the P&L provisioning charge changes in a downturn as we move from the current framework to IFRS9.

![FIGURE 14](image)

**Schematic of downturn provisions under IFRS9**

Under the current framework, the downturn provisions are based on the new NPLs that are formed. The blue shaded area represents the appropriate provisioning that banks need to take on these.
Under IFRS9, the Stage 3 loans are similar the NPLs in the existing framework. But the downturn provisions for these loans are net of the Stage 2 provisions taken in the pre-downturn period. So the downturn provisioning for NPLs / Stage 3 loans will be lower under IFRS9. However, banks will also have to take incremental provisions on Stage 2 loans (which have grown in size and become riskier) as well as Stage 1 loans (which have also become riskier, but which have shrunk as loans migrate to Stage 2).

In theory, it is possible for the IFRS9 provision charge to be lower than under the current rulebook. If the new Stage 3 loans have been heavily provided in the prior period (when they were at Stage 2) and the remaining loans don’t deteriorate all that much, the additional provision requirement will only be small. But this would typically only be the case as banks exit a downturn.

The more likely scenario for the early stages of a downturn is that the provisioning taken in the prior period for the newly formed Stage 3 loans / NPLs is quite small, because of recency bias. So banks would still have to take quite a sizeable chunk of the provisions we see in Figure 13. On top of this, the additional provisions on the Stage 1 and 2 loans in Figure 12 would be largely incremental (except for when the loans migrate all the way into Stage 3, since these are already being captured). In other words, the P&L charge for banks in a downturn under IFRS9 would be the sum of Figure 12 and Figure 13, net of the double counts.

What does all this mean for CET1 ratios? Evidently, the complexity and the number of moving parts here make it quite tricky to get a clear line of sight into the overall impact. Given the mechanics involved though, we think it is certainly plausible that a sufficiently swift downturn could mean that the cushioning from earnings offsets is minimal.

Using this assumption, Figure 15 shows how our estimated CET1 impact as the probability of default increases from normalised levels. A five-fold increase, typical for a downturn, would erode c300bps from the sector’s CET1 ratio.

FIGURE 15
A typical downturn could see c300bps of CET1 erosion
To put that into context, Figure 16 shows what the pro-cyclicality of IFRS9 would mean for sector CET1 ratios overall. Assuming a c300bp erosion in a typical downturn, and coupled with the pre-existing pro-cyclicality of RWAs and the c200bps impact of Basel IV, industry CET1 ratios could, we believe, fall below 7%.

**FIGURE 16**
IFRS9 pro-cyclicality could drive CET1 ratios below 7% in a typical downturn

What about the individual banks?

We are cautious about over interpreting the stock-specific outputs from our IFRS9 model. This is for a number of reasons:

1. It’s based on banks’ own PD estimates, so therefore treats conservative and cautious estimates more harshly. So comparing bank A to bank B is fraught with error.

2. It is based on 2015 data. We simply don’t know if this will form a reasonable basis for assessing credit risk in the next downturn.

3. Bank disclosures here are patchy and sometimes inconsistent with one and other. For instance, banks that present their risk data in less granular ways tend to screen worse because of data shortcomings rather than because they are genuinely riskier. Unfortunately it is not possible in our estimates to correct for this.

With these health warnings in place, Figure 17 shows how the amount of loans we’re estimating as Stage 2 varies as we turn up the dial on the probability of default.

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*See European Banks: Updating Basel IV estimates (20 December 2016) for more details here*
As the PDs increase and expected losses migrate from the 12m basis of Stage 1 to the lifetime basis of Stage 2, Figure 18 shows how the impact on expected loss rates.

Following this through, Figure 19 shows the impact on CET1 ratios. Once again, we cannot stress enough the data limitations here. So the conclusions of Figure 19 should be treated accordingly. At a very high-level, a typical recession, with a five-fold increase in default rates, would see around two-thirds of the sector lose more than 300bps of CET1.
IFRS9 implications (1): continuing capital builds

Whilst we believe that the pro cyclicity of IFRS9 is a headwind for the sector, at this stage it’s harder to have conviction about which banks would be most affected. Partly this is because of the data limitations in our estimates. But more importantly, we don’t know when or where the next downturn in credit quality will occur. So banks that are still dealing with legacy credit quality issues (typically those that screen worst in Figure 19) will not necessarily be the most vulnerable banks in the next downturn.

But what seems more realistic is that banks will look to build additional buffers to cope with the potential pro-cyclicality. Early (and rapid) recognition of a modest downturn could conceivably see 2-300bps taken off CET1 ratios. Regulators may allow target CET1 ratios to fall a bit to absorb this.

But much is already being asked of the flexibility of CET1 ratios. For instance, many banks are looking to cope with Basel IV by lower CET1 ratios. The potential pro-cyclicality of IFRS9 is arguably too big for further offsets here to be permitted. The presence of high-trigger CoCos – and the buffers banks need to protect them – will limit the degree to which ‘go to’ CET1 ratios can adjust.

All else equal, banks will find it easier to adapt to the capital volatility of IFRS9 if they are more capital generative. Figure 20 compares our forecast capital generation for each bank with their current valuation. We’d highlight SocGen, CS and ABN as likely to generate capital faster than average over the next couple of years. In particular, we’d note that since CS doesn’t report under IFRS, it is less exposed.
FIGURE 20
Cheaper, more capital generative banks are likely better placed to adapt to IFRS9

IFRS9 implications (2): a higher cost of equity

We’ve mainly focused on IFRS9’s potential impact on capital so far. This makes sense since capital is what underpins the economics of banking. But we should not dismiss the impact of higher earnings volatility here.

If IFRS9 leads to over-provisioning in one period, then subsequent periods will see substantial write-backs. But investors will likely struggle to differentiate between ‘real’ provisions (i.e. those where banks suffer a genuine and permanent economic loss) and ‘temporary’ provisions caused by IFRS9 pro-cyclicality. This earnings volatility will tend to increase banks’ cost of equity.

Furthermore, our ability to compare credit quality between banks may also become tougher. If two banks have differing views of near-term credit quality, then they will take radically different provision charges. This will make it harder to figure out how banks’ underwriting standards and loan book sensitivities vary. This reduction in comparability will tend to increase the cost of equity, particularly in a downturn.

There’s also scope for a degree of randomness here, too. The lifetime losses on a loan book can rise or fall simply because the effective duration of a loan changes. For instance, mortgage prepayments are highly sensitive to interest rates. This additional uncertainty may also increase the cost of equity.

IFRS9 implications (3): banks’ strategic response

One way for banks to respond to IFRS9 is to ‘do less’ of the areas that are most vulnerable. IFRS9 is most penal for risk and / or long duration lending.

The pessimistic interpretation here is that banks would cut credit lines as soon as an economy begins to sour. Under this view, IFRS9 would have the unintended consequence of exacerbating downturns.

But there are more positive interpretations here too. Banks might look to churn lending books more regularly in an effort to reduce durations. Product innovation could drive greater fee income. Alternatively, banks might look to sell riskier portfolios to the non-bank sector. Whilst ‘shrinking to greatness’ has often proved difficult, it may increase the scope for returning money to shareholders.
IFRS9 implications (4): still time to change the rules

We don’t think it’s fair to blame the authors of IFRS9 for the impact on CET1. In our view, the potential policy error of IFRS9 is the manner in which the accounting rules interact with the regulatory rules.

As such, we believe that the risks of heightened pro-cyclicality of IFRS9 need to be addressed by regulators. Basel’s work on the phase-in impact of IFRS9 was, in hindsight, a missed opportunity for them to also address issues of pro-cyclicality – but there is still time.

In our view, the most critical issue to address here is the double-count of credit risk pro-cyclicality. Risk weightings already rise as the economy sours. So arguably, the additional pro-cyclicality of IFRS9 is unneeded (and unwarranted).

What might a solution here look like? One suggestion might be for the CET1 hit to be a rolling average of the last 2-3 years. Whilst this would dampen the forward-looking nature of IFRS9, it would dampen the pro-cyclicality here, too.

As an alternative, it is possible that European regulators implement their own solution independent of Basel. Whilst this would be a conveniently neat solution in some ways, we’d note that this would take international banking further away from a level playing field on capital. Historically, European regulators have been less than enthusiastic about such moves.
APPENDIX
Methodology for calculating transitional IFRS9 impacts
Fully-loaded day one impact is c50bps off bank CET1 ratios

The introduction of IFRS means that banks will start taking provisions on non-defaulted loans\(^8\). Crucially, as credit quality starts to deteriorate (but before loans actually default) banks will face a ‘cliff effect’ where provision levels will spike higher.

The rationale for IFRS9 is that banks shouldn’t wait for NPLs to form before taking provisions. If a bank has reasonable grounds for thinking that that credit quality is deteriorating, IFRS9 allows them to recognise these loan losses sooner rather than later.

But the initial transition to IFRS9 will require banks to re-state their equity at the start of 2018 to reflect the additional provisions recognised under IFRS9. How big will these provisions be?

For loans that are already classified as in default (i.e. stage 3 loans), this shouldn't result in too many additional provisions. Virtually all of the adjustment will come from the provisions taken on the performing loan book – i.e. Stage 2 loans (where there has been a significant deterioration in credit quality since the loan was written) and Stage 1 loans (where there's been no deterioration).

There’s little official guidance on what should qualify as a ‘significant’ deterioration in credit quality. Adding to this, it’s impossible for external analysts to accurately track which parts of banks’ loan books are deteriorating and which parts are improving. So in Figure 21, we segment banks’ loan books between those loans where bank disclosures indicate a PD of less than 5% which we assume to be analogous to Stage 1 loans; and loans with a PD of more than 5% which we assume to be Stage 2.

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\(^8\) Please also refer to our earlier work here: Re-visioning Provisioning, 22 September 2015

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As an alternative approach, we can also look at, for each bank, how many forborne loans sit on the balance sheet.

Figure 22 shows this data as of H1 2016, and also highlights the accumulated provisions and the collateral that banks hold against these loans.
Clearly, both Figure 21 and Figure 22 are quite imperfect categorisations for our purposes. Forborne loans give us a useful starting point but can’t be dynamically flexed in a model. We also have reservations about basing our segmentation on banks’ own PD estimates in their Pillar 3 disclosures. If a bank is being cautious in its PD estimates, Figure 21 will show them as being riskier than they really are. Furthermore, banks’ PD disclosures are what are called ‘through the cycle’ numbers – i.e. it’s a time-weighted average, whereas IFRS9 PDs are point-in-time estimates. In addition, our maths here is based on 2015 disclosures – which may or may not give us a sensible read into 2018 credit quality.

But the overarching intuition of using Figure 21 seems broadly sensible. Since banks don’t typically write many loans with 5% PDs, by definition virtually all loans in this category will be there because they’ve experienced a ‘significant deterioration in credit quality’.

However, it’s worth highlighting the sensitivity here. What if we’re being too cautious (or too cavalier) with our Stage 1 / Stage 2 threshold of a 5% PD? Figure 23 shows how, for each bank, the amount of Stage 2 loans fluctuates if we tweak the thresholds – either making them more benign (so only including loans with a PD of more than 10%) or much harsher (where the PD cut-off is 2.5%). The height of each bar shows the extra loans that are classified as ‘Stage 2’ as we move from a benign (>10% PD) to a strict (>2.5% PD) threshold.
FIGURE 23
Stage 2 loans, % total EADs (with different PDs to define ‘significant deterioration’)

Source: Company data, Barclays Research

On this basis, notwithstanding our earlier caveats, Bank of Ireland, Caixa and UBI appear to have the greatest sensitivity to how benign or harsh is the definition of a significant deterioration in credit quality.

What about the expected losses that banks might have to recognise on their Stage 1 and Stage 2 provisions? To keep matters simple, we’ll base our Stage 1 / Stage 2 distinction on the 5% PD threshold. We can then estimate each banks’ Stage 1 (i.e. 12m) expected losses from the Pillar 3 disclosures since banks normally give us a reasonable breakdown of their loan books by individual risk bucket. Figure 24 shows the Stage 1 expected loss rate for each bank.

FIGURE 24
Stage 1 expected loss rate

Source: Company data, Barclays Research

The calculation of Stage 2 loans is a little trickier. Bank disclosures give us the 12m PD of different loan types (split into different risk buckets). How do we convert these into lifetime PDs?

As a first step here, we need to be clear about what is meant by ‘lifetime’. Our understanding is that banks will need to base this on the true effective maturity of a loan. Analysts typically think of this in terms of contract duration. But what happens if a bank
expects a customer to re-finance a loan after five years, yet the only tangible effect is a
change in the interest rate (i.e. the customer stays with them)? At this point, the bank is still
exposed to credit risk so the behavioural life is not five years but something longer.

Capturing this nuance is impossible with banks’ disclosures. The only information we have
here is each banks’ disclosure on the contractual maturity of their loan books. This will
typically understate the true duration of bank assets. But it’s the best data available.
Wherever possible, we use the information on individual loan types (e.g. corporate,
mortgage etc). But in a few instances, this granularity is not available and we assume the
average maturity for the sector.

FIGURE 25
Average loan duration, by bank

![Average loan duration, by bank graph]

Source: Company data, Barclays Research

What do we do with this data on duration? One way of converting a 12m PD into a lifetime
PD is on the basis of power laws. Figure 25 shows how the 12m / lifetime PD conversion
works for a variety of loan durations.

FIGURE 26
Conversion of 12m PDs into lifetime PDs for 2y/5y/10y duration loans

![Conversion of 12m PDs into lifetime PDs graph]

Source: Barclays Research estimates
Note the non-linearity here. The intuition is that because a lifetime PD cannot exceed 100%. Therefore, higher 12m PDs translate into lifetime PDs at a lower rate. In other words, for a 5y loan a 1% 12m PD will convert into something quite close to a 5% lifetime PD (i.e. a five-fold increase). But a 20% 12m PD will only convert into a c 70% lifetime PD (i.e. a bit more than a three-fold increase). Another implication of this is something that we saw earlier, in Figure 10 (the worked example of our proc-cyclicality model). As we increase the 12m PD in our stress scenarios, the conversions into lifetime PDs occur at a slowing rate because of the concavity of Figure 26.

Using these relationships, we can then convert each bank’s 12m PD on their Stage 2 loans into lifetime PDs to estimate the overall expected loss rate on Stage 2 loans (Figure 27).

**FIGURE 27**

*Stage 2 expected loss rate (12m & Lifetime)*

Source: Company data, Barclays Research

We can then add together the expected losses for Stage 1 and Stage 2 loans. Figure 28 shows the overall expected loss rate for each bank under IFRS9.

**FIGURE 28**

*Total expected loss rate (Stage 1 loans on a 12m basis plus Stage 2 loans on a lifetime basis)*

Source: Company data, Barclays Research
In general, the highest expected losses under IFRS9 are for peripheral banks and those with significant emerging market exposure. These expected losses for stage 1 and stage 2 loans give us the gross IFRS9 level of provisions. But the actual additional provisions that banks take here will be net of the provisions that banks have taken on their non-defaulted loan books.

This is where bank disclosures are typically least clear. Many banks either do not disclose this clearly in annual / Pillar 3 (P3) reports – or only provide very selective disclosures here. Fortunately, there is some disclosure that we can use from the EBA’s 2016 transparency exercise – and we show what data is available in Figure 29.

**FIGURE 29**

**Provisions on non-defaulted loans, % RWAs**

![Provisions on non-defaulted loans, % RWAs](image)

Source: EBA, Company data, Barclays Research

Note: EBA data for Credit Agricole is for Credit Agricole Group not Credit Agricole SA. Our analysis for CASA uses the Pillar 3 disclosures

A further ‘known unknown’ for us here is the degree to which the provisions in Figure 29 can actually be used to offset the additional provisions required under IFRS9.

Clearly, some of these already-taken provisions need to be recognised to prevent double counting. But equally, if the provisions we see in Figure 29 are not spread evenly across the loan book then banks cannot receive the full offset. In other words, just because a bank has over-provided for (say) its emerging market loans, that won’t stop additional IFRS9 provisions on the rest of the balance sheet.

There’s no easy, auditable and consistent way that we can see to adjust for this. So in Figure 30, we show our estimated increase in each bank’s stock of provisions if we include 50% of the provisions that we identified in Figure 29.9

---

9 Note: for Danske, around half of their overall non-defaulted expected losses stem from a single portfolio of loans. There are DKK 25.9bn category 10 loans to corporate customers. Of these, Danske has accumulated impairments of DKK 7bn as of FY 2015.

10 As a general rule, we defer to the consistency and completeness of the EBA data. However, for some banks where we believe that the Pillar 3 disclosures are sufficiently complete, we use these instead – e.g. Credit Agricole, Danske, Santander.
The typical bank will see (net) IFRS9 provisions rise by around one-third, although we'd note that the numbers here are heavily skewed by base effects (e.g. Swedbank's relatively large increase in provision mostly reflects their current position of having such a low stock of provisions coupled with a very low NPL ratio).

To adjust for the base effects, Figure 31 then shows the aggregate sector view. Around half of the incremental provisions under IFRS 9 appear to come from corporate loans.

To gauge the overall impact on CET1 ratios, we need to take each banks' net increase in IFRS9 provisions (from Figure 30) and add back – where necessary – the current deduction from CET1 for banks' provision shortfalls. Figure 32 shows, as a proportion of RWAs, each bank's current CET1 deduction for their IRB provisioning shortfall11.

---

11 Under the current capital rules, banks have to compare their stock of actual provisions on their IRB loans with the 12m through-the-cycle expected losses. Any shortfall in the actual provisions gets deducted from CET1.
Overall for European banks, we estimate an overall capital impact of c50bps. In general, it is peripheral banks and emerging market banks that see the biggest (fully loaded) day one impact of IFRS9. However, we believe that the positioning of Danske and Lloyds in this respect looks a little surprising.

Data caveats aside, in the case of Danske, this seems to be related to one specific portfolio in their corporate loan book (see the footnote below Figure 28). In the case of Lloyds, this is less about the distribution of risk on their loan book (they screen quite conservatively in Figure 21 - Figure 28). Instead, it seems to relate to the smaller-than-average CET1 deduction for IRB provisioning shortfalls and the limited provisions taken on the non-defaulted loan book. For both Lloyds and Danske, these idiosyncrasies should only have an impact on the day 1 effect (which we have argued is less important) and have little impact on the potential for earnings / capital volatility.
### FIGURE 33

**Summary table of moving parts**

<table>
<thead>
<tr>
<th></th>
<th>Gross IFRS9 provs</th>
<th>Existing prov surplus</th>
<th>Net IFRS9 provs</th>
<th>Impact on Stock of provs</th>
<th>Tangible book</th>
<th>Current CET1 deduction</th>
<th>Impact on CET1%</th>
<th>Impact on CET1%</th>
<th>% chg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bk of Ireland</td>
<td>626</td>
<td>108</td>
<td>518</td>
<td>+9%</td>
<td>-7%</td>
<td>-35</td>
<td>11.1%</td>
<td>10.2%</td>
<td>-0.91%</td>
</tr>
<tr>
<td>Danske</td>
<td>1,721</td>
<td>941</td>
<td>1,005</td>
<td>+24%</td>
<td>-5%</td>
<td>0</td>
<td>15.4%</td>
<td>14.5%</td>
<td>-0.90%</td>
</tr>
<tr>
<td>Lloyds</td>
<td>2,820</td>
<td>286</td>
<td>2,534</td>
<td>+52%</td>
<td>-6%</td>
<td>-317</td>
<td>13.4%</td>
<td>12.5%</td>
<td>-0.85%</td>
</tr>
<tr>
<td>Caixa</td>
<td>2,185</td>
<td>928</td>
<td>1,321</td>
<td>+14%</td>
<td>-6%</td>
<td>-100</td>
<td>12.3%</td>
<td>11.5%</td>
<td>-0.83%</td>
</tr>
<tr>
<td>Intesa</td>
<td>3,426</td>
<td>992</td>
<td>2,435</td>
<td>+8%</td>
<td>-6%</td>
<td>-299</td>
<td>12.9%</td>
<td>12.1%</td>
<td>-0.75%</td>
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<tr>
<td>StanChart</td>
<td>2,232</td>
<td>0</td>
<td>2,232</td>
<td>+45%</td>
<td>-7%</td>
<td>-526</td>
<td>13.4%</td>
<td>12.7%</td>
<td>-0.71%</td>
</tr>
<tr>
<td>UniCredit</td>
<td>3,737</td>
<td>1,172</td>
<td>2,565</td>
<td>+6%</td>
<td>-6%</td>
<td>0</td>
<td>9.7%</td>
<td>9.0%</td>
<td>-0.66%</td>
</tr>
<tr>
<td>Santander</td>
<td>7,862</td>
<td>4,099</td>
<td>3,764</td>
<td>+14%</td>
<td>-6%</td>
<td>0</td>
<td>10.6%</td>
<td>10.0%</td>
<td>-0.64%</td>
</tr>
<tr>
<td>Commerzbank</td>
<td>1,927</td>
<td>305</td>
<td>1,622</td>
<td>+39%</td>
<td>-6%</td>
<td>-369</td>
<td>12.0%</td>
<td>11.3%</td>
<td>-0.63%</td>
</tr>
<tr>
<td>Deutsche Bk</td>
<td>2,389</td>
<td>220</td>
<td>2,170</td>
<td>+43%</td>
<td>-4%</td>
<td>-106</td>
<td>11.4%</td>
<td>10.9%</td>
<td>-0.52%</td>
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<tr>
<td>SocGen</td>
<td>3,293</td>
<td>756</td>
<td>2,537</td>
<td>+17%</td>
<td>-6%</td>
<td>-759</td>
<td>11.5%</td>
<td>11.0%</td>
<td>-0.50%</td>
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<tr>
<td>UBI</td>
<td>918</td>
<td>206</td>
<td>712</td>
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<td>-9%</td>
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<td>12.1%</td>
<td>11.6%</td>
<td>-0.48%</td>
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<tr>
<td>ING</td>
<td>2,975</td>
<td>400</td>
<td>2,571</td>
<td>+46%</td>
<td>-6%</td>
<td>-1,135</td>
<td>12.7%</td>
<td>12.3%</td>
<td>-0.48%</td>
</tr>
<tr>
<td>BNP</td>
<td>5,409</td>
<td>1,579</td>
<td>3,830</td>
<td>+14%</td>
<td>-5%</td>
<td>-865</td>
<td>11.4%</td>
<td>11.0%</td>
<td>-0.47%</td>
</tr>
<tr>
<td>Nordea</td>
<td>1,227</td>
<td>304</td>
<td>924</td>
<td>+35%</td>
<td>-3%</td>
<td>-297</td>
<td>18.1%</td>
<td>17.6%</td>
<td>-0.44%</td>
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<tr>
<td>CredAg</td>
<td>2,656</td>
<td>566</td>
<td>2,090</td>
<td>+20%</td>
<td>-6%</td>
<td>-841</td>
<td>12.1%</td>
<td>11.7%</td>
<td>-0.41%</td>
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<tr>
<td>KBC</td>
<td>726</td>
<td>261</td>
<td>464</td>
<td>+8%</td>
<td>-3%</td>
<td>-171</td>
<td>15.5%</td>
<td>15.2%</td>
<td>-0.33%</td>
</tr>
<tr>
<td>Credit Suisse</td>
<td>916</td>
<td>0</td>
<td>916</td>
<td>+114%</td>
<td>-2%</td>
<td>-163</td>
<td>11.6%</td>
<td>11.4%</td>
<td>-0.28%</td>
</tr>
<tr>
<td>DNB</td>
<td>775</td>
<td>205</td>
<td>570</td>
<td>+46%</td>
<td>-3%</td>
<td>-254</td>
<td>15.7%</td>
<td>15.5%</td>
<td>-0.25%</td>
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<tr>
<td>HSBC</td>
<td>8,600</td>
<td>2,046</td>
<td>6,554</td>
<td>+86%</td>
<td>-6%</td>
<td>-4,547</td>
<td>13.7%</td>
<td>13.4%</td>
<td>-0.24%</td>
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<td>SEB</td>
<td>280</td>
<td>86</td>
<td>194</td>
<td>+38%</td>
<td>-2%</td>
<td>-58</td>
<td>18.8%</td>
<td>18.5%</td>
<td>-0.23%</td>
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<tr>
<td>Swedbank</td>
<td>265</td>
<td>67</td>
<td>198</td>
<td>+57%</td>
<td>-2%</td>
<td>-111</td>
<td>23.9%</td>
<td>23.7%</td>
<td>-0.22%</td>
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<tr>
<td>RBS</td>
<td>1,972</td>
<td>419</td>
<td>1,554</td>
<td>+19%</td>
<td>-3%</td>
<td>-1,215</td>
<td>14.9%</td>
<td>14.8%</td>
<td>-0.12%</td>
</tr>
<tr>
<td>SHB</td>
<td>209</td>
<td>20</td>
<td>190</td>
<td>+39%</td>
<td>-2%</td>
<td>-143</td>
<td>24.2%</td>
<td>24.1%</td>
<td>-0.10%</td>
</tr>
<tr>
<td>BBVA</td>
<td>3,038</td>
<td>2,847</td>
<td>263</td>
<td>+1%</td>
<td>-1%</td>
<td>-31</td>
<td>11.0%</td>
<td>10.9%</td>
<td>-0.06%</td>
</tr>
<tr>
<td>UBS</td>
<td>363</td>
<td>0</td>
<td>363</td>
<td>+54%</td>
<td>-1%</td>
<td>-290</td>
<td>13.7%</td>
<td>13.7%</td>
<td>-0.04%</td>
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<tr>
<td>Virgin Money</td>
<td>48</td>
<td>4</td>
<td>43</td>
<td>+92%</td>
<td>-3%</td>
<td>-42</td>
<td>14.9%</td>
<td>14.9%</td>
<td>-0.02%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>62,843</strong></td>
<td><strong>18,816</strong></td>
<td><strong>44,464</strong></td>
<td><strong>+17%</strong></td>
<td><strong>-5%</strong></td>
<td><strong>-13,210</strong></td>
<td><strong>12.7%</strong></td>
<td><strong>12.2%</strong></td>
<td><strong>-0.45%</strong></td>
</tr>
</tbody>
</table>

Source: Company data, Barclays Research
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Matterily Mentioned Stocks (Ticker, Date, Price)

ABN AMRO (ABNd.AS, 05-Jan-2017, EUR 22.13), Overweight/Neutral, A/D/I/K/L/M
Credit Suisse Group AG (CSGN.S, 05-Jan-2017, CHF 15.76), Overweight/Neutral, A/CD/CE/D/I/J/K/L/M/N
Société Générale (SOGN.PA, 05-Jan-2017, EUR 47.10), Overweight/Neutral, A/CD/D/FB/J/K/L/M/N

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Banco Bilbao Vizcaya Argentaria S.A. (BBVA.MC) Banco BPM SpA (BAMI.MI) Banco Popolare (BAPO.MI)
Banco Popular (POP.MC) Banco Sabadell (SABE.MC) Banco Santander SA (SAN.MC)
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Credit Suisse Group AG (CSGN.S)  Danske Bank (DANSKE.CO)  Deutsche Bank AG (DBKGn.DE)
DBN (DNB.OL)  Erste Group Bank (ERST.VI)  HSBC Holdings PLC (HSBA.L)
ING (INGA.AS)  Intesa Sanpaolo (ISP.MI)  Julius Baer (BAER.S)
KBC (KBC.BR)  Lloyds Banking Group PLC (LLOY.L)  Nordea (NDA.ST)
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Barclays Securities (India) Private Limited (BSIPL, India)
Barclays Bank PLC, India branch (Barclays Bank, India)
Barclays Bank PLC, Singapore branch (Barclays Bank, Singapore)
IMPORTANT DISCLOSURES CONTINUED
IMPORTANT DISCLOSURE CONTINUED

ABN AMRO (ABN NA / ABNd.AS)

EUR 22.13 (05-Jan-2017)

<table>
<thead>
<tr>
<th>Stock Rating</th>
<th>Industry View</th>
</tr>
</thead>
<tbody>
<tr>
<td>OVERWEIGHT</td>
<td>NEUTRAL</td>
</tr>
</tbody>
</table>

Rating and Price Target Chart - EUR (as of 05-Jan-2017)

Source: IDC, Barclays Research

Link to Barclays Live for interactive charting

A: Barclays Bank PLC and/or an affiliate has been lead manager or co-lead manager of a publicly disclosed offer of securities of ABN AMRO in the previous 12 months.

D: Barclays Bank PLC and/or an affiliate has received compensation for investment banking services from ABN AMRO in the past 12 months.

J: Barclays Bank PLC and/or an affiliate is a liquidity provider and/or trades regularly in the securities by ABN AMRO and/or in any related derivatives.

K: Barclays Bank PLC and/or an affiliate has received non-investment banking related compensation (including compensation for brokerage services, if applicable) from ABN AMRO within the past 12 months.

L: ABN AMRO is, or during the past 12 months has been, an investment banking client of Barclays Bank PLC and/or an affiliate.

M: ABN AMRO is, or during the past 12 months has been, a non-investment banking client (securities related services) of Barclays Bank PLC and/or an affiliate.

Valuation Methodology: We value ABN AMRO shares based on tangible book value, using 13% RoTE, 10.5% cost of equity and 0.5% growth. We cross reference this to price/earnings and dividend yield approaches.

Risks which May Impede the Achievement of the Barclays Research Valuation and Price Target: Downside risks for ABN AMRO include a harsher-than-expected impact from Basel 4 regulation changes, credit quality deterioration and impairments in the large Energy, Commodities and Transportation book, ever-increasing regulatory expenses, continuing shrinkage in Dutch mortgage volumes driven by competition and regulation, and government interference.
IMPORTANT DISCLOSURES CONTINUED

Credit Suisse Group AG (CSGN VX / CSGN.S)

CHF 15.76 (05-Jan-2017)

Stock Rating: OVERWEIGHT
Industry View: NEUTRAL

Rating and Price Target Chart - CHF (as of 05-Jan-2017)

<table>
<thead>
<tr>
<th>Publication Date</th>
<th>Closing Price</th>
<th>Rating</th>
<th>Adjusted Price Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>04-Jan-2017</td>
<td>16.08</td>
<td>Overweight</td>
<td>18.00</td>
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<tr>
<td>29-Jul-2016</td>
<td>11.15</td>
<td></td>
<td>12.00</td>
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<tr>
<td>09-Jun-2016</td>
<td>12.55</td>
<td>Equal Weight</td>
<td>14.00</td>
</tr>
<tr>
<td>29-Mar-2016</td>
<td>13.58</td>
<td></td>
<td>19.00</td>
</tr>
<tr>
<td>24-Nov-2015</td>
<td>21.20</td>
<td></td>
<td>31.00</td>
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<tr>
<td>24-Jul-2015</td>
<td>27.46</td>
<td></td>
<td>34.02</td>
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<tr>
<td>04-Aug-2014</td>
<td>23.99</td>
<td>Overweight</td>
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</tr>
<tr>
<td>28-Feb-2014</td>
<td>26.92</td>
<td></td>
<td>32.07</td>
</tr>
</tbody>
</table>

Source: Thomson Reuters, Barclays Research

Historical stock prices and price targets may have been adjusted for stock splits and dividends.

Source: IDC, Barclays Research

Link to Barclays Live for interactive charting

A: Barclays Bank PLC and/or an affiliate has been lead manager or co-lead manager of a publicly disclosed offer of securities of Credit Suisse Group AG in the previous 12 months.

CD: Barclays Bank PLC and/or an affiliate is a market-maker in debt securities issued by Credit Suisse Group AG.

CE: Barclays Bank PLC and/or an affiliate is a market-maker in equity securities issued by Credit Suisse Group AG.

D: Barclays Bank PLC and/or an affiliate has received compensation for investment banking services from Credit Suisse Group AG in the past 12 months.

I: Barclays Bank PLC and/or an affiliate is party to an agreement with Credit Suisse Group AG for the provision of financial services to Barclays Bank PLC and/or an affiliate.

J: Barclays Bank PLC and/or an affiliate is a liquidity provider and/or trades regularly in the securities by Credit Suisse Group AG and/or in any related derivatives.

K: Barclays Bank PLC and/or an affiliate has received non-investment banking related compensation (including compensation for brokerage services, if applicable) from Credit Suisse Group AG within the past 12 months.

L: Credit Suisse Group AG is, or during the past 12 months has been, an investment banking client of Barclays Bank PLC and/or an affiliate.

M: Credit Suisse Group AG is, or during the past 12 months has been, a non-investment banking client (securities related services) of Barclays Bank PLC and/or an affiliate.

N: Credit Suisse Group AG is, or during the past 12 months has been, a non-investment banking client (non-securities related services) of Barclays Bank PLC and/or an affiliate.

Valuation Methodology: We value Credit Suisse shares on 1.0x 2017e tangible book value, reflecting 10% medium-term RoTE. We also compare P/E multiples with global investment bank and asset gathering peers.

Risks which May Impede the Achievement of the Barclays Research Valuation and Price Target: Downside risks for CS shares include failure to deliver adequate returns in investment banking in the face of regulatory pressures as well as tax/regulatory headwinds in private banking. Both could drive material earnings downgrades and/or multiple de-rating.
IMPORTANT DISCLOSURES CONTINUED

Société Générale (GLE FP / SOGN.PA)

EUR 47.10 (05-Jan-2017)

Stock Rating: OVERWEIGHT
Industry View: NEUTRAL

Rating and Price Target Chart - EUR (as of 05-Jan-2017)

<table>
<thead>
<tr>
<th>Publication Date</th>
<th>Closing Price</th>
<th>Rating</th>
<th>Adjusted Price Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>03-Nov-2016</td>
<td>36.07</td>
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<td>44.00</td>
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<tr>
<td>03-Aug-2016</td>
<td>29.42</td>
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<td>42.00</td>
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<tr>
<td>01-Apr-2016</td>
<td>32.42</td>
<td>Overweight</td>
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<tr>
<td>12-Feb-2016</td>
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<td>06-Aug-2015</td>
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<td>47.00</td>
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<tr>
<td>15-May-2015</td>
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<tr>
<td>19-Nov-2014</td>
<td>36.99</td>
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<td>28-Feb-2014</td>
<td>48.38</td>
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<td>47.00</td>
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</tbody>
</table>

Source: Thomson Reuters, Barclays Research

Historical stock prices and price targets may have been adjusted for stock splits and dividends.

Source: IDC, Barclays Research

Link to Barclays Live for interactive charting

A: Barclays Bank PLC and/or an affiliate has been lead manager or co-lead manager of a publicly disclosed offer of securities of Société Générale in the previous 12 months.

CD: Barclays Bank PLC and/or an affiliate is a market-maker in debt securities issued by Société Générale.

D: Barclays Bank PLC and/or an affiliate has received compensation for investment banking services from Société Générale in the past 12 months.

FB: Barclays Bank PLC and/or an affiliate beneficially owns a long position of more than 0.5% of a class of equity securities of Société Générale, as calculated in accordance with EU regulations.

J: Barclays Bank PLC and/or an affiliate is a liquidity provider and/or trades regularly in the securities by Société Générale and/or in any related derivatives.

K: Barclays Bank PLC and/or an affiliate has received non-investment banking related compensation (including compensation for brokerage services, if applicable) from Société Générale within the past 12 months.

L: Société Générale is, or during the past 12 months has been, an investment banking client of Barclays Bank PLC and/or an affiliate.

M: Société Générale is, or during the past 12 months has been, a non-investment banking client (securities related services) of Barclays Bank PLC and/or an affiliate.

N: Société Générale is, or during the past 12 months has been, a non-investment banking client (non-securities related services) of Barclays Bank PLC and/or an affiliate.

Valuation Methodology: We value SocGen shares based on tangible book value, using 9% RoTE, 11.5% cost of equity, and 0% growth. We also compare price/earnings multiples with European universal bank peers.

Risks which May Impede the Achievement of the Barclays Research Valuation and Price Target: Downside risks for SocGen shares include further negative impacts from Russia and other international Energy & Commodity exposures. The key risk to our investment case based on branch cuts and cost savings is poor execution, and failure to deliver the cost saves to the bottom line.